Final Environmental Impact Statement/ Final Environmental Impact Report (Volume I)

for the East San Fernando Valley Transit Corridor Project

September 2020

Metro

Prepared by the U.S. Department of Transportation and the Los Angeles County Metropolitan Transportation Authority

Final Environmental Impact Statement and Final Environmental Impact Report

for the

East San Fernando Valley Transit Corridor Project

prepared by the

U.S. Department of Transportation
Federal Transit Administration

and the

Los Angeles County
Metropolitan Transportation Authority

Submitted pursuant to:

National Environmental Policy Act of 1969 (42 U.S.C§ 4321 et seq.), as amended Federal Transit Act (49 U.S.C§ 5301 et seq.), as amended Title 23 U.S.C Highways, Title 49 U.S.C Transportation, Title 49 U.S.C§ 303 (formally Department of Transportation Act of 1966), Section 4(f), Executive Order 11990 (Protection of Wetlands), Executive Order 11988 (Floodplains Management), Executive Order 12898 (Environmental Justice), National Historic Preservation Act of 1966, Section 106 (16 U.S.C§ 407f et seq.), Fixing America's Surface Transportation Act, or "FAST" Act (December 4, 2015), *Endangered Species Act of 1973 (16 U.S.C. 1531-1544)*

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FINAL ENVIRONMENTAL IMPACT STATEMENT/ ENVIRONMENTAL IMPACT REPORT

LEAD AGENCIES—Federal Transit Administration of the U.S. Department of Transportation and Los Angeles County Metropolitan Transportation Authority

STATE CLEARINGHOUSE NO—2013021064

TITLE OF PROPOSED ACTION— East San Fernando Valley Transit Corridor

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ABSTRACT—The Los Angeles County Metropolitan Transportation Authority (Metro) proposes to implement a light rail transit line that would extend from the Sylmar/San Fernando Metrolink Station on the north to the Metro Orange Line on the south and provide area residents, businesses, and transit-dependent populations with improved mobility and access to the regional transit system.

The East San Fernando Valley study area is located in the San Fernando Valley of Los Angeles County and is approximately 9.2 miles in length and runs nearly the entire length of the valley floor. The San Fernando Valley is a flat area consisting of approximately 260 square miles, and is bounded by the Santa Susana Mountains to the northwest, the Simi Hills to the west, the Santa Monica Mountains and Chalk Hills to the south, the Verdugo Mountains to the east, and the San Gabriel Mountains to the northeast The project corridor is in an urbanized area that includes a variety of land uses, including residential, commercial, industrial, recreation (parks), schools, community centers, office and government, and other urban land uses. The Study area is north-south oriented and includes portions of two jurisdictions – the Cities of Los Angeles and San Fernando.

This Final Environmental Impact Statement/Environmental Impact Report (Final EIS/EIR) provides a detailed description of the Locally Preferred Alternative (LPA), including station locations, entrance locations, construction staging and laydown areas, and other elements associated with the Project. The No Build Alternative is included in this Final EIS/EIR for comparative purposes.

In addition to the LPA, the Final EIS/EIR also evaluates an Initial Operating Segment (IOS), which is a mechanism used by Metro to realize potential cost savings, that would not otherwise occur under the LPA, from phasing the project and beginning work earlier on an initial segment.

This report is a combined Final EIS/EIR satisfying the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). It also serves as summary documentation of the consultation conducted in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, and the Section 4(f) evaluation prepared pursuant to Section 4(f) of the U.S. Department of Transportation Act of 1966.

This Final EIS/EIR addresses agency and public comments on the Draft EIS/EIR and describes the associated transportation and environmental impacts, operating and maintenance and capital costs, and potential funding sources. Areas of consideration in the Final EIS/EIR include transit; traffic; parking; land use/neighborhoods; land acquisition; displacement and relocation; equity and environmental justice considerations; visual quality; air quality; noise and vibration; geology, soils, and seismicity; exposure to hazardous substances; water resources; biological resources; energy resources; safety and security; historic, archaeological, and paleontological resources; community facilities and parklands; construction impacts; and other CEQA determinations. Mitigation measures for the impacts resulting from the LPA/IOS are also identified. The information contained in this report will be used by the Metro Board of Directors in deciding whether to approve and proceed with the proposed East San Fernando Valley Transit Corridor Project.

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ES.1 Introduction

The East San Fernando Valley Transit Corridor (ESFVTC) Project is a vital public transit infrastructure investment that would provide improved transit service along the busy Van Nuys Boulevard and San Fernando Road corridors serving the eastern San Fernando Valley. The proposed project would extend from the Metro Orange Line in the south to the Sylmar/San Fernando Metrolink Station in the north and provide area residents, businesses, and transit-dependent populations with improved mobility and access to the regional transit system. Figure ES-1 shows the regional Los Angeles County Metropolitan Transportation Authority (Metro) transit lines expected to be operational by the year 2040 and illustrates how the ESFVTC Project would improve access to the regional system.

In addition to mobility benefits, the ESFVTC Project would provide the project area with transportation, economic, land use, and environmental benefits. The analyses presented in this Final Environmental Impact Statement/Final Environmental Impact Report (FEIS/FEIR) document the impacts on the environment that could occur due to the project, as required by National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) regulations. It also illustrates how improved mobility to and from the project area has the potential to boost economic development and improve social justice by providing better access to employment, educational and health facilities, and activity centers. Improved transit connectivity and service would also increase transit ridership, which in turn could result in environmental benefits due to reduced vehicle trips, reductions in vehicle miles traveled, less roadway congestion, and improved air quality.

The ESFVTC Project is included in the Southern California Association of Governments (SCAG) 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), adopted in April 2016. The RTP/SCS also outlines several projects in and around the project area aimed at maximizing the effectiveness, safety, and reliability of Southern California's transportation system.

ES.2 Purpose and Need

ES.2.1 Project Purpose/Project Objectives

The ESFVTC Project would provide new service and/or infrastructure that would improve passenger mobility and connectivity to regional activity centers, increase transit service efficiency (speeds and passenger throughput), and make transit service more environmentally beneficial through reductions in greenhouse gas emissions.

Figure ES-1: Existing and Proposed Metro Regional Transportation Projects

Source: Metro, 2019.

The purposes and objectives of the proposed project are summarized below. The project objectives reflect Metro's mission to meet public transportation and mobility needs for transit infrastructure while also being a responsible steward of the environment and considerate of affected agencies and community members when planning a fiscally sound project.

- Improve mobility in the eastern San Fernando Valley by introducing an improved north–south transit connection between key transit hubs/routes;
- Provide new service and/or infrastructure that improves passenger mobility and enhances transit accessibility/connectivity for residents within the project study area to local and regional destinations and activity centers;
- Provide more reliable transit service within the eastern San Fernando Valley;
- Increase transit service efficiency (speeds and passenger throughput) in the project study area;
- Provide additional transit options in an area with a large transit-dependent population, including the disabled, high-transit ridership;
- Encourage modal shift to transit in the eastern San Fernando Valley, thereby improving air quality; and
- Make transit service more environmentally beneficial through reductions in greenhouse gas emissions in the project study area.

ES.2.2 Need

The following mobility challenges within the project study area will continue to grow if no action is taken, due, in large part, to continued population growth, which increases the demand for transit service along the Van Nuys Boulevard corridor, a corridor that already has high population density and transit-dependent persons who rely on transit for daily transportation, including commuting:

- **Mobility challenges resulting from increased roadway congestion, affecting project study area bus service** – Based on the Metro travel forecast model, the number of congested roadway segments (a portion of the roadway located between two intersections) in the project study area is expected to increase from 126 to 162, a 29 percent increase in the AM peak hour and from 103 to 159, a 54 percent increase in the PM peak hour. Average speeds on these segments are expected to decrease by up to 12 miles per hour (mph) during the AM and PM peak hours. The increase in congested segments will result in lower vehicle speeds and increased travel delay in the project study area, reducing mobility. Based on travel projections from the Metro model, the number of study intersections currently operating at level of service (LOS) E (unstable flow with intolerable delay) or F (forced flow and congested; queues fail to clear) along the Van Nuys Boulevard corridor will more than double by 2040. Photo ES-1 shows typical existing congested conditions along the corridor.

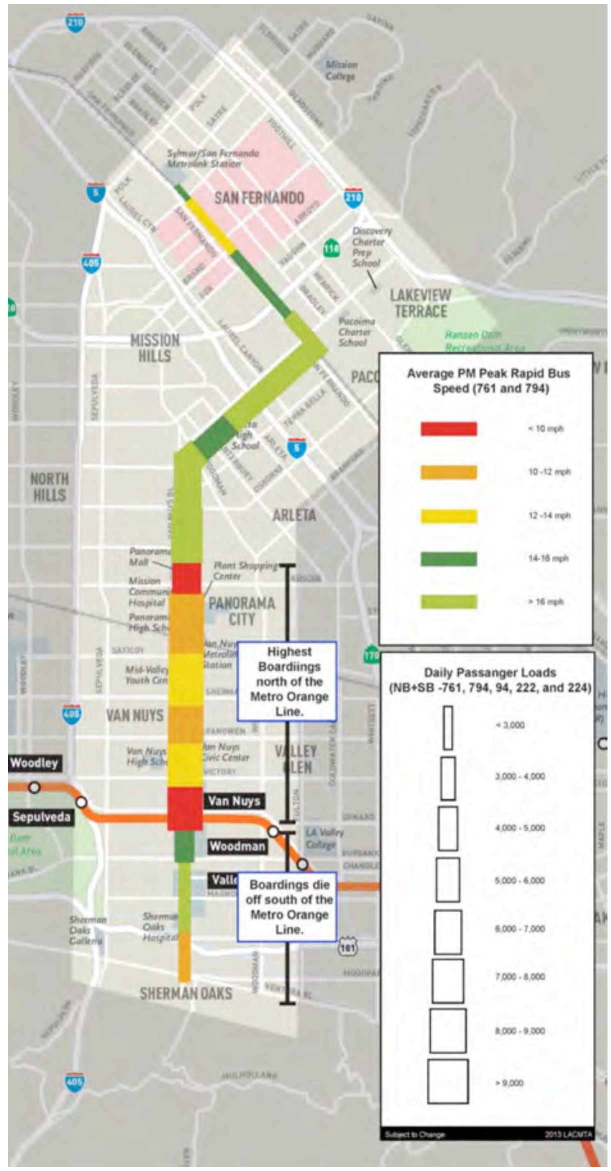
Photo ES-1: Existing Congestion on Van Nuys Boulevard Corridor

Source: Metro, 2016.

- **Increasing travel demand** – According to the Metro model, the person-trip distribution for the project study area indicates that a high number of travel trips tend to be localized to the communities within the area. Approximately 50 percent of the trips stay within the project study area, with a large portion of trips occurring between the northern communities of the City of San Fernando and Pacoima and the southern communities of Mission Hills and Panorama City. These southern communities have a higher number of activity centers that include Kaiser Permanente Hospital, several high schools, and the Panorama Mall. A significant proportion of the overall project study area trip distribution is to and from the Van Nuys Civic Center area, as seen in Figure ES-2, constituting approximately 52 percent of all project study area trips.

  These general trip trends are expected to remain similar in 2040 and show a high attraction of trips between the central project study area and the Civic Center area. Because of the centralized trip patterns, transit accessibility and connectivity are integral to project study area resident travel needs, especially to those who are transit dependent (35 percent). Ten percent of households do not own a car and the average adult poverty ratio is 2.26 persons per acre compared to 1.08 per acre for Los Angeles County. These residents rely on Metro and City of Los Angeles Department of Transportation bus services for work and non-work trips within the study project area and the greater Los Angeles County area. By 2040, the trip pattern is expected to remain similar, with a high number of trips (approximately 50 percent) staying within the project study area. Local trips will remain a significant contributor to traffic and transit trends. Therefore, providing enhanced transit connections and accessibility to surrounding destinations is critical for residents that rely on public transit.

Figure ES-2: Existing Bus Boarding Distribution for Van Nuys Boulevard Corridor



- **Transit service performance and reliability is decreasing due to increased congestion** – The existing bus service along the project study area corridors do not meet the Metro on-time performance goal of 80 percent. This is directly correlated to levels of roadway congestion and related vehicular speeds, which together reduce the mobility of area bus riders. As congestion continues to increase, the reliability of bus service for riders will also worsen, because further congestion will further decrease bus speeds.

- **Large transit-dependent population and expected growth in ridership** – The Van Nuys Boulevard corridor has the seventh highest total transit boardings on the Metro Bus system. This corridor is served by Metro Rapid Line 761 and Local Line 233, which have combined passenger boardings that are the second highest in the San Fernando Valley, with the Metro Orange Line boardings at a slightly higher number. Sepulveda Boulevard and San Fernando Road also have some of the highest total boardings of all transit corridors in the San Fernando Valley. Both transit dependent and discretionary riders constitute the demand in passenger boardings. The overall population density and the transit dependent population density are both more than twice as high in the project study area as in the urbanized area of the County as a whole. The project study area average of 0.53 zero-vehicle households per acre is 77 percent higher than the 0.30 County average. The project study area average transit dependent population of 7.04 persons per acre is more than 100 percent higher than the 3.21 County average. The project study area average of 2.26 adult persons below the poverty line per acre is over two times the 1.08 County average. Although population density and transit dependent population characteristics are expected to stay the same or improve slightly, project study area population is expected to increase by almost 12 percent by the year 2040, and area employment will increase by approximately 15 percent. With the increase in population and employment growth, it is likely that there will be an increase in bus crowding (Photo ES-2).

Photo ES-2: Existing Bus Crowding

Source: Metro, 2016.

- **Exceeding air quality criteria pollutant standards within the project study area** – Standards for many of the criteria pollutants monitored within the east San Fernando Valley have been exceeded multiple times during each of the previous three years of collected data (2011–2013). The traffic analysis indicates that travel speeds, vehicular delay, and congestion will worsen by 2040. This will result in increased gas consumption, and vehicle emissions in the project study area. The increase in delay at the study intersections is expected to increase vehicle emissions and fuel consumption.

ES.3 Identification of the Locally Preferred Alternative

In September and October of 2017, the Draft Environmental Impact Study/Draft Environmental Impact Report (DEIS/DEIR) was circulated for public review and comment for 60 days. The following six alternatives were evaluated in the DEIS/DEIR:

- No-Build Alternative;
- TSM Alternative;

- BRT Alternatives:
  - Alternative 1 – Curb-Running BRT Alternative;
  - Alternative 2 – Median-Running BRT Alternative;
- Rail Alternatives:
  - Alternative 3 – Low-Floor Light Rail Transit (LRT)/Tram Alternative; and
  - Alternative 4 – LRT Alternative.

All build alternatives considered within the DEIS/DEIR (Alternatives 1 through 4) would operate at grade over 9.2 miles, either in a dedicated busway or dedicated guideway (6.7 miles) and/or in mixed-flow traffic lanes (2.5 miles), from the Sylmar/San Fernando Metrolink station on the north to the Van Nuys Metro Orange Line station on the south, with the exception of Alternative 4, which included 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 the City of Los Angeles communities of Panorama City and Van Nuys.

Metro applied the objectives below in evaluating potential alternatives for the ESFVTC Project.

- Provide new service and/or infrastructure that improves passenger mobility and connectivity to regional activity centers;
- Increase transit service efficiency (speeds and passenger throughput) in the project study area; and
- Make transit service more environmentally beneficial by providing alternatives to auto-centric travel modes and other environmental benefits, such as reduced air pollutants, including reductions in greenhouse gas emissions in the project study area.

These goals draw upon those presented in the Alternatives Analysis Report completed in 2012. For the purposes of the DEIS/DEIR, these goals were updated and refined to reflect public involvement and further analysis of the proposed project, the project area, and the background transportation system.

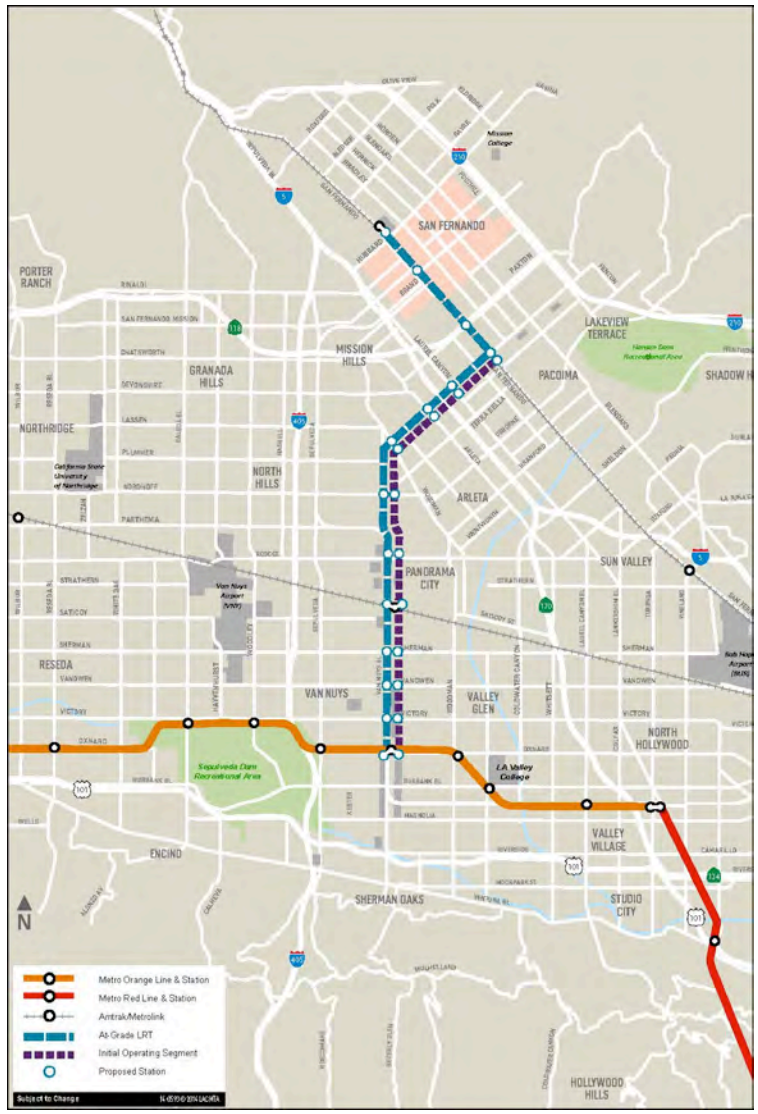
Based on the project objectives and the public comments received during the 60-day comment period for the DEIS/DEIR, a modified version of Alternative 4 (Alternative 4 Modified: At-Grade LRT) was developed on June 28, 2018, and the Metro Board of Directors formally identified Alternative 4 Modified: At-Grade LRT as the Locally Preferred Alternative (LPA). The primary difference between DEIS/DEIR Alternative 4 and the LPA is the elimination of the 2.5-mile subway portion of DEIS/DEIR Alternative 4. Under the LPA, the entire 9.2-mile alignment (Figure ES-3) would be constructed at grade. The subway portion was eliminated because it would be very expensive, have significant construction impacts, and result in little time savings compared with a fully at-grade alignment. In addition, Metro determined that the LPA best fulfilled the project's purpose and need to:

- Improve north–south mobility,
- Provide more reliable operations and connections between key transit hubs/routes,
- Enhance transit accessibility/connectivity to local and regional destinations,
- Provide additional transit options in a largely transit-dependent area, and
- Encourage mode shift to transit.

The LPA also includes the following positive attributes compared to the LRT Alternatives (Alternatives 3 and 4) in the DEIS/DEIR:

- Like Alternative 4, the LPA has fewer stations and would result in superior travel speeds and a greater number of overall boardings compared with the Low-Floor LRT/Tram Alternative (Alternative 3).
- The approximately 2.5-mile subway portion of Alternative 4 would be very expensive, result in additional significant construction impacts, and result in little time savings compared with the LPA.
- By operating trains on a dedicated rail right-of-way adjacent to San Fernando Road, the LPA and Alternative 4 would result in fewer train/automobile conflicts compared with operating trains in mixed-flow traffic (Alternative 3).
- The Low-Floor LRT/Tram Alternative (Alternative 3) would replace local bus service with more frequent rail service; however, this would result in fewer overall boardings and require trains to stop more often, which would result in slower travel speeds, than the LPA and Alternative 4.

Figure ES-3: Project Alignment



Source: KOA, 2019.

Subsequent to identification of the LPA by the Metro Board, additional refinements were made to the project plans to improve pedestrian connectivity and safety, minimize right-of-way impacts and displacements, and improve operational efficiencies. These improvements included refinements to the station locations and footprints, track alignment, intersection configurations, and traction power substation (TPSS) locations. The reader is referred to Appendix GG of this FEIS/FEIR, which contains the revised Advanced Conceptual Plans for the LPA.

ES.3.1 Project Phasing and Identification of an Initial Operating Segment

To ensure the objectives of the project are met in a timely manner and avoid delays due to the timing of funding availability, Metro is considering constructing the LPA in two phases, an Initial Operating Segment (IOS) or phase 1, which would consist of the portion of the LPA alignment along Van Nuys Boulevard, and phase 2, which would include the northern 2.5-mile segment of the LPA along the Metro owned railroad right-of-way. Accordingly, an IOS has been included in this FEIS/FEIR to enable Metro to realize potential cost savings, which would not otherwise occur under the LPA, from phasing the project. It should be noted that Metro is proceeding with IOSs on other projects for that reason and to specifically provide the decision-making body of Metro (the Metro Board) with flexibility in determining the most efficient and cost-effective manner to implement those projects. Proceeding with an IOS for the proposed project will also allow further coordination to occur with the Public Utilities Commission (PUC) and Metrolink, which will be necessary to accommodate double tracking of the Antelope Valley Line, and with the City of San Fernando regarding traffic impacts at intersections in the City prior to development of the remaining northern segment (phase 2) of the LPA.

Similar to the LPA, the IOS and phasing of the project would be responsive to the community's desire, as expressed in the public comments on the DEIS/DEIR, for an at-grade LRT line serving the eastern San Fernando Valley. The IOS would also fulfill the project's purpose and need to:

- Improve north–south mobility,
- Provide more reliable operations and connections between key transit hubs/routes,
- Enhance transit accessibility/connectivity to local and regional destinations,
- Provide additional transit options in a largely transit-dependent area, and
- Encourage mode shift to transit.

ES.3.2 Description of the Locally Preferred Alternative

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 a median dedicated guideway along 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 ES-3. Similar to Alternative 4 described in the DEIS/DEIR, the LPA would include 14 stations. Additional details regarding the LPA characteristics, components, and facilities are discussed below.

ES.3.2.1 Vehicles

LRT vehicles for the LPA and IOS would be similar to those currently used throughout the existing Metro LRT system, as shown in Photo ES-3. Metro's LRT system is designed to accommodate trains with 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 at-grade guideway along Van Nuys Boulevard, they would operate no faster than the posted speed limit, which is 35 mph. The LPA assumes a maximum speed of 65 mph when traveling within the Metro right-of-way adjacent to San Fernando Road. Three-car contests (i.e., trains) can carry approximately 230 seated passengers and up to 400 passengers when standing passengers are included. 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.

Photo ES-3: Examples of Metro LRT Vehicle

Source: Metro Transportation Library and Archives, 2015.

ES.3.2.2 Alignment

The LPA and IOS would have two tracks. Along and just east of San Fernando Road, from the Sylmar/San Fernando Metrolink Station south to Van Nuys Boulevard, the LPA alignment would be located within the existing Metro-owned right-of-way currently used by Metrolink and Union Pacific Railroad. Metrolink and Union Pacific Railroad would continue to use a separate dedicated track.

From the intersection of San Fernando Road and Van Nuys Boulevard to the Metro Orange Line, the LPA and IOS would operate in a semi-exclusive right-of-way in what is currently the median of Van Nuys Boulevard. The LPA and IOS would be separated from automobile traffic along Van Nuys Boulevard by a barrier, except at signalized intersections and controlled at-grade crossings The train would operate no faster than the adjacent prevailing traffic speeds and would be controlled by train signals that would coordinate with the traffic signals.

ES.3.2.3 Stations

Stations would be constructed at approximately 3/4-mile intervals along the entire route to integrate with existing Metro bus services. There would be 14 stations under the LPA, which are listed below, and 11 stations under the IOS (stations 4 through 11 below).

1. Sylmar/San Fernando Metrolink Station;
2. Maclay Station;
3. Paxton Station;
4. Van Nuys/San Fernando Station;
5. Laurel Canyon Station;
6. Arleta Station;
7. Woodman Station;
8. Nordhoff Station;
9. Roscoe Station;
10. Van Nuys Metrolink Station;
11. Sherman Way Station;
12. Vanowen Station;
13. Victory Station; and
14. Van Nuys Metro Orange Line Station.

The proposed stations would have designs consistent with the Metro Rail Design Criteria (MRDC), including directive and standard drawings. Stations, an example of which is shown in Photo ES-4, would be ADA compliant, including compliance with the requirements pertaining to rail platforms, rail station signs, public address systems, clocks, escalators, and track crossings.

Common elements would include signage, maps, fixtures, furnishings, lighting, and communications equipment. All stations are proposed to have center or side platforms, allowing passengers to access trains traveling in either direction. Typically, at-grade station platforms are 270 feet long (to accommodate three-car trains), 39 inches high (to allow level boarding and full accessibility, in compliance with the ADA), and minimum 12.2 feet wide for side platforms to 16 feet wide for center platform stations.

Canopies at the LRT stations would be approximately 13 feet high and would incorporate directional station lighting to enhance safety. The stations would include seating elements and contain ticket vending machines, variable message signs, route maps, and fare gates, as well as the name and location of the LRT station. In addition, Metro is moving to a fare gate system and such a system would be integrated into station design as appropriate (Photo ES-4).

When feasible, stations would also include bicycle parking and bike lockers at or near stations, as required by MRDC. In addition, signage and safety and security equipment, such as closed-circuit televisions, public announcement systems, passenger assistance telephones, and variable message signs (providing real-time information), would be part of the amenities. No parking would be provided at the proposed new stations.

Photo ES-4: Example of Typical At-Grade LRT Station

Source: Metro, 2019. Note: These figures do not represent all components of a Metro system, such as pedestrian gates.

ES.3.2.4 Supporting Facilities

The LPA and IOS would require a number of additional elements to support vehicle operations, including an overhead contact system (OCS), TPSS, communications and signaling buildings, and a maintenance storage facility (MSF).

Maintenance and Storage Facility

The LPA and IOS would include construction of a new MSF, which would provide secure storage of the LRT vehicles when they are not in operation, and regular light maintenance to keep them clean and in good operating condition as well as heavy maintenance.

MSF Option B, has been identified as the locally preferred site by the Metro Board. The MSF site would be approximately 25 acres in size. MSF B would be located on the west side of Van Nuys Boulevard and would be bounded by Keswick Street on the south, Raymer Street on the east and north, and the Pacoima Wash on the west. Access to the facility would be via two turnout tracks on the west side of the alignment. A northbound turnout would be located in the vicinity of Saticoy Street. A southbound turnout would be located in the vicinity of Keswick Street.

Photo ES-5: Typical LRT MSF Facility and Inside the Main Building

Source: Metro. 20150.

The MSF would accommodate both operational and administrative functions. The MSF would accommodate all levels of vehicle service and maintenance (i.e., progressive maintenance, scheduled maintenance, unscheduled repairs, warrantee service, and limited heavy maintenance) in addition to storage space for vehicles. The typical MSF would provide: interior and exterior vehicle cleaning, sanding, and inspection areas; maintenance and repair shops; storage yards for vehicles; and storage areas for materials, tools, and spare vehicle parts. The storage yard would be the point of origin and termination for daily service. Photo ES-5 is a photograph of a typical MSF facility (Metro Green Line LRT MSF is shown).

The MSF would serve as the "home base" for the operators. Space would be provided for staff offices, dispatcher workstations, employee break rooms and/or lunchrooms, operator areas with lockers, showers and restrooms, and employee and visitor parking.

The MSF would include collision/body repair areas, enclosed paint booths, and wheel truing (the profiling of wheels to ensure the proper wheel to rail interface) machines. The MSF would also include maintenance-of-way, signals and communications, and traction power functions that would be housed in separate and smaller buildings.

Overhead Contact System

Photo ES-6: Typical OCS for LRT

Source: KOA, 2019.

The overhead contact system (OCS) is a network of overhead wires that distributes electricity to light rail vehicles (see Photo ES-6). An OCS would include steel poles placed within the entire alignment to support the overhead wires above the light rail vehicles. A telescoping pantograph or "arm" on the roof of LRT vehicles would slide along the underside of the contact wire and deliver electric power to the vehicles. The OCS poles would be approximately 30 feet tall and typically located approximately every 90 to 170 feet between or outside of the two tracks.

Traction Power Substations

TPSSs are electrical substations that would be typically placed at approximately ¾-mile intervals. The LPA LRT vehicles would be powered by approximately 14 TPSS units, which would be spaced relatively evenly along the alignment to provide direct current to the LRT vehicles. TPSSs would be located at points along the alignment where maximum power draw is expected (such as at stations and on inclines). In the event that one TPSS needs to be taken offline, the LRT vehicles would continue to operate. The MSF would also have its own designated TPSS. A representative TPSS is shown in Photo ES-7.

Photo ES-7: Typical TPSS for LRT

Source: Metro, 2019.

Communications and Signaling Buildings

Communications and signaling buildings that contain train control and communications equipment would be located at each station, crossover, and at-grade crossing.

ES.3.2.5 Operations

The proposed LRT is anticipated to operate with a 6-minute peak and 12-minute off-peak headways when it opens and is designed to operate at 5-minute peak and 10-minute off-peak once ridership begins to increase. Adjacent and connecting bus lines would be evaluated and headways would be revised depending upon train schedule and demand.

ES.3.2.6 Parking Loss and Travel Lane Loss

Parking Loss

With implementation of the LPA, all curbside parking would be prohibited along Van Nuys Boulevard.

Travel Lane Loss

The number of travel lanes on Van Nuys Boulevard would be reduced from three to two in each direction for the segment between the Metro Orange Line and Parthenia Street under the LPA and IOS. North of that point, the LPA and IOS would maintain the two existing travel lanes in each direction to Laurel Canyon Boulevard and the existing one northbound lane and two southbound lanes along Van Nuys Boulevard from Laurel Canyon Boulevard to San Fernando Road.

ES.3.2.7 Turning Restrictions

Left turns from Van Nuys Boulevard onto cross streets would be maintained at most of the currently signalized intersections where the LRT would be running in the median. All crossings of the alignment would be controlled by a traffic signal. Motorists who desire to make a left turn where it is no longer allowed 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.

Under the LPA and IOS, the intersections with turning restrictions is refined as follows:

- Pinney Street and San Fernando Road (closed via a cul de sac);
- Van Nuys Boulevard and El Dorado Avenue (southbound left only);
- Van Nuys Boulevard and Tamarack Avenue;
- Van Nuys Boulevard and Telfair Avenue;
- Van Nuys Boulevard and Cayuga Avenue;
- Van Nuys Boulevard and Oneida Avenue;
- Van Nuys Boulevard and Haddon Avenue;
- Van Nuys Boulevard and Omelveny Avenue;
- Van Nuys Boulevard and Amboy Avenue;
- Van Nuys Boulevard and Rincon Avenue;
- Van Nuys Boulevard and Remick Avenue;
- Van Nuys Boulevard and Vena Avenue;
- Van Nuys Boulevard and Bartee Avenue (northbound left only);
- Van Nuys Boulevard and Lev Avenue;
- Van Nuys Boulevard and Arleta Avenue (southbound left only);
- Van Nuys Boulevard and Beachy Avenue (southbound left only and pedestrian crossings);
- Van Nuys Boulevard and Canterbury Avenue;
- Van Nuys Boulevard and Woodman Avenue (southbound left only);
- Van Nuys Boulevard and Vesper Avenue (northbound left only);
- Van Nuys Boulevard and Novice Street;
- Van Nuys Boulevard and Gledhill Street;
- Van Nuys Boulevard and Vincennes Street;
- Van Nuys Boulevard and Osborne Street;
- Van Nuys Boulevard and Rayen Street;
- Van Nuys Boulevard and Parthenia Street (southbound left only);
- Van Nuys Boulevard and Lorne Street;
- Van Nuys Boulevard and Blythe Street;
- Van Nuys Boulevard and Michaels Street;
- Van Nuys Boulevard and Keswick Street (southbound left only);
- Van Nuys Boulevard and Covello Street;
- Van Nuys Boulevard and Wyandotte Street;
- Van Nuys Boulevard and Gault Street (pedestrian crossing only); Van Nuys Boulevard and Hart Street;

- Van Nuys Boulevard and Hartland Street (pedestrian crossing only);
- Van Nuys Boulevard and Archwood Street;
- Van Nuys Boulevard and Haynes Street;
- Van Nuys Boulevard and Hamlin Street;
- Van Nuys Boulevard and Gilmore Street;
- Van Nuys Boulevard and Friar Street;
- Van Nuys Boulevard and Erwin Street;
- Van Nuys Boulevard and Delano Street;
- Van Nuys Boulevard and Calvert Street;
- Van Nuys Boulevard and Bessemer Street.

ES.3.2.8 Bicycle Facilities

When feasible, bicycle parking would be provided at or near Metro stations, as required by MRDC.

Bicycle parking would be provided at or near Metro stations, as feasible. The existing bike lanes, which extend approximately two miles north along Nuys Boulevard from Parthenia Street to Beachy Avenue and from Laurel Canyon Boulevard to San Fernando Road, would be removed under the LPA and IOS due to right-of-way constraints.

The City of Los Angeles constructed a bicycle path within Metro's railroad right-of-way parallel to San Fernando Road. At the point where the LPA crosses the bicycle path, near the intersection of Pinney Street and San Fernando Road, a signalized grade crossing would be provided. This existing bike path would remain in place except in the City of San Fernando where the bike path would be relocated east in order to accommodate the relocated single Metrolink/UPRR track. The Metro right-of-way is generally wide enough to allow the bicycle path to remain alongside a pair of LRT tracks and a relocated track for Metrolink and the Union Pacific Railroad, though some partial takes of adjacent properties would be required in the City of San Fernando.

ES.3.2.9 Accessibility

Pedestrian Access

There would be a pedestrian overcrossing or undercrossing at the Sylmar/San Fernando Metrolink Station from the LRT platform to the Metrolink platform. For other pedestrian crossings along Metro right-of-way, the crossings would be controlled by pedestrian gates.

All current signal-controlled crosswalks along Van Nuys Boulevard would be maintained under the LPA and IOS. Between the signalized intersections, a barrier would be installed to prevent uncontrolled pedestrian crossings, as is Metro's current practice on its median-running LRT lines. Pedestrians would be required to walk to a signalized location to cross Van Nuys Boulevard. LRT passengers would reach the median station platforms from crosswalks at signalized intersections.

Vehicular Access

Vehicular access along Van Nuys Boulevard that would cross the LRT alignment would be limited to signalized crossings. All other streets or driveways would become right turns into and out of Van Nuys Boulevard.

ES.3.2.10 Right-of-Way

Right-of-way would be required to construct the MSF site from the LPA and IOS alignment. MSF Option B has been identified by Metro as the locally preferred site. Acquisitions would be needed on the west side of Van Nuys Boulevard so that the LRT vehicles can travel to the west of the Van Nuys Boulevard alignment, to the MSF site located within the industrial areas north of Keswick Street and south of Raymer Street.

Metro is the owner of a mostly 100-foot-wide railroad right-of-way through the Pacoima community, the City of San Fernando, and the Sylmar community that currently has a single track down the center of the corridor, with some sidings, and a bike path. The track is operated by the Southern California Regional Rail Authority for Metrolink commuter rail service and is also utilized by the Union Pacific Railroad. Within the Pacoima community of the City of Los Angeles, the 100-foot width could accommodate two LRT tracks, one commuter and freight rail track, and the existing bike path. To provide sufficient room for the LRT tracks under the LPA, the existing single rail track would be removed from the center of the corridor and replaced with a single track along the corridor's northeastern edge to serve commuter and freight rail operations. The right-of-way could accommodate center platform LRT stations near Paxton Street and Maclay Avenue.

At the Pacoima Wash, north of SR-118, a pair of new bridges would be needed, one for the LRT tracks, and the other for the commuter/freight rail track. These bridges would lie alongside the existing San Fernando Road Bridge and the existing bike path bridge. The available right-of-way within the City of San Fernando is relatively narrow. From Jesse/Wolfskill Street to a point approximately 1,000 feet north of Maclay Avenue, the right-of-way widths generally range from 60 feet to 80 feet. As a consequence, property acquisitions would most likely be required to construct the PLPA within this stretch of the project alignment because of the relatively constrained existing right-of-way. Acquisition of properties would also be required for the placement of TPSS units at approximately ¾ -mile intervals along the alignment, as well as at the San Fernando Road and Van Nuys Boulevard intersection.

ES.3.2.11 Gated LRT Grade Crossings

For the portion of the LPA alignment within the Metro-owned railroad right-of-way, the grade crossings at Paxton Street, Wolfskill Street, Brand Boulevard, Maclay Avenue, and Hubbard Avenue would be controlled by traditional vehicular crossing gates. The current single-track crossings would become three.

There would be pedestrian gates for at-grade street crossings, in addition to the traditional vehicular crossing gates that exist at Paxton Street, Wolfskill Street, Brand Boulevard, Maclay Avenue, and Hubbard Avenue.

There would also be left-turn lane gates, where feasible, at signalized intersections along Van Nuys Boulevard, under the LPA and IOS, where left turns are permitted across the LRT dedicated guideway. The gates would be activated whenever a train approaches the intersection to enhance safety at these locations.

ES.3.2.12 Description of the Initial Operating Segment

The IOS would run along the same alignment and have the same LRT design features, MSF, and operating and service characteristics as those described for the LPA below; however, the IOS would extend as far north as San Fernando Road and the proposed Van Nuys/San Fernando station, rather than continuing 2.5 miles within the existing railroad right-of-way to the Sylmar/San Fernando Metrolink station, as would occur under the LPA. Therefore, it would have a smaller project footprint than the LPA and would include 11 stations and 11 TPSS units instead of the 14 stations and 14 TPSS units proposed under the LPA. It remains Metro's intent, however, to build the remaining northern 2.5 miles of the LPA within the existing railroad right-of-way from the Van Nuys/San Fernando station to the Sylmar/San Fernando Metrolink station. The 6.7-mile route of the IOS is illustrated in Figure ES-3-2. Impacts associated with both the LPA and the IOS are discussed for each environmental impact section in Chapters 3 and 4 of this FEIS/FEIR.

Construction of the LPA and IOS is expected to begin in 2022 and would take approximately 4.5 to 5 years to completed.[1] A schedule for completing the second phase (i.e., the northern 2.5 miles) would be contingent upon securing the necessary funding and further coordination with the PUC, Metrolink, and the City of San Fernando prior to development of the remaining northern segment of the LPA. However, it is Metro's expectation that funding will be secured and construction of phase 2 would likely begin within 3 to 5 years of completion of the IOS and would occur over a 3- to 4-year period.

ES.4 Areas of Controversy and Issues to Be Resolved

ES.4.1 Areas of Controversy

Comments submitted during the circulation of the DEIS/DEIR expressed concerns regarding the issues listed below. Please note that these comments are meant to provide a synopsis of the trending themes. Comments received during the public circulation period are provided in Appendix A1 of the FEIS/FEIR. Responses to those comments are provided in Appendix A2 to this FEIS/FEIR.

- A strong preference by the public for LRT, despite the high cost, which is viewed as the best mode of transit, with higher carrying capacity and better mobility benefits;
- A feeling among some community members that the San Fernando Valley is not receiving its fair share of investment in rail, compared to other parts of the county;

[1] Based on the current impacts of the recent social response to the COVID-19 virus and the resulting decline in travel demand, at this time it is impossible to predict future changes to the project purpose and need, schedule, and traffic operation impacts that may result from a COVID-19 response of an unpredictable nature and length. Should significant changes in the planning assumptions, project schedule, project scope, or surrounding project environment result because of a prolonged COVID-19 response, Metro will consider additional project evaluation and public input consistent with NEPA and CEQA.

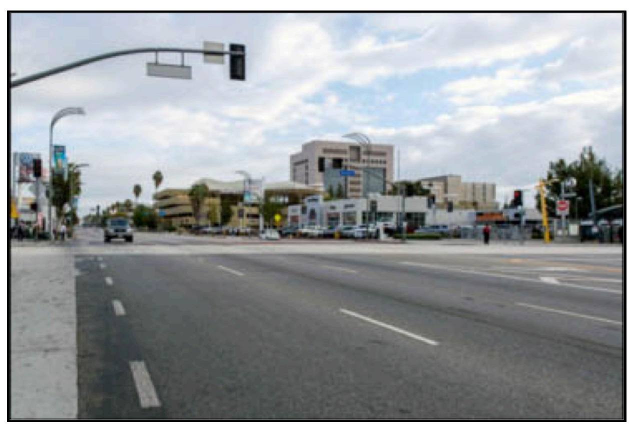
- Concerns expressed about the effects on local businesses of removing on-street parking along Van Nuys Boulevard;
- Concerns about economic impacts on adjacent businesses during project construction;
- Concerns over the loss of traffic lanes to accommodate the project and the resulting increased congestion in the motor vehicle lanes;
- Concerns about the location of the maintenance facility and potential impacts on the surrounding community;
- Concerns that BRT would be slower, carry fewer people, and have limited benefits compared with LRT;
- Concerns that LRT is too expensive, and BRT can provide almost the same level of benefits at a much lower cost;
- Concerns about any potential elimination of existing Metro Local and Metro Rapid bus routes and stops;
- Support for inclusion of bicycle lanes as part of this project, and opposition to their removal; and
- Concerns about fare increases to pay for this project.

ES.4.2 Issues to Be Resolved

Connection with Metro Orange Line

The Metro Orange Line intersects the southern terminus of the alignment (shown in Photo ES-8). Currently, the Metro Orange Line is a BRT that operates in a dedicated right-of-way with an average of 30,000 boardings per day. The Metro Orange Line Van Nuys Station is also a major transfer point. In planning this project, special consideration was given to how this project intersects with the Metro Orange Line and how to best facilitate transfer to/from both services.

Photo ES-8: Existing Metro Orange Line Connection with Van Nuys Boulevard

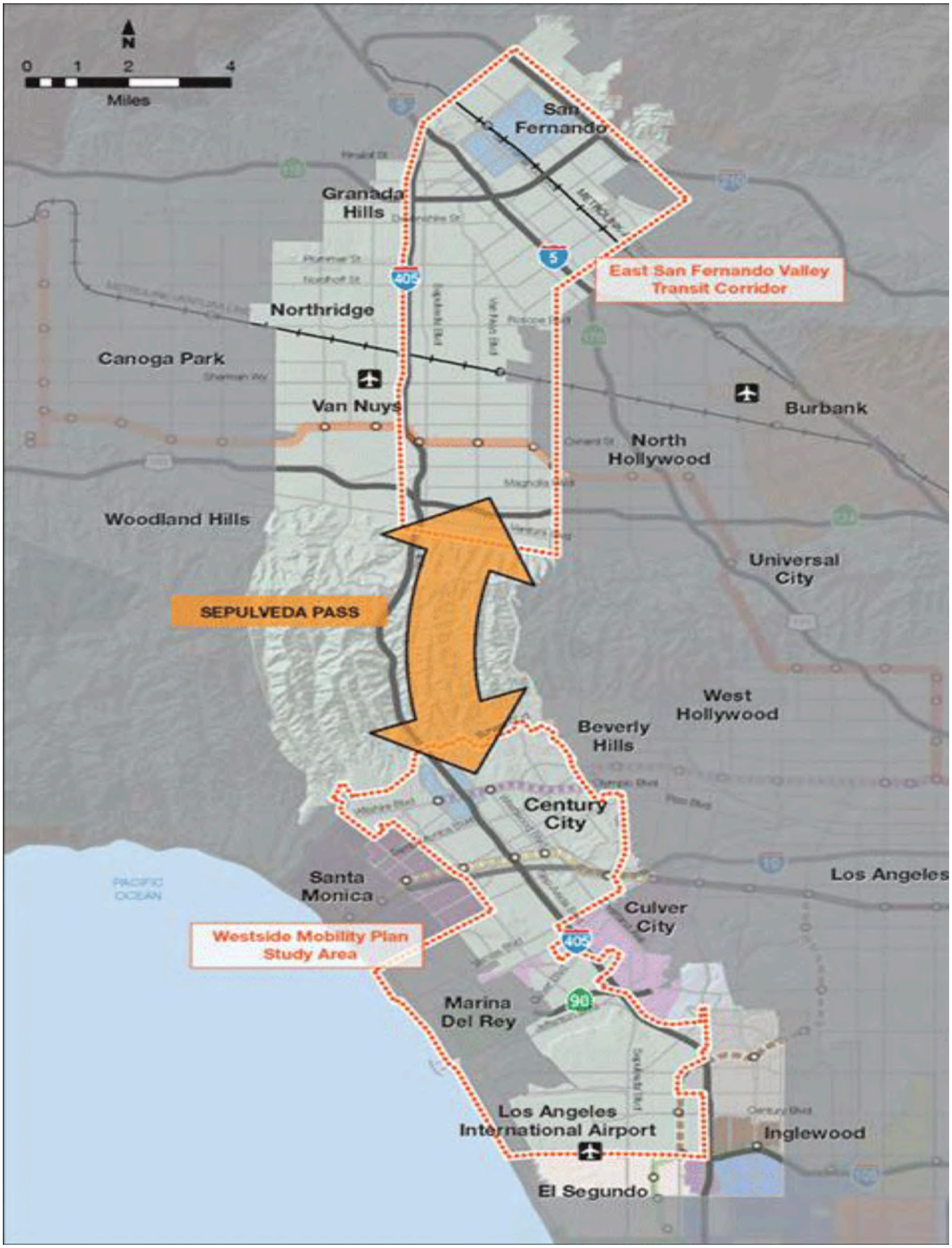


Source: KOA, 2015.

Uncertainties and Opportunities with Sepulveda Pass Transit Project

Along with planning for this proposed project, Metro is also studying how best to provide improved transit service through the Sepulveda Pass connecting the San Fernando Valley and the Westside (e.g. Westwood, Brentwood, West LA, Culver City). The LPA would recognize the Sepulveda Transit Corridor Project and consider any potentially feasible and advantageous points for connecting the two corridors (Figure ES-4).

Figure ES-4: Sepulveda Transit Connection



Source: Metro, 2016

Specific Effects on Landmark Palm Trees in the Civic Center

One of the most noticeable visual elements along the Van Nuys Boulevard corridor is the dual row of palm trees in the Van Nuys Civic Center portion of the corridor (Photo ES-9). The impact assessment for the LPA indicated that the guideway requirements would require the removal of some portion of these trees. It is Metro's intent to hold focused community urban design and station area meetings during final design of the project to obtain input on the re-planting of the trees. The community will be informed during the meetings about drought-tolerant California native plants and trees that could be considered for sun protection/shade as part of the landscaping plan that would be developed during final design.

Photo ES-9: Landmark Palm Trees along Van Nuys Boulevard in the Van Nuys Civic Center

Source: Metro, 2016.

Pedestrian Safety Improvements at Nearby Schools

A number of private and public schools are either adjacent to or near Van Nuys Boulevard and the San Fernando Road corridors (Photos ES-10 through ES-12). The proposed pedestrian measures are being implemented to ensure pedestrian safety is met along the corridor. The Metro Board will need to consider whether additional pedestrian safety measures are warranted, beyond Metro's current pedestrian safety program, as well as those proposed by the project.

Specific Effects of Project on Left Turns into Businesses

The LPA would eliminate some mid-block or outside-of-intersection left turns into properties on Van Nuys Boulevard. There are businesses throughout the corridor where delivery trucks access the business via a left turn (Photo ES-13). A formal outreach effort will be established to work with the businesses on a new access plan that would continue to provide access while being compatible with the operation of the LPA.

Photo ES-10: San Fernando Middle School

Source: Google Maps, 2016.

Photo ES-11: Arleta High School

Source: Google Maps, 2016.

Photo ES-12: Panorama High School

Source: Google Maps, 2016.

Photo ES-13: Truck Making a Left Turn along Van Nuys Corridor

Source: Metro, 2016.

Project Funding

Capital Funding Sources

Metro's approved 2009 Long-Range Transportation Plan (LRTP) reserved $170.1 million for the project, which is the present worth in 2014 dollars, escalated to 2018 dollars. The following combination of federal, state, and local revenue sources are eligible sources of funding for the ESFVTC Project

- Federal Sources:
  - Congestion Management and Air Quality (CMAQ);
  - Regional Surface Transportation Program (RSTP); and
  - Other future FTA funding;
- State Sources:
  - Regional Improvement Program (RIP);
  - Traffic Congestion Relief Program (TCRP);
  - Cap and Trade Program;
- Local Sources:
  - Measure R Sales Tax;
  - Local Agency Funds;
  - Proposition A Sales Tax;
  - Proposition C Sales Tax; and
  - Measure M Sales Tax.

Measure M Sales Tax

In 2016 Los Angeles voters passed the Measure M Sales Tax. This measure included projects that were identified by Metro staff as necessary to improve and enhance system connectivity; promote bicycling and walking; support Americans with Disabilities Act (ADA)/paratransit services for the disabled; provide discounts for students and seniors; invest in bus and rail operations; implement ongoing system maintenance and repair, including repair of bridges and tunnels; and fund repairs and enhancements for local streets and roads. To fund these projects and programs, the Metro Board of Directors agreed, at its June 2016 meeting, to place a measure on the ballot in November 2016 that would augment Measure R with a new half-cent sales tax.

In March 2016, the Metro Board of Directors released the draft Potential Ballot Measure Expenditure Plan for public review. The draft plan anticipates expenditures of more than $120 billion (YOE) over a period of 40 or more years. It relies on the following funding assumptions: a half-cent sales tax augmentation to begin in fiscal year 2018 and an extension of an existing half-cent sales tax rate beyond the current expiration of Measure R in 2039, with a combined one-cent sales tax and a partial extension for ongoing repairs, operations, and debt service. The draft plan currently identifies the ESFVTC Project for a total of $1.33 billion in funding, including $810 million from potential ballot measure revenues and $520 million from other LRTP revenues. The project, as defined in the draft plan, would be a high-capacity transit project, with mode to be determined, that would connect the Metro Orange Line Van Nuys station to the Sylmar/San Fernando Metrolink station and would consist of 14 stations over 9.2 miles.

Project Cost

Capital cost estimates for the alternatives are based on conceptual engineering drawings. The capital costs for the LPA and IOS are presented in 2014 base-year dollars and 2018 dollars for comparative purposes. Capital costs of the LPA range from $1.3 to $1.5 billion in 2014 dollars and $1.9 to $2.2 billion in 2018 dollars. Capital costs for the IOS range from $1.2 to $1.3 billion in 2014 dollars and $1.7 to $1.9 billion in 2018 dollars. Capital costs for the LPA and IOS include construction of the MSF, which is described in the DEIS/DEIR and this FEIS/FEIR as MSF Option B.

Project costs are fully detailed in Chapter 6 of this FEIS/FEIR; a summary is provided below in Table ES-1 for both the LPA and IOS. The capital costs for the LPA and IOS were developed with use of FTA's Standard Cost Categories (SCC)s. These costs represent gross capital expenditures relative to the No-Build Alternative. Total capital costs are divided into five major categories:

- General Construction: Guideway elements, stations, maintenance yards, site work, systems, and contingencies;
- Vehicles: Vehicle manufacturing and assembly;
- Right-of-Way: All rights-of-way, land, maintenance yards, and existing improvements;
- Soft Costs: Professional engineering and related services. Generally, soft costs are capital expenditures that are required to complete an operational transit project; the funds are not spent directly on activities related to brick-and-mortar construction, vehicle and equipment procurement, or land acquisition. Instead, these expenses are for the professional services that are necessary to complete the project; and,
- Unallocated Contingency: Additional costs included in the estimate that may be used to cover unforeseen costs, inflation, and/or mitigation measures.

Table ES-1: Project Costs (2014 YOE Dollars)

Cost Category	LPA with MSF	IOS with MSF
Construction	$683,285,763 – $788,386,872	$618,553,937 – $713,669,016
Right-of-Way, Land, Maintenance Yards, and Existing Improvements	$130,928,800 – $151,013,228	$130,928,800 – $151,139,573
Vehicles	$264,480,000 – $305,235,251	$214,320,000 – $247,244,627
Professional Services	$245,982,875 – $283,837,616	$222,679,417 – $256,964,654
Total Ranges	$1.3 to $1.5 billion	$1.2 to $1.3 billion

Source: Metro, KOA; 2019.

The LPA is projected to cost between $64.7 million annually to operate and maintain. The IOS would cost approximately $50.2 million annually to operate and maintain. The cost may have future variations related to the operational headway.

ES.5 Next Steps

The next steps in the project approval process are:

- Federal Transit Administration (FTA) approves publication and circulation of the FEIS/FEIR for 30 days.
- The Metro Board of Directors considers certification of the FEIS/FEIR in accordance with CEQA regulations, approval of the project, and adoption of the CEQA-required Mitigation Monitoring and Reporting Program and Findings of Fact and Statement of Overriding Consideration.
- A Notice of Determination (NOD) is filed in compliance with CEQA regulations, upon approval of the project by Metro, which will commence a 30-day statute of limitations period for legal challenges under CEQA.
- FTA issues and publishes a Record of Decision (ROD) in the Federal Register.
- FTA publishes a Limitation on Claims (LOC) notice in the Federal Register.
- Following filing of the NOD and publication of the Federal ROD, the proposed project can proceed to final design, construction, and operation. The schedule of these milestones will be refined as the project nears the end of the state and Federal mandated environmental review process.

ES.6 Summary of Environmental Impacts

In compliance with NEPA regulations and the State CEQA Guidelines, this FEIS/FEIR studied potential environmental consequences associated with construction and operation of the LPA and the IOS.

Due to the highly urbanized nature of the project area, potential environmental impacts pertain primarily to the built environment. Over 20 categories of environmental impacts were evaluated. Environmental impact categories where the LPA and IOS would have a significant impact after mitigation under CEQA and adverse effect under NEPA are discussed below.

ES.6.1 Unavoidable Significant Adverse Impacts and Effects under CEQA and NEPA

The LPA and IOS would result in unavoidable significant adverse impacts under CEQA after implementation of proposed mitigation measures in the following environmental resources:

- **Traffic, Parking, and Bicycle Facilities:** The LPA and IOS would result in reductions in roadway capacity due to the conversion of existing motor vehicle lanes to accommodate the LRT. As a consequence, under the LPA, significant traffic impacts under CEQA could occur at 20 of 73 study intersections along the corridor under future (2040) with-project conditions. Under the IOS, significant impacts would occur at 16 of the study intersections. Metro will work with the Cities of Los Angeles and San Fernando to synchronize and coordinate signal timing and optimize changes in roadway striping to minimize potential operational impacts to the extent feasible. However, other mitigation measures, such as lane configuration changes, which would increase the capacity of the roadways or restrict turning movements, were considered infeasible because of right-of-way constraints or secondary effects on upstream and downstream locations. As a consequence, traffic impacts would remain significant under CEQA after implementation of proposed mitigation measures. Construction traffic impacts would also remain significant and unavoidable under CEQA after implementation of proposed mitigation measures. In addition, existing bicycle lanes on Van Nuys Boulevard would be removed, and future bicycle lanes designated for implementation along Van Nuys Boulevard would not be feasible under the LPA and IOS, which would conflict with the City of Los Angeles Bicycle Plan. Therefore, impacts on bicyclists and bicycle facilities would remain significant under CEQA.
- **Land Use:** The LPA and IOS would result in land use incompatibility impacts or conflicts with environmental goals and policies in local land use plans due to traffic, noise, or other impacts that would remain significant under CEQA after implementation of proposed mitigation measures.
- **Community and Neighborhood:** Under the LPA and IOS, the potential operational effects on bicycle access and safety, construction and operational impacts on social and community interactions from business displacements, and operational visual impacts on sensitive viewers would be significant under CEQA after implementation of proposed mitigation measures.
- **Visual and Aesthetics:** The LPA and IOS would result in significant impacts under CEQA on the visual environment within the project corridor. The visual changes in communities along the project corridor due to the introduction of new vertical structures (overhead contact system columns and wires), affecting scenic views of the surrounding mountains and foothills, would remain significant under CEQA after mitigation.
- **Air Quality:** Construction of the LPA and IOS would result in localized PM10 and PM2.5 emissions during construction that would exceed local thresholds. Even with implementation of mitigation measures, emissions thresholds would be exceeded, and impacts would remain significant under CEQA.
- **Noise and Vibration:** Construction of the LPA and IOS would require the use of heavy earth-moving equipment, pneumatic tools, generators, concrete pumps, and similar equipment. Actual construction noise levels would depend on means and methods decided upon by the contractor. The significance thresholds for construction noise levels are those that exceed existing ambient noise levels by 10 dBA or more at a sensitive land use. The construction of the LPA and IOS would have a predicted noise level of 87 dBA (8-hour L_{eq}) at 50 feet, which is about 15 to 20 decibels higher than the current ambient noise level. Therefore, noise from construction of the LPA and IOS would result in a significant impact under CEQA. Although mitigation

measures are proposed to reduce construction noise levels and impacts would be temporary, construction noise levels could still exceed established thresholds resulting in unavoidable significant impacts under CEQA.

- **Safety and Security:** The LPA and IOS would result in significant effects under CEQA after mitigation on pedestrian sidewalk safety due to the narrowing of sidewalks and bicycle safety due to the removal of existing bike lanes as well as potential impacts on emergency vehicle response time due to turn restrictions and the increased congestion resulting from the removal of mixed-flow travel lanes.
- **Parklands and Community Facilities:** The LPA's and IOS's potential construction air quality effects on parklands and community facilities would remain significant under CEQA after implementation of proposed mitigation measures. The operational effects of the LPA and IOS on emergency vehicle access and visual impacts on sensitive viewers would be significant under CEQA after implementation of proposed mitigation measures.

The LPA and IOS would result in unavoidable adverse effects under NEPA after implementation of proposed mitigation measures in the following environmental resources:

- **Traffic, Parking, and Bicycle Facilities:** Traffic impacts would remain adverse under NEPA after implementation of proposed mitigation measures. Construction traffic impacts would also remain adverse under NEPA after implementation of proposed mitigation measures. In addition, existing bicycle lanes on Van Nuys Boulevard would be removed, and future bicycle lanes designated for implementation along Van Nuys Boulevard would not be feasible under the LPA and IOS, which would conflict with the City of Los Angeles Bicycle Plan. Therefore, impacts on bicyclists and bicycle facilities would remain adverse under NEPA after mitigation.
- **Land Use:** The LPA and IOS would result in land use incompatibility impacts or conflicts with environmental goals and policies in local land use plans due to traffic, noise, or other impacts that would remain adverse under NEPA after implementation of proposed mitigation measures.
- **Community and Neighborhood:** Under the LPA and IOS, the potential operational effects on bicycle access and safety, construction and operational effects on social and community interactions from business displacements, and operational visual effects on sensitive viewers would be adverse under NEPA after implementation of proposed mitigation measures.
- **Visual and Aesthetics:** The LPA and IOS would result in potentially adverse effects under NEPA on the visual environment within the project corridor. The visual changes in communities along the project corridor due to the introduction of new vertical structures (overhead contact system columns and wires), affecting scenic views of the surrounding mountains and foothills, would remain adverse under NEPA after mitigation.
- **Noise and Vibration:** Noise from construction of the LPA and IOS would result in adverse effects under NEPA. Although mitigation measures are proposed to reduce construction noise levels and effects would be temporary, construction noise levels could still exceed established thresholds, resulting in unavoidable adverse effects under NEPA.
- **Safety and Security:** The LPA and IOS would result in adverse effects under NEPA after mitigation on pedestrian sidewalk safety due to the narrowing of sidewalks and bicycle safety due to the removal of existing bike lanes as well as potential impacts on emergency vehicle response time due to turn restrictions and the increased congestion resulting from the removal of mixed-flow travel lanes.
- **Parklands and Community Facilities:** The LPA's and IOS's operational effects of the LPA and IOS on emergency vehicle access and visual impacts on sensitive viewers would be adverse under NEPA after implementation of proposed mitigation measures.

More information regarding the proposed project's environmental effects and impacts is provided in Chapter 3, Transportation, Transit, Circulation, and Parking, and Chapter 4, Environmental Analysis, Consequences, and Mitigation.

ES.7 Summary of Environmental Consequences and Mitigation Measures

Table ES-2, below, provides a summary of all environmental impacts of the LPA, IOS, and for comparison purposes, Alternatives 3 and 4 from the DEIS/DEIR. For further and more detailed information on Alternatives 3 and 4, please refer to the DEIS/DEIR, which is available at Metro headquarters and online at https://www.metro.net/projects/east-sfv/draft-eiseir/. For more details about each of the impacts as they pertain to the LPA and IOS, the reader is referred to Chapters 3, 4, and 5 of this FEIS/FEIR.

As indicated in Table ES-2, the LPA would not result in new significant impacts or substantially more severe significant impacts than those identified in the DEIS/DEIR. For that reason, recirculation of the DEIS/DEIR is not required.[2]

Table ES-3 includes a list of proposed mitigation measures. For mitigation measures proposed for Alternative 3 and 4, please refer to the DEIS/DEIR. Metro is committed to satisfying all applicable federal, state, and local environmental regulations and to applying reasonable mitigation measures to reduce adverse effects and significant impacts. Should the Metro Board of Directors approve the project, in accordance with CEQA regulations, it will adopt a Mitigation Monitoring and Reporting Program, which lists all of the committed mitigation measures. Upon approval of the proposed project, these mitigation measures will become part of the project, and will be considered binding under CEQA.

[2] Pursuant to Section 15088.5(a) of the State CEQA Guidelines: A lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review under Section 15087 but before certification. As used in this section, the term "information" can include changes in the project or environmental setting as well as additional data or other information. New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement. "Significant new information" requiring recirculation include, for example, a disclosure showing that: (1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented. (2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance. (3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it. (4) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

Table ES-2: Summary of Environmental Impacts and Effects

Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
Transportation, Transit, Circulation, and Parking (Chapter 3 of the FEIS/FEIR)					
Construction	**Transit and Traffic:** The LPA would be constructed over a period of approximately 4.5 to 5 years[3] and would result in temporary lane or street closures. **Parking:** From 7 a.m. to 7 p.m., on-street parking would be removed within each construction work zone. On-street parking would be permanently removed to accommodate operation of the LPA. **Pedestrian and Bicycle Facilities:** Existing bicycle lanes along Van Nuys Boulevard would be removed during construction. Pedestrian routes would be lengthened where minor intersections would be temporarily closed during construction.	**Transit and Traffic:** The IOS would be constructed over a period of approximately 4.5 to 5 years and would result in temporary lane or street closures. **Parking and Pedestrian and Bicycle Facilities:** Impacts would be the same as those that would occur under the LPA along Van Nuys Boulevard. The bike path within the Metro-owned railroad right-of-way would not have to be relocated as would occur under the LPA and DEIS/DEIR Alternative 4 because the IOS would not include the railroad right-of-way segment.	**Transit and Traffic:** Alternative 3 would be constructed over a period of approximately 4 years and would result in temporary lane or street closures. **Parking:** From 7 a.m. to 7 p.m., on-street parking would be removed within each construction work zone. On-street parking would be permanently removed to accommodate operation of Alternative 3. **Pedestrian and Bicycle Facilities:** Existing bicycle lanes along Van Nuys Boulevard would be removed during construction. Pedestrian routes would be lengthened where minor intersections would be temporarily closed during construction.	**Transit and Traffic:** Construction of Alternative 4 could take up to 5 years. The impacts would be greater than those that would occur under Alternative 3. **Parking and Pedestrian and Bicycle Facilities:** Impacts would be the same as those that would occur under Alternative 3.	**All Alternatives:** **CEQA:** Significant (transit, traffic, bicycle facilities) **NEPA:** Adverse (transit, traffic, bicycle facilities)

[3] This is the overall construction duration. Construction would occur in phases and would be divided into a series of activities, which would often overlap to minimize the duration of overall construction. Constructing in segments would also minimize the length of time construction activities occur in front of a particular block of properties, so properties are not affected during the entire duration of construction, but mainly when activities are occurring on that particular block.

Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
Operation	**Transit Impacts:** The LPA would result in improved headways and travel times, and an increase of 9,549 daily transit trips. **Traffic Impacts**: the LPA would result in significant impacts at 20 of the 73 study intersections in the corridor in the AM or PM peak hours under the Future (Year 2040)-with-Project scenario. **Parking:** A total of 1,111 on-street parking spaces and 528 off-street parking spaces would be removed. **Pedestrian and Bicycle Facilities:** Project implementation would conflict with the City of Los Angeles Bicycle Plan, as designated bicycle lanes on Van Nuys Boulevard would not be feasible under the LPA. Existing bicycle lanes on Van Nuys Boulevard would be removed. However, it should be noted that the City of Los Angeles General Plan Framework Element designates the corridor as a Transit Priority Segment, which conflicts with the City of Los Angeles Bicycle Plan. Pedestrian routes would be lengthened where minor intersections would be closed. Remaining pedestrian crossings would be improved with enhanced design and safety features.	**Transit Impacts:** The IOS would result in improved headways and travel times, and an increase of 7,476 daily transit trips. **Traffic Impacts**: the IOS would result in significant impacts at 16 of the study intersections within the IOS extents. **Parking:** Impacts would be the same as those described for the LPA. **Pedestrian and Bicycle Facilities:** Impacts would be the same as those described for the LPA.	**Transit Impacts:** Alternative 3 would result in improved headways and travel times, and an increase of 8,452 daily transit trips. **Traffic Impacts**: Alternative 3 would result in significant LOS impacts at 32 of the 73 study intersections in the AM or PM peak hours under the Future-with-Project scenario. **Parking:** All 1,140 on-street parking spaces and 15 adjacent cross-street spaces would be removed. **Pedestrian and Bicycle Facilities:** Existing bicycle lanes on Van Nuys Boulevard would be removed.	**Transit Impacts:** Alternative 4 would result in improved headways and travel times, and an increase of 9,786 daily transit trips. **Traffic Impacts**: Alternative 4 would result in significant impacts at 20 of the 73 study intersections in the AM or PM peak hours under the Future-with-Project scenario. **Parking:** A total of 902 on-street parking spaces and 528 off-street parking spaces would be removed. **Pedestrian and Bicycle Facilities:** Impacts would be similar to those described for the LPA.	**All Alternatives:** **CEQA:** Significant (traffic, bicycle facilities). Parking is not considered a significant environmental impact under CEQA. **NEPA:** Adverse (traffic and bicycle facilities)

Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
Land Use (Section 4.1 of the FEIS/FEIR)					
Construction	**Division of an Established Community:** Construction of the LRT and associated stations would require temporary sidewalk, lane, street closures, and traffic detours and designated truck routes. Street, lane, and sidewalk closures could reduce pedestrian and vehicle mobility between and within communities throughout the project study area during construction. Temporary lane and street closures are not expected to substantially divide or diminish access to existing communities or neighborhoods. **Conflict with Local Land Use Plans:** Construction activities would not conflict with applicable land use plans' or habitat conservation plans' environmental policies. **Incompatibility with Adjacent or Surrounding Land Uses:** Construction activities along the alignment could result in temporary nuisance impacts (e.g., noise, air quality impacts) on nearby land uses. Additionally, construction staging areas would be established near the project alignment and used for equipment and material storage.	**Division of an Established Community:** Impacts would be similar to those described for the LPA. **Conflict with Local Land Use Plans:** Construction activities would not conflict with applicable land use plans' or habitat conservation plans' environmental policies. **Incompatibility with Adjacent or Surrounding Land Uses:** Impacts would be similar to those described for the LPA.	Impacts would be similar to those described for the LPA.	Impacts would be similar to or potentially greater than those that would occur under the LPA and Alternative 3 due to the more extensive construction activities that would be required to construct the subway portion of the Alternative 4 alignment.	**All Alternatives:** **CEQA:** Less than significant **NEPA:** Not adverse

Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
Operation	**Division of an Established Community:** This alternative would operate entirely within existing transportation corridors. Given that the alignment would be located along existing roadways and the fact that pedestrians and vehicles could still cross the alignment at specified locations throughout the corridor, this alternative would not divide an established community. **Conflict with Local Land Use Plans:** The LPA would be consistent with SCAG regional goals of encouraging land use and growth patterns that facilitate transit and non-motorized transportation and focusing growth along major transportation corridors in the region. However, the LPA would result in significant adverse traffic impacts at 20 of 73 study intersections in the corridor (Future-with-Project scenario) due to a reduction in the number of mixed-flow travel lanes to accommodate the LRT. The localized traffic impacts under the LPA would conflict with the congestion reduction goals and policies of local plans. Additionally, while bicycle lanes along Van Nuys Boulevard would not be possible under this alternative, the ability for bicyclists to access areas in the project corridor would be retained, and the project would achieve other	**Division of an Established Community:** Impacts would be similar to the impacts described for LPA. **Conflict with Local Land Use Plans:** Impacts would be the same as the impacts described for LPA. **Incompatibility with Adjacent or Surrounding Land Uses:** Impacts would be similar to the impacts described for LPA.	Operational impacts would be similar to those that would occur under the LPA. However, Alternative 3 could result in significant adverse traffic impacts at 32 of 73 study intersections along the corridor due to a reduction in the number of mixed-flow travel lanes to accommodate a dedicated LRT/tram.	Operational impacts would be slightly less than the LPA or Alternative 3 due to the subway segment. Similar to the LPA, Alternative 4 would result in localized traffic impacts at 20 of 73 study intersections, which would conflict with congestion reduction goals in local plans. Other land use plan conflict impacts would be similar to those described for the LPA and Alternative 3. **Incompatibility with Adjacent or Surrounding Land Uses:** Impacts would be similar to those described for the LPA and Alternative 3, with the exception that incompatibility impacts would be minimized or avoided along the subway portion of the alignment.	**All Alternatives:** **CEQA:** Significant (conflict with local land use plans due to increased traffic congestion) **NEPA:** Adverse (conflict with local land use plans due to increased traffic congestion)

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Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
	local planning goals of reducing reliance on the automobile and increasing transit ridership. **Incompatibility with Adjacent or Surrounding Land Uses:** While there would be some modifications to the project corridor (e.g., removal of traffic and bicycle lanes and changes in turning movements), the project corridor is an existing transportation route with ongoing bus transit service, and therefore, the LPA operations would generally be compatible with existing land uses. This alternative would require an overhead contact system to power the LRT vehicles, which would not conflict with adjacent and surrounding uses. Under this alternative, 14 stations would be in areas that are primarily commercial and residential. Stations would include aesthetic enhancements, such as landscaping, canopies, and artwork, which would be compatible with adjacent and surrounding land uses. The proposed MSF (MSF Option B) site is in a mainly industrial and commercial area. No residential properties are immediately adjacent to the site; therefore, the LPA would not be incompatible with local land uses. This alternative would also require TPSSs, which would be typically placed approximately every ¾ miles. To minimize or avoid land use incompatibility impacts to the				

Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
	extent feasible, the majority of potential TPSS locations would be located near potential stations or the MSF.				
Real Estate and Acquisitions (Section 4.2 of the FEIS/FEIR)					
Construction	Construction of the LPA would require 68 full acquisitions, 30 partial acquisitions, one Metro-owned acquisition, and one acquisition of a vacant alley.	The IOS could require 83 acquisitions of properties, including 64 full acquisitions, 17 partial acquisitions, one Metro-owned property, and one acquisition of a vacant alley.	Construction of Alternative 3 would require 4 partial acquisitions and 62 full acquisitions of properties.	Construction of Alternative 4 would require 11 partial acquisitions and 93 full acquisitions of properties.	**All Alternatives:** **CEQA:** Less than significant **NEPA:** Not adverse
Operation	No operational impacts would occur.	No operational impacts would occur.	No operational impacts would occur.	No operational impacts would occur.	**All Alternatives:** **CEQA:** No impact **NEPA:** No effect
Economic and Fiscal Impacts (Section 4.3 of the FEIS/FEIR)					
Construction	The LPA could result in potential minor economic impacts on local businesses due to reduced visibility and diminished access resulting from sidewalk or lane closures, loss of on-street parking during construction, and permanent removal of on-street parking spaces. The LPA would require the acquisition of properties (34 full acquisitions, 30 partial acquisitions, one Metro-owned acquisition, and one acquisition of a vacant alley), which would result in the loss of an estimated $2.98 million in property taxes and would affect 2,723 jobs. However, construction work would result in direct, indirect, and induced impacts that would generate an estimated 20,525 jobs.	Impacts would be the same as those described for the LPA.	Alternative 3 impacts would be similar to those described for the LPA. The acquisition of properties under Alternative 3 would result in the loss of $460,000 in property taxes and 580 jobs. However, construction work would result in direct, indirect, and induced impacts that would generate new jobs.	Alternative 4 impacts would be similar to those described for the LPA. The acquisition of properties under Alternative 4 would result in the loss of $940,000 in property taxes and 1,285 jobs. However, construction work result in direct, indirect, and induced impacts that would generate new jobs.	**All Alternatives:** **CEQA:** Less than significant **NEPA:** Not adverse

Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
Operation	Operational economic and fiscal impacts would be limited to the potential indirect impacts on local businesses that could occur where on-street parking would be removed to accommodate the LPA.	Impacts would be the same as those described for the LPA.	Impacts would be similar to those described for the LPA.	Impacts would be similar to those described for the LPA.	**All Alternatives:** **CEQA:** Less than significant **NEPA:** Not adverse
Communities and Neighborhoods (Section 4.4 of the FEIS/FEIR)					
Construction	**Mobility and Access Impacts:** Construction of the LRT tracks and stations would require temporary sidewalk, lane, and possibly road closures, and removal of parking on Van Nuys Boulevard, which could reduce pedestrian, bicycle, vehicle mobility between communities and neighborhoods along the project corridor. **Social and Economic Impacts:** Construction activities that result in lane and/or road closures and the loss of on-street or off-street parking would decrease accessibility to businesses and could adversely affect business activity. Construction would require additional permanent right-of-way acquisitions and the displacement of businesses, which could result in changes to the local neighborhood character and social fabric of the community. The viability of businesses that choose to relocate may be adversely affected while customers become accustomed to accessing new locations. Additionally, these locations may be psychologically or socially disruptive to neighborhood residents or	**Social and Economic Impacts:** Impacts would be similar to those described for the LPA. **Physical Impacts:** Impacts would be similar to those described for the LPA.	Impacts would be similar to those described for the LPA.	Alternative 4 would result in similar types of construction impacts to those described for the LPA; however, the impacts could be extensive and occur over a longer period of time because of the more extensive construction activities associated with the subway portion of the alignment.	**All Alternatives:** **CEQA:** Significant (removal of bike lanes) **NEPA:** Adverse (removal of bike lanes; community effects due to business displacements)

Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
	visitors. The LPA, however, would not physically divide an established community. **Physical Impacts:** Construction activities would result in a number of physical impacts and intrusions, including noise, dust, odors, and traffic delays resulting from haul trucks and construction equipment located on public streets and staging areas. Visual impacts could occur due to temporary removal of vegetation from some areas and the presence of construction equipment and materials. During construction, motorists, pedestrians, and bicyclists would be exposed to additional safety hazards because of proximity to construction activities.				
Operation	**Mobility and Access Impacts:** Restrictions on motor vehicle movement (left turns) at unsignalized intersections and parking prohibition along Van Nuys Boulevard would present an inconvenience for vehicles traveling along the project corridor. The LPA would maintain pedestrian access to the project corridor, though existing 13-foot sidewalks would be narrowed to 10 feet in some locations and some pedestrian routes may be re-routed and would require additional walking distance because minor intersections would be permanently closed as part of project implementation.	**Mobility and Access Impacts:** Impacts would be similar to those described for the LPA. **Social and Economic Impacts:** Impacts would be similar to those described for the LPA but would result in reduced economic impacts because of fewer property acquisitions. **Physical Impacts:** Impacts would be similar to those described for the LPA but the IOS would not include the LPA segment along the railroad right-of-way and	Impacts would be similar to or slightly less than those described for the LPA because Alternative 3 would result in fewer property acquisitions.	Impacts would be similar or slightly greater than those described for the LPA due to greater number of property acquisitions, except for the subway segment of Alternative 4, which could avoid pedestrian access impacts and motor vehicle turn restrictions that could occur along this segment under the LPA and Alternative 3.	**All Alternatives:** **CEQA:** Significant (removal of bike lanes and visual impacts) **NEPA:** Adverse (removal of bike lanes, business displacements, and visual effects)

Metro

Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
	Under the LPA, the existing Class II bike lanes on Van Nuys Boulevard would be removed to make room for the LRT tracks and stations, which would conflict with the City's Bicycle Plan and Mobility Plan. **Social and Economic Impacts:** Some areas would require property acquisitions to accommodate the LRT facilities. Displacements could result in substantial changes to local neighborhood character and potentially the social fabric of the local community, because neighborhood residents and visitors may be accustomed to accessing businesses in their existing locations and the displacement of those businesses could be psychologically or socially disruptive, and could affect professional and social interactions. If relocation sites are available within proximity to the existing business sites, the disruptions to professional and social interactions may be temporary as residents become accustomed to accessing the displaced businesses at their new locations. **Physical Impacts:** The median fences, overhead contact system, and pedestrian bridge, in particular, would introduce additional vertical elements that could substantially change the existing visual character and quality in the immediate vicinity of these elements. The potential exists for conflicts or	pedestrian bridge (or tunnel) at the Sylmar/San Fernando station and resulting potential visual impacts.			

Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
	collisions between LRT vehicles and motor vehicles or pedestrians. The removal of the Class II bike lanes along Van Nuys Boulevard and use of alternate routes by bicyclists could increase the potential for conflicts between motor vehicles and bicyclists.				
Visual Quality and Aesthetics (Section 4.5 of the FEIS/FEIR)					
Construction	Construction of the LPA could result in temporary visual impacts; construction areas would be visible to all viewer groups from areas within and adjacent to the project corridor, including residential and recreational areas. Construction activities in staging areas and at proposed stations may include the use of large equipment such as cranes and associated vehicles, including bulldozers, backhoes, graders, scrapers, and trucks, which could be visible from public streets, sidewalks, and adjacent properties. Viewers in the construction area may be affected by the presence of this equipment, as well as stockpiled construction-related materials. In addition, mature vegetation, including trees, would need to be temporarily or permanently removed from some areas.	Impacts would be the same as those that would occur along Van Nuys Boulevard due to the LPA, but the IOS would not result in the impacts that could occur under the LPA along the railroad right-of-way segment.	Impacts would be similar to those described for the LPA.	Impacts would be similar to those described for the LPA; however, construction of the subway segment has the potential to result in greater visual impacts due to the more extensive construction activities.	**All Alternatives:** **CEQA:** Significant **NEPA:** Adverse

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Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
Operation	**Scenic Vistas:** Adverse effects may occur due to new vertical features in the landscape, particularly the overhead contact system. **Scenic Resources:** Existing scenic resources could be affected due to removal of some existing landscaping and street trees, including rows of palm trees along Van Nuys Boulevard. **Visual Character and Quality:** Visual character and quality would be affected by the presence of the LRT cars and new stations; however, views in the corridor as a whole would not be substantially affected. The MSF would have a similar industrial appearance to replaced buildings and thus would not have a substantial adverse effect on visual character and quality, though the TPSSs may slightly disrupt visual unity along the corridor. **Lighting, Glare, and Shading:** Lighting, glare, and shading would not change substantially except in residential areas where elements of the LPA could increase nighttime lighting.	**Scenic Vistas:** Impacts would be similar to those described for the LPA. **Scenic Resources:** Impacts would be similar to those described for the LPA. **Visual Character and Quality:** Impacts would be similar to those described for the LPA. **Lighting, Glare, and Shading:** Impacts would be similar to those described for the LPA.	Impacts would be similar to those described for the LPA.	Impacts would be similar to those described for the LPA; however, the subway segment of Alternative 4 would not include the visual elements of the LPA, i.e., OCS, that could result in adverse visual effects.	**All Alternatives:** **CEQA:** Significant **NEPA:** Adverse
Air Quality					
Construction	Construction of the LPA would result in the short-term generation of criteria pollutant emissions. Regional emissions for ROG and oxides of nitrogen (NOx) are expected to exceed the South Coast	Impacts would be the similar to those described for the LPA, but the IOS would not include the railroad right-of-way segment of the LPA; therefore, construction air	Construction of Alternative 3 would result in the short-term generation of criteria pollutant emissions. Regional emissions for ROG and oxides of nitrogen	Construction of Alternative 4 would result in the short-term generation of criteria pollutant emissions. Regional emissions for	**All Alternatives:** **CEQA:** Significant **NEPA:** Not adverse

Metro

Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
	Air Quality Management District (SCAQMD) regional emissions thresholds. Localized NOx, PM_{10}, and $PM_{2.5}$ emissions during construction would exceed local thresholds. The greatest potential for toxic air contaminant (TAC) emissions would be related to diesel particulate matter (DPM) emissions associated with operation of heavy construction equipment.	quality impacts would affect a smaller area than the LPA.	(NOx) are expected to exceed the South Coast Air Quality Management District (SCAQMD) regional emissions thresholds. Localized NOx, PM_{10}, and $PM_{2.5}$ emissions during construction would exceed local thresholds. The greatest potential for toxic air contaminant (TAC) emissions would be related to diesel particulate matter (DPM) emissions associated with operation of heavy construction equipment.	ROG and oxides of nitrogen (NOx) are expected to exceed the South Coast Air Quality Management District (SCAQMD) regional emissions thresholds. Localized NOx, PM_{10}, and $PM_{2.5}$ emissions during construction would exceed local thresholds. The greatest potential for toxic air contaminant (TAC) emissions would be related to diesel particulate matter (DPM) emissions associated with operation of heavy construction equipment.	
Operation	Operation of the LPA would result in reductions in regional criteria pollutant emissions relative to the No- Build Alternative, and emissions would not exceed SCAQMD thresholds. Based on the LPA's lower intersection approach volumes, idle emissions, and grams/mile emissions relative to the 2003 AQMP attainment demonstration, there would be no potential for the LPA carbon monoxide (CO) emissions at any intersection to result in an exceedance of either the	Operational impacts under the IOS would be similar to those identified under the LPA, with the exception that the IOS would have lower ridership due to the shorter alignment. The reduced ridership would mean that some individuals would take other modes of transportation, and a portion of these individuals would use passenger vehicles. As such, VMT and associated emissions would be higher under the IOS than under the LPA. However,	Under Alternative 3, both ROG and NOx emissions are anticipated to exceed SCAQMD significance criteria under the Future (year 2040)-with-Project scenario. All remaining criteria pollutant emissions under Alternative 3 would not exceed SCAQMD significance thresholds. No emissions thresholds would be exceeded in the 2012 (Existing with Project) scenario.	Regional criteria pollutant emissions under Alternative 4 would not exceed SCAQMD significance thresholds.	**All Alternatives:** **CEQA:** Less than significant **NEPA:** Not adverse

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Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
	National Ambient Air Quality Standards (NAAQS) or California Ambient Air Quality Standards (CAAQS) for CO. Operation of the LPA would not generate new air quality violations, worsen existing violations, or delay attainment of national Ambient Air Quality Standards (AAQS) for $PM_{2.5}$ and PM_{10}. The LPA would also not result in a material change in regional MSAT pollutant emissions, when compared to the No-Build Alternative.	given that the IOS would introduce a new LRT service where none exists at present, project-related air pollutant emissions are anticipated to be lower than under the No-Build Alternative. For reasons similar to those identified for the LPA, the IOS is not expected to result in exceedances of SCAQMD thresholds, generation of CO or PM hot-spots, or generation of substantial MSAT/TAC emissions.	Although the SCAQMD regional operational emissions thresholds would be exceeded under the Future (Year 2040)-with-Project scenario, SCAQMD's operational emissions significance thresholds are based on emissions from stationary sources. Because the primary source of operational emissions would be mobile sources (due to changes in auto circulation patterns), the SCAQMD thresholds are provided for informational purposes only. The proposed project's requirement to demonstrate transportation conformity ensures that project emissions are accounted for in the SIP, which demonstrated attainment of the federal ozone standard. As such, ozone precursor emissions of ROG and NOx would be less than significant. Overall operational emissions under Alternative 3 would be less than significant under CEQA and would not be adverse under NEPA.		

Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
Greenhouse Gas Emissions (Section 4.7 of the FEIS/FEIR)					
Construction	LPA construction activities would result in the emission of approximately 5,877 metric tons of CO_2e. Consistent with SCAQMD-recommended methodology, construction-period emissions were amortized over a 30-year period, resulting in an annual equivalent of approximately 196 metric tons of CO_2e.	IOS construction activities would result in an estimated 3,740 metric tons of CO_2e emissions.	Alternative 3 construction activities would result in the emission of approximately 4,025 metric tons of CO_2e over the course of the construction period, or approximately 134 metric tons per year amortized over a 30-year period.	Alternative 4 construction activities would result in the emission of approximately 19,900 metric tons of CO_2e over the course of the construction period, or approximately 633 metric tons per year amortized over a 30-year period.	Since impact determinations consider the combined effect of construction and operational GHG emissions, please see the impact determinations below for Operation.
Operation	Traffic operations under the LPA would result in an annual emissions reduction of approximately 25,380 metric tons of CO_2e compared with the future (2040) baseline condition vehicle emissions, a decrease of 0.05% in regional GHG emissions from vehicles. Operation of the MSF would be responsible for an additional 1,416 metric tons of CO_2e emitted annually. LRT vehicle propulsion and station operation would result in the emission of 12,904 metric tons of CO_2e per year. Construction and operation of the LPA combined would result in a reduction of 10,878 metric tons of CO_2e, which is equivalent to a 0.02% reduction compared to the 2040 No-Build baseline.	Traffic operations under the IOS would result in an annual emissions reduction of approximately 20,751 metric tons of CO_2e, a decrease of 0.04%. Including the amortized construction emissions and operation of facilities and vehicles, implementation of the IOS would result in an approximately 9,800-MT decrease (0.02%) in study area GHG emissions compared to the 2040 No-Build baseline.	Traffic operations under Alternative 3 would result in the annual emission of approximately 44,019 metric tons of CO_{2e} above future (2040) baseline vehicle emissions, an increase of 0.072%. Construction and operation of the LPA combined would result in an increase of 58,473 metric tons of CO_2e, a 0.096% increase compared to the 2040 No-Build baseline.	Traffic operations under Alternative 4 would result in the annual emission of approximately 28,998 MT of CO_2e above future (2040) baseline vehicle emissions, a decrease of 0.05%. Construction and operation of the LPA combined would result in a reduction of 14,015 metric tons of CO_2e, a 0.023% decrease compared to the 2040 No-Build baseline.	**LPA, IOS, and Alternative 4:** **CEQA:** Less than significant/ Beneficial **NEPA:** Not adverse/ Beneficial **Alternative 3 (DEIS/DEIR):** **CEQA:** Significant **NEPA:** Not adverse

Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
Noise and Vibration (Section 4.8 of the FEIS/FEIR)					
Construction	**Noise and Vibration:** Construction of the LPA would result in a predicted noise level from a typical 8-hour work-shift of 87 dBA (8-hour L_{eq}) at 50 feet, which is about 15 to 20 decibels higher than the ambient noise level. Construction activities, such as pavement breaking and the use of tracked vehicles such as bulldozers could result in noticeable levels of ground-borne vibration. These activities would be limited in duration and vibration levels are likely to be well below thresholds for minor cosmetic building damage. However, the predicted vibration levels for equipment that produces the highest levels of vibration, such as a vibratory roller, is about equal to the construction vibration NEPA and CEQA significance threshold for non-engineered and timber masonry buildings at a distance of 25 feet.	**Noise and Vibration:** Construction of the IOS would result in noise and vibration levels similar to those for the LPA along the Van Nuys Boulevard segment. The IOS would not include the northern 2.5-mile segment of the LPA and consequently would not result in any noise or vibration impacts along that segment.	**Noise and Vibration:** Construction of Alternative 3 would result in noise and vibration impacts that are similar to those that would occur under the LPA.	**Noise:** Impacts resulting from the construction of Alternative 4 would be similar to those that would occur under the LPA and Alternative 3, with the exception being that Alternative 4 includes tunneling, Noise impacts from tunnel boring machines are expected to be less-than-significant, because operations take place underground. **Vibration:** Ground-borne noise and vibration impacts associated with tunneling are likely to be less than significant because tunneling would only take place within the right-of-way. However, an assessment of tunneling operations should be including in the Construction Vibration Control Plan because ground-borne noise and vibration levels from tunneling are highly dependent on the means and methods selected by the contractor.	**All Alternatives:** **CEQA:** Significant (noise only) **NEPA:** Adverse (noise only)

Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
Operation	**Noise and Vibration:** The predicted noise levels due to operation of LRT vehicles would exceed the NEPA and CEQA significance thresholds at eight clusters of residences. Moderate noise impacts are predicted at an additional 67 clusters of sensitive receivers. The predicted vibration levels would exceed the NEPA and CEQA significance threshold at 24 clusters of residential receivers and two institutional land use areas. Traditional crossovers can increase vibration levels by up to 10 dB at nearby receivers. Due to the close proximity of receivers to the alignment, predicted vibration levels assume the use of low-impact devices such as spring or conformal frogs, which increase vibration levels less dramatically, by around 5 dB. Without the low-impact frogs, impacts are predicted at 6 additional residential and 2 additional institutional locations.	**Noise:** Impacts would be the same as those described for the LPA along Van Nuys Boulevard. **Vibration:** Impacts would be the same as those described for the LPA along Van Nuys Boulevard.	**Noise and Vibration:** The predicted noise levels due to operation of LRT vehicles would exceed the NEPA and CEQA significance thresholds at three clusters of residences. Moderate noise impacts are predicted at an additional 30 clusters of sensitive receivers. The predicted vibration levels would exceed the NEPA and CEQA significance threshold at 17 clusters of sensitive residential receivers and one institutional land use.	**Noise and Vibration:** The predicted noise levels due to operation of LRT vehicles would exceed the NEPA and CEQA significance thresholds at two clusters of residences. Moderate noise impacts are predicted at an additional 59 clusters of sensitive receivers. The predicted vibration levels would exceed the NEPA and CEQA significance threshold at 21 clusters of sensitive residential receivers and one institutional land use. Impacts from ground-borne noise could occur at four clusters of residential uses six institutional uses near the tunnel section of Alternative 4.	**All Alternatives:** **CEQA:** Less than significant **NEPA:** Not adverse
Geology, Soils and Seismicity (Section 4.9 of the FEIS/FEIR)					
Construction	Potential impacts due to construction of the LRT would be the same as those that would occur as result of a typical construction project and could include damage to existing utilities and undermining of existing structures and potential geologic/soils hazards to construction workers. Compliance	Impacts would be the same as those described for the LPA along Van Nuys Boulevard.	Alternative 3 construction impacts would be similar to those that would occur under the LPA.	Alternative 4 impacts would be similar to those that would occur under the LPA and Alternative 3, except that under this alternative, the tunneling and deep excavations during	**All Alternatives** **CEQA:** Less than significant **NEPA:** Not adverse

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Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
	with best construction practices and adherence to regulatory requirements would reduce potential risks to existing structures, the public, and construction workers.			construction could cause vertical and lateral movement of the existing soils adjacent to the improvements. Alternative 4 could also be affected by groundwater hazards during construction due to the depth of excavation.	
Operation	On the north end of the alignment, the proposed pedestrian bridge or underpass for the Sylmar/San Fernando Metrolink station is within an Alquist-Priolo Geologic Hazards Zone. In addition, the Pacoima Wash Bridge on San Fernando Road is in a City of Los Angeles Fault Rupture Study Area. If further studies indicate that there is a potential for fault rupture at the proposed Sylmar/San Fernando Metrolink station pedestrian crossing and/or the Pacoima Wash Bridge on San Fernando Road, the fault rupture hazards to these project facilities could be significant. Other project structures along the alignment including the Pacoima Channel Bridge, traffic and pedestrian signs, and train stop canopies would be subject to strong seismic ground shaking and could pose a hazard to riders and passers-by. In addition, the proposed catenary wires, traffic and pedestrian signs, and train stop	IOS impacts would be similar to those described those for the LPA, but the IOS would not include the northern 2.5-mile segment of the LPA and thus would not be exposed to the hazards that could affect the pedestrian bridge or tunnel at the Sylmar/San Fernando Metrolink station and the Pacoima Wash Bridge. Similar to the LPA, the IOS would be constructed in accordance with codes and regulatory requirements.	Alternative 3 operational impacts would be similar to those that would occur under the LPA.	The operational impacts of Alternative 4 would be similar those that would occur under the LPA and Alternative 3, with the exception of the tunnel segment. Because of the presence of alluvial soils, the tunnel segment of the alignment could be susceptible to seismic-induced settlement and ground loss, a potentially significant hazard.	**All Alternatives** **CEQA:** Less than significant **NEPA:** Not adverse

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Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
	canopies south of Vanowen Street would be subject to potential liquefaction hazards. The catenary wires would move during a seismic event and the system, like other light rail systems currently operated by Metro, would need to be inspected prior to continuing service. Since the project would be designed in compliance with current building codes and regulatory requirements, the impacts/effects during operation of the LPA would be less than significant under CEQA and not adverse under NEPA.				
Hazardous Waste and Materials (Section 4.10 of the FEIS/FEIR)					
Construction	Hazardous materials could be encountered during grading and excavation, though work would generally be limited to within the upper 5 feet of soil. It is likely that lead and arsenic may have been deposited within the soil along the project alignment and could occur at hazardous levels. Yellow thermoplastic paint markings on roadway pavement to be removed may contain lead and other heavy metals such as chromium. Dust created from construction activities may contain hazardous contaminants. Construction equipment contains fuel, hydraulic oil, lubricants, and other hazardous materials, which could be released accidentally. Deeper construction excavations for	Impacts from the IOS would be the same as those that would occur due to the LPA along the Van Nuys Boulevard segment. However, the IOS would not include the northern 2.5-mile segment of the LPA, and as a consequence, the IOS would result in no impacts along that segment.	Alternative 3 construction impacts would be similar to those that could occur under the LPA.	Construction for at-grade portions of the project would result in similar impacts to Alternative 3 or LPA, with the exception of the subway/tunnel segment of Alternative 4. The cut and cover/tunneling portion of this alternative would consist of excavations as deep as 80 feet, with piles extending deeper. The tunnel would cross beneath former and current manufacturing and industrial sites that may contain soils containing hydrocarbons, VOCs,	**All Alternatives:** **CEQA:** Less than significant **NEPA:** Not adverse

Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
	the retrofit or replacement of structures crossing the Pacoima Wash or the foundations for the new pedestrian crossing at the San Fernando Metrolink Station could result in the potential for encountering groundwater contaminated by volatile organic compounds (VOCs). Lead-based paint (LBP) and asbestos containing material (ACM) may be encountered in waste building materials during demolition of existing structures for the MSF and TPSSs facilities.			and other hazardous waste constituents. The southern end of the proposed tunnel would potentially be located below historically high groundwater levels, which may be contaminated with hazardous materials.	
Operation	The MSF will use and store hazardous materials including fuels, lubricants, and paints, for maintenance of the rail vehicles. The LRT vehicles would be electrically powered and would not contain fuels that could be released to the environment in the event of an accident or mechanical failure.	Impacts would be similar to those described for the LPA.	The operational impacts of Alternative 3 would be similar to those of the LPA.	Alternative 4 would result in operational impacts similar to those of the LPA and Alternative 3. However, the tunnel and below grade stations proposed under this alternative have the potential for vapor intrusion from soil and groundwater contamination.	**All Alternatives:** **CEQA:** Less than significant **NEPA:** Not adverse
Energy (Section 4.11 of the FEIS/FEIR)					
Construction	Diesel fuel for construction vehicles and equipment would be the primary source of energy used throughout the course of the construction period. In total, the 4.5- to 5-year construction period would result in the consumption of approximately 61,809 MMBTU of energy. Although an estimated 445,000 gallons of fuel would be consumed by construction vehicles	Construction of the IOS would result in the consumption of approximately 48,387 MMBTU of energy.	Construction of Alternative 3 would result in impacts similar to those for the LPA and would result in the consumption of 55,000 MMBTU and 400,000 gallons of fuel.	Alternative 4 would result in the consumption of 273,600 MMBTU and 1.975 million gallons of fuel.	**All Alternatives:** **CEQA:** Less than significant **NEPA:** Not adverse

Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
	and equipment, the estimated consumption would be limited to the construction period, would be temporary in nature, and would represent a negligible increase in regional demand, and an insignificant amount relative to the more than 18 billion gallons of on-road fuels used in the state in 2013 (California Energy Commission 2014b). Given the extensive network of fueling stations throughout the project vicinity and the fact that construction would be short-term, no new or expanded sources of energy or infrastructure would be required to meet the energy demands due to LPA construction activities. Additionally, construction activities would comply with the Metro Green Construction Policy and all construction equipment would be maintained in accordance with manufacturers' specifications so equipment performance would not be compromised.				
Operation	Operation of the LPA would result in the consumption of both fuels and electricity. Overall operational energy consumption under the LPA would decrease by 48,657 MMBTU or 0.005% relative to the existing (2012) baseline. Under the Future (2040)-with-Project scenario, energy consumption would decrease by 281,621 MMBTU or 0.039% relative to the future (Year 2040) baseline condition. Operation of the LPA	Overall operational energy consumption under the IOS would decrease by 51,686 MMBTU or 0.006% relative to the existing (2012) baseline. Under the Future (2040)-with-Project scenario, energy consumption would decrease by 234,831 MMBTU or 0.032% relative to the future (Year 2040) baseline condition. Operation of the	Overall operational energy consumption under Alternative 3 would increase relative to existing (2012) baseline conditions by 49,674 MMBTU or 0.005%. Under the Future-with-Project scenario, operational energy consumption would increase by 626,734 MMBTU compared to year	Overall operational energy consumption under Alternative 4 would decrease relative to future (Year 2040) baseline conditions by 291,752 MMBTU or 0.037%. Similar to the LPA and Alternative 3, Alternative 4 would not result in the wasteful, inefficient, or	**All Alternatives:** **CEQA:** Less than significant **NEPA:** Not adverse

Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
	would not result in the wasteful, inefficient, or unnecessary consumption of energy.	IOS would not result in the wasteful, inefficient, or unnecessary consumption of energy.	2040 baseline conditions. However, similar to the LPA, Alternative 3 would not result in the wasteful, inefficient, or unnecessary consumption of energy.	unnecessary consumption of energy.	
Ecosystems/Biological Resources (Section 4.12 of the FEIS/FEIR)					
Construction	**Special-Status Plants and Animals:** There is a potential for pallid bat, western yellow bat, and big free-tailed bat to occur in the study area. Construction activities could affect nesting birds or roosting bats if construction activities remove vegetation where nesting birds are present or affect structures or vegetation used by special-status bat species. **Conflict with Local Polices:** Construction could require the removal of trees protected by the City of LA and/or San Fernando tree ordinances. Removal of protected trees would conflict with the city ordinances.	Impacts would be similar to those discussed for the LPA, with the exception that no impacts would occur along the northern 2.5-mile segment of the LPA.	Construction impacts under Alternative 3 would be similar to those that would occur under the LPA.	Construction impacts under Alternative 4 would be similar to those that would occur under the LPA and Alternative 3.	**All Alternatives:** **CEQA:** Less than significant **NEPA:** Not adverse
Operation	Installation of the overhead contact system lines for the LRT would potentially have an impact on avian species by increasing line collisions and electrocution risks. However, the project is planned within an existing urban area, and wildlife species in the area are urban-tolerant.	Impacts would be the same as those discussed for the LPA.	The operational impacts of Alternative 3 would be similar to those that would occur under the LPA.	The operational impacts of Alternative 3 would be similar to or slightly less (due to the subway segment) than those that would occur under the LPA and Alternative 3.	**All Alternatives:** **CEQA:** Less than significant **NEPA:** Not adverse

Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
Water Resources/Hydrology and Water Quality (Section 4.13 of the FEIS/FEIR)					
Construction	**Water Quality:** Construction of the LPA could result in an increase in surface water pollutants such as sediment, oil and grease, and miscellaneous wastes. Because construction activities would disturb more than 1 acre, preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) would be required, in accordance with the statewide National Pollutant Discharge Elimination System General Permit for Stormwater Discharges Associated with Construction Activity (Order No. 2009-0009-DWA, NPDES No. CAR000002) (Construction General Permit). The SWPPP would list BMPs that would be implemented to protect stormwater runoff and include monitoring of BMP effectiveness. **Stormwater and Drainage:** Use of groundwater would be minimal and temporary. Construction activities could result in increased erosion. Temporary drainage facilities could be required to redirect runoff from work areas. Construction of the LPA would not require the use of substantial volumes of surface water. In addition, construction activities would not substantially change the overall impervious area, nor would construction substantially change stormwater flows that could affect either the volume or movement of water in surface water bodies.	Construction of the IOS would result in similar or slightly reduced impacts (because of shorter length and smaller project footprint) than those described for the LPA.	Alternative 3 construction impacts would be similar to those that would occur under the LPA.	Alternative 4 would result in similar impacts to those that would occur under the LPA and Alternative 3, with the exception of impacts on groundwater supplies and recharge, as described below. **Groundwater:** Dewatering would likely be required for the underground stations and could potentially be required for utility relocation or replacement depending on local groundwater levels. Adherence to dewatering requirements of the Los Angeles RWQCB, and minimal water use during construction would ensure that impacts on groundwater would be less than significant under CEQA and the effects would not be adverse under NEPA.	**All Alternatives:** **CEQA:** Less than significant **NEPA:** Not adverse

Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
Operation	The LPA would result in very minor increases in impervious surfaces, which would have a minimal effect on groundwater supplies and recharge. Activities associated with operation of the MSF—including fueling, cleaning, and repairing—have the potential to degrade water quality. Water consumption due to the MSF is not expected to result in an appreciable reduction in local water supplies. Drainage patterns would not be substantially altered with implementation of the LPA, and the flood zones, which are confined to existing drainage channels, would not be adversely affected by LPA operations. Most of the project alignment is within a dam failure inundation zone associated with the Sepulveda and Hansen Flood Control Basins (and associated dams). LPA facilities could be affected in the event of dam failure. However, the LPA would not increase the risk of dam failure.	Impact for the IOS would be similar to those described for the LPA.	Operational impacts due to Alternative 3 would be similar to those that could occur under the LPA.	Operational impacts of Alternative 4 would be similar to those that could occur under the LPA and Alternative 3. However, there is a potential for flooding at the underground stations proposed under Alternative 4.	**All Alternatives:** **CEQA:** Less than significant **NEPA:** Not adverse
Safety and Security (Section 4.14 of the FEIS/FEIR)					
Construction	Construction of the LPA may have temporary adverse effects on public safety and security within the project study area. During construction, motorists, pedestrians, and bicyclists in close proximity to construction activities would	Impacts for the IOS would be similar to or less than those described for the LPA due to the IOS's shorter length and smaller project footprint.	Alternative 3 construction impacts would be similar to those that could occur under the LPA.	Alternative 4 construction impacts would be similar to those that could occur under the LPA and Alternative 3, though increased safety hazards	**All Alternatives:** **CEQA:** Less than significant **NEPA:** Not adverse

Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
	experience circulation impacts and could be exposed to hazards posed by construction activities and equipment. Construction activities 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 most likely not substantially increase during construction. 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.			could occur along the subway segment of Alternative 4, particularly if cut-and-cover construction methods are used and due to the longer construction duration.	
Operation	**Pedestrian, Vehicle, and Bicycle Safety:** The removal of 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. Sidewalks along Van Nuys Boulevard, which are	Impacts would be similar those described for the LPA.	Impacts would be similar to those that would occur under the LPA.	Impacts would be similar to those that would occur under the LPA and Alternative 3.	**All Alternatives:** **CEQA:** Significant (removal of bike lanes resulting in increased potential for conflicts between bicyclists and motor vehicles; increased delay for

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Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
	approximately 13 feet wide, would be narrowed to 10 feet, potentially increasing crowding, particularly in the vicinity of stations or stops. **Security:** The LPA is not expected to result in a substantial increase in crime. 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 times and access or evacuation plans in the event of an emergency. The proposed motor vehicle turn restrictions could also result, in some instances, in emergency vehicles taking a slightly more circuitous route and therefore requiring more time to respond to emergencies.				emergency responders due to increased congestion) **NEPA:** Adverse
Parklands and Community Facilities (Section 3.15 of the FEIS/FEIR)					
Construction	The LPA would not require the physical acquisition, displacement, or relocation of parklands and community facilities. However, construction activities could result in a range of impacts on nearby parklands and community facilities including air quality, noise, visual, and traffic impacts.	Impacts would be similar to those impacts that could occur to parks along Van Nuys Boulevard under the LPA; however, the IOS would not result in impacts on parks and community facilities along the Metro-owned railroad right-of-way because it does not include that segment of the LPA.	Alternative 3 construction impacts would be similar to those that would occur under the LPA.	Alternative 4 would result in similar or potentially greater construction impacts than the LPA or Alternative 3, particularly in the vicinity of the subway segment if cut-and-cover construction methods are used or in the vicinity of the tunnel portals.	**All Alternatives:** **CEQA:** Less than significant **NEPA:** Not adverse

Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
Operation	No right-of-way acquisitions would be required, and this alternative would not result in the physical acquisition, displacement, or relocation of parklands and community facilities. Operation of the LRT could result in increased noise at parklands and community facilities. Implementation of the LPA would introduce new vertical elements (e.g., OCS) that could result in substantial changes to the aesthetic character in areas along the corridor containing recreational areas or parklands. The LPA would result in increased congestion and significant impacts at a number of study intersections along the corridor due to the reduction in mixed-flow lanes, which could have an adverse effect on emergency access.	Impacts due to the IOS would be similar to those described for the LPA. However, the IOS would not result in any operational impacts on parks and community facilities along the railroad right-of-way because it would not include the northern 2.5-mile segment of the LPA.	Alternative 3 operational impacts would be similar to those that could occur under the LPA.	The operational impacts of Alternative 4 would be similar to those that could occur under the LPA or Alternative 3, except the operational noise and traffic impacts would be less because the subway portion (south of Sherman Way to Parthenia Street) of the Alternative 4 alignment would avoid the at-grade impacts of the LPA and Alternative 3 for that section of the alignment.	**All Alternatives:** **CEQA:** Significant (emergency vehicle access; visual impacts) **NEPA:** Adverse (emergency vehicle access; visual impacts)
Historic, Archaeological, and Paleontological Resources (Section 4.16 of the FEIS/FEIR)					
Historic Resources - Construction	Under the LPA, there are four historic properties that have a potential to be affected by the construction of the proposed LRT structures or stations. None of the buildings within the APE appear to be Building Category IV, such as an adobe building, so the lowest possible threshold of vibration damage would be 0.2 in/sec PPV. The highest predicted level of vibration for a station is the use of a vibratory roller at 0.21 in/sec PPV from a distance of 25 feet.	Impacts from the IOS would be similar to those described for the LPA.	Impacts would be similar to those that would occur under the LPA.	Impacts would be similar to those that would occur under the LPA and Alternative 3. Pile drivers could be used in the construction of underground stations, which could produce vibration levels that could affect one historic property. However, the property is located far enough away that equipment	**All Alternatives:** **CEQA:** Less than significant **NEPA:** Not adverse

Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
	• 130 N. Brand Boulevard–Approximately 600 feet from proposed Maclay Station • 6353 Van Nuys Boulevard – Approximately 75 feet from proposed Victory Station • 8324 Van Nuys Boulevard – Approximately 40 feet from proposed Roscoe Station • 9110 Van Nuys Boulevard – Approximately 40 feet from proposed Nordhoff Station Because the four properties above are more than 25 feet away from the proposed construction areas, equipment used for the construction of a station would not exceed the predicted FTA damage risk vibration limits. There are no historic properties that have the potential to be affected by construction of the MSF. In addition, construction of the LPA would not result in alterations to or demolition of any historic properties. Therefore, the LPA would not result in adverse effects on any historic properties during construction.			used would not exceed the FTA damage risk vibration limits.	
Historic Resources – Operation	The operational effects that could occur to historic properties under the LPA would include potential visual effects due to OCS, TPSS, and MSF facilities. There are 10 historic properties within the APE. There is the potential for operational effects due to the	The impacts associated with the IOS would be similar to those described for the LPA.	Impacts would be similar to those that could occur under the LPA.	Impacts would be similar to those that could occur under the LPA and Alternative 3.	**All Alternatives:** **CEQA:** Less than significant **NEPA:** Not adverse

Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
	introduction of new visual elements on seven of the 10 properties. However, no significant or adverse visual impacts would occur.				
Archaeological Resources – Construction	The LPA would generally involve shallow excavation, with some exceptions, to construct LRT tracks, OCS, stations, narrow sidewalks, and other project facilities. Archaeological sites 19-001124 and 19-002681 are within and adjacent to the footprint of the LPA. Even though neither resource is considered eligible for the National Register of Historic Places, California Register of Historical Resources, or a historical resource under CEQA, the immediate resource areas are still considered sensitive for containing previously undiscovered archaeological resources. The LPA has a low potential to adversely affect other archaeological resources that may be present but have not been previously identified within the project footprint. However, since construction would involve earth-disturbing activities, it is still possible that archaeological resources or human remains may be discovered and damaged or destroyed during construction.	Due to the fact that the IOS project limits do not include the archaeological sites described for the LPA, it would not have impacts on known archeological resources. Similar to the LPA, the IOS has low potential to adversely affect other archaeological resources that may be present but have not been previously identified within the project footprint.	The two identified archaeological sites are not located within the footprint of Alternative 3 and therefore would not be affected by construction activities. Other impacts would be similar to those that would occur under the LPA.	Alternative 4 would result in similar or potentially greater impacts to the LPA due to the more extensive excavations required to construct the subway segment, which has a moderate potential for ground-disturbing activities to expose and affect previously unknown significant archaeological resources.	**All Alternatives:** **CEQA:** Less than significant **NEPA:** Not adverse
Archaeological Resources – Operation	The LPA would result in no operational impacts or effects on archaeological resources.	The IOS would result in no operational impacts or effects on archaeological resources.	Operation of Alternative 3 would result in no impacts or effects on archaeological resources.	Alternative 4 would result in no operational impacts or effects on archaeological resources.	**All Alternatives:** **CEQA:** No impact **NEPA:** No effect

Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
Paleontological Resources – Construction	The LPA would involve construction within the Quaternary alluvium. Shallow excavations would not affect paleontological resources, since the affected resources are too young to contain fossils. However, deeper excavations have the potential to affect paleontologically sensitive Quaternary older alluvium, which is known to contain Pleistocene fossils between depths of 14 and 100 feet in the San Fernando Valley.	Impacts as a result of the IOS would be similar to or slightly less than those described for the LPA due to the IOS having a smaller project footprint.	Impacts would be similar to those that could occur under the LPA.	Impacts would be similar or potentially greater than those that would occur under the LPA or Alternative 3 due to the greater excavation and depth of excavation that would be required to construct the subway tunnel.	**All Alternatives:** **CEQA:** Less than significant **NEPA:** Not adverse
Paleontological Resources – Operation	Operation of the LPA would result in no impacts or effects on paleontological resources.	Operation of the IOS would result in no impacts or effects on paleontological resources.	Operation of Alternative 3 would result in no impacts or effects on paleontological resources.	Alternative 4 would result in no operational impacts or effects on paleontological resources.	**All Alternatives:** **CEQA:** No impact **NEPA:** No effect
Environmental Justice (Section 4.18 of the FEIS/FEIR)					
Construction	**Mobility and Access Impacts:** Construction of LRT stations and the transit alignment would require temporary sidewalk, lane, and road closures, and the removal of parking. These closures could reduce pedestrian, bicycle, and vehicle access to areas along the project corridor. These temporary effects are anticipated to affect all communities within the project study area and communities adjacent to the project study area comparably. **Social and Economic Impacts:** Construction activities would likely result in a decrease in accessibility to many businesses and could	Impacts to environmental justice populations would be similar to those identified for the LPA. However, the IOS would require fewer property acquisitions.	Impacts would be similar to those that could occur under the LPA.	Impacts would be similar to or potentially greater than those that could occur under the LPA and Alternative 3, because of the more extensive construction required to construct the subway segment of Alternative 4. However, similar to the other alternatives, Alternative 4 impacts would affect all environmental justice populations comparably.	**All Alternatives:** **NEPA:** No disproportionately high and adverse effects on environmental justice populations would occur

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Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
	reduce on-street and off-street parking, which may negatively affect business activity levels because the number of customers may temporarily decline. Construction activities would take place throughout the project corridor, and the temporary decrease in accessibility would affect all businesses comparably. **Physical Impacts:** Construction activities could result in noise, dust, odors, and traffic delays. Local neighborhoods, businesses, and community facilities may be inconvenienced temporarily, and community activities could be disrupted by construction. Construction of the LPA may also result in several visual impacts and temporary effects on public safety and security within the project study area. Because the project would comply with regulatory requirements and measures would be implemented to mitigate construction impacts, and because the potential effects are anticipated to affect all communities within the project study area comparably, regardless of the block groups' socioeconomic or demographic characteristics, the LPA would not result in disproportionately high and adverse effects on minority or low-income populations with respect to construction.				

Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
	Displacement of Businesses, Housing, and People: The LPA would require 68 full acquisitions, 30 partial acquisitions, one Metro-owned acquisition, and one acquisition of a vacant alley. The majority of the acquisitions would be from light manufacturing and commercial properties. These businesses are located in low-income and/or minority neighborhoods, and therefore, the displacement impacts of the LPA would be predominantly borne by an environmental justice population. However, all communities within the project study area would be affected, and the impacts suffered by the environmental justice populations would not be appreciably more severe or greater in magnitude than the adverse effects that would be suffered by the non-environmental justice populations.				
Operation	**Mobility and Access Impacts:** The LPA would enhance connections to public transportation within the project study area and across the region. The LRT would be available to all communities throughout the project study area as well as communities adjacent to the project study area, regardless of socioeconomic or demographic characteristics. Under the LPA, curbside parking along Van Nuys Boulevard would be	Impacts as a result of the IOS would be the same as those identified under the LPA. However, only 18 of the study intersections have adverse effects.	Impacts would be similar to those that would occur under the LPA.	Impacts would be similar to those that would occur under the LPA and Alternative 3.	**All Alternatives:** **NEPA:** No disproportionately high and adverse effects on environmental justice populations would occur

Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
	prohibited, which could affect vehicle access to businesses and community resources. However, available adjacent on-street parking and/or off-street parking areas can meet the weekday and weekend on-street parking demand for the area. Under the LPA, the existing bike lanes along Van Nuys Boulevard north of Parthenia Street would be removed, which would be expected to affect all bicyclists regardless of socioeconomic or demographic characteristics. Conversion of existing mixed-flow lanes to dedicated LRT facilities would decrease roadway capacity for mixed-flow traffic. As a consequence, this alternative would result in adverse effects on 20 of the 73 study intersections within the corridor, which could reduce access for emergency vehicle response or interfere with emergency evacuation plans. Traffic impacts are anticipated to affect all emergency calls or travelers within the project study area comparably, regardless of socioeconomic or demographic characteristics. **Social and Economic Impacts:** The LPA would not result in disproportionate effects on or fewer benefits for minority or low-income populations with respect to improved economic conditions. Transit connectivity would be improved throughout the entire				

Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
	project corridor. Therefore, the LPA would not result in disproportionate effects on or fewer benefits for minority or low-income populations with respect to community cohesion. **Physical Impacts:** The LPA would be designed in compliance with Metro design guidelines to ensure pedestrian, motorist, and bicyclist safety; however, the removal of existing Class II bike lanes would increase the potential for conflicts between bicyclists and motor vehicles. Because the changes to the bike lanes along Van Nuys Boulevard would be expected to affect all bicyclists within an approximate 4-mile radius comparably, regardless of socioeconomic or demographic characteristics, disproportionately high and adverse effects on environmental justice populations are not anticipated.				
Growth-Inducing Impacts (Section 4.19 of the FEIS/FEIR)					
Induce substantial population growth in an area either directly or indirectly	The anticipated increase in long-term employment would be relatively minor and would not result in a significant increase in the project study area population. Therefore, the LPA would not directly induce substantial residential or employment population growth. This alternative may indirectly result in growth along the corridor and within the project study area. However, it	IOS impacts would be similar to or slightly less than the LPA's because of the shorter length of the IOS.	Impacts would be similar to those that would occur under the LPA.	Impacts would be similar to those that would occur under the LPA and Alternative 3.	**All Alternatives:** **CEQA:** Less than significant **NEPA:** Not adverse

Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
	would not extend transit service to undeveloped areas and would be located in a developed urban area. Therefore, it would not indirectly induce growth that would substantially change existing land use and development patterns at the corridor level.				
Irreversible and Irretrievable Commitments of Resources (Section 4.20 of this FEIS/FEIR)					
Construction and Operation	Construction would entail the one-time irreversible and irretrievable commitment of nonrenewable resources, such as energy (fossil fuels used for construction equipment) and construction materials (such as lumber, sand, gravel, metals, and water). Land used to construct the proposed facilities is considered an irreversible commitment during the period the land is used. The project would commit land at stations and the maintenance facility to transit use. This commitment of long-term land resources is consistent with the policies of the County of Los Angeles and the Cities of Los Angeles and San Fernando to promote transit-oriented uses. Accidents could occur during construction as a result of safety hazards posed by construction activities and equipment including construction site accidents that could affect construction workers or the environment and potential conflicts with or accidents	Impacts would be similar to or slightly less than those that could occur under the LPA because of the shorter length of the IOS.	Impacts would be similar to those that would occur under the LPA.	Impacts would be similar to or greater than those that would occur under the LPA and Alternative 3 due to the more extensive construction required to construct the subway segment of Alternative 4.	**CEQA:** Less than significant **NEPA:** Not adverse

Metro

Affected Resource	Alternative				
	Locally Preferred Alternative (LPA)	Initial Operating Segment (IOS)	Alt. 3 – Low-Floor LRT/Tram (DEIS/DEIR)	Alt. 4 – LRT (DEIS/DEIR)	Level of Impacts (CEQA) and Effects (NEPA) after Mitigation
	involving pedestrians, bicyclists, and motorists in close proximity to construction activities. The consumption of nonrenewable resources includes water, petroleum products, and electricity. In addition, fossil fuels would be used for transporting workers and materials during construction, and electricity and fuel would be used for trains, stations, and worker vehicles for maintenance and operation during the life of the project. The consumption amount and rate of these resources would not result in significant environmental impacts or the unnecessary, inefficient, or wasteful use of such resources, because they would increase transit use (which increases energy efficiency) and decrease automobile dependence (which uses fossil fuels).				

Table ES-3: Proposed Mitigation Measures

Affected Resource	Mitigation Measures
Transportation, Transit, Circulation, and Parking (Chapter 3 of this FEIS/FEIR)	
Construction	**MM-TRA-1:** The Traffic Management Plan shall require Metro to communicate closures and information on any changes to bus service to local transit agencies in advance and develop detours as appropriate. Bus stops within work areas shall be relocated, with warning signs posted in advance of the closure, and warnings and alternate stop notifications posted during the extent of the closure. **MM-TRA-2:** The Traffic Management Plan shall include the following typical measures, and others as appropriate: • Schedule a majority of construction-related travel (i.e., deliveries, hauling, and worker trips) during the off-peak hours. • Develop detour routes to facilitate traffic movement through construction zones without significantly increasing cut-through traffic in adjacent residential areas. • Where feasible, temporarily restripe roadways including turning lanes, through lanes, and parking lanes at the affected intersections to maximize the vehicular capacity at those locations affected by construction closures. • Where feasible, temporarily remove on-street parking to maximize the vehicular capacity at those locations affected by construction closures. In these areas where street parking is temporarily removed in front of businesses, the contractor shall provide wayfinding to other nearby parking lots or temporary lots, with any temporary parking secured well in advance of parking being removed in the affected area. • Place station traffic control officers at major intersections during peak hours to minimize delays related to construction activities. • Assign a Construction Relations team inclusive of a manager, senior officers, and social media strategist to develop and implement the Metro Board's adopted Construction Relations model. The team will conduct the outreach program to inform the general public about the construction process, planned roadway closures, and anticipated mitigations through community briefings in public meeting spaces and use of signage (banners, etc.). • Develop and implement a program with business owners to minimize effects to businesses during construction activities, including but not limited to signage, Eat, Shop, Play, and promotional programs. • Consult and seek input on the designation and identification of haul routes and hours of operation for trucks with the local jurisdictions, school districts, and Caltrans. The selected routes should minimize noise, vibration, and other effects. • To the extent practical, maintain traffic lanes in both directions, particularly during the morning and afternoon peak hours. • Maintain access to adjacent businesses and schools (including passenger loading areas for parents dropping off students) via existing or temporary driveways or loading areas throughout the construction period. • Coordinate potential road closures and detour routes and other construction activities that could adversely affect vehicle routes in the immediate vicinity of local schools with local school districts. • Install and maintain appropriate traffic controls (signs and signals) to ensure vehicular safety. **MM-TRA-3:** To ensure potential impacts on pedestrian and bicycle facilities are minimized to the extent feasible, the Traffic Management Plan and Traffic Control Plan shall include the following: • Bicycle detour signs shall be provided, as appropriate, to route bicyclists away from detour areas with minimal-width travel lanes and onto parallel roadways. • Sidewalk closure and pedestrian route detour signs shall be provided, as appropriate, that safely route pedestrians around work areas where sidewalks are closed for safety reasons or for specific construction work within the sidewalk area. In addition, the project contractor shall ensure appropriate "Open during Construction," wayfinding, and promotional signage for businesses affected by sidewalk closures is provided and access to these businesses is maintained.

Affected Resource	Mitigation Measures
Operation	**MM-TRA-4:** During the Preliminary Engineering phase of the project, Metro will work with the Cities of Los Angeles and San Fernando to synchronize and coordinate signal timing and to optimize changes in roadway striping to minimize potential operational traffic impacts and hazards to the extent feasible. **MM-TRA-5:** Additional visual enhancements, such as high-visibility crosswalks that meet current LADOT design standards, to the existing crosswalks at each proposed station location shall be implemented to further improve pedestrian circulation. **MM-TRA-6:** To further reduce potential adverse and less-than-significant pedestrian impacts, Metro shall prepare a First/Last Mile study that documents preferred pedestrian access to each station, general pedestrian circulation in the immediate vicinity of the station, and potential sites for connections to nearby bus services. The purpose of this study shall include ensuring sufficient circulation, access, and information important to users of the transit system. The results of the study shall be implemented through coordination between Metro and the local jurisdictions of the City of Los Angeles and the City of San Fernando. **MM-TRA-7:** To reduce the potential impacts due to remove of the existing bike lanes extending approximately 2 miles north on Van Nuys Boulevard from Parthenia Street to Beachy Avenue and from Laurel Canyon Boulevard to San Fernando Road, two parallel corridors have been identified for consideration and approval by the Los Angeles Department of Transportation (LADOT) as bike friendly corridors. These include Filmore Street to the west and Pierce Street to the east, which can be developed as Class III Bike Friendly streets by striping sharrows and providing signage. Metro shall also continue to work with LADOT to identify, to the extent feasible, replacement locations for Class II bike lanes that meet the goals and policies in the City of Los Angeles Bicycle Plan.
Land Use (Section 4.1 of this FEIS/FEIR)	
Construction	**MM-NOI-1a–1d**, **MM-VIB-1**, and **MM-AQ-1–9**.
Operation	**MM-NOI-2a**, **MM-NOI2b**, **MM-NOI-3a**, **MM-NOI-3b**, and **MM-NOI-3c**.
Real Estate and Acquisitions (Section 4.2 of this FEIS/FEIR)	
Construction	None required.
Operation	None required.
Economic and Fiscal Impacts (Section 4.3 of this FEIS/FEIR)	
Construction	**MM-TRA-1**, **MM-TRA-2**, **MM-TRA-3**, and **MM-CN-1**.
Operation	None required.
Communities and Neighborhoods (Section 4.4 of this FEIS/FEIR)	
Construction	**MM-TRA-1–3**, **MM-VIS-1–5**, **MM-AQ-1–9**, **MM-NOI-1a–1d**, **MM-NOI-2a–2b**, **MM-NOI-3a–3c**, and **MM-SS-1–23**. In addition, the following measure is proposed: **MM-CN-1:** A formal educational and public outreach campaign shall be implemented to discuss potential community and neighborhood concerns, including relocations, visual/aesthetics changes, and fare policies, and to communicate information about the project with property owners and community members.
Operation	See mitigation measures listed in Chapter 3, Transportation, Transit, Circulation, and Parking; Section 4.5, Visual Quality and Aesthetics; Section 4.8, Noise and Vibration; and Section 4.14, Safety and Security sections of this table that would be implemented to minimize operational impacts on communities and neighborhoods.

Affected Resource	Mitigation Measures
Visual Quality and Aesthetics (Section 4.5 of this FEIS/FEIR)	
Construction	**MM-VIS-1:** Construction staging shall be located away from residential and recreational areas and shall be screened to minimize visual intrusion into the surrounding landscape. The screening shall be a height and type of material that is appropriate for the context of the surrounding land uses. There shall be Metro-branded community-relevant messaging on the perimeter of the construction staging walls. Lighting within construction areas shall face downward and shall be designed to minimize spillover lighting into adjacent properties.
Operation	**MM-VIS-2:** Vegetation removal shall be minimized and shall be replaced following construction either in-kind or following the landscaping design palette for the project, which would be prepared in consultation with the City of Los Angeles and San Fernando, including the City Tree Removal Policy and replacement ratio. **MM-VIS-3:** Scenic resources, including landscape elements such as rows of palm trees (along Van Nuys Boulevard) or mature trees (along San Fernando Road) and uniform lighting, shall be preserved, where feasible. **MM-VIS-4:** Lighting associated with the project shall be designed to face downward and minimize spillover lighting into adjacent properties, in particular residential and recreational properties. **MM-VIS-5:** Infrastructure elements shall be designed with materials that minimize glare.
Air Quality (Section 4.6 of this FEIS/FEIR)	
Construction	**MM-AQ-1:** Construction vehicle and equipment trips and use shall be minimized to the extent feasible and unnecessary idling of heavy equipment shall be avoided. **MM-AQ-2:** Solar powered, instead of diesel powered, changeable message signs shall be used. **MM-AQ-3:** Electricity from power poles, rather than from generators, shall be used where feasible. **MM-AQ-4:** Engines shall be maintained and tuned per manufacturer's specifications to perform at EPA certification levels and to perform at verified standards applicable to retrofit technologies. Periodic, unscheduled inspections shall be conducted to limit unnecessary idling and to ensure that construction equipment is properly maintained, tuned, and modified consistent with established specifications. **MM-AQ-5:** Any tampering with engines shall be prohibited and continuing adherence to manufacturer's recommendations shall be required. **MM-AQ-6:** New, clean (diesel or retrofitted diesel) equipment meeting the most stringent applicable federal or state standards shall be used, and the best available emissions control technology shall be employed. Tier 4 engines shall be used for all construction equipment. If non-road construction equipment that meets Tier 4 engine standards is not available, the Construction Contractor shall be required to use the best available emissions control technologies on all equipment. **MM-AQ-7:** EPA-registered particulate traps and other appropriate controls shall be used where suitable to reduce emissions of diesel particulate matter (PM) and other pollutants at the construction site. **MM-AQ-8:** Consistent with South Coast Air Quality Management District Rule 1113, all architectural coatings for building envelope associated with the project shall use coatings with a Volatile Organic Compound content of 50 grams per liter or less. **MM-AQ-9:** The Design-Builder shall implement feasible means and methods that would minimize cumulative air quality impacts during the construction period, including, but not limited to, the following: 1. Timing project-related construction activities associated with the maintenance facility, stations, and track installation such that overlapping schedules are minimized. 2. Timing project-related construction activities so that overlapping schedules with other projects in the area are avoided. 3. Reducing the number of pieces of diesel-fueled equipment used at a given time when construction activities occur in the vicinity of sensitive receptors, including, but not limited to residences, schools, parks, hospitals, and nursing homes.
Operation	None required.

Affected Resource	Mitigation Measures
Greenhouse Gas Emissions (Section 4.7 of this FEIS/FEIR)	
Construction and Operation	**MM-AQ-1**, **MM-AQ-2**, **MM-AQ-3**, and **MM-AQ-6.**
Noise and Vibration (Section 4.8 of this FEIS/FEIR)	
Construction	**MM-NOI-1a:** Specific measures to be employed to mitigate construction noise impacts shall be developed by the contractor and presented in the form of a Noise Control Plan. The Noise Control Plan shall be submitted for review and approval before the beginning of construction noise activities. **MM-NOI-1b:** The contractor shall adequately notify the public of construction operations and schedules no less than 72 hours in advance of construction through a construction notice with confirmed details and a look-ahead briefing several weeks in advance. **MM-NOI-1c:** If a noise variance from Section 41.40(a) of the Los Angeles Municipal Code is sought for nighttime construction work, a noise limit shall be specified. The contractor shall employ a combination of the noise-reducing approaches listed in MM-NOI-1d to meet the noise limit. **MM-NOI-1d:** Where feasible, the contractor shall use the following noise-reducing approaches: • The contractor shall use specialty equipment with enclosed engines and/or high-performance mufflers. • The contractor shall locate equipment and staging areas as far from noise-sensitive receivers as possible. • The contractor shall limit unnecessary idling of equipment. • The contractor shall install temporary noise barriers to enclose stationary noise sources, such as compressors, generators, laydown and staging areas, and other noisy equipment. • The contractor shall reroute construction-related truck traffic away from residential buildings to the extent practicable. • The contractor shall sequence the use of equipment so that simultaneous use of the loudest pieces of equipment is avoided as much as practicable. • The contractor shall avoid the use of impact equipment and, where practicable, use non-impact equipment. Non-impact equipment could include electric or hydraulic-powered equipment rather than diesel and gasoline-powered equipment where feasible. • The contractor shall use portable noise control enclosures for welding in the construction staging area. • The contractor shall use lined or covered storage bins, conveyors, and chutes with noise-deadening material for truck loading and operations. • The contractor shall use strobe lights or other OSHA-accepted methods rather than back-up alarms during nighttime construction. **MM-NOI-1e:** If the proposed mitigation measures identified in this section do not reduce the identified significant noise impacts on Los Angeles Unified School District schools to a less-than-significant level, Metro shall develop new and appropriate measures, to the extent feasible, to effectively reduce construction-related or operational noise. Provisions shall be made to allow the affected school or designated representative(s) to notify Metro when such measures are warranted. **MM-VIB-1:** Where equipment, such as a vibratory roller, that produces high levels of vibration is used near buildings, the Construction Vibration Control Plan shall also include mitigation measures to minimize vibration impact during construction. Recommended construction vibration mitigation measures that shall be considered and implemented where feasible include: • The contractor shall minimize the use of tracked vehicles. • The contractor shall avoid vibratory compaction. • The contractor shall monitor vibration levels near sensitive receivers during activities that generate high vibration levels to ensure thresholds are not exceeded.

Affected Resource	Mitigation Measures
Operation	**MM-NOI-2a:** A sound wall shall be constructed at the northern edge of the alignment where the LRT curves to transition between Van Nuys Boulevard and San Fernando Road, in the area bounded by Pinney Street, El Dorado Avenue, Van Nuys Boulevard, and San Fernando Road. The sound wall shall be constructed to mitigate the increase in traffic noise levels that would result from removing the row of buildings in this area. Sound walls should be constructed in such a fashion as to not impair the train operator vision triangle sightlines. **MM-NOI-2b:** Friction control shall be incorporated into the design for the curves at Van Nuys Boulevard/San Fernando Road, Van Nuys Boulevard/El Dorado Boulevard, and Van Nuys Boulevard/Vesper Avenue. Friction control may consist of installing lubricators on the rail or using an onboard lubrication system that applies lubrication directly to the wheel. **MM-NOI-3a:** The following noise limit shall be included in the purchase specifications for the TPSS units: TPSS noise shall not exceed 50 dBA at a distance of 50 feet from any part of a TPSS unit. **MM-NOI-3b:** The TPSS units shall be located within the parcel as far from sensitive receivers as feasible. If possible, the cooling fans shall be oriented away from sensitive receivers. **MM-NOI-3c:** If necessary, a sound enclosure shall be built around the TPSS unit to further reduce noise levels at sensitive receivers to below the applicable impact threshold. Predicted vibration levels could be reduced to below the CEQA significance thresholds at all sensitive receivers with traditional floating-slab track and use of low-impact frogs. A floating slab consists of a concrete slab supported by rubber or steel springs. Floating slab is the most expensive vibration mitigation measure; however, it provides the most reduction in vibration levels. Further investigation may show that vibration levels could be reduced to below the applicable thresholds with a less expensive option, such as a continuous-mat floating slab. Low-impact frogs such as conformal frogs and spring frogs result in a smoother transition over the gaps, reducing noise and vibration levels. Conformal frogs smooth the transition through wing slopes, which match the wheel profile, and spring frogs use a spring-loaded mechanism. A moveable point frog includes a signal mechanism that allows trains running on the mainline to avoid any gaps in the rail, eliminating the noise and vibration impact of the special trackwork. Moveable point frogs are required mitigation measures in areas where other low-impact frogs do not provide enough vibration reduction. **MM-VIB-2a:** Metro shall complete additional vibration analysis to confirm the locations where vibration levels would exceed CEQA significance thresholds. Where exceedances would occur, the contractor shall employ methods to reduce vibration to levels below applicable thresholds. A floating-slab track, a continuous-mat floating slab, or a vibration-isolated embedded track system, such as QTrack, could be considered. **MM-VIB-2b:** The contractor shall install moveable point frogs at the crossovers on Van Nuys Boulevard/Osborne Street and at Van Nuys Boulevard/Canterbury Avenue. If further investigation confirms that an alternative low-impact frog would reduce vibration levels below the applicable thresholds, the alternative may be installed. **MM-VIB-2c:** Low-impact frogs such as conformal frogs or spring frogs shall be used at all crossovers and turnouts not covered under MM-VIB-2b. Traditional crossovers may be used in locations where analysis shows vibration levels will not exceed the applicable thresholds at nearby sensitive receivers.
Geology, Soils and Seismicity (Section 4.9 of this FEIS/FEIR)	
Construction	None required
Operation	**MM-GEO-1:** Metro design criteria require probabilistic seismic hazard analyses (PSHA) to estimate earthquake loads on structures. These analyses take into account the combined effects of all nearby faults to estimate ground shaking. During Final Design, site-specific PSHAs shall be used as the basis for evaluating the ground motion levels along the project corridor. The structural elements of the proposed project shall be designed and constructed to resist or accommodate appropriate site-specific estimates of ground loads and distortions imposed by the design earthquakes and conform to Metro's Design Standards for the Operating and Maximum Design Earthquakes. The concrete structures will be designed according to the Building Code Requirements for Structural Concrete (ACI 318) by the American Concrete Institute.

Affected Resource	Mitigation Measures
	MM-GEO-2: At liquefaction or seismic settlement prone areas, evaluations by geotechnical engineers shall be performed during Final Design to provide estimates of the magnitude of the anticipated liquefaction or settlement. Based on the magnitude of evaluated liquefaction, either structural design, or ground improvement (such as deep soil mixing) or deep foundations to non-liquefiable soil (such as drilled piles) measures shall be selected. Site-specific design shall be selected based on State of California guidelines and design criteria set forth in the Metro Seismic Design Criteria
Hazardous Waste and Materials (Section 4.10 of this FEIS/FEIR)	
Construction	**MM-HAZ-1:** An environmental investigation shall be performed during design for transit structures, TPSS locations, stations, and the MSF. The environmental investigation shall collect soil, groundwater, and/or soil gas samples to delineate potential areas of contamination that may be encountered during construction or operations. The environmental investigation shall include the following: • Properties potentially to be acquired are listed on multiple databases and shall be evaluated further for contaminants that were manufactured, stored, or released from the facility. If contaminated soil (e.g., soil contaminated from organic wastes, sediments, minerals, nutrients, thermal pollutants, toxic chemicals, and/or other hazardous substances) is found, it shall be removed, transported to an approved disposal location, and remediated according to state law. • Phase II subsurface investigations for potential impacts from adjoining current or former UST sites and nearby LUST sites. • A Phase II subsurface investigation to evaluate potential presence of PCE shall be performed along the portions of the project alignment that are adjacent to former and current dry cleaners. If contaminated soil is found, it shall be removed, transported to an approved disposal location, and remediated according to state law. • If construction encroaches into the two former plugged and abandoned dry-hole oil exploration wells mapped adjacent to the proposed project right-of-way, the project team shall consult with DOGGR regarding the exact locations of the abandoned holes and the potential impact of the wells on proposed construction. • The locations of proposed improvements involving excavations adjacent to (within 50 feet of) the electrical substation shall be screened prior to construction by testing soils within 5 feet of the existing ground surface for PCBs. If contaminated soil is found, it shall be removed, transported to an approved disposal location, and remediated according to state law. • Buildings that will be demolished shall have a comprehensive ACM inspection prior to demolition. In addition, ACM may be present in the existing bridge crossings at the Pacoima Diversion Channels. If improvements associated with the proposed project will disturb the existing bridge crossings, then these structures shall be evaluated for suspect ACM. If ACM is found, it shall be removed, and transported to an approved disposal location according to state law. • Areas where soil may be disturbed during construction shall be tested for ADL according to Caltrans ADL testing guidelines. If contaminated soil is found, it shall be removed, transported to an approved disposal location, and remediated according to state law. • Lead and other heavy metals, such as chromium, may be present within yellow thermoplastic paint markings on the pavement. These surfacing materials shall be tested for LBP prior to removal. If contaminated soil is found, it shall be removed, transported to an approved disposal location, and remediated according to state law. • Former railroad rights-of-way that crossed or were adjacent to the project right-of-way may contain hazardous materials from the use of weed control, including herbicides and arsenic, and may also contain Treated Wood Waste (TWW). Soil sampling for potentially hazardous weed control substances shall be conducted for health and safety concerns in the event that construction earthwork involves soil removal from the former railroad rights-of-way. If encountered during construction, railroad ties designated for reuse or disposal (including previously salvaged railroad ties in the project right-of-way) shall be managed or disposed of as TWW in accordance with Alternative Management Standards provided in CCR Title 22 Section 67386.

Affected Resource	Mitigation Measures
	MM-HAZ-2: The contractor shall implement a Worker Health and Safety Plan prior to the start of construction activities. All workers shall be required to review the plan, receive training if necessary, and sign the plan prior to starting work. The plan shall identify properties of concern, the nature and extent of contaminants that could be encountered during excavation activities, appropriate health and environmental protection procedures and equipment, emergency response procedures including the most direct route to a hospital, and contact information for the Site Safety Officer. **MM-HAZ-3:** The contractor shall implement a Contaminated Soil/Groundwater Management Plan during construction to establish procedures to follow if contamination is encountered in order to minimize associated risks. The plan shall be prepared during the final design phase of the project, and the construction contractor shall be held to the level of performance specified in the plan. The plan shall include procedures for the implementation of the following measures: • Contacting appropriate regulatory agencies if contaminated soil or groundwater (e.g., groundwater contaminated from organic wastes, sediments, minerals, nutrients, thermal pollutants, toxic chemicals, and/or other hazardous substances) is encountered • Sampling and analysis of soil and/or groundwater known or suspected to be impacted by hazardous materials • The legal and proper handling, storage, treatment, transport, and disposal of contaminated soil and/or groundwater shall be delineated and conducted in consultation with regulatory agencies and in accordance with established statutory and regulatory requirements in Section 4.10.1.1 of this FEIS/FEIR • Implementation of dust control measures such as soil wetting, wind screens, etc., for contaminated soil • Groundwater collection, treatment, and discharge shall be performed according to applicable standards and procedures listed in Section 4.10.1.1 of this FEIS/FEIR **MM-HAZ-4:** The contractor shall properly maintain equipment and properly store and manage related hazardous materials, so as to prevent motor oil, or other potentially hazardous substances used during construction, from spilling onto the soil. If contaminated soil is found, it shall be removed, transported to an approved disposal location, and remediated according to state law. **MM-HAZ-5:** For reconstruction of the Pacoima Wash bridge that crosses Metro right-of-way, the construction spoils (e.g., excavated soils, cuttings generated during installation of CIDH piles), including those in contact with the groundwater, shall be contained and tested for total chromium, 1,4-dioxane, trichloroethylene (TCE), and PCE to determine appropriate disposal. **MM-HAZ-6:** A Contaminated Soil/Groundwater Management Plan shall be prepared during final design that describes appropriate methods and measures to manage contamination encountered during construction.
Operation	None required
Energy (Section 4.11 of this FEIS/FEIR)	
Construction	None required.
Operation	None required.
Ecosystems/Biological Resources (Section 4.12 of this FEIS/FEIR)	
Construction	**MM-BIO-1: Avoid and Minimize Project-Related Impact on Special-Status Bat Species** In the maternity season (April 15 through August 31) prior to the commencement of construction activities, a field survey shall be conducted by a qualified biologist to determine the potential presence of colonial bat roosts (including palm trees) on or within 100 feet of the project boundaries. Should a potential roost be identified that will be affected by proposed construction activities, a visual inspection and/or one-night emergence survey shall be used to determine if it is being used as a maternity-roost. To avoid any impacts on roosting bats resulting from construction activities, the following measures shall be implemented:

Affected Resource	Mitigation Measures
	Bridges and Overpasses • Should potential bat roosts be identified that will require removal, humane exclusionary devices shall be used. Installation would occur outside of the maternity season and hibernation period (February 16-April 14 and August 16-October 30, or as determined by a qualified biologist) unless it has been confirmed as absent of bats. If the roost has been determined to have been used by bats, the creation of alternate roost habitat shall be required, with CDFW consultation. The roost shall not be removed until it has been confirmed by a qualified biologist that all bats have been successfully excluded. • Should an active maternity roost be identified, a determination (in consultation with the California Department of Fish and Wildlife or a qualified bat expert) shall be made whether indirect effects of construction-related activities (i.e., noise and vibration) could substantially disturb roosting bats. This determination shall be based on baseline noise/vibrations levels, anticipated noise-levels associated with construction of the proposed project, and the sensitivity to noise-disturbances of the bat species present. If it is determined that noise could result in the temporary abandonment of a day-roost, construction-related activities shall be scheduled to avoid the maternity season (April 15 through August 31), or as determined by the biologist. **Trees** All trees to be removed as part of the project shall be evaluated for their potential to support bat roosts. The following measures would apply to trees to be removed that are determined to provide potential bat roost habitat by a qualified biologist. • If trees with colonial bat roost potential require removal during the maternity season (April 15 through August 31), a qualified bat biologist shall conduct a one-night emergence survey during acceptable weather conditions (no rain or high winds, night temperatures above 52˚F) or if conditions permit, physically examine the roost for presence or absence of bats (such as with lift equipment) before the start of construction/removal. If the roost is determined to be occupied during this time, the tree shall be avoided until after the maternity season when young are self-sufficiently volant. • If trees with colonial bat roost potential require removal during the winter months when bats are in torpor, a state in which the bats have significantly lowered their physiological state, such as body temperature and metabolic rate, due to lowered food availability. (October 31 through February 15, but is dependent on specific weather conditions), a qualified bat biologist shall physically examine the roost if conditions permit for presence or absence of bats (such as with lift equipment) before the start of construction. If the roost is determined to be occupied during this time, the tree shall be avoided until after the winter season when bats are once again active. • Trees with potential colonial bat habitat can be removed outside of the maternity season and winter season (February 16 through April 14 and August 16 through October 30, or as determined by a qualified biologist) using a two-step tree trimming process that occurs over 2 consecutive days. On Day 1, under the supervision of a qualified bat biologist, Step 1 shall include branches and limbs with no cavities removed by hand (e.g., using chainsaws). This will create a disturbance (noise and vibration) and physically alter the tree. Bats roosting in the tree will either abandon the roost immediately (rarely) or, after emergence, will avoid returning to the roost. On Day 2, Step 2 of the tree removal may occur, which would be removal of the remainder of the tree. Trees that are only to be trimmed and not removed would be processed in the same manner; if a branch with a potential roost must be removed, all surrounding branches would be trimmed on Day 1 under supervision of a qualified bat biologist and then the limb with the potential roost would be removed on Day 2. • Trees with foliage (and without colonial bat roost potential), such as sycamores, that can support lasiurine bats, shall have the two-step tree trimming process occur over one day under the supervision of a qualified bat biologist. Step 1 would be to remove adjacent, smaller, or non-habitat trees to create noise and vibration disturbance that would cause abandonment. Step 2 would be to remove the remainder of tree on that same day. For palm trees that can support western yellow bat (the only special-status lasiurine species with the potential to occur in the project area), shall use the two-step tree process over two days. Western yellow bats may move deeper within the dead fronds during disturbance. The two-day process will allow the bats to vacate the tree before removal.

<table>
<tr><th>Affected Resource</th><th>Mitigation Measures</th></tr>
<tr><td></td><td>MM BIO-2: Avoid Impacts on Nesting Birds (including raptors)
To avoid any impacts on migratory birds, resulting from construction activities that may occur during the nesting season, March 1 through August 31, the following measure shall be implemented:
• A qualified biologist shall conduct a preconstruction survey of the proposed construction alignment with a 150-foot buffer for passerines and 500-feet for raptors around the site. This preconstruction survey shall commence no more than 3 days prior to the onset of construction, such as clearing and grubbing and initial ground disturbance.
• If a nest is observed, an appropriate buffer shall be established, as determined by a qualified biologist, based on the sensitivity of the species. For nesting raptors, the minimum buffer shall be 150 feet. The contractor shall be notified of active nests and directed to avoid any activities within the buffer zone until the nests are no longer considered to be active by the biologist.
MM BIO-3: Jurisdictional Waters
Any work resulting in materials that could be discharged into jurisdictional features shall adhere to strict best management practices (BMPs) to prevent potential pollutants from entering any jurisdictional feature. Applicable BMPs to be applied shall be included in the Stormwater Pollution Prevention Plan and/or Water Quality Management Plan and shall include, but not be limited to, the following BMPs as appropriate:
• Containment around the site shall include use of temporary measures such as fiber rolls to surround the construction areas to prevent any spills of slurry discharge or spoils recovered during the separation process;
• Downstream drainage inlets shall be temporarily covered to prevent discharge from entering the storm drain system;
• Construction entrances/exits shall be properly set up so as to reduce or eliminate the tracking of sediment and debris offsite by including grading to prevent runoff from leaving the site, and establishing “rumble racks” or wheel water points at the exit to remove sediment from construction vehicles;
• Onsite rinsing or cleaning of any equipment shall be performed in contained areas and rinse water shall be collected for appropriate disposal;
• Use of a tank on work sites to collect the water for periodic offsite disposal;
• Soil and other building materials (e.g., gravel) stored onsite shall be contained and covered to prevent contact with stormwater and offsite discharge; and
• Water quality of runoff shall be periodically monitored before discharge from the site and into the storm drainage system.
MM BIO-4: A Project Tree Report Shall Be Approved by the City of Los Angeles and City of San Fernando
Prior to construction, the contractor shall review the approved alternative alignment to determine whether any trees protected by the City of Los Angeles Tree Ordinance 177404 and City of San Fernando Comprehensive Tree Management Program Ordinance (Ordinance No. 1539) will be removed or trimmed. A tree report must be prepared, by a qualified arborist, for the project and approved by each city. Trees approved for removal (or replacement) shall be done in accordance with the specifications outlined in the city ordinances.</td></tr>
<tr><td>Operation</td><td>None required.</td></tr>
<tr><td colspan="2">Water Resources/Hydrology and Water Quality (Section 4.13 of this FEIS/FEIR)</td></tr>
<tr><td>Construction</td><td>None Required.</td></tr>
<tr><td>Operation</td><td>None Required.</td></tr>
<tr><td colspan="2">Safety and Security (Section 4.14 of this FEIS/FEIR)</td></tr>
<tr><td>Construction</td><td>MM-SS-1: Alternate walkways for pedestrians shall be provided around construction staging sites in accordance with ADA requirements.</td></tr>
</table>

Affected Resource	Mitigation Measures
	MM-SS-2: Safe and convenient pedestrian routes to local schools shall be maintained during construction. **MM-SS-3**: Ongoing communication with school administrators shall be maintained to ensure sufficient notice of construction activities that could affect pedestrian routes to schools is provided. **MM-SS-4**: 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. **MM-SS-5**: Appropriate traffic controls (signs and signals) shall be installed and maintained to ensure pedestrian and vehicular safety. **MM-SS-6**: To the extent feasible, construction haul trucks shall not use haul routes that pass any school, except when the school is not in session. **MM-SS-7**: Staging or parking of construction-related vehicles, including worker-transport vehicles, shall not occur on or adjacent to a school property when school is in session. **MM-SS-8:** Crossing guards or flaggers shall be provided at affected school crossings when the safety of children may be compromised by construction-related activities. **MM-SS-9:** Barriers or fencing shall be installed to secure construction equipment and to minimize trespassing, vandalism, short-cut attractions, and attractive nuisances. **MM-SS-10:** Security patrols shall be provided to minimize trespassing, vandalism, and short-cut attractions where construction activities occur in the vicinity of local schools. **MM-SS-11**: Project plans, work plans, and traffic control measures shall be coordinated with emergency responders during preliminary engineering, final design, and construction to limit effects to emergency response times.
Operation	**MM-SS-12**: All stations shall be illuminated 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. **MM-SS-13:** 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. **MM-SS-14:** The following measures shall be implemented to reduce pedestrian circulation impacts and hazards: • Sidewalk widths shall be designed with the widest dimensions feasible in conformance with the Los Angeles/Metro's adopted "Land Use/Transportation Policy." • Minimum widths shall not be less than those allowed by the State of California Title 24 access requirements, or the ADA 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. • Accommodating pedestrian movements and flows shall take priority over other transportation improvements, including automobile access. • Physical improvements shall ensure that all stations are fully accessible as defined in the ADA. **MM-SS-15**: Wide crosswalks shall be provided in areas immediately around proposed stations to facilitate pedestrian mobility. **MM-SS-16**: Metro shall coordinate and consult with the LAFD, LAPD, LASD, and the City San Fernando Police Department to develop safety and security plans for the proposed alignment, parking facilities, and station areas. **MM-SS-17**: 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.

Affected Resource	Mitigation Measures
	MM-SS-18: 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. Crossings shall require approval from the CPUC and shall meet applicable CPUC standards for grade crossings. **MM-SS-19**: 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. **MM-SS-20**: 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. **MM-SS-21**: Metro is continuing to investigate light rail vehicle modifications to increase light rail vehicle safety and minimize or prevent train and pedestrian conflicts. Metro's design criteria also identify multiple efforts to increase light rail vehicle safety and minimize or prevent the potential for pedestrians and vehicle conflicts. Measures identified shall be included during the final design of the LPA. **MM-SS-22**: To reduce potential risk of collisions between LRTs and automobiles on the street portion of the LPA, Metro shall coordinate with the CPUC, City and County of Los Angeles 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. **MM-SS-23**: 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. Also see mitigation measure **MM-TRA-7** for measures to reduce the impact due to removal of the existing bike lanes on Van Nuys Boulevard.
Parklands and Community Facilities (Section 4.15 of this FEIS/FEIR)	
Construction	**MM-TRA-1**, **MM-TRA-2**, **MM-VIS-1**, **MM-AQ-1** through **MM-AQ-8**, **MM-NOI-2a and 2b**, **MM-NOI-3a** through **3c**, **MM-SS-2, MM-SS-4, and MM-SS-5**
Operation	None required.
Historic, Archaeological, and Paleontological Resources	
Historic Resources - Construction	None required.
Historic Resources – Operation	None required.
Archaeological Resources – Construction	**MM-AR-1:** Ground disturbing activities within site areas 19-001124 and 19-002681 and within a 50-foot buffer area around the sites shall be monitored by an Archaeological and Native American monitor. Construction related ground disturbance includes grading, excavation, trenching, and drilling. An Archaeological monitor and a Native American monitor shall examine all sediments disturbed during earth moving activities, including geotechnical drilling and environmental borings, if being conducted, prior to construction. Archaeological monitoring for site CA-LAN-2681 shall be conducted as discussed in the project's Cultural Resources Monitoring Plan (CRMP). All archeological monitoring and any necessary identification, testing, and evaluation of resources identified during monitoring shall be conducted per the methods and procedures described in the CRMP for the project. Standard methods of excavation such as grading and trenching shall be monitored by observation of the excavations as they occur.

Affected Resource	Mitigation Measures
	Drilling of project features such as the overhead contact system (OCS) results in earthen materials being delivered to the ground surface as loosened spoils. Materials to be examined by the Archaeological and Native American monitors are spoils removed from the drill holes while the drilling occurs. The monitors must be provided a safe location and opportunity to view spoils as they are being stored prior to being hauled away from the work area. Access of the monitors to the spoils material may be limited by safety concerns or by hazardous materials contamination. If requested by an Archaeological or Native American monitor, opportunities shall be provided for the monitor, as part of their daily shift activities, to screen or rake spoils to determine if the spoils contain cultural materials. Archaeological monitors are empowered to briefly halt construction if a discovery is made during standard excavation, such as grading and trenching, in the area of that discovery and a 50-foot buffer zone. If a Native American monitor wishes to halt construction, the monitor shall consult with the Archaeological monitor, who may then briefly halt construction. A request to halt activities by the Archaeological monitor should have no effect on ground disturbing activities outside the 50-foot buffer zone; however, spoil piles may not be removed until the monitor can examine them. If an Archaeological or Native American monitor observes an isolated find, the Archaeological monitor shall temporarily halt construction in order to document the find. Documentation shall be completed by collecting a GPS point, photography, and recording information onto the daily monitoring log. All isolated prehistoric artifacts shall be collected. Diagnostic historic-era items shall be collected. Once an isolated item is documented, construction may resume. **MM-AR-2:** If buried cultural materials are encountered in areas not actively being monitored during construction, the Contractor Project Foreman shall halt construction in a 50-foot radius around the discovery and shall immediately contact the Metro Project Manager, Metro Environmental Specialist, and Project Archaeologist. Per the CRMP prepared for the proposed project, for any discovery of an archaeological feature, regardless of eligibility, the Metro Environmental Specialist shall notify all consulting parties identified for the project within 48 hours of any discovery. Notifications shall not be made for ubiquitous infrastructure elements such as modern utilities (cistern, electric, gas, sewer, and water supply lines), transportation infrastructure (bridge piers, buried roadways, and rail segments), sidewalks, and concrete rubble, fill, or waste. **MM-AR-3:** In the event that human remains are encountered during construction, potentially destructive activities in the vicinity of the discovery shall be stopped and the provisions of California PRC § 5097.98 and HSC § 7050.5 shall be followed. The Archaeological monitor shall halt construction, establish a 50-foot buffer around the discovery, and shall contact the Metro Project Manager, Metro Environmental Specialist, and Project Archaeologist. The Metro Environmental Specialist shall notify the County Coroner and FTA on the same day as the discovery. FTA shall notify SHPO, Advisory Council on Historic Preservation (ACHP), and other consulting parties within 48 hours of discovery. Treatment of the remains and all subsequent actions shall be completed per the PA and Cultural Resources Treatment and Monitoring Plan (CRTMP).
Archaeological Resources – Operation	None required.
Paleontological Resources – Construction	**MM-PR-1:** Metro shall retain the services of a qualified paleontologist (minimum of graduate degree, 10 years of experience as a principal investigator, and specialty in vertebrate paleontology) to oversee execution of this mitigation measure. Metro's qualified principal paleontologist shall then develop a Paleontological Resources Monitoring and Mitigation Plan (PRMMP) acceptable to the collections manager of the Vertebrate Paleontology Section of the Natural History Museum of Los Angeles County. Metro will implement the PRMMP during construction. The PRMMP will clearly demarcate the areas to be monitored and specify criteria. At the completion of paleontological monitoring for the proposed project, a paleontological resources monitoring report will be prepared and submitted to the Natural History Museum of Los Angeles County to document the results of the monitoring activities and summarize the results of any paleontological resources encountered.

Affected Resource	Mitigation Measures
	The PRMMP shall include specifications for processing, stabilizing, identifying, and cataloging any fossils recovered as part of the proposed project. Metro's qualified principal paleontologist shall prepare a report detailing the paleontological resources recovered, their significance, and arrangements made for their curation at the conclusion of the monitoring effort. **MM-PR-2:** Prior to the start of construction a qualified Principal Paleontologist shall prepare a Paleontological Mitigation Plan (PMP) that includes the following requirements: • All project personnel involved in ground-disturbing activities shall receive paleontological resources awareness training before beginning work. • Excavations, excluding drilling, deeper than 8 feet below the current surface in the Quaternary alluvium shall be periodically spot checked to determine when older sediments conducive to fossil preservation are encountered. Once the paleontologically sensitive older alluvium is reached, a qualified paleontologist shall perform full-time monitoring of construction. Should sediments in a particular area be determined by the paleontologist to be unsuitable for fossil preservation, monitoring shall be suspended in those areas. A paleontologist shall be available to be on call to respond to any unanticipated discoveries and may adjust monitoring based on the construction plans and field visits. • Sediment samples from the Quaternary older alluvium shall be collected and screened for microfossils. • Recovered specimens shall be stabilized and prepared to the point of identification. Specimens shall be identified to the lowest taxonomic level possible and transferred to an accredited repository for curation along with all associated field and lab data. • Upon completion of project excavation, a Paleontological Mitigation Report (PMR) documenting compliance shall be prepared and submitted to the Lead Agency under CEQA.
Paleontological Resources – Operation	None required.
Environmental Justice (Section 4.17 of this FEIS/FEIR)	
Construction	**MM-TRA-1, MM-TRA-2, MM-TRA-3, MM-VIS-1–5, MM-AQ-1–9, MM-NOI-1A–1D, MM-NOI-2A–2B, MM-NOI-3A through 3C,** and **MM-SS 1–23.**
Operation	**MM-CN-1**
Growth Inducing Impacts (Section 4.18 of this FEIS/FEIR)	
Induce substantial population growth in an area either directly or indirectly	None required.
Irreversible and Irretrievable Commitments of Resources	
Construction and Operation	No mitigation measures are required

Chapter 1
Purpose and Need

1.1 History and Background

The East San Fernando Valley Transit Corridor (ESFVTC) Project has been studied extensively for more than 10 years. In 2000, the California State Legislature made funds available through a Traffic Congestion Relief Program (TCRP). The grant specified the following:

> Los Angeles-San Fernando Valley Transit Extension: (A) Build an east–west bus Metro Rapid transit system in the Burbank-Chandler corridor, from North Hollywood to Warner Center—one hundred forty-five million dollars ($145,000,000); (B) Build a north–south corridor bus transit project that interfaces with the foregoing east–west Burbank-Chandler corridor project and with the Ventura Boulevard Metro Rapid Bus Project—one hundred million dollars ($100,000,000). The lead applicant for both extension projects is the Los Angeles County Metropolitan Transportation Authority.[1]

1.1.1 San Fernando Valley North–South Transit Corridor Regional Significant Transportation Investment Study (2003)

In May 2003, the Los Angeles County Metropolitan Transportation Authority (Metro) Board received and filed staff's recommendation for the advancement of the *San Fernando Valley North/South Transit Corridor's, Regional Significant Transportation Investment Study (RSTIS)*. This study found that due to the geographic width (east–west distance) of the Valley, a single north/south transit corridor project would be of limited benefit to the community. The RSTIS recommended a series of bus efficiency improvements on five north/south corridors:

- On Reseda Boulevard, Sepulveda Boulevard, Van Nuys Boulevard, and Lankershim Boulevard/San Fernando Road in the San Fernando Valley.
- Adjacent to the Canoga Avenue corridor in the west San Fernando Valley. The corridor is located on a former rail right-of-way jointly owned by Metro and the City of Los Angeles. Metro environmentally cleared that corridor, and construction was completed on the Metro Orange Line (Orange Line) Canoga Extension Project in July 2012.

1.1.2 LADOT East San Fernando Valley North/South Transit Corridors Bus Speed Improvement Project (2010)

In March 2010, LADOT completed a bus speed improvement study for the four eastern San Fernando Valley north/south transit corridors – Reseda, Sepulveda, Van Nuys, and Lankershim/San Fernando. The study recommended a range of near-term, mid-term, and long-term bus speed and service improvements, including a new interlined bus service for Van Nuys,

[1] California State Legislature. 2000. *The Traffic Congestion Relief Act of 2000*. Chapter 4.5. Available: <http://www.catc.ca.gov/programs/tcrp/TCRP_Statutes.pdf>.

signal timing adjustments, traffic striping improvements, street widenings, concrete bus pads, bridge widening, bus stop relocations, transit station enhancements, and a median busway on Van Nuys Boulevard.

In April 2010, the Los Angeles City Council approved the study's recommendations and directed LADOT to 1) work with Metro to develop a scope, schedule, and budget for environmental clearance and public outreach for the three phases of the East San Fernando Valley North/South Rapidways Project; 2) include three busway alternatives for the Van Nuys corridor between Burbank Boulevard and Plummer Street (median busway, median busway with grade separations at major streets, and median busway with grade separations and a tunnel segment between the Metro Orange Line and Vanowen Street); and 3) work with Metro to develop a scope, schedule, and budget for an Alternatives Analysis (AA) of expanded north–south passenger rail in the San Fernando Valley.

1.1.3 East San Fernando Valley Transit Corridor Alternative Analysis (2012)

In 2011, Metro authorized preparation of an AA, Draft Environmental Impact Statement/Draft Environmental Impact Report (DEIS/DEIR), and conceptual engineering for transit alternatives in the eastern San Fernando Valley corridor. Building on the findings of the aforementioned previous studies, an AA was carried out and completed in December 2012. The AA evaluated 26 build alternatives plus Transportation Systems Management (TSM) and No-Build Alternatives. Route segments were also evaluated to determine feasible alignments in the project study area. A segment was deemed infeasible if the right-of-way width was insufficient to accommodate the considered project modes, even with roadway widening or if a segment failed to contribute to a reasonable route alignment. Some segments that are considered crucial to maintain a viable alignment, like San Fernando Road between the Sylmar/San Fernando Metrolink Station and Van Nuys Boulevard, were considered feasible even if buses must operate in mixed-flow operation.

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 could accommodate future population growth and transit demand, while being compatible with existing land uses and future development opportunities. The study considered the Sepulveda transit corridor, which is another Measure R project. This project may be directly served by the ESFVTC Project. The Sepulveda transit corridor could eventually link the West Los Angeles area to the eastern San Fernando Valley via the project corridor. As part of the 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) to be carried forward for analysis in the DEIS/DEIR.

1.1.3.1 DEIS/DEIR Scoping and Alternatives

During the March 2013–May 2013 DEIS/DEIR 65-day scoping period, four public scoping meetings were held, and 258 scoping comments were received. Many of the comments reflected the following:

- Strong Preference for LRT;
- Support for bicycle facilities; and
- Opposition to a dedicated guideway south of the Metro Orange Line.

In June 2013, Metro held meetings with the Cities of Los Angeles and San Fernando to review the alternatives being analyzed in light of the scoping comments received. The alternatives being carried forward for analysis in the DEIS/DEIR were finalized and refined following the scoping meetings, based on public comment and further analysis. The refined alternatives were received and filed by Metro's Planning and Programming Committee in November 2013.

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 LRT/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 the DEIS/DEIR.

1.1.3.2 Southern Terminus Connection with the Sepulveda Transit Corridor and Metro Orange Line

Transit improvements planned along Van Nuys Boulevard need to consider a future connection to a transit line in the Sepulveda Pass. Options in that corridor range from BRT in HOV/Express Lanes on the 1-405 Freeway to a full transit/highway tunnel extending under the Pass from the Metro Orange Line to the future Metro Purple Line and/or Metro Expo Line Stations in West Los Angeles.

Analysis of travel boardings on buses along Van Nuys Boulevard shows very heavy transfer activity between the buses on Van Nuys Boulevard and the Metro Orange Line. Ridership south of the Metro Orange Line is approximately half of the ridership north of the Metro Orange Line and it is therefore not warranted to extend exclusive guideways south of the Metro Orange Line until sometime in the future when there is a connection through the Sepulveda Pass to the Westside. In order to provide this future connection, Metro has identified the Metro Orange Line Van Nuys station as the southern terminus of the ESFVTC Project.

1.1.3.3 Locally Preferred Alternative

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 this 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. The LPA is Alternative 4 but the 2.5-mile portion from just south of Hart Street to just north of Parthenia Street would be at-grade instead of a subway. The subway was eliminated because it would be very expensive, have significant construction impacts, including right-of-way acquisitions, and would result in little time savings compared with a fully at-grade alignment. In addition, Metro determined the LPA fulfilled the project's objectives as well as the purpose and need to:

- Improve mobility in the eastern San Fernando Valley by introducing an improved north–south transit connection between key transit hubs/routes;
- Provide new service and/or infrastructure that improves passenger mobility and enhances transit accessibility/connectivity for residents within the project study area to local and regional destinations and activity centers;
- Provide more reliable transit service within the eastern San Fernando Valley;
- Increase transit service efficiency (speeds and passenger throughput) in the project study area;

- Provide additional transit options in an area with a large transit-dependent population, including the disabled, and high-transit ridership;
- Encourage modal shift to transit in the eastern San Fernando Valley, thereby improving air quality; and
- Make transit service more environmentally beneficial through reductions in greenhouse gas emissions in the project study area.

Subsequent to identification of the LPA by the Metro Board of Directors in June of 2018, additional refinements were made to the project plans to improve pedestrian connectivity and safety, minimize right-of-way impacts and displacements, and improve operational efficiencies. These improvements included refinements to the station locations and footprints, track alignment, intersection configurations, and traction power substation (TPSS) locations. The reader is referred to Appendix GG to this FEIS/FEIR, which contains the revised Advanced Conceptual Plans for the LPA (Alternative 4 Modified: At-Grade LRT), and more details regarding these improvements. A summary of the major characteristics and key differences between the LPA and Alternative 4 are summarized below and described in greater detail in Section 2.2.

- As noted above, in the DEIS/DEIR, Alternative 4 had a subway segment from just south of Hart Street to just north of Parthenia Street. For the LPA, this segment will now be at grade.
- The ESFVTC Project's Metro Orange Line station would be in the median of Van Nuys Boulevard, extending north and south. The LRT platforms would be connected to the Metro Orange Line platforms by escalators, elevators, and stairs. There would also be two tail tracks for temporary LRT storage that would extend 300 feet south of the Metro Orange Line (see revised conceptual plans for the station in Appendix GG).
- The preferred site for the maintenance and storage facility (MSF) is Option B (see DEIS/DEIR, Chapter 2, Section 2.2.5.1), which would be located on the west side of Van Nuys Boulevard and just south of the Metrolink tracks for the Ventura Line on approximately 25 acres. More specifically, the MSF would be bounded by Keswick Street on the south, Raymer Street on the east and north, and the Pacoima Wash on the west. Access to the facility will be via two turnout tracks on the west side of the alignment. A northbound turnout will be located in the vicinity of Saticoy Street. A southbound turnout will be located in the vicinity of Keswick Street.
- At Van Nuys Boulevard and El Dorado Avenue, the alignment will cross the intersection and transverse the northwest quadrant of the intersection and exit at Pinney Street and San Fernando Road. The alignment will cross San Fernando Road and transition onto the Metro-owned railroad right-of-way that runs parallel to San Fernando Road and where the Antelope Valley Metrolink line and Union Pacific Railroad currently operates. It would proceed northwest along the Metro-owned railroad right-of-way for approximately 2.5 miles, terminating at the Sylmar/San Fernando Metrolink station. The LRT will be connected to the Metrolink platform and the parking lot via a proposed pedestrian under or overpass as well as street-level walkways.

The LPA consists of a 9.2-mile median running, 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 a median dedicated guideway along 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 *Chapter 2, Project Description*, Figure 2-1. Similar to Alternative 4 described in the DEIS/DEIR, the LPA would include 14 stations.

Initial Operating Segment

In order to ensure the objectives of the project are met in a timely manner and avoid delays due to the timing of funding availability, Metro is considering constructing the LPA in two phases. The first phase, or Initial Operating Segment (IOS), would run along the same alignment along Van Nuys Boulevard and have the same LRT design features, MSF, and operating characteristics as those described for the LPA (see Chapter 2 of this FEIS/FEIR for a detailed description of the LPA). Although the IOS for the proposed project would run along the same alignment and have the same design features and operating characteristics as the LPA, it would occupy a smaller project footprint than the LPA because it would extend from the Metro Orange Line on the south to the proposed Van Nuys/San Fernando station on the north. If the project is phased, it remains Metro's intent, however, to build the remaining northern 2.5 miles of the LPA within the existing railroad right-of-way, from the Van Nuys/San Fernando station to the Sylmar/San Fernando Metrolink station.

Although the IOS would have a smaller footprint and shorter alignment, the IOS would still fulfill the project's purposes and need to:

- Improve north–south mobility;
- Provide more reliable operations and connections between key transit hubs/routes;
- Enhance transit accessibility/connectivity to local and regional destinations;
- Provide additional transit options in a largely transit-dependent area; and
- Encourage a mode shift to transit.

1.2 Description of Project Study Area/Corridor

The ESFVTC Project alignment is in the San Fernando Valley area of Los Angeles County. 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.[2] 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 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 project study area include neighborhood and regional commercial land uses, as well as government and residential land uses. Specifically, land uses in the project study area include government services at the Van Nuys Civic Center (Photo 1-1), 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, Sherman Oaks Hospital, Panorama Mall, Whiteman Airport, Van Nuys Airport, Mission Community Hospital, Kaiser Permanente Hospital, Van Nuys Auto Row, and several schools (Valley College shown in Photo 1-2), youth centers, and recreational centers.

[2] The study areas for the environmental impact analyses presented in this report may vary from this general study area, depending on the needs of the analyses.

Photo 1-1: Van Nuys Civic Center

Source: IBI Group, 2019.

Photo 1-2: Los Angeles Valley College

Source: Metro, 2016.

1.2.1 Project Study Area Demographics

1.2.1.1 Existing Economic and Land Use Conditions

Socioeconomic indicators include: average household income, low income households, low vehicle ownership households, and transit dependent population per acre (see below for definitions). These indicators were based on the 2012-2016 American Community Survey (ACS) 5-year characteristics at the census tract level. These distributions were then applied to 2016 population and household Southern California Association of Governments (SCAG) Tier 2 control totals. Economic data including employment and wage and payroll distribution estimates for 2010 were obtained from the SCAG Regional Transportation Plan and the California Employment Development Department.

The 2010 Transportation Analysis Zone (TAZ) data from SCAG was used for the initial socio-economic analysis. More recent (2016) data has been collected and reviewed to determine whether any significant changes to project study area demographics occurred subsequent to the initial analyses conducted for the DEIS/DEIR. Data for this recent analysis were gathered from SCAG and based on the agency's latest Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), Tier 2 forecasts for 2016 at the TAZ level. The 2016 data has been compared with the 2010 data to determine whether any significant changes have occurred over this time period.

For the overall project study area and corridor, the changes in population and households appear to be relatively small at less than 5.0 percent. For the overall project study area, the employment change is also less than 5.0 percent, while the change for the overall corridor is slightly higher at 7.3 percent, because of the greater concentration of employment within 0.25 mile of the proposed transit line. In conclusion, the demographic data from 2016, compared to that from 2010, is similar with only minor changes, and characteristics of the existing conditions are consistent between 2010 and 2016.

1.2.1.2 Route Alternatives and Basic Units of Analysis

Complete Tier 2 TAZs that intersected 0.25-mile buffer areas on either side of the transit corridor and ESFVTC Project study area were selected, as shown in Figures 1-1 through 1-3.

1.2.1.3 Population, Households, and Employment

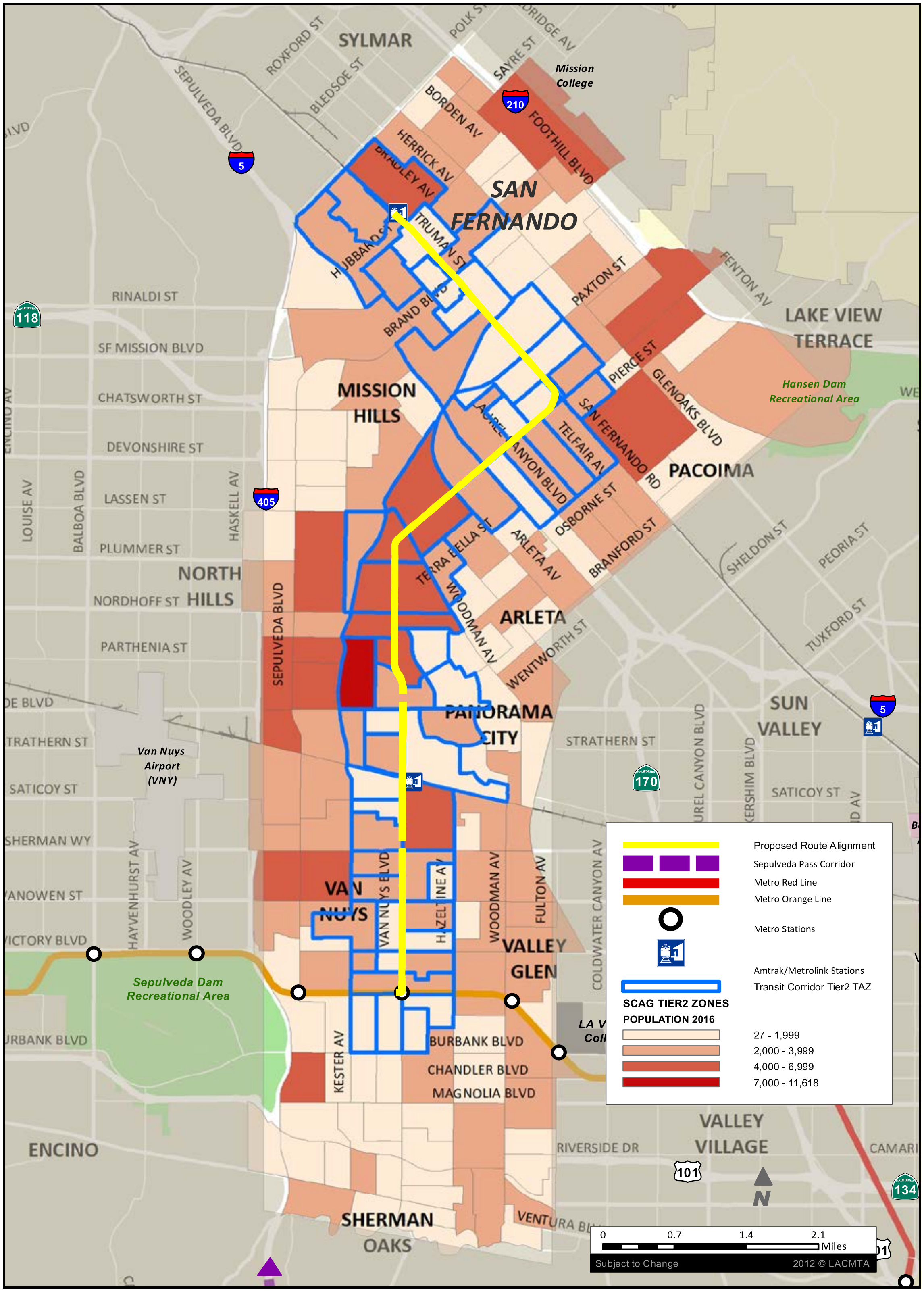
Information developed by SCAG for the Tier 2 TAZs includes total population, household, and employment numbers for 2010 and 2016.[3,4]

1.2.2 Demographic Estimates

The following section includes a discussion of population, household, and employment estimates for the transit corridor and the ESFVTC Project study area.

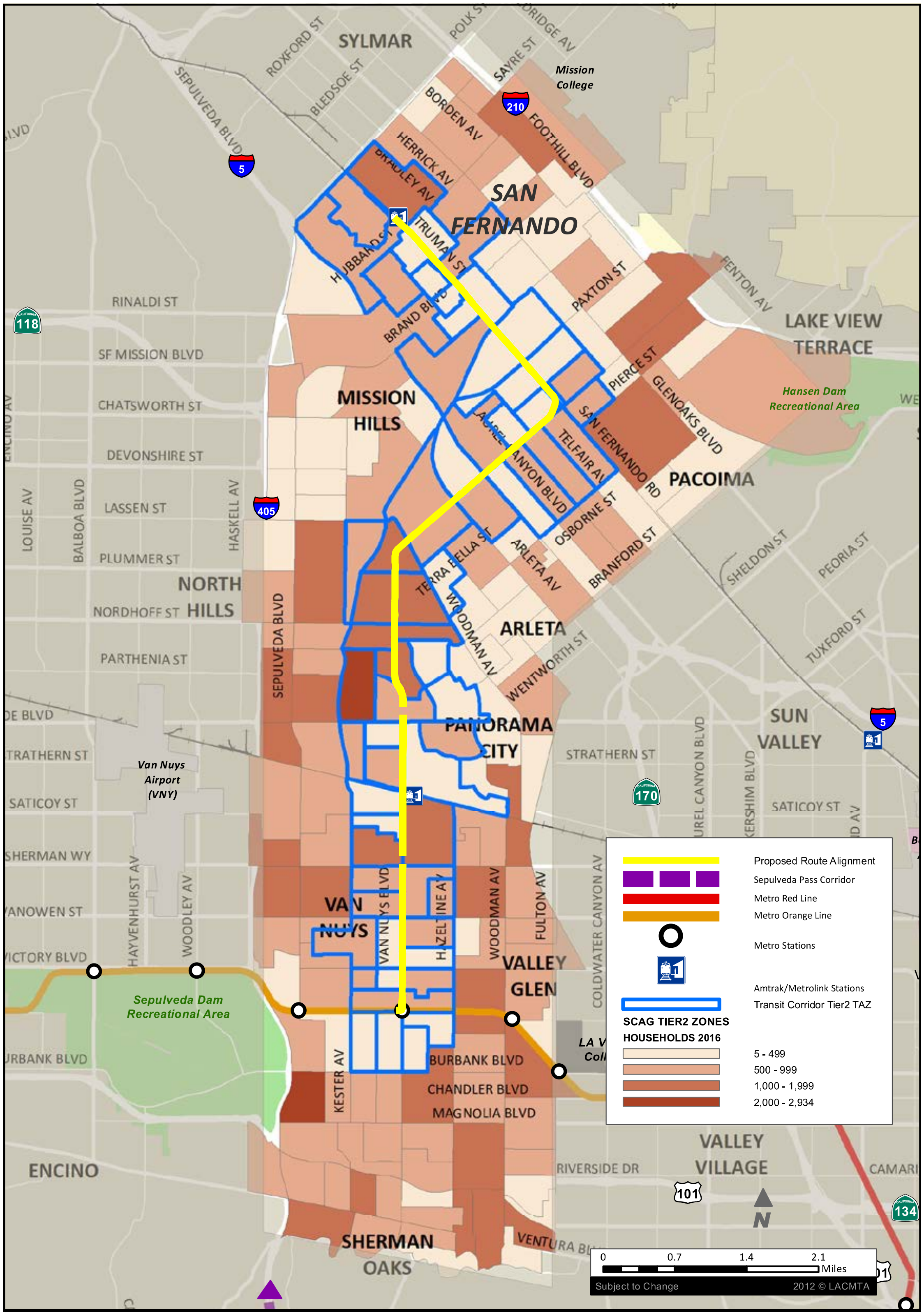
[3] Southern California Association of Governments, *2012 Regional Transportation Plan.* Available: <http://rtpscs.scag.ca.gov>. Accessed: March 25, 2013.
[4] Southern California Association of Governments, *2016 Regional Transportation Plan/Sustainable Communities Strategy.* Available: <http://scagrtpscs.net>. Accessed: June 6, 2017.

Figure 1-1: Population Concentrations in Transit Corridor



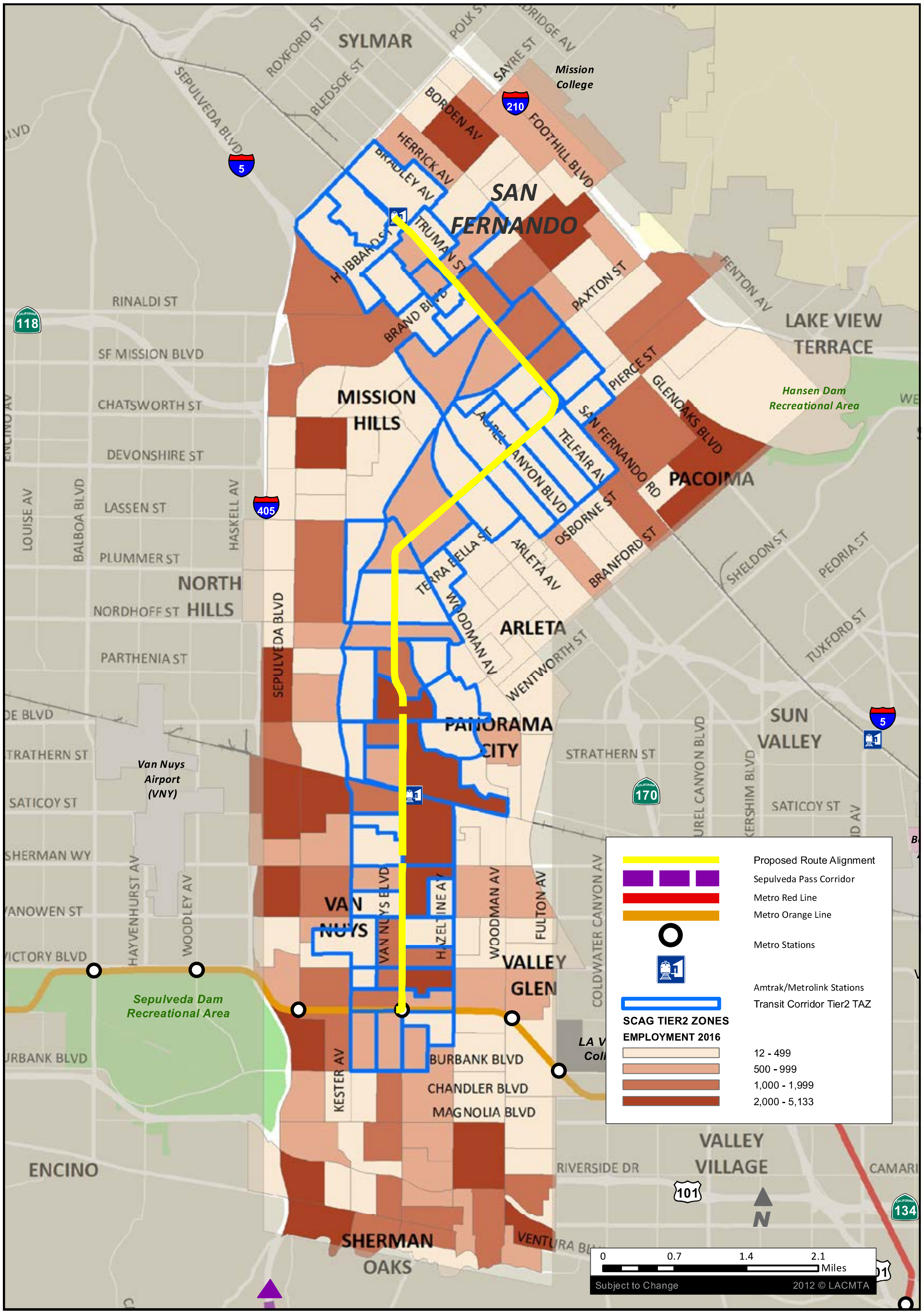
Sources: Stanley R. Hoffman Associates, Inc.; Southern California Association of Governments, 2020 Connect SoCal, Draft 2016 Base Year Data, Tier 2 Traffic Analysis Zones.

Figure 1-2: Households Concentrations in Transit Corridor



Sources: Stanley R. Hoffman Associates, Inc.; Southern California Association of Governments, *2020 Connect SoCal*, Draft 2016 Base Year Data, Tier 2 Traffic Analysis Zones.

Figure 1-3: Employment Concentrations in Transit Corridor



Sources: Stanley R. Hoffman Associates, Inc.; Southern California Association of Governments, *2020 Connect SoCal*, Draft 2016 Base Year Data, Tier 2 Traffic Analysis Zones.

Metro

1.2.2.1 Estimated Population

As shown in Table 1-1, in 2016, the transit corridor's total population (171,786) was about 36 percent of the ESFVTC Project study area's total population (470,322). The estimated household population (excluding group quarters[5] population) for the transit corridor (170,738) and ESFVTC Project study area (466,327) was relatively close to the total population estimates for these two areas, indicating a very small estimate for group quarters population. As shown in the map on Figure 1-1, the highest concentrations of population tend to focus in Panorama City north of Roscoe Boulevard on either side of Van Nuys Boulevard. The transit corridor is identified by the SCAG Tier 2 TAZs outlined in blue on Figure 1-1.

Table 1-1: Population, Households, and Employment (2016)

	Transit Corridor	Project Study Area	Corridor as % of Project Study Area
Estimated Population	171,786	470,332	36.52%
Estimated Household Population	170,738	466,327	36.61%
Estimated Households	43,123	136,634	31.56%
Estimated Employment	46,655	148,350	31.45%
Estimated Persons per Household	3.96	3.41	116.01%
Estimated Jobs per Household	1.08	1.09	99.65%

Sources: Stanley R. Hoffman Associates, Inc.; Southern California Association of Governments, *2020 Connect SoCal, Draft 2016 Base Year Data, Tier 2 Traffic Analysis Zones.*

1.2.2.2 Estimated Households

As shown in Table 1-1, in 2016, the transit corridor household count (43,123) was about 32 percent of the project study area's household count (136,634). However, the persons-per-household estimate was slightly higher for the transit corridor, at about 3.96, compared to the ESFVTC Project study area, which was about 3.41, with the highest household concentrations similar to those for the population north of Roscoe Boulevard along either side of Van Nuys Boulevard. The transit corridor is similarly identified by the Tier 2 TAZs outlined in blue on Figure 1-2.

1.2.2.3 Estimated Employment

As shown in Table 1-1, in 2016, employment in the transit corridor (46,655) was about 30 percent of employment in the ESFVTC Project study area (148,350). The estimated number of jobs per household was similar for the ESFVTC, at about 1.08, compared to the project study area's estimate of 1.09. Along the project corridor—outlined in blue in Figure 1-3—the highest concentrations of employment were within the Van Nuys Civic Center, along Van Nuys Boulevard, just north of the Metro Orange Line, and also within the Panorama City area adjacent to and near

[5] Group Quarters (GQ) are places where people live or stay, in a group living arrangement, which is owned or managed by an entity or organization providing housing and/or services for the residents. This is not a typical household-type living arrangement. These services may include custodial or medical care as well as other types of assistance, and residency is commonly restricted to those receiving these services. People living in group quarters are usually not related to each other. Group quarters include such places as college residence halls, residential treatment centers, skilled nursing facilities, group homes, military barracks, correctional facilities, and workers' dormitories. Available: https://ask.census.gov/faq.php?id=5000&faqId=1681. Accessed: March 22, 2016.

the intersection of Van Nuys Boulevard and Roscoe Boulevard. In addition, there are relatively higher concentrations of employment at the northern end of the route alignment in the downtown area of the City of San Fernando. The transit corridor is similarly identified by the Tier 2 TAZs outlined in Figure 1-3.

1.2.3 Census Socioeconomic Variables

Socioeconomic variables, including average household income, persons in poverty, and indicators of transit dependency (by age structure) and ownership of vehicles per household were developed from the 2012-2016 American Community Survey 5-year estimate at the census tract level for each alignment. Census tracts that closely matched the SCAG Tier 2 selections were assembled for the transit corridor and the project study area to develop these variables.[6] Density and ratio calculations were based on the acreage information at the census tract level.

1.2.3.1 Average Household Income

As shown in Part A of Table 1-2, average household income across the transit corridor and ESFVTC Project study area ranges from $59,077 (transit corridor) to $72,370 (ESFVTC Project study area), in constant 2017 dollars, based on the 2017 American Community Survey (ACS) 5-year Estimates. The transit corridor's average household income was about 82 percent of the ESFVTC Project study area's household income. In contrast, the average household income for Los Angeles County in 2017 was higher than both of these, at about $94,165.

Table 1-2: Transit-Dependent Populations (2016)

	Transit Corridor	Project Study Area	Corridor as % of Project Study Area
A. Low Income Households			
Average Household Income	$59,077	$72,370	82%
Adult Persons below Poverty Line	27,656	59,749	46%
Percent of Population in Poverty	15.3%	12.9%	119%
Adult Persons below Poverty Line per Census Tract Acre	3.5	2.6	134%
B. Low Vehicle Ownership Households			
Vehicles per Household	1.78	1.81	99%
Zero Vehicle Households per Census Tract Acre[a]	0.7	0.6	128%
C. Transit Dependent Population			
Transit Dependent Population	60,414	161,267	37%
Transit Dependent Population as Percent of Population	35.2%	34.3%	103%
Transit Dependent Population per Census Tract Acre[a]	8.2	7.1	116%

[a]. Intensity measures for adult persons below poverty line, zero vehicle households, and transit dependent population per census tract acre are measured against total acreage of census tracts.
Sources: Stanley R. Hoffman Associates, Inc.; American Community Survey 2013-2017, 5-Year Estimates.

[6] Southern California Association of Governments. 2*012 Regional Transportation Plan.* Available: <http://rtpscs.scag.ca.gov>. Accessed: March 25, 2013.

1.2.3.2 Adult Persons below Poverty Line

Adult persons are defined as persons 18 years and over. As shown in Part A of Table 1-2, the ESFVTC Project study area had a lower proportion of its population in poverty at an estimated 12.9 percent (59,749 persons) compared to the transit corridor at about 15.3 percent (27,656 persons). The persons below the poverty line in the transit corridor were about 16 percent higher than the percentage in the project study area.

1.2.3.3 Adult Persons below Poverty Line per Census Tract Acre

As shown in Part A of Table 1-2, the transit corridor had a higher concentration of persons below the poverty line per census tract acre estimated at 3.5 compared to the ESFVTC Project study area's estimate of 2.6. In contrast, there were an estimated 1.08 adult persons below the poverty line per census tract acre in urbanized Los Angeles County.

1.2.3.4 Vehicles per Household

As shown in Part B of Table 1-2, the transit corridor and the ESFVTC Project study area have almost equal estimates for vehicles per household of 1.78 (transit corridor) and 1.81 (ESFVTC Project study area). These averages are similar to urbanized Los Angeles County at 1.67.

1.2.3.5 Zero-Vehicle Households per Census Tract Acre

This intensity measure for zero vehicle households per census tract acre is also measured against total acreage of census tracts. As shown in Part B of Table 1-2, the transit corridor has an estimated 0.7 zero-vehicle households per census tract acre, while the ESFVTC Project study area has 0.6 zero-vehicle households per acre. These estimates are very similar to the average for urbanized Los Angeles County, which averages 0.3 zero-vehicle households per census tract acre.

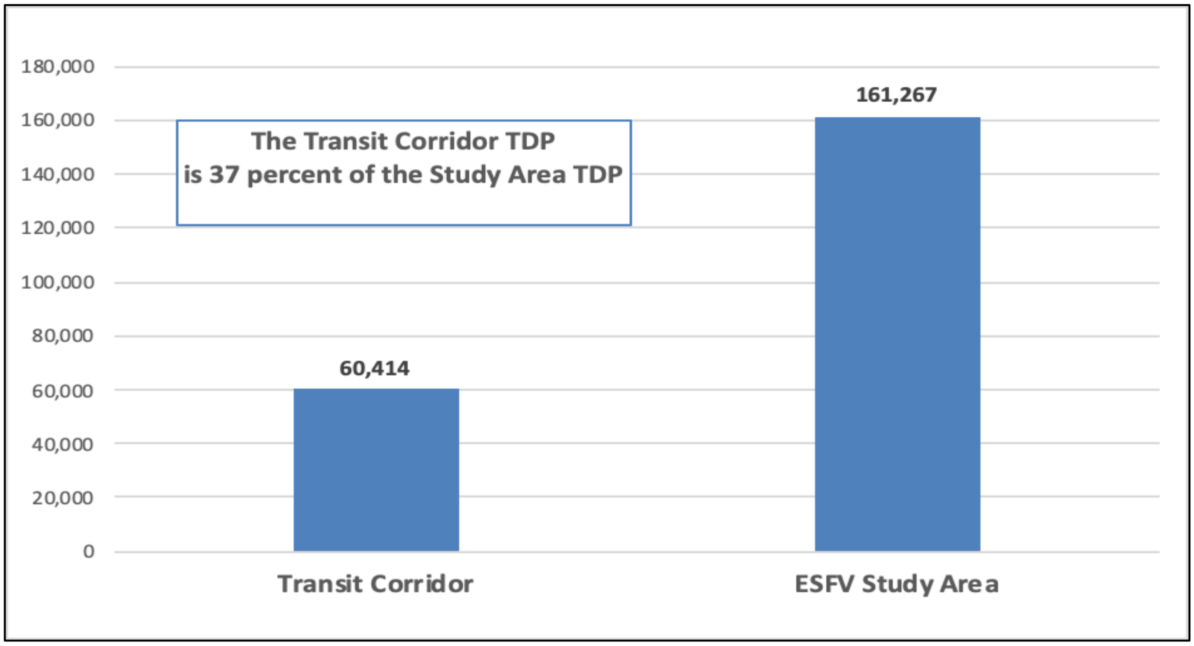
1.2.3.6 Transit-Dependent Population

The transit dependent population is defined as total persons equal to or below the age of 18 years and 65 years and older. For the transit corridor, the transit dependent population (60,414) is about 37 percent of the ESFVTC Project study area's transit dependent population (161,267), as shown in Part C of Table 1-2 and in Figure 1-4. The transit-dependent population is evenly distributed at about 35 percent of the project study area population and about 34 percent of the transit corridor population.

1.2.3.7 Transit-Dependent Population per Census Tract Acre

This intensity measure for transit dependent population per census tract acre is measured against total acreage of census tracts within each route alternative. Transit dependent population per census tract acre ranges from 8.2 in the transit corridor compared to 7.1 in the ESFVTC Project study area, as shown in Part C of Table 1-2 and Figure 1-5. In comparison, these averages are greater than the urbanized Los Angeles County average of 3.2 transit dependent population per census tract acre.

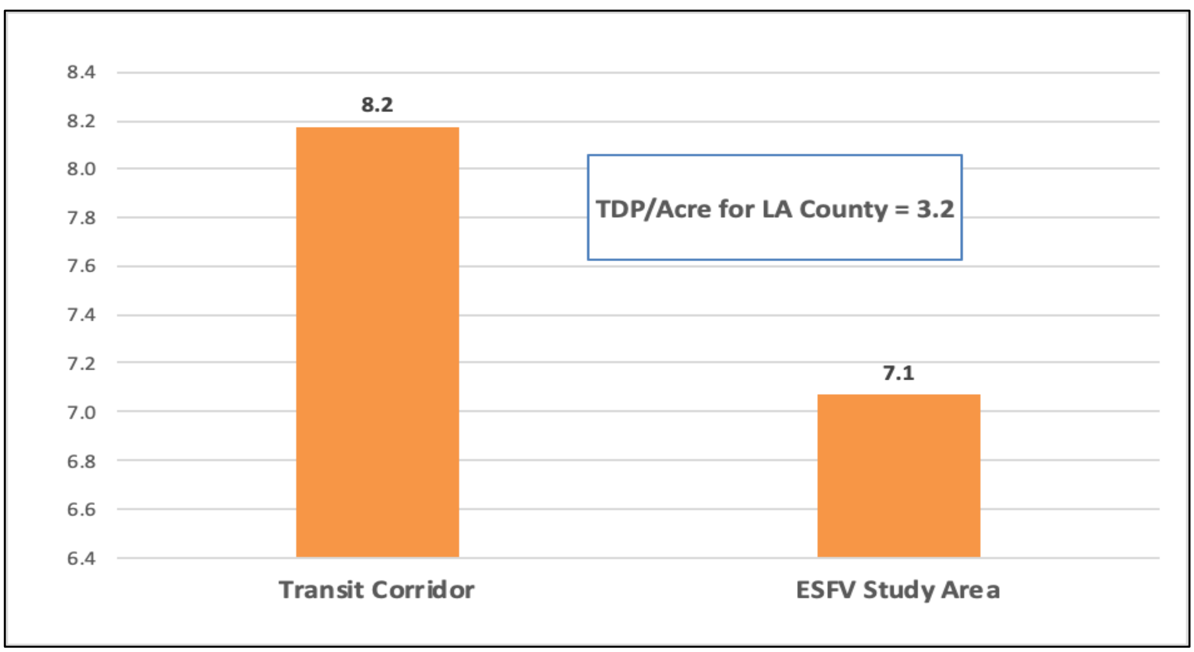
Figure 1-4: Transit-Dependent Population (TDP)[a] (2016)



[a] TDP is defined as persons < 18 or > 65 years old.

Sources: Stanley R. Hoffman Associates, Inc.; American Community Survey, *2013–2017, 5-Year Estimates*; Southern California Association of Governments, *2020 Connect SoCal, Draft 2016 Base Year Data, Tier 2 Traffic Analysis Zones.*

Figure 1-5: Transit-Dependent Population per Acre (2016)



Sources: Stanley R. Hoffman Associates, Inc.; American Community Survey, *2009–2013, 5-Year Estimates;* Southern California Association of Governments, *2020 Connect SoCal, Draft 2016 Base Year Data, Tier 2 Traffic Analysis Zones.*

1.2.4 Employment Distribution

Table 1-3 shows employment distribution by industry categories for the transit corridor and the ESFVTC Project study area for 2016.[7] The total estimated employment in the transit corridor (46,655) is about 31 percent of the total estimated employment in the ESFVTC Project study area (148,350). Education and Health jobs constitute the largest share of employment in each area at about 30 percent for the transit corridor and about 28 percent for the ESFVTC Project study area. The next two largest employment sectors in the transit corridor are Professional Services (13.6 percent) and Retail Trade (11.8 percent). The next two largest employment sectors in the ESFVTC Project study area are also Professional Services (13.8 percent) and Retail Trade (12.6 percent). Together these three employment sectors—Education and Health, Professional Services and Retail—constitute about 54–55 percent of the total employment in both areas.

Table 1-3: Distribution of Employment by Sector (2019)

	Transit Corridor	% Distribution	Project Study Area	% Distribution
Agriculture and Mining	23	0.0%	113	0.1%
Construction	2,518	5.4%	7293	4.9%
Manufacturing	3,354	7.2%	8618	5.8%
Wholesale Trade	1,644	3.5%	5766	3.9%
Retail Trade	5,483	11.8%	18493	12.5%
Transportation, Warehousing, Utilities	2,356	5.0%	6979	4.7%
Information	1,254	2.7%	5784	3.9%
FIRE	1,608	3.4%	7401	5.0%
Professional Services	6,350	13.6%	20428	13.8%
Education and Health	13,772	29.5%	41183	27.8%
Arts, Ent, Recr, Accom, and Food	4,237	9.1%	16360	11.0%
Other Services	1,894	4.1%	6726	4.5%
Public Administration	2,162	4.6%	3206	2.2%
Total	**46,655**	**100.0%**	**148,350**	**100.0%**

Sources: Stanley R. Hoffman Associates, Inc.; Southern California Association of Governments, *2020 Connect SoCal, Draft 2016 Base Year Data, Tier 2 Traffic Analysis Zones.*

Table 1-4 shows the percentage of each employment sector for the transit corridor as a percentage of the ESFVTC Project study area to show relative employment concentrations. These percentages are then compared against the total employment percentage estimate for the transit corridor, about 31 percent of the ESFVTC Project study area. As shown in Table 1-4, Public Administration is relatively concentrated in the transit corridor—representing primarily the Van Nuys government center—and has about 67 percent of the total Public Administration employment in the project study area. The Manufacturing sector is about 39 percent of employment in the ESFVTC Project study area. For the other sectors above the 30 percent overall average for the project study area, Construction (35 percent), Transportation, Warehousing and Utilities (34 percent), and Education and Health (34 percent), are slightly higher than the all sectors average of 31 percent.

[7] Sources: Stanley R. Hoffman Associates, Inc.; Southern California Association of Governments, *2020 Connect SoCal, Draft 2016 Base Year Data, Tier 2 Traffic Analysis Zones.*

Table 1-4: Employment by Sector as Percent of Project Study Area (2019)

	Transit Corridor	Project Study Area	Corridor as % of Project Study Area
Agriculture and Mining	23	113	20.4%
Construction	2,518	7,293	34.5%
Manufacturing	3,354	8,618	38.9%
Wholesale Trade	1,644	5,766	28.5%
Retail Trade	5,483	18,493	29.6%
Transportation, Warehousing and Utilities	2,356	6,979	33.8%
Information	1,254	5,784	21.7%
FIRE	1,608	7,401	21.7%
Professional Services	6,350	20,428	31.1%
Education and Health	13,772	41,183	33.4%
Arts, Ent, Recr, Accom and Food	4,237	16,360	25.9%
Other Services	1,894	6,726	28.2%
Public Administration	2,162	3,206	67.4%
Total	**46,655**	**148,350**	**31.4%**

Sources: Stanley R. Hoffman Associates, Inc.; Southern California Association of Governments, *2020 Connect SoCal, Draft 2016 Base Year Data, Tier 2 Traffic Analysis Zones.*

1.2.5 Transit Supportive Land Use

Table 1-5 shows indicators for jobs-generating (Part A) land uses and residential (Part B) land uses by density; the indicators are discussed below.[8]

Table 1-5: Job-Generating and Residential Land Uses by Density (2016)

A. Jobs-Generating Land Uses by Density	ESFVTC Project Study Area	Transit Corridor
Commercial Employment Density (jobs per commercial acre)	32.9	34.3
Industrial Employment Density (jobs per industrial acre)	16.1	16.3
Total Jobs per Household	1.1	1.1
B. Residential Land Uses by Density		
Population Density (persons per residential acre)	39.0	48.1
Persons per Household	3.4	4.0
Households per Acre	11.4	12.1

Sources: Stanley R. Hoffman Associates, Inc.; Southern California Association of Governments, 2020 Connect SoCal, Draft 2016 Base Year Data, Tier 2 Traffic Analysis Zones.; Los Angeles County Assessor's Parcel Data, 2019.

[8] Land use data for this section were obtained from Los Angeles County Assessor's parcel data for 2019, while demographic and employment information was obtained from the SCAG 2016 Regional Transportation Plan Tier 2 dataset.

1.2.5.1 Commercial Employment Density (Jobs per Developed Commercial Acre)

In 2016, commercial employment density for the transit corridor at 34.3 jobs per developed acre was slightly higher than that for the project study area at 32.9 jobs per developed acre.

1.2.5.2 Industrial Employment Density (Jobs per Developed Industrial Acre)

Similarly, industrial employment density for the transit corridor at 16.3 jobs per developed acre was slightly higher compared to that for the project study area at 16.1 jobs per developed acre.

1.2.5.3 Jobs per Household

In 2016, the transit corridor had an estimated job per household ratio of about 1.1, which was similar to the project study area ratio.

1.2.5.4 Population Density (Population per Developed Acre)

In 2016, population density, estimated as a ratio of residential population per developed residential acre, was estimated relatively higher at 48.1 persons per acre within the transit corridor compared to 39.0 persons per acre in the project study area.

1.2.5.5 Persons per Household

In 2016, household size within the corridor at 4.0 persons per household was relatively higher compared to the project study area at 3.4 persons per household.

1.2.5.6 Households per Acre

In 2016, households per developed residential acre were slightly higher within the transit corridor at 12.1 households per acre compared to 11.4 households per acre within the project study area.

1.3 Transportation System and Performance

The regional and study-area public transit system and the highway and roadway network are described in detail in Appendix E, the Purpose and Need Report. The San Fernando Valley has a vast freeway, arterial, and transit network which connects it to the greater Southern California region. Within the project study area, an extensive transportation network provides mobility via major freeways, arterials, and railroad infrastructure that serve the project corridor and the surrounding communities.

The traffic and transit data from the Metro model and the larger SCAG travel demand model indicates that traffic conditions in the project study area will become more congested and trip speeds will become slower as the region grows through 2040.

Existing bicycle facilities along the project alignment are as follows:

- Van Nuys Boulevard – A Class II bicycle lane is striped from Parthenia Street to Beachy Avenue and from Laurel Canyon Boulevard to San Fernando Road within the project limits;
- San Fernando Road – A Class I bicycle path exists from Roxford Street to Hubbard Street. A multi-use path exists from Hubbard Street to Wolfskill Street/La Rue Street; and
- Metro Orange Line (Class I) – This east-west bicycle path is located within the Metro Orange Line right-of-way and intersects Van Nuys Boulevard (Photo 1-3).

Photo 1-3: Metro Orange Line Class I Bicycle Path

Source: Metro, 2016.

Per the 2010 City of Los Angeles Bicycle Plan, new bicycle striped roadway lanes and dedicated paths will be added to the project study area. The addition of new bicycle lanes (Class II) on the Van Nuys Boulevard, and the Phase 2 of the San Fernando Bicycle Path (Class I), recently completed along a 2.75-mile segment extending from Wolfskill Street/La Rue Street to Branford Street, have been considered in Project conceptual engineering and implementation planning.

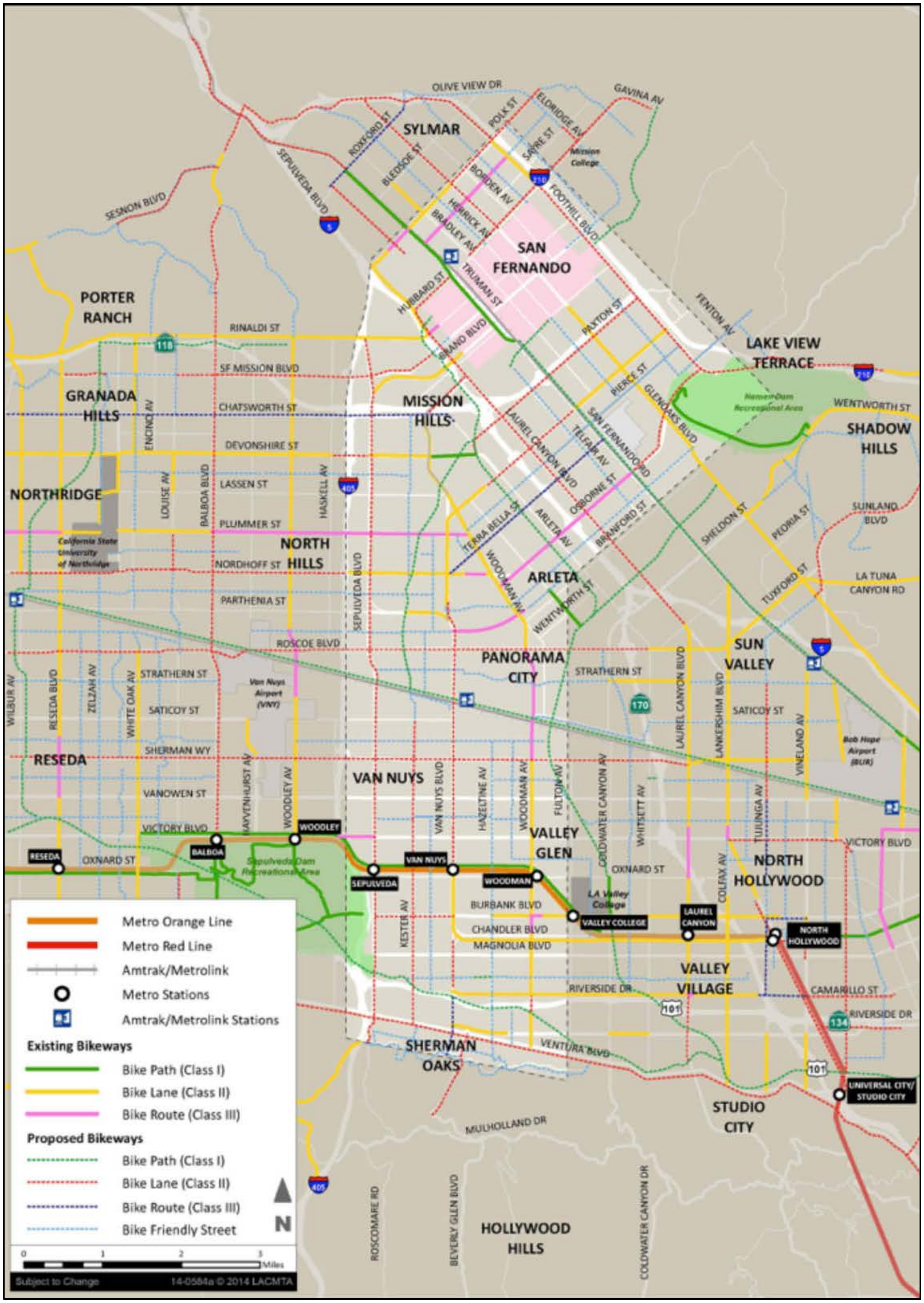
Van Nuys Boulevard is designated by the Bicycle Plan as a segment of the “Backbone Network,” and therefore is targeted for future implementation of bicycle lanes, for the entire length of the Project alignment. San Fernando Road is also designated as a bicycle lane as part of the “Backbone Network.” Implementation of future bicycle lanes along Van Nuys Boulevard may require a single lane of traffic in each direction due to space constraints once the LPA is implemented. However, as discussed in the Mobility Element of the General Plan, where an enhanced network for one mode also includes design elements for a different mode (not on an enhanced network), the enhanced network design elements will take precedence. For example, on a street that is designated as a Transit Enhanced Network but is also intended to receive a bicycle lane, design elements for transit can take precedence over provision of a bicycle lane.

The existing and planned bicycle facilities in the project study area are illustrated in Figure 1-6.

1.3.1 Existing Trip Patterns

Metro model data for the project study area indicates that 50 percent of person-trips stay within the project study area. By 2040, this trip pattern is expected to remain roughly the same. These local trips, however, will remain a significant contributor to traffic and transit trends.

Figure 1-6: Project Study Area Bicycle Facilities



Source: LADOT, KOA, 2014.

Of the approximately 2,954,963 daily trips that either originate or are destined to the project study area, approximately 1,487,397 (around 50 percent) stay within the project study area, with a large portion of trips occurring between the northern communities of the City of San Fernando and Pacoima and the southern communities of Mission Hills and Panorama City. These southern communities have a higher number of activity centers that include Kaiser Permanente, several high schools, and the Panorama Mall. Additional significant trip distribution is to and from the Van Nuys Civic Center area, with a large number of project study area trips (52 percent) occurring between Mission Hills, Panorama City, and Sherman Oaks. These general trip trends are expected to remain similar in 2040 and represent high trip distribution attraction between the central project study area and the Civic Center.

Existing Metro service boarding data generally supports these estimated trip patterns. The boarding activity is higher along the Van Nuys Boulevard corridor, at the Metro Orange Line Van Nuys Station, Vanowen Street, Roscoe Boulevard, and Nordhoff Street stops. These locations are all located within the central project study area and the Civic Center area. The higher level of passenger activity in the central project study area and the Civic Center area could be attributed to the connectivity to east-west bus services and also activity centers that are located in these areas.

1.3.2 Transit Passenger Activity

1.3.2.1 Bus Passenger Boardings

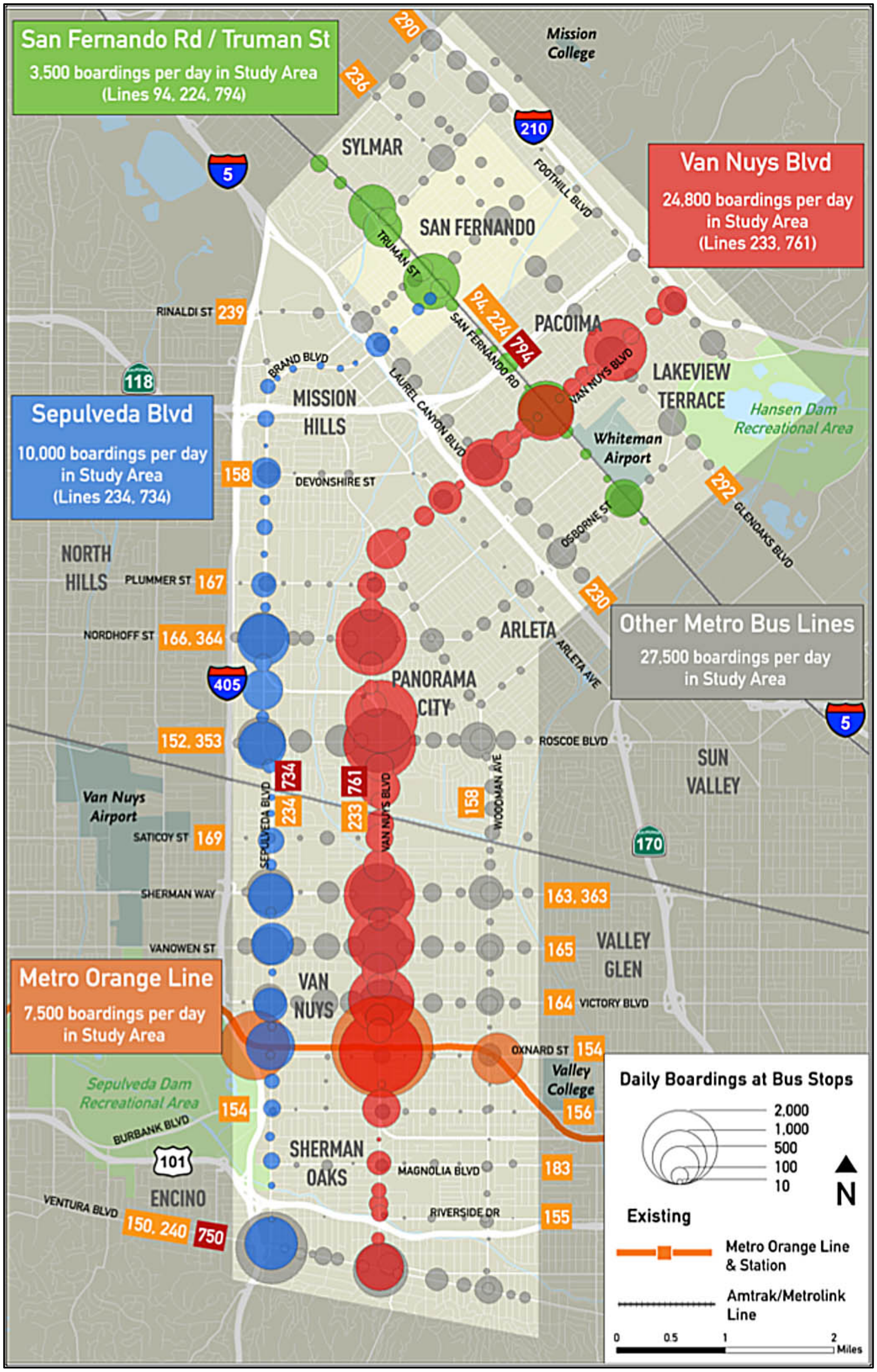
The Van Nuys Boulevard corridor has the seventh-highest total transit boardings in the Metro system. The San Fernando Road corridor also has some of the highest transit boardings in the San Fernando Valley. Figure 1-7 illustrates existing transit boardings for all bus lines and the Metro Orange Line within the project study area.

Boardings and alightings in the project study area are generally highest along the Metro Orange Line (7,500 per day) and along Van Nuys Boulevard between Nordhoff Street and the Metro Orange Line Busway. Van Nuys Boulevard north of Nordhoff Street also has higher boardings, especially between Laurel Canyon Boulevard and Glenoaks Boulevard. The San Fernando Road and Truman Street corridors do not have high boardings and alightings, in comparison to the Van Nuys Boulevard corridor.

Existing transit boardings on Van Nuys Boulevard are some of the highest in the Metro system, when compared to other higher-density areas of the region. The Van Nuys Boulevard corridor had the second-highest boardings total in the San Fernando Valley in 2011 with (about 24,800 per day), just behind the Metro Orange Line Busway (about 25,500 per day). Local Line 233 has higher boardings than Metro Rapid Line 761, due to the number of stops (supporting shorter trips and higher throughput of passengers per mile) served by the local service.

It should be noted that modifications were made in December 2014 to one of the primary Metro bus routes operating on Van Nuys Boulevard after this project analysis was already underway. Metro Rapid Line 744 was added connecting Pacoima in the east to Northridge in the west, and traveling for a large portion of the route (north–south) along Van Nuys Boulevard, and replacing the Metro Rapid Line 761. For the purposes of this study, the evaluation was based on the routes (Metro Rapid Line 761 and Metro Local Line 233) that were already in place in 2012 when the transportation modeling for this study began.

Figure 1-7: Existing Transit Boardings



Source: Metro, 2011.

Only a few changes were made to Metro's bus system between 2012 and 2017 within the project study area. These include:

1. Combining the Van Nuys Boulevard portion of the Line 761 with Line 741 to form Line 744.
2. Combining the non-Van Nuys Boulevard portion of Line 761 with Line 734 and then extending it to the Exposition Rail Station.
3. Combining the non-Van Nuys Boulevard portion of Line 233 during the late night/weekend service period to Line 234 and extending it to the Exposition Rail Station.
4. Separating Line 237 from Line 236 and combining it with Line 156.
5. Adding Line 788 which runs from Arleta to Westwood during just the weekday peak periods.

Aside from adding Line 788, the rest of the changes were limited to a reorganization of seven lines. Transit service levels in 2017 for the project study area are very similar to those in 2012. Over the same time period, the number of bus stops changed from 1,089 to 1,093, a net increase of only four stops.

1.3.2.2 Rail Passenger Boardings

Based on Metrolink data from 2011, the Antelope Valley Line has an average weekday boardings total of 5,885, of which 509 occur at the Sylmar/San Fernando Metrolink Station. The Ventura County Line has an average weekday boardings total of 4,141, of which 184 boardings occur at the Van Nuys station.

According to Amtrak, the Pacific Surfliner route is the second busiest corridor in the United States, with approximately 200 daily boardings at the Van Nuys Station, in addition to those accessing Metrolink at this location.

1.3.3 Bus Crowding Issues

Bus overcrowding is defined by Metro as passenger demand that exceeds bus seating capacity for a particular trip by the corresponding load factor for buses, which is based on the maximum average ratio of passengers to available seating per vehicle size (i.e., 40-foot, 45-foot, and 60-foot buses). This set of load factors considered frequency of service as well as seated capacity of a 40-foot, 45-foot, or 60-foot vehicle. The revised policy also accounted for differences between peak and non-peak operations. The rationale for this change was to recognize that a single load factor does not cover the full range of circumstances confronting a passenger.

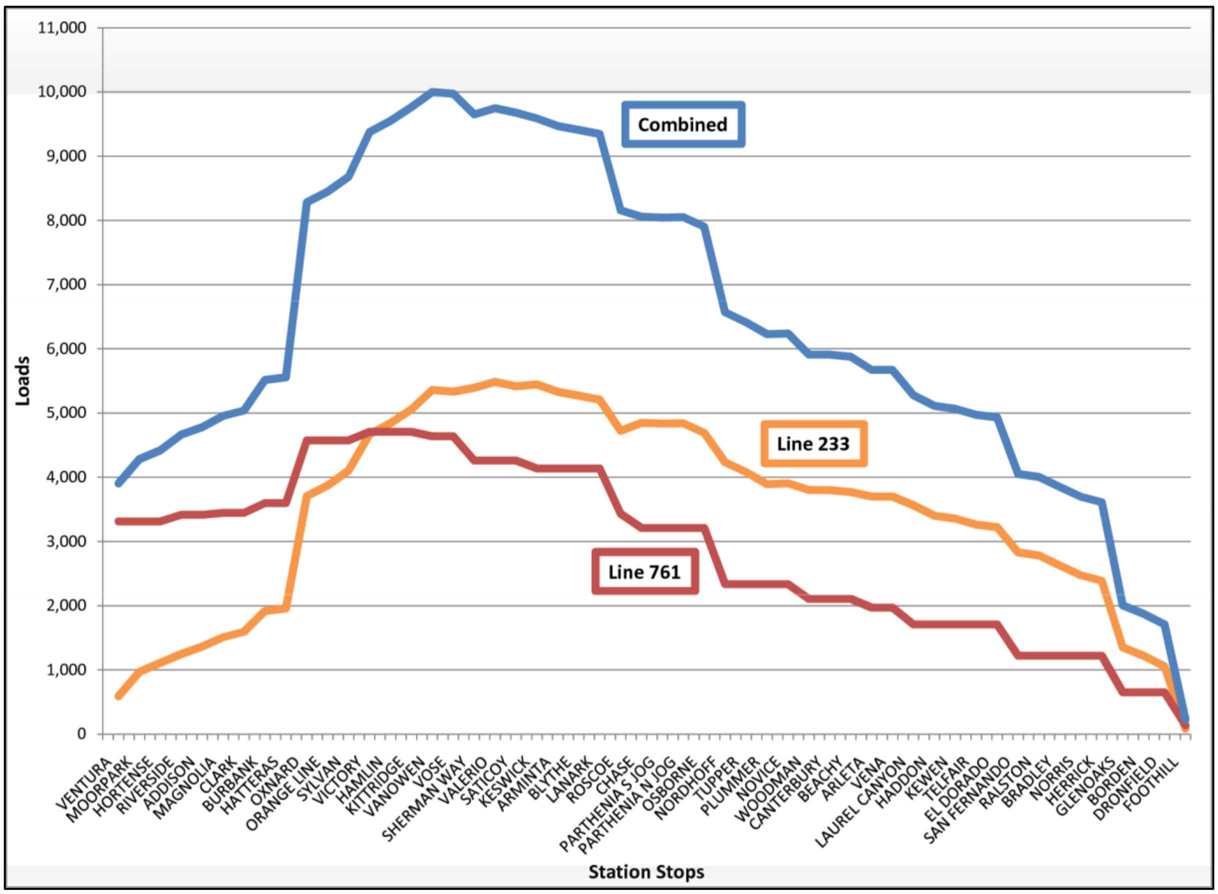
Shaded area presents current load factor standard applicable at all times. This table replaces 0% standard with one that varies by peak / off-peak and schedule frequency.

Since population and employment are forecast to grow, this is expected to result in increases in boardings, resulting in bus overcrowding, as the load factor standards will likely be exceeded on many trips.

1.3.4 Passenger Loads

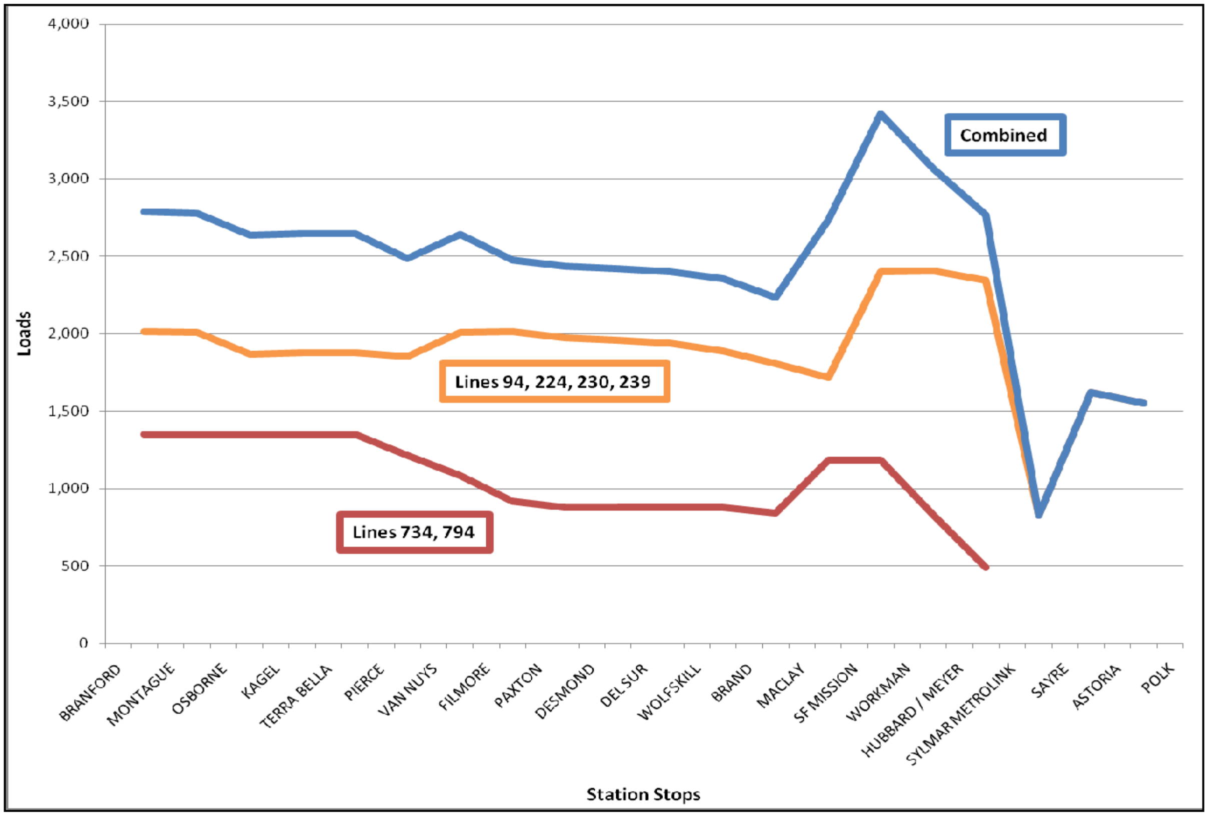
Passenger loading is a measure of how many patrons are using a transit service at any point along a designated route. The data presented here is an average of all weekday trips within a month of service. Figures 1-8 and 1-9 illustrate the total loads for each bus line (northbound and southbound) that operates along Van Nuys Boulevard and San Fernando Road (the two main transit corridors in the project study area). These figures also show the total combined loading, which is a sum of the passenger activity from all of the bus lines at each point along each of the corridors.

Figure 1-8: Total Passenger Loading – Van Nuys Boulevard



Note: Time points are from south to north.
Source: Metro, 2011.

Figure 1-9: Total Passenger Loading – San Fernando Road



Note: Time points are from south to north.
Source: Metro, 2011.

1.3.4.1 Van Nuys Boulevard

Figure 1-8 illustrates the total passenger loading (northbound and southbound) for Metro Rapid Line 761 and Metro Local Line 233 along Van Nuys Boulevard. The combined total is the sum of these two lines at each point along Van Nuys Boulevard.

Passenger loads on Metro Rapid Line 761 peak between the Metro Orange Line and Sherman Way in the Van Nuys Civic Center area. Passenger loading near Ventura Boulevard is high because the Metro Rapid Line 761 provides service into and out of the San Fernando Valley, with a southern terminus at the major activity center of Westwood. Existing headways on Metro Rapid Line 761 are 10 minutes in the peak period and 17.5 minutes in the off-peak period.

Total passenger loads on Metro Local Line 233 tend to peak north of the Metro Orange Line transfer point, particularly in the vicinity of Valerio, Saticoy and Keswick Streets. Existing headways on Metro Local Line 233 are 10-12minutes in the peak period and 20 minutes in the off-peak period.

For both lines, passenger loads decline as they approach their northern termini in the vicinity of Van Nuys Boulevard and Foothill Boulevard. A substantial number of passengers – nearly 10,000 at the combined total peak load – are using transit service along the more southern portion of the Van Nuys Boulevard corridor during an average day.

Transit improvements in the Van Nuys Boulevard corridor (especially between the Metro Orange Line and Panorama City) should realize substantial increases in discretionary riders, while providing benefits for the high number of existing riders, which includes a high concentration of transit dependent populations, on Metro bus lines.

1.3.4.2 San Fernando Road/Truman Street

Figure 1-9 illustrates the total loads (northbound and southbound) for the numerous lines that operate along San Fernando Road and Truman Street. The combined total is the sum of the loads on these lines at each point.

Figure 1-9 illustrates that passenger loads on the Metro Rapid Lines 734 and 794 remain generally consistent throughout the San Fernando Road corridor, although loads decrease north of the San Fernando Mission Boulevard stop. Loads on the Metro Local Lines 94 and 224 also remain steady for the length of the corridor until they peak between the San Fernando Mission Boulevard stop and Sylmar/San Fernando Metrolink Station, as Metro Local Lines 230 and 239 serve this segment of the corridor, which is within the downtown area of the City of San Fernando. Loads on these local lines then drop off dramatically to the north of the Metrolink station stop, where only Line 224 continues north along San Fernando Road. A combined peak load of 3,400 transit patrons near the Sylmar/San Fernando Metrolink Station and downtown San Fernando makes this a very good area to improve transit service and secure better connections to these existing transit hubs.

1.3.5 Congestion Effects on Bus Speeds

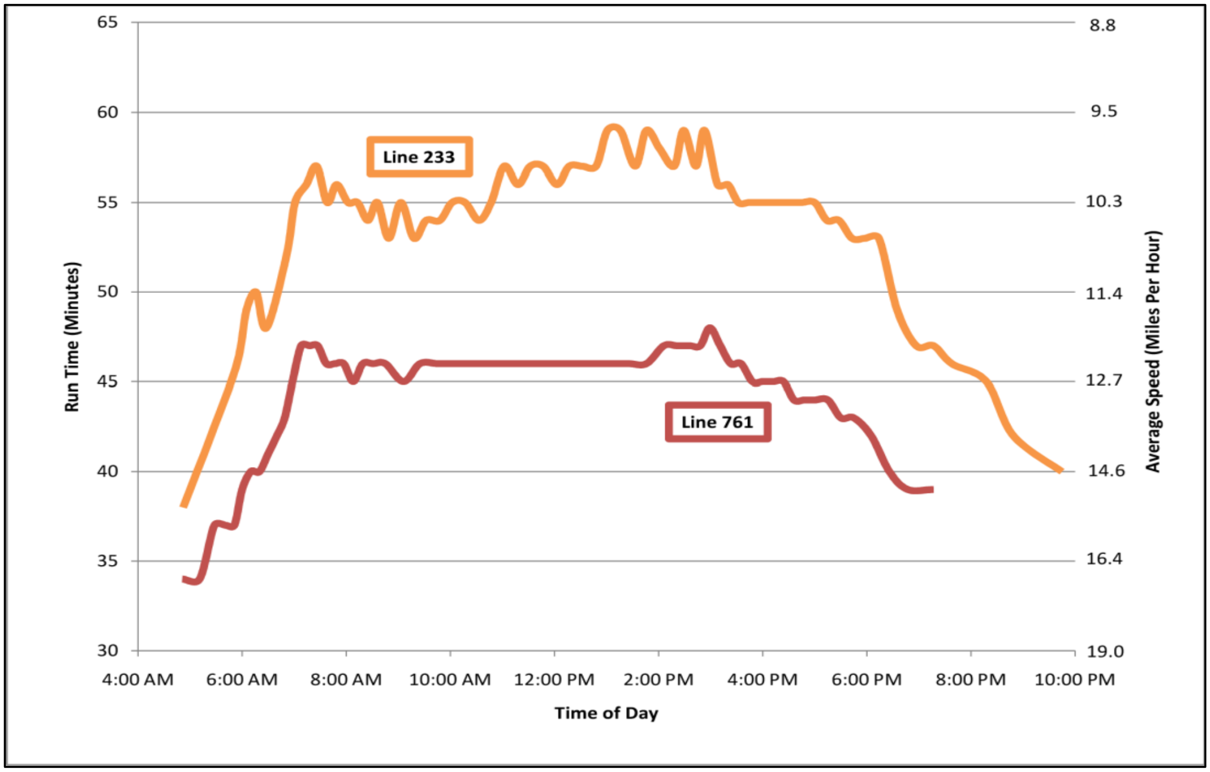
Based on existing Metro bus schedules and recent monthly summary data (May 2011) provided by Metro Bus Operations, an analysis of existing bus schedule runtimes and bus speeds on the Van Nuys Boulevard and San Fernando Road/Truman Street corridors was conducted. Only a few changes were made to Metro's bus system between 2012 and 2017 within the project study area. Aside from adding Line 788, the rest of the changes were limited to a reorganization of seven lines. Transit service levels in 2017 for the project study area were checked, validated, and are very similar to those in 2012. However, it should be noted that, as of January 2020, Metro has released the Draft NextGen Bus Plan, which focuses on studying customer and countywide travel patterns, evaluating current bus service, and collecting countywide feedback on bus service in Los Angeles County. As part of its phased implementation, current headways mentioned previously may be affected.

1.3.5.1 Van Nuys Boulevard

The existing Metro Rapid Line 761 and Metro Local Line 233 operate the length of Van Nuys Boulevard from Foothill Boulevard in Pacoima to Ventura Boulevard in Sherman Oaks. As illustrated by Figure 1-10, Metro Rapid Line 761 operates in the southbound direction from Van Nuys/Glenoaks to Ventura/Sepulveda with a runtime of less than 40 minutes in the early morning hours and a runtime of over 50 minutes during the morning peak period. Likewise, speeds in the early morning can reach close to 15 miles per hour, but then slow to just over 10 miles per hour in the peak period.

The southbound trips of Metro Local Line 233 have runtimes of five to ten minutes longer to travel a distance similar to that of the Metro Rapid Line due to more frequent stops, with speeds slowing to less than 10 miles per hour.

Figure 1-10: Scheduled Runtimes and Speeds – Van Nuys Boulevard - Southbound

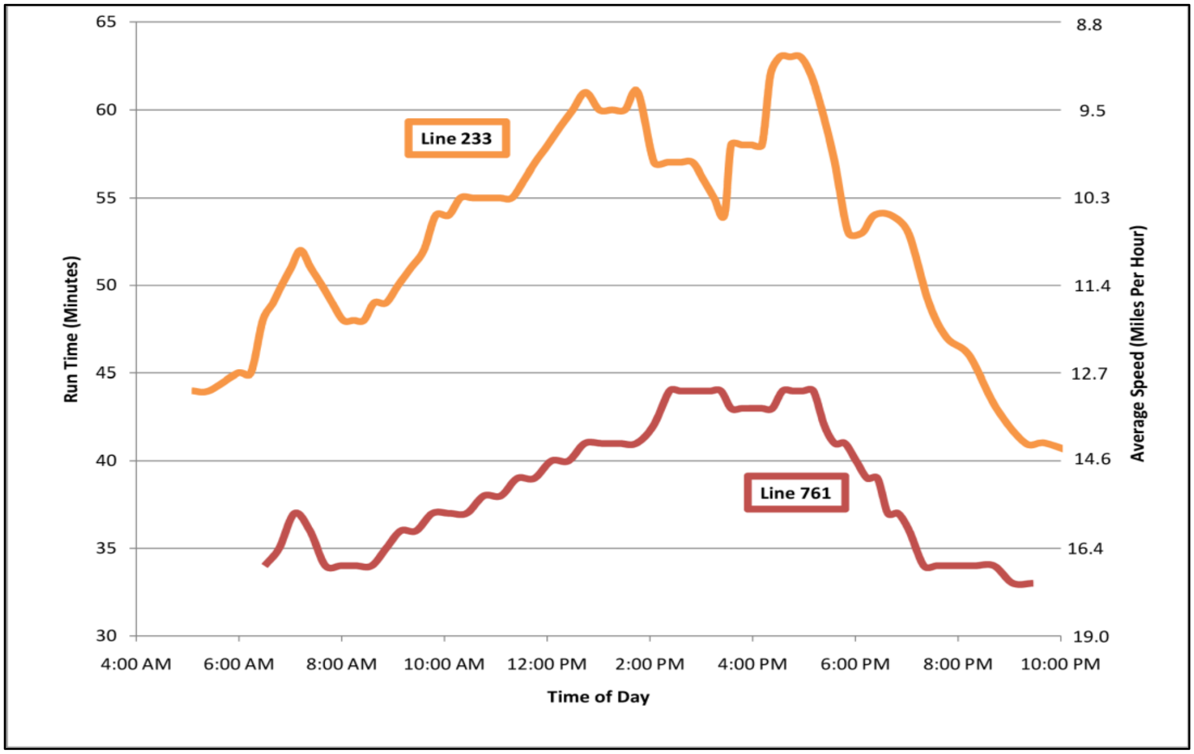


Source: Metro, 2011.

As illustrated by Figure 1-11, there is a similar situation northbound on Van Nuys Boulevard, with Metro Rapid Line 761 scheduled runtimes of 10 to 15 minutes less to cover the route from Ventura Boulevard to Foothill Boulevard in the peak period than Metro Local Line 233. Similar to the southbound direction of travel, the Metro Local Line 233 averages speeds fewer than 10 miles per hour in the peak, while the Metro Rapid Line 761 averages speeds closer to 12 miles per hour. Where the lines deviate near termini points, the relevant data has been excluded on the graphs in order to illustrate equal comparisons of operations within shared corridors.

The significantly longer travel times and slower speeds during the peak hours for Metro buses along Van Nuys Boulevard support the need for an exclusive rail guideway.

Figure 1-11: Scheduled Runtimes and Speeds – Van Nuys Boulevard - Northbound



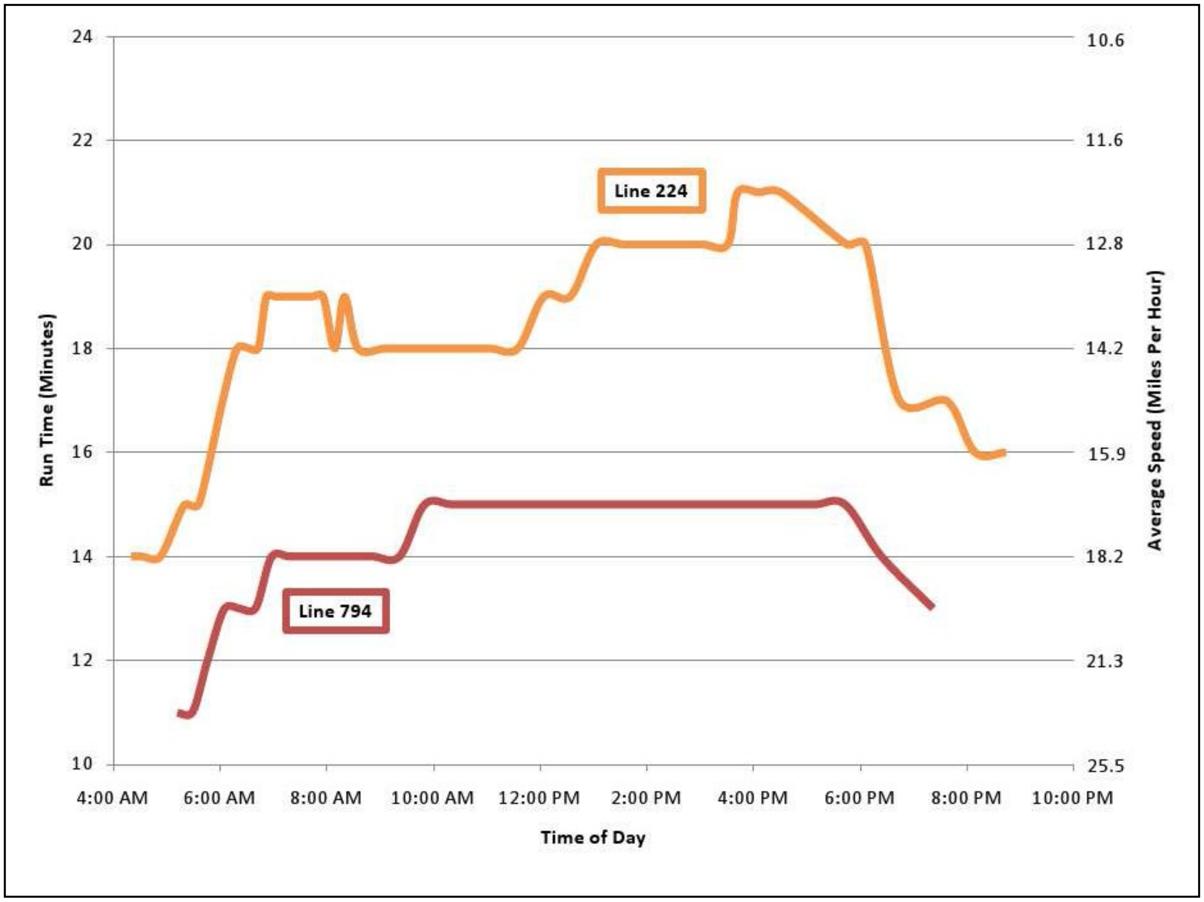
Source: Metro, 2011.

1.3.5.2 San Fernando Road/Truman Street

The existing Metro Rapid Line 794 operates along Truman Street and San Fernando Road from the Sylmar/San Fernando Metrolink Station in Sylmar, to Figueroa Street in Glassell Park. Within the project study area, Metro Rapid Line 794 is examined from Sylmar/San Fernando Metrolink Station to Osborne Street in Sun Valley. The existing Metro Local Line 224 operates along Truman Street and San Fernando Road from Polk Street in Sylmar to Branford Street in Sun Valley. The analyzed portions of these routes are about half the length of the bus routes analyzed for Van Nuys Boulevard – each just under five miles in length.

As illustrated by Figure 1-12, the Metro Rapid Line 794 has a runtime along San Fernando Road/Truman Street in the southbound direction from the Sylmar/San Fernando Metrolink Station to Osborne Street that is just over 10 minutes in the early morning hours, but this same trip is scheduled with a runtime of nearly 15 minutes during the morning peak period. Likewise, speeds in the early morning can reach 23 miles per hour while speeds are closer to 18 miles per hour during the peak period. The southbound Metro Local Line 224 has a runtime that is ten to 15 minutes slower for a similar distance as the Metro Rapid Line 794. Speeds along the Metro Local Line 233 are reduced to approximately 12 miles per hour during the peak period.

Figure 1-12: Scheduled Runtimes and Speeds – San Fernando Road – Southbound



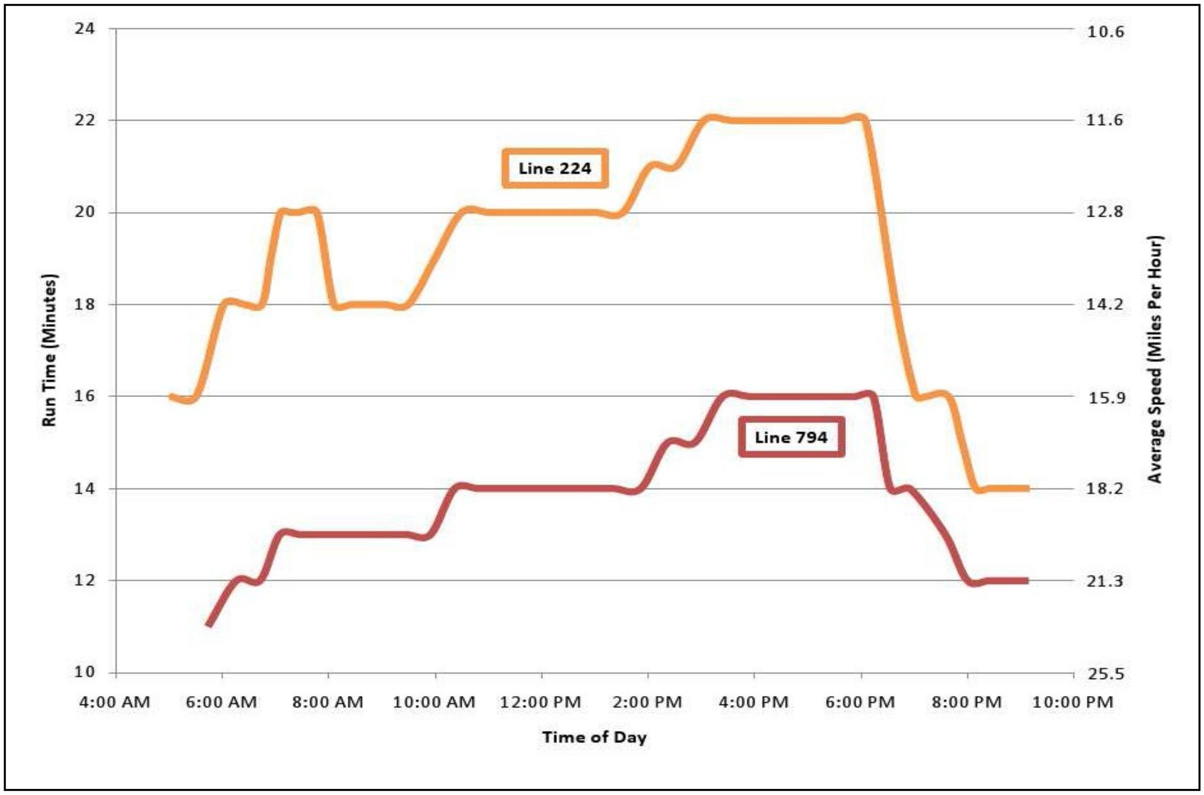
Source: Metro, 2011.

As illustrated by Figure 1-13, there is a similar situation traveling northbound on San Fernando Road and Truman Street, with the Metro Rapid Line 794. This line has a runtime that is five minutes more to cover the route from Osborne Street to the Sylmar/San Fernando Metrolink Station in the peak period. In the southbound direction of travel, the Metro Local Line 224 has a runtime that is almost 10 minutes higher than the Metro Rapid Line 794 in the northbound direction, and speeds are reduced to just over 10 miles per hour.

Metro Rapid Line 794 generally has good performance along San Fernando Road, with a substantial travel time savings compared to Metro Local Line 224 and only a small increase in runtimes during peak periods. Transit improvements including, but not limited to, bus or rail dedicated guideways, would have a positive benefit for riders.

Overall, the large differences between peak and off-peak scheduled runtimes (ranging from approximately 25 percent to 50 percent) and speeds (ranging from approximately 33 percent to 50 percent) show that separating transit and auto traffic may have a significant benefit for Van Nuys Boulevard and San Fernando Road travelers.

Figure 1-13: Scheduled Runtimes and Speeds – San Fernando Road – Northbound



Source: Metro, 2011.

1.3.6 Transit On-Time Performance and Reliability

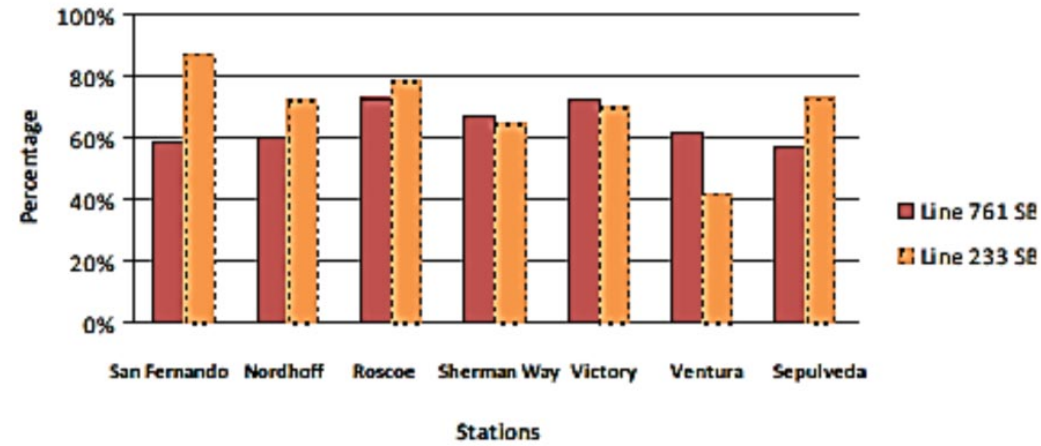
1.3.6.1 Van Nuys Boulevard

An examination of on-time performance statistics for the Metro Rapid Line 761 and the Metro Local Line 233 indicates that the lines are not currently meeting the on-time performance goal of 80 percent.

Figure 1-14 and Figure 1-15 below illustrate on-time performance at select service locations along the Van Nuys Boulevard corridor in both the north and southbound directions.

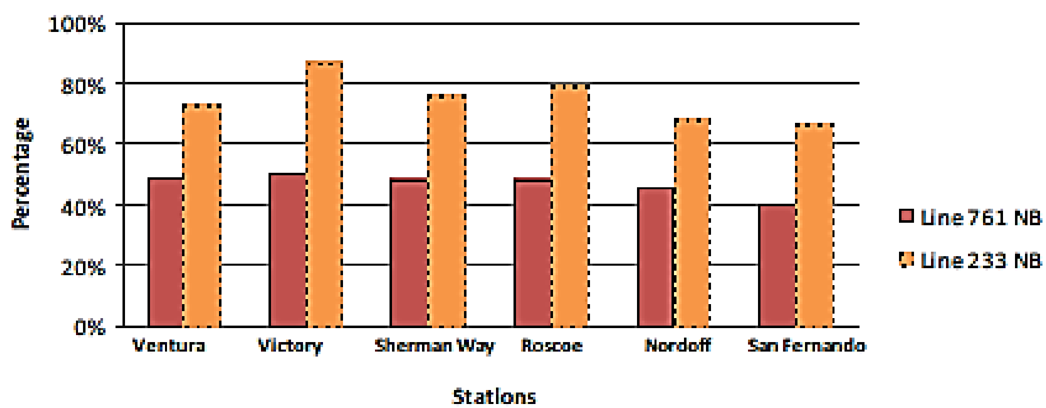
The Metro Local Line 233 performs better than the Metro Rapid Line 761, but the Metro Local Line 233 still rates below 80 percent on-time performance at almost every time-point examined (excluding San Fernando in the southbound direction and Victory in the northbound direction). The Metro Rapid Line 761 performs particularly poorly in terms of reliability in the northbound direction, where on-time performance is less than 50 percent at all time-points examined. While both the Metro Local Line 233 and Metro Rapid Line 761 perform poorly in terms of reliability the Metro Rapid 761 performs worse because it is a Metro Rapid Line with fewer stops and faster expected travel through the corridor than the local line with many more stops and a longer expected trip time. However, since the Metro Rapid Line 761 travels in the same mixed-flow lanes with a considerable amount of traffic congestion, its speed is hindered and thus the total trip time is not much shorter than on the Local Line 233, thus performing worse than expected due to it being a Metro Rapid Line versus the speed and travel time expectations of the Local line.

Figure 1-14: On-Time Performance – Van Nuys Boulevard – Southbound



Source: Metro, 2011

Figure 1-15: On-Time Performance – Van Nuys Boulevard – Northbound



Source: Metro, 2011

Transit service that is physically separated from auto traffic would allow for much more improved reliability of operations in this corridor, especially with the clear lack of advantage in reliability with the Metro Rapid Bus service.

1.3.6.2 San Fernando Road

An examination of on-time performance statistics for the Metro Local Lines 94, 224, 230 and 234 indicate that the lines are not currently meeting the on-time performance goals of 80 percent.

Figure 1-16 and Figure 1-17 below illustrate on-time performance at select service locations along San Fernando Road in both the northbound and southbound directions.

Figure 1-16: On-Time Performance – San Fernando Road – Southbound

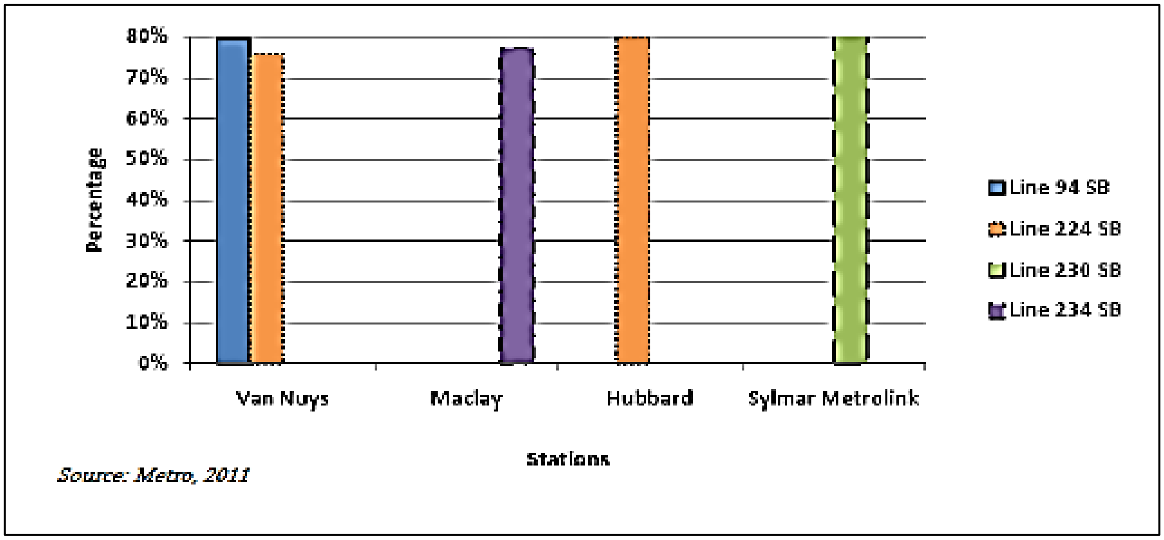
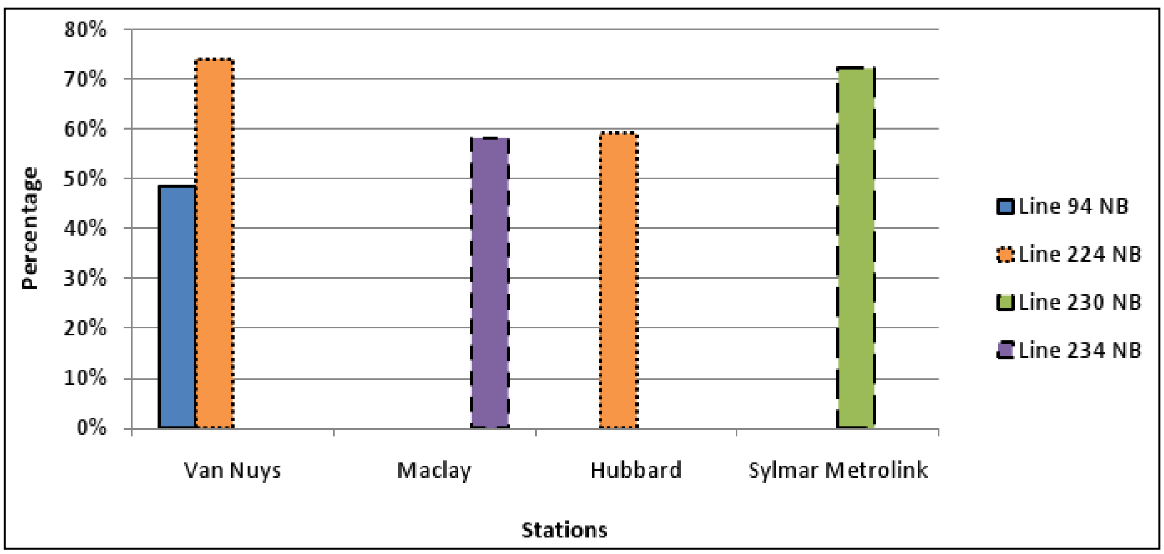


Figure 1-17: On-Time Performance – San Fernando Road - Northbound



Source: Metro, 2011.

The Metro Local Lines 94, 224, 230, and 234 generally perform better in the southbound direction, although on-time performance is still below 80 percent for most lines in this direction. Metro Local Lines 94, 224, and 234 perform especially poorly in the northbound direction, with on-time performance below 60 percent. The Metro Local Line 94 in the northbound direction performs particularly poorly, where on-time performance is under 50 percent. Please note that the Metro Rapid Line 794 was not evaluated as part of this study.

Transit service physically separated from auto traffic would allow for much improved reliability of operations in this corridor.

1.4 Project Purpose and Need

This section includes the project purpose and need. The project purpose describes the intent of the proposed transit improvements in addressing the needs listed in the project need subsection. The range of alternatives considered during the AA and further considered in the DEIS/DEIR reflected the identified project purpose and need. The project objectives describe how Metro intends on delivering the proposed transit project to not only meet the project purpose and need but also identify how the project alternatives are consistent with Metro's mission statement as a public transit agency.

1.4.1 Project Purpose

The ESFVTC Project would provide new service and infrastructure that improves passenger mobility and connectivity to regional activity centers, increases transit service efficiency (speeds and passenger throughput), and makes transit service more environmentally beneficial via reductions in greenhouse gas emissions.

The purposes of the proposed project can be summarized as follows:

- Improve mobility in the eastern San Fernando Valley by introducing an improved north-south transit connection between key transit hubs/routes by improving transit trip times and speeds along the project corridor;
- Enhance transit accessibility/connectivity for residents within the project study area to local and regional destinations by improving the carrying capacity and person throughput through the corridor to address projected population growth and increased roadway congestion in the corridor that will directly affect transit service;
- Provide more reliable transit service within the eastern San Fernando Valley;
- Provide additional transit options in an area with a large transit dependent population, including the disabled, and high transit ridership; and
- Encourage modal shift to transit in the eastern San Fernando Valley, thereby improving air quality.

1.4.2 Project Need

This section summarizes the nexus between the purpose of the project and the identified needs in the project study area. The five project purposes are defined below and followed by a discussion of supporting project study area needs.

Purpose: Improve mobility in the eastern San Fernando Valley by introducing an improved north-south transit connection between key transit hubs/routes.

Supporting Needs: The project study area contains three major transit corridors (Metro Orange Line, Metrolink Antelope Valley Line, and Metrolink Ventura County Line/Amtrak Pacific Surfliner), which are vital to the regional movement of residents and workers into and out of the eastern San Fernando Valley. These core transit services traverse and serve the project study area at various geographic locations and are linked by local and Metro Rapid bus service. The northern portion of the project study area includes the Sylmar/San Fernando Metrolink Station, which is served by the Metrolink Antelope Valley Line. The middle portion of the project study area is served by the Metrolink Ventura County Line/Amtrak Pacific Surfliner via the Van Nuys station. The southern portion is served by the Van Nuys Boulevard station of the Metro Orange Line.

The extent of the project study area's transit dependency is supported in part by boarding and alighting data in each corridor as well as its socioeconomic profile. For example, Metro Local Line 233 and Metro Rapid Line 761 have some of the highest ridership in the San Fernando Valley and Los Angeles County with approximately 24,000 boardings. Offering Metro riders an improved north-south transit connection is imperative to fostering increased future travel opportunities between key regional transit hubs, including a future project in the Sepulveda Pass and the Metro Orange Line (30,000 boardings).

Based on the Metro travel forecast model, the number of congested roadway segments (a portion of the roadway located between two intersections) in the project study area is expected to increase from 126 to 162, a 29 percent increase in the AM peak hour and from 103 to 159, a 54 percent increase in the PM peak hour. The increase in congested segments will result in lower vehicle speeds and increased travel delay in the project study area, reducing mobility.

The forecasts also indicate that by the year 2040, peak-hour average vehicle travel speeds will:

- Decline in the Van Nuys Boulevard corridor by about 4.6 mph (a 15.6 percent decrease), from 30.1 mph to 25.4 mph in the AM peak period and by about 4.3 mph (a 14.8 percent decrease) from 28.9 to 24.6 mph in the PM peak period.
- For the project study area as a whole, speeds are forecasted to decrease by about 4.1 miles per hour (a 13.4 percent decrease) from 30.5 mph to 26.4 mph in the AM peak period and by about 3.7 mph (a 14.8 percent decrease) from 29.8 to 26.1 mph in the PM peak period.

Based on travel projections from the Metro model, the number of study intersections currently operating at LOS E or F along the Van Nuys Boulevard corridor will more than double by the year 2040.

Mobility is directly related to, among other measures, average travel speeds and commute times. As traffic levels increase, travel times and speeds will worsen and create disincentives for travelers to use regional transit. Providing an improved north-south transit option that is not affected by traffic conditions is paramount in continuing to provide local mobility within the eastern San Fernando Valley, as well as providing regional mobility to and from the area, including connections to the rest of the transportation system and destinations such as the Westwood, UCLA, Brentwood, and the entire Westside by way of the Metro Orange Line, the future project in the Sepulveda Pass.

Purpose: Enhance transit accessibility/connectivity for residents within the project study area to local and regional destinations.

Supporting Needs: According to the Metro model, the person-trip distribution for the project study area indicates that a high number of travel trips tend to be localized to the communities within the area. As shown in the Metro model results, approximately 50 percent of the trips stay within the project study area, with a large portion of trips occurring between the northern communities of the City of San Fernando and Pacoima and the southern communities of Mission Hills and Panorama City. These southern communities have a higher number of activity centers that include Kaiser Permanente, several high schools, and the Panorama Mall. A significant proportion of the overall project study area trip distribution is to and from the Van Nuys Civic Center area, constituting approximately 52 percent of all project study area trips. The transit service levels between 2012 and 2017 were checked, validated, and these operating characteristics are still very similar and consistent in the project study area. These general trip trends are expected to remain similar in 2040 and show a high attraction of trips between the central project study area and the Civic Center area.

Because of the centralized trip patterns, transit accessibility and connectivity are integral to project study area resident travel needs, especially to those who are transit dependent (35 percent). A total of 10 percent of households do not own a car and the average adult poverty ratio is 2.26 persons per acre compared to 1.08 per acre for Los Angeles County. These residents rely on Metro and City of Los Angeles Department of Transportation bus services for work and non-work trips within the project study area and the greater Los Angeles County area.

By 2040, the trip pattern is expected to remain similar, with a high number of trips (approximately 50 percent) staying within the project study area. Local trips will remain a significant contributor to traffic and transit trends. Therefore, providing enhanced transit connections and accessibility to surrounding destinations is critical for residents that rely on public transit.

Purpose: Provide more reliable transit services within the eastern San Fernando Valley.

Supporting Needs: The existing bus service along the project study area corridors does not meet the Metro on-time performance goal of 80 percent. This is directly correlated to levels of congestion and related vehicular speeds, which together reduce the mobility of area bus riders. As congestion continues to increase, the reliability of bus service for riders will also worsen. Providing transit services that are less affected by increasing traffic congestion will provide increased reliability.

The increased congestion and reduction of speeds will increase both automobile and transit vehicle delay at intersections in the project study area. The analysis indicates that the increase in average vehicle delay at key intersections in the project study area are expected to increase by at least 30 seconds to possibly over two minutes at several locations during the AM and PM peak hours. Driver delay within the project study area commute corridors could increase by 40 percent or more without major mobility improvements. For example, a driver approaching an intersection in the Civic Center that is currently experiencing 25 seconds in delay will now experience 35 seconds in delays by the year 2040. However, the LPA would operate within an exclusive right-of-way, which would allow it to operate with a significant reduction in traffic delays that a single occupancy vehicle or bus would experience. In collaboration with the appropriate jurisdictions, Metro shall seek to improve traffic signal delays that may occur.

Purpose: Provide additional transit options in an area with a large transit dependent population, including the disabled, and high transit ridership.

Supporting Needs: The Van Nuys Boulevard corridor's total transit boardings are the seventh highest in the Metro bus system. This corridor is served by Metro Rapid Line 766, which is now Line 744, and Local Line 233, with combined passenger boardings that are the second highest in the San Fernando Valley (24,000); Metro Orange Line boardings (30,000) are slightly higher. To service the corridor, the LPA would have a carrying capacity that would accommodate approximately 400 passengers, and its LRT vehicles would be adequately equipped to service large passenger loads (i.e., prepaid fares, multiple doors, superior on-time efficiencies).

Boardings and alightings along Van Nuys Boulevard are highest between Nordhoff Street and the Metro Orange Line and Laurel Canyon Boulevard. The demand in passenger boardings is constituted by both transit dependent and discretionary riders. The overall population density and the transit dependent population density are both more than twice as high in the project study area as in the urbanized area of the County as a whole:

- The project study area average of 0.53 zero-vehicle households per acre is 77 percent higher than the 0.30 County average.

- The project study area average transit dependent population of 7.04 persons per acre is approximately 120 percent higher than the 3.21 County average.
- The project study area average of 2.26 adult persons below the poverty line per acre is over two times the 1.08 County average.

Although population density and transit dependent population characteristics are expected to stay the same or improve slightly, project study area population is expected to increase by almost 12 percent by the year 2040, and area employment will increase by approximately 15 percent. With the increase in population and employment growth, it is likely that there will be an increase in bus crowding.

The large number of existing riders within the Van Nuys corridors, and the projected population growth indicates that an especially large market is available if transit is further improved in the project study area. There will be future needs for increased and upgraded transit services, as populations increase, and transit dependent factors related to age, the concentration of persons without private transportation, and the number of adults below the poverty line are expected to remain higher than County averages. The additional transit option that would be provided by the project will serve existing and future riders well.

Purpose: Encourage modal shift to transit in the eastern San Fernando Valley, thereby improving air quality.

Supporting Needs: Standards for many of the criteria pollutants monitored within the eastern San Fernando Valley have been exceeded multiple times during each of the previous three years of collected data (2009 – 2011). The traffic analysis indicates that travel speeds, vehicular delay and congestion will worsen by 2040. This will result in increased gas consumption and vehicle emissions in the project study area. The increase in delay at the study intersections is expected to increase vehicle emissions and fuel consumption.

To address climate change and greenhouse gas (GHG) emissions, thus air quality in California, two major initiatives were passed. Assembly Bill 32 (AB 32) was passed in 2006 with the aim of reducing GHG to 1990 levels by 2020. In 2008, Senate Bill 375 (SB 375) was passed to enhance the State's ability to reach the goals set forth in AB 32 via the promotion of planning more sustainable communities through integrated land use and transportation strategies. As a result of these policies, it is imperative that state and local agencies work toward a solution.

A primary project objective is to encourage a mode shift from automobile to transit, which would result in a reduction of mobile-source air pollutant emissions. The ESFVTC Project would provide transportation and transit improvements with use of LRT, which would provide the project study area with high-quality transit service, an area where currently there are limited competitive alternatives to driving. All existing corridor services, excluding the Metro Orange Line, running on a dedicated guideway, are slowed by mixed-flow traffic and traffic signal operations.

As such, the proposed project would provide the opportunity for auto drivers to choose an additional low-emission transit mode to serve their transportation needs. By shifting mode share from personal automobiles to transit, fewer automobile trips would occur on area roadways, which would reduce the amount of time vehicles idle in severely congested traffic. To the extent that the proposed project can offer an alternative to automobile travel, mobile-source air pollutant emissions would be reduced.

Chapter 2
Project Description/Alternatives Considered

This chapter describes the alternatives evaluated in the Final Environmental Impact Statement/Final Environmental Impact Report (FEIS/FEIR) for the East San Fernando Valley Transit Corridor Project and outlines the process used to identify, evaluate, and refine the alternatives. The alternatives analysis was performed in compliance with NEPA and the environmental impact–related procedures (23 CFR 771).

The Los Angeles County Metropolitan Transportation Authority (Metro) followed the alternative selection process outlined in the Alternative Analysis Report (included as Appendix F to this document) to identify the alternatives and issues to be analyzed, including seeking input from the public, corridor stakeholders, and other affected parties. The alternatives described provide a reasonable range of possible alternatives that meet the project purpose and need described in Chapter 1 of this FEIS/FEIR. Metro considered all reasonable alternatives, besides those that have previously been eliminated from consideration in the Alternatives Analysis Report, and the Metro Board of Directors identified a preferred alternative in June 2018 that would provide improved public transportation services in the eastern San Fernando Valley transit corridor.

Alternatives were evaluated according to their:

- Effectiveness;
- Environmental impacts;
- Efficiency;
- Financial feasibility; and
- Equity.

2.1 Alternatives Screening and Selection Process

The alternatives screening and selection process began with the Metro East San Fernando Valley Transit Corridor Alternatives Analysis (AA) report, which was the precursor to this FEIS/FEIR. The AA evaluated 26 build alternatives plus the Transportation Systems Management (TSM) and No-Build Alternatives. Route segments were also evaluated to determine feasible alignments in the project study area. A segment was deemed infeasible if the right-of-way width was insufficient to accommodate the considered project modes, even with roadway widening, or if a segment failed to contribute to a reasonable route alignment. Some segments that are considered crucial to maintain a viable alignment, like San Fernando Road between the Sylmar/San Fernando Metrolink Station and Van Nuys Boulevard, were considered feasible even if buses must operate in mixed-flow operation. However, segments that currently lack Metro Rapid bus service and are too narrow for bus rapid transit (BRT) or light rail transit (LRT) were deemed infeasible. Of the route segments that were evaluated, 14 route alignment options were determined to be feasible. These north-south alignments would be located within the existing right-of-way on Van Nuys Boulevard, Sepulveda Boulevard/Brand Boulevard, or use a hybrid combination of both the Van Nuys Boulevard and Sepulveda Boulevard/Brand Boulevard corridors.

As part of the AA Report completed in December 2012, most of Sepulveda Boulevard/Brand Boulevard corridor was eliminated as an alignment option based on the fact that there would not be substantial improvements to mobility and connectivity along this alignment, the route would not have included key areas along Van Nuys Boulevard that have higher transit dependent populations and transit ridership, and there was high public opposition to a project on Brand Boulevard due to the historic characteristic of the corridor and potential vibration and parkland impacts on the San Fernando Mission and Brand Park properties. Furthermore, there was strong community support for an alignment on Van Nuys Boulevard. As a result of the Alternatives Analysis, modal recommendations were for BRT and LRT. During the Draft Environmental Impact Statement/Draft Environmental Impact Report (DEIS/DEIR) scoping process conducted over the period from March 2013 to May 2013, four public scoping meetings were held, and 258 scoping comments were received. Many of the comments reflected the following:

- Preference for LRT;
- Support for a Sylmar/San Fernando terminus;
- Support for bicycle facilities; and
- Opposition to a dedicated guideway south of the Metro Orange Line.

In June 2013, Metro held meetings with the Cities of Los Angeles and San Fernando to review the alternatives that would be analyzed in light of the scoping comments received and the alternatives that would be carried forward for analysis in the DEIS/DEIR. These refined alternatives were then received and filed by the Metro Planning and Programming Committee in November 2013.

It should be noted that during the AA process the curbside bus alternative was eliminated from further consideration because it failed to achieve several of the operational efficiencies that were called for in the project's Purpose and Need. After further analysis, it was decided that this alternative should be considered in the DEIS/DEIR, as it could meet most of the project's Purpose and Need and because it could have the least impact on traffic, and has the potential to be constructed within the budget reserved for this project in the Metro Board-adopted 2009 Long-Range Transportation Plan (LRTP). In addition, this alternative would allow bicycles to travel in the proposed curbside lanes, sharing the lane with buses only, in response to comments received on the AA in support of bicycle facilities along the corridor. The other alternatives under consideration would require bicycles to travel in the regular automotive lanes, due to right-of-way constraints.

Tram technology was also not included in the AA Study because the rail alternative was presumed to be modeled on the standard Los Angeles Metro LRT lines already in operation. Metro uses high-level platforms on its LRT lines, while streetcars use low-level platforms. Standard LRT vehicles would provide Metro the ability to move vehicles between the eastern San Fernando Valley transit corridor and other lines in the system. The street-running Low-Floor LRT/Tram Alternative was introduced for further study in the DEIS/DEIR because it could have a much higher carrying capacity than a BRT system and allow for operation in mixed-flow traffic, while avoiding some of the potential property acquisition and grade separations that could be needed with an LRT system. Therefore, as a result of the alternatives screening process and feedback received during the public scoping period, the Curb-Running BRT, Median-Running BRT, Median-Running Low-Floor LRT/Tram, and Median-Running LRT Alternatives were the four build alternatives, along with the TSM and No-Build Alternatives, that were carried forward for analysis in the technical studies prepared in support of the DEIS/DEIR. The four build alternatives were as follows:[1]

[1] In the technical studies prepared in support of this EIS/EIR, the alternatives were defined as follows: No-Build Alternative, TSM Alternative, Build Alternative 1 – Curb-Running BRT, Build Alternative 2 – Median-Running BRT, Build Alternative 3 – Low-Floor LRT/Tram Alternative, and Build Alternative 4 – LRT.

- BRT Alternatives;
  - Alternative 1: Curb-Running BRT;
  - Alternative 2: Median-Running BRT;
- Rail Alternatives;
  - Alternative 3: Low-Floor LRT/Tram; and
  - Alternative 4: LRT.

2.1.1 Identification of the Locally Preferred Alternative

Metro applied the objectives below in evaluating potential alternatives for the East San Fernando Valley Transit Corridor Project. These objectives reflect Metro's mission to meet public transportation and mobility needs for transit infrastructure while also being a responsible steward of the environment and considerate of affected agencies and community members when planning a fiscally sound project.

- Provide new service and/or infrastructure that improves passenger mobility and connectivity to regional activity centers;
- Increase transit service efficiency (speeds and passenger throughput) in the project study area; and
- Make transit service more environmentally beneficial by providing alternatives to auto-centric travel modes and other environmental benefits, such as reduced air pollutants, including reductions in greenhouse gas emissions in the project study area.

These goals draw upon those presented in the AA Report completed in 2012. For the purposes of this FEIS/FEIR, these goals have been updated and refined to reflect public involvement and further analysis of the proposed project, the project area, and the background transportation system.

Based on the project objectives and in response to public comments[2] received during the 60-day comment period for the DEIS/DEIR, a modified version of Alternative 4 was developed. The primary difference between the DEIS/DEIR Alternative 4 and the modified version of Alternative 4 described in this FEIS/FEIS is the elimination of the 2.5-mile subway portion of Alternative 4. Under the modified Alternative 4, the entire 9.2-mile alignment would be constructed at grade. The subway portion was changed, based on comments from the public (see Appendix A1) and because it would be very expensive, have significant construction impacts, require significant right-of-way acquisitions, and result in little travel time savings compared with a fully at-grade alignment.

As a consequence, on June 28, 2018, the Metro Board of Directors formally identified the modified version of Alternative 4 (identified as "Alternative 4 Modified: At-Grade LRT" in this 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

[2] Metro received over 600 comments expressing an opinion on preferred travel mode. Over two-thirds of those comments favored light rail and 30 percent preferred bus rapid transit. Over 70 comments were received pertaining to a preferred number of stations under the LRT alternatives. An overwhelming majority of those comments (90 percent) expressed preference for a 14-station LRT, while 10 percent preferred LRT with 28 stations. Over 90 comments identified at-grade LRT service or a combination of at-grade service and a 2.5-mile subway segment as the preferred option. Of these, 56 percent preferred at-grade LRT service, while 44 percent preferred at-grade with a subway segment. See the *DEIS/DEIR – Public Comment Summary Report* in Appendix JJ.

Alternative 4, fewer construction and right-of-way acquisition impacts compared to DEIS/DEIR Alternative 4, and strong community support for a rail alternative. Additionally, Metro determined the LPA maintains the same level of travel and environmental benefits throughout the corridor and would fulfill the project's purpose and need and meet the project objectives to the same extent as Alternative 4 as discussed in Chapter 1 of this FEIS/FEIR and Section 2.4 in this chapter. The benefits of the LPA include:

- Improved north-south mobility;
- Providing more reliable operations and connections between key transit hubs/routes;
- Enhanced transit accessibility/connectivity to local and regional destinations;
- Providing additional transit options in a largely transit-dependent area; and
- Encouraging mode shift to transit.

The Metro Board also identified the maintenance and storage facility (MSF) Option B site as the preferred MSF site (see Section 2.2.5.1 in this chapter for a description of the MSF Option B site and Section 2.2.4.1 of the DEIS/DEIR for descriptions of all three MSF sites evaluated in the DEIS/DEIR). The Option B site is located on the west side of Van Nuys Boulevard on approximately 25 acres and is bounded by Keswick Street on the south, Raymer Street on the east and north, and the Pacoima Wash on the west.

Subsequent to identification of the LPA by the Metro Board in June of 2018, additional refinements were made to the project plans to improve pedestrian connectivity and safety, minimize right-of-way impacts and displacements, and improve operational efficiencies. These improvements included refinements to the station locations and footprints, track alignment, intersection configurations, and traction power substation (TPSS) locations. The reader is referred to Appendix GG to this FEIS/FEIR, which contains the revised Advanced Conceptual Plans for the LPA (Alternative 4 Modified: At-Grade LRT), for more details regarding these improvements. A summary of the major characteristics and key differences between the LPA and Alternative 4 is provided below and described in greater detail in Section 2.2.

- As noted above, in the DEIS/DEIR, the Alternative 4 alignment included a subway segment from just south of Hart Street to just north of Parthenia Street. Under the LPA, this segment would now be at-grade traveling under the Van Nuys Metrolink/Amtrak/Union Pacific Railroad overcrossing of Van Nuys Boulevard.
- The Metro Orange Line station in the eastern San Fernando Valley transit corridor would be in the median of Van Nuys Boulevard, extending north and south. The LRT platforms would be connected to Metro Orange Line platforms by escalators, elevators, and stairs. There would also be two tail tracks for temporary LRT storage that would extend 300 feet south of the Metro Orange Line (see the revised conceptual plans for the station in Appendix GG).

2.2 Description of the Locally Preferred Alternative

The LPA consists of a 9.2-mile median-running at-grade LRT system with 14 stations. Under the LPA, the LRT would be powered by an electrified overhead contact system (OCS) 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 a median dedicated guideway along 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. Similar to Alternative 4 described in the DEIS/DEIR, the LPA would include 14 stations. Additional details regarding the LPA characteristics, components, and facilities are discussed below.

2.2.1 Vehicles

LRT vehicles would be similar to those currently used throughout the existing Metro LRT system, as shown in Figure 2-2. Metro's LRT system is designed to accommodate trains with 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 at-grade guideway along Van Nuys Boulevard, they would operate no faster than the posted speed limit of the adjacent roadway, which is 35 mph. The LPA assumes a maximum speed of 65 mph when traveling within the Metro right-of-way adjacent to San Fernando Road. Three-car consists (i.e., trains) can carry approximately 230 seated passengers and up to 400 passengers when standing passengers are included. 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.

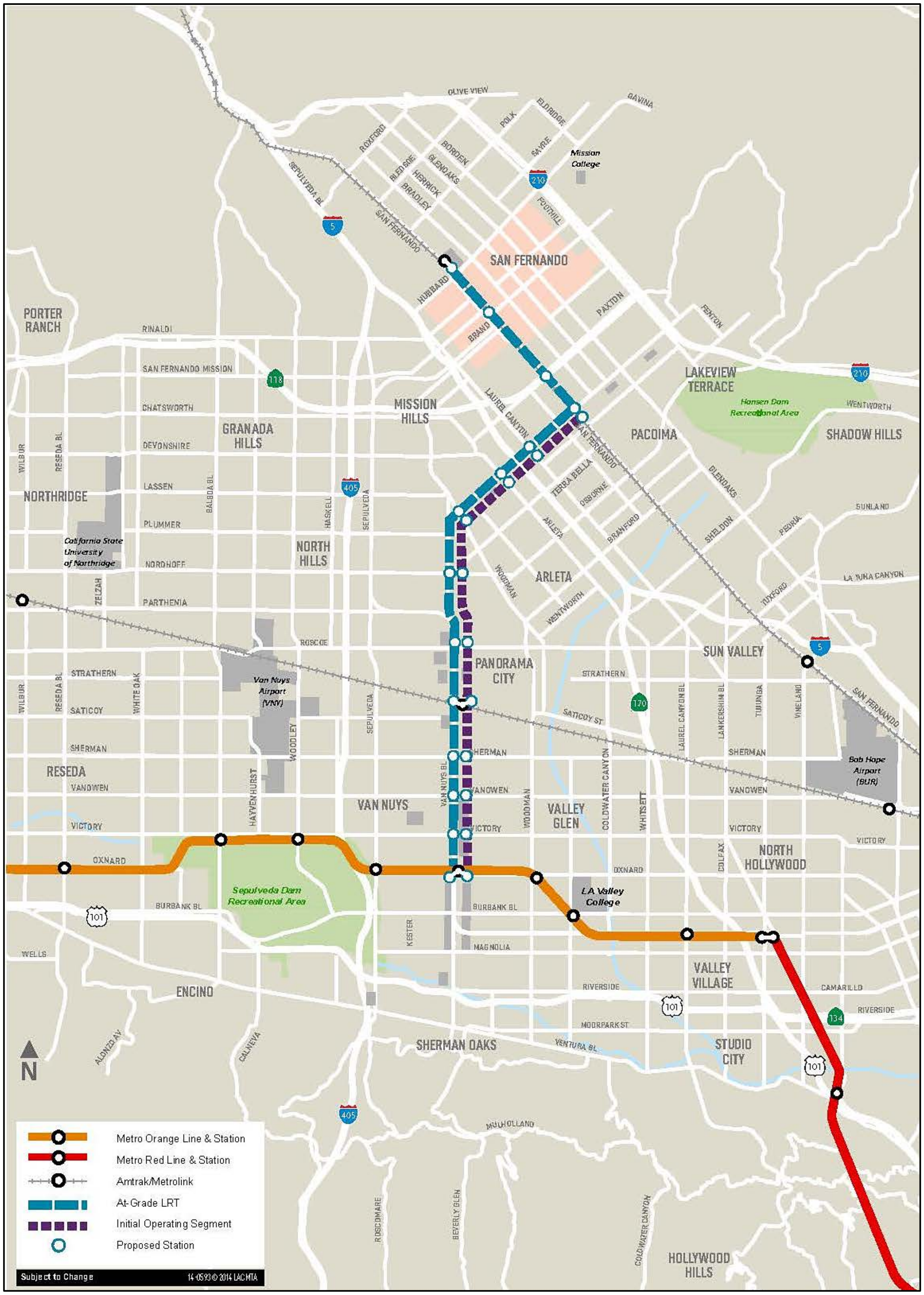
2.2.2 Alignment

The LPA and Initial Operating Segment (IOS) (see Section 2.3 for a discussion of the IOS and project phasing) alignments would have two tracks and would be separated from automobile traffic along Van Nuys Boulevard by a barrier, except at signalized intersections and controlled at-grade crossings.

The LPA alignment would extend from the Sylmar/San Fernando Metrolink station on the north to the Metro Orange Line station on the south, a distance of 9.2 miles. Along and just east of San Fernando Road, from the Sylmar/San Fernando Metrolink Station south to Van Nuys Boulevard, the LPA alignment would be located within the existing Metro-owned right-of-way currently used by Metrolink and the Union Pacific Railroad. Metrolink and the Union Pacific Railroad would continue to use a separate dedicated track separated from the LRT by a barrier.

From the intersection of San Fernando Road and Van Nuys Boulevard to the Metro Orange Line, the LPA and IOS would operate in a semi-exclusive right-of-way in what is currently the median of Van Nuys Boulevard. The LRT train would operate no faster than the adjacent prevailing traffic speeds and would be controlled by train signals that would coordinate with the traffic signals.

Figure 2-1: LPA and IOS Alignments



Source: KOA, 2019.

Metro

Figure 2-2: Examples of Metro LRT Vehicle

Source: Metro Transportation Library and Archives, 2015.

2.2.3 Stations

Stations would be constructed at approximately ¾-mile intervals along the entire route. The following 14 stations are proposed under the LPA. The IOS would include 11 stations (stations 4 through 14 listed below).

1. Sylmar/San Fernando Metrolink Station
2. Maclay Station
3. Paxton Station
4. Van Nuys/San Fernando Station
5. Laurel Canyon Station
6. Arleta Station
7. Woodman Station
8. Nordhoff Station
9. Roscoe Station
10. Van Nuys Metrolink Station
11. Sherman Way Station
12. Vanowen Station
13. Victory Station
14. Van Nuys Metro Orange Line Station

For the LPA and the IOS, the proposed stations would have designs consistent with the Metro Rail Design Criteria (MRDC), including directive and standard drawings. Stations, an example of which is shown in Figure 2-3, would be Americans with Disabilities Act (ADA) compliant, including compliance with the requirements pertaining to rail platforms, rail station signs, public address systems, clocks, escalators, and track crossings, as described in Sections 8.10.5, 8.10.6, 8.10.7, 8.10.8, 8.10.9, and 8.10.10 of the 2010 ADA standards.

Common elements would include signage, maps, fixtures, furnishings, lighting, and communications equipment. All stations are proposed to have center or side platforms, allowing passengers to access trains traveling in either direction. Typically, at-grade station platforms are 270 feet long (to accommodate three-car trains), 39 inches high (to allow level boarding and full accessibility, in compliance with the ADA), and a minimum of 12.2 feet wide for side-platform stations to 16 feet wide for center-platform stations.

Figure 2-3: Rail Alternatives – Examples of Typical At-Grade LRT Station

Source: Metro, 2019. Note: These figures do not represent all components of a Metro system, such as pedestrian gates.

Canopies at the LRT stations would be approximately 13 feet high and would incorporate directional station lighting to enhance safety. LPA and IOS stations would include seating elements, ticket vending machines, variable message signs, and route maps as well as the name and location of the LRT station. In addition, Metro is moving to a fare gate system and such a system would be integrated into station design as appropriate.

Stations would also include bicycle parking and bike lockers at or near stations, as feasible. In addition, signage and safety and security equipment, such as closed-circuit televisions, public announcement systems, passenger assistance telephones, and variable message signs (providing real-time information), would be part of the amenities. No parking would be provided at the proposed new stations.

2.2.4 Supporting Facilities

The LPA and IOS would require a number of additional elements to support vehicle operations, including an OCS along the entire alignment, TPSS) units, communications and signaling buildings, and an MSF.

2.2.4.1 Maintenance and Storage Facility

The LPA and IOS would include construction of a new MSF, which would provide secure storage of the LRT vehicles when they are not in operation, and regular light maintenance to keep them clean and in good operating condition as well as heavy maintenance.

MSF Option B, has been identified as the locally preferred site by the Metro Board. The MSF site would be approximately 25 acres in size. The MSF Option B site is located on the west side of Van Nuys Boulevard and is bounded by Keswick Street on the south, Raymer Street on the east and north, and the Pacoima Wash on the west. Access to the facility would be via two turnout tracks on the west side of the alignment. A northbound turnout would be located in the vicinity of Saticoy Street. A southbound turnout would be located in the vicinity of Keswick Street.

The MSF would accommodate both operational and administrative functions. The MSF would accommodate all levels of vehicle service and maintenance (i.e., progressive maintenance, scheduled maintenance, unscheduled repairs, warrantee service, and limited heavy maintenance) in addition to storage space for vehicles. The typical MSF would provide: interior and exterior vehicle cleaning, sanding, and inspection areas; maintenance and repair shops; storage yards for vehicles; and storage areas for materials, tools, and spare vehicle parts. The storage yard would be the point of origin and termination for daily service. Figure 2-4 includes aerial and interior views of a typical MSF facility (Metro Green Line LRT MSF is shown).

The MSF would serve as the "home base" for the operators. Space would be provided for staff offices, dispatcher workstations, employee break rooms and/or lunchrooms, operator areas with lockers, showers and restrooms, and employee and visitor parking.

The MSF would include collision/body repair areas, enclosed paint booths, and wheel truing (the profiling of wheels to ensure the proper wheel to rail interface) machines. The MSF would also include maintenance-of-way, signals and communications, and traction power functions that would be housed in separate and smaller buildings.

Figure 2-4: Typical LRT MSF Facility and Inside the Main Building

Source: Metro, 2015.

2.2.4.2 Overhead Contact System

An OCS is a network of overhead wires that distributes electricity to light rail vehicles (see Figure 2-5). An OCS would include steel poles placed within the entire alignment to support the overhead wires above the light rail vehicles. A telescoping pantograph or "arm" on the roof of LRT vehicles would slide along the underside of the contact wire and deliver electric power to the vehicles. The OCS poles would be approximately 30 feet tall and typically located approximately every 90 to 170 feet between or outside of the two tracks.

Figure 2-5: Typical OCS for LRT

Source: KOA, 2019.

2.2.4.3 Traction Power Substations

TPSS units are electrical substations that would be typically placed approximately every ¾ mile. The LPA LRT vehicles would be powered by approximately 14 TPSS units (including one at the MSF), which would be spaced relatively evenly along the alignment to provide direct current to the LRT vehicles. The IOS would include 11 TPSS units. TPSS units would be located at points along the alignment where maximum power draw is expected (such as at stations and on inclines). In the event that one TPSS needs to be taken off line, the LRT vehicles would continue to operate. The MSF would also have its own designated TPSS. A representative TPSS is shown in Figure 2-6.

Figure 2-6: Typical TPSS for LRT

Source: Metro, 2019.

2.2.4.4 Communications and Signaling Buildings

Communications and signaling buildings that contain train control and communications equipment would be located at each station, crossover, and at-grade crossing.

2.2.5 Operations

The LPA and IOS are anticipated to operate with 6-minute peak and 12-minute off-peak headways when it opens and designed to operate with 5-minute peak and 10-minute off-peak headways once ridership begins to increase. Metro Local Line 233 would operate with 8-minute peak and 16-minute off-peak headways, or as demand dictates.

2.2.6 Parking Loss and Travel Lane Loss

2.2.6.1 Parking Loss

With implementation of the LPA and the IOS, all curbside parking would be prohibited along Van Nuys Boulevard.

2.2.6.2 Travel Lane Loss

The number of travel lanes on Van Nuys Boulevard would be reduced from three to two in each direction for the segment between the Metro Orange Line and Parthenia Street under the LPA and IOS. North of that point, the LPA and IOS would maintain the two existing travel lanes in each direction to Laurel Canyon Boulevard and the existing one northbound lane and two southbound lanes along Van Nuys Boulevard from Laurel Canyon Boulevard to San Fernando Road.

2.2.7 Turning Restrictions

Left turns from Van Nuys Boulevard onto cross streets would be maintained at most of the currently signalized intersections where the LRT would be running in the median. All crossings of the alignment would be controlled by a traffic signal. Motorists who desire to make a left turn where it is no longer allowed 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.

Under the LPA and IOS, the intersections with turning restrictions are listed below:

- Pinney Street & San Fernando Road (closed via a cul de sac);
- Van Nuys Boulevard & El Dorado Avenue (southbound left only);
- Van Nuys Boulevard & Tamarack Avenue;
- Van Nuys Boulevard & Telfair Avenue;
- Van Nuys Boulevard & Cayuga Avenue;
- Van Nuys Boulevard & Oneida Avenue;
- Van Nuys Boulevard & Haddon Avenue;
- Van Nuys Boulevard & Omelveny Avenue;
- Van Nuys Boulevard & Amboy Avenue;
- Van Nuys Boulevard & Rincon Avenue;
- Van Nuys Boulevard & Remick Avenue;
- Van Nuys Boulevard & Vena Avenue;
- Van Nuys Boulevard & Bartee Avenue (northbound left only);
- Van Nuys Boulevard & Lev Avenue;
- Van Nuys Boulevard & Arleta Avenue (southbound left only);
- Van Nuys Boulevard & Beachy Avenue (southbound left only and pedestrian crossings);
- Van Nuys Boulevard & Canterbury Avenue;
- Van Nuys Boulevard & Woodman Avenue (southbound left only);
- Van Nuys Boulevard & Vesper Avenue (northbound left only);
- Van Nuys Boulevard & Novice Street;
- Van Nuys Boulevard & Gledhill Street;
- Van Nuys Boulevard & Vincennes Street;
- Van Nuys Boulevard & Osborne Street;
- Van Nuys Boulevard & Rayen Street;
- Van Nuys Boulevard & Parthenia Street (southbound left only);
- Van Nuys Boulevard & Lorne Street;
- Van Nuys Boulevard & Blythe Street;
- Van Nuys Boulevard & Michaels Street;
- Van Nuys Boulevard & Keswick Street (southbound left only);
- Van Nuys Boulevard & Covello Street;
- Van Nuys Boulevard & Wyandotte Street;
- Van Nuys Boulevard & Gault Street (pedestrian crossing only);
- Van Nuys Boulevard & Hart Street;

- Van Nuys Boulevard & Hartland Street (pedestrian crossing only);
- Van Nuys Boulevard & Archwood Street;
- Van Nuys Boulevard & Haynes Street;
- Van Nuys Boulevard and Hamlin Street;
- Van Nuys Boulevard & Gilmore Street;
- Van Nuys Boulevard & Friar Street;
- Van Nuys Boulevard & Erwin Street;
- Van Nuys Boulevard & Delano Street;
- Van Nuys Boulevard & Calvert Street; and
- Van Nuys Boulevard & Bessemer Street.

2.2.8 Bicycle Facilities

Bicycle parking would be provided at or near Metro stations, as feasible. The existing bike lanes, which extend approximately two miles north along Nuys Boulevard from Parthenia Street to Beachy Avenue and from Laurel Canyon Boulevard to San Fernando Road, would be removed due to right-of-way constraints.

The City of Los Angeles constructed a bicycle path within Metro's railroad right-of-way parallel to San Fernando Road. At the point where the LPA crosses the bicycle path, near the intersection of Pinney Street and San Fernando Road, a signalized grade crossing would be provided. This existing Class I bike path would remain in place except in the City of San Fernando where the bike path would be relocated east in order to accommodate the relocated single Metrolink/Union Pacific Railroad track. The Metro right-of-way is generally wide enough to allow the bicycle path to remain alongside a pair of LRT tracks and a relocated track for Metrolink and the Union Pacific Railroad, though some partial takes of adjacent properties would be required in the City of San Fernando.

2.2.9 Accessibility

2.2.9.1 Pedestrian Access

The LPA would include a pedestrian overcrossing or undercrossing at the Sylmar/San Fernando Metrolink Station from the LRT platform to the Metrolink platform. For other pedestrian crossings along the Metro right-of-way, the crossings would be controlled by pedestrian gates.

All current signal-controlled crosswalks along Van Nuys Boulevard would be maintained under the LPA and IOS. Between the signalized intersections, for safety reasons, a barrier would be installed to prevent uncontrolled pedestrian crossings, as is Metro's current practice on its median-running LRT lines. Pedestrians would be required to walk to a signalized location to cross Van Nuys Boulevard. LRT passengers would reach the median station platforms from crosswalks at signalized intersections.

2.2.9.2 Vehicular Access

Vehicular access along Van Nuys Boulevard that would cross the LRT alignment would be limited to signalized crossings. All other streets or driveways would become right turns into and out of Van Nuys Boulevard.

2.2.10 Right-of-Way

Right-of-way would be required to construct the LPA and IOS alignments, the MSF at the preferred Option B site, and the TPSS (14 TPSS under the LPA and 11 TPSS under the IOS).

Construction of the MSF, which would occupy approximately 25 acres west of Van Nuys Boulevard and south of Raymer Street, would require the acquisition of existing properties on the site. Acquisitions would also be needed on the west side of Van Nuys Boulevard so that the LRT vehicles could travel from the Van Nuys Boulevard alignment to the MSF site.

Metro is the owner of a mostly 100-foot-wide railroad right-of-way through the Pacoima community, the City of San Fernando, and the Sylmar community that currently has a single track down the center of the corridor, with some sidings. The track is operated by the Southern California Regional Rail Authority for Metrolink commuter rail service and is also utilized by the Union Pacific Railroad. Within the Pacoima community of the City of Los Angeles, the 100-foot width could accommodate two LRT tracks, one commuter and freight rail track, and the existing bike path. To provide sufficient room for the LRT tracks under the LPA, the existing single rail track would be removed from the center of the corridor and replaced with a single track along the corridor's northeastern edge to serve commuter and freight rail operations. The right-of-way could accommodate a center platform LRT station near Paxton Street. At the Pacoima Wash, north of SR-118, a pair of new bridges would be needed, one for the LRT tracks, and the other for the Metrolink and Union Pacific rail track. These bridges would lie alongside the existing San Fernando Road Bridge and the existing bike path bridge. The available right-of-way within the City of San Fernando is relatively narrow. From Jesse/Wolfskill Street to a point approximately 1,000 feet north of Maclay Avenue, the right-of-way widths generally range from 60 feet to 80 feet. As a consequence, property acquisitions would most likely be required to construct the LPA within this stretch of the project alignment because of the relatively constrained existing right-of-way.

Acquisition of parcels would also be required near the San Fernando Road and Van Nuys Boulevard intersection where the alignment would transition from Van Nuys Boulevard to the Metro owned railroad right-of-way. In addition, parcel acquisitions would be required for the placement of the TPSS units at approximately ¾-mile intervals along the alignment.

2.2.11 Gated LRT Grade Crossings

For the portion of the LPA alignment within the Metro-owned railroad right-of-way, the grade crossings at Paxton Street, Wolfskill Street, Brand Boulevard, Maclay Avenue, and Hubbard Avenue would be controlled by traditional vehicular crossing gates. The current single-track crossings would become three.

There would be pedestrian gates for at-grade street crossings, in addition to the traditional vehicular crossing gates that exist at Paxton Street, Wolfskill Street, Brand Boulevard, Maclay Avenue, and Hubbard Avenue.

There would also be left-turn lane gates at signalized intersections along Van Nuys Boulevard under the LPA and IOS where left turns are permitted across the LRT dedicated guideway. The gates would be activated whenever a train approaches the intersection to enhance safety at these locations.

2.3 Project Phasing and Initial Operating Segment

In order to ensure the objectives of the project are met in a timely manner and avoid delays due to the timing of funding availability, Metro is considering constructing the LPA in two phases. An Initial Operating Segment (IOS) has been included in this FEIS/FEIR to enable Metro to realize potential cost savings, which would not otherwise occur under the LPA, from phasing the project. It should be noted that Metro is proceeding with IOSs on other projects for that reason and to specifically provide the decision-making body of Metro (the Metro Board of Directors) with flexibility in determining the most efficient and cost-effective manner to implement those projects. Proceeding with an IOS for the proposed project will also allow further coordination to occur with the Public Utilities Commission (PUC) and Metrolink, which will be necessary to accommodate double tracking of the Antelope Valley Line, and with the City of San Fernando regarding traffic impacts at intersections in the City prior to development of the remaining northern segment of the LPA.

The first phase, or IOS, would run along the same alignment and have the same LRT design features, MSF, and operating and service characteristics as those described for the LPA; however, the IOS would only extend as far north as San Fernando Road and the proposed Van Nuys/San Fernando station, rather than continuing 2.5 miles within the existing railroad right-of-way to the Sylmar/San Fernando Metrolink station, as would occur under the LPA. Therefore, it would have a smaller project footprint than the LPA and include 11 stations and 11 TPSS units instead of the 14 stations and 14 TPSS units proposed under the LPA. Although the IOS would have logical termini and independent utility (i.e., it would provide a transportation benefit if no other project were built in the area) and meet the basic project purposes and needs (see Table 2-1 in Section 2.5.2), it remains Metro's intent to build the remaining northern 2.5 miles of the LPA within the existing railroad right-of-way, from the Van Nuys/San Fernando station to the Sylmar/San Fernando Metrolink station. The 6.7-mile route of the IOS is illustrated in Figure 2-1. Impacts associated with both the LPA (which includes the impacts from the IOS) and the IOS are discussed for each environmental impact section in Chapters 3 and 4 of this FEIS/FEIR.

It's anticipated that construction of the IOS (and LPA) would begin in 2022 and take approximately the same amount of time to complete, 4.5 to 5 years, as the LPA. A schedule for completing the second phase (i.e., the northern 2.5 miles of the LPA alignment) would be contingent upon securing the necessary funding and further coordination with the PUC, Metrolink, and the City of San Fernando prior to development of the remaining northern segment of the LPA. However, it's Metro's expectation that funding will be secured and construction of phase 2 would likely begin within 3 to 5 years of completion of the IOS and would occur over a 3- to 4-year period.

2.4 Alternatives Evaluated in the DEIS/DEIR

This section provides a brief description of the alternatives, as well as their main components that were analyzed within the DEIS/DEIR. The DEIS/DEIR was released for public review in August 2017. There was a 60-day public review period from September 1, 2017 through October 30, 2017.

2.4.1 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 related transportation 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 Measure M, as well as projects specified in the current constrained element of the Metro LRTP and the 2016 Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

This alternative establishes a baseline for comparison to other alternatives in terms of potential environmental effects, including adverse and beneficial environmental effects. The existing conditions (i.e., existing street and transit network) under the No-Build Alternative are shown in Figure 2-7, below.

2.4.2 TSM Alternative

The TSM Alternative proposes enhancements to the existing transit system and would focus on relatively low-cost, efficient, and feasible transit service improvements and transportation systems upgrades, such as increased bus frequencies and minor modifications to the roadway network. Additional transit improvements that would be considered under the TSM Alternative include, but are not limited to, traffic signalization improvements, bus stop amenities/improvements, and bus schedule restructuring. Specifically, the TSM Alternative would include enhanced operating hours and increased bus frequencies for the existing Metro Rapid Line 741[3] and Metro Local Line 233. It would not change the existing bus operations on San Fernando Road, including those of Metro Local Line 244 and Metro Rapid Line 794. The route of the TSM Alternative is shown in Figure 2-8.

2.4.3 DEIS/DEIR BRT Alternatives

2.4.3.1 Alternative 1: Curb-Running BRT

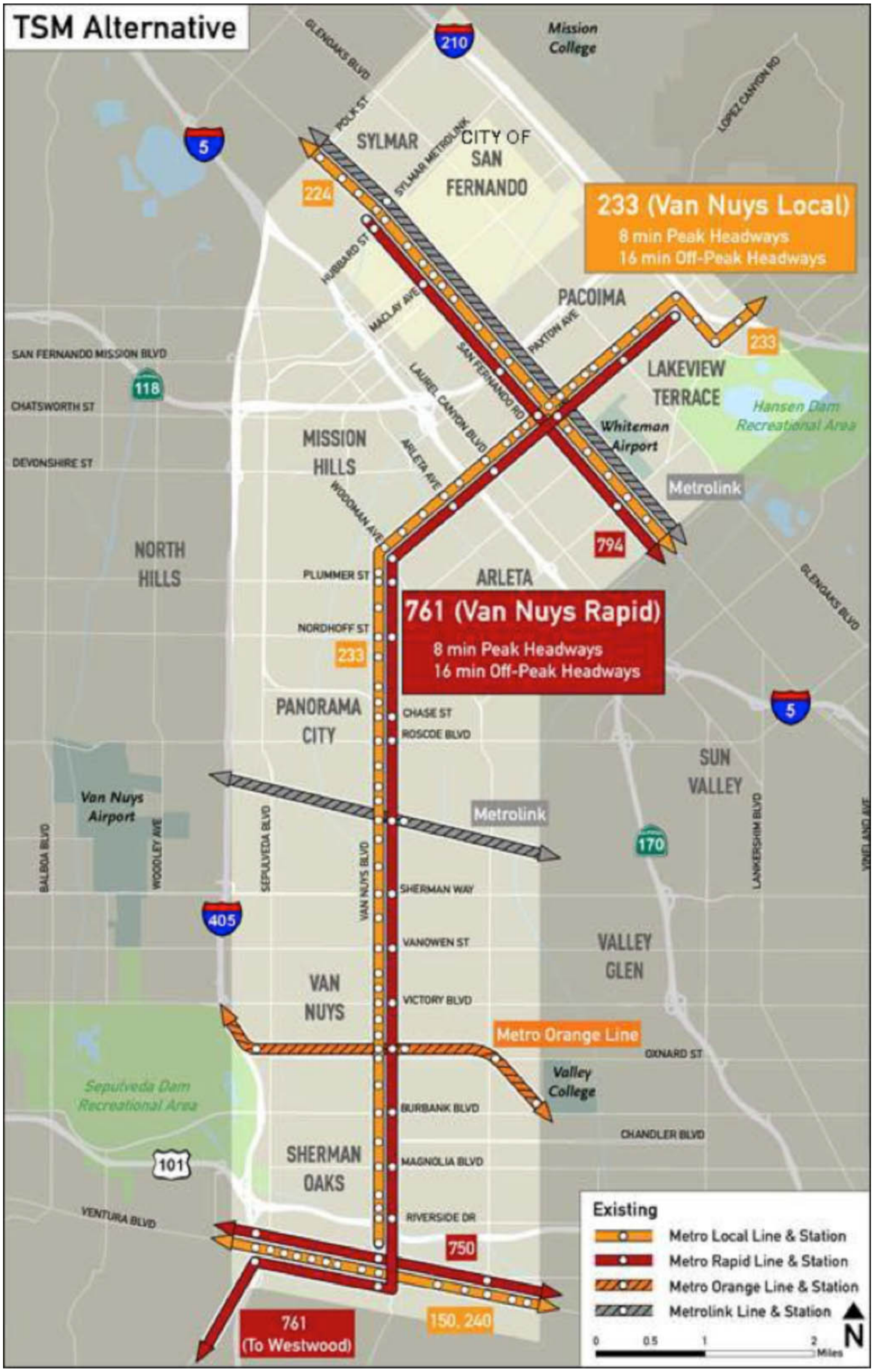
Under the Curb-Running BRT Alternative, 6.7 miles of existing curb lanes (i.e., lanes closest to the curb) along Van Nuys Boulevard between San Fernando Road and the Metro Orange Line would be converted to dedicated bus lanes. This alternative would be similar to the Metro Wilshire BRT Project with a dedicated bus lane that could operate 24-hours a day or only during peak periods. The hours during which the curb lane would be used as a dedicated BRT lane may be limited to the period extending from 7:00 a.m. to 7:00 p.m. (further refinement of the operating hours and days for the Curb-Running BRT could occur, if necessary, based on passenger demand and community input after operation of this alternative commences). The existing asphalt lane along Van Nuys Boulevard, Truman Street, and San Fernando Road would be replaced with a concrete lane; similar to what was done for the Wilshire BRT Project. The lanes would be dedicated curb-running bus lanes for Metro Rapid Line 744, which replaced Metro Rapid Line 761, and Metro Local Line 233, and for other transit lines that operate on short segments of Van Nuys Boulevard. 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. Metro Local Line 233 would continue north on Van Nuys Boulevard to Lakeview Terrace. These improvements would result in an improved Metro Rapid Line 761 (now 744; hereafter referred to as 744X) and an improved Metro Local Line 233 (hereafter referred to as 233X). The route of the Curb-Running BRT Alternative is illustrated in Figure 2-9.

[3] Subsequent to initiation of the analyses for this FEIR, Metro Rapid Line 761 was replaced by Metro Rapid Line 744.

Figure 2-7: Existing Conditions under No-Build Alternative

Source: STV, 2014.

Figure 2-8: TSM Alternative



Source: STV, 2014.

Figure 2-9: BRT Alternatives – Alternative 1: Curb-Running BRT

Source: KOA and ICF, 2014.

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, buses would share lanes with other motor vehicles and no dedicated bus lanes would be provided. Bus stops for Metro Rapid Line 744 on Van Nuys Boulevard, which are typically combined with local bus stops, would remain in the same locations as they are now. Figure 2-10 illustrates a typical station with a canopy that would be constructed under this BRT alternative, though final design could be different, as any bus stations within the City of Los Angeles and City of San Fernando would have to be coordinated with and approved by each respective City.

Vehicles

The buses operating under the Curb-Running BRT Alternative would be similar to existing Metro high-capacity, articulated 60-foot buses, as shown in Figure 2-11. 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.

Supporting Facilities

The Curb-Running BRT Alternative would not include the construction of an MSF. It is anticipated that Metro's Division 15 MSF, located in Sun Valley, would accommodate the 10 additional buses needed for this alternative, without any modifications to the existing facility. This alternative would require fewer vehicles than the TSM Alternative because it would operate in dedicated bus lanes and therefore, would have faster run-times.

Operations

Under the Curb-Running BRT Alternative, Metro Rapid Line 744X would operate with 6-minute peak and 12-minute off-peak headways. Metro Local Line 233X would operate with 8-minute peak and 16-minute off-peak headways.

Bicycle Facilities

Bicycle parking would be provided at or near Metro stations, as required by the Metro BRT Design Criteria. On Van Nuys Boulevard between the Metro Orange Line and San Fernando Road, with one exception (between Parthenia Street and Roscoe Boulevard), the curbside lane would be 12 feet wide or greater. The curb lane would be restricted to buses and bicyclists, with other vehicles allowed in the lane only for right-turns.

The existing bike lanes on Van Nuys Boulevard north of Parthenia Street would be removed under this alternative.

On Van Nuys Boulevard between Parthenia Street and 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.

Figure 2-10: BRT Alternatives – Alternative 1: Curb-Running BRT (Typical Curb-Running BRT Station)

Source: Metro, John Kaliski Architects, 2015.

Figure 2-11: Example of Metro 60-Foot Articulated Bus

Source: Metro Transportation Library and Archives, 2015.

Accessibility

Pedestrian

All current pedestrian movements across roadways would be maintained under this alternative, including all existing mid-block crossing opportunities. Canopies at upgraded bus stations would be designed to meet accessibility requirements.

Adjacent Businesses and Residents

All current motor vehicle turns into and out of cross streets and driveways would be maintained. No prohibitions on left turns or right turns would be necessary.

2.4.3.2 Alternative 2: Median-Running BRT

The Median-Running BRT Alternative would provide approximately 6.7 miles of dedicated median-running bus lanes between San Fernando Road and the Metro Orange Line and have operational standards similar to the Metro Orange Line. Similar to Alternative 1, the minor construction under this alternative would include removing the existing asphalt lane and replacing it with a concrete lane, similar to what was done for the Wilshire BRT Project. 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 2-12. Figure 2-13 illustrates a typical station with a canopy that would be constructed for this BRT alternative.

Operations

Metro Rapid Line 744X would operate with 6-minute peak and 12-minute off-peak headways. Metro Local Line 233 would operate with 8-minute peak and 16-minute off peak headways.

Vehicles

Articulated 60-foot buses, similar to those under the Curb-Running BRT Alternative would be operated, as shown in Figure 2-11. 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, similar to existing Metro Rapid buses, to continue to allow for improved operations and on-time performance.

Parking Loss and Lane Loss

All curbside parking would be prohibited along the entire extent of Van Nuys Boulevard from the Van Nuys Metro Orange Line Station to San Fernando Road.

Turning Restrictions

Left turns from Van Nuys Boulevard onto cross streets would be maintained at most of the currently signalized intersections and prohibited at all unsignalized intersections. Please refer to the Transportation Impacts Report in Appendix G, which includes a list of intersection turn restrictions for the BRT alternatives. 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 and Hartland Streets, would be prohibited to accommodate median bus stop platforms.

Figure 2-12: BRT Alternatives – Alternative 2: Median-Running BRT

Source: KOA and ICF International, 2014.

Metro

Figure 2-13: BRT Alternatives – Alternative 2: Median-Running BRT (Typical Median-Running BRT Station)

Source: Metro, John Kaliski Architects, 2015.

All movements across the median dedicated guideway along Van Nuys Boulevard in-between signalized cross streets would be prohibited. This includes left turns from Van Nuys Boulevard at unsignalized intersections and private driveways, as well as left turns and through traffic from the side streets.

Bicycle Facilities

On Van Nuys Boulevard between the Van Nuys Metro Orange Line Station and San Fernando Road, the curbside lanes typically would 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 approximately 2 miles, from Parthenia Street to Beachy Avenue and from Lauren Canyon Boulevard to San Fernando Road, would be removed and would not be replaced under this alternative. However, bicycle parking would be provided at or near Metro stations, if feasible, as required by the Metro BRT Design Criteria.

Accessibility

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.

Bus patrons would be guided to signal-controlled crosswalks between curbside local bus stops and median BRT bus stops by railings on the backside of median bus stop platforms.

Access to Businesses and Residents

Only right turns into and out of unsignalized cross streets and driveways would be allowed. Left turns into and out of unsignalized cross streets and driveways would be prohibited.

2.4.4 DEIS/DEIR Rail Alternatives

2.4.4.1 Alternative 3: Low-Floor LRT/Tram

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. The Low-Floor LRT/Tram would serve the Cities of San Fernando and Los Angeles, including Pacoima, Arleta, Panorama City, and Van Nuys, with 28 stations. The route of the Low-Floor LRT/Tram Alternative is illustrated in Figure 2-14.

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 TPSS units and an MSF.

Vehicles

Low-Floor LRT/Tram vehicles may be similar to the streetcar rail vehicles currently used in Portland, Oregon, or may resemble the multi-unit low-floor light rail vehicles that are also used in Portland, as well as San Diego and many other US cities. For the purposes of this study, it is assumed the Low-Floor LRT/Tram trains would consist of three rail cars (each 90-feet long) that would be connected to form a 270-foot-long train. Although Low-Floor LRT/Tram vehicles could operate at speeds of 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 over 150 seated passengers and approximately 265 total passengers, including standing passengers (depends on which type of Low-Floor LRT/Tram vehicle is selected). The Low-Floor LRT/Tram would have doors on both sides of each vehicle, allowing for passenger boarding and alighting at center platform as well as side platform stations. The Low-Floor LRT/Tram vehicles are configured with a driver's cab at either end, allowing them to run in either direction without the need to turn around at the termini. Figure 2-15 presents examples of different types of Low-Floor LRT/Tram vehicles that could be used with this alternative.

Figure 2-14: Rail Alternatives – Alternative 3: Low-Floor LRT/Tram

Source: KOA and ICF International, 2014.

Metro

Figure 2-15: Examples of Low-Floor LRT/Tram Vehicle Types

Portland Streetcar Vehicle in Operation

Low-Floor LRT Vehicle in Operation on Portland's MAX System

San Diego Trolley Low-Floor LRT Vehicle

Source: Wikipedia and sdmts.com, 2015.

Alignment

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; and
- 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.

Stations

The following stations are proposed with the Low-Floor LRT/Tram Alternative:

1. Sylmar/San Fernando Metrolink Station;
2. Hubbard Station;
3. Maclay Station;
4. Paxton Station;
5. Van Nuys/San Fernando Station;
6. Telfair Station;
7. Haddon Station;
8. Laurel Canyon Station;
9. Arleta Station;
10. Beachy Station;
11. Woodman Station;
12. Plummer Station;
13. Tupper Station;
14. Nordhoff Station;
15. Parthenia North Station;
16. Parthenia South Station;
17. Chase Station;
18. Roscoe Station;
19. Blythe Station;
20. Van Nuys Metrolink Station;
21. Valerio Station;
22. Sherman Way Station;
23. Hart/Vose Station;
24. Vanowen Station;
25. Kittridge Station;
26. Victory Station;
27. Erwin/Sylvan Station; and
28. Van Nuys Metro Orange Line Station.

The Low-Floor LRT/Tram stations would be ADA compliant, including compliance with the requirements pertaining to rail platforms, rail station signs, public address systems, and track crossings as described in Sections 8.10.5, 8.10.6, 8.10.7, 8.10.8, 8.10.9, and 8.10.10 of the 2010 ADA standards. The proposed Low-Floor LRT/Tram stations would be consistent with the Metro Rail Design Criteria, including directive and standard drawings. Metro's criteria apply to all station types (i.e., at-grade, subway, etc.). The typical Low-Floor LRT/Tram station platform would be a minimum of 12 feet wide for a side platform station to a minimum of 16 feet wide for a center platform station, 270 feet long. Access to the Low-Floor LRT/Tram station platforms would be from crosswalks. Canopies at the Low-Floor LRT/Tram stations would be approximately 13 feet high and would incorporate Low-Floor

LRT/Tram station stop pedestrian lighting to enhance safety. Low-Floor LRT/Tram station platforms may include single access or double; for stations with only one public access point, an emergency exit and stair would provide an exit at the opposite end of the platform. Low-Floor LRT/Tram stations would provide seating elements and contain ticket vending machines, variable message signs, route maps, and stand-alone validators, as well as include the name and location of the Low-Floor LRT/Tram station. In addition, Metro is moving to a fare gate system and such a system may be integrated into station design. Figure 2-16 illustrates a typical station with a canopy that would be constructed under the Low-Floor LRT/Tram Alternative.

Supporting Facilities

The Low-Floor LRT/Tram Alternative would require a number of additional elements to support vehicle operations, including an OCS, TPSS units, train signaling system, and an MSF.

Maintenance and Storage Facility

The new Low-Floor LRT/Tram MSF would accommodate both operational and administrative functions. The MSF would accommodate all levels of vehicle service and maintenance (i.e., progressive maintenance, scheduled maintenance, unscheduled repairs, warrantee service, and limited heavy maintenance) in addition to storage space for vehicles. The number of Low-Floor LRT/Tram vehicles needed under this alternative would be 46.

In the DEIS/DEIR, three alternative locations were identified for the MSF (as noted in Section 2.2.5.1, the preferred MSF site for the LPA is Option B). These locations are at or near the following intersections, in industrial areas, and are shown in Figure 2-17:

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

Overhead Contact System, Traction Power Substations, and Communications and Signaling Buildings

The OCS, TPSS, and Communications and Signaling Buildings would be similar to those described for the LPA in Section 2.2 above.

Operations

The proposed Low-Floor LRT/Tram would operate with 4-minute peak and 8-minute off-peak headways. Metro Rapid Line 744S would operate with 6-minute peak and 12-minute off-peak headways, while Metro Local Line 233S would operate with 8-minute peak and 16-minute off peak headways.

Based on Metro's Operations Plan for the East San Fernando Valley Transit Corridor Project, the Low-Floor LRT/Tram Alternative would assume a travel speed of 35 MPH, which is similar to the Median-Running BRT Alternative, with speed improvements of 18 percent during peak hours/peak direction and 15 percent during off-peak hours.

Figure 2-16: Typical Low-Floor LRT/Tram Station Examples

Source: Metro, John Kaliski Architects, 2015.

Figure 2-17: Locations of Potential MSF Sites Identified in the DEIS/DEIR

Source: KOA, 2014.

Parking Loss and Travel Lane Loss

Parking Loss

All curbside parking would be prohibited along the alignment on Van Nuys Boulevard and on San Fernando Road under DEIS/DEIR Alternative 3.

Travel Lane Loss

Travel lanes would be provided as follows:

- From its northern junction with Truman Street, near Bleeker Street, to Wolfskill Street, the number of travel lanes on San Fernando Road would be reduced from two lanes to one lane in each direction.
- From Wolfskill Street to Van Nuys Boulevard, San Fernando Road would retain its existing two lanes in each direction, with the Low-Floor LRT/Tram sharing a lane with motor vehicles in each direction.
- The number of travel lanes on Van Nuys Boulevard would be reduced from three to two lanes in each direction on Van Nuys Boulevard between San Fernando Road and the Metro Orange Line, and wider curb lanes would be narrowed near intersections.

Turning Restrictions

Most of the left turns would be prohibited from San Fernando Road through the City of San Fernando between the Sylmar/San Fernando Metrolink Station and Wolfskill Street.

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. The Transportation Impacts Report in Appendix G to this FEIS/FEIR includes a list of intersection turn restrictions. 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.

Bicycle Facilities

On Van Nuys Boulevard between San Fernando Road and the Metro Orange Line, the curbside lanes typically would be 11 feet wide. The existing bike lanes extending approximately 2 miles north on Van Nuys Boulevard from Parthenia Street to Beachy Avenue and from Laurel Canyon Boulevard to San Fernando Road would be removed, but the existing Class I bike path adjacent to San Fernando Road would remain in place. Class I bikeways, also known as bike paths or shared-use paths, are facilities with exclusive right of way for bicyclists and pedestrians, away from the roadway and with cross flows by motor traffic minimized. In addition, bicycle parking would be provided at or near Metro stations, as feasible.

Accessibility

Pedestrian Access

There would be underground access at the Sylmar/San Fernando Station from the LRT/Tram platform to the Metrolink platform.

On the segment of San Fernando Road, between Wolfskill Street and Van Nuys Boulevard, where the Low-Floor LRT/Tram would operate in mixed-flow, pedestrians may continue to cross San Fernando Road at any signalized location.

On all other segments where the Low-Floor LRT/Tram operates in a semi-exclusive guideway, pedestrian crossings would be permitted only at signal-controlled intersections.

Between the signalized intersections, a barrier would be installed to prevent mid-block pedestrian crossings, as is the current practice of Metro for safety reasons on its median-running LRT lines. Pedestrians would be required to walk to a signalized location to cross San Fernando Road or Van Nuys Boulevard. Low-Floor LRT/Tram passengers would reach the median station platforms from crosswalks at signalized intersections.

Access to Adjacent Businesses and Residences

Left turns into and out of driveways would be blocked by a median barrier under the Low-Floor LRT/Tram Alternative. Only right turns into and out of unsignalized cross streets and driveways would be allowed.

Right-of-Way

Several parcels occupying a total of 25 to 30 acres would need to be acquired to accommodate the MSF site. Right-of-way would also be required to access the MSF site from the alignment. This would differ depending on the MSF site that is ultimately selected, as follows:

- For MSF Option A, right-of-way would be required for vehicles to travel between Van Nuys Boulevard and the MSF site, in an alignment between the Metro Orange Line and Bessemer Street.
- For MSF Option B, which has been identified as the preferred MSF site by the Metro Board of Directions, additional acquisitions would be needed on the west side of Van Nuys Boulevard, from the Saticoy/Metrolink station, so that Low-Floor LRT/Tram vehicles could travel west of the Van Nuys Boulevard alignment to the MSF site in the industrial areas north of Keswick Street and just south of Raymer Street.
- For MSF Option C, additional acquisitions would be needed along Arminta Street west of the Van Nuys Boulevard alignment, so that the Low-Floor LRT/Tram vehicles could travel to the MSF site located within the industrial areas north of the Union Pacific Railroad and Metrolink tracks, and just south of Arminta Street.

In addition, parcel acquisitions would be required for the placement of TPSS approximately ¾ mile apart along the alignment.

2.4.4.2 Alternative 4: LRT

Under this alternative, the LRT would be powered by an OCS and travel 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. The distance is approximately 2.5 miles.

Then it would travel along Van Nuys Boulevard from San Fernando Road to the Van Nuys Metro Orange Line Station; a distance of approximately 6.7 miles. The route of the LRT Alternative is a total of approximately 9.2 miles. As described in the DEIS/DEIR, Alternative 4 includes a subway segment from just north of Parthenia Street south to Hart Street (see Figure 2-18).

Vehicles

LRT vehicles would be similar to those currently used throughout the existing Metro LRT system. 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.

Alignment

The Alternative 4 LRT alignment would have two tracks and be fully separated from automobile traffic, except at controlled grade crossings. The LRT Alternative would operate along the following route:

- Along and just east of San Fernando Road, from the Sylmar/San Fernando Metrolink Station south to Van Nuys Boulevard, the alignment would be located within the existing Metro-owned right-of-way currently used by Metrolink and the Union Pacific Railroad. Metrolink and the Union Pacific Railroad would continue to use a separate dedicated track;
- From the intersection of San Fernando Road and Van Nuys Boulevard to the Metro Orange Line, the LRT Alternative would operate in a semi-exclusive right-of-way in what is currently the median of Van Nuys Boulevard; within this segment, the LRT would be underground beneath Van Nuys Boulevard from just north of Parthenia Street south to Hart Street. The train would operate at prevailing traffic speeds and would be controlled by train signals that would coordinate with the traffic signals.

Stations

Stations would be constructed at approximately ¾-mile intervals along the entire route. There would be 14 stations, three of which would be underground. The three underground stations would be located near Sherman Way, the Van Nuys Metrolink Station, and Roscoe Boulevard. The following stations are proposed under the LRT Alternative:

1. Sylmar/San Fernando Metrolink Station
2. Maclay Station
3. Paxton Station
4. Van Nuys/San Fernando Station
5. Laurel Canyon Station
6. Arleta Station
7. Woodman Station
8. Nordhoff Station
9. Roscoe Station
10. Van Nuys Metrolink Station
11. Sherman Way Station
12. Vanowen Station
13. Victory Station
14. Van Nuys Metro Orange Line Station

Most local curbside bus stops along Van Nuys Boulevard north of the Metro Orange Line would remain in their current location. Along San Fernando Road and Truman Street, the existing bus stops would also remain in their current locations.

Figure 2-18: Rail Alternatives – Alternative 4: LRT

Metro

The proposed stations would have designs consistent with the MRDC, including directive and standard drawings. Stations would be ADA compliant, including compliance with the requirements pertaining to rail platforms, rail station signs, public address systems, clocks, escalators, and track crossings as described in Sections 8.10.5, 8.10.6, 8.10.7, 8.10.8, 8.10.9, and 8.10.10 of the 2010 ADA standards.

Supporting Facilities

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, which would similar to those described in Section 2.2 above for the LPA.

Operations

The proposed LRT would operate with 6-minute peak and 12-minute off-peak headways when it opens and is projected to operate at 5-minute peak and 10-minute off-peak once ridership begins to increase. Metro Rapid Line 744S would operate with 6-minute peak and 12-minute off-peak headways, while Metro Local Line 233 would operate with 8-minute peak and 16-minute off peak headways.

Parking Loss and Travel Lane Loss

Parking Loss

All curbside parking would be prohibited along the surface-running segments of the LRT Alternative on Van Nuys Boulevard.

Travel Lane Loss

This alternative would maintain two travel lanes in each direction, while traveling along Van Nuys Boulevard.

Turning Restrictions

Left turns from Van Nuys Boulevard onto cross streets would be maintained at most of the currently signalized intersections where the LRT 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 un-signalized 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.

Bicycle Facilities

Bicycle parking would be provided at or near Metro stations, as feasible. The existing bike lanes extending approximately 2 miles north on Van Nuys Boulevard from Parthenia Street to Beachy Avenue and from Laurel Canyon Boulevard to San Fernando Road would be removed.

The City of Los Angeles constructed a bicycle path within Metro's railroad right-of-way parallel to San Fernando Road. This existing Class I bike path would remain in place except in the City of San Fernando where the bike path would be relocated east in order to accommodate the relocated single Metrolink/Union Pacific Railroad track. The right-of-way is sufficiently wide enough to allow the bicycle path to remain alongside a pair of LRT tracks and relocated track for Metrolink and Union Pacific Railroad. At the point where the LRT Alternative crosses the bicycle path, near the intersection of Pinney Street and San Fernando Road, a signalized grade crossing would be provided.

Accessibility

Pedestrian Access

There would be a pedestrian bridge or underground access at the Sylmar/San Fernando Metrolink Station from the LRT platform to the Metrolink platform.

All current crosswalks at signal-controlled intersections would be maintained. Between the signalized intersections, a barrier would be installed to prevent mid-block pedestrian crossings, as is Metro's current practice on its median-running LRT lines for safety reasons. Pedestrians would be required to walk to a signalized location to cross Van Nuys Boulevard. LRT passengers would reach the median station platforms from crosswalks at signalized intersections.

Access to Adjacent Businesses and Residences

Left turns into and out of driveways would be blocked by a median barrier under the LRT Alternative. Only right turns into and out of cross streets and driveways would be allowed.

Right-of-Way

Several parcels occupying a total of 25 to 30 acres would need to be acquired to accommodate the MSF site. Right-of-way would also be required to access the MSF site from the alignment. This would differ, depending on the MSF site. MSF Option B has been identified by the Metro Board of Directions as the locally preferred site (please refer to Section 2.2, Locally Preferred Alternative, for further details). In addition, parcel acquisitions would be required for the placement of TPSS units at approximately ¾ mile intervals along the alignment, as well as at the San Fernando Road and Van Nuys Boulevard intersection.

Metro is the owner and operator of a mostly 100-foot-wide railroad right-of-way through Pacoima, City of San Fernando, and Sylmar that currently has a single track down the center of the corridor, with some sidings. Currently, the track serves Metrolink commuter rail service and the Union Pacific Railroad. Within Pacoima, the 100-foot width could accommodate two LRT tracks, one commuter and freight rail track, and the existing bike path. The right-of-way could accommodate center platform LRT stations near Paxton Street and Maclay Avenue

At the Pacoima Wash, north of SR-118, a pair of new bridges would be needed, one for the LRT tracks, and the other for the commuter/freight rail track. These bridges would lie alongside the existing San Fernando Road Bridge and the newly constructed bike path bridge.

Gated LRT Grade Crossings

For the portion of the LRT alignment within the Metro-owned railroad right-of-way, the grade crossings would be controlled by traditional vehicular crossing gates. Additionally, there would be pedestrian gates for at-grade street crossings, in addition to the traditional vehicular crossing gates. Under this alternative, where room permits, there would also be left-turn lane gates at signalized intersections along Van Nuys Boulevard where left turns are permitted across the LRT dedicated guideway. The gates would be activated whenever a train approaches the intersection to enhance safety at these locations.

2.5 CEQA Evaluation of Alternatives and Identification of Environmentally Superior Alternative

CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to a project or its location that could feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any significant environmental impacts. According to the CEQA Guidelines, the EIR should compare the merits of the alternatives and determine an environmentally superior alternative. The range of alternatives discussed in an EIR is governed by the *rule of reason*, which requires the identification of only those alternatives necessary to permit a reasonable choice between the alternatives and the proposed project. An EIR need not consider an alternative that would be infeasible. State CEQA Guidelines Section 15126.6(f)(1) explains that the evaluation of project alternative feasibility can consider a number of factors, including site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, and jurisdictional boundaries, and whether the proponent can reasonably acquire, control, or otherwise access the alternative site. The EIR is also not required to evaluate an alternative that 1) has an effect that cannot be reasonably identified or that has remote or speculative implementation, and/or 2) would not achieve the basic project objectives.

The DEIS/DEIR and this FEIS/FEIR have described and evaluated the environmental impacts of a range of alternatives. This section includes a summary description of the environmental impacts, for comparative purposes, of the alternatives described and evaluated in the DEIS/DEIR, i.e., the TSM Alternative and Alternatives 1 through 4, and the LPA and IOS, which are evaluated in detail in the chapters that follow in this FEIS/FEIR. The No-Build Alternative is also discussed in this section. The environmental impact analyses in the DEIS/DEIR are incorporated by reference and the reader is referred to that document for more detailed descriptions of the impacts of the TSM Alternative and Alternatives 1 through 4.

This section also identifies the environmentally superior alternative as required pursuant to Section 15126.6(e)(2) of the CEQA Guidelines and alternatives considered and eliminated from further review prior to the DEIS/DEIR pursuant to Section 15126(c).

2.5.1 Alternatives – Summary Descriptions of Impacts

2.5.1.1 No-Build Alternative

As discussed in Section 2.3.1, 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 related transportation projects that are currently under construction or funded for construction and operation by 2040. This alternative establishes a baseline for comparison to other alternatives in terms of potential environmental effects, including adverse and beneficial environmental effects.

Under the No-Build Alternative, none of the adverse or significant environmental impacts that could occur under the build alternatives evaluated in the DEIS/DEIR and this FEIS/FEIR would occur. However, as discussed in Chapter 1 of this FEIS/FEIR, without the transit improvements that would be provided under the build alternatives, traffic congestion would substantially increase, reducing travel speeds for motor vehicles and buses and increasing travel time and decreasing bus transit performance in the corridor. Pollutant emissions would also increase as a result of the increase in vehicle hours traveled and traffic congestion in the corridor. Thus, this alternative would not result in any of the transit or environmental (e.g., reduced air pollutant emission and greenhouse gases) benefits of the build alternatives, including the LPA.

2.5.1.2 TSM Alternative

Since the TSM Alternative would consist of relatively low-cost, minor improvements such as traffic signalization improvements, bus stop amenities/improvements, and bus schedule restructuring, construction activities would be minor in scale and no substantial operational changes would occur. As a consequence, impacts would be minor and no significant disruptions or impacts to local businesses and communities would occur during construction. The operational changes would also not result in any significant impacts to the environment. None of the significant impacts that would occur under Alternatives 1 through 4, the LPA, and the IOS would occur under this alternative.

2.5.1.3 Alternative 1: Curb-Running BRT

Construction and operation of a 9.2-mile curb-running BRT line along the corridor would result in significant impacts to the environment. The significant or potentially significant impacts that could occur include: the removal of bicycle lanes along Van Nuys Boulevard and resulting transportation, land use policy, community, and safety impacts; significant level-of service traffic impacts at 16 of 73 study intersections due to conversion of the curb lane to dedicated BRT; visual impacts due to removal of mature vegetation and trees; air pollutant emissions during construction that could exceed local significance thresholds and adversely affect local sensitive uses; construction noise impacts; release or disturbance of hazardous materials during construction; impacts to biological resources due to removal of protected trees and impacts to roosting bats or nesting birds due to vegetation removal; impacts on water quality during construction due to the potential release of construction related pollutants; and impacts on parklands due to construction noise and pollutant emissions. Implementation of proposed mitigation measures would reduce some of these significant impacts to a less-than-significant level; however, unavoidable significant impacts could remain in the following areas: transportation (removal of bicycle lanes and intersection level-of-service impacts), land use (conflicts with land use policies due traffic impacts and removal of bicycle lanes), air quality (construction pollutant emissions), noise (construction impacts), safety and security (removal of bicycle lanes); and parklands (construction impacts).

2.5.1.4 Alternative 2: Median-Running BRT

Alternative 2 would result in very similar or slightly greater impacts than those described above for Alternative 1 due to the longer construction period (24 months versus 18 months for Alternative 1). Additionally, the removal of traffic lanes along Van Nuys Boulevard to accommodate the median-running BRT would result in significant level-of-service traffic impacts at 24 of 73 study intersections versus 16 intersections under Alternative 1. The unavoidable significant impacts under Alternative 2 would be similar to Alternative 1 and would include impacts in the following areas: transportation (removal of bicycle lanes and intersection level-of-service impacts), land use (conflicts with land use policies due traffic impacts and removal of bicycle lanes), air quality (construction pollutant emissions), noise (construction impacts), safety and security (removal of bicycle lanes); and parklands (construction impacts).

2.5.1.5 Alternative 3: Low-floor LRT/Tram

This alternative would result in potentially greater impacts than Alternatives 1 and 2 because of the more extensive and disruptive construction activities and greater physical changes to the environment. The significant or potentially significant impacts that could occur include: the removal of bicycle lanes along Van Nuys Boulevard and resulting transportation, land use policy, community, and safety impacts; significant level-of service traffic impacts at 32 of 73 study intersections due to removal of travel lanes on Van Nuys Boulevard to accommodate the median Low-floor LRT/Tram guideway; community disruption due to business displacements; visual impacts due to removal of mature vegetation and trees and introduction of vertical structures (overhead contact system) along the alignment; air pollutant emissions during construction that could exceed local significance thresholds and adversely affect local sensitive uses; construction and operational noise impacts; release or disturbance of hazardous materials during construction; impacts to biological resources due to removal of protected trees and impacts to roosting bats or nesting birds due to vegetation removal; impacts on water quality during construction due to the potential release of construction related pollutants; impacts on parklands due to construction noise and pollutant emissions; and the potential disturbance or destruction of significant archaeological and paleontological resources if encountered during construction. Implementation of proposed mitigation measures would reduce some of these significant impacts to less than significant; however, unavoidable significant impacts would remain in the following areas: transportation (removal of bicycle lanes and intersection level-of-service impacts), land use (traffic impacts and removal of bicycle lanes would conflict with land use policies), communities and neighborhoods (business displacements); visual (impacts on scenic vistas and views due to introduction of overhead contact system poles and wires), air quality (construction pollutant emissions), noise (construction impacts), safety and security (removal of bicycle lanes); and parklands (construction impacts).

2.5.1.6 Alternative 4: LRT

Alternative 4 would include a subway segment and consequently would result in construction activities and impacts that are more extensive and would occur over a longer period of time than would occur under Alternative 3. However, the significant or potentially significant impacts of Alternative 4 would be generally similar to those described above for Alternative 3 with few exceptions. Specifically, Alternative 4 would result in significant level-of-service traffic impacts at 20 of 73 intersections due to removal of traffic lanes along the at-grade portion of the alignment on Van Nuys Boulevard, versus 32 intersections under Alternative 3. Alternative 4 would result in a greater potential for impacts to paleontological resources due to the greater depth of excavation required to construct the subway segment of the alignment. Implementation of proposed mitigation measures would reduce some of these significant impacts to less than significant; however, unavoidable significant impacts would remain in the following areas: transportation (removal of bicycle lanes and intersection level-of-service impacts), land use (traffic impacts and removal of bicycle lanes would conflict with land use policies), communities and neighborhoods (business displacements), visual (impacts on scenic vistas and views due to introduction of overhead contact system poles and wires), air quality (construction pollutant emissions), noise (construction impacts), safety and security (removal of bicycle lanes), and parklands (construction impacts).

2.5.1.7 Locally Preferred Alternative

The significant or potentially significant impacts due to construction and operation of the LPA would be very similar to those described above for Alternative 3. Consequently, the significant or potentially significant impacts that could occur include: the removal of bicycle lanes along Van Nuys Boulevard and resulting transportation, land use policy, community, and safety impacts; significant level-of service traffic impacts at 20 of 73 study intersections due to removal of travel lanes on Van Nuys Boulevard to accommodate the median Low-floor LRT/Tram guideway; community disruption due to business displacements; visual impacts due to removal of mature vegetation and trees and introduction of vertical structures (overhead contact system) along the alignment; air pollutant emissions during construction that could exceed local significance thresholds and adversely affect local sensitive uses; construction and operational noise impacts; release or disturbance of hazardous materials during construction; impacts to biological resources due to removal of protected trees and impacts to roosting bats or nesting birds due to vegetation removal; impacts on water quality during construction due to the potential release of construction related pollutants; impacts on parklands due to construction noise and pollutant emissions; and the potential disturbance or destruction of significant archaeological and paleontological resources if encountered during construction. Implementation of proposed mitigation measures would reduce some of these significant impacts to less than significant; however, unavoidable significant impacts would remain in the following areas: transportation (removal of bicycle lanes and intersection level-of-service impacts), land use (traffic impacts and removal of bicycle lanes would conflict with land use policies), communities and neighborhoods (business displacement), visual (impacts on scenic vistas and views due to introduction of overhead contact system poles and wires), air quality (construction pollutant emissions), noise (construction impacts), safety and security (removal of bicycle lanes); and parklands (construction impacts).

2.5.1.8 Initial Operating Segment

If the LPA is implemented in two phases, the first phase, or IOS, would consist of the segment of the LPA that extends along Van Nuys Boulevard from the Metro Orange Line on the south to San Fernando Road on the north, a distance of 6.7 miles. As a consequence, the physical and operational characteristics of the IOS would be the same as those for the Van Nuys Boulevard segment of the LPA and the significant or potentially significant impacts of the IOS would be similar to those of the LPA. However, although some impacts (such as construction impacts to air quality, noise, hazardous materials, and archaeological and paleontological resources) would still be significant, prior to mitigation, the extent of those impacts would be less than those of the LPA due to the fact that the IOS would occupy and construction would disturb a smaller project footprint than the LPA. Nonetheless, the IOS, like the LPA (as well as Alternatives 3 and 4), would result in significant or potentially significant impacts in the following areas: the removal of bicycle lanes along Van Nuys Boulevard and resulting transportation, land use policy, community, and safety impacts; significant level-of service traffic impacts at 16 study intersections due to removal of travel lanes on Van Nuys Boulevard to accommodate the LRT guideway; community disruption due to business displacements; visual impacts due to removal of mature vegetation and trees and introduction of vertical structures (overhead contact system) along the alignment; air pollutant emissions during construction that could exceed local significance thresholds and adversely affect local sensitive uses; construction and operational noise impacts; release or disturbance of hazardous materials during construction; impacts to biological resources due to removal of protected trees and impacts to roosting bats or nesting birds due to vegetation removal; impacts on water quality during construction due to the potential release of construction related pollutants; impacts on parklands due to construction noise and pollutant emissions; and the potential disturbance or destruction of significant archaeological and paleontological resources if encountered during construction. Implementation of proposed mitigation measures would reduce some of these significant impacts to less than significant; however, unavoidable significant impacts would remain in the following areas: transportation (removal of bicycle lanes and intersection level-of-service impacts), land use (traffic impacts and removal of bicycle lanes would conflict with land use policies), communities and neighborhoods (business displacement), visual (impacts on scenic vistas and views due to introduction of overhead contact system poles and wires), air quality (construction pollutant emissions), noise (construction impacts), safety and security (removal of bicycle lanes); and parklands (construction impacts).

Construction of phase 2 (the northern 2.5-mile segment of the LPA alignment) would occur over a 3- to 4-year period and it's expected that both construction and operational impacts would be similar to those that would occur under the LPA for this segment.

2.5.2 Environmentally Superior Alternative

Under CEQA, identification of an environmentally superior alternative is required per Section 15126.6(e)(2) of the CEQA Guidelines. In general, the environmentally superior alternative is the alternative that would be expected to generate the fewest adverse impacts. In this case, the No-Build Alternative would result in the fewest impacts on the existing environment. However, it should also be recognized that there could be adverse transportation, air quality, and greenhouse gas environmental consequences from making no improvements to transit service along the project corridor, and none of the mobility and connectivity benefits for the community that could occur under the proposed build alternatives would occur under the No-Build Alternative.

Pursuant to CEQA regulations (see State CEQA Guidelines Section 15126.6(e)(2), when the No-Project (aka No-Build) Alternative is the environmentally superior alternative, then the EIR shall also identify an environmentally superior alternative among the other alternatives. To determine which of the other alternatives would be environmentally superior, the analysis focuses on those impacts identified as adverse and/or significant and unavoidable, even after mitigation.

To facilitate a comparison of the alternatives' impacts and other performance metrics, Table 2-1 below, has been developed. As shown in Table 2-1, the TSM Alternative would not result in any significant impacts/adverse effects after mitigation, as opposed to all five build alternatives, which would result in significant impacts/adverse effects after mitigation. The TSM Alternative would, therefore, be the environmentally superior alternative. However, as shown in Table 2-1, the TSM Alternative would meet only one of the three primary project objectives. Alternatives 1 through 3 would meet most of the project objectives; Alternative 4, the LPA, and the IOS would meet all of the project objectives. Among Alternatives 1 through 4, the LPA and the IOS, Alternative 1 would be the environmentally superior alternative because, as shown in the table below, it would result in unavoidable significant adverse impacts in five of the 17 environmental impact categories identified in the table, compared with seven for Alternative 2 and eight for Alternatives 3, 4, the LPA, and the IOS. However, it should be noted that Alternative 1 would not provide the mobility and environmental benefits that could occur under the LPA and IOS.

Table 2-1: Alternatives Evaluation

Criteria	No Build	TSM	Alt 1: Curb-Running BRT	Alt 2: Median-Running BRT	Alt 3: Median-Running Low-Floor LRT/Tram	Alt 4: Median-Running LRT	LPA (Alt. 4 Modified: At-Grade LRT)	IOS
Project Objectives								
Provide new service and/or infrastructure that improves passenger mobility and connectivity to regional activity centers	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Increase transit service efficiency (speeds and passenger throughput) in the project study area	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Make transit service more environmentally beneficial through reductions in greenhouse gas emissions in the project study area.	No	No	No	No	No	Yes	Yes	Yes
Alternative Features								
New daily system-wide linked trips in 2040	N/A	466	2,970	2,969	8,452	9,786	9,549	7,476
Average weekday daily boardings on Van Nuys Blvd. in the Study Area	33,247	38,128	46,644	46,934	55,145	62,884	62,206	57,430
Travel time (minutes)*	35.7	35.7	32.2	29.2	34.3	25.4	25.9	22.0
Capital costs (millions of $ [2018])	$ 0	$39.4	$329.3	$450.2	$1,456	$2,995–$3,220	$1,900-$2,200	$1,700-$1,900
Alternative length (miles)	N/A	N/A	9.2	9.2	9.2	9.2	9.2	6.7
New stations	0	0	18	17	28	14	14	11
Significant Environmental Impacts Remaining after Mitigation?								
Transportation, Transit, Circulation, and Parking	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Land Use	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Real Estate & Acquisitions	No	No	No	No	No	No	No	No

Criteria	No Build	TSM	Alt 1: Curb-Running BRT	Alt 2: Median-Running BRT	Alt 3: Median-Running Low-Floor LRT/Tram	Alt 4: Median-Running LRT	LPA (Alt. 4 Modified: At-Grade LRT)	IOS
Fiscal and Economic Impacts	No	No	No	No	No	No	No	No
Communities and Neighborhoods	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Visual Quality and Aesthetics	No	No	No	No	Yes	Yes	Yes	Yes
Air Quality	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Greenhouse Gas Emissions	No	No	No	No	No	No	No	No
Noise and Vibration	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Geology, Soils, and Seismicity	No	No	No	No	No	No	No	No
Hazardous Waste and Materials	No	No	No	No	No	No	No	No
Energy	No	No	No	No	No	No	No	No
Ecosystems and Biological Resources	No	No	No	No	No	No	No	No
Water Resources/Hydrology and Water Quality	No	No	No	No	No	No	No	No
Safety and Security	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Parklands and Community Facilities	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Historic, Archaeological, and Paleontological Resources	No	No	No	No	No	No	No	No

* AM peak northbound travel time from Metro Orange Line to Sylmar Metrolink station. For the IOS Alternative, travel time shown is from Metro Orange Line to San Fernando Road.

Source: KOA and ICF, 2019.

2.5.3 Alternatives Considered and Eliminated from Further Review Prior to the DEIS/DEIR

Many alternatives were considered prior to the development of the DEIS/DEIR, however for various reasons, such as not meeting the project's purpose and need, they were eliminated. The following alternative alignments were considered but eliminated from further review:

- Sepulveda Boulevard – Other than the southern segment, this alignment failed to link with many primary destination points, would realize fewer boardings than an alignment primarily on Van Nuys Boulevard, and was opposed by the community in the northern section of the alignment.
- I-210 Freeway Terminus Point – An alignment to this location failed to link with local/regional bus or rail service and lacked the ridership potential when compared with an alignment terminating at the Sylmar/San Fernando Metrolink Station. The Metrolink Station provides regional and local linkages, a park-and-ride, bus layover facilities, and garnered greater community support.
- Van Nuys Boulevard between the Metro Orange Line and Ventura Boulevard – Since the alignment of the future Sepulveda transit corridor project has not yet been determined, nor where such a transit line would connect to existing transit lines in the San Fernando Valley, it was decided that this transit corridor should not preclude the location of the connection. Therefore, the southern terminus for this corridor was modified to be at an existing transit line.

2.6 Construction Activities

Chapter 4 of this FEIS/FEIR includes a detailed discussion of potential construction impacts, by resource. The following text in this section is intended to provide a general description and understanding of the types of activities that would be required to construct the LPA and the IOS. The determination of actual construction methods and equipment will be based on a competitive bidding process, and therefore, the information shown below should be regarded as illustrative of typical construction methods.

This description of construction is based on information currently known about construction of the LPA and IOS. Details of the construction process may well differ from this description; for example, different construction staging areas may be used or different construction sequencing may be followed. Major project elements would include stations, a maintenance and storage facility, track work, fire-related life safety features, power, lighting architecture, aesthetics, turnarounds for stations, and landscaping. Street work refers to work related to curbs, gutters, striping, traffic signals, and sidewalks. Signaling, traction power, and communication equipment would also be installed.

2.6.1 Construction Process

Construction activities would most likely begin simultaneously at several locations along the project corridor to accommodate areas of work requiring lengthy construction times and bring the different segments of the project to completion and meet the project completion schedule. Many contractors specializing in various methods of construction would be working on the project during the construction period. Construction of the project would follow all applicable local, state, and federal laws for building and safety. Working hours would vary to meet special circumstances and restrictions, and efforts would be made to ensure working hours are appropriate for the community. Efforts will be made to periodically communicate with the community to keep residents and businesses informed. Standard construction methods would be used for traffic, noise, vibration, and dust control, consistent with all applicable laws and as described in the following sections.

The subsequent sections of this report discuss proposed construction under the LPA and IOS, because the No-Build Alternative would not include construction activities under the proposed project. The expected construction schedule is summarized at the end of each of these sections. Generally, construction would be divided into a series of activities, which would often overlap to minimize the duration of construction and the associated impacts.

2.6.1.1 Construction Scenario

Proposed construction activities under the LPA and IOS would generally occur sequentially, as described below, over a period of approximately 4.5 to 5 years.[4] If the project is implemented in phases (phase 1 IOS and phase 2), construction of phase 2 (i.e., the northern 2.5-mile segment of the alignment) is expected to occur over a 3- to 4-year period.

- Preconstruction and Site Preparation;
- Construction of Transit Structures and Infrastructure; and
- Construction of Support Systems and Finish Work.

The text that follows focuses on the construction features or methods unique to this alternative.

Preconstruction and Site Preparation

The construction process would begin with the preconstruction and site preparation phase. During this phase, plans and programs (described below) would be developed to manage the construction process and minimize disruption to the community and adverse effects on the environment. Included among these plans would be a community outreach program, which would be developed prior to any physical construction. The purpose of the outreach plan would be to inform the public about the construction process and notify residents, businesses, and emergency response service providers of the proposed construction schedule, including dates and duration of anticipated road closures. Public awareness strategies would include various methods to reach out to and educate and inform the public, businesses, and the community about the construction process and activities. The outreach program may also include surveys of individual businesses to identify business usage, delivery and shipping patterns, and critical times of the day or year for business activities. This information would be used by Metro to develop construction requirements and worksite traffic control plans and identify alternative access routes and requirements to maintain critical business activities.

[4] This is the overall construction duration. Construction would be divided into a series of activities and segments, which would often overlap to minimize the duration of overall construction. Constructing in segments would also minimize the length of time construction activities occur in front of a particular block of properties so properties are not affected during the entire duration of construction but mainly when activities are occurring on that particular block.

Additional site investigations may also be required during this phase and prior to construction to confirm the presence or absence of sensitive resources (e.g., buried archaeological or paleontological resources) and hazardous materials.

Site preparation would include developing safety plans, preparing the work site, and accepting construction crews and equipment and could include street/sidewalk closures, detours, redirection for parking, clearing existing street furniture, street trees, or vegetation, grubbing, grading, and the relocation of utilities (see relocation discussion below) during site preparation. Some curb lane closures and work related to potholes and utilities would also be necessary, and bus stops would need to be temporarily relocated outside of the work areas. In some instances, existing stops may need to be closed for some time; the nearest bus stops would serve patrons of the temporarily closed stop(s). This information would be disseminated prior to beginning construction activities. Advance notice would be provided to individual owners (businesses and residences), owner's agents, and tenants of buildings adjacent to work sites before altering access to those locations and adjacent public sidewalks or before prohibiting stopping and/or parking of vehicles. Additionally, special temporary signs would be used to inform customers that merchants and other businesses are open and provide special access directions, if warranted.

Traffic Management Plan

Several aspects of the preconstruction and site preparation phase would be addressed by the Traffic Management Plan (TMP), which would be prepared and implemented by the construction contractor to mitigate construction traffic impacts. The TMP will require review and approval by Metro and the Cities of Los Angeles and San Fernando. The TMP would address the mobility and safety needs of the motoring public, construction workers, businesses, bicyclists, and the community as well as facilitate the flow of automobile and pedestrian traffic during construction. The TMP would consist of a temporary traffic control plan that addresses both transportation operations and public information components. Measures may include traffic control devices and possibly flagmen and/or traffic officers, frequent street sweeping, and the implementation of diversions/detours to facilitate traffic flow throughout the construction zones. The specific measures that will be implemented will vary during the course of construction in response to site specific requirements and as necessary to safely and efficiently manage traffic flow. Metro has utilized full street closures to expedite construction in past projects, and this option could be utilized to expedite construction on this project. However, to the extent practical, at this time it is anticipated that at least one traffic lane would be maintained in both directions, particularly during the morning and afternoon peak hours, and access to adjacent businesses via existing or temporary driveways would be maintained throughout the construction period. Additionally, a minimum 3-foot-wide route for pedestrians would be provided along sidewalks; however, it's possible that some temporary sidewalk closures may be required, particularly during the early stages of construction. The construction contractor would also be responsible for developing detour plans and worksite traffic control plans and identifying haul routes in consultation with the City of Los Angeles (Department of Transportation) and City of San Fernando.

Coordination with School Districts, Cities of Los Angeles and San Fernando, and Emergency Responders

Temporary road closures may be required and access may be temporarily disrupted during construction activities. Coordination with local school districts would be conducted to disclose potential road closures and suggest detour routes for carpooling and access to schools. Additionally, coordination with fire and police departments of both the City of Los Angeles and City of San Fernando would also occur at this time. The Cities of Los Angeles and San Fernando would be given advance notice of upcoming roadway and sidewalk modifications to coordinate with relevant City personnel and help coordinate public information regarding said roadway/sidewalk modifications. The intent of such coordination would be to identify and ensure adequate access routes are maintained and emergency services response times are maximized.

Haul Routes

The construction contractor would coordinate with the local jurisdictions to designate and identify haul routes for trucks and establish hours of operation. The selected routes would be chosen in order to facilitate the movement of construction vehicles leaving the immediate area as expeditiously as practicable and thereby minimize noise, vibration, and other effects associated with construction hauling. Street sweeping would be implemented to keep haul routes clean and clear of debris.

Construction Phasing and Staging Plan

The preconstruction and site preparation phase would include the development and implementation of the Construction Phasing and Staging Plan by the construction contractor. This plan would be required to control the impacts of construction in any segment by limiting the areas that may be constructed at a particular time. The goal of the Construction Phasing and Staging Plan would be to maximize the work area under construction while minimizing the inconvenience to businesses and the motoring public. Staging areas identified by the contractor will be included in the plan or in a supplemental document, as required by Metro. Typically, staging areas would be located on parking lots, vacant private properties, or within public rights-of-way (including the curb lane) and may require temporary easements and City encroachment permits be obtained by the construction contractor.

Utility Relocations

Construction of the LPA and IOS may require utility relocations, including power pole relocations, along the alignment. During preconstruction, existing utilities may be more closely inspected and evaluated, including the depth, condition, and exact location. An operation called potholing is typically done to physically locate certain utilities so that they can be appropriately marked and protected. Any utilities in conflict with construction activities would need to be relocated, modified, or protected in place. Protecting in place is the method of choice because this is less disruptive to streets and less costly. In some instances, utility relocation may also be required to ensure access is provided for utility service providers to inspect and maintain their utility infrastructure.

Construction of Transit Structures and Infrastructure

This phase would involve construction of the LRT infrastructure and sidewalk reconstruction. Under the LPA, 14 stations would be constructed at approximately ¾-mile intervals along the entire 9.2-mile route. Under the IOS, 11 stations would be constructed along the 5.7-miles segment along Van Nuys Boulevard. Figure 2-19 is a photograph providing an example of construction of an LRT station in the street median.

Temporary Street and Lane Closures, Detour Routes

At the start of construction within each work area, on-street parking areas would be removed for project-related construction activities. Temporary street and lane closures may be necessary under the LPA and IOS. Figure 2-20 shows an example of a temporary lane closure along a major street, similar to what could be expected to occur along Van Nuys Boulevard. The extent and duration of the closures would depend on a number of factors, including the construction contract limits and type of construction

Figure 2-19: Example of Street Median LRT Station Construction

Source: Metro, 2015.

Figure 2-20: Example of Temporary Traffic Control at Intersections during Construction

Source: Metro, 2015.

activity and the amount of space needed to safely perform the activity, and would be coordinated with the Cities of Los Angeles and San Fernando, as necessary. Restrictions on the extent and duration of the closures can be incorporated in the project construction specifications. In some cases, short-term full closures might be substituted for extended partial closures to reduce overall impacts. Community outreach to keep the public and businesses advised as to closures would be provided. Signage and access to businesses would also be provided.

Under the LPA and IOS, the construction contractor would develop detour routes to facilitate traffic movement through construction zones without significantly increasing cut-through traffic in adjacent residential areas. Additionally, where feasible, Metro would temporarily restripe roadways, including turn lanes, through lanes, and parking lanes at the affected intersections to maximize the vehicular capacity at those locations affected by construction closures. A majority of construction-related travel (i.e., deliveries, hauling, and worker trips) would be scheduled during the off-peak hours.

On-street parking may be removed to maximize vehicular capacity at those locations affected by construction closures. Additionally, traffic control officers may be placed at major intersections during peak hours to minimize delays related to construction activities.

Construction of the LRT Dedicated Guideway

The construction of the LRT dedicated guideway would require the use of earth-moving equipment, pneumatic tools, generators, concrete pumps, and similar equipment. Demolition, clearing, and earthwork would be required under the LPA and IOS. This would include excavation and demolition associated with the roadway, pile driving for structures, removal of curbs and gutters, and removal of sidewalks (Figure 2-21). Additionally, a pedestrian bridge or tunnel would be constructed at the Sylmar/San Fernando station from the proposed platform to the Metrolink platform.

Figure 2-21: Example of In-Street Excavation

Source: Metro, 2015.

Construction of the Proposed Stations and Associated Infrastructure

Stations

Under the LPA and IOS, 14 stations would be constructed at approximately ¾-mile intervals along the entire route. The LRT stations would be ADA compliant. The typical LRT station platform would be, at a minimum, 12 feet wide for a side platform station and a minimum of 16 feet, 2 inches wide for a center platform station; the platform would be 270 feet long, rising from the street and sidewalk level via ADA-compliant accessible ramps to a 39-inch height. Access to the LRT station platforms would be from crosswalks. Canopies at the LRT stations would be approximately 13 feet high and would incorporate LRT station stop lighting to enhance safety.

The proposed stations would be constructed using standard construction techniques used by Metro. Common elements that would be installed during construction would include signage, maps, fixtures, furnishings, lighting, and communications equipment. LRT station platforms include two entry ways; for stations with only one public access point, an emergency exit and stair would provide an exit. LRT stations would provide bench seating and contain ticket vending machines, video message signs, route maps, and stand-alone validators, as well as include the name and location of the LRT station.

Construction of the at-grade stations would involve cast-in place concrete or pre-cast panels to construct a platform. Station furnishings, including canopy, railings, lighting, seating, signage, fare gates, and fare vending equipment, would then be installed. The stations would be constructed of standard building materials such as concrete, steel, and other materials per Metro design criteria. Steel-wheeled or rubber-tired compactors, graders, and small bulldozers would be required for subgrade preparation below the platform. Construction of the stations would also require trucks for the removal of excavated soil; transit mix concrete trucks and concrete pumps; trucks to deliver forms, reinforcing steel, and other materials; and water trucks for dust control.

Stations would also include bike lockers at the stations or in proximity to stations. In addition, signage and safety and security equipment, such as closed-circuit televisions, public announcement systems, passenger assistance telephones, and variable message signs (providing real-time information), would be installed.

Overhead Contact System

The OCS would consist of a set of two copper wires—a contact wire and a messenger wire—supported by steel poles mounted on reinforced concrete foundations. The LRT vehicles would include a telescoping pantograph or "arm" on the roof of the vehicles that would slide along the underside of the contact wire and deliver electric power to the vehicles. The OCS poles would be approximately 30 feet tall and typically located approximately every 90 to 170 feet between or outside of the two LRT tracks. Where the available public right-of-way width is extremely limited, the OCS poles would be placed on the sidewalk.

Construction of the OCS would initially involve constructing the foundations for the OCS poles. This would be accompanied by construction of duct banks and conduit for the underground electrical feeder lines from the TPSS units, followed by the installation of the OCS poles. The final stage would involve installation of the TPSS feeder cables and OCS, which would occur after dedicated guideway construction. Construction of the foundations and ducts, as well as installation of the poles and feeder cables, would require augers, cranes, backhoes, and concrete and material trucks. The OCS would be installed from the dedicated guideway using special vehicles, such as high-rail vehicle.

Traction Power Substations

TPSS units would be typically placed approximately every ¾ mile. The LRT vehicles would be powered by approximately 14 TPSS units, which would be spaced relatively evenly along the alignment to provide direct current to the LRT vehicles. TPSS units would be located at points along the alignment where maximum power draw is expected (such as at stations and on inclines).

The size of each TPSS building unit would be approximately 20 by 50 feet and about 15 to 17 feet high. However, the TPSS sites would contain ancillary equipment outside of the TPSS building. The fenced TPSS site would be approximately 80 by 100 feet, including the building and ancillary equipment. The unit would require access to the local road network for equipment installation and maintenance. Construction and installation would require power to be fed to the OCS through underground feeders in duct banks and up a pole to a connection with the contact wire.

The TPSS units may be located within the public right-of-way, in parking lots, or in acquired parcels. For the purposes of analysis in this FEIS/FEIR, potential or typical TPSS locations were evaluated. However, other more suitable locations could be selected if they become available and are comparable to the potential locations analyzed herein.

Each TPSS site would be cleared and graded, and a concrete slab would be constructed with the appropriate underground utility connections. A grounding mat would be installed around the perimeter of the site. The TPSS is a prefabricated structure. It would be delivered, mounted on the slab, and connected to the utilities. Fencing or another type of barrier would be installed around the perimeter of the site, and architectural and landscaping treatments would be applied as feasible and in accordance with Metro design criteria. Graders, bobcats, forklifts, cranes, and concrete and materials/equipment trucks would be required to construct the TPSS facilities.

Maintenance and Storage Facility

The LPA and IOS would include construction of a new MSF. The construction of the MSF would include standard methods associated with construction of track work and buildings, such as leveling of land and construction of new sheds/maintenance buildings, as well as track work for storage of the rail vehicles. The MSF site would be approximately 25 acres in size. The following rail connection would need to be constructed for the rail vehicles to access the MSF site under the LPA and IOS: a turnoff south of the Van Nuys Metrolink Station is proposed where the LRT vehicles would travel to the MSF site located within the industrial areas just south of Raymer Street.

Communications and Signaling

Coordination with traffic signal timing and LRT equipped with transit signal priority equipment will allow for safe and improved operations and on-time performance. The LRT would receive a green light only when conflicting traffic has a red light. LRTs would be equipped with transit signal priority equipment to allow for improved operations and on-time performance.

Construction of Support Systems and Finish Work

This phase would include installation of electrical, mechanical, communications, and traffic control systems and signals; street lighting (street lighting would be upgraded to provide consistent illumination along the alignment); landscaping; and signage. This could also include striping, closure of detours, cleanup activities, and testing of systems.

With regard to traffic signals, the LRT cars would be controlled by the traffic signals that govern vehicular traffic on Van Nuys Boulevard. Every traffic signal on Van Nuys Boulevard would be modified to provide for LRT signals.

Construction Schedule

Under this alternative, the duration of construction is estimated to be approximately 4.5 to 5 years. Project construction would typically take place between the hours of 7 a.m. and 9 p.m. within the City of Los Angeles, in accordance with the Los Angeles Municipal Code Section 41.40(a), and 7 a.m. and 6 p.m. within the City of San Fernando, in accordance with San Fernando City Code Section 34-28(10). Construction activities would be minimized during weekday AM and PM peak hours (typically 7 to 9 a.m. and 4 to 6 p.m.). Truck hauling of spoils may be required at night to avoid congested surface streets and highways.

2.7 Anticipated Permits and Approvals

Certification of the EIR and approval of the project by the Metro Board of Directors and approval of the EIS by FTA would be required prior to construction and implementation. This EIR is a project EIR, as defined by Section 15161 of the State CEQA Guidelines and, as such, serves as an informational document for the general public and the project's decision-makers. Metro, as CEQA lead agency, has the responsibility for preparing and certifying the FEIS/FEIR, pursuant to State CEQA Guidelines Sections 15089 and 15090, respectively.

Implementation of the project would require discretionary actions and permits from the agencies identified in Table 2-2.

2.8 Approach to the Cumulative Impacts Analysis

CEQA requires an environmental impact report to evaluate a project's contribution to cumulative impacts. Cumulative impacts are the project's impacts combined with the impacts of the related past, present, and reasonably foreseeable future projects. Cumulative impacts discussions for each environmental topic area are provided in this document. As stated in CEQA, Title 14, Section 21083 (b)(2), a project may have a significant effect on the environment if the "possible effects of a project are individually limited but cumulatively considerable." As used in this paragraph, 'cumulatively considerable' means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." State CEQA Guidelines Section 15130(b) states that the discussion of cumulative impacts can be either "a list of past, present, and probably future projects" 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." The cumulative impact analysis in this FEIS/FEIR uses both the summary of projections approach and related projects list, depending on the impact area. The appropriate adopted planning document is the SCAG 2012–2035 RTP/SCS. However, SCAG updated the RTP/SCS to reflect the years 2016-2040. The 2016–2040 timeframe for projections is more appropriate than the 2012–2035 timeframe because it more closely resembles the estimated operational date for this project. Therefore, for purposes of this FEIS/FEIR, the modeling and calculations for cumulative impacts used throughout the analyses reflect a 2040 horizon year.

Table 2-2: Anticipated Permits and Approvals

Federal Transit Administration	Approval of EIS as lead agency under NEPA	End of Environmental Phase
Los Angeles County Metropolitan Transportation Authority (Metro) Board of Directors	Certification of the EIR, adoption of Findings and Statement of Overriding Considerations, adoption of the Mitigation Monitoring and Reporting Program	End of Environmental Phase
City of Los Angeles	Various permits and approvals including those from Bureau of Engineering, Bureau of Street Services, Bureau of Sanitation, Police Department, and Fire Department Approval of traffic signal/transit priority system improvement concepts and street restriping concepts; recommendation for approval by the City Council	End of Environmental Phase, Final Design Plans, and Construction Phase
City of San Fernando	Discretionary actions and permits would be required	Environmental Phase through Construction
Metrolink	Approval for track relocations	Final Design Plans and Construction Phase
Union Pacific Railroad	Approval for track relocations	Final Design Plans and Construction Phase
US Army Corps of Engineers	Permits and approval for potential encroachments on the Pacoima Wash	Final Design Plans and Construction Phase
California Department of Transportation (Caltrans)	Permits or approvals for encroachment on the I-5 and SR-118 freeway ramps	Final Design Plans and Construction Phase
California Public Utilities Commission	Approval for grade crossings	Final Design Plans and Construction Phase
Los Angeles Regional Water Quality Control Board	Stormwater Pollution Prevention Plan (SWPPP) and National Pollutant Discharge Elimination System (NPDES) General Permit	Pre-Construction and Construction Phases

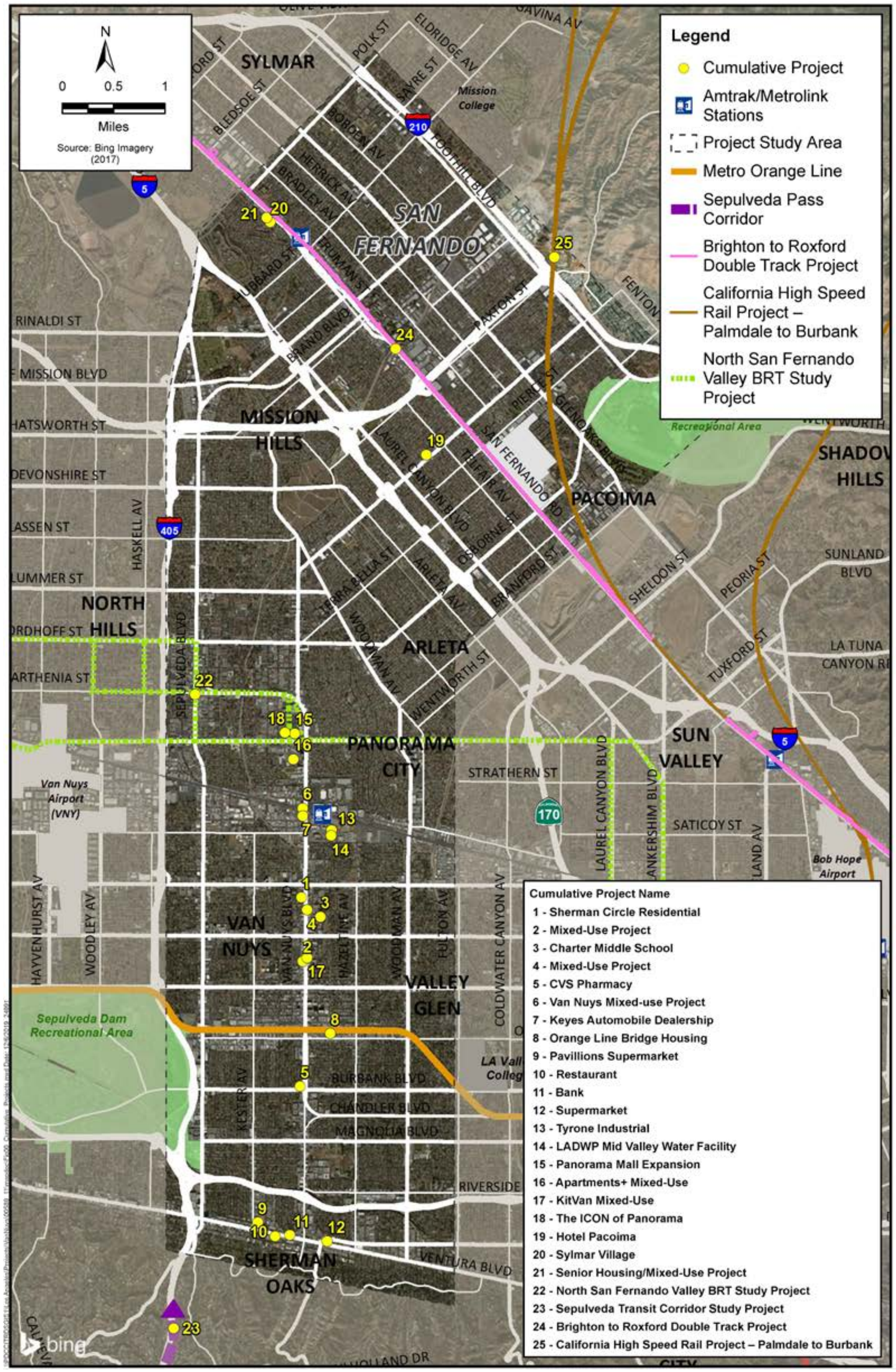
Source: ICF, Metro, 2019.

For the purposes of this analysis, the general study area used for the determination of cumulative impacts includes parts of the City of San Fernando and the communities of Mission Hills, Pacoima, Arleta, Panorama City, and Van Nuys. The general study area boundaries include the Santa Monica Mountains (just north of Foothill Boulevard) to the North, Polk Street and Sepulveda Boulevard to the West, just south of Ventura Boulevard on the South, and Fulton Avenue and Branford Street to the East. These boundaries encompass all past, present, and reasonably foreseeable projects (with impacts related to the proposed project) near the proposed project and alignment. Related projects located within the general study area are depicted in Figure 2-22 and listed in Table 2-3. If the study area for a particular resource area differs from the general study area, that study area is identified in the relevant section below.

Detailed descriptions of the affected environment/existing conditions for each of the resource areas (visual and aesthetics; air quality; cultural resources; ecology and biology; etc.) can be found in the individual technical studies prepared for each resource area. An overview of the affected environment within the study defined above is provided below.

The project study area is located in the San Fernando Valley area of Los Angeles. The San Fernando Valley is a flat area consisting of approximately 260 square miles, and is bounded by the Santa Susana Mountains to the northwest, the Simi Hills to the west, the Santa Monica Mountains and Chalk Hills to the south, the Verdugo Mountains to the east, and the San Gabriel Mountains to the northeast. The San Fernando Valley is an urbanized area that includes a variety of land uses, including residential, commercial, institutional, and light industrial development. The project corridor is approximately 9.2 miles in length and runs nearly the entire north/south length of the valley floor.

Figure 2-22: Cumulative Projects



Source: ICF, 2019.

Table 2-3: Cumulative Projects

Map Reference No.	Status	Project Title	Project Description/Scope	Project Location
1	Completed	Sherman Circle Residential	355 d.u. Apartments	14500 West Sherman Circle
2	Pre-Construction	Mixed-Use Project	184 d.u. Apartments and 21.8 ksf Shopping Center	6569 Van Nuys Blvd
3	Unclear	Charter Middle School	400 students School	6901Lennox Ave
4	Pre-Construction	Mixed-Use Project	170 d.u. Apartments and 2.112 ksf Shopping Center	7002 Van Nuys Blvd
5	Completed	CVS Pharmacy	12.83 ksf Shopping Center/Retail	5601 Van Nuys Blvd
6	Shelved	Van Nuys Mixed-use Project	384 d.u. Apartments, 9 ksf Retail and 8 ksf Restaurant	6001 N Van Nuys Blvd
7	Pre-Construction	Keyes Automobile Dealership	82.273 ksf Automobile Sales (New)	6001 N Van Nuys Blvd
8	Pre-Construction	Orange Line Bridge Housing	100 d.u. Beds	14301 W Aetna Street
9	Under Construction	Pavilions Supermarket	0.04 ksf Other 2.97 ksf Other	14845 Ventura Blvd
10	Completed	Restaurant	6.88 ksf Restaurant Complex	14708 Ventura Blvd
11	Completed	Bank	7 ksf Bank replacing 7 ksf office	14601 Ventura Blvd
12	Under Construction	Supermarket	55.475 ksf Supermarket	14311 Ventura Blvd
13	Unclear	Tyrone Industrial	288.296 ksf Light Industrial	7600 Tyrone Ave
14	Under Construction	LADWP Mid Valley Water Facility	235.967 ksf Industrial	7600 Tyrone Ave
15	Pre-construction	Panorama Mall Expansion	45 ksf Retail	8401 Van Nuys Blvd
16	Constructed	Apartments+ Mixed-Use	180 d.u. Apartments 11 ksf Retail 49.5 ksf Other	8155 Van Nuys Blvd

Map Reference No.	Status	Project Title	Project Description/Scope	Project Location
17	Pre-construction	KitVan Mixed-Use	54 d.u. Apartments 3.16 ksf Retail	6600 Van Nuys Blvd .
18	Pre-construction	The ICON of Panorama	623 units of housing and 60,000 square feet of commercial space	14665 W Roscoe Blvd
19	Constructed (different use)	Hotel Pacoima	44 Room Hotel	13535 Van Nuys Blvd
20	Constructed	Sylmar Village	246 d.u. Condos 0.9 ksf Office 9 ksf Other -2 ksf Other -1 d.u. Single-Family Homes	12385 San Fernando Road
21	Constructed	Senior Housing/Mixed-Use Project	101 d.u. Senior Housing Units	12415 San Fernando Road
22	Planning	North San Fernando Valley BRT Study Project	Bus rapid transit line connecting the west San Fernando Valley with the eastern San Fernando Valley	Northern San Fernando Valley
23	Planning	Sepulveda Transit Corridor Study Project	Rail transit line connecting the Valley with West Los Angeles	San Fernando Valley and West Los Angeles
24	Planning	Brighton to Roxford Double Track Project	Addition of a second track along the Metrolink Antelope Valley Line	Sun Valley to Sylmar along the Metrolink Antelope Valley Line
25	Planning	California High Speed Rail Project – Palmdale to Burbank	High speed rail line connecting Palmdale and Burbank	Palmdale, Los Angeles, and Burbank

Source: KOA and ICF International, 2019.

Chapter 3
Transportation, Transit, Circulation, and Parking

3.1 Regulatory Framework and Methodology

3.1.1 Regulatory Framework

The applicable federal, state, and local regulations that are relevant to an analysis of the proposed project's transportation impacts are listed below. For additional information regarding these regulations, please see the Transportation Impacts Report in Appendix G of this FEIS/FEIR.

3.1.1.1 Federal

There are no federal regulations applicable to an analysis of the project's transportation impacts.

3.1.1.2 State (Senate Bill 743 and State CEQA Guidelines Section 15064.3)

Senate Bill (SB) 743, codified in Public Resources Code Section 21099, created a shift in transportation impact analysis under CEQA from a focus on automobile delay as measured by level of service (LOS) and similar metrics toward a focus on reducing vehicle miles traveled (VMT) and greenhouse gas (GHG) emissions. The Legislature required the Governor's Office of Planning and Research (OPR) to propose new criteria for determining the significance of transportation. The statute states that upon certification of the new criteria, automobile delay, as described solely by LOS or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment under CEQA, except in any locations specifically identified in the new criteria. Lead agencies are still required to analyze a project's potentially significant transportation impacts related to air quality, noise, safety, and other resource areas that may be associated with transportation. The statute states that the adequacy of parking for a project shall not support a finding of significance.

The new criteria, contained in CEQA Guidelines section 15064.3, was certified and adopted in December 2018. Section 15064.3 provides that VMT is the most appropriate metric to assess transportation impacts with limited exceptions (applicable to roadway capacity projects, which this project is not) and a project's effect on automobile delay does not constitute a significant environmental impact. Other relevant considerations may include the project's effects on transit and nonmotorized travel. Section 15064.3 further provides that transportation projects that reduce VMT should be presumed to cause a less-than-significant impact. A lead agency can elect to be governed by Section 15064.3 immediately (which Metro has done), and is required to shift to a VMT metric by July 1, 2020. However, for informational purposes for the benefit of the reader and decision makers and for consistency with the analyses in the DEIS/DEIR, an analysis of the LPA's intersection impacts and the significance of those impacts has been included in this FEIS/FEIR.

OPR has provided a technical advisory on evaluating transportation impacts in CEQA (OPR 2018a) and further information related to the change in the State CEQA Guidelines in its 2018 Statement of Reasons supporting the guideline change (OPR 2018b), and related to LOS and VMT on its CEQA Update website (OPR 2018c).

3.1.1.3 Local

- SCAG:
  - Regional Transportation Plan/Sustainable Communities Strategy (2018);
  - Regional Comprehensive Plan (2008); and
  - Compass Blueprint Growth Vision (2004).
- Metro:
  - Long Range Transportation Plan (2009);
  - Short Range Transportation Plan (2014);
  - Grade Crossing Safety Policy for Light Rail Transit (2010);
  - Congestion Management Program (2010);
  - Active Transportation Strategic Plan (2016);
  - Complete Streets Policy (2014); and
  - First/Last Mile Strategic Plan (2014).
- Los Angeles County:
  - General Plan (2014).
- City of Los Angeles:
  - General Plan Framework (Readopted 2001);
  - Bicycle Plan (2011);
  - Mobility Plan 2035 (2015);
  - Community Plan Areas;
  - Los Angeles River Revitalization Master Plan (2007); and
  - TDM Ordinance (2018).
- City of San Fernando:
  - General Plan (1987); and
  - San Fernando Corridors Specific Plan (2005).

3.1.2 Methodology

The methodologies developed to determine potential transportation impacts for the Locally Preferred Alternative (LPA) with respect to transit, traffic, parking, and pedestrian and bicycle facilities are described in this section.

3.1.2.1 Transit

Future transit ridership was established through an extensive evaluation utilizing the Metro Travel Demand Model. The model was developed by Metro and incorporates inputs from the SCAG Regional Travel Demand Model. The model applies current travel patterns and future transit changes to the network in relation to the project, in order to develop trips by mode, projected boardings, and travel speeds and times for each project alternative.

To enhance the multimodal connectivity for the LPA, active transportation improvements that would connect neighborhoods to existing transit infrastructure could be added by expanding catchment areas through bike and walking, and by adding robust bicycle facilities on parallel streets with low traffic volumes. However, Metro's current travel demand model has no capability to reflect these features. If the model had this capability, the addition of these features would not result in any additional significant differentiating information among different modes. Therefore, the active transportation improvements were not included in the analysis from a travel forecasting perspective and are not addressed in this report.

3.1.2.2 Traffic

The traffic analysis incorporates level-of-service (LOS) methodologies for signalized intersections, per local jurisdictional policies, for the purpose of providing a comprehensive traffic analysis.

The City of Los Angeles utilizes the Circular 212 Critical Movement Analysis (CMA) Planning methodology per LADOT *Traffic Study Policies and Procedures, August 2014* whereas the City of San Fernando utilizes the Intersection Capacity Utilization (ICU) for signalized intersections. For Congestion Management Plan (CMP) intersections, either CMA or ICU are considered acceptable methodologies. However, for the purposes of the proposed project, the City of Los Angeles has accepted the use of the 2010 Highway Capacity Manual (HCM) Operational Analysis Methodology for evaluation of transit projects. This methodology is based on average intersection delay and takes into account operational factors such as signal timing and phasing, and adjustments to lane configurations via seconds of delay that a driver would experience at each signalized location. As such, it provides a better assessment of the traffic conditions as it relates to complexity of a transit project. The City of Los Angeles Methodology was utilized throughout the study area to provide a consistent analytical assessment of traffic impacts.

A letter value is assigned to define the LOS, ranging from A (free-flow operations) to F (severely congested operations). Table 3-1 provides the level-of-service criteria for the HCM methodology.

Existing Conditions

Compiling information on existing conditions involved extensive data collection that included compilation of traffic counts and signal timing plans and field work to determine lane geometries, traffic control, transit stop locations near intersections, and on-street parking restrictions.

The Synchro software package was used to build a project study area roadway network model to assist in the analysis of signal timing/phasing under the HCM methodology for signalized intersections.

Table 3-1: Level-of-Service Definitions – HCM Signalized Intersection Analysis

LOS	Definition	Average Stop Delay per Vehicle (sec/veh)
A	LOS A describes primarily free-flow operation. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at the boundary intersections is minimal.	≤10
B	LOS B describes reasonably unimpeded operation. The ability to maneuver within the traffic stream is only slightly restricted and control delay at the boundary intersections is not significant.	> 10–20
C	LOS C describes stable operation. The ability to maneuver and change lanes at mid-segment locations may be more restricted than at LOS B. Longer queues at the boundary intersections may contribute to lower travel speeds.	> 20–35
D	LOS D indicates a less stable condition in which small increases in flow may cause substantial increases in delay and decreases in travel speed. This operation may be due to adverse signal progression, high volume, or inappropriate signal timing at the boundary intersections.	> 35–55
E	LOS E is characterized by unstable operation and significant delay. Such operations may be due to some combination of adverse progression, high volume, and inappropriate signal timing at the boundary intersections.	> 55–80
F	LOS F is characterized by flow at extremely low speed. Congestion is likely occurring at the boundary intersections, as indicated by high delay and extensive queuing.	> 80

Source: KOA, 2015.

Future Conditions

For the future baseline (No-Build scenario), volumes were defined through the use of data exported from the Metro Travel Demand Model. As the model includes input from the SCAG regional model on population and employment growth, it provides estimates of future vehicle travel demand on roadways throughout the region. The future baseline conditions volumes were the basis for the analysis of the No-Build Alternative.

Comparisons were then made to the project LPA, in terms of projected project study area intersection operations and LOS. Changes in project study area vehicle travel patterns identified by the model, based on corridor lane configurations and trip mode splits (vehicles, transit, etc.) with the project-related improvements; and transit park-and-ride activity, were analyzed and served as the basis for the analysis of incremental changes in study intersection volumes and operations.

On a corridor level, the project corridor land uses were collected to assist with the development of trip generation and the development of driveway trip diversion/redistribution. Therefore, driveway trip diversions were established for the proposed project that would be affected by turn restrictions from the presence of a median guideway or intersection turn prohibitions. The volume projections for the No-Build Alternative and the LPA were developed using the following approach:

- Development of a growth factor for the 28-year period between existing and future conditions for all project alternatives derived from the Metro model;
- Development of increased bus volumes along the corridor due to future bus headway improvements for all project alternatives as developed in the proposed transit operations plan;
- Development of trip generation rates for the increased demand at three existing park-and-ride facilities under the bus and rail alternatives based on the Metro model;
- Development of trip generation rates for rail maintenance and storage facility (MSF) sites within the project study area; and
- Development of corridor trip diversions due to turning restrictions implemented as part of the proposed project.

Alternate Corridor Analysis

As part of the traffic analysis, an expanded assessment of area-wide highway corridors was conducted in order to provide a more comprehensive analysis of the potential effects of the LPA on adjacent and nearby roadway corridors.

The travel corridors that were included in the expanded analysis were as follows:

- Van Nuys Boulevard – from the Metro Orange Line to Ventura Boulevard;
- Sepulveda Boulevard - from Lassen Street to Ventura Boulevard; and
- Woodman Avenue – from Lassen Street to Oxnard Street.

Roadway Vehicle Speeds

From the Metro Travel Demand Model, average vehicle speeds (based on volumes and roadway segment capacities) and congested time (amount of total delay added to a trip due to congestion) values were estimated. The data was analyzed in approximate one-mile segments, but the distance varies based on the location of major arterials and other major elements of the transportation network. This analysis provides an estimate of the effects on vehicle travel speeds of project elements such as roadway lane reconfigurations and changes in trip mode splits.

3.1.2.3 Parking

The parking analysis considered the utilization of existing on-street and off-street parking within a primarily one to two block extent on either side of Van Nuys Boulevard. The parking analysis was limited to the Van Nuys Boulevard corridor because on-street parking would be removed with all of the build alternatives. On-street parking in the San Fernando Road segment of the corridor was not studied because parking would not be removed as a part of the proposed project.

Parking analysis zones (PAZs) were developed along the length of Van Nuys Boulevard to define blocks of parking areas for both on- and off-street parking. For each PAZ, numbers were assigned to each block face for each side of the roadway. For on-street parking areas that did not have any parking space markings, an average parking space length of 20 feet was used to determine the number of parking spaces. The collection of parking demand data (number of parked cars) for each of the on-street and off-street areas within each PAZ was conducted on two weekdays (Monday and Friday) and on one Saturday:

- Monday surveys were conducted on April 29, 2013 at 11 a.m., 1 p.m., and 3 p.m.;
- Friday surveys were conducted on May 3, 2013 at 11 a.m., 1 p.m., and 3 p.m.; and
- Saturday surveys were conducted on April 27, 2013 at 12 p.m., 2 p.m., 4 p.m., and 6 p.m.

The focus of the parking survey was on overall occupancy for the parking project study areas, but a second and more important component was the identification of vehicle parking occupancy within individual street segments and parking lots, including whether or not the number of parked vehicles versus available spaces met or exceeded a threshold value of 90 percent. When conducting an assessment of parking on a street segment or off-street facility, an occupancy value of 90 percent generally means few spaces remain available per block curb face or parking facility and is considered to represent the level at which the parking area is perceived to be full. Therefore, the ideal occupancy value for a block or facility should be at 90 percent of the spaces available or lower.

For the LPA, the amount of on-street and off-street parking displaced along the alignment was quantified to develop general conclusions regarding the effects of the project on local parking conditions. For each station, the estimated parking demand was compared to the proposed supply, and the qualitative effects of spillover parking was identified in the vicinity of the station (within an approximate 1/4 of a mile walking distance).

Construction and development of new park-and-ride facilities are not being considered as a part of the project. Increased demand at existing park-and-ride facilities was considered at the following locations:

- Sylmar/San Fernando Metrolink Station;
- Van Nuys Amtrak/Metrolink Station; and
- Metro Orange Line Van Nuys Station.

3.1.2.4 Pedestrian and Bicycle Facilities

Bicycle and pedestrian circulation were evaluated as part of this transportation analysis.

With respect to bicycle facilities, the planned inclusion of bicycle lanes on Van Nuys Boulevard and San Fernando Road/Truman Street corridors per the 2010 City of Los Angeles Bicycle Plan were considered as part of the analysis along with the evaluation of roadway cross-sections. In addition, the station design plans were reviewed for consideration of adequate pedestrian facilities and the feasibility of bicycle facilities.

3.1.3 CEQA Significance Thresholds

The determination of traffic impact significance is guided by the policies and requirements of both NEPA and CEQA. The project must satisfy both federal and state requirements. As NEPA and CEQA definitions of significance are different, what may be considered significant under CEQA may not apply to NEPA's determination of significance, especially since only CEQA requires significance thresholds.

CEQA requires state and local government agencies to identify the significant environmental effects of proposed actions; however, 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 at the discretion of the Lead Agency and are at the levels at which the Lead Agency finds the effects of the project to be significant.[1]

State CEQA Guidelines

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, which are often used as thresholds or guidance in developing thresholds for determining impact significance.[2] According to Appendix G, a project could have a significant transportation impact, if it would:

- Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.
- Conflict with an applicable congestion management program, including, but not limited to level-of-service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks.
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

For the purposes of this FEIS/FEIR, the thresholds of significance used in the determination of project specific impacts as it relates to transit, traffic (intersection and performance measures), parking, pedestrian, and bicycles are summarized in Table 3-2.

[1] OPR (State of California, 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 12, 2013.

[2] The Environmental Checklist questions in Appendix G of the State CEQA Guidelines were used as guidance in developing thresholds for determining impact significance. In late 2018, subsequent to completion of the DEIS/DEIR, changes to the CEQA Guidelines were adopted by the State including revisions to the Environmental Checklist questions in Appendix G. To maintain consistency between the DEIS/DEIR and FEIS/FEIR when evaluating the significance of impacts under CEQA, the significance thresholds identified in this chapter are unchanged from those in the DEIS/DEIR.

Table 3-2: Significance Thresholds

Transportation Type	Significance Thresholds
Transit	A substantial increase in travel time.
Traffic	Level of Service • Intersection operating at LOS C with an average delay per vehicle due to project-related increases equal to 6 or more seconds • Intersection operating at LOS D with an average delay per vehicle due to project-related increases equal to 4 or more seconds • Intersection operating at LOS E or F with an average delay per vehicle due to project-related increases equal to 2.5 or more seconds • Intersection at high end of delay value range (more than 100 seconds, with causing or worsening of LOS F conditions. Level of Service under the Congestion Management Program (CMP): • Intersection operating at LOS F with an average volume-to-capacity (V/C) ratio due to project-related increases equal to 0.02 or more.
Parking	Under CEQA, parking impacts are not considered to be significant impacts unless the loss of parking leads to other substantial adverse impacts on the environment.
Pedestrian	Changes to pedestrian circulation that would result in a substantial reduction in pedestrian access and connectivity.
Bicycle	Conflict with goals or policies of local bicycle plans.

Source: KOA, 2015.

Local Jurisdiction Thresholds – First-Stage Impact Analysis

The City of Los Angeles has established thresholds of impact significance for signalized intersections for V/C and delay analysis methodologies. Significance thresholds for project-related V/C increases are established per the LADOT *Traffic Study Policies and Procedures* (August 2014).[3]

LADOT permits the use of HCM methodology for infrastructure (e.g., LRT, BRT, bicycle lanes) project intersection analysis, which is consistent with other Metro projects. The delay-based significance thresholds are equivalent to V/C significance thresholds under the CMA methodology. This method applies to the remaining thresholds.

The City of San Fernando applies the same significance thresholds as the City of Los Angeles when evaluating signalized intersections.

The CMP guideline for evaluating significant impacts at intersections is based on an increase in project-related traffic volumes. A significant impact occurs if the project-related increase in the V/C ratio is equal to or greater than 0.02 at LOS F or thereby worsening the operation to LOS F. The CMP

[3] On July 30, 2019, the City of Los Angeles adopted VMT as a criteria in determining transportation impacts under CEQA. This adoption was required by SB 743 and the recent changes to Section 15064.3 of the State CEQA Guidelines. Adoption by the City Council began a transition period during which projects that already have a signed memorandum of understanding (MOU) with LADOT and have filed an application with the Department of City Planning may continue analyzing transportation impacts with LOS, as long as the project will be adopted and through any appeal period prior to the State deadline of July 1, 2020 (source: https://ladot.lacity.org/sites/g/files/wph266/f/FAQ_Transportation%20Section%20Update_Aug2019.pdf), accessed 12/17/2019). Accordingly, and for consistency with the analyses in the DEIS/DEIR, this FEIS/FEIR includes an analysis of transportation impacts based on LOS thresholds. However, a VMT analysis is also provided.

allows for consideration of more stringent criteria. Because the City of Los Angeles significance thresholds are considered more conservative in comparison, the evaluation of impact significance utilized these criteria. Employing the delay threshold, if an intersection operates at LOS D, for example, and the delay at the intersection increases by 4 seconds due to project-related traffic, the intersection is considered significantly affected (see significance thresholds in Table 3-2, above).

Analysis of Travel Performance Measures – Second-Stage Impact Analysis

In addition to the traditional impact analysis required by CEQA and the local jurisdictions, a comparison of regional travel performance measures was developed in order to identify the effects that the proposed project would have on travel patterns across the project study area roadway network. These measures included evaluating potential queuing concerns, review of Vehicle Miles Traveled (VMT), Vehicle Hours Traveled (VHT), vehicle speeds, and a person-trips analysis by alternative. Further analysis was conducted on select intersections to identify potential queuing concerns as a result of the project intersection turning restrictions. Issues related to queuing can affect upstream and downstream intersections as well as create an increase in intersection blockage.

The effects of the turning restrictions with respect to the regional transportation network vary within the project study area and to/from the corridor. VMT provides a good metric for determining vehicle trip changes across the area roadway network. Reductions to VMT are beneficial since they mean that fewer cumulative vehicle miles are being generated on a daily basis as a result of a particular alternative. Increases in VMT infer that more miles are being traveled, and this can create impacts by indicating that additional vehicle trips or longer vehicle trips would be generated by a project.

Passenger throughput provides a metric for evaluating travel capacity across a defined geographic area or corridor. Passenger throughput measures the capacity of travel across multiple modes within the analysis area. If capacity improvements are provided for one mode but reduced for another mode, and the improved mode can provide more overall capacity (in terms of more vehicles passing through the area in set timeframe, or an increased number of seats due to an increase in number or capacity of passing transit buses, etc.), passenger throughput is increased.

3.2 Affected Environment and Existing Conditions

The existing project study area public transit system, highway and roadway network, parking, pedestrian and bicycle facilities serve the project corridor and the surrounding communities. The infrastructure and public services are vital to the regional movement of residents and workers into and out of the eastern San Fernando Valley, and are described within this section to provide a background of the project study area and its existing conditions.

3.2.1 Transit

The project study area contains three major transit facilities:

- The Metro Orange Line Busway;
- The Metrolink Antelope Valley Line; and
- The Metrolink Ventura County Line (also used by the daily interstate Amtrak Coast Starlight train and the regional service of the Amtrak Pacific Surfliner).

These core transit services traverse and serve the project study area at various geographic locations and local transit links to these services are provided by local and Rapid Bus service.

The Van Nuys Boulevard corridor has the seventh highest total transit boardings in the Metro system, and has the second-highest boardings total in the San Fernando Valley (about 24,800 per day), just behind the Metro Orange Line busway (about 25,500 per day). Figure 3-1 illustrates existing transit boardings for all bus lines and the Metro Orange Line within the project study area. The corridor is also noted for having a high number of bus-to-bus transfers, with three transfer locations in the top 30 non-rail transfer locations. The locations include the Van Nuys Metro Orange Line Station, Van Nuys Boulevard/Roscoe Boulevard, and Van Nuys Boulevard/Sherman Way.

3.2.1.1 Programmed Transit Improvements

The Sepulveda Pass Corridor, North San Fernando Valley BRT, and the California High Speed Rail Projects have not been defined with respect to the project study area extents and are therefore not included as part of the future buildout analysis. However, the projects are discussed to provide background context because they could link to the project, thereby providing greater regional connectivity.

3.2.2 Highway and Roads

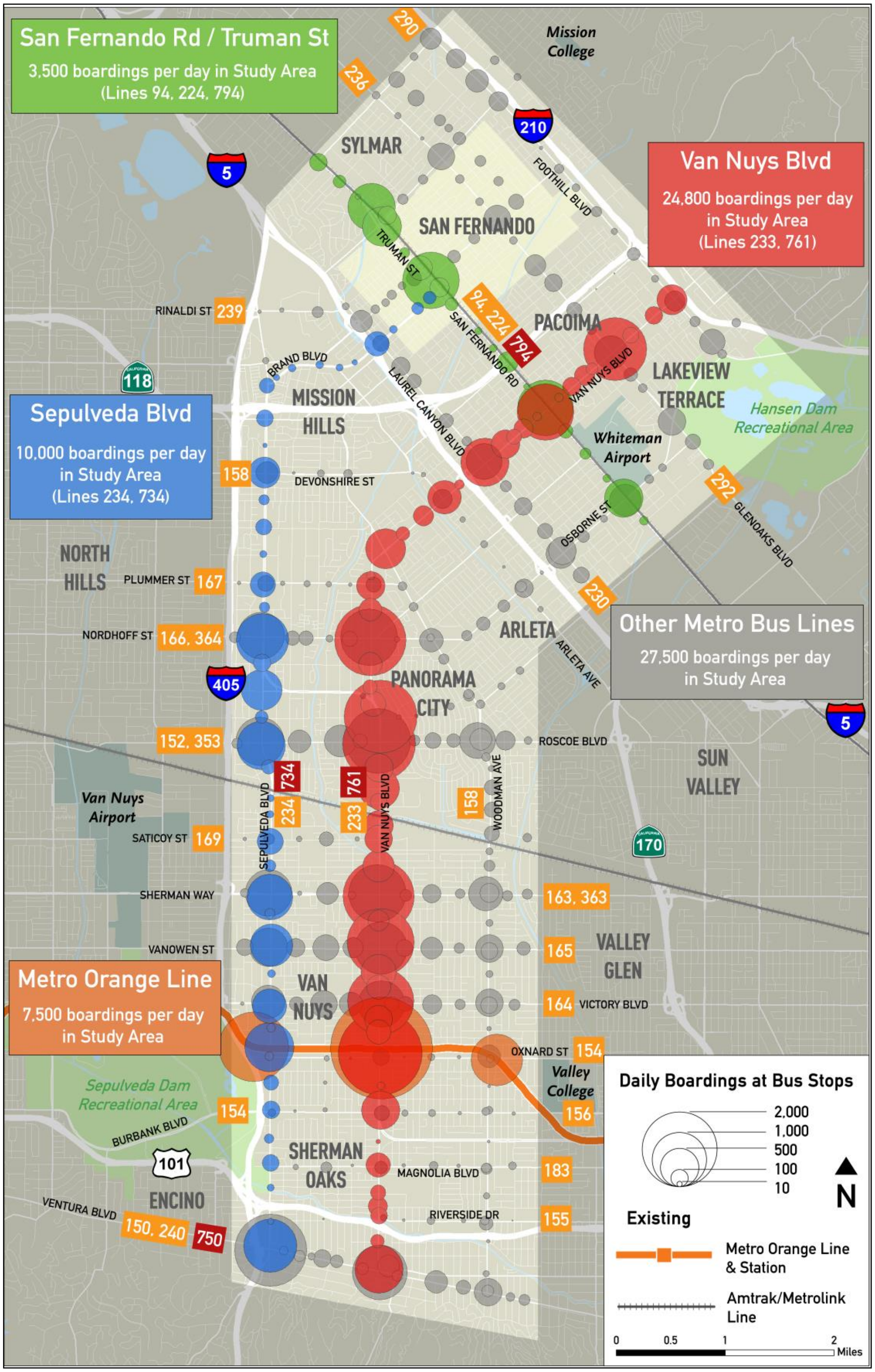
An extensive freeway network surrounds and intersects the Van Nuys Boulevard, Sepulveda Boulevard, and San Fernando Road corridors, providing regional access between the San Fernando Valley and the greater Los Angeles region. They include the following:

- North–South:
  - The Golden State Freeway (I-5) bisects the northern portion of the project study area.
  - The Hollywood Freeway (SR-170) parallels the southern half of the project study area, to the east.
  - The San Diego Freeway (I-405) borders the west side of the project study area.
  - The Foothill Freeway (I-210) borders the north side of the project study area.
- East–West:
  - The Ronald Reagan Freeway (SR-118) bisects the northern portion of the project study area.
  - The Ventura Freeway (US-101) bisects the southern portion of the project study area.
  - Van Nuys Boulevard has interchanges with the US-101 freeway and the I-5 freeway.
  - San Fernando Road has an interchange with the SR-118 freeway.

3.2.2.1 Planned Roadway Improvement Projects

Future planned projects include capital improvements identified in the financially constrained element of Metro's 2009 LRTP and SCAG's 2012 constrained RTP that will be implemented by 2035. This includes the installation of carpool lanes on the I-5 between SR-118 and SR-170, and on the I-405 through the Sepulveda Pass. The Metro Model has been updated to analyze a future baseline year of 2040, but the current RTP is based on the 2035 baseline model.

Figure 3-1: Existing Transit Boardings



Source: Metro, 2011.

3.2.2.2 Project Study Area Level of Service

Seventy-three signalized intersections were analyzed including those on Van Nuys Boulevard, between San Fernando Road and Ventura Boulevard; and San Fernando Road/Truman Road, between Van Nuys Boulevard and the Sylmar/San Fernando Metrolink Station were included as part of the analysis. Sixty study intersections are located within the City of Los Angeles, which includes one CMP intersection location, while the remaining 13 intersections are located within the City of San Fernando. It should be noted that although intersections south of Oxnard Street are not directly affected by any of the build alternatives, these intersections are considered part of the overall project study area and were therefore evaluated.

3.2.2.3 Existing Intersection Level of Service

Under the existing conditions scenario, three of the 73 intersections are operating at LOS E or F during weekday peak hours as shown in Table 3-3 and Figure 3-2.

Table 3-3: Existing Intersection Operations at LOS E or F

Study Intersections		Jurisdiction	AM Peak Hour		PM Peak Hour	
			Delay (secs)	LOS	Delay (secs)	LOS
17	San Fernando Rd & Paxton St	Los Angeles	32.7	C	57.6	E
33	Van Nuys Blvd & Parthenia St/Vesper Ave	Los Angeles	24.3	C	80.8	F
44	Van Nuys Blvd & Sherman Way	Los Angeles	43.0	D	59.8	E

Source: KOA, 2015.

3.2.3 Parking

Based on review of existing parking data, Monday and Friday for the weekday (the two days were averaged) and Saturday for the weekend were analyzed for the worst-case scenario.

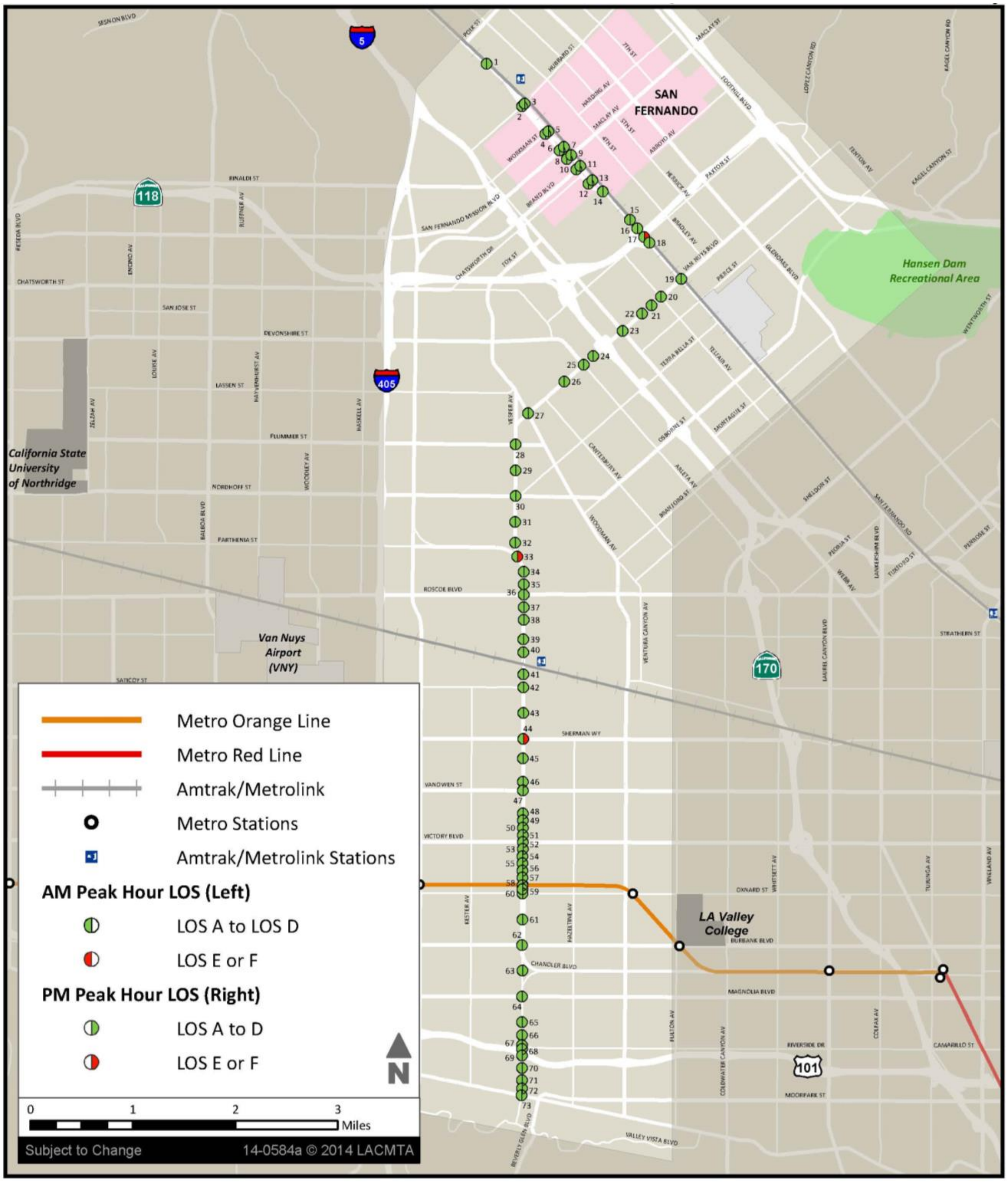
3.2.3.1 Off-Street Parking

Existing off-street parking facilities are generally reserved for businesses and their customers via surface parking lots located directly off of the Van Nuys Boulevard corridor. The overall corridor off-street parking supply, from Oxnard Street to San Fernando Road, includes 19,853 parking spaces.

Transit parking facilities are provided at the Sylmar/San Fernando Metrolink Station (375 parking spaces), Van Nuys Metrolink Station (350 parking spaces), and the Metro Orange Line Van Nuys (776 parking spaces). It should be noted that an undetermined number of parking spaces will be removed to accommodate the ESFVTC LRT station and track infrastructure. Transit facilities located along Van Nuys Boulevard are included in the overall total spaces calculated for the parking study.

The peak parking demand for the off-street spaces occurred during the weekday at 1:00 p.m. when 45 percent of the spaces were occupied.

Figure 3-2: Existing Project Study Area AM and PM LOS Map



Source: KOA, 2014.

3.2.3.2 On-Street Parking

Curbside parking availability varies considerably along much of the extent of Van Nuys Boulevard and San Fernando Road/Truman Street. It is generally permitted along most of the corridor and includes metered, passenger/loading zone, unrestricted (with some segments allowing parking throughout the day), and restricted (segments that allow parking only during off-peak hours) parking.

Specific to Van Nuys Boulevard from Oxnard Street to San Fernando Road, 1,140 on-street parking spaces are provided, with an additional 4,611 on-street spaces provided on adjacent blocks to the east and west of the corridor. These areas serve various businesses and residents with both long-term and short-term parking needs.

The peak parking demand for on-street spaces occurred on Saturday during the 12:00 p.m. hour when 52 percent of the spaces were occupied. The majority of on-street parking demand occurred in residential areas north of Parthenia Street to Laurel Canyon Boulevard with smaller pockets of high demand scattered throughout the commercial areas.

During the weekday, the peak parking demand for on-street parking spaces occurred on a weekday during the 3:00 p.m. hour when 42 percent of the spaces were occupied. There was no particular area where parking demand was most concentrated, but instead demand was scattered throughout various blocks in both residential and commercial areas.

High parking demand along San Fernando Road/Truman Street generally occurred within downtown San Fernando. On-street and off-street parking was sufficient and not fully utilized during this period.

Specifically, within the downtown area of San Fernando, generally between Wolfskill Street on the southeast and Hubbard Street on the northwest, on-street parking is currently provided within pockets of parallel spaces and diagonal spaces.

Based on parking demand monitoring conducted in the San Fernando Road/Truman Street corridor, the highest parking demand generally occurs within downtown San Fernando. There is underutilized parking supply within both on-street and off-street areas that could accommodate the loss of parking on San Fernando Road.

3.2.4 Pedestrian Facilities

The pedestrian circulation system within the project corridor is generally well developed as the project study area is urbanized and there is a consistent street grid pattern in most areas. Sidewalks and crosswalks are provided that serve both adjacent residential and commercial land uses. Sidewalk widths vary throughout the project alignment corridors from five to 16 feet, but are generally an adequate 10 feet. Crosswalks at signalized intersections have pedestrian indications and push-button activation for pedestrian phases.

The existing pedestrian activity at intersections near several of the proposed station locations is summarized in Table 3-4.

3.2.5 Bicycle Facilities

Based on the Caltrans Highway Design Manual (2012), bicycle facilities are classified based on the standards described below and illustrated in the LADOT-produced figure below (Figure 3-3).

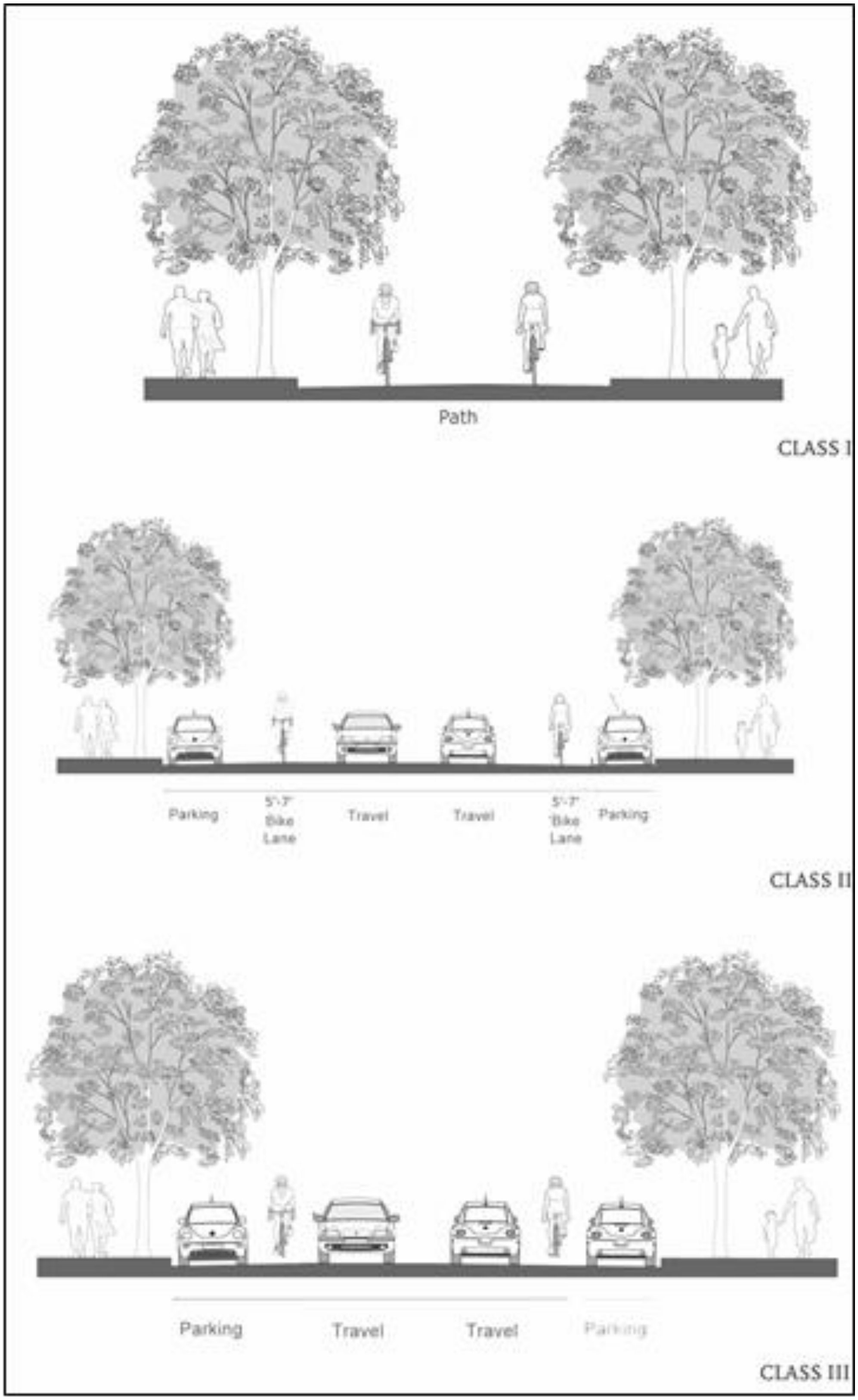
Table 3-4: Existing Pedestrian Activity at Proposed Station Locations

Pedestrian Activity*			
Station	**AM**	**PM**	**Description**
Sylmar/San Fernando Metrolink Station Hubbard Station	117	112	Current pedestrian activity is average. With the project, this station would serve as a key transfer point.
Maclay Station	124	108	Current pedestrian activity is average.
Paxton Station	66	125	Current pedestrian activity is relatively low.
Van Nuys/San San Fernando Station	382	429	Current pedestrian activity is relatively high.
Laurel Station	211	302	Current pedestrian activity is average.
Chase Station	376	714	Current pedestrian activity is relatively high.
Roscoe Boulevard Station	521	988	Current pedestrian activity is relatively high.
Van Nuys/Keswick Metrolink Station	165	159	Current pedestrian activity is relatively low. With the project, this station would serve as a key transfer point.
Sherman Way Station	375	696	Current pedestrian activity is relatively high.
Vanowen Station	471	780	Current pedestrian activity is high.
Victory Station	314	440	Current pedestrian activity is average.
Metro Orange Line Van Nuys Station	818	594	Current pedestrian activity is very high due to the Metro Orange Line ridership. With the project, this station would serve as a key transfer point.

Source: KOA, 2020.

* The pedestrian counts were collected by LADOT. The counts were collected on a Tuesday, Wednesday, or Thursday. The time period for the pedestrian counts was from 7 a.m.–10 a.m. and 3 p.m.–6 p.m.

Figure 3-3: Illustration of Class I, II, and III Bikeways



Source: LADOT, 2010.

Class I Bikeway (Bicycle Path) – A completely separate ROW for the exclusive use of bicycles and pedestrians, with vehicle and pedestrian cross-flows minimized.

Class II Bikeway (Bicycle Lane) – A restricted ROW designated for the use of bicycles, with a striped lane on a street or a highway. Vehicle parking along with vehicle and pedestrian cross-flows are usually permitted.

Class III Bikeway (Bicycle Route) – A shared ROW designated by signs or pavement markings for use by both bicyclists and motor vehicles.

The existing bicycle facilities along the project alignment (Figure 3-3) are as follows:

- Van Nuys Boulevard – A Class II bicycle lane exists between Chandler Boulevard and the Metro Orange Line and from Parthenia Street to Beachy Avenue.
- San Fernando Road – A Class I bicycle path exists from Roxford Street to Hubbard Street. A multi-use path exists from Hubbard Street to Wolfskill Street/La Rue Street.

Several bicycle facilities provide parallel and connecting opportunities for bicyclists in the area. The facilities that interface with the project corridors are located on the following roadways:

- Plummer Street (Class II) – This east–west bicycle lane intersects Van Nuys Boulevard providing a facility on Plummer Street to the west of the corridor, and transitioning onto Woodman Avenue as a north–south bicycle route to the east of the corridor.
- Parthenia Street (Class II) – This east–west bicycle lane provides a bicycle facility for the western leg of Parthenia Street, which eventually merges to Van Nuys Boulevard.
- Metro Orange Line (Class I) – This east–west bicycle path is located within the Metro Orange Line ROW and intersects Van Nuys Boulevard.
- Chandler Boulevard (Class II) – The east–west bicycle lane has a western terminus at Van Nuys Boulevard and continues east along the roadway.
- Riverside Drive (Class II) – This east–west bicycle lanes has a western terminus at Van Nuys Boulevard and continues east for a short distance where it eventually connects to the north–south bicycle lane on Laurel Canyon Boulevard.

3.3 Environmental Consequences, Impacts, and Mitigation Measures

3.3.1 Impact Overview

This section provides an overview of the potential construction, operational, and cumulative impacts that could occur as a result of the No-Build Alternative, and the proposed project (LPA), including the Initial Operating Segment (IOS).

The impact areas that are discussed in this section include:

- Traffic including impacts on highways, roadways, and local intersections;
- Parking;
- Transit; and
- Active modes of transportation such as projects for pedestrians and projects for wheels.

The most prominent impact areas are the potential parking, non-motorized transportation, loading/unloading, local circulation, and access/egress impacts on land uses fronting Van Nuys Boulevard. Detailed information specific to the project's impacts and proposed mitigation measures are discussed after this section.

A summary of the specific characteristics of the LPA and IOS are provided in Table 3-5.

3.3.1.1 Traffic

How Would Vehicular Circulation Be Affected?

The LPA and IOS would affect corridor-wide, local circulation, and land use access/egress. Under the LPA, curbside parking would be prohibited along the majority of the project alignment except along San Fernando Road as it would be located within an exclusive ROW. Under the IOS, curbside parking would be prohibited along Van Nuys Boulevard.

Forty-three intersections would have left-turn or through-movement prohibitions. At these intersections, only right turns from Van Nuys Boulevard or right turns onto Van Nuys Boulevard would be permitted. Otherwise, left turns from Van Nuys Boulevard onto cross streets would be maintained at most of the currently signalized intersections, and prohibited at all unsignalized intersections. The dual left-turn lanes on the intersections of Van Nuys Boulevard at Sherman Way and Van Nuys Boulevard 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 stations. Because of the distance between signalized intersections, there would not be enough space for left-turn lanes. For the same 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 would rely on these U-turn opportunities.

All movements across the median guideway would be prohibited. This includes 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. At these locations only right turns into and out of unsignalized cross streets and driveways would be allowed. Motorists who desire to make a left turn into an unsignalized cross-street or driveway would need to travel to 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.

Table 3-5: LPA and IOS Attributes

Van Nuys Boulevard Segment – Build Attributes									
Build Alternative	Length Total		Stations Total		Circulation		Parking		Bicycle Facilities
	Van Nuys Blvd	San Fernando Rd	Van Nuys Blvd	San Fernando Rd	Van Nuys Blvd	San Fernando Rd	Van Nuys Blvd	San Fernando Rd	
LPA	6.7 miles	2.5 miles (rail ROW)	11 Rail	3 Rail	43 intersections, left-turn or through-movement prohibitions	No Restrictions	NPAT and NSAT	Permitted	None
IOS	6.7 miles	N/A	11 Rail	N/A	43 intersections, left-turn or through-movement prohibitions	N/A	NPAT and NSAT	N/A	None

Notes:
NPAT = No Parking Any Time
NSAT = No Stopping Any Time
Source: KOA, 2019.

Table 3-6 summarizes the project traffic impacts for the No-Build Alternative and the LPA.

Table 3-6: Potential Traffic Impacts

Traffic Impacts				
Alternative	Intersections at LOS E or F	Number of Significant Impacts	Typical Mitigations Available	Alternate Mitigation Measures Available
2040 No Build	16	—	N/A	N/A
LPA	23	20	No	None*
IOS	14	16	No	None*

* The proposed project, providing new transit services, will reduce vehicle miles traveled (VMT), vehicles hours traveled (VHT), and otherwise generally improve transportation options. It is therefore mitigating traffic impacts caused by the project, to some extent.
Source: KOA, 2019.

Tables 3-7 and Table 3-8 summarize the performance of the project in relation to reductions in daily VMT and VHT, and effects on peak hour average vehicle speed, compared to the No-Build Alternative. These metrics provide insight into the potential benefits associated with the LPA.

The VMT value provided in Table 3-7 represents a combined estimate of both the vehicle trips generated (as versus transit trips, bicycling, walking, etc.) and the length of those vehicle trips. The majority of the reduction is to/from outside of the corridor because the trips within the project study area are relatively short; those to/from outside tend to be longer trips.

The VHT value provided in Table 3-7 is a similar combined value of vehicle trips generated and the time required to complete those trips (incorporating congestion into the measure). The LPA would reduce VHT by 2,491 outside of the project study area and by 401 within the project study area.

Table 3-8 provides the projected average roadway speeds for the project. During the peak periods, the project would have a negligible effect on roadway speeds, as the values remain relatively constant.

Table 3-7: Project Performance – VMT and VHT for the Locally Preferred Alternative (LPA)

Alternative	Daily VMT	Daily VHT
Existing with Project Conditions		
No Build	418,382,480	12,243,273
LPA	418,371,107	12,242,323
Reduction	-11,373	-950
Future (Year 2040) with Project Conditions		
No Build	536,151,760	21,001,501
LPA	536,073,629	20,996,710
Reduction	-78,131	-4,791

Source: KOA, 2019.

Table 3-8: Project Performance – Average Traffic Speeds for the LPA and IOS

Alternative	AM Peak-Hour Average Speed (NB Direction)	PM Peak-Hour Average Speed (SB Direction)
2040 No Build	22.6	27.3
LPA	22.7	27.2
IOS	22.7	27.2

NA = Information not available.
Source: KOA, 2019.

Would There Be Increased Congestion on Corridor Intersections as a Result of Constructing the LPA or IOS?

There would be increased congestion and significantly affected intersections under the LPA and IOS.

Would There Be Increased Congestion on Parallel Roadway Intersections as a Result of Constructing the LPA and IOS?

There would be increased congestion and significantly affected intersections under the LPA and IOS, due to shifting and/or diverting traffic.

Would There Be Impacts on Traffic during Construction?

There would be adverse traffic conditions during the construction of the LPA and IOS. Construction impacts could include roadway segment closures for extended periods of time and/or the loss of travel lanes on Van Nuys Boulevard.

3.3.1.2 Transit

How Would Transit Be Affected?

Transit riders would benefit from increased transit service frequency and generally improved travel times along the corridor during the peak periods. With the transit improvements, daily boardings, and transit trips (an indicator of how many trips are moving from auto to transit versus the No-Build) would increase over the No-Build Alternative for the LPA. For riders traveling through the corridor, the bus alternatives would be the most beneficial as it would avoid the need to transfer; whereas, the rail alternatives force the transfer for continued service, hence the higher overall transit boardings. Tables 3-9 and 3-10 summarize the transit ridership for the LPA and IOS, respectively.

Would There Be Impacts on Transit during Construction?

Transit service would be disrupted during construction due to the construction of median guideways. Construction, at a minimum, would cause lane closures and the temporary closure of bus stops, which would be temporarily moved outside of the work areas.

Table 3-9: LPA Boardings by Station Comparison

Station	Peak Period	Off-peak Period	Daily
Metrolink Sylmar Station	1,740	1,293	3,033
Maclay	954	420	1,374
San Fernando Road/Paxton Street	502	258	759
Van Nuys Boulevard/San Fernando Road	647	330	977
Van Nuys Boulevard/Laurel Canyon	653	201	854
Van Nuys Boulevard/Arleta Avenue	396	204	600
Van Nuys Boulevard/Woodman Avenue	640	310	950
Van Nuys Boulevard/Nordhoff Street	1,269	529	1,798
Van Nuys Boulevard/Roscoe Boulevard	1,426	638	2,064
Metrolink Van Nuys Station	2,081	864	2,945
Van Nuys Boulevard/Sherman Way	1,559	715	2,274
Van Nuys Boulevard/Vanowen Street	2,333	600	2,933
Van Nuys Boulevard/Victory Boulevard	2,060	817	2,876
Van Nuys Boulevard/Oxnard Street	7,181	2,324	9,505
Total	**23,441**	**9,503**	**32,942**

Source: KOA, 2019.

Table 3-10: IOS Boardings by Station Comparison

Station	Peak Period	Off-peak Period	Daily
Van Nuys Boulevard/San Fernando Road	745	277	1,022
Van Nuys Boulevard/Laurel Canyon	1,022	230	1,252
Van Nuys Boulevard/Arleta Avenue	474	284	758
Van Nuys Boulevard/Woodman Avenue	663	301	964
Van Nuys Boulevard/Nordoff Street	1,223	496	1,718
Van Nuys Boulevard/Roscoe Boulevard	1,390	607	1,997
Metrolink Van Nuys Station	2,232	1,018	3,250
Van Nuys Boulevard/Sherman Way	1,508	671	2,179
Van Nuys Boulevard/Vanowen Street	2,270	591	2,860
Van Nuys Boulevard/Victory Boulevard	2,043	791	2,834
Van Nuys Boulevard/Oxnard Street	6,697	1,945	8,642
Total	**20,265**	**7,209**	**27,474**

Source: KOA, 2019.

3.3.1.3 Parking

What Type of Parking and Loading/Unloading Changes Would Be Made along the Project Corridor?

On-street parking supply, as well as loading/unloading, along Van Nuys Boulevard would be affected. This is due to the reduction in travel lanes on Van Nuys Boulevard from three to two, which is necessary to accommodate a median guideway. No parking along San Fernando Road would be affected, as the rail service would be operating in an exclusive ROW within that corridor.

Table 3-11 summarizes the project parking impacts for the LPA.

Table 3-11: Parking Impacts Due to the LPA and IOS

	Parking							
	No. of On-Street Spaces	No. of Off-Street Spaces	Loss of On-Street Parking	Loss of Off-Street Parking	Total Number of Spaces Lost	Weekday Shortfall in Blocks	Weekend Shortfall in Blocks	Adjacent Block Capacity
LPA and IOS	5,751	19,853	1,111	528	1,639	12	17	Yes

Source: KOA, 2019.

Where Would Motorists Park and Where Would Deliveries Occur?

Parking for land uses along Van Nuys Boulevard would be required to shift from on-street to off-street lots and garages conjoined to the property or on the side streets in the vicinity of the land use in question. Deliveries to businesses and residences would not be able to rely on curbside parking and would either have to use off-street parking facilities, parking on an adjacent street, or alleyways behind commercial properties.

Won't This Require People to Walk Further to and from a Land Use?

In those cases where a land use does not have off-street parking available, it may be necessary for people and delivery persons to walk further as they may have to park a block or more away.

3.3.1.4 Pedestrian and Bicycle

How Would Pedestrian and Bicyclists (Non-Motorized Transportation) Be Affected?

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, as is the current practice of Metro on its median-running LRT lines. Pedestrians would be required to walk to a signalized location to cross Van Nuys Boulevard. LRT passengers would reach the median station platforms from crosswalks at signalized intersections. There would be a pedestrian bridge at the Sylmar/San Fernando Metrolink station from the LRT platform to the parking lot.

The curb lane on Van Nuys Boulevard would be shared by mixed-flow traffic and bicyclists. The existing Class II bicycle lanes on Van Nuys Boulevard north of Parthenia Street to Beachy Avenue would be removed. There is a bicycle path within Metro's railroad right-of-way parallel to San Fernando Road. The right-of-way is sufficiently wide enough to allow the bicycle path to remain alongside a pair of LRT tracks and tracks for Metrolink and Union Pacific trains. At the point where the LRT crosses the bicycle path, near the intersection of Pinney Street and San Fernando Road, a signalized grade crossing would be provided

Would There Be Impacts on Pedestrians and Bicyclists during Construction?

Pedestrian and bicycle facilities would be affected during construction as a result of potential closure to these facilities. Detours and parallel routes would be established.

3.3.2 No-Build Alternative

Table 3-12, below, summarizes the potential transportation impacts under the No-Build Alternative (a "Yes" in the table indicates an adverse effect under NEPA or significant impact under CEQA would occur).

Table 3-12: Summary of the No-Build Alternative's Transit, Traffic, Parking, Pedestrian, and Bicycle Impacts

	Transit		Traffic		Parking		Pedestrian		Bicycle	
Period	Impact	Mitigated	Impact	Mitigated	Impact	Mitigated	Impact	Mitigated	Impact	Mitigated
Construction	No	—	No	—	No	—	No	—	No	—
Operations	No	—	No	—	No	—	No	—	No	—
Cumulative	No	—	No	—	No	—	No	—	No	—

Yes = Significant impact under CEQA, Adverse effect under NEPA;
No = No impact or less than significant impact under CEQA, No effect or no adverse effect under NEPA.

3.3.2.1 Construction Impacts

Transit

No construction activity is planned under the No-Build Alternative; therefore, no impacts on transit would occur.

Traffic

There would be no physical changes to the existing environment as a result of the No-Build Alternative; therefore, no impacts on traffic would occur.

Parking

No project-related construction or physical improvements would occur along the alignment under the No-Build Alternative; thus, this alternative would not result in parking impacts on on-street parking.

Pedestrian and Bicycle Facilities

The No-Build Alternative would not generate impacts on pedestrian and bicycle facilities, as project-related construction and/or physical improvements would not occur along the project corridor under this alternative.

3.3.2.2 Operational Impacts

Transit

Under the No-Build Alternative, the Metro Rapid Line 761 and Local Line 233 bus service would be identical to existing bus service. Therefore, there would be no direct operational impacts on transit.

The No-Build Alternative, however, would lack the potential transportation benefits that the build alternatives, including the LPA, would provide, such as increased service frequency and capacity, improved transit access and reliability, and improved connections to the regional transit network. Over time, traffic congestion is expected to increase, creating additional delay per mile for buses and auto traffic. The No-Build Alternative would not provide a reliable alternative to these existing modes of travel in the project area.

Traffic

Intersections

Daily vehicle traffic within the project study area is projected to increase over the 28-year period between existing and future baseline conditions during the AM and PM peak periods. Under the future baseline analysis scenario, 16 of the 73 analyzed intersections would operate at LOS E or F during weekday peak hours.

Table 3-13 summarizes the future baseline AM and PM peak hour LOS values at the study intersections. Figure 3-4 illustrates these LOS values on a map of the project study area.

Performance Measures

The No-Build Alternative represents the future baseline against which all other project alternatives are compared to determine the potential benefits to VMT, VHT, and vehicle speeds.

Parking

The No-Build Alternative does not include operational changes and consequently would not result in impacts on the on-street parking supply.

Pedestrian and Bicycle Facilities

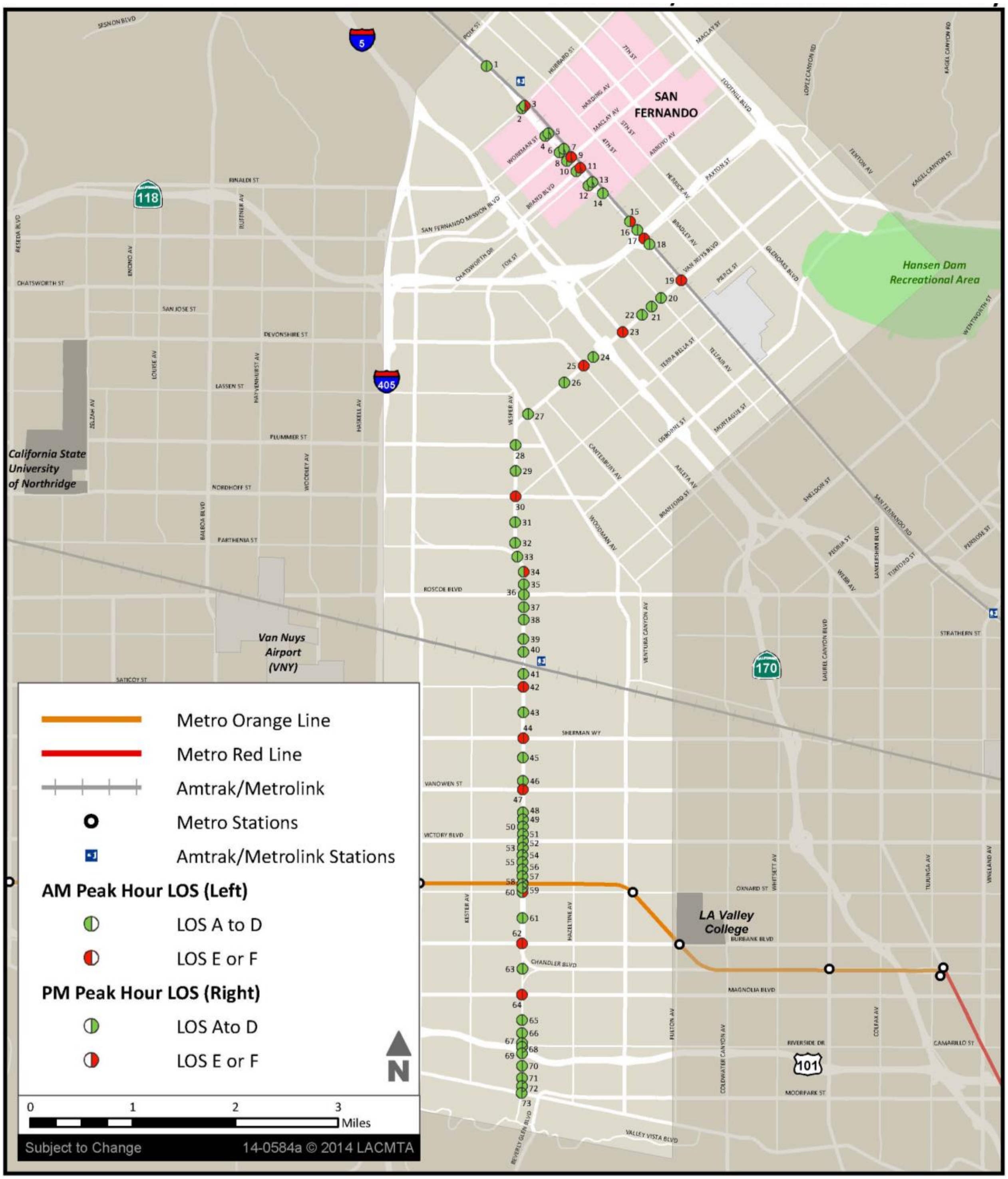
The No-Build Alternative would not result in operational impacts on pedestrian and bicycle facilities.

Table 3-13: Future (2040) Baseline Conditions – Intersections Operating at LOS E or F

Study Intersections		Jurisdiction	AM Peak Hour		PM Peak Hour	
			Delay (secs)	LOS	Delay (secs)	LOS
3	Truman St & Hubbard St	San Fernando	45.3	D	72.2	E
9	Truman St & Maclay Ave	San Fernando	87.6	F	122.8	F
11	Truman St & Brand Blvd	San Fernando	117.3	F	73.0	E
15	San Fernando Rd & Desmond St	Los Angeles	31.1	C	196.3	F
17	San Fernando Rd & Paxton St	Los Angeles	99.7	F	76.6	E
19	San Fernando Rd & Van Nuys Blvd	Los Angeles	100.4	F	128.9	F
23	Laurel Canyon Blvd & Van Nuys Blvd	Los Angeles	157.2	F	124.0	F
25	Arleta Ave & Van Nuys Blvd	Los Angeles	65.2	E	75.1	E
30	Van Nuys Blvd & Nordhoff St	Los Angeles	72.0	E	76.7	E
34	Van Nuys Blvd & Chase St	Los Angeles	23.7	C	72.2	E
42	Van Nuys Blvd & Saticoy St	Los Angeles	92.4	F	128.0	F
44	Van Nuys Blvd & Sherman Way	Los Angeles	57.5	E	120.3	F
47	Van Nuys Blvd & Vanowen St	Los Angeles	70.4	E	89.3	F
60	Van Nuys Blvd & Oxnard St	Los Angeles	45.9	D	55.5	E
62	Van Nuys Blvd & Burbank Blvd	Los Angeles	149.9	F	104.9	F
64	Van Nuys Blvd & Magnolia Blvd	Los Angeles	58.4	E	80.9	F

Source: KOA, 2015.

Figure 3-4: Future (2040) Baseline Project Study Area - AM and PM LOS Map



Source: KOA, 2014.

3.3.2.3 Cumulative Impacts

CEQA requires an environmental impact report to evaluate a project's contribution to cumulative impacts. Cumulative impacts are the project's impacts combined with the impacts of the related past, present, and reasonably foreseeable future projects.

No transportation improvements would occur under the No-Build Alternative. As a result, no effects or impacts from this scenario would contribute to and/or produce any cumulative impacts.

3.3.2.4 Mitigation Measures

Construction Mitigation Measures

No construction mitigation measures are required.

Operational Mitigation Measures

No operational mitigation measures are required.

3.3.2.5 Impacts Remaining After Mitigation

NEPA Finding

No adverse transportation effects would occur under the No-Build Alternative.

CEQA Determination

No transportation impacts would occur under the No-Build Alternative.

3.3.3 Locally Preferred Alternative (Alternative 4 Modified: At-Grade LRT)

The potential impacts of the proposed LPA are summarized in the table below and discussed in detail in the text that follows (please note that a "Yes" in the table indicates an adverse effect under NEPA or significant impact under CEQA would occur).

Table 3-14: Summary of the LPA's Transit, Traffic, Parking, Pedestrian, and Bicycle Impacts

Period	Transit		Traffic		Parking		Pedestrian		Bicycle	
	Impact	Mitigated	Impact	Mitigated	Impact	Mitigated	Impact	Mitigated	Impact	Mitigated
Construction	Yes	No	Yes	No	No	—	No	—	Yes	No
Operations	No	No	Yes	No	No	—	No	—	Yes	No
Cumulative	No	No	Yes	No	No	—	No	—	No	No

Yes = Significant impact under CEQA; adverse effect under NEPA.
No = No impact or less than significant impact under CEQA; no effect or no adverse effect under NEPA.

3.3.3.1 Construction Impacts

The LRT vehicles would operate on rail tracks and would be powered by overhead electrical wires, power duct bank, additional transit structures and associated infrastructure would be required to operate this alternative. Construction would occur over a period of approximately 4.5 to 5 years. The construction activity would likely be divided into separate work zones with varying levels of construction.

The construction contractor would develop detour routes to facilitate traffic movement through construction zones without significantly increasing cut-through traffic in adjacent residential areas. Additionally, where feasible, Metro would temporarily restripe roadways including restriping turn lanes, through lanes, and parking lanes at the affected intersections to maximize the vehicular capacity at those locations affected by construction closures. A majority of construction-related travel (i.e., deliveries, hauling, and worker trips) would be scheduled during the off-peak hours.

At the start of construction within each work area, on-street parking areas would be removed for project-related construction activities. Temporary street and lane closures may be necessary. The extent and duration of the closures would depend on a number of factors, including the construction contract limits and individual contractor's choices, and would be coordinated with the Cities of Los Angeles and San Fernando, as necessary. Restrictions on the extent and duration of the closures can be incorporated in the project construction specifications. In some cases, short-term full closures might be substituted for extended partial closures to reduce overall impacts. Community outreach to keep the public and businesses advised as to closures would be provided. Signage and access to businesses would also be provided. Additionally, traffic control officers should be placed at major intersections during peak hours to minimize delays related to construction activities.

Transit

Construction could take up to five years. The impacts on transit would be adverse under NEPA and significant under CEQA due to the estimated duration and magnitude of construction activities required to relocate utilities, remove the existing roadbed, install the LRT system trackage, signals, power infrastructure, and install stations and related infrastructure and resulting disruptions to transit service.

Traffic

The construction traffic impacts would be adverse under NEPA and significant under CEQA as a consequence of the estimated duration and magnitude of construction, which would include lane and street closures.

Parking

On-street parking would be prohibited within work areas as prescribed in the Traffic Control Plans to be approved by LADOT and the City of San Fernando.

As indicated by the results of the parking study for project operations, the corridor PAZs would be able to accommodate the Van Nuys Boulevard weekday and weekend on-street parking demand within the available on-street spaces and/or off-street parking areas. Lane closures and other partial roadway closures due to project construction would not encompass the entire corridor at a single time. Therefore, impacts would be less than those identified for the operation period of the LPA and would not be adverse under NEPA. Parking is not considered a significant environmental impact under CEQA.

Pedestrian and Bicycle Facilities

Construction would require the permanent removal of bicycle facilities located within the work zones. This would be an adverse effect under NEPA and a significant impact under CEQA.

Impacts on pedestrian facilities would not be adverse under NEPA and would be less than significant under CEQA.

3.3.3.2 Operational Impacts

Transit

Local bus operating speeds would decrease because of the proposed traffic lane reductions along the project corridor and the resulting increases in traffic congestion. However, the transit improvements proposed under the LPA would result in an increase of 8,604 daily transit trips as compared to future No-Build/baseline conditions. An LRT line would improve travel times and the reliability of transit service compared to existing bus lines along the corridor. Therefore, overall operational impacts on transit service would not be adverse under NEPA and would be less than significant under CEQA.

Traffic

Intersections

Existing-with-Project Scenario

LOS analysis results for roadway operations for the existing with LPA are discussed here, followed by significant impact determinations.

As shown in Table 3-15, five of the 73 study intersections would operate at LOS E or F during either one or both of the weekday peak hours. Operating LOS at the following intersections would worsen to or within poor conditions during the separately analyzed peak hours, versus baseline conditions:

- LOS at four study intersections would worsen to/within LOS E or F during the AM peak hour.
- LOS at five study intersections would worsen to/within LOS E or F during the PM peak hour.

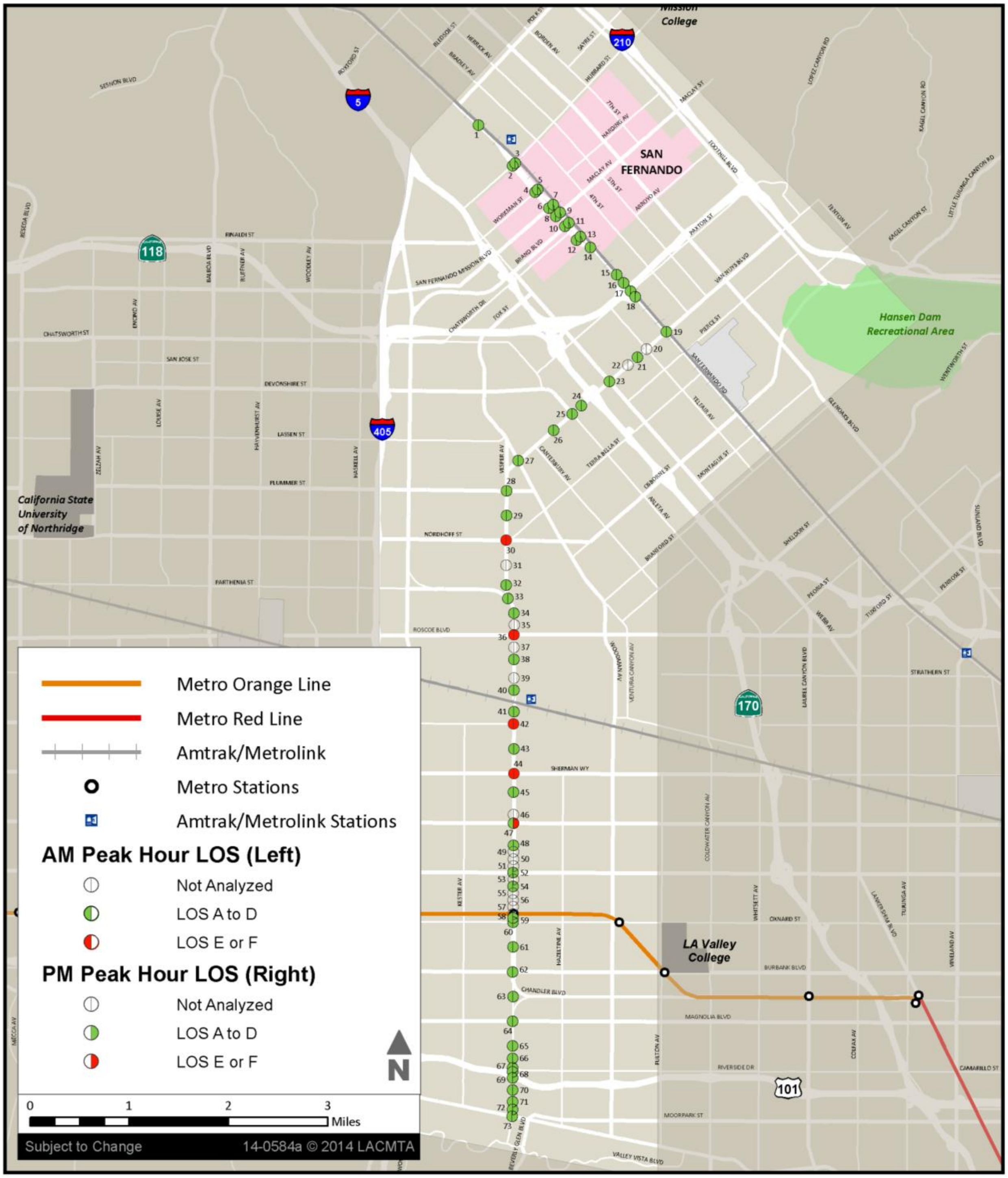
Table 3-15 also identifies the study intersections along the project corridor that would be significantly affected, under existing conditions, as a result of implementation of the LPA. Within the list of intersections included in this table, significant traffic impacts would occur at 16 study intersections. Figure 3-5 illustrates the resulting level of service for the overall study area under the Existing-with-Project scenario. Additionally, left turns would be permitted at primary intersections and prohibited at secondary intersections due to the installation of the median fixed guideway. At minor intersections, right turns in and out of the side streets would be allowed.

Table 3-15: Locally Preferred Alternative – Intersections at LOS E or F and/or Significantly Affected – Existing with Project

Study Intersections		Existing				Existing with Project				Change in Delay (secs)		Significant Impact?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				
		Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)	LOS	AM Peak Hour	PM Peak Hour	
2	San Fernando Rd & Hubbard St	14.1	B	18.0	B	25.5	C	34.1	C	11.4	16.1	**Yes**
3	Truman St & Hubbard St	16.4	B	17.6	B	32.3	C	28.9	C	15.9	11.3	**Yes**
17	San Fernando Rd & Paxton St	32.7	C	57.6	E	37.0	D	45.4	D	4.3	-12.2	**Yes**
23	Laurel Canyon Blvd & Van Nuys Blvd	37.7	D	40.6	D	44.4	D	50.4	D	6.7	9.8	**Yes**
26	Beachy Ave & Van Nuys Blvd	11.2	B	11.1	B	25.4	C	8.2	A	14.2	-2.9	**Yes**
27	Woodman Ave & Van Nuys Blvd	33.5	C	35.0	C	39.7	D	40.0	D	6.2	5.0	**Yes**
30	Van Nuys Blvd & Nordhoff St	45.6	D	47.6	D	79.2	**E**	96.1	**F**	33.6	48.5	**Yes**
33	Van Nuys Blvd & Parthenia St/Vesper Ave	24.3	C	80.8	**F**	15.0	B	14.5	B	-9.3	-66.3	No
34	Van Nuys Blvd & Chase St	25.1	C	34.9	C	21.9	C	47.3	D	-3.2	12.4	**Yes**
36	Van Nuys Blvd & Roscoe Blvd	48.0	D	46.8	D	96.1	**F**	60.8	**E**	48.1	14.0	**Yes**
38	Van Nuys Blvd & Lanark St	23.9	C	26.6	C	53.3	D	26.6	C	29.4	0.0	**Yes**
40	Van Nuys Blvd & Arminta St	15.5	B	21.5	C	21.6	C	11.2	B	6.1	-10.3	**Yes**
41	Van Nuys Blvd & Keswick St	10.0	A	9.2	A	24.2	C	50.9	D	14.2	41.7	**Yes**
42	Van Nuys Blvd & Saticoy St	36.2	D	31.3	C	88.3	**F**	> 100	**F**	52.1	—	**Yes**
43	Van Nuys Blvd & Valerio St	14.6	B	14.9	B	19.0	B	40.5	D	4.4	25.6	**Yes**
44	Van Nuys Blvd & Sherman Way	43.0	D	59.8	E	90.2	**F**	> 100	**F**	47.2	—	**Yes**
47	Van Nuys Blvd & Vanowen St	24.8	C	32.6	C	48.4	D	60.5	**E**	23.6	27.9	**Yes**

Source: KOA, 2019.

Figure 3-5: Locally Preferred Alternative - Overall AM/PM Peak Hour LOS Summary – Existing with Project



Source: KOA, 2019.

The following study intersections were not analyzed in this scenario since the traffic signals would be removed, and only through movements on Van Nuys Boulevard would be permitted:

- Telfair Avenue and Van Nuys Boulevard (#20);
- Haddon Avenue and Van Nuys Boulevard (#22);
- Van Nuys Boulevard and Rayen Street (#31);
- Van Nuys Boulevard between Chase Street and Roscoe Boulevard (#35);
- Van Nuys Boulevard and Titus Street (#37);
- Van Nuys Boulevard and Blythe Street (#39);
- Van Nuys Boulevard and Hartland Street (#46);
- Van Nuys Boulevard and Haynes Street (#49);
- Van Nuys Boulevard and Hamlin Street (#50);
- Van Nuys Boulevard and Gilmore Street (#51);
- Van Nuys Boulevard and Friar Street (#53);
- Van Nuys Boulevard and Erwin Street (#55);
- Van Nuys Boulevard and Delano Street (#56);
- Van Nuys Boulevard and Calvert Street (#57); and
- Van Nuys Boulevard and Metro Orange Line Busway (#58).

With implementation of the LPA, the shifts in traffic to the parallel corridors (Sepulveda and Woodman) would cause seven of the 51 study intersections to operate at LOS E or F during either peak hour. In addition, significant traffic impacts (criteria defined in Table 3-2) would occur at 13 intersections, as shown in Table 3-16.

Future-with-Project Scenario

LOS analysis results for roadway operations in the future (year 2040) with implementation of the LPA are discussed here, followed by significant impact determinations.

As shown in Table 3-17, 23 of the 73 study intersections would operate at LOS E or F during either one or both of the weekday peak hours under the Future-with-Project scenario. Operating LOS at the following intersections would worsen to or within poor conditions during the separately analyzed peak hours, versus No-Build/future baseline conditions:

- LOS at 15 study intersections would worsen to/within LOS E or F during the AM peak hour; and
- LOS at 23 study intersections would worsen to/within LOS E or F during the PM peak hour.

Table 3-17 also identifies the study intersections along the project corridor that would be significantly affected, under future conditions, as a result of implementation of the LPA. Within the list of intersections included in this table, significant traffic impacts would occur at 20 study intersections. Figure 3-6 illustrates the LOS for the overall study area. Additionally, left turns would be permitted at primary intersections and prohibited at secondary intersections due to the installation of the median fixed guideway. At minor intersections, right turns in and out of the side streets would be allowed.

Table 3-16: Locally Preferred Alternative – Parallel Corridors – Intersections at LOS E or F and/or Significantly Affected – Existing with Project

Study Intersections		Existing Conditions				Existing with Project (Alternative 4)				Change in Delay		Impacts
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				
		Delay (secs)	Ex AM LOS	Delay (secs)	Ex PM LOS	Delay (secs)	Ex Alt 4 AM LOS	Delay (secs)	Ex Alt 4 PM LOS	AM Peak Hour	PM Peak Hour	
74	Sepulveda Blvd & Lassen St	29.1	C	25.4	C	24.4	C	34.2	C	-4.7	8.8	Yes
79	Sepulveda Blvd & Parthenia St	71.4	E	50.1	D	57.6	E	35.6	D	-13.8	-14.5	No
82	Sepulveda Blvd & Lanark St – Sepulveda Pl	31.4	C	9.3	A	39	D	9.2	A	7.6	-0.1	Yes
90	Sepulveda Blvd & Victory Blvd	34.4	C	35.6	D	40.4	D	35.7	D	6.0	0.1	Yes
94	Sepulveda Blvd & Oxnard St	16.9	B	25.1	C	18.2	B	32	C	1.3	6.9	Yes
95	Sepulveda Blvd & Hatteras St	4.5	A	12.4	B	4.6	A	20.5	C	0.1	8.1	Yes
96	Sepulveda Blvd & Burbank Blvd	> 100	F	> 100	F	56	E	54.5	D	—	—	Yes
98	Sepulveda Blvd & Magnolia Blvd	28.7	C	> 100	F	18.7	B	58.7	E	-10.0	—	Yes
100	Sepulveda Blvd & Camarillo St	28.8	C	> 100	F	23.5	C	> 100	F	-5.3	—	Yes
103	Woodman Ave & Plummer St	40.1	D	10.7	B	44.8	D	12.4	B	4.7	1.7	Yes
110	Woodman Ave & Roscoe Blvd	56.9	E	71.6	E	53.7	D	69.3	E	-3.2	-2.3	No
111	Woodman Ave & Lanark St – Cantara St	96.6	F	> 100	F	> 100	F	> 100	F	—	—	Yes
114	Woodman Ave & Saticoy St	63.8	E	58.9	E	61.9	E	51.9	D	-1.9	-7.0	No
117	Woodman Ave & Sherman Way	25.3	C	38.3	D	28.2	C	45.2	D	2.9	6.9	Yes
119	Woodman Ave &Vanowen St	30.9	C	28.4	C	45.7	D	37.4	D	14.8	9.0	Yes
121	Woodman Ave & Victory Blvd	32.4	C	35.5	D	42.4	D	40.6	D	10.0	5.1	Yes

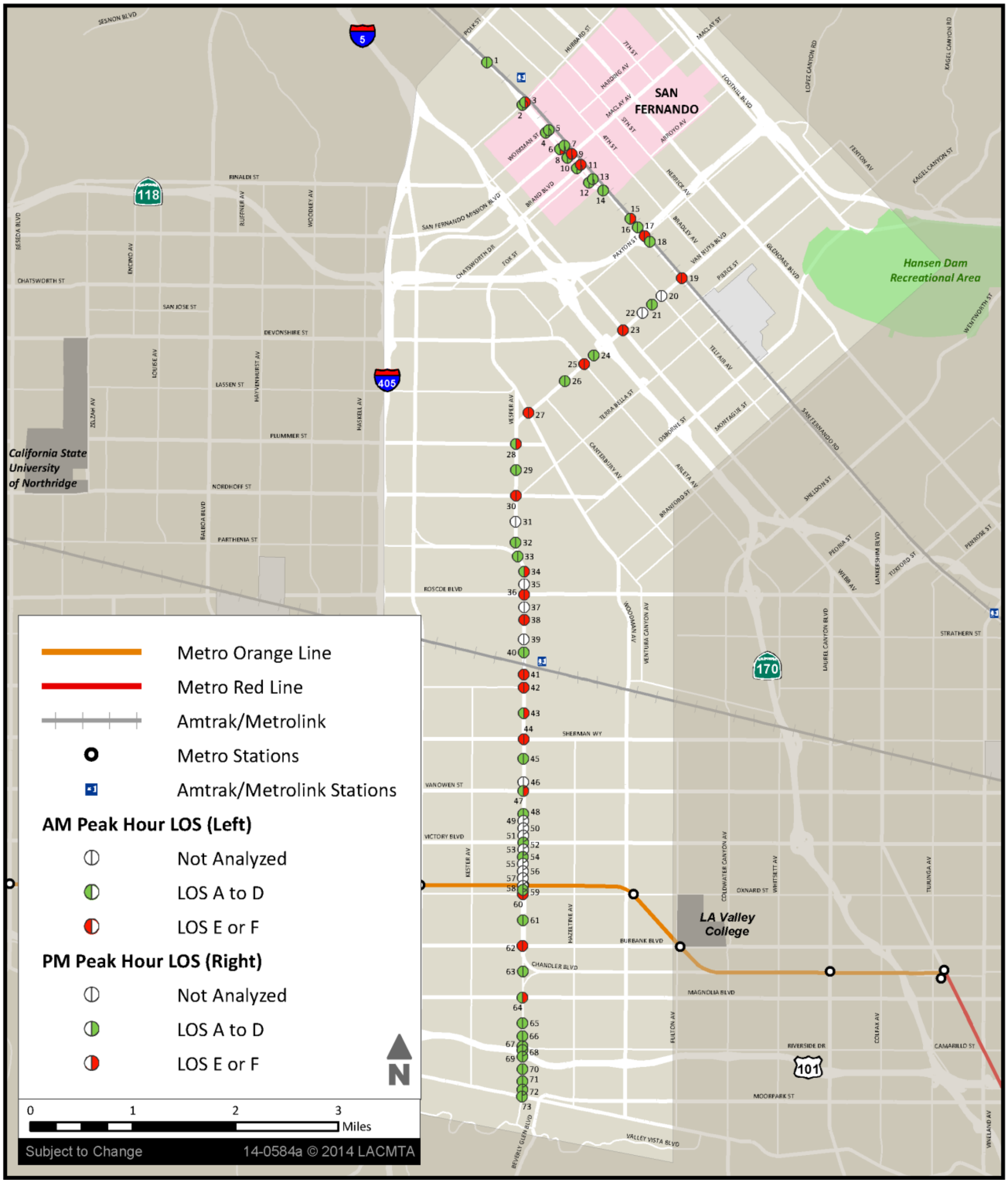
Source: KOA, 2019.

Table 3-17: Locally Preferred Alternative –Intersections at LOS E or F and/or Significantly Affected – Future (2040) with Project

Study Intersections		Future No Build				Future with Project				Change in Delay (secs)		Significant Impact?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				
		Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)	LOS	AM Peak Hour	PM Peak Hour	
3	Truman St & Hubbard St	45.3	D	72.2	E	49.4	D	81.7	F	4.1	9.5	**Yes**
6	San Fernando Rd & San Fernando Mission Blvd	8.1	A	51.4	D	8.4	A	57.8	E	0.3	6.4	**Yes**
9	Truman St & Maclay Ave	87.6	F	> 100	F	87.5	F	> 100	F	-0.1	—	No
11	Truman St & Brand Blvd	> 100	F	73.0	E	> 100	F	70.0	E	—	-3.0	No
15	San Fernando Rd & Desmond St	31.1	C	> 100	F	30.6	C	> 100	F	-0.5	—	No
17	San Fernando Rd & Paxton St	99.7	F	76.6	E	> 100	F	74.9	E	—	-1.7	**Yes**
19	San Fernando Rd & Van Nuys Blvd	> 100	F	> 100	F	> 100	F	> 100	F	—	—	**Yes**
23	Laurel Canyon Blvd & Van Nuys Blvd	> 100	F	> 100	F	> 100	F	> 100	F	—	—	**Yes**
25	Arleta Ave & Van Nuys Blvd	65.2	E	75.1	E	57.7	E	87.6	F	-7.5	12.5	**Yes**
26	Beachy Ave & Van Nuys Blvd	14.2	B	10.7	B	39.5	D	12.3	B	25.3	1.6	**Yes**
27	Woodman Ave & Van Nuys Blvd	40.0	D	50.3	D	79.0	E	69.5	E	39.0	19.2	**Yes**
28	Van Nuys Blvd & Plummer St	32.9	C	38.9	D	50.1	D	57.9	E	17.2	19.0	**Yes**
30	Van Nuys Blvd & Nordhoff St	72.0	E	76.7	E	> 100	F	> 100	F	—	—	**Yes**
34	Van Nuys Blvd & Chase St	23.7	C	72.2	E	26.7	C	88.3	F	3.0	16.1	**Yes**
36	Van Nuys Blvd & Roscoe Blvd	52.9	D	53.8	D	> 100	F	> 100	F	—	—	**Yes**
38	Van Nuys Blvd & Lanark St	29.4	C	33.0	C	95.9	F	69.9	E	66.5	36.9	**Yes**
40	Van Nuys Blvd & Arminta St	14.6	B	24.8	C	39.8	D	29.4	C	25.2	4.6	**Yes**
41	Van Nuys Blvd & Keswick St	21.6	C	24.5	C	75.2	E	> 100	F	53.6	—	**Yes**
42	Van Nuys Blvd & Saticoy St	92.4	F	> 100	F	> 100	F	> 100	F	—	—	**Yes**
43	Van Nuys Blvd & Valerio St	15.5	B	23.6	C	29.0	C	76.8	E	13.5	53.2	**Yes**
44	Van Nuys Blvd & Sherman Way	57.5	E	> 100	F	> 100	F	> 100	F	—	—	**Yes**
47	Van Nuys Blvd & Vanowen St	70.4	E	89.3	F	36.0	D	> 100	F	-34.4	—	**Yes**
60	Van Nuys Blvd & Oxnard St	45.9	D	55.5	E	89.8	F	63.4	E	43.9	7.9	**Yes**
62	Van Nuys Blvd & Burbank Blvd	> 100	F	> 100	F	> 100	F	91.3	F	—	—	No
64	Van Nuys Blvd & Magnolia Blvd	58.4	E	80.9	F	52.6	D	64.6	E	-5.8	-16.3	No

Source: KOA, 2019.

Figure 3-6: Locally Preferred Alternative – Project Study Area AM/PM LOS Map – Future (2040) with Project



Source: KOA, 2019.

Metro

The following study intersections were not analyzed in this scenario since the traffic signals would be removed, and only through movements on Van Nuys Boulevard would be permitted:

- Telfair Avenue and Van Nuys Boulevard (#20);
- Haddon Avenue and Van Nuys Boulevard (#2;2);
- Van Nuys Boulevard and Rayen Street (#31);
- Van Nuys Boulevard between Chase Street and Roscoe Boulevard (#35);
- Van Nuys Boulevard and Titus Street (#37);
- Van Nuys Boulevard and Blythe Street (#39);
- Van Nuys Boulevard and Hartland Street (#46);
- Van Nuys Boulevard and Haynes Street (#49);
- Van Nuys Boulevard and Hamlin Street (#50);
- Van Nuys Boulevard and Gilmore Street (#51);
- Van Nuys Boulevard and Friar Street (#53);
- Van Nuys Boulevard and Erwin Street (#55);
- Van Nuys Boulevard and Delano Street (#56);
- Van Nuys Boulevard and Calvert Street (#57); and
- Van Nuys Boulevard and Metro Orange Line Busway (#58).

With the implementation of the LPA, the shifts in traffic to the Sepulveda and Woodman parallel corridors would cause 19 of the 51 study intersections to operate at LOS E or F during either peak hour. In addition, significant traffic impacts (criteria defined in Table 3-2) would occur at eight intersections, as shown in Table 3-18.

Vehicle Miles Traveled

The LPA, which is a 9.2-mile transit project, would reduce daily VMT, which would be a beneficial effect. As shown in Table 3-7, the LPA, under the Existing-with-Project scenario, would reduce daily VMT by 11,373 miles in comparison to the No-Build Alternative. Under the future Year 2040 with Project conditions, the LPA would reduce daily VMT by 78,131 miles compared to the No-Build Alternative.

Performance Measures

Under the LPA, vehicle travel speeds may decrease because of the proposed traffic lane reductions along the project corridor and the resulting increases in traffic congestion, where the fixed guideway and station locations would necessitate travel lane reductions. Closures of driveways and unsignalized intersections may also affect speeds on the main arterials, as left-turning and through-moving traffic at these junctions will be added to through-moving traffic on the (arterial) legs leading up to major street intersections.

Maintenance and Storage Facilities

The LPA would require the addition of an MSF. Staffing of the facility is not projected to cause an increase in intersection delay since the typical arrival and departure times for employees are outside typical weekday peak travel periods.

Table 3-18: Locally Preferred Alternative – Parallel Corridors – Intersections at LOS E or F and/or Significantly Affected – Future (2040) with Project

Study Intersections		Future No Build				Future with Project				Change in Delay (secs)		Significant Impact?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				
		Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)	LOS	AM Peak Hour	PM Peak Hour	
75	Sepulveda Blvd & Plummer St	55	D	56	E	56.8	E	51.3	D	1.8	-4.7	No
77	Sepulveda Blvd & Nordhoff St	72.9	E	88.1	F	73.3	E	91.9	F	0.4	3.8	Yes
78	Sepulveda Blvd & Rayen St	14.1	B	35.1	D	22.2	C	29.1	C	8.1	-6.0	Yes
79	Sepulveda Blvd & Parthenia St	99.2	F	55.7	E	91.9	F	41.4	D	-7.3	-14.3	No
81	Sepulveda Blvd & & Roscoe Blvd	98.4	F	> 100	F	95	F	>100	F	-3.4	—	No
82	Sepulveda Blvd & Lanark St - Sepulveda Pl	> 100	F	> 100	F	> 100	F	>100	F	—	—	No
87	Sepulveda Blvd & Sherman Way	50.7	D	58.8	E	50.1	D	56	E	-0.6	-2.8	No
89	Sepulveda Blvd & Vanowen St	74.5	E	74.2	E	75.7	E	69.4	E	1.2	-4.8	No
90	Sepulveda Blvd & Victory Blvd	71.7	E	44.6	D	75	E	45.5	D	3.3	0.9	Yes
96	Sepulveda Blvd & Burbank Blvd	> 100	F	> 100	F	> 100	F	> 100	F	—	—	Yes
98	Sepulveda Blvd & Magnolia Blvd	49.2	D	> 100	F	45.5	D	> 100	F	-3.7	—	No
100	Sepulveda Blvd & Camarillo St	32.7	C	> 100	F	34	C	> 100	F	1.3	—	No
102	Sepulveda Blvd & Ventura Blvd	44.3	D	> 100	F	41.7	D	> 100	F	-2.6	—	No
103	Woodman Ave & Plummer St	64.9	E	12	B	62.9	E	12	B	-2.0	0.0	No
104	Woodman Ave & Terra Bella St	34.5	C	37	D	42	D	29.9	C	7.5	-7.1	Yes
110	Woodman Ave & Roscoe Blvd	87.1	F	> 100	F	87.8	F	> 100	F	0.7	—	No
111	Woodman Ave & Lanark St-Cantara St	> 100	F	> 100	F	> 100	F	> 100	F	—	—	No
114	Woodman Ave & Saticoy St	76.1	E	91.9	F	81.1	F	97.3	F	5.0	5.4	Yes
116	Woodman Ave & Valerio St	36.7	D	21.7	C	26.1	C	30.3	C	-10.6	8.6	Yes
117	Woodman Ave & Sherman Way	49.1	D	80	E	47.6	D	78.7	E	-1.5	-1.3	No
119	Woodman Ave &Vanowen St	57.1	E	65.9	E	56.8	E	56.8	E	-0.3	-9.1	No
121	Woodman Ave & Victory Blvd	76.4	E	53.8	D	81.2	F	48.9	D	4.8	-4.9	Yes

Source: KOA, 2015.

Rail vehicles serving the MSF would cross vehicular travel lanes on Van Nuys Boulevard to transfer between the MSF and the median fixed guideway. This would result in an increase in adjacent intersection delay. However, this increase would not result in an adverse effect under NEPA and would result in a less-than-significant traffic impact under CEQA.

Parking

Approximately 1,111 on-street parking spaces on Van Nuys Boulevard and approximately 528 off-street parking spaces would be removed to accommodate the median guideway, traction power substation (TPSS), the Sherman Way Station, Keswick Street/Metrolink Station, Roscoe Boulevard Station, and Van Nuys/San Fernando Station. Parking supply on San Fernando Road would not be removed since the LRT would operate within an exclusive ROW adjacent to the Metrolink tracks.

Areas along the Van Nuys Boulevard corridor that may encounter parking shortfalls during the weekday and/or weekend are generally located in commercial areas just north of the Metro Orange Line, directly south of the Amtrak/Metrolink Van Nuys Station north to Roscoe Boulevard, and near San Fernando Road. Shortfalls to parking in residential areas may occur along segments between Parthenia Street north to Woodman Avenue, and between Beachy Avenue and I-5.

As shown in Appendix G of this FEIS/FEIR, the adjacent PAZs will be able to accommodate the Van Nuys Boulevard weekday and weekend on-street parking demand within the available on-street spaces and/or off-street parking areas. For that reason, parking impacts would not be adverse under NEPA. Parking is not considered an environmental impact under CEQA.

There may be access issues for delivery trucks for smaller businesses (those without truck loading bays or other on-site loading/delivery facilities) since they would not be able to dwell within the roadway during operations. Consequently, they would either have to use off-street parking facilities, or parking on an adjacent street, or alleyways behind the property. This impact would not be adverse under NEPA. Parking is not considered an environmental impact under CEQA.

Pedestrian and Bicycle Facilities

Existing and planned pedestrian and bicycle facilities would be affected. Project implementation would conflict with the City of Los Angeles Bicycle Plan, as designated bicycle lanes on Van Nuys Boulevard would not be feasible under the LPA. This would be an adverse effect under NEPA and a significant impact under CEQA. However, it should be noted that the City of Los Angeles General Plan Framework Element designates the corridor as a Transit Priority Segment, which conflicts with City of Los Angeles Bicycle Plan.

Pedestrian routes would be lengthened where minor intersections would be permanently closed. Pedestrian crossings that remain would be improved with enhanced design and safety features. Overall operational effects and impacts on pedestrian facilities would not be adverse under NEPA and would be less than significant under CEQA.

3.3.3.3 Cumulative Impacts

For the purposes of analyzing potential cumulative transportation impacts, the future growth and development projections from the regional transportation model and the localized impacts due to the cumulative related projects in Table 2-3 of the FEIS/FEIR have been considered. The project study area for the cumulative traffic impacts analysis encompasses the project corridor along Van Nuys Boulevard and San Fernando Road and the parallel corridors along Sepulveda Boulevard and Woodman Avenue.

Cumulative Impacts during Construction

Under existing conditions (see Table 3-3), three of 73 study intersections operate at an unacceptable LOS of E or F. Future growth and development in the region would generate additional traffic on streets in the project corridor, which would adversely affect traffic flow and bus transit service. Although the lane or street closures required to construct the LPA would be temporary, they could, nonetheless, contribute to short-term increases in congestion for motorists and result in additional delays for bus vehicles, a potentially significant cumulative impact.

With regards to cumulative construction impacts on pedestrian circulation due to sidewalk closures, it is likely that cumulative projects would not substantially diminish pedestrian circulation over time. Additionally, it is not known what other related projects would be constructed concurrently and in the vicinity of the LPA construction activities. Therefore, it is unlikely that the LPA construction activities would result in a cumulatively considerable contribution to any significant cumulative impacts on pedestrian facilities.

It is probable that construction of some of the cumulative development projects in Table 2-3 of this FEIS/FEIR would require temporary closure of bike lanes adjacent to construction sites to accommodate construction vehicles and equipment. Given these closures would be temporary and affect short segments of the bike lanes, the cumulative construction impacts on bike lanes due to the projects in Table 2-3 would not be significant. Construction of the LPA would require permanent removal of existing bicycle facilities on Van Nuys Boulevard within Los Angeles and conflict with planned bikeways along Van Nuys Boulevard identified in the City's Bicycle Plan. Therefore, the LPA would result in a cumulatively considerable contribution to a significant cumulative project effect on bicycle facilities.

Construction of other projects along Van Nuys Boulevard could require temporary elimination of adjacent on-street parking spaces. However, because the impacts would be short term, and it's anticipated that there would be a sufficient supply of parking in the project area to meet demand, the cumulative impacts on parking due to other projects and the LPA would not be adverse under NEPA. Parking impacts are not considered to be significant environmental impacts under CEQA.

Cumulative Impacts during Operation

As noted above, under existing conditions (see Table 3-3), three of 73 study intersections would operate at an unacceptable LOS of E or F. Because of future growth and development and the resulting increases in traffic, under future baseline (2040) conditions, 16 of the 73 study intersections would operate at unacceptable LOS of E or F, a cumulatively significant impact. The LPA would convert two mixed-flow lanes to a dedicated LRT guideway, resulting in a reduction in roadway capacity for mixed-flow traffic. As a consequence, in 2040, 22 study intersections would operate at LOS of E or F, an increase of four intersections compared to the future baseline conditions. The LPA would result in a cumulatively considerable contribution to significant cumulative traffic impacts.

It is not expected that the cumulative projects would substantially diminish pedestrian circulation along the corridor and result in significant cumulative impacts. The closure of minor intersections under the LPA would result in longer routes for some pedestrians. However, mitigation is proposed to minimize impacts. The cumulative projects are not expected to result in the removal of bicycle lanes or any other operational adverse impacts on bicycle lanes. Therefore, although the LPA would result in the removal of existing bicycle lanes along Van Nuys Boulevard, which would be a significant project impact, it would not contribute to any significant cumulative bicycle lane impacts.

As described above, the removal of parking along Van Nuys Boulevard to accommodate the LPA would not be an adverse effect under NEPA because it's expected there would be a sufficient supply of parking in the project area to meet demand. For that reason, and because it's not expected that other related projects along Van Nuys Boulevard would result in the permanent removal of on-street parking spaces, the LPA would not contribute to an adverse operational cumulative effect, under NEPA, on parking. As discussed above, impacts to parking are not considered significant impacts to the environment under CEQA. Therefore, the LPA and related projects would not directly result in significant cumulative impacts, under CEQA, due to the removal of on-street parking.

3.3.3.4 Mitigation Measures

The following measures would be implemented for the LPA.

Construction Mitigation Measures

Transit

A Traffic Management Plan will be developed and implemented by the construction contractor in coordination with Metro, LADOT, and the City of San Fernando in order to minimize impacts on transit service. To ensure impacts are minimized to the extent feasible, the following measure is proposed:

> **MM-TRA-1:** The Traffic Management Plan shall require Metro to communicate closures and information on any changes to bus service to local transit agencies in advance and develop detours as appropriate. Bus stops within work areas shall be relocated, with warning signs posted in advance of the closure, and warnings and alternate stop notifications posted during the extent of the closure.

The Traffic Management Plan would partially mitigate temporary disruptions to transit service. However, since significant impacts could remain, and additional mitigation measures are not feasible, the potential impacts would be significant and unavoidable under CEQA and adverse under NEPA.

Traffic

To facilitate the flow of traffic in and around the construction zones and ensure impacts are minimized to the extent feasible, the following measure is proposed:

> **MM-TRA-2:** The Traffic Management Plan shall include the following typical measures, and others as appropriate:
>
> - Schedule a majority of construction-related travel (i.e., deliveries, hauling, and worker trips) during the off-peak hours.
> - Develop detour routes to facilitate traffic movement through construction zones without significantly increasing cut-through traffic in adjacent residential areas.
> - Where feasible, temporarily restripe roadways including turning lanes, through lanes, and parking lanes at the affected intersections to maximize the vehicular capacity at those locations affected by construction closures.

- Where feasible, temporarily remove on-street parking to maximize the vehicular capacity at those locations affected by construction closures. In these areas where street parking is temporarily removed in front of businesses, the contractor shall provide wayfinding to other nearby parking lots or temporary lots, with any temporary parking secured well in advance of parking being removed in the affected area.
- Place station traffic control officers at major intersections during peak hours to minimize delays related to construction activities.
- Assign a Construction Relations team inclusive of a manager, senior officers, and social media strategist to develop and implement the Metro Board's adopted Construction Relations model. The team will conduct the outreach program to inform the general public about the construction process, planned roadway closures, and anticipated mitigations through community briefings in public meeting spaces and use of signage (banners, etc.).
- Develop and implement a program with business owners to minimize effects to businesses during construction activities, including but not limited to signage, Eat, Shop, Play, and promotional programs.
- Consult and seek input on the designation and identification of haul routes and hours of operation for trucks with the local jurisdictions, school districts, and Caltrans. The selected routes should minimize noise, vibration, and other effects.
- To the extent practical, maintain traffic lanes in both directions, particularly during the morning and afternoon peak hours.
- Maintain access to adjacent businesses and schools (including passenger loading areas for parents dropping off students) via existing or temporary driveways or loading zones throughout the construction period.
- Coordinate potential road closures and detour routes and other construction activities that could adversely affect vehicle routes in the immediate vicinity of local schools with local school districts.
- Install and maintain appropriate traffic controls (signs and signals) to ensure vehicular safety.

Combined, these measures would partially address adverse effects and significant impacts on traffic flow during the construction period. However, since significant impacts could remain, and additional feasible mitigation measures have not been identified, impacts would be significant and unavoidable under CEQA and adverse under NEPA.

Parking

No construction mitigation measures are required.

Pedestrian and Bicycle Facilities

The closure of minor intersections under the LPA would result in longer routes for some pedestrians. However, no mitigation measures are proposed to minimize these impacts. This is because the LPA would not result in a cumulatively considerable contribution to a significant cumulative impact on pedestrian circulation and facilities.

MM-TRA-3: To ensure potential impacts on pedestrian and bicycle facilities are minimized to the extent feasible, the Traffic Management Plan and Traffic Control Plan shall include the following:

- Bicycle detour signs shall be provided, as appropriate, to route bicyclists away from detour areas with minimal-width travel lanes and onto parallel roadways.
- Sidewalk closure and pedestrian route detour signs shall be provided, as appropriate, that safely route pedestrians around work areas where sidewalks are closed for safety reasons or for specific construction work within the sidewalk area. In addition, the project contractor shall ensure appropriate "Open during Construction," wayfinding, and promotional signage for businesses affected by sidewalk closures is provided and access to these businesses is maintained.

Operational Mitigation Measures

Transit

No mitigation measures are proposed or required.

Traffic

MM-TRA-4: During the Preliminary Engineering phase of the project, Metro will work with the Cities of Los Angeles and San Fernando to synchronize and coordinate signal timing and to optimize changes in roadway striping to minimize potential operational traffic impacts and hazards to the extent feasible.

Parking

No operational mitigation measures are required.

Pedestrian and Bicycle Facilities

The following general mitigation measures are proposed to reduce or minimize potential impacts on pedestrian facilities during the operations period:

MM-TRA-5: Additional visual enhancements, such as high-visibility crosswalks that meet current LADOT design standards, to the existing crosswalks at each proposed station location shall be implemented to further improve pedestrian circulation.

MM-TRA-6: To further reduce potential adverse and less-than-significant pedestrian impacts, Metro shall prepare a First/Last Mile study that documents preferred pedestrian access to each station, general pedestrian circulation in the immediate vicinity of the station, and potential sites for connections to nearby bus services. The purpose of this study shall include ensuring sufficient circulation, access, and information important to users of the transit system. The results of the study shall be implemented through coordination between Metro and the local jurisdictions of the City of Los Angeles and the City of San Fernando.

MM-TRA-7: To reduce the potential impacts due to removal of the existing bike lanes extending approximately 2 miles north on Van Nuys Boulevard from Parthenia Street to Beachy Avenue and from Laurel Canyon Boulevard to San Fernando Road, two parallel corridors have been identified for consideration and approval by the Los Angeles Department of Transportation (LADOT) as bike friendly corridors. These include Filmore Street to the west and Pierce Street to the east, which can be developed as Class III Bike Friendly streets by striping sharrows and providing signage. Metro shall also continue to work with LADOT to identify, to the extent feasible, replacement locations for Class II bike lanes that meet the goals and policies in the City of Los Angeles Bicycle Plan.

3.3.3.5 Impacts Remaining after Mitigation

NEPA Finding

Construction Impacts

Project construction would result in adverse construction effects on transit, traffic, and bicycle facilities and non-adverse effects to parking and pedestrian facilities after implementation of proposed mitigation measures.

Operational Impacts

Project operations would result in adverse localized operational effects on traffic. There would be non-adverse effects on local transit service due to increased congestion but overall beneficial regional effects on transit due to increased transit capacity and reduced travel times for LRT riders.

Effects on parking and pedestrian facilities would not be adverse. Effects on bicycle facilities would be adverse, due to conflicts with the City of Los Angeles Bicycle Plan and the removal of the Class II bike lane on Van Nuys Boulevard.

CEQA Determination

Construction Impacts

Project construction would result in significant construction impacts on transit, traffic, and bicycle facilities, and less-than-significant impacts pedestrian facilities. Parking is not considered an environmental impact under CEQA.

Operational Impacts

Project operation would result in significant bicycle facilities and traffic impacts, and less-than-significant impacts on pedestrian facilities after implementation of proposed mitigation measures. Impacts on local transit would be less than significant and beneficial on overall regional transit service. Parking is not considered an environmental impact under CEQA.

3.3.4 Initial Operating Segment

An IOS has been included in this FEIS/FEIR to enable Metro to realize potential cost savings, which would not otherwise occur under the LPA, from phasing the project. It should be noted that Metro is proceeding with IOSs on other Metro projects for that reason and to specifically provide the decision making body of Metro (the Metro Board) with flexibility in determining the most efficient and cost effective manner to implement those projects. Proceeding with an IOS for the proposed project will also allow further coordination to occur with the Public Utilities Commission (PUC) and Metrolink, which will be necessary to accommodate double tracking of the Antelope Valley Line, and with the City of San Fernando regarding right-of-way acquisitions and traffic impacts at intersections in the City prior to development of the remaining northern segment of the LPA.

Although the IOS for the proposed project would run along the same alignment and have the same design features and operating characteristics as those described above for the LPA, it would occupy a smaller project footprint than the LPA because it would extend from the Metro Orange Line on the south to the Van Nuys/San Fernando station on the north. It remains Metro's intent, however, to build the remaining northern 2.5 miles of the LPA located within the existing railroad right-of-way from the Van Nuys/San Fernando station to the Sylmar/San Fernando Metrolink station.

The potential impacts of the IOS are summarized in the table below and discussed in detail in the text that follows (please note that a "Yes" in the table indicates an adverse effect under NEPA or significant impact under CEQA would occur).

Table 3-19: Summary of the IOS's Transit, Traffic, Parking, Pedestrian, and Bicycle Impacts

Period	Transit		Traffic		Parking		Pedestrian		Bicycle	
	Impact	Mitigated	Impact	Mitigated	Impact	Mitigated	Impact	Mitigated	Impact	Mitigated
Construction	Yes	No	Yes	No	No	—	No	—	Yes	No
Operations	No	No	Yes	No	No	—	No	—	Yes	No
Cumulative	No	No	Yes	No	No	—	No	—	No	No

Yes = Significant impact under CEQA; adverse effect under NEPA.
No = No impact or less than significant impact under CEQA; no effect or no adverse effect under NEPA.

3.3.4.1 Construction Impacts

Transit

Since construction of the IOS could take up to five years, similar to the LPA, the construction impacts on transit due to disruptions to service would be adverse under NEPA and significant under CEQA due to the estimated duration and magnitude of construction activities.

Traffic

Construction of the IOS would occur over a similar period of time to the LPA, approximately 4.5 to 5 years and construction methods, practices, procedures, including temporary street and lane closures, along Van Nuys Boulevard, would be similar to those described above for the LPA. However, since the IOS would not include the northern 2.5-mile segment of the LPA, it would not result in the traffic disruption and impacts along that segment that would occur under the LPA. Nonetheless, as a consequence of the estimated duration and magnitude of construction, the construction traffic impacts would be adverse under NEPA and significant under CEQA.

Parking

The impacts to parking along Van Nuys Boulevard would be similar to those described above for the LPA. Lane closures and other partial roadway closures and resulting loss of parking due to project construction would not encompass the entire length of the IOS along Van Nuys Boulevard at a single time. The IOS would not result in parking impacts that could occur under the NEPA along the northern 2.5-mile segment of the LPA. Impacts would not be adverse under NEPA. Parking is not considered an environmental impact under CEQA.

Pedestrian and Bicycle Facilities

Construction would require the permanent removal of bicycle facilities located within the work zones along Van Nuys Boulevard. Similar to the impacts of the LPA, this would be an adverse effect under NEPA and a significant impact under CEQA.

Impacts on pedestrian facilities would not be adverse under NEPA and would be less than significant under CEQA.

3.3.4.2 Operational Impacts

Transit

Similar to the LPA, local bus operating speeds would decrease because of the proposed traffic lane reductions along Van Nuys Boulevard segment of the project corridor and the resulting increases in traffic congestion. However, the IOS would result in an increase in daily transit trips as compared to future No-Build/baseline conditions. An LRT line would improve travel times and the reliability of transit service compared to existing bus lines along the corridor. Therefore, similar to the LPA, overall operational impacts on transit service would not be adverse under NEPA and would be less than significant under CEQA.

Traffic

As shown in Table 3-20, of the 17 study intersections within the IOS extents, 14 would operate at LOS E or F during either one or both of the weekday peak hours. Operating LOS at the following intersections would worsen to or within poor conditions during the separately analyzed peak hours, versus No-Build/baseline conditions:

- LOS at 12 study intersections would worsen to/within LOS E or F during the AM peak hour; and
- LOS at 14 study intersections would worsen to/within LOS E or F during the PM peak hour.

Table 3-20 identifies the study intersections along the project corridor that would operate at LOS E or F in the AM and PM peak hour and/or intersections that would be significantly affected as a result of implementation of the IOS. Within the list of intersections included in this table, significant traffic impacts would occur at 16 study intersections.

Figure 3-7 illustrates the level of service for the overall project study area with the IOS.

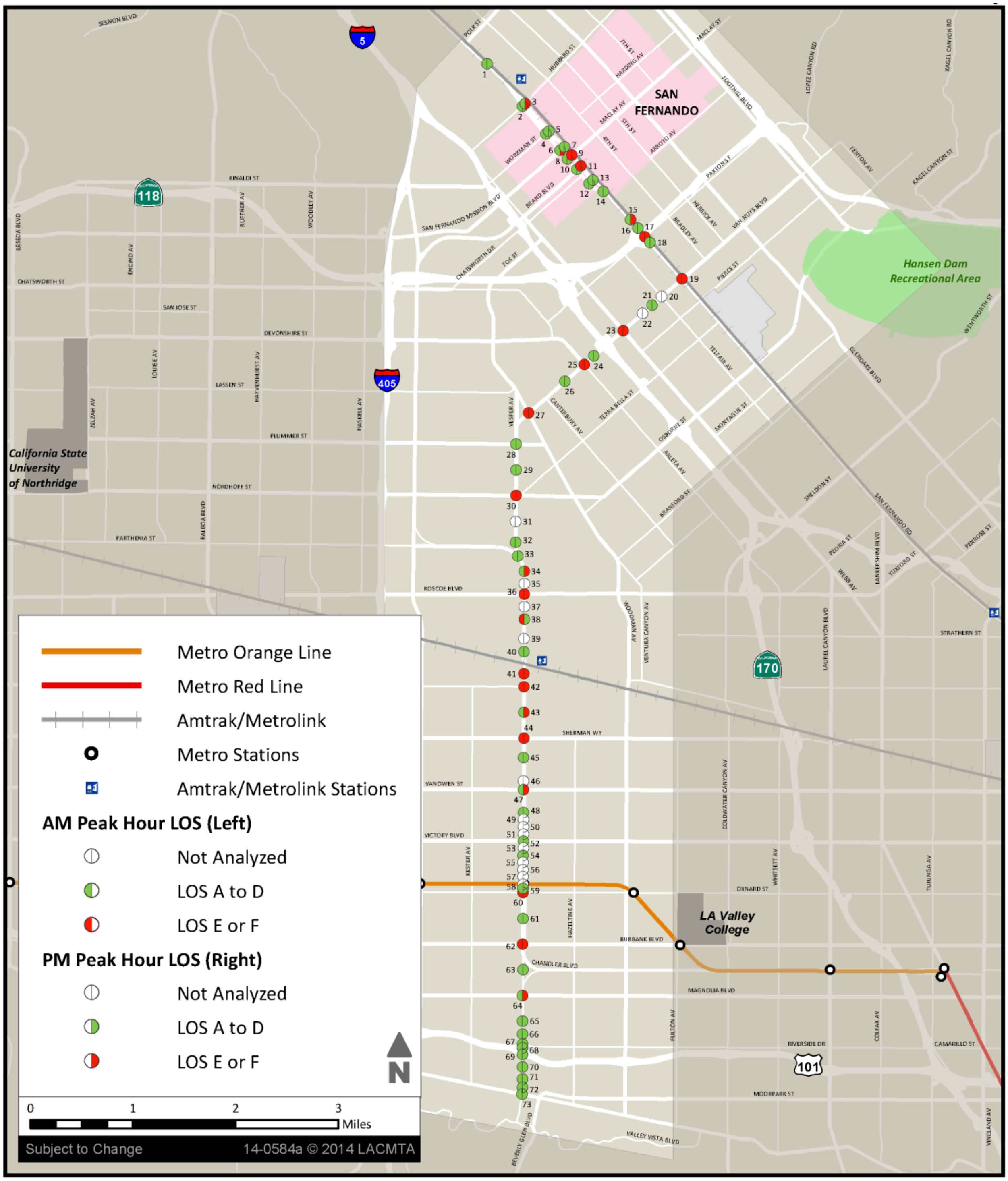
Table 3-21 summarizes the performance of the project IOS in relation to reductions in daily VMT and VHT, compared to the No-Build Alternative. These metrics provide insight into the potential benefits associated with the IOS.

Table 3-20: Initial Operating Segment (IOS) – Intersections at LOS E or F and/or Significantly Affected – Future (2040) with Project

Study Intersections		Future No Build				Future with Project				Change in Delay (secs)		Significant Impact?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				
		Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)	LOS	AM Peak Hour	PM Peak Hour	
19	San Fernando Rd & Van Nuys Blvd	> 100	F	> 100	F	> 100	F	> 100	F	—	—	Yes
23	Laurel Canyon Blvd & Van Nuys Blvd	> 100	F	> 100	F	> 100	F	> 100	F	—	—	Yes
25	Arleta Ave & Van Nuys Blvd	65.2	E	75.1	E	57.8	E	77.5	E	-7.4	2.4	No
26	Beachy Ave & Van Nuys Blvd	14.2	B	10.7	B	39.5	D	11.3	B	25.3	0.6	Yes
27	Woodman Ave & Van Nuys Blvd	40.0	D	50.3	D	78.7	E	67.5	E	38.7	17.2	Yes
28	Van Nuys Blvd & Plummer St	32.9	C	38.9	D	51.5	D	52.1	D	18.6	13.2	Yes
30	Van Nuys Blvd & Nordhoff St	72.0	E	76.7	E	> 100	F	> 100	F	—	—	Yes
34	Van Nuys Blvd & Chase St	23.7	C	72.2	E	27.2	C	77.6	E	3.5	5.4	Yes
36	Van Nuys Blvd & Roscoe Blvd	52.9	D	53.8	D	> 100	F	92.8	F	—	39.0	Yes
38	Van Nuys Blvd & Lanark St	29.4	C	33.0	C	98.9	F	52.5	D	69.5	19.5	Yes
40	Van Nuys Blvd & Arminta St	14.6	B	24.8	C	39.8	D	21.7	C	25.2	-3.1	Yes
41	Van Nuys Blvd & Keswick St	21.6	C	24.5	C	70.7	E	> 100	F	49.1	—	Yes
42	Van Nuys Blvd & Saticoy St	92.4	F	> 100	F	> 100	F	> 100	F	—	—	Yes
43	Van Nuys Blvd & Valerio St	15.5	B	23.6	C	29.0	C	76.8	E	13.5	53.2	Yes
44	Van Nuys Blvd & Sherman Way	57.5	E	> 100	F	> 100	F	> 100	F	—	—	Yes
47	Van Nuys Blvd & Vanowen St	70.4	E	89.3	F	36.0	D	> 100	F	-34.4	—	Yes
60	Van Nuys Blvd & Oxnard St	45.9	D	55.5	E	89.8	F	63.4	E	43.9	7.9	Yes

Source: KOA, 2019.

Figure 3-7: Initial Operating Segment – Project Study Area AM/PM LOS Map



Source: KOA, 2019.

Table 3-21: Project Performance – VMT and VHT for the Initial Operating Segment

	Daily VMT Reduction	Daily VHT Reduction
Outside the Project Study Area		
IOS	25,739	1,678
Within the Project Study Area		
IOS	3,966	151

Source: KOA, 2019.

Parking

The IOS and the LPA would result in the removal of approximately 1,111 on-street parking spaces on Van Nuys Boulevard and approximately 528 off-street parking spaces would be removed to accommodate the median guideway, TPSS, the Sherman Way Station, Keswick Street/Metrolink Station, Roscoe Boulevard Station, and Van Nuys/San Fernando Station.

As discussed above for the LPA, the adjacent PAZs will be able to accommodate the Van Nuys Boulevard weekday and weekend on-street parking demand within the available on-street spaces and/or off-street parking areas. Parking impacts would not be adverse under NEPA. Parking is not considered an environmental impact under CEQA.

Similar to the LPA, there may be access issues for delivery trucks for smaller businesses (those without truck loading bays or other on-site loading/delivery facilities) since they would not be able to dwell within the roadway during operations. Consequently, they would either have to use off-street parking facilities, or parking on an adjacent street, or alleyways behind the property. This impact would not be adverse under NEPA. Parking is not considered an environmental impact under CEQA.

Pedestrian and Bicycle Facilities

Similar to the LPA, the IOS would affect existing and planned pedestrian and bicycle facilities. Both the IOS and LPA would require the removal of the existing bicycle lanes on Van Nuys. This would be an adverse effect under NEPA and a significant impact under CEQA. However, it should be noted that the City of Los Angeles General Plan Framework Element designates the corridor as a Transit Priority Segment, which conflicts with City of Los Angeles Bicycle Plan.

Similar to the LPA, pedestrian routes along Van Nuys Boulevard would be lengthened where minor intersections would be permanently closed under the IOS. Pedestrian crossings that remain would be improved with enhanced design and safety features. Overall operational effects and impacts on pedestrian facilities would not be adverse under NEPA and would be less than significant under CEQA.

3.3.4.3 Cumulative Impacts

Cumulative Impacts during Construction

Cumulative impacts with implementation of the IOS would be similar to or slightly less those that would occur under the LPA. As discussed above for the LPA, future growth and development in the region would generate additional traffic on streets in the project corridor, which would adversely affect traffic flow and bus transit service. Although the lane or street closures required to construct the

IOS would be temporary, and possibly less extensive than would occur under the LPA, they could, nonetheless, contribute to short-term increases in congestion for motorists and result in additional delays for bus vehicles, a potentially significant cumulative impact.

With regards to cumulative construction impacts on pedestrian circulation due to sidewalk closures, it is likely that cumulative projects would not substantially diminish pedestrian circulation over time. Additionally, it is not known what other related projects would be constructed concurrently and in the vicinity of the IOS construction activities. Therefore, similar to the LPA, it is unlikely that IOS construction activities would result in a cumulatively considerable contribution to any significant cumulative impacts on pedestrian facilities.

It is probable that construction of some of the cumulative development projects in Table 2-3 of this FEIS/FEIR would require temporary closure of bike lanes adjacent to construction sites to accommodate construction vehicles and equipment. Given these closures would be temporary and affect short segments of the bike lanes, the cumulative construction impacts on bike lanes due to the projects in Table 2-3 would not be significant. Construction of the IOS, like the LPA would require permanent removal of existing bicycle facilities on Van Nuys Boulevard within Los Angeles and conflict with planned bikeways along Van Nuys Boulevard identified in the City's Bicycle Plan. Therefore, the IOS would result in a cumulatively considerable contribution to a significant cumulative project effect on bicycle facilities.

Construction of other projects along Van Nuys Boulevard could require temporary elimination of adjacent on-street parking spaces. However, because the impacts would be short term, and it's anticipated that there would be a sufficient supply of parking in the project area to meet demand, the cumulative impacts on parking due to other projects and the IOS would not be adverse under NEPA. Parking impacts are not considered to be significant environmental impacts under CEQA.

Cumulative Impacts during Operation

As noted above, under existing conditions (see Table 3-3), three of the 73 LPA study area intersections would operate at an unacceptable LOS of E or F. Because of future growth and development and the resulting increases in traffic, under future baseline (2040) conditions, 16 of the 73 study intersections would operate at unacceptable LOS of E or F, a cumulatively significant impact. Nine of those 16 intersections are within the IOS extents (i.e., the study area for the IOS). Similar to the LPA, the IOS would convert two mixed-flow lanes to a dedicated LRT guideway, resulting in a reduction in roadway capacity for mixed-flow traffic along Van Nuys Boulevard. As a consequence, in 2040, 13 of the IOS study area intersections would operate at LOS of E or F, an increase of four intersections compared to the future baseline conditions. The IOS would result in a cumulatively considerable contribution to significant cumulative traffic impacts.

It is not expected that the cumulative projects would substantially diminish pedestrian circulation along the corridor and result in significant cumulative impacts. The closure of minor intersections under the LPA would result in longer routes for some pedestrians. However, mitigation is proposed to minimize impacts. The cumulative projects are not expected to result in the removal of bicycle lanes or any other operational adverse impacts on bicycle lanes. Therefore, although the LPA would result in the removal of existing bicycle lanes along Van Nuys Boulevard, which would be a significant project impact, it would not contribute to any significant cumulative bicycle lane impacts.

As described above, the removal of parking along Van Nuys Boulevard to accommodate the LPA would not be an adverse effect under NEPA because it's expected there would be a sufficient supply of parking in the project area to meet demand. For that reason, and because it's not expected that other related projects along Van Nuys Boulevard would result in the permanent removal of on-street parking spaces, the IOS, similar to the LPA, would not contribute to an adverse operational cumulative effect, under NEPA, on parking. As discussed above, impacts to parking are not considered significant impacts to the environment under CEQA. Therefore, the IOS and related projects would not directly result in significant cumulative impacts, under CEQA, due to the removal of on-street parking.

3.3.4.4 Mitigation Measures

Construction Mitigation Measures

Construction mitigation measures MM-TRA-1 through MM-TRA-3 identified above for the LPA would also be implemented under the IOS.

Operational Mitigation Measures

Operational mitigation measures MM-TRA-4 through MM-TRA-7 identified above for the LPA would also be implemented under the IOS.

3.3.4.5 Impacts Remaining after Mitigation

NEPA Finding

Construction Impacts

Project construction would result in adverse construction effects on transit, traffic, and bicycle facilities and non-adverse effects to parking and pedestrian facilities after implementation of proposed mitigation measures.

Operational Impacts

Project operations would result in adverse localized operational effects on traffic. There would be non-adverse effects on local transit service due to increased congestion but overall beneficial regional effects on transit due to increased transit capacity and reduced travel times for LRT riders.

Effects on parking and pedestrian facilities would not be adverse. Effects on bicycle facilities would be adverse, due to conflicts with the City of Los Angeles Bicycle Plan and the removal of the Class II bike lane on Van Nuys Boulevard.

CEQA Determination

Construction Impacts

Project construction would result in significant construction impacts on transit, traffic, and bicycle facilities, and less-than-significant impacts pedestrian facilities. Parking is not considered an environmental impact under CEQA.

Operational Impacts

Project operation would result in significant bicycle facilities and traffic impacts, and less-than-significant impacts on pedestrian facilities after implementation of proposed mitigation measures. Impacts on local transit would be less than significant and beneficial on overall regional transit service. Parking is not considered an environmental impact under CEQA.

Chapter 4
Affected Environment and Environmental Consequences

4.0 Affected Environment and Environmental Consequence

This chapter of the Final Environmental Impact Statement/Final Environmental Impact Report (FEIS/FEIR) analyzes the environmental impacts and consequences due to construction and operation of the proposed project. The discussions in this chapter, which are based on the information and analyses in Chapter 4 of the DEIS/DEIR, focus on the impacts of the Locally Preferred Alternative (LPA) (Alternative 4 Modified: At-Grade LRT) and an Initial Operating Segment (IOS).[1] As discussed in Chapter 2 of this FEIS/FEIR, the primary difference between the LPA and DEIS/DEIR Alternative 4, is the LPA would be constructed entirely at-grade along its 9.2-mile length, while Alternative 4 included an approximately 2.5-mile subway segment along Van Nuys Boulevard from Hart Street to Parthenia Street. In response to public support for a light rail alternative and public concern[2] that construction of a subway would delay project completion and because of the significant increased cost and additional environmental impacts of constructing the subway segment, the subway was eliminated and Alternative 4 Modified was identified as the LPA by the Metro Board of Directors in June of 2018.

Accordingly, the information and analyses in Chapter 4 of the DEIS/DEIR have been updated to address the impacts of the LPA and the IOS and to incorporate additional information obtained subsequent to completion of the DEIS/DEIR, including updates to the text of the DEIS/DEIR in response to public comments on the DEIS/DEIR. The revised analyses have not resulted in any new significant impacts that were not identified in the DEIS/DEIR. For additional detailed technical information on the impact analyses, the reader is referred to the technical studies included as Appendices to the DEIS/DEIR, as well as the updated information in this FEIS/FEIR.

To facilitate the reader's review, an overview of the organization of the discussions in each subsequent section in this chapter (Sections 4.1 through 4.19) is provided below.

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[1] As described in Chapter 2 of this FEIS/FEIR, in order to ensure the objectives of the project are met in a timely manner and avoid delays due to the timing of funding availability, Metro is considering constructing the LPA in two phases. An IOS has been included in this FEIS/FEIR to enable Metro to realize potential cost savings, which would not otherwise occur under the LPA, from phasing the project. It should be noted that Metro is proceeding with IOSs on other projects for that reason and to specifically provide the decision-making body of Metro (the Metro Board of Directors) with flexibility in determining the most efficient and cost-effective manner to implement those projects. Proceeding with an IOS for the proposed project will also allow further coordination to occur with the Public Utilities Commission (PUC) and Metrolink, which will be necessary to accommodate double tracking of the Antelope Valley Line, and with the City of San Fernando regarding traffic impacts at intersections in the City prior to development of the remaining northern segment of the LPA.

[2] As documented in the *DEIS/DEIR – Public Comment Summary Report* (see Appendix JJ), 67 percent of 600 comments related to travel mode preferred light rail transit and over 90 public comments identified at-grade LRT service or a combination of at-grade service and a 2.5-mile subway segment as a preferred option. Of these more than 90 comments, 56 percent preferred at-grade LRT service, while 44 percent preferred at-grade with subway segment option.

Regulatory Framework and Methodology. This section identifies the applicable federal, state, and local regulations that govern the environmental resources described in the Affected Environment/Existing Conditions section, including the relevant sections of the State CEQA Guidelines that were used as the basis for determining the significance, under CEQA, of the proposed project's environmental impacts.[3]

Affected Environment/Existing Conditions. This section describes the existing physical environment and the socioeconomic conditions in the project study area. That information is required in order to establish a baseline against which the proposed project can be compared and changes due to the project can be determined.

Environmental Consequences, Impacts, and Mitigation Measures. This section describes the environmental impacts and consequences that would occur due to construction and operation of the proposed project, determines the significance of any environmental impacts in accordance with State CEQA Guidelines, and identifies feasible measures that would mitigate or avoid or minimize significant or adverse impacts and effects.

[3] The Environmental Checklist questions in Appendix G of the State CEQA Guidelines were used as guidance in developing thresholds for determining impact significance. In late 2018, subsequent to completion of the DEIS/DEIR, changes to the State CEQA Guidelines were adopted by the State including revisions to the Environmental Checklist questions in Appendix G. To maintain consistency between the DEIS/DEIR and FEIS/FEIR when evaluating the significance of impacts under CEQA, the significance thresholds identified in this chapter are unchanged from those in the DEIS/DEIR.

4.1 Land Use

4.1.1 Regulatory Framework and Methodology

4.1.1.1 Regulatory Framework

The applicable local regulations that are relevant to an analysis of the proposed project's land use impacts are listed below (there are no federal or state land use regulations or plans that are directly applicable to the land use impact analysis). For additional information regarding these regulations, please see the *East San Fernando Valley Transit Corridor Draft Environmental Impact Statement/ Environmental Impact Report Land Use Impacts Report*, prepared by GPA Consulting in December 2014 in Appendix H of this FEIS/FEIR.

Local

The following local regulations and land use plans would be applicable to the proposed project:

- Southern California Association of Governments 2016-2040 Regional Transportation; Plan/Sustainable Communities Strategy;
- Southern California Association of Governments 2008 Regional Comprehensive Plan;
- County of Los Angeles Pacoima Wash Vision Plan;
- City of Los Angeles Land Use/Transportation Policy;
- City of Los Angeles General Plan Framework Element;
- City of Los Angeles Land Use Element;
- City of Los Angeles Mobility Plan 2035;
- City of Los Angeles Streetscape Plans;
- City of Los Angeles Special Districts;
- City of Los Angeles Van Nuys Historic Preservation Overlay Zone (HPOZ);
- City of Los Angeles Whiteman Airport Zone;
- City of Los Angeles Zoning Code;
- City of San Fernando General Plan;
- San Fernando Corridors Specific Plan and;
- City of San Fernando Zoning Code

4.1.1.2 Methodology

The following common terms are used in this section and are defined below for clarity:

- **Land Use**: Land use refers to the human use of land. There are several types of land uses, including residential, commercial, industrial, public facilities, and open space.

- **Project Study Area**: The project study area for land use encompasses the area in which direct and/or indirect impacts associated with the project would likely result. The project study area for this land use section extends one-half mile surrounding the East San Fernando Valley Transit Corridor (project corridor) to incorporate potential impacts to surrounding neighborhoods and roadways (see Figures 2.1 through 2.3 in Appendix H).
- **Direct Effects**: Direct effects are effects that would be caused by the project and would result at the same time and place as the project.
- **Indirect Effects**: Indirect effects are effects that would be caused by the project and would result later in time or would be farther removed in distance but would still be reasonably foreseeable. Indirect effects would include growth-related effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.
- **Project Corridor**: The project corridor is defined as the area that could be directly and physically affected by at least one of the project alternatives. More specifically, the project corridor is limited to the properties abutting the following roadway/transit segments:
  - Van Nuys Boulevard, from the Metro Orange Line in the south to San Fernando Road in the north.
  - San Fernando Road, from Van Nuys Boulevard in the southeast to the Sylmar/San Fernando Metrolink Station in the northwest (at 12219 Frank Modugno Drive between Hubbard Avenue and Sayre Street).
  - Truman Street, from La Rue Street in the southeast to the Sylmar/San Fernando Metrolink Station in the northwest.
  - The Antelope Valley Metrolink railroad corridor, from Van Nuys Boulevard in the southeast to the Sylmar/San Fernando Metrolink Station in the northwest

The following four steps were used to assess potential impacts from the project on existing land use in the project study area:

- Maps were created to illustrate existing general plan land use in the project study area;
- Existing land uses along the project corridor were described;
- Field surveys were conducted of the project corridor; and
- An assessment of the project's impacts on land use was conducted.

Land Use Maps

To illustrate existing land use, General Plan land use designations for the Cities of Los Angeles and San Fernando were overlain onto maps showing the boundaries of the project corridor and project study area. To represent the length of the project corridor, the corridor was broken into six segments, as shown in Figure 3.1 in Appendix H.

Land Use Descriptions

A textual description of existing land uses within the project study area was developed. A general description of land uses along the project corridor is provided, as well as a more detailed description for each of the six segments of the project corridor.

Field Surveys

Field surveys were performed in October 2011 and February 2013 to identify specific land uses along the project corridor and project study area. Adjacent property types and associated land uses were also observed. In addition to the observations made during field surveys, photographs were taken throughout the project study area to assist with the identification of land use.

Land Use Impact Assessment

The project's impacts on land use were qualitatively assessed based on the information gathered on the existing land uses and whether the project would be compatible with those land uses. In addition, the project's impacts on land use were assessed by evaluating whether the project would be compatible with the land use plans, goals, and policies adopted by the regional and local jurisdictions within the project study area.

4.1.1.3 CEQA Significance Thresholds

Significance thresholds are used to determine whether a project may have a significant environmental effect under CEQA.

CEQA requires state and local government agencies to identify the significant environmental effects of proposed actions; however, CEQA does not describe specific significance thresholds. 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).

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, which are often used as thresholds or guidance in developing thresholds for determining impact significance. [4] Accordingly, for the purposes of this FEIS/FEIR, a project would normally have a significant land use impact, under CEQA, if it would:

- Physically divide an established community.
- Conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purposes of avoiding or mitigating an environmental effect.
- Conflict with an applicable habitat conservation plan or natural community conservation plan (There is no habitat conservation plan or natural community conservation plan that is applicable to the project study area).

[4] The Environmental Checklist questions in Appendix G of the State CEQA Guidelines were used as guidance in developing thresholds for determining impact significance. In late 2018, subsequent to completion of the DEIS/DEIR, changes to the State CEQA Guidelines were adopted by the State including revisions to the Environmental Checklist questions in Appendix G. To maintain consistency between the DEIS/DEIR and FEIS/FEIR when evaluating the significance of impacts under CEQA, the significance thresholds identified in this chapter are unchanged from those in the DEIS/DEIR.

L.A. CEQA Thresholds Guide

The *L.A. CEQA Thresholds Guide* for land use states that a determination of significance shall be made on a case-by-case basis, considering the following factors: [5]

Land Use Consistency

- Whether the proposal is inconsistent with the adopted land use/density designation in the Community Plan, redevelopment plan, or specific plan for the site.
- Whether the proposal is inconsistent with the General Plan or adopted environmental goals or policies contained in other applicable plans.

Land Use Compatibility

- The extent of the area that would be impacted, the nature and degree of impacts, and the type of land uses within that area.
- The extent to which existing neighborhoods, communities, or land uses would be disrupted, divided, or isolated, and the duration of the disruptions.
- The number, degree, and type of secondary impacts to surrounding land uses that could result from implementation of the project.

4.1.2 Affected Environment/Existing Conditions

4.1.2.1 Project Study Area Setting

The project study area is located in the San Fernando Valley area of Los Angeles. The San Fernando Valley is a flat area consisting of approximately 260 square miles, and is bounded by the Santa Susana Mountains to the northwest, the Simi Hills to the west, the Santa Monica Mountains and Chalk Hills to the south, the Verdugo Mountains to the east, and the San Gabriel Mountains to the northeast. The San Fernando Valley is an urbanized area that includes a variety of land uses, including residential, commercial, institutional, and light industrial development. The project corridor is approximately 9.2 miles in length and runs nearly the entire north/south length of the valley floor.

The following overlay districts, special zones, and programs are located in the project study area:

- **Business Improvement District**: A Business Improvement District (BID) is a geographically defined area within the City of Los Angeles, in which services, activities, and programs are paid for through a special assessment that is charged to all members within the district. The assessment money is collected by the City or by the county through a special contractual arrangement with the City.
- **Van Nuys Historic Preservation Overlay Zones**: HPOZs, commonly known as historic districts, provide for review of proposed exterior alterations and additions to historic properties within designated districts. Recognizing the need to identify and protect neighborhoods with distinct architectural and cultural resources, the City of Los Angeles adopted the HPOZ ordinance in 1979. HPOZ areas range in size from neighborhoods of approximately 50 parcels to more than 4,000 properties. While most districts are primarily residential, many have a mix of single-family and multi-family housing, and some include commercial and industrial properties. Van

[5] City of Los Angeles. 2006. *L.A. CEQA Thresholds Guide, H. Land Use.* Available: <http://www.environmentla.org/programs/Thresholds/Complete%20Threshold%20Guide%202006.pdf>. Accessed: February 13, 2013.

Nuys HPOZ is located in the center of the San Fernando Valley area of Los Angeles and is the first HPOZ in the valley. Van Nuys includes some of the earliest residential development in the valley.

- **Van Nuys Central Business District Community Design Overlay District**: The Van Nuys Central Business District (CBD) Community Design Overlay District (CDO) establishes Design Guidelines and Standards for projects dealing with commercial properties. The district aims to guide development within a framework that is sensitive to the history of the Van Nuys CBD, while encouraging design creativity.
- **Targeted Neighborhood Initiative**: The Targeted Neighborhood Initiative (TNI) was proposed by Mayor Richard Riordan as a new way to revitalize the City of Los Angeles. The TNI would create the mechanisms and relationships necessary to implement a coordinated effort between City of Los Angeles Departments and area stakeholders. These mechanisms and relationships are created with the intent that duplicate efforts will be minimized, and that the supplemental Community Development Block Grant (CDBG) dollars will be leveraged for greater impact.

4.1.2.2 Existing Land Uses

The project corridor is currently designated with the following transportation uses:

- Within the project corridor, Van Nuys Boulevard is designated as a Major Class II Highway.[6] This type of street is defined as having four full-time through lanes, as well as two lanes that are for parking on a part-time basis and for travel on a part-time basis. This class of street has a median/left-turn lane and 104 feet of right-of-way. Additionally, it has a 12-foot sidewalk/parkway with a 13-foot curb lane.[7] It should be noted that the Draft Mobility Plan 2035 for the City of Los Angeles re-designates Major Class II Highways with a newly designated term of Boulevard II and Van Nuys Boulevard is also designated as a Comprehensive Transit Enhanced Street, and as part of the Bicycle Enhanced Network.[8]
- The Metro Orange Line is designated for public facilities on the City of Los Angeles General Plan Land Use Map.
- Within the project corridor, San Fernando Road is classified as a secondary arterial corridor.[9] This type of roadway typically directs traffic through individual districts in the San Fernando Corridors Specific Plan area and typically has a right-of-way width of 80 feet and a curb-to-curb width of 60 feet. Parallel parking is typically provided on both sides of the street. This type of roadway generally provides four through travel lanes, with a dedicated left-turn lane at enhanced intersections. The Draft Mobility Plan 2035 designates San Fernando Road as a Moderate Transit Enhanced Street and as part of the Bicycle Enhanced Network.

[6] City of Los Angeles. 2002a. *City of Los Angeles General Plan Transportation Element, Highways and Freeways, North Valley Subarea, Map A2.* June. Available: <http://cityplanning.lacity.org/cwd/gnlpln/transelt/TEMaps/A2NVly.gif>. Accessed: February 12, 2013.
[7] City of Los Angeles. 1999a. *City of Los Angeles General Plan, Transportation Element.* Adopted September 8. Available: <http://cityplanning.lacity.org/cwd/gnlpln/transelt/index.htm>. Accessed: February 13, 2013.
[8] City of Los Angeles. 2015. *City of Los Angeles Mobility Plan 2035, An Element of the General Plan*. May 28, 2015 Draft. Available: <https://cityclerk.lacity.org/lacityclerkconnect/index.cfm?fa=ccfi.viewrecord&ncfms=&cfnumber=15-0719>. Accessed: September 30, 2015.
[9] City of San Fernando. 2005. *The San Fernando Corridors Specific Plan*. Adopted January. Available: <http://www.ci.san-fernando.ca.us/sfold/news/specific_plan/sf_corridors_sp_final.pdf>. Accessed: February 13, 2013.

- Truman Street is classified as a major arterial corridor for its entire length through San Fernando.[10] This type of roadway serves both regional through-traffic and inter-city traffic, and generally provides four through travel lanes and a dedicated left-turn lane. This type of roadway will typically have a maximum right-of-way width of 80 feet and a curb-to-curb pavement width of 56 feet.
- The Antelope Valley Metrolink railroad corridor is shown as a railroad corridor in the San Fernando Corridors Specific Plan.

Land use varies along the six segments of the project corridor, and includes residential, commercial, industrial, recreation (parks), schools, community centers, and other urban uses.

Land uses to the east and west of the project corridor, but within the project study area, are primarily designated as residential and parklands. The project corridor crosses under several roadways/highways and railroad tracks, and crosses over the Los Angeles River (LA River). Power lines, streetlights, and other utilities are located along various portions of the project corridor.

At the southern end of the project corridor to just south of Calvert Street, land uses include car dealerships on Auto Row and other commercial uses. Moving further north until Vanowen Street, commercial, retail, banks, restaurants, medical offices, and other businesses occupy the corridor. A portion of this segment also includes local, state, and federal government buildings, including the Van Nuys Civic Center. South of Titus Street, a mixture of retail, restaurant, and other businesses interspersed with parking lots occupies the land adjacent to Van Nuys Boulevard.

South of Parthenia Street, small to large commercial businesses are located along Van Nuys Boulevard, as well as commercial centers and the Panorama Mall. South of the I-5 freeway, land uses include small to medium residential apartment complexes and single-family homes. At the north end of the project corridor, along San Fernando Road and Truman Street, the land uses are primarily commercial and industrial.

The following sections describe the project corridor by segments, starting from the southern limit (at the Metro Orange Line) and moving toward the northern limit (at the Sylmar/San Fernando Metrolink Station). Within each segment, a map is shown depicting the general plan land use designations within the project study area, and the land use is described for the contiguous properties along the project corridor.

Map Segment 1 – Van Nuys Boulevard from the Metro Orange Line to Hart Street

Map Segment 1 consists of Van Nuys Boulevard, from the Metro Orange Line in the south to Hart Street in the north (see Figure 3.2 in Appendix H). Portions of this segment are part of the Van Nuys Auto Row BID, Van Nuys CBD SPA, Van Nuys CBD CDO, Van Nuys TNI I, and Van Nuys HPOZ.

Land uses along this segment of Van Nuys Boulevard are primarily commercial. North of Oxnard Street, Van Nuys Boulevard passes through a segment designated for public facilities, which includes the Metro Orange Line, the Orange Line Busway Bike Path, and a power facility. Land uses along the Metro Orange Line are primarily industrial.

[10] City of San Fernando. 2005. *The San Fernando Corridors Specific Plan*. Adopted January. Available: <http://www.ci.san-fernando.ca.us/sfold/news/specific_plan/sf_corridors_sp_final.pdf>. Accessed: February 13, 2013.

Land designated for public facilities is located between Calvert Street and Friar Street and occupied by the Van Nuys Civic Center, which includes the City Hall, the County Registrar, the Los Angeles Superior Court, the County Probation Department, a US post office, and other related facilities. The First Lutheran Church and Champs Charter High School are located at 6952 Van Nuys Boulevard, near the intersection of Hart Street and Van Nuys Boulevard.

Map Segment 2 – Van Nuys Boulevard from Hart Street to Parthenia Street

Map Segment 2 consists of Van Nuys Boulevard, from Hart Street in the south to Parthenia Street in the north (see Figure 3.3 in Appendix H). Portions of this segment are part of the Van Nuys TNI II, the Panorama City CDO, and the Panorama City BID. This segment of the project corridor is designated primarily for commercial uses and includes the Panorama Mall (at Van Nuys Boulevard and Roscoe Boulevard). Clinica Latino Americana health clinic is located at 8727 Van Nuys Boulevard at Parthenia Street.

Just north of Raymer Street, Van Nuys Boulevard passes under a rail line owned by the Union Pacific Railroad. Two Amtrak lines run along this route, which are the Pacific Surfliner (service between San Diego and San Luis Obispo) and the Coast Starlight (service between Los Angeles and Seattle). The adjacent parcel is designated for public facilities and functions as the Van Nuys Transit Station (on Van Nuys Boulevard between Keswick Street and Cabrito Road). This station is serviced not only by the Amtrak trains described above, but also by Metrolink's commuter rail system and City buses.[11] Metrolink's Ventura County line (with service between Union Station in Los Angeles and East Ventura) stops at this station. In addition, the LADOT DASH Panorama City/Van Nuys Route and Metro buses 156, 169, 233, and 761 Express also stop at this station.

Map Segment 3 – Van Nuys Boulevard from Parthenia Street to Woodman Avenue

Map Segment 3 consists of Van Nuys Boulevard, from Parthenia Street in the south to Woodman Avenue in the north (see Figure 3.4 in Appendix H). Portions of the segment are part of the Panorama City BID and Panorama City CDO. This segment of the project corridor is designated for various commercial land uses, but there are also some areas that are designated for medium and high/medium residential. Between Van Nuys Boulevard and Tobias Avenue (9122-9132 Tobias Avenue), there is a 1.6-acre park called Tobias Avenue Park.

Map Segment 4 – Van Nuys Boulevard from Woodman Avenue to Telfair Avenue

Map Segment 4 consists of Van Nuys Boulevard, from Woodman Avenue in the southwest to Telfair Avenue in the northeast (see Figure 3.5 in Appendix H). Portions of this segment are within the Pacoima CDO, the Pacoima Town Center TNI, and the Osborne Corridor TNI. In this segment of the project corridor, most of the land is designated and used for residential or commercial properties, with some land designated for open space and public facilities. Just northeast of Canterbury Avenue, there is a strip of land designated for public facilities. This space is used for transmission power lines and a plant nursery.

Arleta High School is located at the southeast corner of Van Nuys Boulevard and Beachy Avenue (14200 Van Nuys Boulevard). UCLA Early Head Start is located at 14423 Van Nuys Boulevard. There is a small strip of land northeast of Beachy Avenue designated for open space use. This area currently

[11] Metrolink. n.d. *Van Nuys Station*. Available: <http://www.metrolinktrains.com/>. Accessed: November 8, 2011.

serves as an open-air water drainage system. Northeast of Vena Avenue, Van Nuys Boulevard passes underneath the I-5 freeway. North of the I-5 freeway, existing land uses include the Pacoima Branch library (13605 Van Nuys Boulevard), a Department of Water & Power distribution facility (13477 Van Nuys Boulevard), Soledad Enrichment School (13452 Van Nuys Boulevard), and Pacoima Skill Center Vocational School (13545 Van Nuys Blvd).

Map Segment 5 – Van Nuys Boulevard from Telfair Avenue to San Fernando Road; and San Fernando Road and the Antelope Valley Metrolink Corridor from Van Nuys Boulevard to La Rue Street

Map Segment 5 consists of Van Nuys Boulevard, from Telfair Avenue in the southwest to San Fernando Road in the northeast; and San Fernando Road and the Antelope Valley Metrolink Corridor, from Van Nuys Boulevard in the southeast to La Rue Street in the northwest (see Figure 3.6 in Appendix H). Portions of this segment are within the Pacoima Town Center TNI, the Osborne Corridor TNI, the Whiteman Airport Zone, and the Pacoima CDO. Whiteman Airport is located at 12653 Osborne Street in the northeast corner of the Pierce Street and San Fernando Road intersection. Although the airport is outside of the project corridor, it is within the project study area, just 0.5 mile southeast of the project corridor; therefore, many parcels within the project study area fall within the Whiteman Airport Zone. A community health center run by the Los Angeles Department of Health Services is also located in this segment (13300 Van Nuys Boulevard).

The Metrolink railroad tracks are designated for public facilities. This Metrolink route is planned for future enhanced Metrolink service. Other land uses along this segment of the project corridor are primarily industrial and heavy manufacturing, with some commercial areas. The project corridor crosses under SR-118, which is designated for public facilities. The project corridor also crosses over the Pacoima Wash Diversion Channel, which is designated as open space/park land.

Map Segment 6 – San Fernando Road, Truman Street, and the Antelope Valley Metrolink Corridor from La Rue Street to the Sylmar/San Fernando Metrolink Station

Map Segment 6 consists of San Fernando Road, Truman Street, and the Antelope Valley Metrolink Corridor, from La Rue Street in the southwest to the Sylmar/San Fernando Metrolink Station in the northeast (see Figure 3.7 in Appendix H). Portions of this segment are within the San Fernando Corridors SPA and the Sylmar BID. The Metrolink railroad tracks are designated for public facilities and are planned to accommodate future enhanced Metrolink service. Because there are railroad tracks in this area, other adjacent land uses along this segment of the project corridor are primarily industrial and manufacturing. Along Truman Street and San Fernando Street, land uses are specified in the San Fernando Corridors Specific Plan, which are designated as commercial. The Sylmar/San Fernando Metrolink Station (on Frank Modugno Drive between Hubbard Street and Sayre Street) is designated as public facilities.

4.1.3 Environmental Consequences, Impacts, and Mitigation Measures

4.1.3.1 No-Build Alternative

Construction Impacts

Under the No-Build Alternative, no new transportation or infrastructure improvements would be constructed other than related projects currently under construction or funded for future construction. Therefore, the No-Build Alternative would have no impacts on land use during construction.

Operational Impacts

Regional Land Use and Development

No new transportation or infrastructure improvements would be constructed under the No-Build Alternative other than those related projects currently under construction or funded for future construction. The No-Build Alternative would not interfere with SCAG's regional goals of encouraging land use and growth patterns that facilitate transit and non-motorized transportation and focusing growth along major transportation corridors in the region but would also do nothing to further those goals.

Local Land Use and Development

Division of an Established Community

Since the No-Build Alternative proposes no new transportation or infrastructure improvements, it would not introduce physical barriers that would divide the existing communities surrounding the project corridor.

Conflicts with Local Land Use Plans

Relevant plans and policies are as follows:

- **City of Los Angeles 2010 Bicycle Plan**: The City of Los Angeles 2010 Bicycle Plan (City's Bicycle Plan) designates Van Nuys Boulevard as part of the "Backbone Bicycle Network," which is a 719-mile interconnected system facilitating mobility on key arterials.[12] The network is comprised primarily of bicycle lanes, which will enable access to major employment centers, transit stations and stops, and educational, retail, entertainment, and other open space and recreational resources.
- **City of Los Angeles Land Use/Transportation Policy**: The objectives and guiding principles of the Land Use/Transportation Policy that may apply to the project are to increase land use intensity in transit station areas, where appropriate; reduce reliance on the automobile; and establish transit centers and station areas as places where future growth of Los Angeles is focused.

[12] City. March 2011. 2010 Bicycle Plan.

- **City of Los Angeles Mobility Plan 2035:** Policies that may apply to the project are Policy 3.7. Regional Transit Connections policy aims to improve transit access and service to major regional destinations, job centers, and inter-modal facilities. This policy focuses on connecting and improving transit service to major regional destinations.
- **City of Los Angeles General Plan, Framework Element**: The goals that may apply to the project are Goal 3K. Transit stations to function as a primary focal point of the City's development; and Goal 3I. A network of boulevards that balance community needs and economic objectives with transportation functions and complement adjacent residential neighborhoods.
- **City of Los Angeles General Plan, Transportation Element**: The objective and policies that may apply to the project are Objective 2. Mitigate the impacts of traffic growth, reduce congestion, and improve air quality by implementing a comprehensive program of multimodal strategies that encompass physical and operational improvements as well as demand management; Policy 2.14. Promote the increase of bus service along high-demand routes and corridors in order to reduce bus overcrowding; Policy 2.15. Promote the provision of additional express and local bus service in corridors to be served by the funded rail system, so as to increase transit ridership and prepare for future rail service; Policy 2.16. Promote the expansion of express and local bus service in priority corridors not served by the funded rail system, so as to reduce congestion along congested corridors; Policy 3.7. Promote the development of transit alignments and station locations which maximize transit service to activity centers and which permit the concentration of development around transit stations as illustrated [in the General Plan]; and Policy 3.12. Promote the enhancement of transit access to neighborhood districts, community and regional centers, and mixed-use boulevards.
- **City of Los Angeles General Plan, Noise Element**: The objective that may apply to the project is Objective 2: Reduce or eliminate nonairport-related intrusive noise, especially relative to noise sensitive uses.
- **City of Los Angeles General Plan, Air Quality Element**: The objective and policy that may apply to the project are Objective 3.2. It is the objective of the City of Los Angeles to reduce traffic during peak periods; and Policy 3.2.1. Manage traffic congestion during peak periods.
- **City of Los Angeles Community Plans**: The policies that may apply to the project are to develop a public transit system that improves mobility with convenient alternatives to automobile travel; encourage improved local and express bus service through the community and encourage bus routes to interface with freeways, high-occupancy vehicle (HOV) facilities, and rail facilities; encourage the provision of safe, attractive, and clearly identifiable transit stops with user friendly design amenities; increase the work trips and non-work trips on public transit; develop an intermodal mass transportation plan to implement linkages to future mast transit service; and promote pedestrian-oriented mobility and utilization of the bicycle for commuter, school, recreation use, economic activity, and access to transit facilities.
- **The City of San Fernando Corridors Specific Plan**: The objective and policies that may apply to the project area to maintain and improve vehicular traffic circulation within the specific plan area and the adjacent community so as to safely and efficiently move both local and through traffic to its destination, while accommodating future demand for circulation by all modes of transportation; Circulation Policy 5. The City will continue to oversee the improvement of a circulation system within the specific plan area that is capable of adequately accommodating a reasonable increase in future traffic demands; and Circulation Policy 9. The City will ensure that there are clear rights-of-way for safe passage of pedestrians and bicyclists using Maclay Avenue and San Fernando Road.

As described above, the local land use plans for the jurisdictions along the project corridor include several goals and policies centered around establishing transit centers, maximizing transit service, accommodating future traffic demands, reducing reliance on the automobile, decreasing congestion, minimizing environmental impacts, increasing transit ridership, and developing compact pedestrian-oriented, mixed-use neighborhoods with accommodations for bicyclists. The-No-Build Alternative proposes no changes to the existing transportation system and would therefore not conflict with local land use plans. Local jurisdictions would continue to guide development according to the goals and policies in their plans. However, this alternative would not help achieve the goals of increasing transit ridership or reducing reliance on the automobile.

Incompatibility with Adjacent or Surrounding Land Uses

The No-Build Alternative would not result in changes to existing land uses. Development patterns would not be affected, and incompatible land uses would not result from this alternative.

Cumulative Impacts

Per CEQA Section 15130 (b), the cumulative impacts analysis can consider either a "list of past, present, and probable future projects producing related or cumulative impacts" 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." The cumulative impacts analysis below is based on the approach that considers related projects listed in Table 2-3 of the DEIS/DEIR.

The project study area for the cumulative impacts analyses encompasses the area in the immediate vicinity of the corridor as well as the local land use plan areas in which the project is located. Under the No-Build Alternative, there would be no construction or operational impacts on land use; therefore, this alternative would not contribute to cumulative impacts under CEQA and NEPA.

Mitigation Measures

Construction Mitigation Measures

No mitigation measures are required.

Operational Mitigation Measures

No mitigation measures are required.

Impacts Remaining After Mitigation

NEPA Finding

No adverse effects would occur.

CEQA Determination

No impacts would occur.

4.1.3.2 Locally Preferred Alternative (Alternative 4 Modified: At-Grade LRT)

Construction Impacts

Division of an Established Community

Construction of the LRT and associated stations would require temporary sidewalk, lane, and street closures, and traffic detours and designated truck routes. Street, lane, and sidewalk closures could reduce pedestrian and vehicle mobility between and within communities throughout the project study area during construction. However, these closures would be temporary and are not expected to substantially divide existing communities or neighborhoods. Therefore, the impacts would be less than significant under CEQA and not adverse under NEPA. Additionally, implementation of a Traffic Management Plan and Construction Phasing and Staging Plan (see Mitigation Measures MM-TRA-1, MM-TRA-2, and MM-TRA-3 in Section 3.3.4.2) would further reduce the disruption caused by construction activities and access to businesses and residential areas would be maintained to the extent feasible.

Conflicts with Local Land Use Plans

Construction activities would be conducted in compliance with local land use plans and codes. Project construction would typically take place between the hours of 7 a.m. and 9 p.m. within the City of Los Angeles, in accordance with the Los Angeles Municipal Code and between 7 a.m. and 6 p.m. within the City of San Fernando, in accordance with the San Fernando City Code. However, some construction may be required during nighttime hours. If it is necessary for construction to occur outside of these hours, Metro may seek a variance from Municipal Code requirements. In accordance with San Fernando City Code Section 34-28(10), noise sources associated with construction, repair, remodeling or grading of any real property would be allowed up to 70 decibels (dB) measured at the property line, provided such activities do not take place between the hours of 6:00 p.m. and 7:00 a.m. on weekdays and 6:00 p.m. and 8:00 a.m. on Saturdays, or at any time on Sundays or on federal holidays. Construction activities would be minimized during weekday AM and PM peak traffic periods (typically 7 to 9 a.m. and 4 to 6 p.m.). Therefore, substantial conflicts with local land use plans during the construction period are not expected to occur and impacts/effects would be less than significant under CEQA and not adverse under NEPA.

Incompatibility with Adjacent and Surrounding Land Uses

Construction activities along the alignment would result in temporary nuisance impacts (e.g., noise, air quality impacts) on nearby land uses. Construction noise would result from the use of heavy equipment during construction activities, such as excavation, grading, ground clearing, and installing foundations and structures, as well as from trucks hauling materials to and from the construction areas. Air quality impacts would result from the generation of fugitive dust during ground disturbing activities, and from the operation of heavy-duty, diesel-fueled equipment, such as bulldozers, trucks, and scrapers. Additionally, construction staging areas would be established near the project alignment and used for equipment and material storage. The staging areas would be located within the right-of-way, parking lots, or on vacant land and would not require land from adjacent properties. No land acquisitions would be required for construction staging areas. Nonetheless, activities at the construction staging areas, similar to other construction activities along the alignment, would result in nuisance impacts on nearby sensitive land uses (e.g., residential, parks, schools, hospitals). Where temporary construction impacts on nearby land uses are determined to be significant (e.g., noise impacts), the land use incompatibility impacts would also be considered to be significant. Therefore, the construction impacts on nearby sensitive land uses would be potentially significant under CEQA, due to impacts exceeding the applicable CEQA thresholds and would be incompatible with existing land use plans and codes, before mitigation. However, the LPA includes mitigation measures that would reduce impacts to a less-than-significant level on nearby noise-sensitive uses at some locations along the alignment (see Mitigation Measures MM-NOI-1a to 1d in Section 4.8 – Noise and Vibration).

Given that construction noise impacts are temporary and the requirement under NEPA that the context and intensity of an effect be considered when determining if it is a significant or substantial adverse effect, the construction land use incompatibility effects are not considered to be adverse under NEPA.

Operational Impacts

Regional Land Use and Development

The LPA would be consistent with SCAG regional goals of encouraging land use and growth patterns that facilitate transit and non-motorized transportation and focusing growth along major transportation corridors in the region.

The LPA could indirectly affect development in the project study area by focusing growth in housing, employment, and commercial development within walking distance of the proposed transit stations along the project corridor. While this development pattern would be consistent with SCAG regional goals, this alternative may attract businesses from other areas of the region to the immediate areas surrounding the proposed stations.

Local Land Use and Development

Division of an Established Community

To accommodate the LRT alignment in the median, additional turning restrictions would be implemented including prohibition of left turns from San Fernando Road through the City of San Fernando. Along Van Nuys Boulevard, left turns onto cross streets would be maintained at most of the currently signalized intersections where the LPA would run in the median. However, all vehicle movements across the median at currently unsignalized intersections would be prohibited. Additionally, on all segments where the LPA operates in a semi-exclusive guideway, pedestrian crossings would be permitted only at signal-controlled intersections. Notwithstanding these turn and pedestrian crossing restrictions, given that the alignment would be located along existing roadways and the fact that pedestrians and vehicles could still cross the alignment at specified locations throughout the corridor, this alternative would not divide an established community and impacts would be less than significant under CEQA and not adverse under NEPA.

Conflicts with Local Land Use Plans

Under the LPA, significant traffic impacts would occur at 20 of 73 study intersections along the corridor. Since the LPA would result in localized traffic impacts, it would not fully achieve the congestion reduction objective specified in the City of Los Angeles General Plan, Transportation Element (Objective 2: To mitigate the impacts of traffic growth, reduce congestion, and improve air quality by implementing a comprehensive program of multimodal strategies that encompass physical and operational improvements as well as demand management). In addition, the LPA would conflict with an objective and policy in the City of Los Angeles General Plan, Air Quality Element (Objective 3.2. It is the objective of the City of Los Angeles to reduce traffic during peak periods; and Policy 3.2.1. Manage traffic congestion during peak periods). Therefore, the LPA, because of its localized traffic impacts, would conflict with local land use plan policies or objectives to reduce congestion, which would be a significant impact under CEQA and an adverse effect under NEPA. However, it should also be noted that the LPA would provide regional transportation benefits by improving access to transit, increasing transit ridership, and reducing vehicle miles and hours traveled. Additionally, the LPA furthers the following local regulations and land use plans:

- **City of Los Angeles Land Use/Transportation Policy.** The objectives and guiding principles of the Land Use/Transportation Policy include reducing reliance on the automobile and establishing transit centers and station areas as places where the future growth of Los Angeles can be focused.
- **City of Los Angeles Mobility Plan 2035.** Policy that LPA furthers includes
    - Policy 3.7. *Regional Transit Connections*, aims to improve transit access and service to major regional destinations, job centers, and inter-modal facilities. This policy focuses on connecting and improving transit service to major regional destinations.
- **City of Los Angeles General Plan Framework Element.**
    - Goal 3K. Transit stations to function as a primary focal point of the City's development.
    - Goal 3I. A network of boulevards that balance community needs and economic objectives with transportation functions and complement adjacent residential neighborhoods.
- **City of Los Angeles General Plan, Transportation Element.**
    - Objective 2. Mitigate the impacts of traffic growth, reduce congestion, and improve air quality by implementing a comprehensive program of multimodal strategies that encompass physical and operational improvements as well as demand management.
        - Policy 2.14. Promote the increase of bus service along high-demand routes and corridors in order to reduce bus overcrowding.
        - Policy 2.15. Promote the provision of additional express and local bus service in corridors to be served by the funded rail system so as to increase transit ridership and prepare for future rail service.
        - Policy 2.16. Promote the expansion of express and local bus service in priority corridors not served by the funded rail system so as to reduce congestion along congested corridors.
        - Policy 3.7. Promote the development of transit alignments and station locations that maximize transit service to activity centers and permit the concentration of development around transit stations as illustrated [in the General Plan].
        - Policy 3.12. Promote the enhancement of transit access to neighborhood districts, community and regional centers, and mixed-use boulevards.
- **City of San Fernando General Plan, Circulation Element.**
    - Goal V. 4. Generate a pedestrian- and transit-oriented network of complete streets within the Corridors Specific Plan area that provides high-quality connections to the Metrolink station for all travel modes while balancing the needs of automobile access with the safety and comfort of pedestrians and bicyclists.

- **San Fernando Corridors Specific Plan.**
  - Circulation Policy 5. The City will continue to oversee the improvement of a circulation system within the specific plan area that is capable of adequately accommodating a reasonable increase in future traffic demands.
  - Circulation Policy 9. The City will ensure that there are clear rights-of-way for safe passage of pedestrians and bicyclists using Maclay Avenue and San Fernando Road.

Under the LPA, the existing Class II bike lanes on Van Nuys Boulevard north of Parthenia Street would be removed to make room for the LRT tracks. These changes would conflict with the City's Bicycle Plan because designated bicycle lanes on Van Nuys Boulevard, which are included as part of the Backbone Bicycle Network, would not be feasible with the implementation of the LPA. Although this conflict would occur, it should be noted that the Van Nuys Boulevard corridor is also designated a Transit Priority Segment within the City of Los Angeles General Plan Framework Element. Also, the City's proposed Mobility Element 2035 of the General Plan states in Section 2.9 that on a street that is designated as a Transit Enhanced Network, but is also intended to receive a bicycle lane, design elements for the transit can take precedence over the provision of a bicycle lane. Additionally, the City's Bicycle Plan includes planned bicycle lanes on Woodman Avenue (one-mile to the east of and parallel to Van Nuys Boulevard) between Ventura Boulevard and the Osborne Street and Nordhoff Street corridors. Bicycle lanes are also planned to connect the Osborne Street corridor to San Fernando Road. In addition, bicycle accommodations would be provided at LRT stations and on LRT trains, where feasible. Therefore, while Class II bicycle lanes along Van Nuys Boulevard would not be possible under the LPA, the ability for bicyclists to access areas in the project corridor would be retained, and the project would achieve other local planning goals of reducing reliance on the automobile and increasing transit ridership.

The LPA could also result in localized noise and vibration impacts due to the LRT vehicles operating on local roadways. Because the alignment would run in proximity to residential and recreation areas, sensitive receptors could be adversely affected by these impacts, which would conflict with an objective in the City of Los Angeles General Plan, Noise Element (Objective 2: Reduce or eliminate nonairport related intrusive noise, especially relative to noise sensitive uses). To the extent that the LPA results in other significant adverse environmental impacts (e.g., see Section 4.8 – Noise and Vibration and discussion below), it would further conflict with any local land use plan goals and policies intended to minimize those environmental impacts. Therefore, given those potential conflicts and those discussed above, the potential impacts under CEQA are considered to be significant and adverse under NEPA.

Incompatibility with Adjacent and Surrounding Land Uses

Project Corridor

While there would be some modifications to the project corridor (e.g., changes in bicycle lanes, and turning movements), the project corridor is an existing transportation route with ongoing bus transit service, and therefore, the proposed LRT operations would generally be compatible with existing land uses. However, it should also be noted that operation of the LRT vehicles would result in significant, but mitigable, adverse noise impacts on nearby noise-sensitive uses at some locations along the alignment (see Section 4.8 – Noise and Vibration including Mitigation Measures MM-NOI-2a to 2b and MM-3a to 3c).

Overhead Contact System

The LPA would require an overhead contact system (OCS) that would include approximately 30-foot-tall steel poles about every 90 to 170 feet along the length of the right-of-way to support an electrical power line, which would be suspended above the tracks. Although the OCS could result in significant and adverse visual impacts (see Section 4.5 of this FEIS/FEIR), according to the City of Los Angeles Zoning Code, structures up to 33 feet in height are allowed in low and medium residential zones.[13] In addition, because the project corridor is an existing transportation route in an urbanized area, the OCS would not be incompatible with adjacent and surrounding uses.

Stations

The LPA would include 14 stations, which would be located in primarily commercial and residential areas. Stations would include aesthetic enhancements, such as landscaping, canopies, and artwork, which would be compatible with adjacent and surrounding land uses.

The LPA would require right-of-way acquisition of commercial properties and some vacant land near the proposed stations at Sherman Way, Roscoe Boulevard, Pacoima, Maclay Avenue, and the Sylmar/San Fernando Metrolink station. While the LPA would result in the conversion of some properties from commercial use to transportation to allow construction of the proposed stations, the LPA would promote transit service to these areas and would enhance access to adjacent and surrounding businesses.

Maintenance and Storage Facility

Under the LPA, construction of a new maintenance and storage facility (MSF) would be required to accommodate both operational and administrative functions. The MSF site at Keswick Street (MSF Option B), which is located just south of the Metrolink railroad tracks and west of Van Nuys Boulevard, has been identified as the preferred MSF site. The selection of the MSF location was based on the following criteria to ensure compatibility with adjacent and surround land uses:

- Location within an industrialized area, to the extent feasible;
- Proximity to the alignment (Van Nuys Boulevard and San Fernando Road);
- Accessibility via rail tracks;
- Size of facility site; and
- Distance from noise-sensitive receptors, to the extent feasible.

The Option B site is in a mainly industrial and commercial area and has no adjacent residential properties. The site would require the acquisition of approximately 34 properties, the majority of which are located in the Light Industrial Zone (M2-1) with two properties in the Commercial Zone (C2-1). The MSF is an allowed use in these zoning districts and would be compatible with adjacent and surrounding industrial and commercial uses. MSF operations would be

[13] City of Los Angeles. n.d. *Municipal Code, Chapter I (Planning and Zoning Code), Chapter I, General Provisions and Zoning, Article 2, Specific Planning – Zoning Comprehensive Zoning Plan*. Available: <http://www.amlegal.com/nxt/gateway.dll/California/lapz/municipalcodechapteriplanningandzoningco/chapterigeneralprovisionsandzoning/article2specificplanning-zoningcomprehen?f=templates$fn=default.htm$3.0$vid=amlegal:lapz_ca$anc=>. Accessed: February 13, 2013.

conducted in compliance with the conditions in the City of Los Angeles Zoning Code for these districts. Therefore, operation of the MSF would not result in significant land use incompatibility impacts under CEQA or adverse effects under NEPA.

Traction Power Substations

The LPA would require 14 traction power substations (TPSS), including one at the MSF. Typically, these would be placed approximately every 0.75 mile. Although existing Metro and City of Los Angeles properties are preferred TPSS locations to avoid property acquisitions, some property acquisition would be required, including both full and partial takes (also see Section 4.2 – Real Estate and Acquisitions). The potential also exists that operation of some of the TPSS would result in significant noise impacts on nearby noise-sensitive land uses (see Section 4.8- Noise and Vibration and Mitigation Measures MM-NOI-3a to 3c).

To ensure compatibility with adjacent and surrounding land uses to the extent feasible, the majority of potential TPSS locations would be located near potential stations or the MSF. In addition, other proposed TPSS locations would be located in vacant lots, parking lots, commercial sites, and at roadway intersections (though some partial and full takes of property would likely be required) to avoid conflicts with adjacent and surrounding land uses.

Cumulative Impacts

The LPA would result in localized traffic impacts at 20 of the 73 study intersections along the corridor. Operation of the LRT facilities would also generate additional noise that could result in noise impacts on some nearby sensitive land uses.

Past projects have resulted in localized traffic and noise impacts, and other present or reasonably foreseeable future projects in the area could further degrade traffic and noise conditions in the area. Therefore, cumulative impacts from past, present, and reasonably foreseeable future projects are significant. As a result, any adverse impacts from the LPA would be considered cumulatively considerable. However, because noise impacts resulting from the LPA would be minimized or mitigated through mitigation measures, as identified in sections 4.8, Noise and Vibration, the alternative’s contribution to cumulative noise impacts during operation would be reduced to less than cumulatively considerable after implementation of mitigation measures.

Compliance Requirements and Design Features

Station areas for the LPA would be designed in accordance with local codes and ordinances.

Mitigation Measures

Construction Mitigation Measures

Please see other sections (e.g., 4.8, Noise and Vibration, 4.6, Air Quality) for measures to mitigate potentially significant adverse construction impacts on sensitive land uses near proposed construction. Specifically, Mitigation Measures MM-NOI-1a through MM-NOI-1d would require development of a Noise Control Plan, public notification of construction schedules, scheduling most construction activities during the daytime, as much as feasible, and use of methods and equipment that reduces noise, to the extent practicable. In addition, Mitigation Measure MM-VIB-1 also specifies use of equipment and methods to reduce vibration impacts. Mitigation Measures

MM-AQ-1 through MM-AQ-8 would require that the construction contractor limit vehicle trips, idling of heavy equipment, and use of methods and equipment that reduces potential emissions and pollutants, to the extent feasible.

Operational Mitigation Measures

No feasible mitigation measures have been identified to mitigate the localized traffic impacts that would occur under this alternative, which would conflict with land use plan policies and goals to reduce congestion. Please see Section 4.8, Noise and Vibration, for measures to mitigate potential noise and vibration impacts. Specifically, Mitigation Measures MM-NOI-2a to 2b and MM-NOI-3a to 3c include the construction of sound walls, the use of friction control (lubrication system), TPSS placement, and sound walls. In addition, Mitigation Measures MM-VIB-2a to 2c require the installation of track and track equipment that reduces potential vibration due to operation of the rail vehicle near sensitive receptors.

Impacts Remaining After Mitigation

NEPA Finding

The effects of construction would not be adverse under NEPA, but operational effects of localized traffic congestion would remain adverse.

CEQA Determination

Construction impacts would be less than significant under CEQA and operational impacts would be significant and unavoidable due to conflicts with local plans related to localized traffic congestion.

4.1.3.3 Initial Operating Segment

An IOS has been included in this FEIS/FEIR to enable Metro to realize potential cost savings, which would not otherwise occur under the LPA, from phasing the project. It should be noted that Metro is proceeding with IOSs on other Metro projects for that reason and to specifically provide the decision-making body of Metro (the Metro Board) with flexibility in determining the most efficient and cost-effective manner to implement those projects. Proceeding with an IOS for the proposed project would also allow further coordination to occur with the Public Utilities Commission (PUC) and Metrolink, which will be necessary to accommodate double tracking of the Antelope Valley Line, and with the City of San Fernando regarding traffic impacts at intersections in the City, prior to development of the remaining northern segment of the LPA.

Although the IOS for the proposed project would run along the same alignment and have the same design features and operating characteristics as those described above for the LPA, it would occupy a smaller project footprint than the LPA because it would extend from the Metro Orange Line on the south to the proposed the Van Nuys/San Fernando station on the north. It remains Metro's intent, however, to build the remaining northern 2.5 miles of the LPA within the existing railroad right-of-way, from the Van Nuys/San Fernando station to the Sylmar/San Fernando Metrolink station. Impacts associated with the IOS are discussed below.

Construction Impacts

Division of an Established Community

As was discussed above for the LPA, construction of the IOS would require temporary sidewalk, lane, and street closures, and traffic detours and designated truck routes. These closures would be temporary and are not expected to substantially divide existing communities or neighborhoods. Additionally, implementation of a Traffic Management Plan and Construction Phasing and Staging Plan would further reduce the disruption and therefore, impacts/ effects would be less than significant under CEQA and not adverse under NEPA.

Conflicts with Local Land Use Plans

For the IOS, construction activities would be conducted in compliance with local land use plans and codes, and would follow the same guidelines for the LPA, which is discussed above. Therefore, substantial conflicts with local land use plans during the construction period are not expected to occur and impacts/effects would be similar to the LPA's and would be less than significant under CEQA and not adverse under NEPA.

Incompatibility with Adjacent and Surrounding Land Uses

Similar to the LPA, construction activities along the alignment would result in temporary nuisance impacts on nearby land uses, such as temporary noise, vibration and dust. Where temporary construction impacts on nearby land uses are determined to be significant, the land use incompatibility impacts would be considered to be significant. Therefore, construction impacts on nearby sensitive land uses would be potentially significant under CEQA, due to impacts exceeding the applicable CEQA thresholds and would be incompatible with existing land use plans and codes, before mitigation. However, the IOS includes mitigation measures that would reduce impacts to a less than significant level nearby noise-sensitive uses at some locations along the alignment (see Section 4.8 – Noise and Vibration).

Given that construction noise impacts are temporary and the requirement under NEPA that the context and intensity of an effect be considered when determining if it is a significant or substantial adverse effect, the construction land use incompatibility effects are not considered to be adverse under NEPA.

Operational Impacts

Regional Land Use and Development

Similar to the LPA, the IOS would be consistent with SCAG regional goals for transportation and development. The IOS could indirectly affect development in the project study area by focusing growth in housing, employment, and commercial development within walking distance of the proposed transit stations along the project corridor. While this development pattern would be consistent with SCAG regional goals, this alternative may attract businesses from other areas of the region to the immediate areas surrounding the proposed stations.

Local Land Use and Development

Division of an Established Community

Construction of the IOS would result in impacts similar to those discussed for the LPA. As discussed above for the LPA, additional turning restrictions would be implemented including prohibition of left turns at some locations. All vehicle movements across the median at currently unsignalized intersections would be prohibited. Additionally, on all segments where the IOS operates in a semi-exclusive guideway, pedestrian crossings would be permitted only at signal-controlled intersections. Given that the alignment would be located along existing roadways and the fact that pedestrians and vehicles could still cross the alignment at specified locations throughout the corridor, the LPA would not divide an established community and impacts would be less than significant under CEQA and not adverse under NEPA.

Conflicts with Local Land Use Plans

The IOS would result in localized traffic impacts, and it would not fully achieve the congestion reduction objective specified in the City of Los Angeles General Plan, Transportation Element. In addition, as was described above for the LPA, the IOS would conflict with an objective and policy in the City of Los Angeles General Plan, Air Quality Element. Therefore, the IOS, because of its localized traffic impacts, would conflict with local land use plan policies or objectives to reduce congestion, which would be a significant impact under CEQA and adverse effect under NEPA. Additionally, the IOS, like the LPA, would require the removal of the existing Class II bike lanes on Van Nuys Boulevard north of Parthenia Street, which would conflict with the City's Bicycle Plan. However, both the IOS and the LPA would provide regional transportation benefits by improving access to transit, increasing transit ridership, and reducing vehicle miles and hours traveled. In addition, the IOS, similar to the LPA, furthers the following local regulations and land use plans:

- **City of Los Angeles Land Use/Transportation Policy.** The objectives and guiding principles of the Land Use/Transportation Policy include reducing reliance on the automobile and establishing transit centers and station areas as places where the future growth in Los Angeles can be focused.
- **City of Los Angeles Mobility Plan 2035.**
  - Policy 3.7, Regional Transit Connections, aims to improve transit access and service to major regional destinations, job centers, and inter-modal facilities.
- **City of Los Angeles General Plan Framework Element.**
  - Goal 3K. Transit stations to function as a primary focal point of the City's development.
  - Goal 3I. A network of boulevards that balance community needs and economic objectives with transportation functions and complement adjacent residential neighborhoods.
- **City of Los Angeles General Plan, Transportation Element.**
  - Objective 2. Mitigate the impacts of traffic growth, reduce congestion, and improve air quality by implementing a comprehensive program of multi-modal strategies that encompass physical and operational improvements as well as demand management.
    - Policy 2.14. Promote the increase of bus service along high-demand routes and corridors in order to reduce bus overcrowding.
    - Policy 2.15. Promote the provision of additional express and local bus service in corridors to be served by the funded rail system so as to increase transit ridership and prepare for future rail service.

    - Policy 2.16. Promote the expansion of express and local bus service in priority corridors not served by the funded rail system so as to reduce congestion along congested corridors.
    - Policy 3.7. Promote the development of transit alignments and station locations that maximize transit service to activity centers and permit the concentration of development around transit stations, as illustrated [in the General Plan].
    - Policy 3.12. Promote the enhancement of transit access to neighborhood districts, community and regional centers, and mixed-use boulevards.
- **City of San Fernando General Plan, Circulation Element.**
    - Goal V. 4. Generate a pedestrian- and transit-oriented network of complete streets within the Corridors Specific Plan area that provides high-quality connections to the Metrolink station for all travel modes while balancing the needs of automobile access with the safety and comfort of pedestrians and bicyclists.
- **San Fernando Corridors Specific Plan.**
    - Circulation Policy 5. The City will continue to oversee improvement of a circulation system within the specific plan area that is capable of adequately accommodating a reasonable increase in future traffic demands.
    - Circulation Policy 9. The City will ensure that there are clear rights-of-way for safe passage of pedestrians and bicyclists using Maclay Avenue and San Fernando Road.

Similar to the LPA, along Van Nuys Boulevard, the IOS could result in localized noise and vibration impacts that could adversely affect sensitive receptors, which would conflict with an objective in the City of Los Angeles General Plan, Noise Element. Therefore, given those potential conflicts and those discussed above, potential impacts under CEQA are considered significant and adverse under NEPA.

Incompatibility with Adjacent and Surrounding Land Uses

Project Corridor

The project corridor is an existing transportation corridor and therefore, proposed IOS operations would generally be compatible with existing land uses. However, it should also be noted that operation of LRT vehicles would result in significant, but mitigable, adverse noise impacts on nearby noise-sensitive uses at some locations along the alignment (see Section 4.8 – Noise and Vibration).

Overhead Contact System

This alternative would require an OCS that would be built in accordance to the City of Los Angeles Zoning Code, which allows structures up to 33 feet in height in low and medium residential zones. In addition, although the OCS would result in significant visual impacts, because the project corridor is an existing transportation route in an urbanized area, the OCS would not be incompatible with adjacent and surrounding uses.

Stations

Aesthetic enhancements associated with the IOS would be compatible with adjacent and surrounding land uses. This alternative would require right-of-way acquisition of commercial properties and some vacant land. While this alternative would result in the conversion of some properties from commercial use to transportation, the IOS, like the LPA, would promote transit service to these areas and would enhance access to adjacent and surrounding businesses.

Maintenance and Storage Facility

The IOS would require the construction of the same MSF site that was selected for the LPA, the MSF site at Keswick Street (MSF Option B). This MSF site is in a mainly industrial and commercial area and has no adjacent residential properties. The properties that would be acquired for the MSF construction would mainly be located in the Light Industrial Zone (M2-1) with two properties in the Commercial Zone (C2-1). The MSF is an allowed use in these zoning districts and would be compatible with adjacent and surrounding industrial and commercial uses. MSF operations would be conducted in compliance with the conditions in the City of Los Angeles Zoning Code for these districts. Therefore, similar to the LPA, operation of the MSF would not result in significant land use compatibility impacts under CEQA or adverse effects under NEPA.

Traction Power Substations

Construction of the IOS would require TPSS, which, typically, would be placed approximately every mile. Because the IOS would be 2.5 miles shorter than the LPA, it would require fewer TPSS. Existing Metro and City of Los Angeles properties are the preferred TPSS locations because they would avoid property acquisitions. The potential exists that operation of some TPSS would result in significant noise impacts on nearby noise-sensitive land uses (see Section 4.8, Noise and Vibration).

To ensure compatibility with adjacent and surrounding land uses to the extent feasible, the majority of potential TPSS locations would be located near potential stations or the MSF. In addition, other proposed TPSS locations would be located in vacant lots, parking lots, commercial sites, and at roadway intersections to avoid conflicts with adjacent and surrounding land uses.

Cumulative Impacts

Similar to the LPA above, the IOS would in localized traffic impacts due to removal of travel lanes and resulting reduction in roadway capacity along Van Nuys Boulevard. Operation of the LRT facilities would also generate additional noise that could result in noise impacts on some nearby sensitive land uses.

Past projects have resulted in localized traffic and noise impacts, and other present or reasonably foreseeable future projects in the area could further degrade traffic and noise conditions. Therefore, cumulative impacts from past, present, and reasonably foreseeable future projects are significant. As a result, any adverse impacts from the IOS would be considered cumulatively considerable. However, with the incorporated minimization and mitigation measures, the IOS contribution to cumulative noise impacts during operation would be reduced to less than cumulatively considerable.

Compliance Requirements and Design Features

Station areas for the IOS would be designed in accordance with local codes and ordinances.

Mitigation Measures

Construction Mitigation Measures

Mitigation Measures that were identified for the LPA would also apply to the IOS and would include MM-NOI-1a through MM-NOI-1d, MM-VIB-1 a, and MM-AQ-1 through MM-AQ-6.

Operational Mitigation Measures

No feasible mitigation measures have been identified to mitigate the localized traffic impacts that would occur under the IOS. Mitigation Measures identified for the LPA would also apply to the IOS and include MM-NOI-2 through MM-NOI-4b, and MM-VIB-2.

Impacts Remaining After Mitigation

NEPA Finding

The effects of construction would not be adverse under NEPA, but operational effects of localized traffic congestion would remain adverse.

CEQA Determination

Construction impacts would be less than significant. Operational impacts would be significant and unavoidable due to localized traffic congestion.

4.2 Real Estate and Acquisitions

4.2.1 Regulatory Framework and Methodology

4.2.1.1 Regulatory Framework

The applicable federal, state, and local regulations that are relevant to an analysis of the proposed project's real estate and acquisitions impacts are listed below. For additional information regarding these regulations, please see the East San Fernando Valley Transit Corridor Draft EIS/EIR Real Estate and Acquisitions Technical Report (2015 Real Estate and Acquisitions Technical Report) in Appendix I of this FEIS/FEIR.

Federal

- Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.

State

- California Government Code, Section 7260, and California Code of Regulations, Title 25, Division 1, Chapter 6.

Local

There are no specific local regulations related to real estate acquisition for publicly funded projects within the City of Los Angeles and the City of San Fernando. Both cities require all such projects to comply with state and federal regulations.

4.2.1.2 Methodology

Right-of-Way maps, developed during advanced conceptual engineering, were used to identify the parcels that would need to be acquired to construct the proposed project. From the maps, the number and types of property acquisitions were identified using a combination of aerial photography, limits-of-disturbance mapping, assessor's parcel maps, assessor's records, and selected field verification. Data for each property displaced include Assessor's Parcel Number (APN), address (when available), parcel size (square feet [sf]), current and intended use of the property, and the required amount of acquisition (sf).

Table 4.2-1 shows typical reasons for property acquisition and displacement that could occur as a result of project implementation. Either full acquisitions or partial acquisitions of properties may occur. A partial acquisition would occur if the project alternative would use a portion of a given parcel but would not require the entirety of the property. By contrast, a full acquisition would require the use of an entire property. Property acquisitions would result from the partial widening of roadways to accommodate the proposed rail tracks, station areas, or ancillary facilities.

Table 4.2-1: Typical Causes of Displacement during Construction

Action	Typical Type of Acquisition	Cause of Displacement
Street widening	Partial	Additional width required near stations, crossings, etc.
Reducing access to a business (driveway or road)	Full/Partial	Damages resulting from reduced or restricted access
Station construction and operation	Full	Additional area required for station amenities such as platforms, ticketing areas, bus stops, parking, etc.
Vehicle maintenance facility construction and operation	Full	Additional area required to store and maintain vehicles

Source: ICF, 2013.

Displacement occurs when acquisition of a property requires the current occupants to vacate for project improvements to occur. Displacement may occur under two circumstances:

- When the majority of the property is required for the horizontal alignment because of insufficient right-of-way width or the need to construct stations or vehicle maintenance facilities; or
- When damage to the property is so great that compensation must be awarded for the entire value of the property (e.g., driveway access is eliminated or reduced as a result of construction).

4.2.1.3 CEQA Significance Thresholds

CEQA requires state and local government agencies to identify the significant environmental effects of proposed actions; however, 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 left to the discretion of the Lead Agency. Significance thresholds are the levels at which the Lead Agency finds the effects of the project to be significant.[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).[2]

[1] OPR (State of California, Governor's Office of Planning and Research). 1994. *Thresholds of Significance: Criteria for Defining Environmental Significance*. September.

[2] AEP. 2012. *California Environmental Quality Act (CEQA) Statute and Guidelines.* Reproduced with permission from the California Resources Agency.

Although the State CEQA Guidelines do not describe specific significance thresholds, Appendix G of the State CEQA Guidelines lists a variety of potentially significant effects that are often used as thresholds or guidance in developing thresholds for determining impact significance.[3] Accordingly, for the purposes of this FEIS/FEIR, a project would normally have a significant real estate and acquisitions impact, under CEQA, if it would:

- Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere; and/or
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

L.A. CEQA Thresholds Guide

Real estate acquisition is covered by the *L.A. CEQA Thresholds Guide* insofar as it relates to population and housing displacement. The determination of significance is to be made on a case-by-case basis, taking into consideration the following factors:

- The total number of residential units to be demolished, converted to market rate, or removed through other means as a result of the project in terms of net loss of market-rate and affordable units.
- The current and anticipated housing demand and supply of market-rate and affordable housing units in the project study area.
- The land use and demographic characteristics of the project study area and the appropriateness of housing in the area.
- Whether the project is consistent with adopted City and regional housing policies, such as the Framework and Housing Elements, HUD Consolidated Plan and CHAS policies, redevelopment plan, Rent Stabilization Ordinance, and the Regional Comprehensive Plan and Guide.

4.2.2 Affected Environment/Existing Conditions

Land uses located at the southern end of the project corridor, near the Metro Orange Line, and extending north along Van Nuys Boulevard to Vanowen Street include banks, restaurants, medical offices, retail establishments, and other businesses. A portion of this segment also contains local, state, and federal government buildings, including the Van Nuys Civic Center. The next segment extending north along Van Nuys Boulevard to Titus Street includes a mix of restaurants, retail uses, and other businesses, which are interspersed with parking lots. From approximately Titus Street to Parthenia Street, small to large commercial businesses are scattered along Van Nuys Boulevard as are commercial centers, including the Panorama Mall. From Parthenia Street to I-5, residential uses (medium-density multi-family uses and some single-family residences) predominate, with

[3] The environmental checklist questions in Appendix G of the State CEQA Guidelines were used as guidance in developing thresholds for determining impact significance. In late 2018, subsequent to completion of the DEIS/DEIR, changes to the State CEQA Guidelines were adopted by the state, including revisions to the environmental checklist questions in Appendix G. To maintain consistency between the DEIS/DEIR and FEIS/FEIR when evaluating the significance of impacts under CEQA, the significance thresholds identified in this chapter are unchanged from those in the DEIS/DEIR.

community-serving retail uses generally located at major intersections. At the north end of the project corridor, along San Fernando Road and Truman Street, the land uses are primarily commercial and industrial. Land uses to the east and west, bordering the project alignment along Van Nuys Boulevard and San Fernando Road/Truman Street, are designated primarily residential and parkland.

4.2.3 Environmental Consequences, Impacts, and Mitigation Measures

By nature, property acquisitions occur prior to operation of a project. Therefore, all impacts related to real estate and acquisitions occur entirely within the construction phase of the project. Property acquisitions are considered preliminary and subject to change as final design plans are developed. No operational impacts would result under the Locally Preferred Alternative (LPA) or No-Build Alternative. Therefore, no mitigation measures would be required under operation.

The discussion below discusses construction impacts only.

4.2.3.1 No-Build Alternative

Construction Impacts

Under the No-Build Alternative, no construction due to the proposed project would occur, and as a consequence, no displacement or acquisition of properties would be required. Therefore, no adverse impacts associated with displacements or relocations would occur.

Cumulative Impacts

Because the No-Build Alternative would result in no impacts, it would not contribute to any cumulative impacts.

Mitigation Measures

Construction Mitigation Measures

No mitigation measures are required.

Impacts Remaining After Mitigation

NEPA Finding

No adverse effects would occur.

CEQA Determination

No impacts would occur.

4.2.3.2 Locally Preferred Alternative (Alternative 4 Modified: At-Grade LRT)

Construction Impacts

The following discussion of the potential right-of-way acquisitions required to construct the LPA is broken down into the right-of-way requirements for: 1) the guideway, stations, and traction power substations (TPSS), and 2) maintenance storage facility (MSF) site. Property acquisitions are considered preliminary and subject to change as final design plans are developed.

Guideway, Stations, and TPSS

Table 4.2-2 lists the full and partial acquisitions that could be required to construct the LPA guideway (including road widenings, grade crossings, and repositioning of bike path), station platforms (including electrical boxes), and TPSS facilities (see Appendix I for updated aerial maps showing the properties to be acquired). There are a total of 66 acquisitions listed in the table, including 30 partial acquisitions, 34 full acquisitions, one Metro-owned parcel, and one vacant area (alley) that will require the partial closure of the public right-of-way.

MSF Site

In addition to the right-of-way acquisitions identified in Table 4.2-2 that are required to construct the guideway, stations, and TPSS facilities associated with the LPA, a number of parcels would be acquired to accommodate the MSF (see Table 4.2-3 for MSF property acquisitions). The preferred MSF site (described as MSF Option B in the DEIS/DEIR) under the LPA would require approximately 25 to 30 acres to provide enough space for storage of the maximum number of train vehicles and accommodate the associated operational needs, such as staff offices, dispatcher workstations, employee break rooms, operator areas, collision/body repair areas, paint booths, and wheel truing machines.

As identified in Table 4.2-3, construction of the MSF would require 34 full acquisitions, or half of the 68 full acquisitions required for the entire project (see Appendix I for an updated aerial map showing the MSF property acquisitions). The 34 full acquisitions in Table 4.2-3 include 11 full acquisitions that are required in order to construct a guideway that would curve east off of Van Nuys Boulevard through a row of commercial buildings to connect the LPA to the MSF site.

Summary of Right-of-Way Acquisition Impacts for the LPA

Construction of the LPA (MSF, stations, tracks, and TPSS) would require 100 property acquisitions, which includes 68 full acquisitions, 30 partial acquisitions, one Metro-owned property, and one vacant alley. Most of the acquisitions that would be required are commercial or industrial properties though up to four full acquisitions of single-family residences could also be required. It is anticipated, based on current schedules, that right-of-way acquisitions would begin in 2020 and take 24 to 30 months to complete. Appendix I of this EIR/EIS includes maps illustrating the right-of-way acquisitions.

Table 4.2-2: LPA Property Acquisitions – Guideway, Stations, and TPSS

No.	APN	Address	Jurisdiction	Current Use/ Occupant	Displacement Type	Intended Use
1	2241-026-903	N/A (Bessemer St)	Los Angeles (Van Nuys)	Metro-owned	Metro-owned	TPSS 1A
2	2241-027-003	6073 Van Nuys Blvd	Los Angeles (Van Nuys)	Commercial/ Industrial	Full	Alignment
3	2236-023-001	6429 Van Nuys Blvd	Los Angeles (Van Nuys)	Commercial/ Industrial	Full	TPSS 2A
4	2219-025-034	14526 Hartland St	Los Angeles (Van Nuys)	Commercial/ Industrial	Full	Vanowen Station Electrical Box
5	2219-010-017	7027 Van Nuys Blvd	Los Angeles (Van Nuys)	Vacant	Full	TPSS 3A
6	2210-031-003	7605 Van Nuys Blvd	Los Angeles (Van Nuys)	Commercial/ Industrial	Full	Alignment
7	2210-031-033	7621 Van Nuys Blvd	Los Angeles (Van Nuys)	Commercial/ Industrial	Full	Alignment
8	2210-031-001	7627 Van Nuys Blvd	Los Angeles (Van Nuys)	Commercial/ Industrial	Full	Alignment/TPSS 4A
9	2210-031-034	7639 Van Nuys Blvd	Los Angeles (Van Nuys)	Commercial/ Industrial	Full	Alignment
10	2210-031-021	14524 Keswick St	Los Angeles (Van Nuys)	Commercial/ Industrial	Full	Alignment
11	2210-030-027	14529 Keswick St	Los Angeles (Van Nuys)	Commercial/ Industrial	Partial	Road Widening
12	2212-003-017	8146 Van Nuys Blvd	Los Angeles (Panorama City)	Commercial/ Industrial	Partial	TPSS 5A
13	2638-038-017	14525 Roscoe Blvd	Los Angeles (Panorama City)	Commercial/ Industrial	Partial	Road Widening
14	2638-038-016	8353 Van Nuys Blvd	Los Angeles (Panorama City)	Commercial/ Industrial	Partial	Road Widening
15	2638-038-002	8333 Van Nuys Blvd	Los Angeles (Panorama City)	Commercial/ Industrial	Partial	Road Widening
16	2639-001-023	8760 Van Nuys Blvd	Los Angeles (Panorama City)	Commercial/ Industrial	Full	TPSS 6A
17	2639-001-024	N/A (Van Nuys and Parthenia)	Los Angeles (Panorama City)	Commercial/ Industrial	Full	TPSS 6A

No.	APN	Address	Jurisdiction	Current Use/ Occupant	Displacement Type	Intended Use
18	2639-007-021	14555 Osborne St	Los Angeles (Panorama City)	Other	Partial	Crossover Control Box
19	2644-030-016	9462 Van Nuys Blvd	Los Angeles (Panorama City)	Commercial/ Industrial	Full	TPSS 7
20	2644-030-078	14540 Plummer St	Los Angeles (Panorama City)	Residential	Full	TPSS 7
21	2647-028-103	9750 Woodman Ave	Los Angeles (Arleta)	Commercial/ Industrial	Partial	Road Widening
22	2647-028-015	14423 Van Nuys Blvd	Los Angeles (Arleta)	Commercial/ Industrial	Partial	Road Widening
23	2647-028-101	14419 Van Nuys Blvd	Los Angeles (Arleta)	Commercial/ Industrial	Partial	Road Widening
24	2647-028-027 thru 100	14333 Van Nuys Blvd	Los Angeles (Arleta)	Residential (Condominium)	Partial/ Not "hitting" the building or condominium building	Road Widening
25	2644-024-025	9700 Woodman Ave	Los Angeles (Arleta)	Commercial/ Industrial	Partial	Road Widening
26	2644-024-901	N/A (Van Nuys Blvd DMV)	Los Angeles (Arleta)	Other	Partial	Road Widening
27	2647-022-015	14229 Van Nuys Blvd	Los Angeles (Arleta)	Residential	Full	TPSS 8A
28	2647-023-902	N/A (Canterbury Ave)	Los Angeles (Arleta)	Residential	Partial	Road Widening
29	2647-023-010	14265 Van Nuys Blvd	Los Angeles (Arleta)	Residential	Partial	Road Widening
30	2647-017-009	14035 Van Nuys Blvd	Los Angeles (Arleta)	Commercial/ Industrial	Partial	Arleta Station Electrical Box
31	2647-017-011	14035 Van Nuys Blvd	Los Angeles (Arleta)	Commercial/ Industrial	Partial	Arleta Station Electrical Box
32	2618-020-003	10390 Remick Ave	Los Angeles (Pacoima)	Commercial/ Industrial	Partial	TPSS 9A
33	2619-017-036	13313 Van Nuys Blvd	Los Angeles (Pacoima)	Commercial/ Industrial	Full	Alignment/TPSS 10A
34	2619-017-012	13309 Van Nuys Blvd	Los Angeles (Pacoima)	Commercial/ Industrial	Full	Alignment

No.	APN	Address	Jurisdiction	Current Use/ Occupant	Displacement Type	Intended Use
35	2619-017-011	13303 Van Nuys Blvd	Los Angeles (Pacoima)	Commercial/ Industrial	Full	Alignment
36	2619-017-010	13301 Van Nuys Blvd	Los Angeles (Pacoima)	Commercial/ Industrial	Full	Alignment
37	2619-017-009	13291 Van Nuys Blvd	Los Angeles (Pacoima)	Commercial/ Industrial	Full	Alignment
38	2619-017-008	13287 Van Nuys Blvd	Los Angeles (Pacoima)	Commercial/ Industrial	Full	Alignment
39	2619-017-007	13283 Van Nuys Blvd	Los Angeles (Pacoima)	Commercial/ Industrial	Partial	Alignment
40	2619-017-031	13281 Van Nuys Blvd	Los Angeles (Pacoima)	Commercial/ Industrial	Partial	Alignment
41	2619-017-035	10823 San Fernando Road	Los Angeles (Pacoima)	Vacant	Full	Alignment
42	2619-017-002	10823 San Fernando Road	Los Angeles (Pacoima)	Commercial/ Industrial	Full	Alignment
43	2619-017-037	N/A (San Fernando Road)	Los Angeles (Pacoima)	Vacant Land	Full	Alignment
44	2619-017-024	13320 Pinney St	Los Angeles (Pacoima)	Commercial/ Industrial	Full	Alignment
45	2619-017-025	13320 Pinney St	Los Angeles (Pacoima)	Commercial/ Industrial	Full	Alignment
46	2619-017-026	N/A (San Fernando Road)	Los Angeles (Pacoima)	Vacant	Full	Alignment
47	2619-017-023	13322 Pinney St	Los Angeles (Pacoima)	Residential	Full	Alignment
48	2619-017-022	13326 Pinney St	Los Angeles (Pacoima)	Residential	Full	Alignment
49	N/A	N/A (alley between Pinney St and Van Nuys Blvd)	Los Angeles (Pacoima)	Vacant Land	N/A	Closure of Public Right-of-Way (ROW)
50	2535-002-018	13550 Paxton St	Los Angeles (Pacoima)	Commercial/ Industrial	Partial	Road Widening
51	N/A (Caltrans)	N/A (Caltrans ROW between Paxton & SR 118)	San Fernando	Industrial	Partial	Paxton Station Electrical Box

No.	APN	Address	Jurisdiction	Current Use/ Occupant	Displacement Type	Intended Use
52	2616-020-029	11267 San Fernando Road	Los Angeles	Commercial/ Industrial	Full	TPSS 11A
53	2522-015-901	130 N Brand Blvd	San Fernando	Other	Partial	Bike Path
54	2519-018-900	130 N Brand Blvd	San Fernando	Other	Partial	Bike Path
55	2522-015-008	N/A (Truman St)	San Fernando	Vacant	Partial	Grade Crossing
56	2522-001-905	N/A (police parking between Brand/Maclay)	San Fernando	Commercial/ Industrial	Partial	Bike Path
57	2522-001-004	901 Truman St	San Fernando	Commercial/ Industrial	Partial	Grade Crossing
58	2521-034-014	N/A (Maclay Ave)	San Fernando	Vacant	Partial	Grade Crossing
59	2520-018-012	55 N Maclay Ave	San Fernando	Commercial/ Industrial	Partial	Grade Crossing/Bike Path/TPSS 12A
60	2521-034-012	1201 Truman St	San Fernando	Commercial/ Industrial	Partial	Train Control Cabinet
61	2519-001-902	910 1st St	San Fernando	Other	Partial	Maclay Station Electrical Box
62	2611-009-032	1753 Truman St	San Fernando	Commercial/ Industrial	Full	Station
63	2611-009-031	55 N Hubbard Ave	Los Angeles	Commercial/ Industrial	Full	Station
64	2611-009-012	12172 Truman St	Los Angeles	Commercial/ Industrial	Full	Station
65	2611-009-013	N/A (Truman St)	Los Angeles	Commercial/ Industrial	Full	Station
66	2507-009-271	N/A (Hubbard St)	San Fernando	Vacant	Full	TPSS 13A

Source: Metro, KOA Corporation, ICF, 2019.

Table 4.2-3: MSF Acquisitions

No.	APN	Address	Jurisdic-tion	Current Use/ Occupant	Displacement Type	Intended Use
1	2210-030-007	14523 Keswick St	Los Angeles (Van Nuys)	Industrial	Full	MSF
2	2210-030-031	Raymer St	Los Angeles (Van Nuys)	Industrial	Full	MSF
3	2210-030-008	14533 Keswick St	Los Angeles (Van Nuys)	Industrial	Full	MSF
4	2210-030-030	Raymer St	Los Angeles (Van Nuys)	Industrial	Full	MSF
5	2210-030-011	14545 Keswick St	Los Angeles (Van Nuys)	Industrial	Full	MSF
6	2210-030-010	Keswick St	Los Angeles (Van Nuys)	Commercial	Full	MSF
7	2210-030-009	Keswick St	Los Angeles (Van Nuys)	Vacant	Full	MSF
8	2210-030-029	14546 Raymer St	Los Angeles (Van Nuys)	Industrial	Full	MSF
9	2210-030-013	14555 Keswick St	Los Angeles (Van Nuys)	Industrial	Full	MSF
10	2210-030-014	Keswick St	Los Angeles (Van Nuys)	Commercial	Full	MSF
11	2210-030-028	14556 Raymer St	Los Angeles (Van Nuys)	Industrial	Full	MSF
12	2210-030-016	14605 Keswick St	Los Angeles (Van Nuys)	Industrial	Full	MSF
13	2210-030-019	Raymer St	Los Angeles (Van Nuys)	Commercial	Full	MSF
14	2210-030-024	14617 Keswick St	Los Angeles (Van Nuys)	Industrial	Full	MSF
15	2210-030-018	14606 Raymer St	Los Angeles (Van Nuys)	Industrial	Full	MSF
16	2210-030-017	14626 Raymer St	Los Angeles (Van Nuys)	Recreational	Full	MSF
17	2210-025-005	14635 Keswick St	Los Angeles (Van Nuys)	Industrial	Full	MSF
18	2210-025-035	14645 Keswick St	Los Angeles (Van Nuys)	Industrial	Full	MSF
19	2210-025-007	14646 Raymer St	Los Angeles (Van Nuys)	Commercial	Full	MSF
20	2210-025-034	14663 Keswick St	Los Angeles (Van Nuys)	Commercial	Full	MSF
21	2210-025-009	14663 Keswick St	Los Angeles (Van Nuys)	Industrial	Full	MSF
22	2210-025-008	14660 Raymer St	Los Angeles (Van Nuys)	Industrial	Full	MSF

No.	APN	Address	Jurisdic-tion	Current Use/ Occupant	Displacement Type	Intended Use
23	2210-025-010	14704 Raymer St	Los Angeles (Van Nuys)	Commercial	Full	MSF
24	2210-025-044	14718 Raymer St	Los Angeles (Van Nuys)	Industrial	Full	MSF
25	2210-025-036	14731 Keswick St	Los Angeles (Van Nuys)	Industrial	Full	MSF
26	2210-025-015	14737 Keswick St	Los Angeles (Van Nuys)	Industrial	Full	MSF
27	2210-025-016	14743 Keswick St	Los Angeles (Van Nuys)	Industrial	Full	MSF
28	2210-025-049	14745 Keswick St	Los Angeles (Van Nuys)	Industrial	Full	MSF
29	2210-025-018	14747 Keswick St	Los Angeles (Van Nuys)	Industrial	Full	MSF
30	2210-025-017	14751 Keswick St	Los Angeles (Van Nuys)	Industrial	Full	MSF
31	2210-025-019	14757 Keswick St	Los Angeles (Van Nuys)	Industrial	Full	MSF
31	2210-025-045	14742 Raymer St	Los Angeles (Van Nuys)	Industrial	Full	MSF
33	2210-025-048	14746 Raymer St	Los Angeles (Van Nuys)	Industrial	Full	MSF
34	2210-025-013	14766 Raymer St	Los Angeles (Van Nuys)	Industrial	Full	MSF

Source: Metro, KOA Corporation, 2019.

Construction of the LPA would affect approximately 26 industrial properties, 24 of which are identified as full acquisitions, while the remaining two properties are partial acquisitions. Review of the Fourth Quarter 2019 San Fernando Valley and Ventura County Industrial Report indicates that the Central and East San Fernando submarkets have vacancy rates of 0.2% and 0.5%, respectively (Colliers International 2019). This is based on a total inventory for the San Fernando Valley of 89,924,400 square feet, while the Central and East San Fernando submarkets account for 13,742,200 and 50,529,500 square feet of existing inventory, respectively. There is an additional 332,300 square feet of industrial space currently under construction in the San Fernando Valley; however, none of the space currently under construction is located in the Central or East San Fernando Valley submarkets. The proposed acquisitions account for 0.52% of the total existing inventory of the San Fernando Valley and 0.73% of the Central and East San Fernando Valley submarkets.

The ability of the displaced businesses to relocate in the immediate area will depend on the availability of suitable vacant properties. Since local and regional economic conditions drive market demand for commercial and light industrial space in the project study area, it's not known how many of the displaced businesses will be able to or choose to relocate within the corridor or surrounding areas; however, it's acknowledged that, based on the vacancy rate data provided above, industrial facilities, in particular, may have difficulty finding comparable properties near their existing locations. Displaced businesses (and residents), however, will be eligible for relocation assistance and compensation in accordance with federal and state regulations, as discussed below under *Compliance Requirements and Design Features*.

Given that the LPA would only require acquisition of up to four single-family residences, implementation of the LPA would not indirectly result in the construction of a substantial amount of new residential development to accommodate the displaced residents. Therefore, substantial adverse indirect effects related to displacement and relocation are not anticipated under the LPA.

Cumulative Impacts

The project study area for the cumulative impacts discussion would encompass the local communities that surround the proposed project alignment because it is likely that many of the businesses or residents that would be displaced by the project would seek to relocate to properties within this project study area or in surrounding communities. The LPA would result in acquisitions of commercial and industrial properties within the project study area and up to four single-family residences. Metro would comply with the provisions of the Uniform Act and pay fair market value for properties that are acquired and provide relocation assistance to displaced businesses and residents.

Based on the cumulative projects list, which consists primarily of mixed-use and residential housing developments in residentially zoned areas, there does not appear to be any projects that would result in substantial displacement of businesses or residences. Although the LPA would displace businesses, it is not known how many of the displaced businesses could be relocated within the project study area or in surrounding communities. Given that uncertainty and because the related projects would not result in the substantial displacement of businesses or residences that would require construction of a substantial amount of replacement commercial, industrial, or residential development, the proposed and related projects are not expected to result in substantial adverse cumulative real estate and acquisitions impacts.

Mitigation Measures

Compliance Requirements and Design Features

Metro would provide relocation assistance and compensation for all displaced businesses, as required by both the Uniform Act and the California Act. The details of these laws regarding relocation assistance and compensation for property acquisitions are described in Sections 2.1.1 and 2.1.2 of the 2015 Real Estate and Acquisitions Technical Report. Where acquisitions and relocations are unavoidable, Metro would follow the provisions of both acts and their amendments. All real property acquired by Metro would be appraised to determine its fair market value. Just compensation, which shall not be less than the approved appraisal, would be made to each property owner. Each business displaced as a result of the project would be given advance written notice and would be informed of its eligibility for relocation assistance and payments. It is anticipated that where relocation would be required, it would result in the relocation of most of the jobs that would be displaced. Therefore, there would be no substantial net loss of jobs overall. This would result in no adverse impacts related to job loss.

Construction Mitigation Measures

No mitigation measures are required (see discussion above regarding compliance requirements required by law).

Impacts Remaining After Mitigation

NEPA Finding

The LPA would not result in adverse effects under NEPA.

CEQA Determination

The LPA would result in less-than-significant impacts under CEQA.

4.2.3.3 Initial Operating Segment

An Initial Operating Segment (IOS) has been included in this FEIS/FEIR to enable Metro to realize potential cost savings, which would not otherwise occur under the LPA, from phasing the project. It should be noted that Metro is proceeding with IOSs on other Metro projects for that reason and to specifically provide the decision-making body of Metro (the Metro Board) with flexibility in determining the most efficient and cost-effective manner to implement those projects. Proceeding with an IOS for the proposed project would also allow further coordination to occur with the Public Utilities Commission (PUC) and Metrolink, which will be necessary to accommodate double tracking of the Antelope Valley Line, and with the City of San Fernando regarding traffic impacts at intersections in the City prior to development of the remaining northern segment of the LPA.

Although the IOS for the proposed project would run along the same alignment and have the same design features and operating characteristics as those described above for the LPA, it would occupy a smaller project footprint than the LPA because it would extend from the Metro Orange Line on the south to the proposed Van Nuys/San Fernando station on the north. It remains Metro's intent, however, to build the remaining northern 2.5 miles of the LPA within the existing railroad right-of-way, from the Van Nuys/San Fernando station to the Sylmar/San Fernando Metrolink station. Impacts associated with the IOS are discussed below.

Construction Impacts

Acquisitions due to construction of the IOS guideway, stations, and TPSS are listed in Table 4.2-4 and would be similar to those stated for the segment of the LPA from the IOS's (and LPA's) southern terminus near the Metro Orange Line to the IOS's northern terminus at San Fernando Road. However, the total number of acquisitions would be less than those in the LPA because the IOS would not include the northern 2.5-mile segment of the LPA. The 49 acquisitions in Table 4.2-4 include 17 partial acquisitions, 30 full acquisitions, one Metro-owned property, and one vacant area/alley that will require the partial closure of the public right-of-way to accommodate the IOS guideway, stations, and TPSS. Similar to the LPA, the MSF could require 34 full property acquisitions. Combined, the IOS guideway, stations, TPSS, and MSF could result in 83 acquisitions including 17 partial acquisitions, 64 full acquisitions, the Metro-owned property, and one vacant area/alley. Similar to the LPA, most of the acquisitions that would be required are commercial or industrial properties, though up to four full acquisitions of single-family residences could also be required.

Table 4.2-4: IOS Property Acquisitions – Guideway, Stations, and TPSS

No.	APN	Address	Jurisdiction	Current Use/ Occupant	Displacement Type	Intended Use
1	2241-026-903	N/A (Bessemer St)	Los Angeles (Van Nuys)	Metro-owned	Metro-owned	TPSS 1A
2	2241-027-003	6073 Van Nuys Blvd	Los Angeles (Van Nuys)	Commercial/ 7-Eleven	Full	Guideway
3	2236-023-001	6249 Van Nuys Blvd	Los Angeles (Van Nuys)	Commercial	Full	TPSS 2A Site
4	2219-025-034	14526 Hartland St	Los Angeles (Van Nuys)	Vacant	Full	Vanowen Station Elec Box
5	2219-010-006	N/A (Vose St)	Los Angeles (Van Nuys)	Vacant	Full	TPSS 3A Site
6	2210-031-003	7605 Van Nuys Blvd	Los Angeles (Van Nuys)	Commercial	Full	Guideway
7	2210-031-033	7621 Van Nuys Blvd	Los Angeles (Van Nuys)	Commercial	Full	Guideway/TPSS Site
8	2210-031-001	7627 Van Nuys Blvd	Los Angeles (Van Nuys)	Commercial	Full	Guideway/TPSS 4A
9	2210-031-012	7639 Van Nuys Blvd	Los Angeles (Van Nuys)	Commercial	Full	Guideway
10	2210-030-027	14529 Keswick St	Los Angeles (Van Nuys)	Commercial	Partial	Road Widening
11	2212-003-017	8146 Van Nuys Blvd	Los Angeles (Panorama City)	Commercial	Partial	TPSS 5A Site
12	2638-038-017	14525 Roscoe Blvd	Los Angeles (Panorama City)	Commercial	Partial	Road Widening
13	2636-038-016	8353 Van Nuys Blvd	Los Angeles (Panorama City)	Commercial	Partial	Road Widening
14	2638-038-002	8333 Van Nuys Blvd	Los Angeles (Panorama City)	Commercial	Partial	Road Widening
15	2639-001-023	8760 Van Nuys Blvd	Los Angeles (Panorama City)	Commercial	Full	TPSS 6A Site
16	2639-001-024	N/A (Van Nuys and Parthenia)	Los Angeles (Panorama City)	Vacant	Full	TPSS 6A Site
17	2639-007-021	14555 Osborne St	Los Angeles (Panorama City)	Residential	Partial	Crossover Control Box
18	2644-030-016	9462 Van Nuys Blvd	Los Angeles (Panorama City)	Commercial/ Industrial	Full	TPSS 7 Site
19	2644-030-078	14540 Plummer St	Los Angeles (Panorama City)	Residential	Full	TPSS 7 Site
20	2647-028-103	9750 Woodman Ave	Los Angeles (Arleta)	Commercial	Partial	Road Widening
21	2647-028-015	14423 Van Nuys Blvd	Los Angeles (Arleta)	Commercial	Partial	Road Widening

No.	APN	Address	Jurisdiction	Current Use/ Occupant	Displacement Type	Intended Use
22	2647-028-101	14419 Van Nuys Blvd	Los Angeles (Arleta)	Commercial	Partial	Road Widening
23	2647-028-027 through 100	14333 Van Nuys Blvd	Los Angeles (Arleta)	Residential	Partial	Road Widening
24	2644-024-025	9700 Woodman Ave	Los Angeles (Arleta)	Commercial	Partial	Road Widening
25	2644-024-901	N/A (Van Nuys Blvd DMV)	Los Angeles (Arleta)	Government-Owned	Partial	Road Widening
26	2647-022-015	14229 Van Nuys Blvd	Los Angeles (Arleta)	Residential	Full	TPSS 8A Site
27	2647-017-009	14035 Van Nuys Blvd	Los Angeles (Arleta)	Commercial/ Industrial	Partial	Arleta Station Elec Box
28	2647-017-011	14035 Van Nuys Blvd	Los Angeles (Arleta)	Commercial/ Industrial	Partial	Arleta Station Elec Box
29	2618-020-003	10390 Remick Ave	Los Angeles (Pacoima)	Commercial	Partial	TPSS 9A Site
30	2619-017-036	13313 Van Nuys Blvd	Los Angeles (Pacoima)	Commercial	Full	Guideway/TPSS 10A Site
31	2619-017-012	13309 Van Nuys Blvd	Los Angeles (Pacoima)	Commercial	Full	Guideway
32	2619-017-011	13303 Van Nuys Blvd	Los Angeles (Pacoima)	Commercial	Full	Guideway
33	2619-017-010	13301 Van Nuys Blvd	Los Angeles (Pacoima)	Commercial	Full	Guideway
34	2619-017-009	13291 Van Nuys Blvd	Los Angeles (Pacoima)	Commercial	Full	Guideway
35	2619-017-008	13287 Van Nuys Blvd	Los Angeles (Pacoima)	Commercial	Full	Guideway
36	2619-017-007	13283 Van Nuys Blvd	Los Angeles (Pacoima)	Commercial	Partial	Guideway
37	2619-017-031	13281 Van Nuys Blvd	Los Angeles (Pacoima)	Commercial	Partial	Guideway
38	2619-017-035	Vacant Land – San Fernando Road	Los Angeles (Pacoima)	Vacant	Full	Guideway
39	2619-017-002	10823 San Fernando Road	Los Angeles (Pacoima)	Commercial	Full	Guideway
40	2619-017-037	N/A (San Fernando Road)	Los Angeles (Pacoima)	Vacant Land	Full	Guideway
41	2619-017-024	13320 Pinney St	Los Angeles (Pacoima)	Commercial	Full	Guideway

No.	APN	Address	Jurisdiction	Current Use/ Occupant	Displacement Type	Intended Use
42	2619-017-025	13320 Pinney St	Los Angeles (Pacoima)	Industrial	Full	Guideway
43	2619-017-026	Vacant Land – San Fernando Road	Los Angeles (Pacoima)	Vacant	Full	Guideway
44	2619-017-023	13322 Pinney St	Los Angeles (Pacoima)	Residential	Full	Guideway
45	2619-017-022	13326 Pinney St	Los Angeles (Pacoima)	Residential	Full	Guideway
46	2619-017-026	N/A (San Fernando Road)	Los Angeles (Pacoima)	Vacant	Full	Alignment
47	2619-017-023	13322 Pinney St	Los Angeles (Pacoima)	Residential	Full	Alignment
48	2619-017-022	13326 Pinney St	Los Angeles (Pacoima)	Residential	Full	Alignment
49	N/A	N/A (alley between Pinney St and Van Nuys Blvd)	Los Angeles (Pacoima)	Vacant Land	N/A	Closure of Public Right-of-Way (ROW)

Note: More than one potential location was identified for many of the TPSS. Since this table includes the acquisitions required for all of the potential TPSS locations, the acquisitions will be less than depicted in this table once final TPSS sites are determined during the final design phase of the project.

Source: KOA Corporation, 2019; ICF, 2019; City of Los Angeles, 2019.

Cumulative Impacts

The project study area for the cumulative impacts discussion would encompass the local communities that surround the proposed project alignment because it is likely that many of the businesses or residents that would be displaced by the project would seek to relocate to properties within this project study area or in surrounding communities. The IOS would result in acquisitions of commercial and industrial properties within the project study area and up to four single-family residences. Metro would comply with the provisions of the Uniform Act and pay fair market value for properties that are acquired and provide relocation assistance to displaced businesses.

Based on the cumulative projects list, which consists primarily of mixed-use and residential housing developments in residentially zoned areas, there does not appear to be any projects that would result in substantial displacement of businesses or residences. Although the IOS would displace businesses, it is anticipated that the majority could be relocated within the project study area or in surrounding communities. In addition, it is not anticipated that relocated businesses that would be displaced by the project would require construction of a substantial amount of commercial and industrial development that would result in substantial adverse indirect impacts. As a consequence, the proposed and related projects are not expected to result in substantial adverse cumulative real estate and acquisitions impacts.

Mitigation Measures

Compliance Requirements and Design Features

Metro would provide relocation assistance and compensation for all displaced businesses, as required by both the Uniform Act and the California Act. The details of these laws regarding relocation assistance and compensation for property acquisitions are described in Sections 2.1.1 and 2.1.2 of the 2015 Real Estate and Acquisitions Technical Report. Where acquisitions and relocations are unavoidable, Metro would follow the provisions of both acts and their amendments. All real property acquired by Metro would be appraised to determine its fair market value. Just compensation, which shall not be less than the approved appraisal, would be made to each property owner. Each business displaced as a result of the project would be given advance written notice and would be informed of its eligibility for relocation assistance and payments. It is anticipated that where relocation would be required, it would result in the relocation of most of the jobs that would be displaced. Therefore, there would be no substantial net loss of jobs overall. This would result in no adverse impacts related to job loss.

Construction Mitigation Measures

No mitigation measures are required (see discussion above regarding compliance requirements required by law).

Impacts Remaining After Mitigation

NEPA Finding

The IOS would not result in adverse effects under NEPA.

CEQA Determination

The IOS would result in less-than-significant impacts under CEQA.

4.3 Economic and Fiscal Impacts

This section evaluates the potential economic, and fiscal impacts that could arise from the construction and long-term operation of the proposed East San Fernando Valley Transit Corridor Project.

4.3.1 Regulatory Framework and Methodology

4.3.1.1 Regulatory Framework

The applicable federal, state, and local regulations that are relevant to an analysis of the proposed East San Fernando Valley Transit Corridor Project's impacts are listed below. For additional information regarding these regulations, please see the Economic and Fiscal Impacts Report in Appendix V of this FEIS/FEIR.

Federal

There are no specific federal regulations that are relevant to economic and fiscal impact analyses other than the requirements under NEPA.

State

Pursuant to the State CEQA Guidelines, economic or social effects of a project that are not related to physical changes in the environment shall not be treated as significant effects on the environment but may be used to determine the significance of physical changes caused by the project (Section 15131(b)).

Local

There are no local requirements or guidelines relevant to the discussion of fiscal and economic impacts in this section.

4.3.1.2 Methodology

Under NEPA, federal agencies are required to consider the economic effects of their proposed actions. Accordingly, the environmental impact analyses presented in Section 4.3.3 focus on the economic and fiscal effects due to parcel acquisitions that could occur under the Locally Preferred Alternative (LPA) and resulting loss in tax revenue, jobs, and labor income. The economic and fiscal analysis also considers the indirect and induced economic effects and benefits due to the expenditure of funds to construct the proposed LPA. In order to assess and determine the extent of potential economic effectss, demographic, economic, Los Angeles County Assessor assessed valuation, property tax, sales tax, construction cost, and land use data were examined. Also, other socioeconomic data related to transit dependent population and SCAG forecasts from 2010 to 2035 were utilized to identify and/or evaluate potential transit supportive land uses, including jobs-generating and residential land uses by density. Base year estimates have been updated to the latest available information, including 2016 population, households, and employment numbers from SCAG, the 2017 annual wage information from the EDD, the 2019 Los Angeles County Assessor's parcel data, and the regional input-output multipliers from the IMPLAN Group LLC for the year 2017.

Project plans showing the proposed LPA alignment along the transportation corridor were provided by KOA Corporation in the form of GIS shapefiles, which were then used as a reference alignment, around which data for the socioeconomic indicators presented in this analysis were assembled. The basic unit of analysis used for estimating 2016 data for areas in the immediate vicinity of the proposed LPA alignment is the Tier 2 traffic analysis zone (TAZ) developed by SCAG for the RTP. The 2016 base year estimates TAZ dataset has been developed by SCAG for their 2020 Connect SoCal Regional Transportation Plan (RTP). Tier 2 TAZs are the smallest units of geography developed by SCAG and these are a close approximation to Census Block-groups.

Transit-dependent population was defined using the following socioeconomic variables: 1) average household income; 2) persons in poverty; 3) indicators of transit dependency, using age structure (i.e., population less than 18 years old and 65 years and older); and 4) ownership of vehicles per household, developed from the 2013–2017 American Community Survey 5-year estimates at the census tract level. Estimates of population and household variables for each sub-category of analysis were calculated by applying the census tract–level percentage distribution for each variable to the 2016 Tier 2 population and household control totals. Employment estimates for 2008, 2010, and 2035, in addition to the latest 2016 base year estimates, were obtained directly from the assembled Tier 2 datasets for the proposed LPA alignment. These numbers reflect current post-recession economic growth trends.

Annual average wages by employment categories were obtained from the California Employment Development Department for 2017, for Los Angeles County at the NAICS sector level. The distribution of employment for various categories for 2016 was provided by the SCAG base year 2016 Tier 2 dataset. Los Angeles County Assessor parcel data, in GIS format, were obtained directly from the Los Angeles County Assessor for the project study area.

Construction Cost Impacts

In order to determine construction cost impacts/benefits (see Section 4.3.3, below), estimates were made of employment generated, labor income, value added, and total output. The total construction economic impacts for the LPA include direct construction cost impacts plus those from indirect and induced economic impacts. For the LPA, total labor income is about 40 percent of total output, and value added is about 58 percent of total output. Value added is the combination of labor income, property type income, and indirect business taxes.

Definition and Derivation of Economic Impact Multipliers

The total construction cost impacts discussed in Section 4.3.3 were derived from running the IMPLAN economic impact model developed by IMPLAN Group, LLC using the estimates of initial direct construction cost impacts provided by KOA Corporation. IMPLAN is an acronym for IMpact analysis for PLANing and is an input-output model that can be run for regional areas. In this case, the IMPLAN model was run using the Los Angeles County 2017 data set.

Based on the initial direct construction cost impacts of building the LPA, the IMPLAN model estimates the indirect and induced economic impacts using a set of multipliers based on the model's regional data. The primary sources of the data include 1) US Bureau of Labor Statistics (BLS), 2) US Bureau of Economic Analysis (BEA), 3) BLS Consumer Expenditure Survey, 4) US Census Bureau County Business Patterns (CBP) programs, 5) US Census Bureau Decennial Census and Populations Surveys, 6) US Census Bureau Economic Censuses and Surveys, and 7) the US Department of Agriculture Census.

Indirect expenditures are the effects of local inter-industry expenditures as a result of the direct construction expenditures. Induced expenditures are the result of the spending of employee's wages that stem from both the direct and indirect industry expenditures. Labor income is composed of two components: 1) the wages and benefits paid to wage and salary employees; and 2) proprietor income – the profits earned by self-employed individuals. Value added is the combination of labor income, other property type income, and indirect business taxes.

Detailed economic impacts are presented by various industry groups in Appendix A of the Economic and Fiscal Impacts Report (see Appendix V of this FEIS/FEIR) over the course of this study. According to latest 2017 IMPLAN model, the total impact multipliers at a minimum billion dollar threshold scale of construction activity are:

- One (1) direct employee yields 1.54 total employment;
- One (1) dollar of labor income yields 1.51 total dollars of labor income;
- One (1) dollar of direct expenditure yields 1.61 total dollars of total output; and
- One (1) dollar of direct value added yields 1.66 dollars of total value added.

4.3.1.3 CEQA Significance Thresholds

Significance thresholds are required by CEQA, and are used to determine whether a project may have a significant environmental effect.

Pursuant to Section 15131(a) of the State CEQA Guidelines, economic or social effects of a project shall not be treated as significant effects on the environment. However, pursuant to Section 15131(b) of the State CEQA Guidelines, economic and social effects of a project may be used to determine the significance of physical changes caused by the project. In addition, as directed by Section 15131(c) of the State CEQA Guidelines, economic and social factors (with a particular emphasis on housing factors) shall be considered, along with technological and environmental factors, if it is feasible to modify a project in order to reduce or avoid significant effects on the environment identified through the environmental review process.

The following analysis is intended to document economic effects due to construction and operation of rail transit in the project study area as well as potential fiscal effects associated with losses to the tax base due to property acquisitions required to construct the project. Also, economic impact analysis includes the potential for the proposed LPA to facilitate greater development of jobs and housing in proximity to one another and encourage the use of transit versus the automobile.

L.A. CEQA Thresholds Guide

The *L.A. CEQA Thresholds Guide* does not include specific thresholds for economic and fiscal impacts.

City of San Fernando

The City of San Fernando does not have specific CEQA thresholds, but instead uses the potentially significant effects listed in Appendix G of the State CEQA Guidelines as a guide for conducting environmental analyses. However, as noted earlier, CEQA does not specifically require an analysis of a project's economic and fiscal impacts.

4.3.2 Affected Environment/Existing Conditions

Socioeconomic indicators include: average household income, low income households, low vehicle ownership households, and transit dependent population per acre (see below for definitions). These indicators were based on the 2013–2017 American Community Survey (ACS) 5-year characteristics at the census tract level. These distributions were then applied to 2016 population and household SCAG Tier 2 control totals. Economic data including employment, and wage and payroll distribution estimates for 2016 were obtained from the SCAG RTP and the California EDD. Complete Tier 2 TAZs that intersected quarter mile buffer areas on either side of the transit corridor and eastern San Fernando Valley study area were selected (see Figures 1-1 through 1-3 in Chapter 1). Information developed by SCAG for the Tier 2 TAZs includes total population, household, and employment numbers for 2016.[1] The following section includes a discussion of population, household, and employment estimates for the transit corridor and the eastern San Fernando Valley study area.

4.3.2.1 Estimated Population

The transit corridor's total population (171,786) was about 36 percent of the eastern San Fernando Valley study area's total population (470,322). The estimated household population (excluding group quarters population) for the transit corridor (170,738) and for the eastern San Fernando Valley study area (466,327) was relatively close to the total population estimates for these two areas, indicating a very small estimate for Group Quarters population (see Figure 1-1 and Table 1-1 in Chapter 1). The highest concentrations of population tend to focus in Panorama City north of Roscoe Boulevard on either side of Van Nuys Boulevard. The transit corridor is identified by the SCAG Tier 2 TAZs outlined in blue on Figure 1-1 in Chapter 1.

4.3.2.2 Estimated Households

In 2010, the transit corridor household count (43,123) was about 32 percent of the project study area's household count (136,634). However, the persons per household estimate was slightly higher for the transit corridor, at about 3.96, compared to the eastern San Fernando Valley study area, which was about 3.41, with the highest household concentrations similar to those for the population north of Roscoe Boulevard along either side of Van Nuys Boulevard (see Figure 1-2 and Table 1-1 in Chapter 1).

4.3.2.3 Estimated Employment

In 2010, employment in the transit corridor (46,655) was about 30 percent of the employment in the eastern San Fernando Valley study area (148,350) (see Figure 1-3 and Table 1-1 in Chapter 1). The estimated jobs per household were similar for the transit corridor at about 1.08 compared to the eastern San Fernando Valley study area's estimate of 1.09. Along the transit corridor, the highest concentrations of employment were within the Van Nuys Civic Center, along Van Nuys Boulevard just north of the Orange Bus Line, and also within the Panorama City area adjacent and near the intersection of Van Nuys Boulevard and Roscoe Boulevard. Additionally, there are relatively higher concentrations of employment at the northern end of the route alignment in the downtown area of the City of San Fernando.

[1] Southern California Association of Governments, *2012 Regional Transportation Plan.* Available: <http://rtpscs.scag.ca.gov>. Accessed: March 25, 2013.

4.3.2.4 Transit-Dependent Populations

As mentioned above in Section 4.3.1.2, socioeconomic variables, including average household income, persons in poverty, and indicators of transit dependency (by age structure) and ownership of vehicles per household were developed from the 2013-17 American Community Survey 5-year estimate at the census tract level for each alignment. Census tracts that closely matched the SCAG Tier 2 selections were assembled for the transit corridor and the project study area to develop these variables.[2] Density and ratio calculations were based on the acreage information at the census tract level.

Low-Income Households

Average Household Income

Average household income across the transit corridor and eastern San Fernando Valley study area ranges from $59,077 (transit corridor) to $72,370 (eastern San Fernando Valley study area), in constant 2017 dollars, based on the 2017 ACS 5-year Estimates (see Table 1-2 in Chapter 1). The transit corridor's average household income was about 82 percent of the eastern San Fernando Valley study area's household income. In contrast, the average household income for Los Angeles County in 2017 was higher than both of these, at about $94,165.

Adult Persons below Poverty Line

Adult persons are defined as persons 18 years and over. The eastern San Fernando Valley study area had a lower proportion of its population in poverty at an estimated 12.9 percent (59,749 persons) compared to the transit corridor at about 15.3 percent (27,656 persons) (see Table 1-2 in Chapter 1). The persons below the poverty line in the transit corridor were about 16 percent higher than the percentage in the eastern San Fernando Valley study area.

Adult Persons below Poverty Line per Census Tract Acre

The transit corridor had a higher concentration of persons below the poverty line per census tract acre estimated at 3.5 compared to the eastern San Fernando Valley study area's estimate of 2.6 (see Part A of Table 1-2 in Chapter 1). In contrast, there were an estimated 1.10 adult persons below the poverty line per census tract acre in urbanized Los Angeles County.

Low Vehicle Ownership Households

Vehicles per Household

The transit corridor and the eastern San Fernando Valley study area have almost equal estimates for vehicles per household of 1.78 (transit corridor) and 1.81 (eastern San Fernando Valley study area) (see Part B of Table 1-2 in Chapter 1). These averages are similar to urbanized Los Angeles County at 1.74.

[2] Southern California Association of Governments. 2*012 Regional Transportation Plan.* Available: <http://rtpscs.scag.ca.gov>. Accessed: March 25, 2013.

Zero-Vehicle Households per Census Tract Acre

This intensity measure for zero vehicle households per census tract acre is also measured against total acreage of census tracts. The transit corridor has an estimated 0.7 zero vehicle households per census tract acre, while the eastern San Fernando Valley study area has 0.6 zero vehicle households per acre (see Part B of Table 1-2 in Chapter 1). These estimates are higher than the average for urbanized Los Angeles County, which averages 0.3 zero vehicle households per census tract acre.

Transit-Dependent Population

The transit dependent population is defined by the US Census Bureau as persons equal to or below the age of 18 years and 65 years and older. For the transit corridor, the transit dependent population (60,414) is about 37 percent of the eastern San Fernando Valley study area's transit dependent population (161,267) (see Part C of Table 1-2 and Figure 1-4 in Chapter 1). The transit-dependent population is evenly distributed at about 35 percent of the project study area population and about 34 percent of the transit corridor population.

Transit-Dependent Population per Census Tract Acre

This intensity measure for transit dependent population per census tract acre is measured against total acreage of census tracts within each route alternative. Transit dependent population per census tract acre ranges from 8.2 in the transit corridor compared to 7.1 in the eastern San Fernando Valley study area (see Part C of Figure 1-2 and Figure 1-5 in Chapter 1). In comparison, these averages are greater than the urbanized Los Angeles County average of 3.3 transit dependent population per census tract acre.

4.3.2.5 Economic Context

Employment Distribution

The total estimated employment in the transit corridor (46,655) is about 31 percent of the total estimated employment in the eastern San Fernando Valley study area (148,350). Education and Health jobs constitute the largest share of employment in each area at about 30 percent for the transit corridor and about 28 percent for the eastern San Fernando Valley study area. The next two largest employment sectors in the transit corridor are Professional Services (13.6 percent) and Retail (11.8 percent). The next two largest employment sectors in the eastern San Fernando Valley study area are also Professional Services (13.8 percent) and Retail Trade (12.5 percent). Together these three employment sectors—Education and Health, Professional Services and Retail—constitute about 4 to 5 percent of the total employment in both areas.

Table 1-4 (see Chapter 1) shows the percentage of each employment sector for the transit corridor as a percentage of the eastern San Fernando Valley study area to show relative employment concentrations. These percentages are then compared against the total employment percentage estimate for the transit corridor, about 31 percent of the eastern San Fernando Valley study area. As shown in Table 1-4, Public Administration is relatively concentrated in the transit corridor—representing primarily the Van Nuys government center—and has about 67 percent of the total Public Administration employment in the project study area. The Manufacturing sector is about 39 percent of employment in the eastern San Fernando Valley study area. For the other sectors above the 30 percent overall average for the project study area, Construction (35 percent) Transportation, Warehousing and Utilities (34 percent), and Education and Health (34 percent) are slightly higher than the all sectors average of 31 percent.

Average Wages and Payroll Distribution

Table 4.3-1 shows average wages by employment category for the 2017 annual estimates based on California Employment Development Department data for Los Angeles County. Table 4.3-2 shows total payroll by employment categories (the product of average wages and employment by sector) in constant 2017 dollars for the transit corridor and eastern San Fernando Valley study area.[3]

As shown in Table 4.3-1, the average wages for Los Angeles County range from a low of $35,384 for Retail Trade to a high of $128,261. When these average wages by sector are multiplied by the estimated employment by each sector, the total payroll for the transit corridor is estimated at $2.83 billion, about 31 percent of the total payroll of $9.0 billion estimated for the eastern San Fernando Valley study area. The largest payroll sector for the transit corridor is Education and Health at about $695.9 million, or about 25 percent of the total estimated payroll in the transit corridor. Similarly, the largest payroll sector for the eastern San Fernando Valley study area is also Education and Health at about $2.08 billion, or about 23 percent of the total estimated payroll in the project study area. The estimated average wage for the transit corridor ($60,600) and the eastern San Fernando Valley study area ($60,700) are very similar.

Table 4.3-1: Los Angeles County Annual Average Wages (2017)

Employment Category	Amount
Agriculture and Mining	$58,623
Construction	$63,568
Manufacturing	$71,680
Wholesale Trade	$64,318
Retail Trade	$35,384
Transportation, Warehousing and Utilities	$68,103
Information	$128,261
FIRE	$105,234
Professional Services	$78,926
Education and Health	$50,529
Arts, Ent, Recr, Accom and Food	$38,221
Other Services	$43,315
Public Administration	$89,794

Sources: Stanley R. Hoffman Associates, Inc.; California Employment Development Department, *2017 Quarterly Census of Employment and Wages.*

[3] California Employment Development Department, *2010 Quarterly Census of Employment and Wages.* Available: <http://www.labormarketinfo.edd.ca.gov/qcew/>. Accessed: March 25, 2013.

Table 4.3-2: Total Payroll Distribution (2017)

	Transit Corridor	Eastern San Fernando Valley Study Area
Agriculture and Mining	$1,348,335	$6,624,430
Construction	$160,063,076	$463,598,099
Manufacturing	$240,413,878	$617,736,075
Wholesale Trade	$105,738,907	$370,857,992
Retail Trade	$194,008,099	$654,348,310
Transportation, Warehousing and Utilities	$160,450,404	$475,290,055
Information	$160,838,684	$741,858,812
FIRE	$169,216,879	$778,839,630
Professional Services	$501,178,145	$1,612,294,039
Education and Health	$695,885,136	$2,080,935,053
Arts, Ent, Recr, Accom and Food	$161,942,527	$625,296,140
Other Services	$82,038,644	$291,336,811
Public Administration	$194,135,628	$287,881,047
Total	**$2,827,258,344**	**$9,006,896,493**
Estimated Average Wage	**$60,599**	**$60,714**

Source: Stanley R. Hoffman Associates, Inc.; Southern California Association of Governments, 2020 Connect SoCal, Draft 2016 Base Year Data, Tier 2 Traffic Analysis Zones.; California Employment Development Department, 2017 Quarterly Census of Employment and Wages.

4.3.2.6 Parcel Data

Property Valuation and Acreage

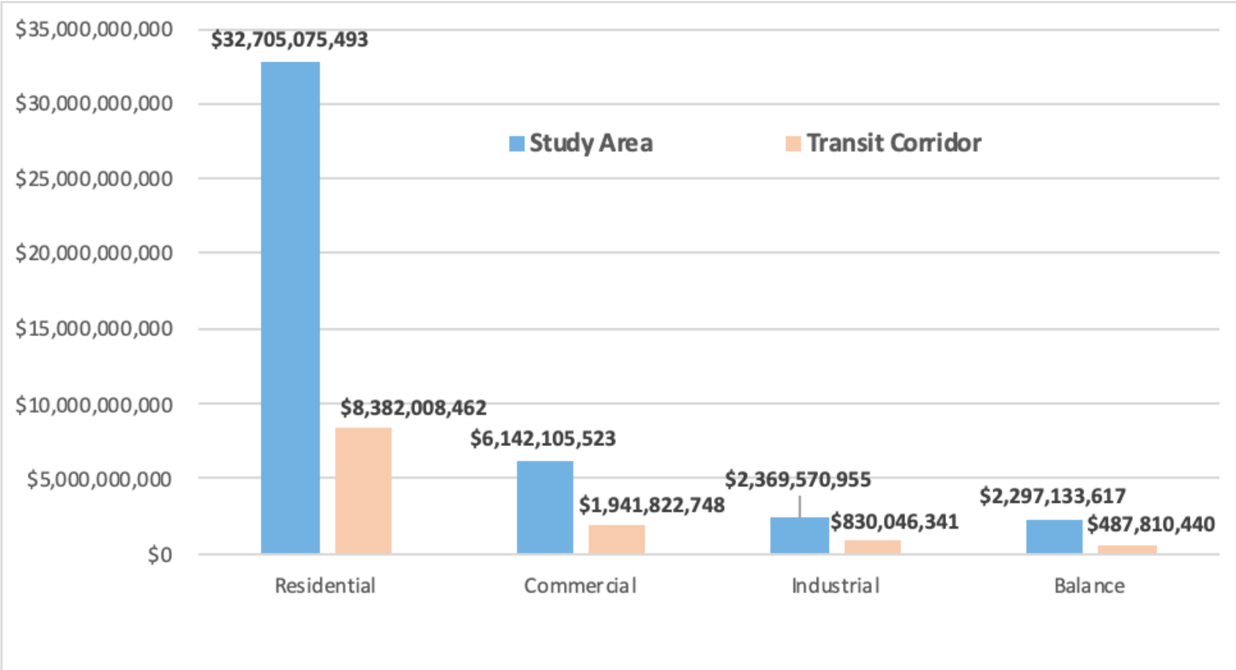
Within the project area, property values fluctuate. Since 2017, property values have increased significantly. The property values presented in Table 4.3-3 provide a snapshot of approximate real estate values in the corridor. Part A of Table 4.3-3 and Figure 4.3-1 show assessed valuation for the project study area ($43.5 billion) and parcels identified within the quarter-mile SCAG Tier 2 zones ($11.6 billion). Figure 4.3-1 displays a comparison of commercial, industrial, and residential development assessed valuation. Residential valuation for the project study area ($32.7 billion) represents about 75 percent of the total project study area valuation, and residential valuation for the transit corridor ($8.4 billion) represents about 72 percent of the total transit corridor valuation.

Table 4.3-3: Property Valuation (2019)

Performance Measures	Eastern San Fernando Valley Study Area	Transit Corridor	Corridor as Percent of Project Study Area
A. Assessed Valuation by Land Use			
Commercial	$6,142,105,523	$1,941,822,748	31.6%
Industrial	$2,369,570,955	$830,046,341	35.0%
Single-Family Residential	$24,823,455,226	$6,000,562,457	24.2%
Multiple-Family Residential	$7,881,620,267	$2,381,446,005	30.2%
Public/Institutional	$1,352,195,517	$271,641,070	20.1%
Miscellaneous	$47,153,843	$22,039,662	46.7%
Vacant	$897,784,257	$194,129,708	21.6%
Total	**$43,513,885,588**	**$11,641,687,991**	**26.8%**
B. Total Acres by Land Use			
Commercial	2,288	608	26.6%
Industrial	1,422	483	34.0%
Single-Family Residential	10,370	3,003	29.0%
Multiple-Family Residential	1,591	549	34.5%
Public/Institutional	3,237	641	19.8%
Miscellaneous	175	15	8.6%
Vacant	713	227	31.9%
Total	**19,796**	**5,526**	**27.9%**
C. Assessed Valuation per Acre			
Commercial	$2,684,779	$3,195,482	119.0%
Industrial	$1,666,892	$1,718,637	103.1%
Single-Family Residential	$2,393,694	$1,998,296	83.5%
Multiple-Family Residential	$4,954,872	$4,338,188	87.6%
Public/Institutional	$417,784	$423,465	101.4%
Miscellaneous	$268,685	$1,467,080	546.0%
Vacant	$1,258,520	$853,519	67.8%
Average	**$2,198,138**	**$2,106,568**	**95.8%**
D. Vacant Acres by Land Use			
Commercial	287	105	36.5%
Industrial	86	32	37.8%
Single-Family Residential	253	87	34.5%
Multiple-Family Residential	6	2	28.5%
Public/Institutional	66	0	0.3%
Miscellaneous	16	1	6.1%
Total	**713**	**227**	**31.8%**

Sources: Stanley R. Hoffman Associates, Inc.; Los Angeles County Assessor's Parcel Data, 2019.

Figure 4.3-1: Assessed Valuation (2019)



Sources: Stanley R. Hoffman Associates, Inc.; Los Angeles County Assessor's Parcel Data, 2019.

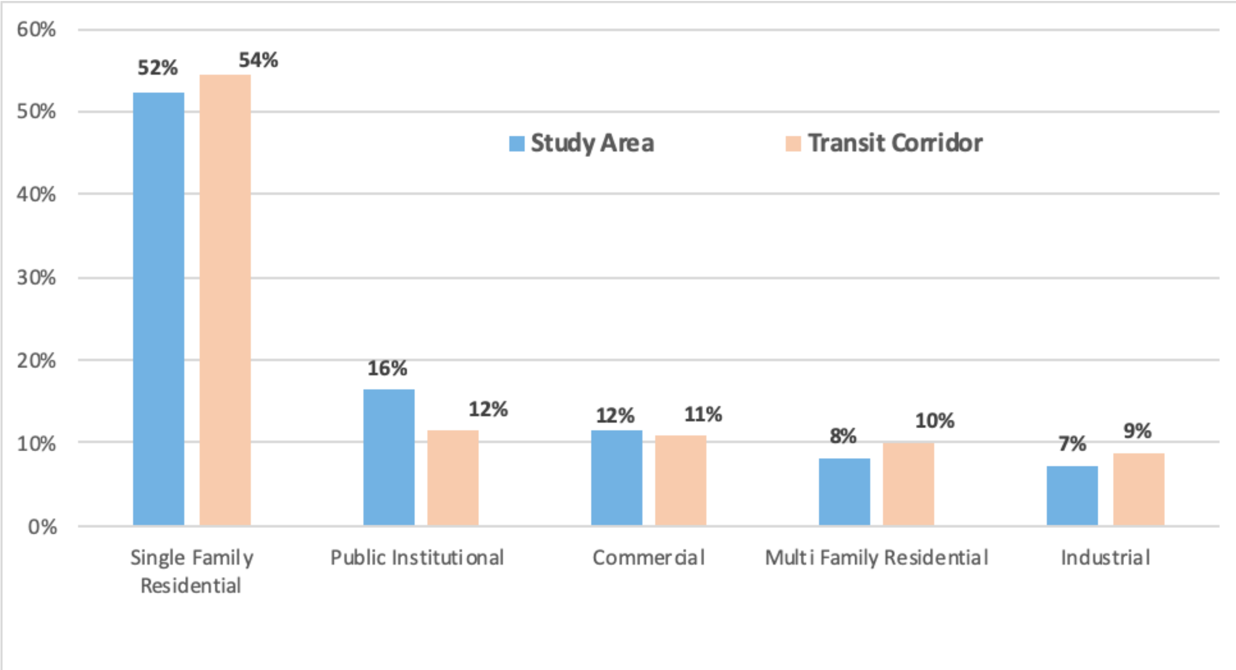
While the transit corridor represents an average of 26.8 percent of the total valuation of the project study area, it also comprises a comparatively higher percentage of valuation for commercial, industrial, and multi-family residential parcels.

As shown in Part B of Table 4.3-3, the transit corridor comprised 27.9 percent of the total acreage within the project study area. Multi-family land uses were relatively more concentrated at about 34.5 percent of the project study area. As shown in Figure 4.3-2, examining the land use distributions, single-family residential acreage comprised the majority of the land uses in both the transit corridor (about 54 percent) and the project study area (about 52 percent).

As shown in Part C of Table 4.3-3, the average assessed valuation per acre was estimated at $2,198,138 per acre in the transit corridor, which was similar to the average for the project study area at $2,106,568 per acre. Also, valuation per acre was higher in the transit corridor compared to the project study area for both commercial (1.19 times) and industrial land use (1.03 times), as shown in Table 4.3-3, Panel C.

As shown in Part D of Table 4.3-3, vacant land in the transit corridor comprised almost 32 percent of the vacant land in the project study area. Over 80 percent of the vacant land is within two categories in the project study area: commercial (46 percent of total vacant) and single-family residential (38 percent of total vacant). This is very similar to the transit corridor with commercial (45 percent of total vacant) and single-family residential (35 percent of total vacant).

Figure 4.3-2: Distribution of Land Use Acres (2019)



Sources: Stanley R. Hoffman Associates, Inc.; Los Angeles County Assessor's Parcel Data, 2019.

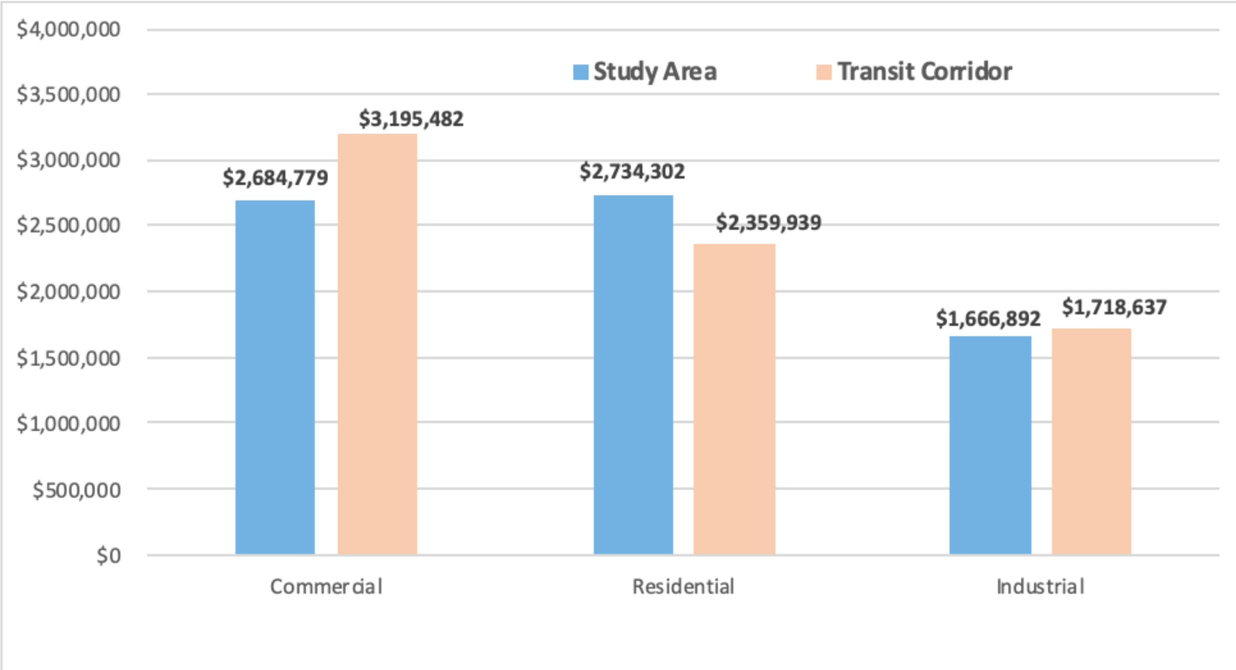
Property Valuation of Non-Residential Development

As shown in Figure 4.3-3, on a valuation per acre basis, commercial land use was estimated the highest at about $3.2 million per acre within the transit corridor; it was estimated about 19 percent lower at $2.7 million within the project study area. Similarly, industrial land valuation was also estimated higher at $1.7 million per acre within the transit corridor, compared with about $1.6 million per acre within the project study area. Residential land valuation had a different relationship with the estimated $2.7 million per acre valuation within the transit corridor actually about 16 percent lower than the estimate of about $2.7 million per acre within the project study area.

Property Valuation of Residential Development

Figure 4.3-4 shows assessed valuation for single- and multiple-family residential development within the transit corridor and the project study area. The estimated transit corridor total residential valuation of $8.4 billion comprised about 26 percent of the project study area total valuation of $32.7 billion in 2019. As a percent of the total residential valuation, single-family residential land uses comprised about 72 to 76 percent of the total residential valuation for the project study area and the transit corridor, respectively.

Figure 4.3-3: Assessed Valuation per Acre (2019)



Sources: Stanley R. Hoffman Associates, Inc.; Los Angeles County Assessor's Parcel Data, 2019.

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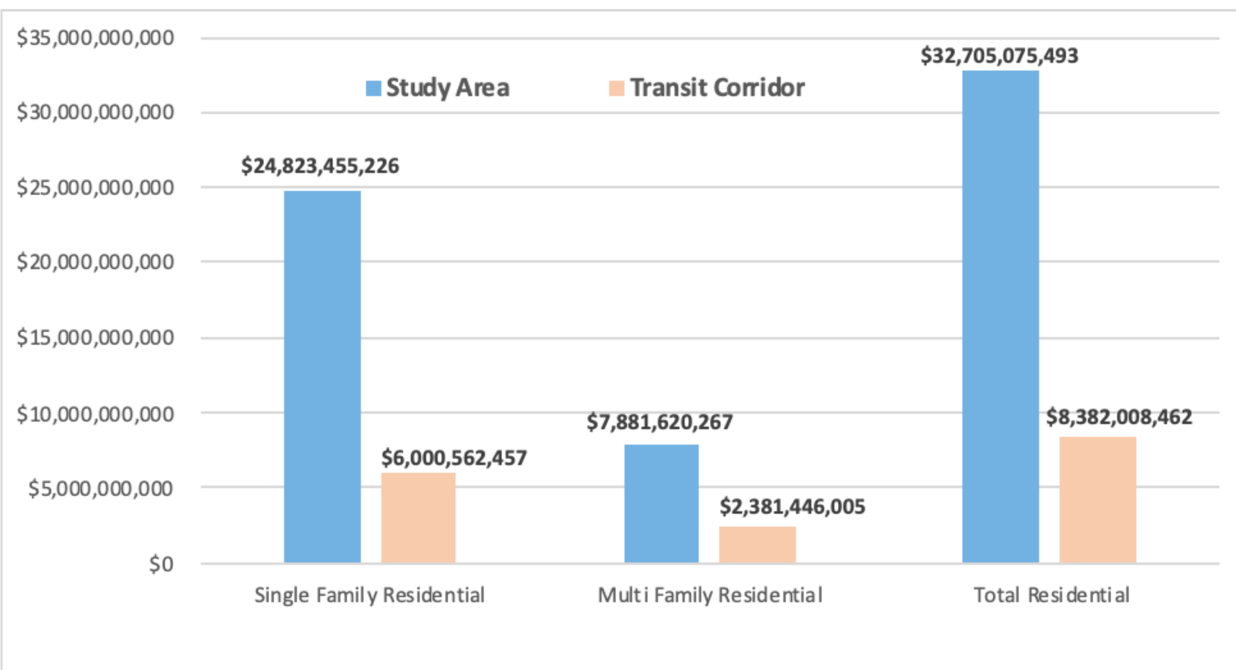
Figure 4.3-4: Assessed Valuation of Residential Development (2019)



Sources: Stanley R. Hoffman Associates, Inc.; Los Angeles County Assessor's Parcel Data, 2019.

4.3.2.7 Transit Supportive Land Use

Table 4.3-4 shows indicators for jobs-generating (Part A) land uses and residential (Part B) land uses by density; the indicators are discussed below.[4]

Table 4.3-4: Job-Generating and Residential Land Uses by Density (2016)

	Eastern San Fernando Valley Study Area	Transit Corridor
A. Jobs-Generating Land Uses by Density		
Commercial Employment Density (jobs per commercial acre)	32.9	34.3
Industrial Employment Density (jobs per industrial acre)	16.1	16.3
Total Jobs per Household	1.1	1.1
B. Residential Land Uses by Density		
Population Density (persons per residential acre)	39.0	48.1
Persons per Household	3.4	4.0
Households per Acre	11.4	12.1

Sources: Stanley R. Hoffman Associates, Inc.; Southern California Association of Governments, 2020 Connect SoCal, Draft 2016 Base Year Data, Tier 2 Traffic Analysis Zones.; Los Angeles County Assessor's Parcel Data, 2019.

Jobs-Generating Land Uses by Density

In 2016, commercial employment density for the transit corridor at 34.3 jobs per developed acre was slightly higher than that for the project study area at 32.9 jobs per developed acre. Similarly, industrial employment density for the transit corridor at 16.3 jobs per developed acre was slightly higher compared to that for the project study area at 16.1 jobs per developed acre.

In 2016, the transit corridor had an estimated jobs per household ratio of about 1.1, was similar to the project study area ratio.

Residential Land Uses by Density

In 2016, population density, estimated as a ratio of residential population per developed residential acre, was estimated relatively higher at 48.1 persons per acre within the transit corridor compared to 39.0 persons per acre in the project study area.

In 2010, household size within the corridor at 4.0 persons per household was relatively higher compared to the project study area at 3.4 persons per household.

In 2010, households per developed residential acre were slightly higher within the transit corridor at 12.1 households per acre compared to 11.4 households per acre within the project study area.

[4] Land use data for this section obtained from Los Angeles County Assessor's Parcel data for 2014, while demographic and employment information was obtained from the SCAG 2012 RTP Tier 2 dataset.

4.3.3 Environmental Consequences, Impacts, and Mitigation Measures

The impacts of the LPA and Initial Operating Segment (IOS) (as well as the No-Build Alternative) are discussed in detail below.

4.3.3.1 No-Build Alternative

Construction Impacts

Under the No-Build Alternative, no project improvements are proposed. Therefore, no parcel acquisitions would be required and no construction costs would occur under this alternative.

Operational Impacts

No project improvements are proposed under this alternative and consequently no operational economic effects would occur under the No-Build Alternative.

Cumulative Impacts

The No-Build Alternative would not require acquisition of properties and consequently would not result in direct adverse effects that could contribute to cumulative adverse economic and fiscal effects.

Mitigation Measures

Construction Mitigation Measures

None Required.

Operational Mitigation Measures

None Required.

Impacts Remaining After Mitigation

NEPA Finding

No adverse effects would occur.

CEQA Determination

According to CEQA, social and economic impacts are not considered environmental impacts.

4.3.3.2 Locally Preferred Alternative (Alternative 4 Modified: At-Grade LRT)

Construction Impacts

The LPA would result in minor adverse economic effects, under NEPA, on local businesses due to reduced visibility (e.g., sign blockage) and diminished access from sidewalk or lane closures, loss of on-street parking during construction, and permanent removal of on-street parking to accommodate the LRT alignment.

The parcel acquisitions and the economic and fiscal impacts, under NEPA, resulting from those acquisitions that could occur under this alternative are discussed below. As stated previously, under CEQA, social and economic impacts are not considered environmental impacts.

Parcel Acquisitions

Guideway, Stations, Traction Power Substations, and Maintenance and Storage Facility

The LPA would require full or partial acquisition of approximately 100 parcels to construct the guideway, station platforms, traction power substation (TPSS) facilities, and a maintenance and storage facility (MSF). Those acquisitions include 68 full acquisitions, 30 partial acquisitions, one Metro-owned property, and one vacant area that would require partial closure of the public right-of-way.

Most of the full acquisitions would affect businesses that are predominately zoned as light industrial/industrial or commercial uses and largely occur in three areas: 1) the northern terminus, 2) the area where the alignment transitions from Van Nuys Boulevard to the Metro owned railroad right-of-way along San Fernando Road, and 3) the MSF site (Option B site).

Tables 4.2-2 and 4.2-3 in Section 4.2 of this FEIS/FEIR list the ROW acquisitions required for the LRT dedicated guideways, stations, TPSS, and MSF (see Appendix I for an updated aerial map showing the MSF property acquisitions).

Economic and Fiscal Impacts of Parcel Acquisitions

The economic and fiscal impacts due to the parcel acquisitions required to construct the LPA, including the MSF site, are summarized in Tables 4.3-5 through and 4.3-7 below and described in greater detail in the text that follows the tables. As shown in Table 4.3-5, the Total Assessed Value for LPA is $289.6 million, requiring potentially 108.8 acres. Table 4.3-6 identifies the number of parcels that would be affected and total square footage of the properties to be acquired. Table 4.3-7 identifies the affected number of firms, employment, output, value-added, and labor compensation and identifies the potential property and sales tax losses due to parcel acquisitions. The MSF site by itself is estimated to have a total valuation of $48.9 million, including $18.5 million in Assessed improvement value and $30.4 million in assessed land value.

Table 4.3-5: LPA – Summary of Assessed Valuation and Parcel Acquisition Statistics

Land Use	Assessed Land Value	Assessed Improvement Value	Total Assessed Value	Building Sq. Ft.	Parcel Sq. Ft.	Acres	FAR	Value Per Acre
MSF Site and LPA	$132,226,745	$157,338,893	$289,565,638	1,098,184	4,738,732	108.8	0.23	$2,661,784

Sources: Stanley R. Hoffman Associates, Inc.; Los Angeles County Assessor's File, 2019.

Table 4.3-6: LPA – Summary of Total Parcel Square Footage and Estimated Acquired Square Footage

	No. of Parcels	Parcel Sq. Ft.	Parcel Acquisition Sq. Ft.[a]	Difference	Percentage of Parcels Acquired
MSF Site and LPA	100	4,738,732	1,587,527	3,151,205	34 percent

Notes:
[a.] The parcel square footage to be acquired was estimated by LA Metro Staff.
Sources: Stanley R. Hoffman Associates, Inc.; Los Angeles County Assessor's File, 2019.

Table 4.3-7: LPA – Summary of Estimated Employment and Fiscal Impacts

	Firms	Jobs	Output	Value Added	Labor Income	Property Tax	Sales Tax
MSF Site and LPA	217	2,631	$359,733,029	$231,434,787	$143,290,086	$2,895,656	$1,487,938

Sources: Stanley R. Hoffman Associates, Inc.; InfoUSA 2019 (data); IMPLAN Group, LLC, IMPLAN System (data and software), Copyright 2013.

Property Tax Loss Analysis: The LPA, including the MSF site, could result in the loss of an estimated $2.89 million in property taxes due to potential parcel acquisitions. The lost property taxes would affect the operating budgets of local jurisdictions, special districts, and agencies. Almost 25 percent of the project study area's property tax loss would be from the Los Angeles County General Fund, with about 20 percent from the Los Angeles City General Fund. When the property revenues loss to the Los Angeles County Unified School District is combined with other K-12 educational revenue funds, approximately 45 percent of the total of $2.89 million would be lost from their operating budgets.

Over the course of the study, when property taxes loss was compared with the ¼ mile transit corridor and the project study area, the loss ranged from only 1.2 percent overall, for the transit corridor, to 1.1 to 1.4 percent for the fund categories. Similarly, when the estimated property tax lost was compared against the project study area, the loss is even less at 0.3 percent overall, and ranged between 0.3 and 0.4 percent for the fund categories.

Economic Impacts of Parcel Acquisitions: The LPA, including the MSF site, would affect an estimated 2,613 jobs and 217 firms. The total labor income generated by the 2,613 jobs would be about $143.3 million, which is 40 percent of the option's total output. Retail Trade is the most significant industry within the parcel acquisition sites in terms of both employment, with 1,215 jobs, and output at about $128.9 million. Food Services has the second highest number of employees with approximately 430 jobs, while Educational Services is third with about 209 jobs. Total value added is estimated at $231.4 million for economic activities associated with the acquisition parcels.

Estimated Retail and Food Services Sales Tax Impact: The estimated local sales tax lost by the potential parcel acquisitions for the LPA, including the MSF site, is estimated at $1.49 million.

Construction Cost Impacts: The construction costs for the LPA, including the MSF site (Option B site), are estimated to be about $2.05 billion. The direct, indirect, and induced impacts of this construction work would generate an estimated 20,525 jobs. Of these jobs, an estimated 13,341 would be generated directly by construction and about 2,826 would be generated indirectly. An additional 4,357 jobs would be induced through increased household spending by direct and indirect employees.

The LPA, including the MSF site, would generate an estimated $1.92 billion in value added, with about $1.16 billion coming from direct impacts of construction. Indirect impacts would generate about $324.4 million in value added. Induced value added would amount to about $437.5 million.

Operational Impacts

Operational economic and fiscal impacts would be limited to the potential indirect impacts on local businesses due to diminished access where on-street parking would be removed to accommodate the LRT alignment. No other adverse operational economic and fiscal impacts would occur.

Cumulative Impacts

As discussed above, under Construction Impacts, most of the full acquisitions under the LPA would affect businesses that are predominately zoned as light industrial/industrial uses and largely occur in three areas: 1) the northern terminus, 2) the area where the alignment transitions from Van Nuys Boulevard to the Metro owned railroad right-of-way along San Fernando Road, and 3) the MSF site (Option B site). The LPA in conjunction with related projects that require the acquisition of parcels displacing existing businesses could result in the long-term loss of income-generating jobs and tax revenue and potentially result in adverse localized cumulative economic and fiscal impacts under NEPA. However, the related projects identified within the project study area (see Table 2-3 in Chapter 2) do not include any other major public infrastructure projects that would result in permanent loss of tax revenue or jobs. The vast majority of the related projects are residential, commercial, or industrial development projects that would generate long-term jobs and tax revenue. Additionally, as discussed in Section 4.18.2, the Cities of Los Angeles and San Fernando are expected to continue to experience population, housing, and employment growth into the future (see Tables 4.18-2 through 4.18-4 for year 2035 projections). As a consequence, the LPA and cumulative development is not expected to result in long-term adverse cumulative economic effects on the region.

The LPA could spur more significant increased mixed use development because of its more permanent, major investment into a fixed rail system that may incentivize the private sector to invest in more significant mixed use development projects at key station locations. However, due to the more localized nature of an LRT system, compared with a more regional serving LRT, it is not expected that this alternative would generate significant cumulative growth inducement impacts.

Mitigation Measures

Construction Mitigation Measures

Construction would have temporary impacts on commercial and industrial businesses, particularly those near or adjacent to construction sites. Sidewalks or adjacent roadway lanes may be temporarily closed, thereby reducing business access. Business impacts could also include reduced visibility of commercial signs and businesses. These construction impacts could in turn have minor economic impacts on commercial establishments. A number of short-term measures would be undertaken to reduce these impacts (please see the mitigation measures MM-TRA-1 through MM-TRA-3 in Chapter 3 and MM-CN-1 in Section 4.4, Communities and Neighborhoods.).

Operational Mitigation Measures

None required.

Impacts Remaining After Mitigation

NEPA Finding

The potential effects would not be adverse under NEPA.

CEQA Determination

According to CEQA, social and economic impacts are not considered environmental impacts.

4.3.3.3 Initial Operating Segment

An IOS has been included in this FEIS/FEIR to enable Metro to realize potential cost savings, which would not otherwise occur under the LPA, from phasing the project. It should be noted that Metro is proceeding with IOSs on other Metro projects for that reason and to specifically provide the decision-making body of Metro (the Metro Board) with flexibility in determining the most efficient and cost-effective manner to implement those projects. Proceeding with an IOS for the proposed project would also allow further coordination to occur with the Public Utilities Commission (PUC) and Metrolink, which will be necessary to accommodate double tracking of the Antelope Valley Line, and with the City of San Fernando regarding traffic impacts at intersections in the City prior to development of the remaining northern segment of the LPA.

Although the IOS for the proposed project would run along the same alignment and have the same design features and operating characteristics as those described above for the LPA, it would occupy a smaller project footprint than the LPA because it would extend from the Metro Orange Line on the south to the proposed the Van Nuys/San Fernando station on the north. It remains Metro's intent, however, to build the remaining northern 2.5 miles of the LPA within the existing railroad right-of-way, from the Van Nuys/San Fernando station to the Sylmar/San Fernando Metrolink station. Impacts associated with the IOS are discussed below.

Construction Impacts

The IOS, similar to the LPA would result in potential minor economic effects, under NEPA, on local businesses due to reduced visibility (e.g., sign blockage) and diminished access from sidewalk or lane closures, loss of on-street parking during construction, and permanent removal of on-street parking to accommodate the LRT alignment. The impacts, however, would be less extensive than the LPA's because the IOS would not include the northern 2.5-mile segment of the LPA

The parcel acquisitions and the economic and fiscal impacts, under NEPA, resulting from those acquisitions that could occur under the IOS are discussed below. As stated above for the LPA, under CEQA, social and economic impacts are not considered environmental impacts.

Economic and Fiscal Impacts of Parcel Acquisitions for the IOS

The economic and fiscal impacts due to the parcel acquisitions required to construct the IOS, including the MSF site, are summarized in Tables 4.3-8 through and 4.3-10 below and described in greater detail in the text that follows the tables. As shown in Table 4.3-8, the Total Assessed Value for the IOS in year 2019 is $239.6, requiring potentially 79.8 acres. Table 4.3-9 identifies the number of parcels that would be affected and total square footage of the properties to be acquired. Table 4.3-10 identifies the affected number of firms, employment, output, value-added, and labor compensation and identifies the potential property and sales tax losses due to parcel acquisitions. The MSF site by itself is estimated to have a total valuation of $48.9 million, including $18.5 million in assessed improvement value and $30.4 million in assessed land value.

Table 4.3-8: IOS – Summary of Assessed Valuation and Parcel Acquisition Statistics

Land Use	Assessed Land Value	Assessed Improvement Value	Total Assessed Value	Building Sq. Ft.	Parcel Sq. Ft.	Acres	FAR	Value Per Acre
MSF Site and IOS	$104,711,186	$134,914,845	$239,626,031	812,652	3,474,074	79.8	0.23	$3,004,573

Sources: Stanley R. Hoffman Associates, Inc.; Los Angeles County Assessor's File, 2019.

Table 4.3-9: IOS – Summary of Total Parcel Square Footage and Estimated Acquired Square Footage

	No. of Parcels	Parcel Sq. Ft.	Parcel Acquisition Sq. Ft.[a]	Difference	Percentage of Parcels Acquired
MSF Site and IOS	83	3,474,074	1,508,493	1,965,581	43 percent

Notes: [a] The parcel square footage to be acquired was estimated by LA Metro Staff.
Sources: Stanley R. Hoffman Associates, Inc.; Los Angeles County Assessor's File, 2019.

Table 4.3-10: IOS – Summary of Estimated Employment and Fiscal Impacts

	Firms	Jobs	Output	Value Added	Labor Income	Property Tax	Sales Tax
MSF Site and IOS	173	1,756	$269,242,662	$166,978,174	$97,050,821	$2,396,260	$1,014,879

Sources: Stanley R. Hoffman Associates, Inc.; InfoUSA 2019 (data); IMPLAN Group, LLC, IMPLAN System (data and software), Copyright 2019.

Property Tax Loss Analysis: The IOS, including the MSF site, could result in the loss of an estimated $2.39 million in property taxes due to potential parcel acquisitions. The lost property taxes would affect the operating budgets of local jurisdictions, special districts, and agencies. Almost 25 percent of the study area's property tax loss would be from the Los Angeles County General Fund, with about 20 percent from the Los Angeles City General Fund. When the property revenues loss to the Los Angeles County Unified School District is combined with other K-12 educational revenue funds, approximately 44 percent of the total of $2.39 million would be lost from their operating budgets.

Over the course of the study, when property taxes loss was compared with the quarter-mile transit corridor and the study area, the loss ranged from only 1.2 percent overall, for the transit corridor, to 1.1 to 1.4 percent for the fund categories. Similarly, when the estimated property tax lost was compared against the study area, the loss is even less at 0.3 percent overall, and ranged between 0.3 and 0.4 percent for the fund categories.

Economic Impacts of Parcel Acquisitions: The IOS, including the MSF site, would affect 1,756 jobs and 173 firms. The total labor income generated by the 1,756 jobs would be about $97.1 million, which is 36 percent of the option's total output. Retail Trade is the most significant industry within the parcel acquisition sites in terms of both employment, with 808 jobs, and output at about $85.7 million. Food Services has the second highest number of employees with 348 jobs, while Healthcare and Social Services is third with 80 jobs. Total value added for economic activities on the acquisition parcels is estimated at about $167 million.

Estimated Retail and Food Services Sales Tax Impact: The estimated local sales tax lost by the potential parcel acquisitions for the IOS, including the MSF site, is estimated at $1.01 million.

Construction Cost Impacts: The construction costs for the IOS, including the MSF site, are estimated to be about $1.8 billion. The direct, indirect, and induced impacts of this construction work would generate an estimated 18,022 jobs. Of these jobs, an estimated 11,714 would be generated directly by construction and about 2,482 would be generated indirectly. An additional 3,826 jobs would be induced through increased household spending by direct and indirect employees.

The IOS, including the MSF site, would generate an estimated $1.69 billion in value added, with about $1.02 billion coming from direct impacts of construction. Indirect impacts would generate about $284.8 million in value added. Induced value added would amount to about $384.1 million.

Operational Impacts

For the IOS, operational economic and fiscal impacts would be limited to the potential indirect impacts on local businesses due to diminished access where on-street parking would be removed along Van Nuys Boulevard to accommodate the project. No other adverse operational economic and fiscal impacts would occur.

Cumulative Impacts

The IOS would have the same cumulative impacts as those stated for the LPA. The IOS in conjunction with related projects that require the acquisition of parcels and result in the long-term loss of income-generating jobs and tax revenue could potentially result in adverse cumulative economic and fiscal impacts under NEPA. However, the related projects identified within the study area are a majority of residential, commercial, or industrial development projects that would generate long-term jobs and tax revenue.

Similar to the LPA, the IOS could spur more incentives for the private sector to invest in more significant mixed use development near the future station locations. However, due to the more localized nature of a LRT system, compared with a more regional serving LRT, it is not expected that this alternative would generate significant cumulative growth inducement impacts.

Mitigation Measures

Construction Mitigation Measures

The mitigation measures that would diminish the economic and fiscal impact of the IOS are the same as those for the LPA (please see the mitigation measures in the Executive Summary of this FEIS/FEIR).

Operational Mitigation Measures

None are proposed.

Impacts Remaining After Mitigation

NEPA Finding

Effects would not be adverse under NEPA.

CEQA Determination

Impacts would be less than significant under CEQA.

4.4 Communities and Neighborhoods

This section is based on and summarizes the information presented in the Community and Neighborhoods Impacts Report, which is included in Appendix J of this FEIS/FEIR. Any such impacts detailed in this chapter are restatements of impacts described and discussed elsewhere within this FEIS/FEIR's respective resource chapter.

4.4.1 Regulatory Framework and Methodology

4.4.1.1 Regulatory Framework

The applicable federal, state, and local regulations that are relevant to an analysis of the proposed project's communities and neighborhoods impacts are listed below. For additional information regarding these regulations, please see the Communities and Neighborhoods Impacts Report in Appendix J of this FEIS/FEIR.

Federal

- National Environmental Policy Act (NEPA);
- Civil Rights Act;
- Executive Order 12898; and
- Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Act).

State

- California Environmental Quality Act (CEQA); and
- California Relocation Act.

Local

- Southern California Association of Governments (SCAG) 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy;
- SCAG Regional Comprehensive Plan;
- Metro Complete Streets Policy;
- County of Los Angeles Bicycle Master Plan;
- City of Los Angeles Great Streets Initiative;
- City of Los Angeles 2010 Bicycle Plan;
- City of Los Angeles Housing and Community Development Five-Year Consolidated Plan 2013–2017;
- City of Los Angeles Land Use/Transportation Policy;
- City of Los Angeles General Plan;
- City of Los Angeles Special Districts and Overlay Zones;
- Los Angeles River Revitalization Master Plan;

- City of Los Angeles Hazard Mitigation Plan;
- Pacoima/Panorama City Earthquake Disaster Assistance Project;
- City of San Fernando General Plan;
- The San Fernando Corridors Specific Plan;
- City of San Fernando Transit-Oriented Development (TOD) Overlay Zone (Proposed);
- City of San Fernando Pacoima Wash Greenway Master Plan; and
- City of San Fernando Natural Hazard Mitigation Plan.

4.4.1.2 Methodology

This analysis has been prepared in accordance with CEQA and NEPA. The following five steps were used to assess potential impacts from the project on the existing communities and neighborhoods in the project study area:

- Communities, neighborhoods, and special districts in the project study area were identified, described, and visually represented on a map of the project study area.
- Community issues and attitudes were described.
- Demographic information for the census tracts within the project study area was collected and compared to the demographics for the City and County of Los Angeles.
- Transportation facilities and policies were identified and described in the project study area.
- An assessment of the project's impacts on communities and neighborhoods was conducted.

The methodology for assessing the project's impacts on communities and neighborhoods was modeled after guidelines provided in *Community Impact Assessment: A Quick Reference for Transportation*, published by the US Department of Transportation, Federal Highway Administration.[1] The reference guide lists several impacts to address in a community impact assessment:

Mobility and Access Impacts

- Changes in access to public transportation, businesses, and community resources;
- Changes in pedestrian and bicycle access; and
- Changes in emergency access.

Social and Economic Impacts

- Population, business, and employment growth;
- Displacement of housing and people;
- Changes in community cohesion and interaction;
- Changes in quality of life or social values; and
- Short-term economic impacts from construction.

[1] U.S. Department of Transportation, Federal Highway Administration. 1996. *Community Impact Assessment: A Quick Reference for Transportation.* September. Available: http://www.fhwa.dot.gov/environment/cia/quick_reference. Accessed: March 7, 2013.

Physical Impacts

- Changes in land use patterns;
- Changes in aesthetic character;
- Safety impacts and other physical intrusions (e.g., dust, noise, and odors); and
- Physical division of communities.

4.4.1.3 CEQA Significance Thresholds

CEQA requires state and local government agencies to identify the significant environmental effects of proposed actions; however, CEQA does not describe specific significance thresholds. According to the Governor's Office of Planning and Research (OPR), significance thresholds for a given environmental effect are at the discretion of the lead agency and are the levels at which the lead agency finds the effects of the project to be significant.[2]

An economic or social change by itself is not to be considered a significant effect on the environment under CEQA; however, if a social or economic change results in a physical change, then social or economic changes may be considered in determining whether the physical change is significant. Because the project would result in physical changes to the environment, it is appropriate to consider changes to community character and cohesion in assessing the significance of the project's physical effects.

State CEQA Guidelines

The State CEQA Guidelines define "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).[3]

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, which are often used as thresholds or guidance in developing thresholds for determining impact significance.[4] Accordingly, for the purposes of this FEIS/FEIR, a project would normally have a significant effect on communities and neighborhoods if the project would:

- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.
- Induce substantial population growth in an area, either directly (for example by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

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[2] OPR (State of California, 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 12, 2013.

[3] California Natural Resources Agency. 2010c. *State CEQA Guidelines, 14 CCR Section 15382.* Available: <http://ceres.ca.gov/ceqa/guidelines/art20.html>. Accessed: February 15, 2013.

[4] The Environmental Checklist questions in Appendix G of the State CEQA Guidelines were used as guidance in developing thresholds for determining impact significance. In late 2018, subsequent to completion of the DEIS/DEIR, changes to State CEQA Guidelines were adopted by the State including revisions to the Environmental Checklist questions in Appendix G. To maintain consistency between the DEIS/DEIR and FEIS/FEIR when evaluating the significance of impacts under CEQA, the significance thresholds identified in this chapter are unchanged from those in the DEIS/DEIR.

- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.
- Displace substantial numbers of people necessitating the construction of replacement housing elsewhere.
- Substantially degrade the existing visual character or quality of the site and its surroundings.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.
- Physically divide an established community.

L.A. CEQA Thresholds Guide

The *L.A. CEQA Thresholds Guide* for Transportation, Population and Housing, Population and Housing Displacement, Aesthetics, Hazards, Noise, Air Quality, and Land Use Compatibility states that a determination of significance shall be made on a case-by-case basis, considering the following: [5]

Transportation

- The amount of pedestrian activity at project access points.
- Design features/physical configurations that affect the visibility of pedestrians and bicyclists to drivers entering and exiting the site, and the visibility of cars to pedestrians and bicyclists.
- The type of bicycle facility the project driveway(s) crosses and the level of utilization.
- The physical conditions of the site and surrounding area, such as curves, slopes, walls, landscaping or other barriers, that could result in vehicle/pedestrian, vehicle/ bicycle or vehicle/vehicle impacts.

Population and Housing

- The degree to which the project would cause growth (i.e., new housing or employment generators) or accelerate development in an undeveloped area that exceeds project/planned levels for the year of project occupancy/buildout and results in an adverse physical change in the environment.
- Whether the project would introduce unplanned infrastructure that was not previously evaluated in the adopted Community Plan or General Plan.
- The extent to which growth would result without implementation of the project.

[5] City of Los Angeles. 2006. *L.A. CEQA Thresholds Guide.* Available: <http://environmentla.com/programs/table_of_contents.htm>. Accessed: February 13, 2013.

Population and Housing Displacement

- The total number of residential units to be demolished, converted to market rate, or removed through other means as a result of the proposed project, in terms of net loss of market-rate and affordable units.
- The current and anticipated housing demand and supply of market rate and affordable housing units in the project area.
- The land use and demographic characteristics of the project area and the appropriateness of housing in the area.
- Whether the project is consistent with adopted City and regional housing policies such as the Framework and Housing Elements, Housing and Urban Development Consolidated Plan and Comprehensive Housing Affordability Study policies, redevelopment plan, Rent Stabilization Ordinance, and the Regional Comprehensive Plan.

Aesthetics

- The amount or relative proportion of existing features or elements that substantially contribute to the valued visual character or image of a neighborhood, community, or localized area, which would be removed, altered, or demolished.
- The degree of contrast between proposed features and existing features that represent the area's valued aesthetic image.
- The degree to which the project would contribute to the area’s aesthetic value.

Hazards

- The degree to which the project may require a new, or interfere with an existing, emergency response or evacuation plan, and the severity of the consequences.

Noise

- Construction activities lasting more than one day would exceed existing ambient exterior noise levels by 10 A-weighted decibels (dBA) or more at a noise sensitive use.
- Construction activities lasting more than 10 days in a 3-month period would exceed existing ambient exterior noise levels by 5 dBA or more at a noise sensitive use.
- Construction activities would exceed the ambient noise level by 5 dBA at a noise sensitive use between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or anytime on Sunday.

Air Quality

The City of Los Angeles has not adopted specific citywide significance thresholds for air quality impacts.

Land Use Compatibility

- The extent of the area that would be impacted, the nature and degree of impacts, and the type of land uses within that area.
- The extent to which existing neighborhoods, communities, or land uses would be disrupted, divided or isolated, and the duration of the disruptions, which may include the loss of housing, businesses, or community resources.
- The number, degree, and type of secondary impacts to surrounding land uses that could result from implementation of the project.

4.4.2 Affected Environment/Existing Conditions

4.4.2.1 Project Study Area and Regional Setting

Project Study Area

A project study area encompasses the area in which direct, and/or indirect effects associated with a project are likely to result. Ideally, the project study area should include all land, buildings, roadways, and transit facilities that could be directly and/or indirectly affected by a project. In addition, identification of areas using US Census Bureau information and/or municipal boundaries helps to clearly define the demographic characteristics of communities that may be affected by a project. Other somewhat less measurable elements can be considered, including subdivisions, ethnic regions, or shopping areas that give residents a sense of belonging to their neighborhoods.

The project study area is located in the San Fernando Valley area of the City of Los Angeles (see Figure 4.4-1). The San Fernando Valley is an area with flat topography consisting of approximately 260 square miles, and is bounded by the Santa Susana Mountains to the northwest, the Simi Hills to the west, the Santa Monica Mountains and Chalk Hills to the south, the Verdugo Mountains to the east, and the San Gabriel Mountains to the northeast.

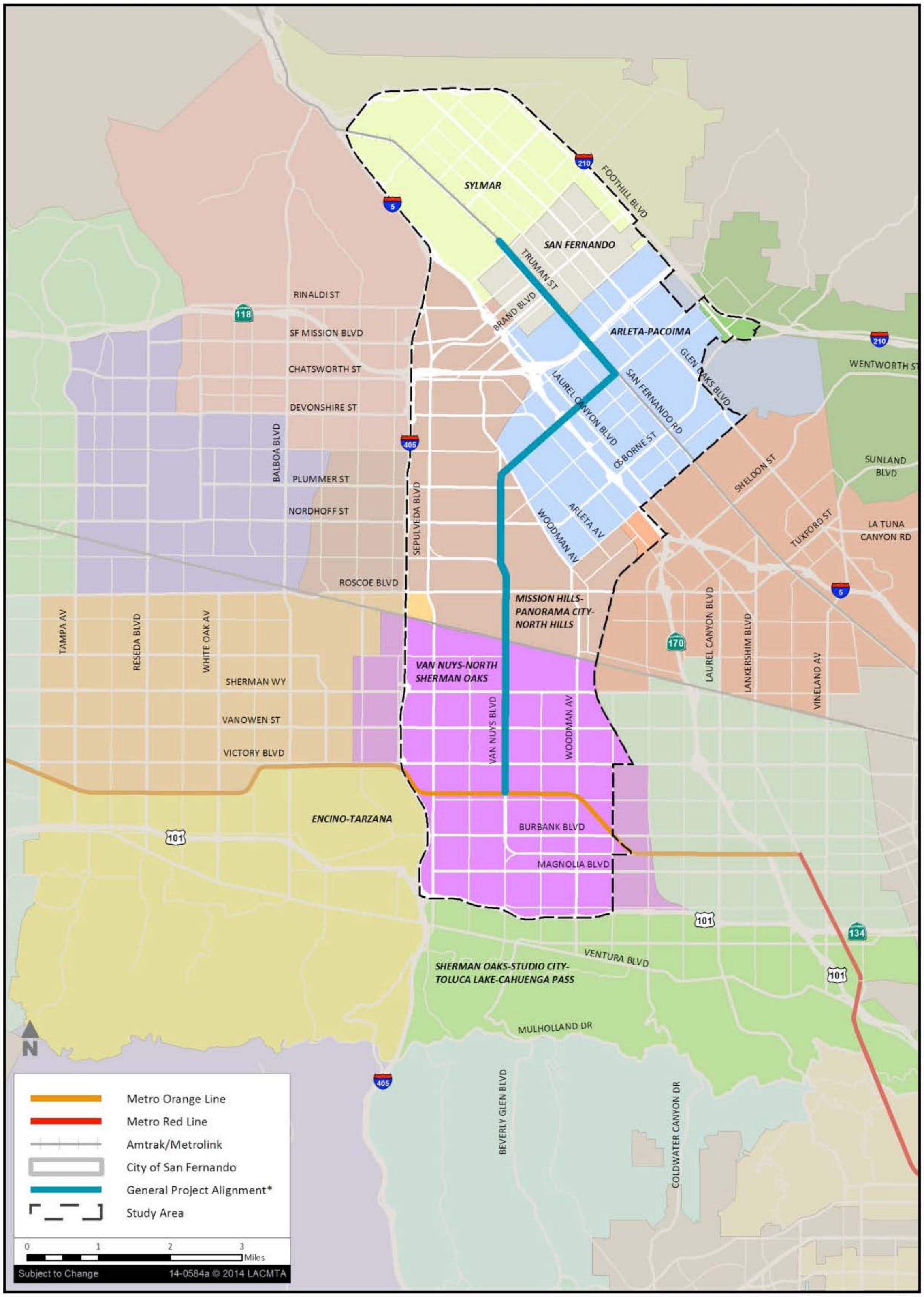
The project study area for the Communities and Neighborhoods impacts analyses is generally bounded by the San Diego Freeway (Interstate 405 [I-405]) to the west, the Ventura Freeway (US-101) to the south, Fulton Avenue and the Los Angeles River to the east, and the Foothill Freeway (Interstate 210 [I-210]) to the north. The project study area lies within the jurisdiction of both the Cities of Los Angeles and San Fernando. The project study area includes residential areas, local community resources, such as local transit stops, schools, parks, and shopping centers, and public facilities, such as the Van Nuys Civic Center.

Regional Areas

A project study area is often compared with the surrounding region in order to gain perspective and identify similarities, differences, and relationships between the two areas. Generally, a region is defined as the jurisdiction that is larger than, but includes, the project study area, although some circumstances may dictate deviations from this standard.

For the purpose of this Community and Neighborhood Impacts section, two regional comparisons are used: the County of Los Angeles and the City of Los Angeles. The City of San Fernando was not included as a regional area because the project study area is larger than the City of San Fernando; therefore, the City of San Fernando would not meet the definition of a regional area (i.e., an area that is larger than and includes the project study area).

Figure 4.4-1: City of Los Angeles Community Planning Areas in the Project Study Area



*Alignment generalized for clarity at this scale.

Source: Esri, 2013; City of Los Angeles, 2013.

4.4.2.2 Community and Neighborhood Setting

City of Los Angeles Community Planning Areas (CPAs)

Each neighborhood in the City of Los Angeles is grouped with other neighborhoods and included in a City of Los Angeles CPA. Thirty-five separate CPAs were developed to guide land use and design policies within specific portions of the City of Los Angeles. Because these development guidelines define the existing and planned characteristics of neighborhood groups, their boundaries are an important factor when assessing cohesion within the neighborhoods they include. The CPAs that apply to the project study area, which are depicted in Figure 4.4-1, are as follows:

- Van Nuys – North Sherman Oaks Community Plan;[6]
- Mission Hills – Panorama City – North Hills Community Plan;[7]
- Arleta – Pacoima Community Plan;[8] and
- Sylmar Community Plan[9]

Neighborhoods

Several City of Los Angeles Certified Neighborhood Councils (neighborhoods) lie in or adjacent to the project area.[10] Some of the neighborhoods in the project study area have not yet been certified; however, their boundaries have been formally established and are used for the purposes of this report.

The neighborhoods are identifiable by signage posted throughout the project study area; these neighborhood designations contribute to community identity and overall cohesion. Within each neighborhood, areas of residential, commercial, industrial, religious, academic, and recreational uses are present. These land uses contribute to the cohesive layout of each individual neighborhood. The following neighborhoods are within the project study area and are shown in Figure 4.4-2:

- Sherman Oaks;
- Valley Glen;
- Van Nuys;
- Panorama City;
- North Hills East;
- Arleta;
- Mission Hills;
- Pacoima; and
- Sylmar

In addition to these City of Los Angeles neighborhoods, the City of San Fernando is included in the project study area.

[6] City of Los Angeles. 1998b. *Van Nuys-North Sherman Oaks Community Plan*. Adopted September 9. Available: <http://cityplanning.lacity.org/complan/pdf/vnycptxt.pdf>. Accessed: February 13, 2013.

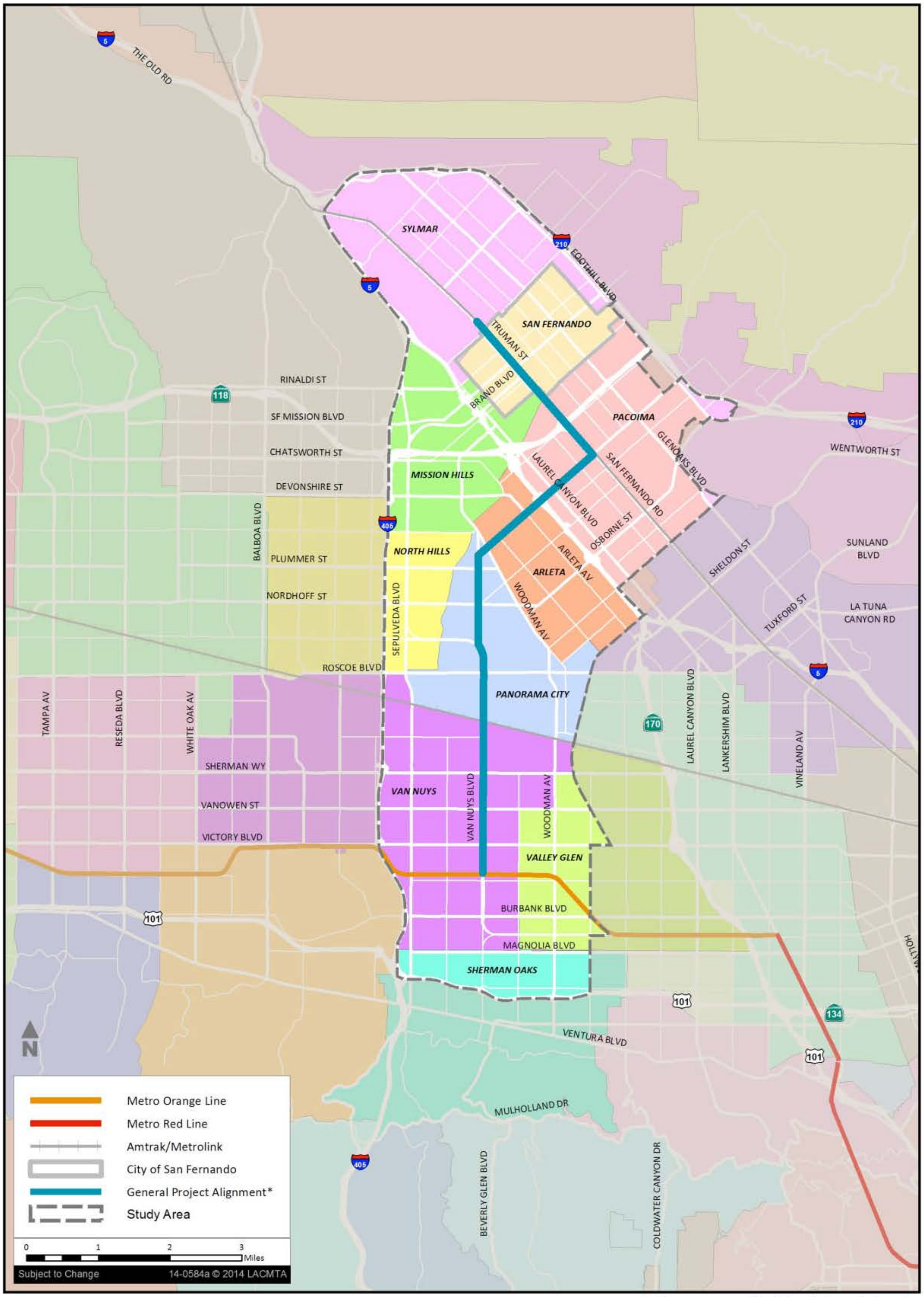
[7] City of Los Angeles. 1999. *Mission Hills-Panorama City-North Hills Community Plan*. Adopted June 9. Available: <http://cityplanning.lacity.org/complan/pdf/msscptxt.pdf>. Accessed: February 13, 2013.

[8] City of Los Angeles. 1996. *Arleta-Pacoima Community Plan*. Approved November 6. Available: <http://cityplanning.lacity.org/complan/pdf/arlcptxt.pdf>. Accessed: February 13, 2013.

[9] City of Los Angeles. 1997. *Sylmar Community Plan.* Adopted August 8. Available: <http://cityplanning.lacity.org/complan/pdf/sylcptxt.pdf>. Accessed: February 16, 2013.

[10] City of Los Angeles Department of Neighborhood Development. n.d. *Neighborhood Council Map.* Available <www.lacityneighborhoods.com/map.htm>. Accessed: February 11, 2013.

Figure 4.4-2: Neighborhoods in the Project Study Area



*Alignment generalized for clarity at this scale.

Source: Esri, 2013; City of Los Angeles, 2013.

Special Districts

Within the City of Los Angeles CPA boundaries and the City of San Fernando, there are several special districts. These special districts are typically in areas that offer shopping and transportation opportunities in a central location to surrounding residential developments. The special districts that are critical to measuring community cohesion within the project study area are listed below and depicted in Figure 4.4-3. It is important to note that not all special districts within the project study area are listed because their primary purpose is to provide development design guidelines. The guidelines are discussed separately in the Land Use Impacts Report.

The following special districts are located within the project study area:

- Van Nuys Auto Row Business Improvement District (BID);[11]
- Van Nuys CBD Special Planning Area (SPA);
- Van Nuys Central Business District (CBD) Community Design Overlay District (CDO);[12]
- Panorama City CDO;[13]
- Panorama City BID;[14]
- Pacoima CDO;[15]
- San Fernando Corridors SPA; and
- Sylmar BID.[16]

Targeted Neighborhood Initiatives (TNI)

Several TNIs are included in the project study area, as shown in Figure 4.4-3. These initiatives strategically revitalize Los Angeles neighborhoods through several community-driven neighborhood improvement programs, including transportation and pedestrian corridor improvements that provide street trees, street lights, benches, and bus shelters.

[11] City of Los Angeles. 2000. *Van Nuys Auto Row Business Improvement District*. March. Available: <http://cityplanning.lacity.org/complan/rproginfo/BID/bidmap/vnyauto.pdf>. Accessed: February 15, 2013.

[12] City of Los Angeles. 2004. *Van Nuys Central Business District Community Design Overlay District (CDO) Design Guidelines and Standards.* Revised August 16. Available: <http://cityplanning.lacity.org/complan/othrplan/pdf/vnycbdcdotxt.pdf>. Accessed: February 13, 2013.

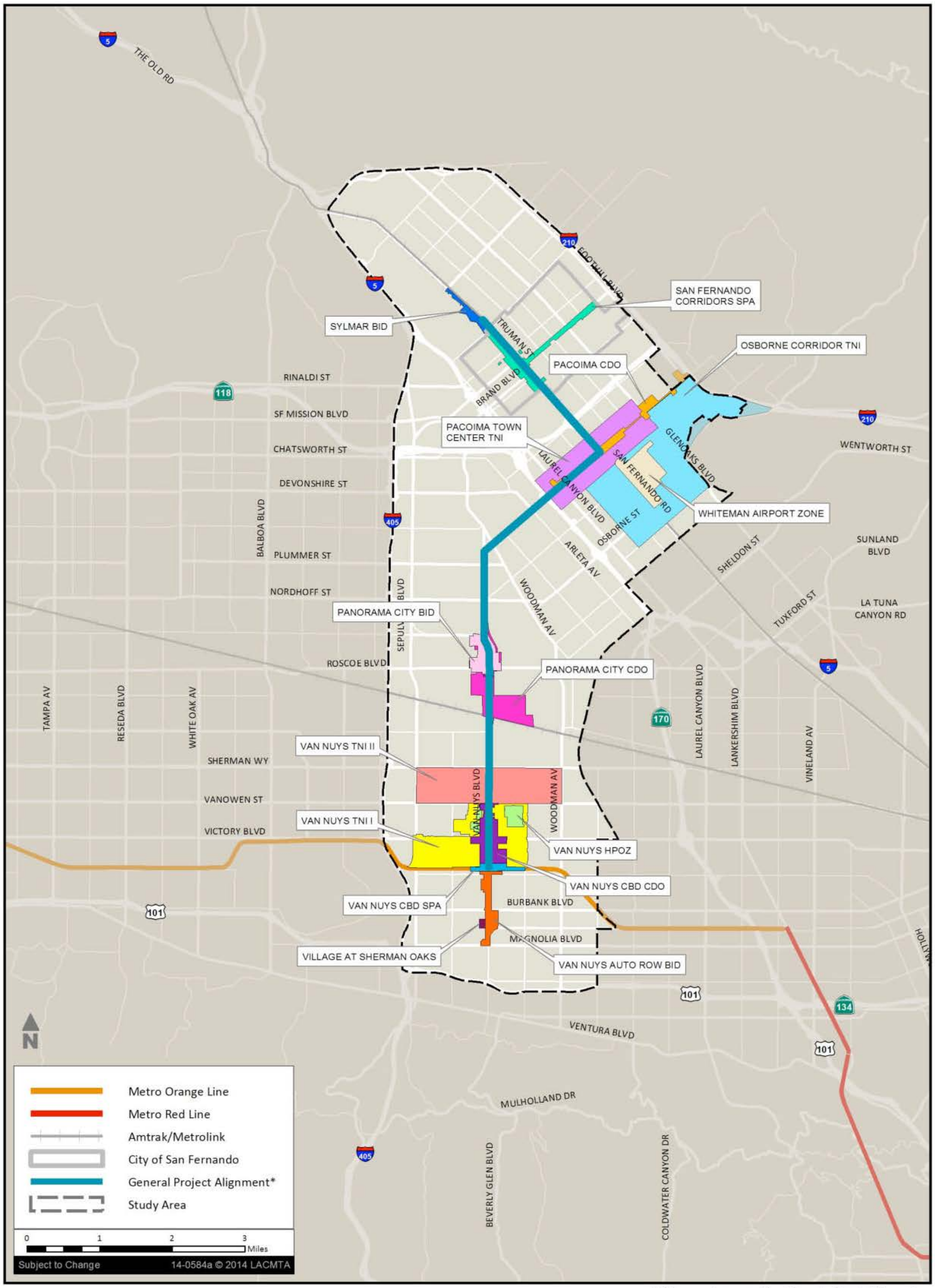
[13] City of Los Angeles. 2003b. *Panorama City Community Design Overlay (CDO) Design Guidelines and Standards.* Approved March 27. Available: <http://cityplanning.lacity.org/complan/othrplan/pdf/PanoramaCityCDO_guidelines.pdf>. Accessed: February 15, 2013.

[14] City of Los Angeles. 2009. *Panorama City Business Improvement District*. Approved March.

[15] City of Los Angeles. 2003a. *Pacoima Community Design Overlay (CDO) Design Guidelines and Standards*. Approved May 22. Available: <http://cityplanning.lacity.org/complan/othrplan/pdf/PacoimaCDOGuidelines.pdf>. Accessed: February 13, 2013.

[16] Sylmar Chamber of Commerce. 2012. *The Vista at Sylmar.* Available: <http://www.sylmarchamber.com/sylmarbid.html>. Accessed: November 10, 2014.

Figure 4.4-3: Special Districts, TNIs, and Special Zones in the Project Study Area



*Alignment generalized for clarity at this scale.

Source: Esri, 2013; City of Los Angeles, 2013.

There are four TNIs within the project study area:

- Van Nuys Boulevard TNI;[17]
- Van Nuys TNI II;[18]
- Pacoima Town Center TNI;[19] and
- Osborne Corridor TNI.[20]

Special Zones

There are two special zones within the project study area (see Figure 4.4-3):

- **Van Nuys Historic Preservation Overlay Zone (HPOZ):** Within the Van Nuys HPOZ, lots are categorized by whether they have contributing features, non-contributing features, or if the parcel is undeveloped. The Van Nuys HPOZ Preservation Plan includes guidelines to preserve the historic character of the streetscape, including paving and curbs, signage, street furniture, utilities, street lights, and sidewalks.
- **Whiteman Airport Zone:** Whiteman Airport is outside of the project corridor, but is within the project study area, just 0.5 mile southeast of the project corridor; therefore, many parcels within the project study area fall within the Whiteman Airport Zone. To avoid the construction of hazards to air navigation, Los Angeles County's Aviation Division requests that parcels within this zone report projects to the department to ensure compliance with Federal Aviation Administration (FAA) requirements.[21]

Businesses and Community Resources

Several businesses and community resources are located along the length of the project corridor, as discussed in the sections below.

Businesses and Shopping Centers

The following businesses and shopping centers are located in the project study area:

- Van Nuys Boulevard
  - Near Van Nuys Boulevard and Covello Street, there are a variety of businesses, including night clubs, restaurants, pharmacies, and sporting goods stores.
  - Near Van Nuys Boulevard and Keswick Street, there are furniture stores, restaurants, body shops, and car washes.

[17] City of Los Angeles. 2002. *Van Nuys Boulevard Targeted Neighborhood Initiative (TNI).* Available: <http://planning.lacity.org/complan/rproginfo/TNI/tniarea/vannuystni.htm>. Accessed: November 18, 2011.

[18] City of Los Angeles. 2001b. *Van Nuys Targeted Neighborhood Initiative (TNI II).* Available: <http://planning.lacity.org/complan/rproginfo/TNI/tniarea/vannuys2.htm>. Accessed: February 13, 2013.

[19] City of Los Angeles. 1998a. *Pacoima Town Center Targeted Neighborhood Initiative.* Available: <http://cityplanning.lacity.org/complan/rproginfo/TNI/tnimap/tni-paco.pdf>. Accessed: February 13, 2013.

[20] City of Los Angeles. 2001a. *Osborne Corridor Targeted Neighborhood Initiative (TNI).* Available: <http://cityplanning.lacity.org/complan/rproginfo/TNI/tnimap/osborncor.pdf>. Accessed: February 14, 2013.

[21] City of Los Angeles Department of Building and Safety. 2011. *Zoning Information File #2418.* Effective July 25.

- Near Van Nuys Boulevard and Vesper Avenue, there are several major businesses, including Wells Fargo, Chase, Denny's, IHOP, and Pep Boys.
- Near Van Nuys Boulevard and Lev Avenue, businesses include car dealerships, markets, phone retailers, and clothing stores.
- Near Van Nuys Boulevard and Haddon Avenue, there are a number of used car dealerships, restaurants, CitiBank, a pawn shop, discount stores, dentists and clinics, liquor stores, and body shops.

- San Fernando Road
  - Near San Fernando Road and Paxton Avenue, there is a shopping mall, Plaza Pacoima, which includes major businesses such as a Costco, Best Buy, Subway, Panda Express, and Wells Fargo. In addition, there are a number of car-related businesses, such as several used car dealerships, tire shops, a few mechanics, and a car accessory shop. Other businesses include a family pool hall, a market, a uniform and safety supply shop, and a towing business.
  - Near San Fernando Road and San Fernando Mission Boulevard, there is the San Fernando Mall, which includes several businesses such as clothing stores, a party supply store, a few eateries, a night club, jewelry stores, bridal shops, beauty salons, a dentist, and a T-Mobile and Verizon retailer.
  - Near San Fernando Road and Paddock Street, there are several small shopping centers that include a variety of businesses, such as restaurants, a meat market, a beauty salon, and a barber shop.
- Truman Street
  - Near Truman Street and San Fernando Mission Boulevard, there is a shopping center, Mission Plaza, which contains a number of different restaurants, such as El Pollo Loco, IHOP, Starbucks, and Menchie's Frozen Yogurt, as well as a gym, a shoe store, several clothing stores, and an AT&T retailer.

Schools

Los Angeles Unified School District

Public educational services in the project study area are provided by the Los Angeles Unified School District (LAUSD). The LAUSD comprises eight local districts with 219 year-round schools and 439 schools on the traditional school calendar (with a summer break). For some school facilities, the City of Los Angeles Department of Recreation and Parks has a joint use agreement with LAUSD, which allows use of recreational facilities after school hours. In addition, the LAUSD issues Civic Center permits that allow public use of school facilities for supervised not-for-profit recreational activities, meetings, and public discussions during non-school hours.

The following schools are located in the project study area and illustrated in the figures in the Parklands and Community Facilitates Impacts Report:

Elementary Schools

- Van Nuys Elementary School, serving 550 students, 6464 Sylmar Avenue, Van Nuys;
- Burton Street Elementary School, serving 690 students, 8111 Calhoun Avenue, Panorama City;
- Panorama City Elementary School, serving 761 students, 8600 Kester Avenue, Panorama City;

- Primary Academy for Success, serving 300 students, 9075 Willis Avenue, Panorama City;
- Liggett Street Elementary School, serving 786 students, 9373 Moonbeam Avenue, Panorama City;
- Beachy Avenue Elementary School, serving 645 students, 9757 Beachy Avenue, Arleta;
- Sharp Avenue Elementary School, serving 900 students, 13800 Pierce Street, Arleta;
- Telfair Avenue Elementary School, serving 1,100 students, 10975 Telfair Avenue, Pacoima;
- Osceola Elementary School, serving 450 students, 14940 Osceola Street, Sylmar; and
- Dyer Street Elementary School, serving 830 students, 14500 Dyer Street, Sylmar.

Middle Schools

- Pacoima Middle School, serving 1,600 students, 9919 Laurel Canyon Boulevard, Pacoima; and
- San Fernando Valley Middle School, serving 1,553 students, 130 North Brand Boulevard, San Fernando.

High Schools

- Van Nuys High School, serving 2,946 students, 6535 Cedros Avenue, Van Nuys;
- Will Rogers Continuation High School, serving 160 students, 14711 Gilmore Street, Van Nuys;
- Panorama High School, serving 2,210 students, 8015 Van Nuys Boulevard, Panorama City; and
- Arleta High School, serving 2,000 students, 14200 Van Nuys Boulevard, Pacoima.

Other Schools

- Pacoima Skills Center (adult), 13545 Van Nuys Boulevard, Pacoima.

Private Educational Facilities

In addition to public school facilities in the project study area, there are several other private educational facilities. The following schools are in the project study area and illustrated in the figures in the Parklands and Community Facilitates Impacts Report:

Elementary Schools

- Ararat Charter School, serving 312 students, 6555 Sylmar Avenue and 13400 Erwin Street, Van Nuys;
- Saint Ferdinand's School (preschool–8th), serving 266 students, 1012 Coronel Street, San Fernando; and
- Santa Rosa School (preschool–8th), serving 248 students, 668 S. Workman Street, San Fernando.

Middle Schools

- Nueva Esperanza Charter Academy, serving 210 students, 1218 North 4th Street, San Fernando.

High Schools

- Champs Charter High School (of the arts), serving 910 students, 6952 Van Nuys Boulevard, Van Nuys;

- Soledad Enrichment School (charter), number of students unavailable, 13452 Van Nuys Boulevard, Pacoima; and
- Lakeview Charter Academy, serving 215 students, 1445 Celis Street, San Fernando.

Other Schools

- Los Angeles ORT College, 14519 Sylvan Street, Van Nuys; and
- American Nursing School, 14545 Victory Boulevard, Van Nuys.

Libraries

City of Los Angeles Public Library System

The majority of the project study area is serviced by branches of the LAPL system. The LAPL comprises six service areas, including the Central Southern Area, the Northeast Area, the East Valley Area, the West Valley Area, the Hollywood Area, and the Western Area. The project study area is in the limits of the East Valley Area.

The following City of Los Angeles libraries are in the project study area and illustrated in the figures in the Parklands and Community Facilitates Impacts Report:

- Van Nuys Branch Library, 6250 Sylmar Avenue, Van Nuys;
- Panorama City Branch Library, 14345 Roscoe Boulevard, Panorama City; and
- Pacoima Branch Library, 13605 Van Nuys Boulevard, Pacoima.

County of Los Angeles Public Library System

The City of San Fernando is serviced by the County of Los Angeles Public Library System. This county system provides service to unincorporated areas and 51 of the 88 cities of the County of Los Angeles. There is one county branch located in the project study area, as illustrated in the figures in the Parklands and Community Facilitates Impacts Report:

- San Fernando Branch Library, 217 North Maclay Avenue, San Fernando.

Religious Facilities

The following religious facilities are in the project study area and illustrated in the figures in the Parklands and Community Facilitates Impacts Report:

- Kingdom Hall of Jehovah's Witnesses, 14659 Erwin Street, Van Nuys;
- Iglesia De Dios Fuente, 14520 Friar Street, Van Nuys;
- First Presbyterian Church of Van Nuys, 14701 Friar Street, Van Nuys;
- Central Lutheran Church of Van Nuys, 6425 Tyrone Ave, Van Nuys;
- Christian Science Church, 14654 Hamlin Street, Van Nuys;
- Faith Compassion Ministry, 6518 Cedros Avenue, Van Nuys;
- God Answers Prayer Ministry, 14541 Hamlin Street, Van Nuys;
- Church of the Valley, 6565 Vesper Avenue, Van Nuys;
- Saint Elizabeth's Church, 6635 Tobias Avenue, Van Nuys;

- Kingdom of Jesus Christ, 14424 Vanowen Street, Van Nuys;
- First Lutheran Church, 6952 Van Nuys Boulevard, Van Nuys;
- Church on the Way, 6952 Van Nuys Boulevard, Van Nuys;
- Mark's Episcopal Church, 14646 Sherman Way, Van Nuys;
- Seventh-Day Adventist Church, 14615 Sherman Way, Van Nuys;
- Van Nuys Church of Christ, 14655 Sherman Way, Van Nuys;
- Sunrise Japanese Foursquare Church, 14705 Wyandotte Street, Van Nuys;
- Panorama Presbyterian Church, 14201 Roscoe Boulevard, Panorama City;
- Imam Bukhari Masjid, 8741 Van Nuys Boulevard, Panorama City;
- San Fernando Valley Interfaith, 14555 Osborne Street, Panorama City;
- Panorama SDA Church, 14517 Osborne Street, Panorama City;
- Panorama City Four Square Church, 14320 Nordhoff Street, Panorama City;
- Iglesia Ni Cristo (Church of Christ), 14308 Nordhoff Street, Panorama City;
- Valley Church, 14301 Nordhoff Street, Panorama City;
- Ministerios Rhema, Inc., 14246 Nordhoff Street, Panorama City;
- Universal Church, 9110 Van Nuys Boulevard, Panorama City;
- Iglesia Del Nazareno, 9260 Van Nuys Boulevard, Panorama City;
- Iglesia De Restauracion, 9936 Beachy Avenue, Arleta;
- Bible Baptist Church, 14101 Van Nuys Boulevard, Arleta;
- San Fernando Valley Southern Baptist, 10135 Arleta Avenue, Arleta;
- Greater Missionary Baptist Church, 13451 Vaughn Street, San Fernando;
- St. Alphonsa Syro-Malabar Catholic Church, 607 4th Street, San Fernando;
- First Church of Christ, 606 Chatsworth Drive, San Fernando;
- Living Hope Community Church, 214 N Maclay Avenue, San Fernando;
- Saint Ferdinand Church, 1109 Coronel Street, San Fernando;
- Park Chapel African Methodist Episcopal Church, 1102 4th Street, San Fernando;
- Calvary United Pentecostal Church, 1119 3rd Street, San Fernando;
- Lighthouse Christian Center, 1231 1st Street, San Fernando;
- Church of the Nazarene, 1420 4th Street, San Fernando;
- Liberty Missionary Baptist Church, 511 North Workman Street, San Fernando;
- Santa Rosa Catholic Church, 668 Workman Street, San Fernando; and
- First Baptist Church of San Fernando, 215 Macneil Street, San Fernando.

Hospitals and Medical Facilities

The following hospitals and medical facilities are located in the project study area and illustrated in the figures in the Parklands and Community Facilitates Impacts Report:

- San Fernando Valley Community Mental Health Center, 14660 Oxnard Street, Van Nuys;
- Valley Community Counseling, 6201 Van Nuys Boulevard, Van Nuys;
- Expert Care Health Group, 14532 Friar Street, Van Nuys;
- Victoria Medical Clinic, 14614 Victory Boulevard, Van Nuys;
- Family Medical Center, 14547 Victory Boulevard, Van Nuys;
- Cedars Health Clinic, 14649 Victory Boulevard, Van Nuys;
- Northeast Valley Health Corporation, 6551 Van Nuys Boulevard, Van Nuys;
- University Medical Care, 14600 Sherman Way #100, Van Nuys;
- Kidney Center of Van Nuys, 14624 West Sherman Way, Van Nuys;
- Mission Community Hospital, 14860 Roscoe Boulevard, Panorama City;
- Clinica Latino Americano, 8727 Van Nuys Boulevard, Panorama City;
- UCLA Early Head Start, 14423 Van Nuys Boulevard, Arleta;
- San Fernando Acupuncture Clinic, 820 San Fernando Road, San Fernando;
- Valley Family Center, 302 South Brand Boulevard, San Fernando;
- San Fernando Dental Center, 125 South Brand Boulevard, San Fernando;
- San Fernando Medical Center, 501 North Maclay Avenue, San Fernando;
- Aurora Medical Center, 405 North Maclay Avenue, San Fernando;
- Maya Chiropractic Center, 321 N Maclay Avenue, San Fernando Valley;
- Western Dental Center, 1101 Truman Street, San Fernando;
- Valley Care San Fernando Clinic, 1212 Pico Street, San Fernando;
- Santa Maria Dental Center, 1230 San Fernando Road, San Fernando; and
- Northeast Valley Health Corporation, 1600 San Fernando Road, San Fernando.

Community Issues and Concerns

Community Outreach Meetings

A series of community outreach meetings were held in order to gauge community concerns and potential issues that could arise within the project study area. Mobility, access, and traffic issues and concerns related to community and neighborhood impacts were expressed (please see the Community and Neighborhood Impacts Report in Appendix J for further details on these issues).

Outreach to the community, through public scoping meetings and other methods, will continue throughout the environmental review process. Community input is critical in assessing potential issues within the project study area; therefore, any additional information that is made available from future community outreach efforts will be taken into consideration in project development.

City of Los Angeles Community Plans

In addition to community outreach efforts, issues and opportunities have been identified in City of Los Angeles community plan documents for each respective CPA (see the Community and Neighborhood Impacts Report in Appendix J for further details on these issues). The initial formation of these community plans involved community members who helped identify and define the needs, desires, resources, and unique nature of their communities. For this reason, the topics in the plans indicate what the citizens of each CPA value within their communities.

The City of San Fernando General Plan also contains information related to community issues.[22] A primary focus of the general plan is to involve a citizen's advisory committee to examine issues and patterns within the City of San Fernando limits.

4.4.2.3 Demographics

The discussion and tables/figures included in this section (see Tables 4.4-1 through 4.4-19; Figures 4.4-4 and 4.4-5) are based on the 2000 Census, 2010 Census, and 2006–2010 American Community Survey and are intended to provide a thorough overview of the project study area characteristics compared to the City and County of Los Angeles. More detailed discussion of the content in the tables and figures is provided in the Community and Neighborhood Impacts Report, included as Appendix J to this FEIS/FEIR.

The official census is taken every 10 years, so the next census is scheduled for 2020. However, to validate the 2010 information with the most recent demographic information available, the 2010 information was checked for changes using 2016 estimates of population provided by SCAG or the US Census Bureau. A spot check review of this data showed that for the total project study area, the population changes were relatively small at 1.9 percent over the 2010-2016 period, compared to 6 percent for the 2000–2010 period. Los Angeles County by comparison shows very minor changes (3.2 percent population increase in 2016, compared to 3.1 in 2010), while the City of Los Angeles shows a 4.8 percent increase in population in 2016, compared to a 2.7 percent change in 2010.

Given the very minor changes in population estimates (ranging from 0.1 percent to 4.8 percent) in the project study area, City, and County, the data below is still representative of the general demographic conditions in the project study area.

Table 4.4-1: Population Change (2000 to 2010)

	Project Study Area		City of Los Angeles		County of Los Angeles	
	Number	Percent Change	Number	Percent Change	Number	Percent Change
Total Population 2000	419,075	N/A	3,694,686	N/A	9,519,338	N/A
Total Population 2010	444,378	6.0	3,792,621	2.7	9,818,605	3.1

Source: US Census Bureau, 2000; 2010b.

[22] City of San Fernando. 1987. *City of San Fernando Revised General Plan.* Prepared by Castaneda & Associates. Available: <http://www.ci.san-fernando.ca.us/city_government/departments/comdev/forms_docs/General%20Plan%20-%20Complete.pdf>. Accessed: February 21, 2013.

Table 4.4-2: Racial and Ethnic Characteristics (2000)

	Project Study Area		City of Los Angeles		County of Los Angeles	
	Number	Percent of Population	Number	Percent of Population	Number	Percent of Population
Total Population	419,075	100.0	3,694,820	100.0	9,519,338	100.0
White (NH)	82,735	19.7	1,099,188	29.7	2,959,614	31.1
African American (NH)	18,818	4.5	401,986	10.9	901,472	9.5
American Indian/ Alaska Native (NH)	1,112	0.3	8,897	0.2	25,609	0.3
Asian (NH)	27,441	6.5	364,850	9.9	1,124,569	9.9
Native Hawaiian/ Other Pacific Islander (NH)	376	0.1	4,484	0.1	23,265	0.1
Some Other Race	673	0.2	9,065	0.2	19,935	0.2
Two or More Races	7,872	1.9	87,277	2.4	222,661	2.4
Hispanic or Latino*	280,049	66.8	1,719,073	46.5	4,242,213	46.5

Source: US Census Bureau, 2000.

*Because Hispanic or Latino populations are reported as an ethnic group and calculated as a percentage of all races, there is a slight margin of error. Total numbers may not always add up to 100 percent of the total population.

Table 4.4-3: Racial and Ethnic Characteristics (2010)

	Project Study Area		City of Los Angeles		County of Los Angeles	
	Number	Percent of Population	Number	Percent of Population	Number	Percent of Population
Total Population	444,378	100.0	3,792,621	100.0	9,818,605	100.0
White (NH)	71,259	16.0	1,086,908	28.7	2,728,321	27.8
African American (NH)	15,420	3.5	347,380	9.2	815,086	8.3
American Indian/ Alaska Native (NH)	785	0.2	6,589	0.2	18,886	0.2
Asian (NH)	31,662	7.1	420,212	11.1	1,325,671	13.5
Native Hawaiian/ Other Pacific Islander (NH)	378	0.1	4,300	0.1	22,464	0.2
Some Other Race	1,186	0.3	12,057	0.3	25,367	0.3
Two or More Races	5,152	1.2	76,353	2.0	194,921	2.0
Hispanic or Latino*	318,536	71.7	1,838,822	48.5	4,687,889	47.7

Source: US Census Bureau, 2010b.

* Because Hispanic or Latino populations are reported as an ethnic group and calculated as a percentage of all races, there is a slight margin of error. Total numbers may not always add up to 100 percent of the total population.

Table 4.4-4: Age Characteristics (2000)

	Project Study Area		City of Los Angeles		County of Los Angeles	
	Number	Percent of Population	Number	Percent of Population	Number	Percent of Population
Total Population	419,075	100.0	3,694,820	100.0	9,519,338	100.0
Under 19 Years	146,481	35.0	1,091,049	29.5	2,946,796	31.0
20 to 34 Years	110,104	26.3	974,004	26.4	2,283,559	24.0
35 to 64 Years	130,801	31.2	1,272,638	34.4	3,362,310	35.3
65 Years +	31,689	7.6	357,129	9.7	926,673	9.7

Source: US Census Bureau, 2000.

Table 4.4-5: Age Characteristics (2010)

	Project Study Area		City of Los Angeles		County of Los Angeles	
	Number	Percent of Population	Number	Percent of Population	Number	Percent of Population
Total Population	444,378	100.0	3,792,621	100.0	9,818,605	100.0
Under 19 Years	138,990	31.3	994,460	26.2	2,711,958	27.6
20 to 34 Years	108,875	24.5	953,443	25.1	2,228,519	22.7
35 to 64 Years	159,937	36.0	1,448,022	38.2	3,812,429	38.8
65 Years +	36,576	8.2	396,696	10.5	1,065,699	10.9

Source: US Census Bureau, 2010b.

Table 4.4-6: Sex Characteristics (2000)

	Project Study Area		City of Los Angeles		County of Los Angeles	
	Number	Percent of Population	Number	Percent of Population	Number	Percent of Population
Total Population	419,075	100.0	3,694,820	100.0	9,519,338	100.0
Male	210,811	50.3	1,841,805	49.8	4,704,105	49.4
Female	208,264	49.7	1,853,015	50.2	4,815,233	50.6

Source: US Census Bureau, 2000.

Table 4.4-7: Sex Characteristics (2010)

	Project Study Area		City of Los Angeles		County of Los Angeles	
	Number	Percent of Population	Number	Percent of Population	Number	Percent of Population
Total Population	444,378	100.0	3,792,621	100.0	9,818,605	100.0
Male	222,474	50.1	1,889,064	49.8	4,839,654	49.3
Female	221,904	49.9	1,903,557	50.2	4,978,951	50.7

Source: US Census Bureau, 2010b.

Table 4.4-8: Median Household Income (2000)

	Project Study Area	City of Los Angeles	County of Los Angeles
Median Household Income in the Past 12 Months*	$39,727	$36,687	$42,189

Source: US Census Bureau, 2000.
* Census question asks for income in the past 12 months of the year taken, in this case, 2000.

Table 4.4-9: Median Household Income (2010)

	Project Study Area	City of Los Angeles	County of Los Angeles
Median Household Income in the Past 12 Months*	$48,706	$49,138	$55,476

Source: US Census Bureau, 2010a.
* Census question asks for income in the past 12 months of the year taken, in this case, 2010.

Table 4.4-10: Housing Units (2000)

	Project Study Area		City of Los Angeles		County of Los Angeles	
	Number	Percent of Units	Number	Percent of Units	Number	Percent of Units
Housing Units						
Total Housing Units	122,204	100.0	1,337,706	100.0	3,270,909	100.0
Occupied Units	118,353	96.8	1,275,412	95.3	3,133,774	95.8
Vacant Units	3,850	3.2	62,294	4.7	137,135	4.2
Occupied Units						
Owner-Occupied	53,076	44.8	491,882	38.6	1,499,744	47.9
Renter-Occupied	65,278	55.2	783,530	61.4	1,634,030	52.1

Source: US Census Bureau, 2000.

Table 4.4-11: Housing Units (2010)

	Project Study Area		City of Los Angeles		County of Los Angeles	
	Number	Percent of Units	Number	Percent of Units	Number	Percent of Units
Housing Units						
Total Housing Units	131,012	100.0	1,413,995	100.0	3,445,076	100.0
Occupied Units	123,381	94.2	1,318,168	93.2	3,241,204	94.1
Vacant Units	7,631	5.8	95,827	6.8	203,872	5.9
Occupied Units						
Owner-Occupied	53,201	40.6	503,863	38.2	1,544,749	47.7
Renter-Occupied	70,179	53.6	814,305	61.8	1,696,455	52.3

Source: US Census Bureau, 2010b.

Table 4.4-12: Household Size (2000)

	Project Study Area		City of Los Angeles		County of Los Angeles	
	Number	Percent of Households	Number	Percent of Households	Number	Percent of Households
Total Households	118,353	100.0	1,275,412	100.0	3,133,774	100.0
1-Person Households	22,567	19.1	363,457	28.5	771,854	24.6
2-Person Households	25,131	21.2	339,493	26.6	820,368	26.2
3-Person Households	18,637	15.7	190,933	15.0	494,369	15.8
4-Person Households	19,143	16.2	167,395	13.1	465,159	14.8
5-Person Households	13,777	11.6	100,303	7.9	277,327	8.8
6-Person Households	8,313	7.0	53,993	4.2	146,730	4.7
7+-Person Households	10,765	9.1	59,838	4.7	157,967	5.0

Source: US Census Bureau, 2000.

Table 4.4-13: Household Size (2010)

	Project Study Area		City of Los Angeles		County of Los Angeles	
	Number	Percent of Households	Number	Percent of Households	Number	Percent of Households
Total Households	128,586	100.0	1,318,168	100.0	3,241,204	100.0
1-Person Households	23,231	18.1	373,529	28.3	784,928	24.2
2-Person Households	26,751	20.8	356,194	27.0	853,003	26.3
3-Person Households	20,679	16.1	200,443	15.2	526,937	16.3
4-Person Households	21,336	16.6	174,043	13.2	486,027	15.0
5-Person Households	15,497	12.1	101,385	7.7	283,566	8.8
6-Person Households	8,837	6.9	52,087	4.0	144,956	4.5
7+-Person Households	12,254	9.5	60,487	4.6	161,787	5.0

Source: US Census Bureau, 2010b.

Table 4.4-14: Mode of Transportation to Work (2000)

	Project Study Area		City of Los Angeles		County of Los Angeles	
	Number	Percent of Estimated Workers	Number	Percent of Estimated Workers	Number	Percent of Estimated Workers
Total Estimated Workers	156,400	100.0	1,494,895	100.0	3,858,750	100.0
Car, Truck, or Van (alone)	98,751	63.1	982,735	65.7	2,714,944	70.4
Car, Truck, or Van (carpool)	32,255	20.6	220,408	14.7	582,020	15.1
Public Transportation (excludes taxis)	12,881	8.2	150,697	10.1	250,834	6.5
Bicycle	802	0.5	9,052	0.6	24,015	0.6
Taxi, Motorcycle, Other	2,782	1.8	53,386	3.6	113,004	2.9
Walk	4,413	2.8	16,922	1.1	39,290	1.0
Work at Home	4,515	2.9	61,695	4.1	134,643	3.5

Source: US Census Bureau, 2000.

Table 4.4-15: Mode of Transportation to Work (2010)

	Project Study Area		City of Los Angeles		County of Los Angeles	
	Number	Percent of Estimated Workers	Number	Percent of Estimated Workers	Number	Percent of Estimated Workers
Total Estimated Workers	192,413	100.0	1,747,957	100.0	4,399,339	100.0
Car, Truck, or Van (alone)	131,142	68.2	1,175,818	67.3	3,173,055	72.1
Car, Truck, or Van (carpool)	32,218	16.7	188,666	10.8	497,964	11.3
Public Transportation (excludes taxis)	15,315	8.0	192,261	11.0	311,701	7.1
Bicycle	989	0.5	14,710	0.8	32,423	0.7
Taxi, Motorcycle, Other	2,052	1.1	24,630	1.4	57,930	1.3
Walk	4,409	2.3	61,811	3.5	125,816	2.9
Work at Home	6,290	3.3	90,061	5.2	200,450	4.6

Source: US Census Bureau, 2010a.

Table 4.4-16: Transportation Dependency by Age (2000)

	Project Study Area		City of Los Angeles		County of Los Angeles	
	Number	Percent of Population	Number	Percent of Population	Number	Percent of Population
Total Population	419,075	100.0	3,694,820	100.0	9,519,338	100.0
Under 5 Years (not dependent)	39,453	9.4	285,976	7.7	737,631	7.7
5 to 17 Years (dependent)	93,905	22.4	695,335	18.8	1,930,345	20.3
18 to 64 Years (not dependent)	254,028	60.6	2,356,380	63.8	5,924,689	62.2
65 Years + (dependent)	31,689	7.6	357,129	9.7	926,673	9.7
Total Dependent Population	125,594	30.0	1,052,464	28.5	2,857,018	30.0

Source: US Census Bureaus, 2000.

Table 4.4-17: Transportation Dependency by Age (2010)

	Project Study Area		City of Los Angeles		County of Los Angeles	
	Number	Percent of Population	Number	Percent of Population	Number	Percent of Population
Total Population	444,378	100.0	3,792,621	100.0	9,818,605	100.0
Under 5 Years (not dependent)	35,548	8.0	251,097	6.6	645,793	6.6
5 to 17 Years (dependent)	88,696	20.0	623,428	16.4	1,756,415	17.9
18 to 64 Years (not dependent)	283,558	63.8	2,521,400	66.5	6,350,698	64.7
65 Years + (dependent)	36,576	8.2	396,696	10.5	1,065,699	10.9
Total Dependent Population	125,272	28.2	1,020,124	26.9	2,822,114	28.7

Source: US Census Bureau, 2010b.

Table 4.4-18: Transportation Dependency by Vehicle Ownership (2000)

	Project Study Area		City of Los Angeles		County of Los Angeles	
	Number	Percent of Estimated Households	Number	Percent of Estimated Households	Number	Percent of Estimated Households
Total Estimated Households	118,321	100.0	1,337,668	100.0	3,270,909	100.0
No Vehicle Available	15,254	12.9	210,770	15.8	393,309	12.0
1 or More Vehicles	103,067	87.1	1,064,588	79.6	2,740,465	83.8

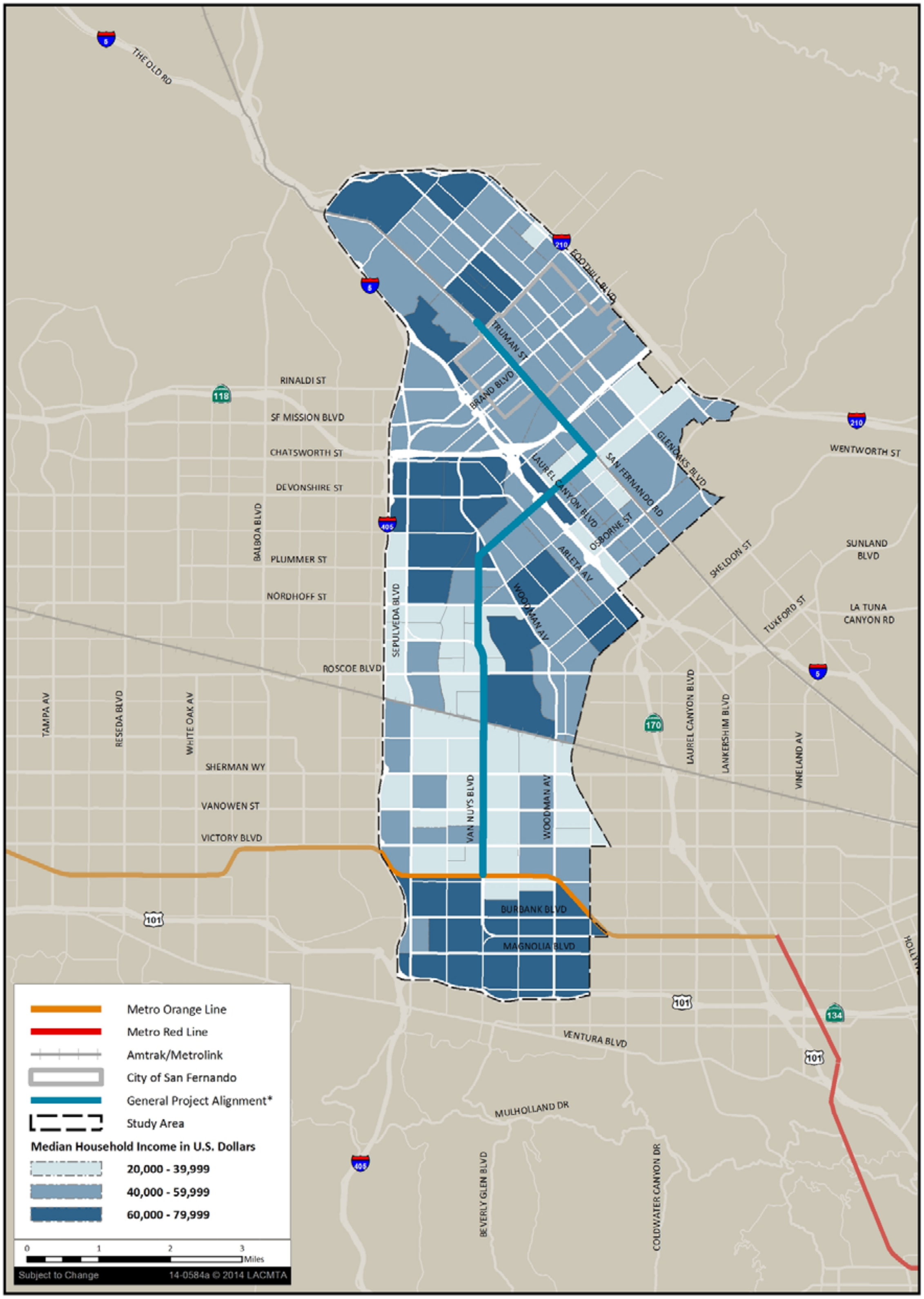
Source: US Census Bureau, 2000.

Table 4.4-19: Transportation Dependency by Vehicle Ownership (2010)

	Project Study Area		City of Los Angeles		County of Los Angeles	
	Number	Percent of Individuals over Age 16	Number	Percent of Individuals over Age 16	Number	Percent of Individuals over Age 16
Total Individuals over Age 16	190,521	100.0	1,726,583	100.0	4,355,343	100.0
No Vehicle Available	9,737	5.1	126,225	7.3	207,074	4.8
1 or More Vehicles	180,784	94.9	1,600,358	92.7	4,148,269	95.2

Source: US Census Bureau, 2010a.

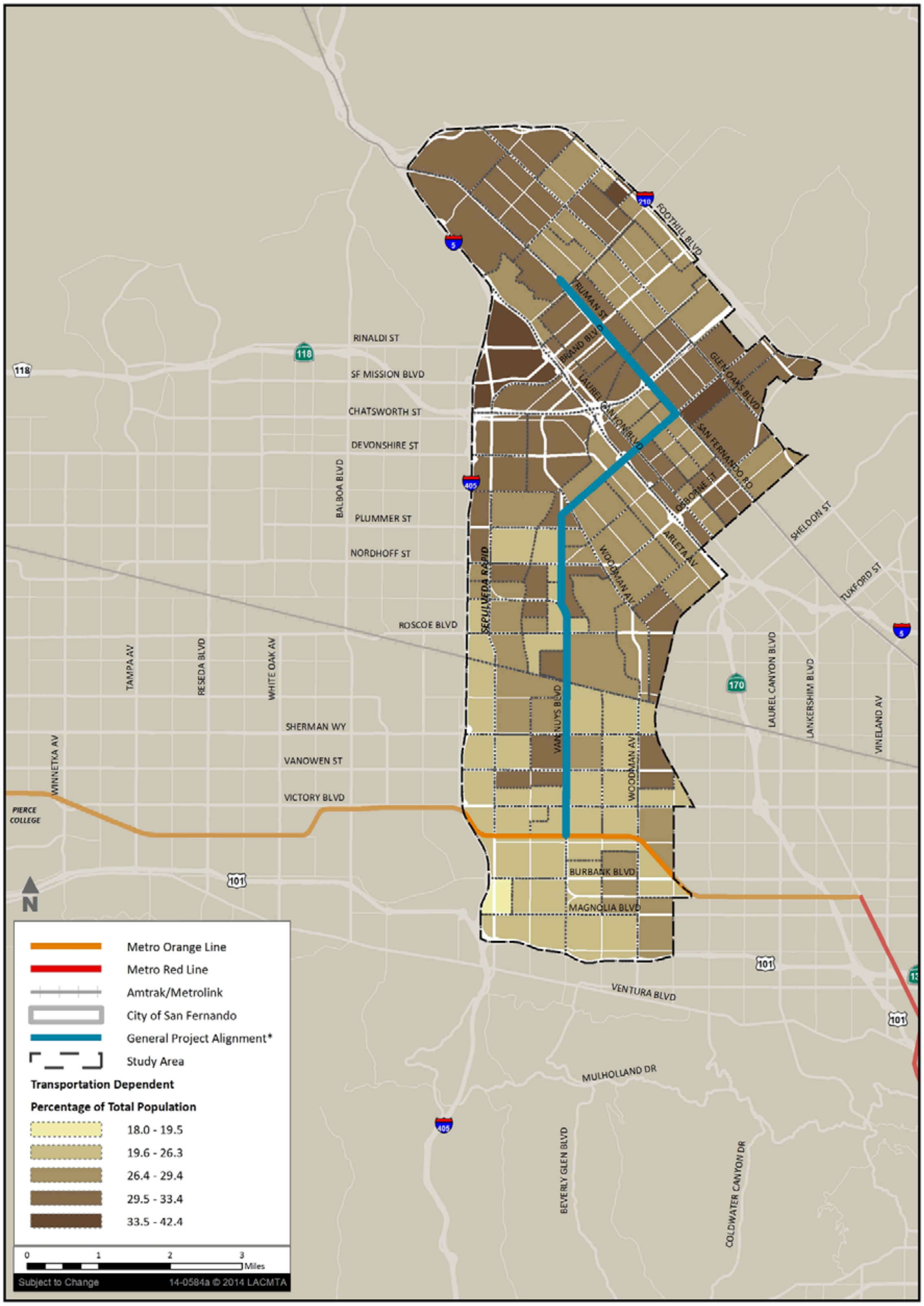
Figure 4.4-4: Median Household Income in the Project Study Area



*Alignment generalized for clarity at this scale.

Source: Esri, 2013; US Census Bureau 2010.

Figure 4.4-5: Transportation Dependency by Age in the Project Study Area



*Alignment generalized for clarity at this scale.

Source: Esri, 2013; US Census Bureau, 2010b.

4.4.2.4 Transportation Facilities and Policies

Highway Facilities

Several main highway facilities border and traverse the project study area, including the US 101, I-405, I-5, SR-118, and the I-210 freeways. The SR-170 freeway is approximately two miles to the east of the project study area. Highway facilities may serve to naturally delineate community areas or create boundaries. Highway facilities in the project study area provide regional access to and from Van Nuys Boulevard, Sepulveda Boulevard, San Fernando Road, and the transit facilities within the project corridor.

Public Transportation

The project study area also includes several mass-transit service facilities used by local populations, including:

- Van Nuys Boulevard Metro Rapid Bus;
- Sepulveda Boulevard Metro Rapid Bus;
- San Fernando Road Metro Rapid Bus;
- Metro Orange Line;
- Metrolink service to the Van Nuys station on the Ventura county Line;
- Metrolink service to the Sylmar/San Fernando station on the Antelope Valley line; and
- Amtrak service between Santa Barbara/San Luis Obispo and Los Angeles Union Station/San Diego.

Many of the transit routes have a direct relationship with the project study area because they cross over Van Nuys Boulevard or San Fernando Road, or they include stations along the project corridor.

Transportation Development Policies

According to the City of Los Angeles General Plan, transportation improvements within the greater Los Angeles area are focused on re-working the existing system, and transitioning to a more transit-based system that will encourage transit-oriented development and improve area circulation and health for area residents. Van Nuys Boulevard, in conjunction with other roadways within the project corridor, is part of a larger traffic congestion-relief plan for public transportation within the project study area and within the region.

4.4.3 Environmental Consequences, Impacts and Mitigation Measures

4.4.3.1 No-Build Alternative

Construction Impacts

The No-Build Alternative would not involve new transportation or infrastructure improvements beyond those projects currently under construction or projects that are funded for future construction. Therefore, the No-Build Alternative would result in no construction impacts on communities and neighborhoods.

Operational Impacts

Mobility and Access Impacts

The No-Build Alternative does not include any transportation or other proposed improvements, and therefore would not result in changes to existing mobility and access in the project study area. This alternative would not involve any new transportation infrastructure, construction, or major service changes beyond what is identified in Metro's 2009 Long-Range Transportation Plan (LRTP) and SCAG's 2016–2040 RTP/SCS. Existing Metro Rapid and local bus service would continue to operate along the project corridor and existing or planned pedestrian and bicycle projects would continue to be implemented on Van Nuys Boulevard and connecting east/west facilities. Therefore, the No-Build Alternative would not result in changes to existing or planned pedestrian and bicycle access, access to public transportation, or vehicular access to businesses and community resources, such as schools, school bus routes, shopping centers, libraries, churches, and hospitals, within the communities and neighborhoods in the project study area.

This alternative, however, would not achieve the improvements to mobility within the existing community that would result from the proposed build alternative. Community mobility would continue to deteriorate with the increased regional traffic congestion that is expected between now and 2040, resulting in a long-term reduction in access to public transportation, businesses, and community resources, as well as reduced emergency vehicle access. In addition, this alternative would not result in any actions to implement Metro's Complete Streets Policy.

Social and Economic Impacts

The No-Build Alternative would not result in changes to existing social and economic conditions in the project study area. This alternative would not induce population growth, result in changes to businesses or employment rates, displace housing or people, result in urban decay impacts, or result in changes to community cohesion, interaction, quality of life, or social values. Urban decay is defined as physical deterioration of properties or structures that is so prevalent, substantial, and lasting over a significant period of time that it impairs proper utilization of the properties and structures as well as the health, safety, and welfare of the surrounding community. Physical deterioration includes abnormally high business vacancies, abandoned buildings, boarded-up doors and windows, parked trucks and long-term unauthorized use of the properties and parking lots, extensive or offensive graffiti painted on buildings, dumping of refuse or overturned dumpsters on properties, dead trees and shrubbery, and uncontrolled weed growth or homeless encampments.[23] Urban decay would not result from the No-Build Alternative because the area's existing social and economic conditions would not be altered. As stated above under the section on demographics, the most recent census data reflect the area's continued growth in population density and median income. More information on economic impacts is provided in the Economic and Fiscal Impacts Report prepared for the project (Appendix V).

This alternative would not achieve the improvements to mobility within the existing community that would result from the proposed build alternative. Under this alternative, worsening regional traffic congestion that is expected between now and 2040 may result in reduced access to local businesses, which could hinder local economic growth.

[23] Court of Appeals of California, Fourth District, Division 2. *Joshua Tree Downtown Business Alliance v. County of San Bernardino*. 2016. 1 Cal.App.5th 677, 685 [204 Cal. Rptr. 3d 464]. Available: <https://www.leagle.com/decision/incaco20160615052>. Accessed: December 4, 2019.

Physical Impacts

The No-Build Alternative would not result in changes to the physical environment, including changes in aesthetic character or land use patterns, and would not result in safety impacts or introduce physical intrusions to communities and neighborhoods in the project study area. Under this alternative, transportation facilities would operate entirely within existing transportation corridors, and no physical barriers would be introduced that would divide the existing communities surrounding the project corridor. However, the No-Build Alternative would not achieve the improvements in circulation within the existing community that would result from the proposed build alternative.

Cumulative Impacts

Per CEQA Section 15130 (b), the cumulative impacts analysis can consider either a "list of past, present, and probable future projects producing related or cumulative impacts" 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." The cumulative impacts analysis below and for the other alternative evaluated in this section are based on the approach that considers the cumulative projects, which are listed in Table 2-3 in Chapter 2.

The project study area for the cumulative impacts analysis for the alternatives in this section consists of the communities and neighborhoods that would be affected by the proposed project. In general, the cumulative impacts project study area encompasses the neighborhoods and communities adjacent to the project corridor.

Under the No-Build Alternative, there would be no impacts on communities and neighborhoods, and therefore, this alternative would not contribute to cumulative communities and neighborhoods impacts.

Mitigation Measures

Construction Mitigation Measures

No construction mitigation measures are required.

Operational Mitigation Measures

No operational mitigation measures are required.

Impacts Remaining After Mitigation

NEPA Finding

No adverse effects under NEPA would occur.

CEQA Determination

No impacts under CEQA would occur.

4.4.3.2 Locally Preferred Alternative (Alternative 4 Modified: At-Grade LRT)

Construction Impacts

Mobility and Access Impacts

Under the LPA, construction of the LRT tracks and stations would require temporary sidewalk, lane, and possibly road closures, and removal of parking on Van Nuys Boulevard. These closures could reduce pedestrian, bicycle, and vehicle mobility between communities and neighborhoods along the project corridor during construction and could also affect access to businesses and community resources, such as schools, school bus routes, shopping centers, libraries, churches, and hospitals.

Road and sidewalk closures, along with the addition of construction vehicles and equipment on primary streets in the City of Los Angeles and San Fernando, could also reduce public access to annual festivals and events in the various communities along the alignment.

Lane closures, traffic detours, and designated truck routes associated with construction could also result in decreased access for emergency vehicles and delayed response times for emergency services.

Lane and/or road closures would be scheduled to minimize disruptions, and a Traffic Management Plan (TMP) would be approved in coordination with both the Cities of Los Angeles and San Fernando prior to construction. Therefore, mobility and access impacts during construction would not be adverse under NEPA and would be less than significant under CEQA.

Social and Economic Impacts

Population, Business, and Employment Growth

Construction of the LPA is not expected to result in substantial changes to the existing population in the project study area. Because of the temporary nature of construction jobs and given that a substantial employment base currently exists in the San Fernando Valley within commuting distance of the project corridor, employment opportunities that could occur due to construction of the LPA would not result in the migration of a substantial number of residents to the project study area and would not induce permanent substantial population growth in communities and neighborhoods in the project study area.

Construction activities that result in lane and/or road closures and the loss of on-street or off-street parking would decrease accessibility to businesses. This could negatively affect business activity levels because the number of customers may temporarily decline. All attempts would be made to provide adequate detours and to minimize road closures; however, some consumers may avoid the area altogether, which could have an indirect effect on businesses within the project area. However, these impacts would be temporary, and after construction the project would provide improved mobility for more transit riders. The proposed project would also not be expected to result in urban decay impacts, as the project is a transit improvement project and not a development project that would displace small businesses and other storefronts for the opening of a big box retailer or other development that would drastically change the character of the businesses and storefronts along Van Nuys Boulevard.

Displacement of Housing and People

Construction of the LPA would require permanent right-of-way acquisitions and the permanent displacement of businesses. Business displacements required for construction could result in changes to the local neighborhood character, and potentially to the social fabric of the local community.

Neighborhood residents or visitors may be accustomed to accessing businesses in their existing locations, and the displacement of those businesses could potentially be psychologically or socially disruptive, which could affect professional and social interactions. If relocation sites are available within proximity to the existing businesses, the disruptions to professional and social interactions may be temporary as residents become accustomed to accessing the displaced businesses at their new locations. However, this impact could be adverse under NEPA. Under CEQA, social or economic impacts are not considered to be significant environmental impacts. For that reason and because the LPA would not divide an established community, impacts would be less than significant under CEQA.

Public controversy among community members and business owners could result from business displacements; therefore, early and ongoing public outreach is required to discuss potential concerns and communicate with property owners and community members. With implementation of mitigation measures, impacts on community cohesion and interaction could remain adverse under NEPA.

Physical Impacts

Construction of the LPA is not expected to result in changes to land use patterns or physical division of communities because construction would be short-term and would not affect land use designations or introduce barriers that would divide communities. However, construction activities would result in a number of other physical impacts and intrusions, including noise, dust, odors, and traffic delays resulting from haul trucks and construction equipment located on public streets and staging areas. Local neighborhoods, businesses, and community facilities—such as schools, school bus routes, shopping centers, libraries, churches, and hospitals—may be inconvenienced temporarily, and community activities could be disrupted by these activities. However, because these impacts would be temporary and would be avoided or minimized with implementation of mitigation measures, these impacts would not be adverse under NEPA and would be less than significant under CEQA.

Construction of the LPA may also result in several visual impacts on viewers within and surrounding the project corridor, which would temporarily change the aesthetic and visual setting of communities and neighborhoods along the project alignment. Construction areas could be visible from residential land uses on some of the adjacent parcels, either directly through fencing, through entrance gates, or over fencing from second story and higher windows. Construction activities may include the use of considerable heavy equipment such as cranes and associated vehicles, including bulldozers, backhoes, graders, scrapers, and trucks, which could be visible from public streets, sidewalks, and adjacent properties. Viewers in the construction area may be affected by the presence of this equipment, as well as stockpiled construction-related materials. In addition, mature vegetation, including trees, could be temporarily removed from some areas. Construction impacts associated with noise, air quality, visual quality/aesthetics, and traffic could be reduced or minimized through construction management and abatement measures. Because these impacts would be temporary and would be avoided or minimized with implementation of mitigation measures, these impacts would not be adverse under NEPA and would be less than significant under CEQA.

Construction of the LPA could also have temporary effects on public safety and security within the communities and neighborhoods along the proposed project alignment. During construction, motorists, pedestrians, and bicyclists would be exposed to additional safety hazards because of proximity to construction activities. The potential for 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 construction impacts. In addition, an adequate level of signage, construction barriers, and supervision of trained safety personnel would be implemented during the construction phase to ensure that pedestrian and motorist safety is maintained during construction.

Because these impacts would be temporary and would be avoided or minimized with implementation of mitigation measures, these impacts would not be adverse under NEPA and would be less than significant under CEQA.

Incidents of crime adjacent to the project alignment would not likely increase during construction of the LPA. Theft of construction machinery and materials could occur at construction sites, but these incidents would be minimized through implementation of standard site security practices. Because these impacts would be temporary and would be avoided or minimized with implementation of mitigation measures, these impacts would not be adverse under NEPA and would be less than significant under CEQA.

Construction activities would result in air pollutants that could adversely affect air quality in the neighborhoods and communities along the project alignment. The reader is referred to Section 4.6 of this FEIS/FEIR for more information on the significance and extent of these potential physical impacts.

Operational Impacts

Mobility and Access Impacts

Changes in Access to Public Transportation, Businesses, and Community Resources

Implementation of the LPA would require restrictions on motor vehicle movements and removal of on-street parking along Van Nuys Boulevard. Left turns from Van Nuys Boulevard onto cross streets would be maintained at most of the currently signalized intersections; however, the dual left-turn lanes on northbound and southbound Van Nuys Boulevard at Sherman Way and at Roscoe Boulevard would be reduced to a single left-turn lane, and several left-turns in the Van Nuys Civic Center, between Calvert Street and Hartland Street, would be prohibited in order to accommodate the LRT dedicated guideway. A complete list of turning restrictions is available in Section 2.2.7 of Chapter 2, *Project Description/Alternatives Considered,* of this report. Unless otherwise prohibited, U-turns would be allowed from signalized left-turn lanes on Van Nuys Boulevard; therefore, vehicles that need to turn left to access businesses and community resources would continue to have access through U-turns from signalized left-turn lanes or by turning right off of Van Nuys Boulevard and seeking a route that would enable them to reach a signalized cross street.

Under the LPA, vehicle movements and parking would be maintained along San Fernando Road and Truman Street where the LRT alignment would run along the Metro-owned railroad right-of-way.

Although the LPA would restrict turn movements, remove on-street parking, and increase congestion due to the reduction in the number of mixed-flow travel lanes along Van Nuys Boulevard (see Chapter 3), it would enhance connections to public transportation within the project study area and across the region, in compliance with Metro's Complete Streets Policy. Implementation of the LPA would also improve access for transit riders to local businesses and community resources, such as schools, school bus routes, shopping centers, libraries, churches, and hospitals. Additionally, ADA regulations and California state law guarantee the civil rights of individuals with disabilities to receive equal access to all public transportation services. These laws require that transit services and vehicles be readily accessible to, and usable by, individuals with a wide range of disabilities and who use mobility aids, wheelchairs, attendants, service animals, and respirators or portable oxygen supplies. Under the LPA, accommodations would be provided to ensure that stations and vehicles are accessible to all customers, including those with disabilities, in compliance with ADA guidelines. Designated areas for wheelchairs would be provided on transit vehicles with appropriate securement devices (tie-downs) and occupant restraints (seat belts). Additional designated seating areas would be available for seniors and people with disabilities away from the wheelchair securement area. The provision of these accommodations would result in improved mobility and access for individuals with disabilities, which would be a beneficial effect under NEPA and a beneficial impact under CEQA.

While restrictions on vehicle movements and loss of parking on Van Nuys Boulevard would present an inconvenience for vehicles traveling along the project corridor, vehicles would continue to have access to either side of the roadway at signalized intersections, and mobility and access by public transit would be enhanced under the LPA; therefore, access impacts would not be adverse under NEPA and would be less than significant under CEQA.

Changes in Pedestrian and Bicycle Access

The LPA would retain pedestrian access on sidewalks along the project corridor, in compliance with Metro's Complete Streets Policy. In a few limited locations, existing 13-foot-wide sidewalks on each side of the roadway would be narrowed to 10 feet to accommodate implementation of the LPA. Additionally, some pedestrian routes may be re-routed and would require additional walking distance because minor intersections would be permanently closed as part of project implementation. The increase in walking distances, however, is not expected to be substantial because of the proximity of nearby alternative routes for pedestrians where minor intersection closures would occur. As a consequence, impacts on pedestrian access would be minor and not adverse under NEPA and less than significant under CEQA.

The City's Bicycle Plan designates Van Nuys Boulevard as part of the "Backbone Bicycle Network," which plans an interconnected system facilitating mobility on key arterials. In addition, the City's Mobility Plans calls for dedicated bicycle lanes along the entire length of Van Nuys Boulevard. Under the LPA, the existing Class II bike lanes on Van Nuys Boulevard would be removed to make room for the LRT tracks and stations. These changes would conflict with the City's Bicycle Plan and Mobility Plan because designated bicycle lanes on Van Nuys Boulevard. An existing bikeway that is designated as part of the County's Master Bicycle Plan and is located along the Metro-owned railroad right-of-way in the City of San Fernando would remain under the LPA.

The City's Bicycle Plan and Mobility Plan include planned bicycle lanes on Woodman Avenue (1 mile east of and parallel to Van Nuys Boulevard) between Ventura Boulevard and the Osborne Street and Nordhoff Street corridors. Bicycle lanes are also planned to connect the Osborne Street corridor to San Fernando Road. To use the planned bicycle lanes on Woodman Avenue, bicyclists would need to travel 1 mile to the east of Van Nuys Boulevard, which may be an inconvenience for some bicyclists depending on their final destination. Therefore, the removal of the Class II bike lanes and the decreased safety for bicyclists would be an adverse effect under NEPA and significant impact under CEQA. However, it should also be noted that the City's General Plan Transportation Element designates Van Nuys Boulevard as a primary transit priority street, and the development of the LPA would only be feasible with the removal of the bicycle lanes. In addition, as stated in Metro's Complete Streets Policy, a number of streets might not provide accommodations for all modes of transportation due to physical right-of-way constraints, which is the case for the LPA. The project would be consistent with Metro's Complete Streets Policy to prioritize public transit modes based on the transportation needs of the community, as designated in the City's General Plan Transportation Element. While public transit would be a priority along the corridor with project implementation, the project would also facilitate bicycle access in surrounding areas by providing bicycle accommodations, such as bicycle racks, at stations.

Social and Economic Impacts

Population, Business, and Employment Growth

The LPA is not expected to result in substantial changes to the existing population in the project study area since it would not include the development of new housing or businesses that would directly induce population growth. The LPA would provide a new LRT line and would therefore generate additional employment opportunities for LRT vehicle drivers and maintenance personnel; however, there is currently a substantial employment base and residential population in the San Fernando Valley, and the employment opportunities would not be expected to result in substantial migration of additional residents to the project study area. Therefore, the LPA would not be expected to induce substantial population growth in existing communities and neighborhoods.

The LPA could indirectly affect growth and development in the project study area by promoting planned development and redevelopment near station areas. The type of development expected around station areas would most likely include transit oriented development (TOD), which is mixed-use residential and commercial development designed to maximize access to public transport. The LPA may also attract businesses from other areas of the region to the immediate areas surrounding the proposed stations. However, because the LPA would be located in an urban area containing a limited number of vacant or underutilized parcels, it's not expected that the LPA would substantially change existing growth and development patterns. In addition, the LPA would accommodate projected population growth for the region, and any development that could result around station areas is anticipated to be consistent with these current growth projections. TOD near station areas would also be consistent with the proposed City of San Fernando TOD Overlay Zone.

Under the LPA, enhanced transit service could stimulate the local economy by facilitating access to local businesses. In addition, business viability could improve because increased pedestrian traffic near the proposed stations would provide new customers. Therefore, the LPA could result in improved economic conditions for local businesses, and impacts would be minor and beneficial under NEPA. CEQA does not include significance thresholds for economic impacts; therefore, no CEQA determination can be made for this impact. More information on economic impacts is provided in Section 4.3 of this FEIS/FEIR and the Economic and Fiscal Impacts Report prepared for the project (see Appendix V).

Displacement of Housing and People

The majority of the LRT alignment would be constructed in the median of Van Nuys Boulevard and would not require the displacement of businesses or residences along the majority of the project corridor. However, some areas of the project alignment would require commercial/industrial property acquisitions to accommodate the LRT facilities, including at the Sherman Way Station at Van Nuys Boulevard and Sherman Way, the Keswick Street Station at Van Nuys Boulevard and Keswick Street, the Roscoe Boulevard Station at Van Nuys Boulevard and Roscoe Boulevard, the Pacoima Station at Van Nuys Boulevard and El Dorado Avenue, at San Fernando Road and Pinney Street, and along the Metro-owned railroad right-of-way between Maclay Avenue and Workman Street and between Lazard Street and the Sylmar/San Fernando Metrolink Station. Partial property acquisitions would also be required at the Vanowen Station at Van Nuys Boulevard and Hartland Street, and along the Metro-owned railroad right-of-way between Wolfskill Street and Maclay Avenue. Development of the maintenance and storage facility (MSF) at the preferred Option B site would require 34 full property acquisitions, including the acquisition of 11 parcels for constructing a connection from the MSF to the LRT alignment. In total, the LPA guideway, stations, traction power substations (TPSS), and MSF (Option B site) could require 100 property acquisitions, which includes 68 full acquisitions, 30 partial acquisitions, one Metro-owned property, and one vacant area that will require partial closure of the public right-of-way. Most of the properties are commercial and light industrial properties but four single-family residences could also be acquired. The displacement impacts would be adverse under NEPA and less than significant under CEQA.

Changes in Community Cohesion and Interaction

LPA would increase connectivity within the eastern San Fernando Valley area, and would result in more unified communities within the project study area by providing additional transit services connecting these areas. Therefore, the LPA would be expected to enhance community cohesion and interaction. This impact would not be adverse or would be considered beneficial under NEPA. Under CEQA, the LPA would not divide an established community; therefore, no impact would occur.

Changes in Quality of Life or Social Values

The LPA could result in long-term benefits including an improved quality of life for the communities and neighborhoods in the project study area by improving mobility, decreasing reliance on the automobile, and providing enhanced transit access to businesses and between communities. However, increased congestion for motorists could occur due to the reduction in roadway capacity along Van Nuys Boulevard. Improved access could also increase pedestrian traffic near the proposed stations, which would provide new potential customers and improve business viability. Therefore, the LPA would be expected to result in social and economic benefits for the communities and neighborhoods in the project study area. Impacts would not be adverse or would be considered beneficial under NEPA and beneficial or less than significant under CEQA.

Physical Impacts

Changes in Land Use Patterns

The LPA is not expected to result in substantial changes in land use patterns. While there would be some modifications to the project corridor (e.g., changes in bicycle lanes and loss of curbside parking), the project corridor is an existing transportation route with ongoing bus transit service; therefore, the proposed LRT operations would be consistent with existing bus operations and land use patterns.

The LPA could indirectly affect development in the project study area by encouraging housing, employment, and commercial development within walking distance of the proposed transit stations along the project corridor. TOD near station areas would be consistent with the proposed City of San Fernando TOD Overlay Zone, and it would enhance the City's downtown area. In addition, because the LPA would be located in an urban area containing a limited number of vacant or underutilized parcels, it is not expected that it would substantially change existing growth and development patterns. No adverse effects or impacts would occur under NEPA or CEQA.

Changes in Aesthetic Character

The project corridor is an existing transportation route in an urbanized area with ongoing bus transit service; therefore, proposed LRT operations under the LPA would be consistent with existing transportation uses, and no substantial changes in aesthetic character would result from this alternative along the majority of the project corridor. In addition, stations would include aesthetic enhancements, such as landscaping and canopies, which would be compatible with the existing character of surrounding communities and neighborhoods.

The LPA would require a number of elements to support vehicle operations, including median fences, an overhead contact system (OCS), TPSSs, signaling, a pedestrian bridge (or tunnel) at the Sylmar/San Fernando Metrolink station, and an MSF. These additional elements would result in substantial changes to the aesthetic character of some areas along the project corridor, especially in residential and recreational areas.

The following parks are also in proximity to the proposed improvements and could be affected by visual changes from this alternative:

- Blythe Street Park, 14740 Blythe Street, Van Nuys: This park is in proximity to the proposed MSF site at Arminta Street.
- Tobias Avenue Park, 9122 Tobias Avenue, Panorama City: This park is adjacent to the project corridor on Van Nuys Boulevard to the north of Nordhoff Street.
- Pacoima Wash Greenway: This greenway is a future proposed project that crosses under the project corridor south of Van Nuys Boulevard and Arleta Avenue, and at San Fernando Road to the south of La Rue Street in San Fernando.

Residential areas adjacent to the project corridor are in the following locations:

- Medium-density residential areas are located adjacent to Van Nuys Boulevard between Parthenia Street and Plummer Street in Panorama City.
- Medium-, low-medium-, and low-density residential areas are located adjacent to Van Nuys Boulevard between just south of Woodman Avenue and Remick Avenue in Arleta.
- Low-medium density residential areas are located adjacent to and north/northeast of the Sylmar/San Fernando Metrolink Station.

The median fences, OCS, and pedestrian bridge, in particular, would introduce additional vertical elements that could substantially change the existing visual character and quality in these areas of the project corridor, especially for residents, pedestrians, and bicyclists, who would be expected to have high viewer sensitivity to their surroundings. Therefore, changes in aesthetic character due to the LPA could be substantial in areas where sensitive viewers are located. As a result, the visual impacts on sensitive viewers in residential and recreational areas could be adverse under NEPA and significant under CEQA. The LPA's potential impacts on aesthetic character are also addressed in more detail in Section 4.5 of this FEIS/FEIR and in the Visual Quality and Aesthetics Impacts Report (see Appendix K).

Safety Impacts and Other Physical Intrusions

The LPA would not introduce new substantial physical intrusions (e.g., noise, dust, or odors) to the project corridor. While there would be some modifications to the project corridor (e.g., changes in bicycle lanes and turning movements, the loss of curbside parking, and the addition of an OCS and TPSSs, median fences, a pedestrian bridge [or tunnel] at the Sylmar/San Fernando Metrolink Station, and an MSF site), the project corridor is an existing transportation route in an urbanized area with ongoing bus transit service; therefore, the LPA would be consistent with existing transportation uses.

The LPA would run in mixed-flow lanes along Van Nuys Boulevard and would therefore result in the potential for conflicts with street traffic and LRT operations. The potential for accidents would be highest initially, but would stabilize as people become accustomed to the new alignment. In addition, potential LRT improvements under this alternative would be subject to Metro's System Safety Program

Plan, LRT vehicles would not exceed the posted adjacent roadway speed limit (35 miles per hour [mph]), and Metro would prepare grade crossing applications in coordination with local public agencies to further increase safety and reduce the potential for conflicts, accidents, and collisions.

The LPA could result in several pedestrian safety concerns. Stations could present safety hazards if pedestrian traffic and movement are not considered, resulting in potential for collisions between pedestrians and LRT vehicles. Similarly, a potential safety hazard could result if pedestrians attempt to cross streets and tracks illegally.

Pedestrian traffic control and channelization techniques (e.g., barriers and designated walkways) would be used to control pedestrian movements at intersections and encourage the use of designated pedestrian crossings. A pedestrian bridge or tunnel would also be provided at the Sylmar/San Fernando Metrolink Station from the LRT platform to the parking lot. Metro would prepare grade crossing applications in coordination with local public agencies to further increase safety and reduce the potential for conflicts, accidents, and collisions.

While the proposed changes to the roadway network would be designed in compliance with Metro design guidelines to ensure pedestrian, motorist, and bicyclist safety, the removal of Class II bike lanes would increase the potential for conflicts between bicyclists and motor vehicles, reducing safety. Therefore, the LPA could result in safety impacts within the communities and neighborhoods in the project study area from the potential for bicycle collisions. This potential impact could be adverse under NEPA and significant under CEQA.

Cumulative Impacts

Other present and reasonably foreseeable future projects in the area, including the cumulative projects in Table 2-3, could result in temporary impacts from construction activities, and impacts from past projects may also have resulted in temporary impacts. During construction, the LPA could result in temporary adverse effects and significant impacts on mobility, access, bicycle and pedestrian safety, emergency response, visual character and quality, noise, and air quality on communities and neighborhoods along the project corridor. Construction impacts would be reduced or minimized through construction management and abatement measures, as detailed below (Mitigation Measures) and described in Section 4.5-Visual Quality and Aesthetics, Section 4.6-Air Quality; Section 4.8-Noise and Vibration, Section 4.14-Safety and Security, and Chapter 3-Transportation, Transit, Circulation, and Parking. Because construction impacts under the LPA would also be temporary, and impacts would be minimized or mitigated through mitigation measures, the alternative’s contribution to cumulative impacts during construction would be less than cumulatively considerable.

During operation, the LPA would have some beneficial long-term effects under NEPA, and impacts would be beneficial and less than significant under CEQA, related to regional mobility, access, and social and economic conditions because this alternative would improve connections to public transportation, improve access to businesses and community resources, and increase community cohesion and interaction. By increasing transit ridership, the LPA would reduce traffic congestion over the long-term operation of the project and would consequently facilitate response times for police and fire protection services. These community and neighborhood benefits would be beneficial under NEPA and CEQA. However, as discussed in Chapter 3, the reduction in roadway capacity would result in significant traffic impacts at local intersections. Past projects have resulted in localized traffic impacts, and other present or reasonably foreseeable future projects in the area could further degrade traffic conditions in the area Therefore, cumulative impacts from past, present, and reasonably foreseeable future projects are significant. As a result, any adverse impacts from the LPA would be considered cumulatively considerable.

Past projects have resulted in access and safety impacts, and other present or reasonably foreseeable future projects in the area, including the cumulative projects in Table 2-3 of the DEIS/DEIR, could further degrade access and safety in the project study area. Therefore, cumulative impacts from past, present, and reasonably foreseeable future projects are significant. The LPA would also result in a substantial adverse effect under NEPA and potentially significant impact under CEQA related to access and safety from the potential for bicycle and vehicle collisions, which would remain after implementation of proposed mitigation measures. As a result, any adverse impacts from the LPA would be considered cumulatively considerable. Because the access and safety impacts to bicyclists in the communities and neighborhoods of the project study area would remain significant and unavoidable after implementation of mitigation measures, the alternative's contribution to cumulative impacts would remain cumulatively considerable after mitigation.

The LPA would result in potentially significant operational impacts on social and community interactions due to business displacements, and potentially significant operational visual impacts on sensitive viewers in the community. Because impacts from the LPA would remain significant after implementation of mitigation measures, the alternative's contribution to cumulative community and visual impacts during operation remain cumulatively considerable.

Mitigation Measures

The reader is referred to the following mitigation measures to reduce or avoid potential construction and operational impacts on communities and neighborhoods: MM-TRA-1 through MM-TRA-7 in Chapter 3, Transportation, Transit, Circulation, and Parking; MM-VIS-1 though MM-VIS-5 in Section 4.5, Visual Quality and Aesthetics; MM-AQ-1 through MM-AQ-9 in Section 4.6, Air Quality; MM-NOI-1a through MM-NOI-3c and MM-VIB-1 and MM-VIB-2 in Section 4.8, Noise and Vibration; and MM-SS-1 through MM-SS-23 in Section 4.14, Safety and Security. These measures include measures to maintain access to the local communities and neighborhoods in the project study area, detours, design and location of project elements to avoid obstructing views to and from these communities, requirements for use of equipment and methods to reduce air quality emissions, attenuation of noise and vibration impacts to the extent feasible by use of alternate equipment or methods, or use of noise and vibration reducing track, and coordination with public safety and transit providers to ensure adequate access to communities and neighborhoods along the project corridor. During project operation and construction, these measures would minimize direct impacts that could adversely affect the quality of the human environment within the communities and neighborhoods in the project study area.

In addition, the following measure is proposed:

> **MM-CN-1:** A formal educational and public outreach campaign shall be implemented to discuss potential community and neighborhood concerns, including relocations, visual/aesthetics changes, and fare policies, and to communicate information about the project with property owners and community members.

Impacts Remaining After Mitigation

NEPA Finding

The potential operational effects on bicycle access and safety, construction and operational effects on social and community interactions from business displacements, and operational visual impacts on sensitive viewers in communities and neighborhoods would be adverse after mitigation. All other effects would not be considered adverse.

CEQA Determinations

The potential operational impacts on bicycle access and safety and operational visual impacts on sensitive viewers would be significant after implementation of proposed mitigation measures. All other impacts would be less than significant. Please note that construction and operational impacts on social and community interactions from business displacements, which are social impacts, are not considered to be significant impacts on the environment under CEQA.

4.4.3.3 Initial Operating Segment

An Initial Operating Segment (IOS) has been included in this FEIS/FEIR to enable Metro to realize potential cost savings, which would not otherwise occur under the LPA, from phasing the project. It should be noted that Metro is proceeding with IOSs on other Metro projects for that reason and to specifically provide the decision-making body of Metro (the Metro Board) with flexibility in determining the most efficient and cost-effective manner to implement those projects. Proceeding with an IOS for the proposed project would also allow further coordination to occur with the Public Utilities Commission (PUC) and Metrolink, which will be necessary to accommodate double tracking of the Antelope Valley Line, and with the City of San Fernando regarding traffic impacts at intersections in the City prior to development of the remaining northern segment of the LPA.

Although the IOS for the proposed project would run along the same alignment and have the same design features and operating characteristics as those described above for the LPA, it would occupy a smaller project footprint than the LPA because it would extend from the Metro Orange Line on the south to the proposed the Van Nuys/San Fernando station on the north. It remains Metro's intent, however, to build the remaining northern 2.5 miles of the LPA within the existing railroad right-of-way, from the Van Nuys/San Fernando station to the Sylmar/San Fernando Metrolink station. Impacts associated with the IOS are discussed below.

Construction Impacts

The impacts that would occur due to construction of the IOS would be similar to those stated for the LPA. Left turns from Van Nuys Boulevard onto cross streets would be maintained at most signalized intersections. However, dual left-turn lanes on Van Nuys Boulevard at Sherman Way and Roscoe Boulevard would be reduced to a single left-turn lane. Several left-turns in the Van Nuys Civic Center, between Calvert Street and Hartland Street, would be prohibited in order to accommodate the LRT dedicated guideway. A complete list of turning restrictions that would be implemented under both the IOS and LPA is provided in Section 2.2.8 of Chapter 2 of this report. Unless, otherwise prohibited, U-turns would be allowed from signalized left-turn lanes on Van Nuys Boulevard; therefore, vehicles that need to turn left to access businesses and community resources would continue to have access through U-turns from signalized left-turn lanes or by turning right off of Van Nuys Boulevard and seek a route that would enable them to reach a signalized cross street. This impact would not be considered adverse under NEPA and would be less than significant under CEQA.

IOS business displacements required to construct the IOS could result in changes to the local neighborhood character. Neighborhood residents or visitors may be accustomed to accessing businesses in their existing locations, and the displacement of those businesses could potentially be psychologically or socially disruptive, which could affect professional and social interactions. However, psychological and social disruptions caused by the business displacements may be temporary if relocation sites are available within proximity to the existing businesses and residents become accustomed to accessing the displaced businesses at their new locations. Under CEQA, the IOS would not divide an established community, and therefore, no community division impacts would occur.

Early and ongoing public outreach is required to discuss potential concerns and communicate with property owners and community members regarding public controversy that may result from business displacements. With implementation of mitigation measures, impacts on community cohesion and interaction could remain adverse under NEPA.

Operational Impacts

Mobility and Access Impacts

Changes in Access to Public Transportation, Businesses, and Community Resources

Operational impacts for the IOS would be similar to or slightly less than those stated for the LPA. Under the IOS, public transportation connections would be enhanced within the project study area and across the region but to a lesser degree than would occur under the LPA because the IOS would not include the northern 2.5-mile segment of the LPA.

Although, motorists would experience additional traffic congestion, as explained in Chapter 3 of this report, due to the reduction of mixed-flow travel lanes along the project corridor, transit access to local businesses and community resources, such as schools, shopping centers, libraries, churches, and hospitals would improve.

The IOS would provide accommodations to ensure that stations and LRT vehicles are accessible to all customers, including those with disabilities, in compliance with ADA guidelines. The provision of these accommodations would result in improved mobility and access for individuals with disabilities, which would be a beneficial effect and less-than-significant impact under CEQA.

Restrictions on vehicle movements and loss of parking on Van Nuys Boulevard would present an inconvenience for vehicles traveling along the project corridor, vehicles would continue to have access to either side of the roadway at signalized intersections, and mobility and access by public transit would be enhanced under the IOS; therefore, vehicle access would be maintained under this alternative, and this impact would be minor and adverse under NEPA and less than significant under CEQA.

Changes in Pedestrian and Bicycle Access

Under the IOS, operational impacts to pedestrian and bicyclist access would be similar to those stated for the LPA; with the exception of the pedestrian bridge or underpass that would be provided at the Sylmar/San Fernando Metrolink Station from the LRT platform to the parking lot for the LPA. The installation of the IOS may require modifications of pedestrian movements and sidewalk widths. In addition, all stops would include design elements that would be ADA compliant. The modifications would not be expected to substantially interfere with pedestrian access along the project corridor. Therefore, impacts would be minor and adverse under NEPA and less than significant under CEQA.

Similar to the LPA, the IOS could result in bicycle access and safety impacts within the communities and neighborhoods in the project study area due to the removal of Class II bike lanes on Van Nuys Boulevard, which could increase the potential for bicycle collisions. This impact would be adverse under NEPA and significant under CEQA.

Social and Economic Impacts

Displacement of Housing and People

Operational impacts due to the IOS related to displacement of housing and/or people would be less than those stated for the LPA because it would not require the commercial/industrial property acquisitions to accommodate LRT facilities along the Metro-owned railroad right-of-way between Maclay Avenue and Workman Street, and between Lazard Street and the Sylmar/San Fernando Metrolink Station. The IOS would also not include the partial property acquisitions that would be required along the Metro-owned railroad right-of-way between Wolfskill Street and Maclay Avenue. The IOS guideway, stations, TPSS, and MSF could result in 83 acquisitions including 17 partial acquisitions, 64 full acquisitions, a Metro-owned property, and one vacant area/alley.

Physical Impacts

Safety Impacts and Other Physical Intrusions

Under the IOS, the LRT would run in a dedicated guideway along Van Nuys Boulevard from the Metro Orange Line to San Fernando Road. Therefore, the IOS is not expected to result in an increase in accidents or collisions between LRT vehicles and other motor vehicles. Therefore, this impact would not be adverse under NEPA and would be less than significant under CEQA.

Cumulative Impacts

Cumulative impacts under the IOS, would be similar to those stated for the LPA. Cumulative projects in the area could result in temporary impacts from construction activities and impacts from past projects. Similar to the LPA, impacts from the IOS would remain significant after implementation of mitigation measures, the alternative's contribution to cumulative community and visual impacts during operation remain cumulatively considerable.

Mitigation Measures

The mitigation measures for the IOS would be the same as those stated for the LPA. The reader is referred to the following mitigation measures to reduce or avoid potential construction and operational impacts on communities and neighborhoods: MM-TRA-1 through MM-TRA-3 in Table ES-1 and Chapter 3, Transportation, Transit, Circulation, and Parking; MM-VIS-1 though MM-VIS-5 in Table ES-1 and Section 4.5, Visual Quality and Aesthetics; MM-AQ-1 through MM-AQ-7 in Table ES-1 and Section 4.6, Air Quality; MM-NOI-1a through MM-NOI-4b and MM-VIB-1 and MM-VIB-2 in Table ES-1 and Section 4.8, Noise and Vibration; and MM-SS-3 and MM-SS-8 in Table ES-1 and Section 4.14, Safety and Security. One additional mitigation measure is proposed, which is MM-CN-1.

Impacts Remaining After Mitigation

NEPA Finding

The potential operational effects on bicycle access and safety, construction and operational effects resulting from business displacements and the operational visual impacts on sensitive viewers in communities and neighborhoods would be adverse after mitigation. All other effects would not be considered adverse.

CEQA Determination

The potential operational effects on bicycle access and safety and the operational visual impacts on sensitive viewers would be significant after mitigation. All other impacts would be less than significant. Please note that construction and operational impacts on social and community interactions from business displacements, which are social impacts, are not considered to be significant impacts on the environment under CEQA.

4.5 Visual Quality and Aesthetics

4.5.1 Regulatory Framework and Methodology

4.5.1.1 Regulatory Framework

The applicable federal, state, and local regulations that are relevant to an analysis of the proposed project's visual quality and aesthetics impacts are listed below. For additional information regarding these regulations, please see the Visual Quality and Aesthetics Report in Appendix K of this FEIS/FEIR.

Federal

- The National Environmental Policy Act (NEPA) of 1969, as amended, establishes that the federal government will use all practicable means to ensure all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings (42 U.S.C. 4331 [b][2]). To further emphasize this point, the Federal Highway Administration (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 taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

State

- The California Environmental Quality Act (CEQA) establishes that it is the policy of the state to take all necessary action to provide the people of the state "with…enjoyment of aesthetic, natural, scenic and historic environmental qualities" (CA Public Resources Code Section 21001[b]).

Local

- City of Los Angeles (City of Los Angeles Land Use/Transportation Policy, Special Districts, Targeted Neighborhood Initiatives, and Streetscape Plans); and
- City of San Fernando (General Plan, San Fernando Corridors Specific Plan).

4.5.1.2 Methodology

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

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

The existing visual quality of the project study area was evaluated using the methodology described in the Federal Highway Administration (FHWA) guidance document, *Visual Impact Assessment for Highway Projects*.[1]Although the FHWA guidelines were initially created to provide an analytical

[1] Federal Highway Administration. 1981. *Visual Impact Assessment for Highway Projects.* March.

framework for identifying and assessing qualitative changes to the visual environment that could be introduced as part of a highway project, this methodology has become the industry standard for evaluating visual impacts associated for local and state highway and non-transportation projects as well. According to the guidance document, visual quality is evaluated by identifying the vividness, intactness, and unity present in the viewshed. Each of these elements was assessed to support subsequent comparisons with post-project conditions. FHWA states that this method should correlate with public judgments of visual quality well enough to predict those judgments. This approach is particularly useful in roadway planning because it does not presume that a highway project is necessarily an eyesore. This approach to evaluating visual quality can also help identify specific methods for mitigating each adverse impact that may result from a project.

Figure 4.5-1: Landscape Unit Overview

Source: GPA, 2014.

A landscape is composed of two elements: 1) the underlying landform (e.g., mountains, valley, or beach), and 2) the land cover on it (water, vegetation, man-made development). A landscape unit (LU) is a portion of the regional landscape and can be thought of as an outdoor room that exhibits a distinct visual character. An LU will often correspond to a place or district that is commonly known among local viewers. Within the project study area, there are distinct transitions in the visual setting that correspond primarily to changes in land use.

Because of the high level of diversity in land use and visual character along the project corridor, seven LUs have been defined to capture the overall character and quality of different segments of the corridor (see Figure 4.5-1 and Figures 3-2 through 3-9 in the Visual Quality and Aesthetics Impacts Report in Appendix K). These LUs represent typical characteristics rather than every detail of the project corridor.

For the purpose of this report, a numerical rating between 1 and 7 was assigned to the vividness, intactness, and unity for each of the LUs (see Table 4.5-1). The lowest value was assigned a rating of 1, while 7 represents the highest value.

Table 4.5-1: Visual Quality Numerical Ratings

Rating	Description
1	Very Low
2	Low
3	Moderately Low
4	Moderate
5	Moderately High
6	High
7	Very High

Source: FHWA, 1981.

4.5.1.3 Significance Thresholds

NEPA

NEPA requires federal agencies to determine if an undertaking would significantly affect the environment; however, 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.[2]

Context relates to the various levels of society where impacts could result, such as society as a whole, the affected region, the affected interests, and the locality. The intensity of an impact relates to several factors, including the degree to which the impact would affect public health and safety; the proximity of the project to sensitive resources; and the degree to which effects on the quality of the human environment are likely to be highly controversial or involve unique or unknown risks.

Under NEPA, the context and intensity of a project's impacts are discussed regardless of any thresholds levels, and mitigation measures are included where reasonable.

CEQA

CEQA requires state and local government agencies to identify the significant environmental effects of proposed actions; however, 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 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.

[2] Code of Federal Regulations. *CEQ – Regulations for Implementing NEPA, 40 CFR Part 1508, Terminology and Index.*

State CEQA Guidelines

The State CEQA Guidelines define "significant effect on the environment" as: "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by a project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance" (State CEQA Guidelines, 14 CCR Section 15382).[3]

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.[4] As outlined in Appendix G, a project may have a significant effect on visual and aesthetics resources if the project would:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a scenic highway;
- Substantially degrade the existing visual character or quality of the site and its surroundings; and
- Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

City of Los Angeles CEQA Thresholds

The *L.A. CEQA Thresholds Guide* states that a determination of significance for aesthetics and visual resources shall be made on a case-by-case basis, considering the following factors:[5]

Aesthetics

- The amount or relative proportion of existing features or elements that substantially contribute to the valued visual character or image of a neighborhood, community, or localized area, which would be removed, altered, or demolished;
- The amount of natural open space to be graded or developed;
- The degree to which proposed structures in natural open space areas would be effectively integrated into the aesthetics of the site, through appropriate design, etc.;
- The degree of contrast between proposed features and existing features that represent the area's valued aesthetic image;
- The degree to which a proposed zone change would result in buildings that would detract from the existing style or image of the area due to density, height, bulk, setbacks, signage, or other physical elements;
- The degree to which the project would contribute to the area's aesthetic value; and
- Applicable guidelines and regulations.

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[3] California Natural Resources Agency. 2010b. *State CEQA Guidelines, 14 CCR Section 15382.* Available: <http://ceres.ca.gov/ceqa/guidelines/art20.html>. Accessed: February 15, 2013.

[4] The Environmental Checklist questions in Appendix G of the State CEQA Guidelines were used as guidance in developing thresholds for determining impact significance. In late 2018, subsequent to completion of the DEIS/DEIR, changes to the State CEQA Guidelines were adopted by the State including revisions to the Environmental Checklist questions in Appendix G. To maintain consistency between the DEIS/DEIR and FEIS/FEIR when evaluating the significance of impacts under CEQA, the significance thresholds identified in this chapter are unchanged from those in the DEIS/DEIR.

[5] City of Los Angeles. 2006. *L.A. CEQA Thresholds Guide, K. Public Services.* Available: <http://www.ci.la.ca.us/ead/programs/Thresholds/K-Public%20Services.pdf>. Accessed: February 13, 2013.

Obstruction of Views

- The nature and quality of recognized or valued views (such as natural topography, settings, man-made or natural features of visual interest, and resources such as mountains or the ocean);
- Whether the project affects views from a designated scenic highway, corridor, or parkway;
- The extent of obstruction (e.g., total blockage, partial interruption, or minor diminishment); and
- The extent to which the project affects recognized views available from a length of a public roadway, bike path, or trail, as opposed to a single, fixed vantage point.

Shading

- A project impact would normally be considered significant if shadow-sensitive uses would be shaded by project-related structures for more than three hours between the hours of 9:00 a.m. and 3:00 p.m. Pacific Standard Time (between late October and early April), or for more than four hours between the hours of 9:00 a.m. and 5:00 p.m. Pacific Daylight Time (between early April and late October).

Nighttime Illumination

- The change in ambient illumination levels as a result of project sources; and
- The extent to which project lighting would spill out of the project site and affect adjacent light-sensitive areas.

4.5.2 Affected Environment/Existing Conditions

The project study area runs generally north/south in the San Fernando Valley area of Los Angeles County. The project corridor is approximately 9.2 miles in length and runs nearly one-quarter of the length of the valley floor. The San Fernando Valley is a topographically flat area consisting of approximately 260 square miles; however, there are several mountain ranges near or adjacent to the project corridor, including the Santa Monica Mountains to the south, the Verdugo Mountains to the east, the San Gabriel Mountains to the northeast, and the Santa Susana Mountains to the north and west (see Figure 3-1 in the Visual Quality and Aesthetics Impacts Report in Appendix K). The project corridor is located in an urbanized area with residential, commercial, industrial, recreation, schools, community centers, and other urban land uses. There are a number of residential and recreational areas in the mountainous regions from where the viewshed includes the project corridor.

4.5.2.1 Existing Scenic Vistas

A scenic vista can be described as an expansive view of a highly valued landscape for the benefit of the general public. There are portions of the project area that could be characterized as having scenic vistas, including undeveloped hillsides, ridgelines, and open space areas that provide a unifying visual backdrop to the urban environment of the Los Angeles Basin. Scenic vistas in the project study area include views of the surrounding mountains, which are visible from various locations along the project corridor and include the Santa Monica Mountains to the south, the Verdugo Mountains to the east, the San Gabriel Mountains to the northeast, and the Santa Susana Mountains to the north and west. Views of surrounding mountains are described for each LU in Section 4.5.2.3 below.

4.5.2.2 Existing Scenic Resources

Scenic resources in the project study area include existing landscaping elements, including rows of palm trees along Van Nuys Boulevard, and historic properties along the project corridor, which include the following:

- 14601-3 Aetna Street: This property is an example of Progress Works Administration (PWA) Moderne architecture and early infrastructure in the San Fernando Valley.
- 130 N. Brand Boulevard: This property is a junior high school campus with Classical Revival architecture.
- 1140 San Fernando Road: This property is a unique example of a J.C. Penney department store in a commercial strip, as opposed to a shopping mall.
- 1601 San Fernando Road: This property is an example of a Googie-style car wash on San Fernando Road.
- 6353 Van Nuys Boulevard: This property is an example of Streamline Moderne architecture that represents an early period of commercial development in the San Fernando Valley.
- 6551 Van Nuys Boulevard: This property is an example of New Formalist architecture and the work of Millard Sheets.
- 8201 Van Nuys Boulevard: This property is a rare example of Expressionist architecture.
- 8324 Van Nuys Boulevard: This property is part of a planned commercial strip for the successful post-war suburb of Panorama City.
- 9110 Van Nuys Boulevard: This property is a planned commercial strip for the successful post-war suburb of Panorama City and is the work of master architect William Pereira.
- San Fernando Road: A portion of San Fernando Road between the southern end of Truman Street to North Lincoln Street/Victory Place is a historic alignment, dating from as early as 1871.

4.5.2.3 Existing Visual Character and Quality

LU-1: Van Nuys Boulevard/ Van Nuys Civic Center Unit

Figure 4.5-2: Representative Viewpoint 1

Source: GPA, 2013.

LU-1 includes the Van Nuys Boulevard corridor between approximately Calvert Street and Vanowen Street. This LU is in the Van Nuys – North Sherman Oaks Community Plan Area (CPA) and in the Van Nuys Community Design Overlay (CDO) District, Van Nuys Central Business District (CBD) CDO, and Van Nuys Targeted Neighborhood Initiative (TNI). This LU also includes historic properties at 14601-3 Aetna Street, 6353 Van Nuys Boulevard, and 6551 Van Nuys Boulevard. This segment of Van Nuys Boulevard is typically three vehicle lanes in each direction with a center median and/or turn lanes. There are parking spaces and sidewalks but no bike lanes.

Typical views in LU-1 include the Van Nuys Boulevard corridor, bordered by parking, sidewalks, street trees, commercial buildings, signs on both sides of the corridor, and additional buildings visible in the background. In the northbound direction, the San Gabriel Mountains are visible; in the southbound direction, the Santa Monica Mountains are visible. Representative Viewpoint (RV)-1, representing views from LU-1, is facing slightly northeast on Van Nuys Boulevard at its intersection with Haynes Street on the west side of the roadway (see Figure 4.5-2).

The visual quality of LU-1 has been quantified using the rating system described in Section 4.5.1.2. Overall, on a scale of 1 to 7, the visual quality of LU-1 is rated at approximately 5.7, which is high (see Table 3-1 in the Visual Quality and Aesthetics Impacts Report in Appendix K).

LU-2: Van Nuys Boulevard/Van Nuys Commercial Unit

Figure 4.5-3: Representative Viewpoint 2

Source: GPA, 2014

LU-2 includes Van Nuys Boulevard between approximately Vanowen Street and Titus Street. This LU is partially in the Van Nuys – North Sherman Oaks CPA and partially in the Mission Hills – Panorama City – North Hills CPA. This LU is within the Historic Preservation Overlay Zone (HPOZ), where lots are categorized by whether they have contributing features, non-contributing features, or if the parcel is undeveloped. A portion of the LU is also in the Van Nuys TNI II and Panorama City CDO District. This segment of Van Nuys Boulevard is typically three vehicle lanes in each direction with a center median and/or turn lanes. There are parking spaces and sidewalks on both sides of the roadway, but no bike lanes. LU-2 also passes under the Metrolink/Union Pacific Railroad just south of West Cabrito Road.

Typical views in LU-2 include the Van Nuys Boulevard corridor stretching from the foreground to the horizon, bordered by sidewalks, street trees, commercial buildings, tall light poles, and signs on both sides, with additional buildings visible in the background. Mountains are minimally visible in the background in both the northbound (Santa Susana) and southbound (Santa Monica) directions. RV-2, representing views from LU-2, is facing slightly northeast on Van Nuys Boulevard just north of Hartland Street on the west side of the roadway (see Figure 4.5-3).

The visual character of LU-2 is that of a small to medium-scale urban commercial corridor. Van Nuys Boulevard, adjacent commercial buildings, and associated overhead signs are the dominant components in LU-2, which create a pattern of straight yet jagged lines in the landscape. Street trees soften these lines, and add color, texture and shading to the landscape; however, because they are planted intermittently, they blend into the overall landscape.

The northbound views of the San Gabriel Mountains add visual interest in the LU, but these views are dominated by other features in the landscape. Buildings in LU-2 are of all different sizes, styles, and colors, and are spaced at different intervals, creating a high level of visual diversity in the landscape with no common theme. The roadway is wide, which creates a more open and exposed feel in this area. Overhead streetlights create a uniform line along the roadway; however, this is minimized by the variety of building features.

The visual quality of LU-2 has been quantified using the rating system described in Section 4.5.1.2 (see Table 3-2 in the Visual Quality and Aesthetics Impacts Report in Appendix K). Overall, on a scale of 1 to 7, the visual quality of LU-2 is rated at approximately 2, which is low.

LU-3: Van Nuys Boulevard/Panorama City Commercial Unit

Figure 4.5-4: Representative Viewpoint 3

Source: GPA, 2014.

LU-3 includes Van Nuys Boulevard between approximately Titus Street and just north of Parthenia Street. This LU is in the Mission Hills – Panorama City – North Hills CPA, Panorama City CDO District, and Panorama City Business Improvement District (BID). This LU also includes historic properties at 8201 Van Nuys Boulevard and 8324 Van Nuys Boulevard. This segment of Van Nuys Boulevard is typically three vehicle lanes in each direction with a center median and/or turn lanes. There are parking spaces and sidewalks on both sides of the roadway, but no bike lanes. There is a large curve to the left along this section of Van Nuys Boulevard between Chase Street and Parthenia Street; Parthenia Street veers to the left while Van Nuys Boulevard turns again to the right and continues north.

Typical views in LU-3 include the Van Nuys Boulevard corridor, bordered by parking, sidewalks, street trees, signs on both sides of the corridor, and commercial buildings, with additional buildings visible in the background. In the northbound direction, a curve in Van Nuys Boulevard reduces views beyond the roadway corridor itself. RV-3, representing views from LU-3, is facing northeast on Van Nuys Boulevard just north of Chase Street on the west side of the roadway (see Figure 4.5-4).

The visual character of LU-3 is that of a small to medium-scale urban commercial corridor. Van Nuys Boulevard and the adjacent commercial buildings are the dominant components in LU-3. They create a pattern of straight but jagged lines in the landscape that are partially softened by street trees. These trees also add color, texture, and shading to the landscape, which is otherwise dominated by concrete. There is a curve in the road through a portion of LU-3 that adds a gently curving line to the landscape.

The visual quality of LU-3 has been quantified in using the rating system described in Section 4.5.1.2 (see Table 3-3 in the Visual Quality and Aesthetics Impacts Report in Appendix K). Overall, on a scale of 1 to 7, the visual quality of LU-3 is rated at 3, which is moderately low.

LU-4: Van Nuys Boulevard/Panorama City-Arleta Residential Unit

LU-4 includes Van Nuys Boulevard between approximately just north of Parthenia Street and just south of I-5 (see Figure 3-6 in the Visual Quality and Aesthetics Impacts Report in Appendix K). This LU is located partially within the Mission Hills – Panorama City – North Hills CPA and partially within the Arleta – Pacoima CPA. This LU also includes one historic property at 9110 Van Nuys Boulevard. This segment of Van Nuys Boulevard is typically two vehicle lanes in each direction with a center median and/or turn lanes. There are parking spaces and sidewalks on both sides of the roadway, but no bike lanes. This LU also crosses over the Pacoima Wash Diversion Channel.

Figure 4.5-5: Representative Viewpoint 4

Source: GPA, 2013.

Typical views in LU-4 include the Van Nuys Boulevard corridor, bordered by parking, sidewalks, overhead utility lines, landscaping, and apartments. There is a curve in the road on Van Nuys Boulevard just north of Plummer Street, after which the I-5 overcrossing and the San Gabriel Mountains are visible in the background in the northbound direction. RV-4, representing views from LU-4, is facing slightly southeast on Van Nuys Boulevard just north of Vincennes Street on the west side of the roadway (see Figure 4.5-5).

The visual character of LU-4 is that of a residential neighborhood. The dominant components in this LU include Van Nuys Boulevard, adjacent apartment buildings, landscaping, and overhead power lines. In the northbound direction, the San Gabriel Mountains are dominant in the background. The roadway, buildings, and power lines create straight lines through the LU, which are softened in part by the dense vegetation, as well as the mountains in the background.

The vegetation also provides color, texture, and shading to the landscape in this LU. The roadway is narrower through this area, as well as the sidewalks, creating a more enclosed feel in the landscape. On the east side of the roadway, the sidewalk is separated from the street by a strip of grass or other landscaping, which provides additional visual separation and a perception of safety for pedestrians walking through this area.

The visual quality of LU-4 has been quantified using the rating system described in Section 4.5.1.2 (see Table 3-4 in the Visual Quality and Aesthetics Impacts Report in Appendix K). Overall, on a scale of 1 to 7, the visual quality of LU-4 is rated at 5, which is moderately high.

LU-5: Pacoima Commercial Unit

LU-5 includes Van Nuys Boulevard between approximately just south of I-5 and San Fernando Road. LU-5 is in the Arleta-Pacoima CPA, the Pacoima CDO District, and the Pacoima Town Center TNI. This segment of Van Nuys Boulevard is typically two vehicle lanes in each direction with a center median and/or turn lanes. There are parking spaces and sidewalks on both sides of the roadway, but no bike lanes. This LU also crosses under I-5 and over the UPRR railroad tracks.

Typical views in this LU include the Van Nuys Boulevard corridor, bordered by parking spaces, sidewalks, street trees, signs, utility lines, and commercial buildings, with additional buildings visible in the background. In the northbound direction, the San Gabriel Mountains are visible. RV-5, representing views from LU-5, is facing slightly southwest on Van Nuys Boulevard just south of El Dorado Avenue on the east side of the roadway (see Figure 4.5-6).

Figure 4.5-6: Representative Viewpoint 5

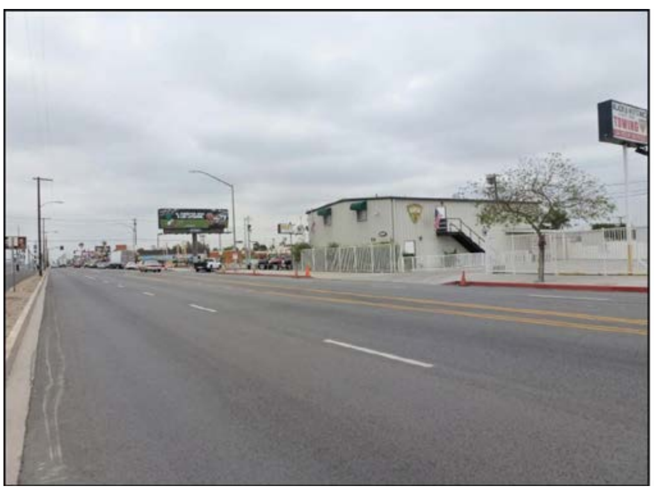
Source: GPA, 2014.

The visual character of LU-5 is that of a small to medium-scale urban commercial corridor. The dominant components in this LU are Van Nuys Boulevard, the adjacent commercial buildings, and overhead power lines. In the northbound direction, the San Gabriel Mountains are dominant in the background. The buildings, roadway, and overhead utilities create a pattern of straight lines in the landscape, which are partially softened by street trees. Trees also add color, texture, and shading to the landscape.

The visual quality of LU-5 has been quantified using the rating system described in Section 4.5.1.2 (see Table 3-5 in the Visual Quality and Aesthetics Impacts Report in Appendix K). Overall, on a scale of 1 to 7, the visual quality of LU-5 is rated at approximately 3.3, which is moderately low.

LU-6: San Fernando Road Unit

Figure 4.5-7: Representative Viewpoint 6



Source: GPA, 2014.

LU-6 includes the San Fernando Road corridor from Van Nuys Boulevard in the south to Kittridge Street in the north. LU-6 is in the Arleta-Pacoima CPA. A portion of the LU near Van Nuys Boulevard is also in the Pacoima Community Design Overlay area. The roadway is generally two lanes in each direction with street parking on portions of the south side of the roadway, and a Class 1 bike path adjacent to the east of the roadway. LU-6 crosses under SR-118 and over the Pacoima Wash Diversion Channel.

Typical views in LU-6 include the San Fernando Road corridor, bordered by parking spaces, sidewalks, streetlights, overhead utilities, sparse vegetation, and commercial/industrial buildings. On the north side of the road, the railroad tracks also are visible along the corridor. In the westbound direction, the Santa Susana Mountains are visible on the north side of the corridor to the northwest. RV-6, representing views from LU-6, is facing southeast on San Fernando Road just north of Pinney Street on the north side of the roadway (see Figure 4.5-7).

The visual character of LU-6 is that of an urban industrial corridor. The dominant components in this LU consist of San Fernando Road, adjacent commercial/industrial buildings, and the railroad tracks on the north side of the roadway. These components create a pattern of straight but jagged lines in the landscape. To the northeast, the San Gabriel Mountains are also visually dominant in the corridor.

The scale and openness of the corridor create a more exposed feel for pedestrians but are slightly minimized by the larger mountains in the background. The varying sizes, styles, and colors of the buildings create a high level of visual diversity in the landscape with no common theme.

The visual quality of LU-6 has been quantified in Table 3-6 using the rating system described in Section 4.5.1.2 (see Table 3-6 in the Visual Quality and Aesthetics Impacts Report in Appendix K). Overall, on a scale of 1 to 7, the visual quality of LU-6 is rated at approximately 3.3, which is moderately low.

LU-7: San Fernando Mall Unit

Figure 4.5-8: Representative Viewpoint 7

Source: GPA, 2014.

LU-7 includes the San Fernando Road corridor, including the San Fernando Mall, from Kittridge Street to the Sylmar-San Fernando Metrolink. The San Fernando Mall begins at Kittridge Street, where San Fernando Road becomes one lane in each direction, and continues to San Fernando Mission Boulevard. This LU includes historic properties at 130 N. Brand Boulevard, 1140 San Fernando Road, 1601 San Fernando Road, and the historic segment of San Fernando Road between the southern end of Truman Street and North Lincoln Street/Victory Place. From San Fernando Mission Boulevard to the Sylmar-San Fernando Metrolink Station, the roadway is generally two lanes in each direction, and the visual setting within this area is similar to LU-6. Within the San Fernando Mall corridor, there are diagonal parking spaces on one side of the roadway, and parallel street parking on the other side of the roadway, which varies from block to block. There are no center medians or bike lanes along this section of the roadway.

Typical views in LU-7 include the San Fernando Road corridor, bordered by parking spaces, sidewalks, streetlights, landscaping, and storefronts. RV-7, representing views from LU-7, is facing south on San Fernando Road looking toward the intersection with Maclay Avenue (see Figure 4.5-8).

The visual character of LU-7 is that of a local retail shopping area. The dominant components in this LU are the San Fernando Mall corridor and the adjacent storefront, which create a pattern of straight lines in the landscape that is softened in part by the existing landscaped trees and planters. This vegetation adds texture to the landscape, which is otherwise dominated by concrete and parked cars.

The visual quality of LU-7 has been quantified using the rating system described in Section 4.5.1.2 (see Table 3-7 in the Visual Quality and Aesthetics Impacts Report in Appendix K). Overall, on a scale of 1 to 7, the visual quality of LU-7 is rated at 4, which is moderate.

LU-8: Truman Street Unit

Figure 4.5-9: Representative Viewpoint 8

Source: GPA, 2013.

LU-8 includes the Truman Street corridor from San Fernando Road to the Sylmar-San Fernando Metrolink Station. This LU is within the San Fernando Corridors SPA, and includes historic properties at 130 N. Brand Boulevard, 1140 San Fernando Road, and 1601 San Fernando Road. The roadway is generally two lanes in each direction with a center median or turn lanes. There is street parking along portions of the roadway, but no bike lanes.

Typical views in LU-8 include the Van Nuys Boulevard corridor, bordered by parking spaces, sidewalks, streetlights, landscaping, signs, and commercial buildings. The San Gabriel Mountains are highly visible in the background in the northbound direction. RV-8, representing views from LU-8, is facing northeast on Truman Street at its intersection with Maclay Avenue (see Figure 4.5-9).

The visual character of LU-8 is that of a local retail shopping area. The dominant components in this LU are Truman Street and the adjacent commercial buildings, which create a pattern of straight lines in the landscape that is softened in part by the existing street trees. These trees also add color and texture to the landscape, which is otherwise dominated by concrete. To the northeast, the San Gabriel Mountains are also a visually dominant feature in the corridor.

The visual quality of LU-8 has been quantified using the rating system described in Section 4.5.1.2 (see Table 3-8 in the Visual Quality and Aesthetics Impacts Report in Appendix K). Overall, on a scale of 1 to 7, the visual quality of LU-8 is rated at 4, which is moderate.

LU-9: Metrolink Railroad Unit

LU-9 includes the Metrolink/Union Pacific Railroad from La Rue Street to the Sylmar-San Fernando Metrolink Station. The Metrolink railroad tracks run through an industrial area, northeast of Truman Street. There are industrial buildings located southwest of the railroad tracks and landscaped trees and vegetation are located adjacent to the Mission City Bike Trail (trail) just northeast of the railroad tracks. Chain-link and iron-rod fences separate the railroad tracks from the adjacent land uses. There are telephone poles and wires that span the length of the railroad tracks with light poles adjacent to the trail. This LU also includes historic properties at 130 N. Brand Boulevard, 1140 San Fernando Road, and 1601 San Fernando Road.

Typical views in LU-9 include the railroad tracks, landscaped trees, telephone poles, fences, and industrial buildings. RV-9, representing views from LU-9, is facing southeast from the entrance to the Mission City Bike Trail and looks down the railroad corridor (see Figure 4.5-10).

Figure 4.5-10: Representative Viewpoint 9

Source: GPA, 2014

The visual character of LU-9 is that of a landscaped industrial area. The dominant components in this LU are the railroad tracks, industrial buildings, and adjacent landscaping. The trees and vegetation add texture to the landscape and contrast with the sharp lines of the industrial buildings and telephone poles.

The visual quality of LU-9 has been quantified using the rating system described in Section 4.5.1.2 (see Table 3-8 in the Visual Quality and Aesthetics Impacts Report in Appendix K). Overall, on a scale of 1 to 7, the visual quality of LU-9 is rated at 3, which is moderately low.

4.5.2.4 Existing Viewers and Viewer Response

Viewer groups were identified by researching and observing the land uses and circulation patterns throughout the project corridor. Viewers in the project corridor may shift between viewer groups at different times of the day. The user groups described below were identified for the project study area.

Viewer Groups

Drivers

The project corridor is heavily used by single-passenger cars. Drivers include those traveling to and from land uses in the project study area as well as those traveling through the area from other parts of the City and region. Drivers include bus, train, and other transit drivers as well.

Transit Riders

Multiple transit lines, including Metro Local and Metro Rapid bus service, the Metro Orange Line, the Metrolink Ventura Line commuter rail service, Amtrak inter-city rail service, and the Metrolink Antelope Valley Line commuter rail service, run along or across the project corridor. Transit riders include those riding the bus or train to/from or through the area.

People on Bicycles

There are currently 2 miles of Class II bike lanes along the project corridor on Van Nuys Boulevard from Parthenia Street to Beachy Avenue as well as a Class I bike path just east and adjacent to the alignment along San Fernando Road; additionally, people on bicycles may use sections that do not have bike lanes. Therefore, people on bicycles who may be traveling along Van Nuys Boulevard, along the San Fernando Road bike path, and/or intersecting roadways have been included as a viewer group. According to community outreach completed for the project, there is a high level of interest for bicycle lanes.

Pedestrians

Pedestrians include people walking either to or from land uses along the project corridor, or those traveling through the area. The pedestrian circulation system, which consists of sidewalks, crosswalks, street lighting, and street furniture, is generally well developed and complete, serving both adjacent residential and commercial land uses in the two corridors (the Van Nuys Boulevard corridor and the San Fernando Road/Truman Street corridor) as shown in Figure 4.14-1.

Sidewalk widths along Van Nuys Boulevard range from a minimum of 5 feet to a maximum of 20 feet, with most sidewalks ranging from 10 to 13 feet in width. Along San Fernando Road and Truman Street, the sidewalks range from a minimum of 7 feet to a maximum of 13 feet, with most sidewalks falling in the 8- to 12-foot range. There are sections of sidewalk where pedestrian accessibility is compromised by crossing driveways and obstructions protruding into the path of pedestrians. Crosswalks at signalized intersections have pedestrian indicators and push-button activation for pedestrian phases in the Cities of Los Angeles and San Fernando. Most intersections in the project study area allow pedestrian crossings along all four sides.

Residents

There are several residential neighborhoods along the project corridor, as well as others located on adjacent blocks that are within the project study area. Residential viewers are considered to be those who reside along the corridor itself and would see the project from their homes. According to the US Census Bureau, there were 154,510 housing units and a total population of 492,164 individuals in the project study area in the year 2010.

Employees/Students

There are a number of employment centers along and adjacent to the project corridor. Employees at these businesses may view the project when arriving at or departing work, taking their lunch breaks, and, potentially, working inside their workplaces. There are also several schools located along or adjacent to the project corridor. Students may have similar viewing patterns as employees.

Visitors

There are a number of retail businesses in the project corridor, as well as government offices and medical complexes. There are a number of churches, libraries, and other community centers along the project corridor. Visitors, which would include shoppers, restaurant-goers, and civic building users, may view the project while arriving at or leaving a particular building.

Recreational Users

There are a number of parks along the project corridor. Recreational users may view the project when arriving at or leaving the facilities or from the facility park itself.

Outside Viewers

The Van Nuys Boulevard corridor is located in a very flat valley surrounded by steep hillsides. Residents and recreational users in the nearer hills would have views of the project.

Viewer Sensitivity

Viewer sensitivity is defined as both the viewers' concerns for scenic quality as well as the viewers' responses to changes in the visual resources that make up the view, including temporary changes during construction and long-term permanent changes. Local values and goals may confer visual significance on landscape components and areas that would otherwise appear unexceptional in a visual resource analysis. Even when the existing appearance of a project site is uninspiring, a community may still object to projects that fall short of its visual goals. Analysts can learn about these special resources and community aspirations for visual quality through citizen participation procedures, as well as from local publications and planning documents.

Drivers

Drivers in the project corridor are moving along roadways and would therefore not be expected to notice changes in visual character as much as viewers who are stationary. Drivers would also be travelling at a maximum of 35 miles per hour (mph) and would remain in the project corridor for a shorter period of time than people on bicycles or pedestrians. In addition, all of the roadway corridors in the project corridor are busy roadways and demand the careful attention of drivers using these roadways. Viewer sensitivity is considered low.

Transit Riders

Transit riders may have a higher concern for their visual surroundings, depending on what activities they choose to do during their trips along the project corridor. Because riding the bus is a passive activity, riders have the opportunity to read or do some other activity that would allow them to focus their eyes away from their surroundings. However, it is likely that many riders would spend some or all of their time looking out the window at their surroundings. These riders would be expected to be more concerned with changes in visual character. Viewer sensitivity is considered moderately high.

People on Bicycles

People on bicycles using the project corridor are moving along roadways and would therefore not be expected to notice changes in visual character as much as viewers who are stationary. In addition, roadways within the project corridor are busy and demand the careful attention of people on bicycles. However, people on bicycles are travelling at a slower speed (an average of 10 mph) than engine-powered vehicles and would be in the project corridor during a longer period of time. Therefore, people on bicycles would be more sensitive to visual changes than drivers. Viewer sensitivity is considered moderate.

Pedestrians

Pedestrians may have a higher concern for their visual surroundings, in particular those that are in the area shopping or standing/sitting at one location waiting for a bus. For those that spend a lot of time in the project corridor, the ability to observe their surroundings may be of importance, and these users would be expected to be more concerned with changes in visual character. Viewer sensitivity is considered high.

Residents

Residents along the project corridor may have higher concern for their visual surroundings since they may be able to view the roadway from their front yards and/or inside their homes. Typically, people feel strongly about the visual character of areas surrounding their homes; these viewers would be expected to be more concerned with changes in visual character. Viewer sensitivity is considered very high.

Employees/Students

Employees and students may be concerned about their visual surroundings, especially if they have views from their offices or classrooms. In addition, students may also spend time outdoors for recess or physical education activities. Because employees and students are pursuing activities during the day that would very likely take some attention away from their surroundings (e.g., looking at computers, reading), their concern about their visual surroundings may not be as high as for those viewers, such as residents, who may not be engaged in those types of activities throughout the day. However, employees and students are likely returning to the project corridor day after day and would therefore be expected to have some concern about changes in the visual quality of their surroundings. Viewer sensitivity is considered moderately high.

Visitors

Visitors to the area may be more or less concerned with the visual character of an area, depending on the purpose of their visit, but they would not be as familiar with the existing visual character because they do not return to the project corridor on a daily basis, and therefore may not be as concerned with whether there has been a visual change. Viewer sensitivity is considered low to moderate.

Recreational Users

Recreational users may be more concerned about their visual surroundings because they either are pursuing passive activities or are specifically seeking a pleasant visual setting. Viewer sensitivity is considered very high.

Outside Viewers

Outside viewers may be more or less sensitive to their visual surrounding depending on their activities and their view of the project corridor. Hillside residents and hillside recreation viewers have been identified as potential viewers from outside of the project corridor. Residents outside of the corridor would be expected to have a high sensitivity to their surroundings. However, because the project corridor would not likely be the primary component of their view, concern may be less than if the project corridor were closer. Recreational users that may have views of the corridor from surrounding hillsides would also be concerned with the visual setting and changes in the visual character of the corridor if that would affect the quality of the views themselves. Viewer sensitivity is considered high.

4.5.2.5 Community Preferences

Community preferences are important for determining the potential visual impacts of a project. A good indicator of visual preferences in the community can be found in local design guidelines. There are a number of existing planning documents (see Section 4.5.1.1) that identify design preference within the project study area. Overall, these planning documents identify a strong desire to improve the visual appearance of these areas through building style and spacing, consistent streetscaping elements, and strategic placement of signage and other elements to create a cohesive aesthetic. These plans also are aligned in wanting to improve the pedestrian experience along the project corridor to attract more people and encourage a more thriving community center.

In addition to past outreach completed for existing community plans, a series of community outreach meetings were held in order to gauge community attitudes and potential issues that could arise in the project study area. Three rounds of community meetings were held in 2011-12, 2013, and 2014, and presentations on the project have been given to other key stakeholders including elected officials and community organizations.

According to the results of the community outreach to date, the majority of community members attending the outreach meetings prefer the LRT alternatives versus the BRT alternatives. One of the reasons given by a commenter for support of this option was that the "beauty" of the existing Expo Line is desired for the project. This comment is understood to mean that consistent visual elements, as seen with the transit features of the Expo Line, are viewed as aesthetically pleasing. Another commenter stated that streetcars with low floor entries look cutting edge and modern. Other comments were received in relation to a desire for additional landscaping along San Fernando Road to enhance the visual setting, and upgrading striping, lighting, paving, and signage to create visual continuity.

4.5.2.6 Existing Lighting, Glare, and Shading

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

4.5.3 Environmental Consequences, Impacts, and Mitigation Measures

4.5.3.1 No-Build Alternative

Construction Impacts

The No-Build Alternative would not involve new transportation or infrastructure improvements aside from other related projects currently under construction or funded for future construction. Therefore, the No-Build Alternative would have no visual or aesthetics construction impacts.

Operational Impacts

The No-Build Alternative would not result in any visual changes to the project corridor, except for those changes resulting from other planned projects, such as the various freeway and arterial roadway upgrades, expansions to the Metro Rapid bus system, and upgrades to the Metrolink system, as specified in Metro's Long Range Transportation Plan (LRTP) and the Southern California Association of Government's (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Therefore, there would be no visual impacts from this alternative. However, beneficial visual enhancements from the build alternatives, such as improvements to visual quality in station areas, would not result under the No-Build Alternative.

Cumulative Impacts

Per CEQA Section 15130 (b), the cumulative impacts analysis can consider either a "list of past, present, and probable future projects producing related or cumulative impacts" 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." The cumulative impacts analysis below is based on the approach that considers cumulative projects listed in Table 2-3 of the DEIS/DEIR.

The project study area for cumulative visual impacts consists of those areas that have views of the project corridor and those areas that can be seen from locations along the project corridor.

Under the No-Build Alternative, there would be no impacts on visual and aesthetic resources; therefore, this alternative would not contribute to any cumulative impacts on these resources.

Mitigation Measures

Construction Mitigation Measures

No construction mitigation measures are required.

Operational Mitigation Measures

No operational mitigation measures are required.

Impacts Remaining After Mitigation

NEPA Finding

No adverse effects under NEPA would occur.

CEQA Determination

No impacts under CEQA would occur.

4.5.3.2 Locally Preferred Alternative (Alternative 4 Modified: At-Grade LRT)

Construction Impacts

Construction of the Locally Preferred Alternative (LPA) could result in temporary visual impacts within and surrounding the project corridor. Construction areas along the entire length of the project corridor would be visible to all viewer groups identified in Section 4.5.2 above, from areas within and adjacent to the project corridor, including residential and recreational areas. Construction activities in staging areas and at proposed stations, traction power substations (TPSS), and the maintenance and storage facility (MSF) may include the use of construction lighting, and large equipment such as cranes and associated vehicles, including bulldozers, backhoes, graders, scrapers, and trucks, which could be visible from public streets, sidewalks, and adjacent properties.

Construction lighting could spill over onto adjacent properties and could result in glare that could adversely affect the clarity of nighttime views in the area. All viewer groups near the construction areas may be affected by the presence of equipment, as well as stockpiled construction-related materials. In addition, mature vegetation, including trees, may need to be temporarily or permanently removed from some areas. These activities could adversely affect visual character and quality along the project corridor. Temporary visual impacts will be minimized through construction Mitigation Measure MM-VIS-1.

Construction activities associated with the LPA could result in substantial adverse effects on all viewer groups under NEPA and significant impacts under CEQA.

Operational Impacts

Scenic Vistas

Figure 4.5-11: Example of a Typical Pedestrian Bridge

Source: Metro, n.d.

Figure 4.5-12: Example of a Typical TPSS

Source: Metro, 2019.

Figure 4.5-13: Illustrative View of LPA

Source: LOA, 2015.

Scenic vistas in the project study area include views of the surrounding mountains, which are visible from various locations along the project corridor and include the Santa Monica Mountains to the south, the Verdugo Mountains to the east, the San Gabriel Mountains to the northeast, and the Santa Susana Mountains to the north and west. As discussed in Section 4.5.2 above, views of surrounding mountains are visible in several LUs, including LU-1, LU-2, LU4, LU-5, LU-6, and LU-8. In some LUs, the surrounding mountains are minimally visible, such as in LU-2. In some LUs, the surrounding mountains are a visually dominant feature in the background, such as in LU-4, LU-5, LU-6, and LU-8. Drivers, transit riders, people on bicycles, and pedestrians would be expected to have more fleeting views of scenic vistas because they are moving along the project corridor, while pedestrians, employees/students, and visitors would be expected to have longer views.

The primary visual elements included as part of the LPA would be the new light-rail transit (LRT) cars and overhead contact system (OCS), median stations and fencing, railroad crossing gates, TPSSs, the pedestrian bridge at the Sylmar/San Fernando Metrolink Station (note: a pedestrian tunnel is also under consideration at this location), the MSF, and changes in parking, lanes, and sidewalks (see Figures 4.5-11, 4.5-12, and 4.5-13). Along the north end of the corridor, the LRT would be located along the Metrolink/Union Pacific Railroad (UPRR) railroad track from the Van Nuys Boulevard/San Fernando Road intersection to the project terminus on the north. The MSF would not substantially affect existing views because the facility would replace existing commercial and industrial buildings, would typically look similar to existing buildings and would not include any structures or features that would be taller than existing buildings. In addition, the TPSSs would only be 12 to 14 feet high and would not be expected to substantially block views of scenic vistas.

New stations and the OCS in the median, and the pedestrian bridge at the Sylmar/San Fernando Metrolink Station (note: a pedestrian tunnel is also under consideration at this location) would present new vertical features in the landscape that could partially block views of the roadway corridor and surrounding mountains in several LUs along the project corridor. New stations along the outside edge of the roadway would also present new vertical features in the landscape and may limit views directly adjacent to or within the stations; however, views in the corridor as a whole would not be substantially affected by these stations. Sidewalks would be minimally narrowed in some areas, however, sidewalk widths vary throughout the project alignment corridors from five to 16 feet, but are generally an adequate 10 feet. As such, this would not be expected to substantially affect views.

The OCS, in particular, would substantially affect existing views of scenic vistas. The OCS poles would be approximately 30 feet tall and typically located every 90 to 170 feet along the LRT tracks. Currently, the surrounding mountains are visually dominant features in several LUs, but the vertical elements proposed under the LPA would substantially detract from existing views because of their height, and because they would be located throughout the corridor. Therefore, overall impacts on scenic vistas would be substantial and adverse under NEPA, and significant under CEQA.

Scenic Resources

Scenic resources in the project study area include existing landscaping elements, including rows of palm trees along Van Nuys Boulevard, and historic properties along the project corridor in LU-1, LU-2, LU-3, LU-4, LU-7, LU-8, and LU-9. As discussed in Section 4.5.2 above, existing landscaping elements, such as trees and other vegetation, serve to soften views and add color and texture in several LUs, including LU-2, LU3, LU-5, LU-7, LU-8, and LU-9.

The addition of LRT cars and stations along the roadway median or within mixed-flow lanes could require the removal of existing landscaping along certain segments of the corridor, since there are areas where the medians are landscaped with rows of palm trees, such as along Van Nuys Boulevard in the Van Nuys Civic Center area. Construction of plazas could also result in impacts on existing resources from the removal of landscaping, including street trees (e.g., the landmark rows of palm trees along Van Nuys Boulevard in the Van Nuys Civic Center area). In addition, TPSSs along the side of the roadway would result in impacts on existing landscaping and historic properties with the construction of additional vertical elements that could partially block views of these resources. However, views in the corridor as a whole would not be substantially affected by stations, plazas, TPSSs, or the MSF because the visual changes would be localized around these areas. In addition, vegetation removal would be minimized along the project corridor, and no historic properties would be removed to construct the LRT facilities.

The OCS, in particular, would substantially affect existing views of scenic resources. The OCS poles would be approximately 30 feet tall and typically located every 90 to 170 feet along the LRT tracks. Currently, existing landscaping elements, such as trees and other vegetation, serve to soften views and add color and texture in several LUs, but the vertical elements proposed under the LPA would substantially detract from existing views because of their height, and because they would be located throughout the corridor. Therefore, overall impacts on scenic resources would be substantial and adverse under NEPA, and significant under CEQA.

Visual Character and Quality

The addition of LRT cars along the roadway would affect the visual character of the project corridor. These cars have a different appearance compared to the existing buses, and as they would run along a dedicated guideway, would have the OCS as a new and visible vertical feature. In addition, new stations in the median and along the sides of the roadway would create new vertical features in the landscape that could affect existing visual character and visual quality by limiting views directly adjacent to or within the stations; however, views in the corridor as a whole would not be substantially affected by these stations. The MSF would not be expected to affect existing visual character and quality substantially because the MSF would replace existing industrial/commercial buildings and would have a similar appearance as the replaced buildings. In addition, the MSF would be located in commercial and industrial zones and would have similar visual characteristics as adjacent and surrounding commercial and industrial facilities. The TPSSs located along the side of the roadway could disrupt the visual unity along the corridor slightly and affect visual quality. However, the removal of parking along the outside curb lanes could enhance the visual quality of the corridor by creating a higher visual unity along the corridor. Post-project visual quality and changes from pre-project conditions are summarized as follows:

- LU-1 (Van Nuys Boulevard/Van Nuys Civic Center Unit): The LRT cars and the OCS associated with the LPA could detract from vividness in LU-1, which would be reduced from high to moderately low at 3. New stations in the median would create new vertical features in the landscape that may limit views directly adjacent to or within the stations; however, views in LU-1 as a whole would not be substantially affected. New median stations would be expected to slightly increase intactness in LU-1, which would remain high at 7. Stations and parking removal would also be expected to slightly increase unity in LU-1, which would be high at 6. Following implementation of the LPA, visual quality in this LU would remain moderately high at 5.3.
- LU-2 (Van Nuys Boulevard/Van Nuys Commercial Unit): The LPA would not be expected to affect vividness in LU-2, which would remain low at 2. New stations would be expected to slightly increase intactness in LU-2, which would increase from low to moderately low at 3. New stations and parking removal would also be expected to slightly increase unity in LU-2, which would increase from low to moderately low at 3. Following implementation of the LPA, visual quality in this LU would be increased from low to moderately low at 2.7.
- LU-3 (Van Nuys Boulevard/Panorama City Commercial Unit): The LPA would not be expected to affect vividness in LU-3, which would remain moderate at 4. New stations would be expected to slightly increase intactness in LU-3, which would increase from moderately low to moderate at 4. New stations and parking removal would also be expected to slightly increase unity in LU-3, which would increase from low to moderately low at 3. Following implementation of the LPA, visual quality in this LU would be increased from moderately low to moderate at 3.7.
- LU-4 (Van Nuys Boulevard/Panorama City-Arleta Residential Unit): The LRT cars and the OCS associated with the LPA could detract from vividness in LU-4, which would be reduced from high to moderately low at 3. LRT cars, the OCS, and new stations would also be expected to slightly detract from intactness in LU-4, which would decrease from moderate to moderately low at 3. New stations in the median would create new vertical features in the landscape that may limit views directly adjacent to or within the stations; however, views in LU-4 as a whole would not be substantially affected. The LRT line, new stations, and parking removal would be expected to slightly increase unity in LU-4, which would increase from moderately high to high at 6. Following implementation of the LPA, visual quality in this LU would be reduced from moderately high to moderate at 4.

- LU-5 (Pacoima Commercial Unit): Because of the proximity to views of the Santa Monica Mountains, the LPA could detract from vividness in LU-5, which would be reduced from moderate to moderately low at 3. New stations in the median would create new vertical features in the landscape that may limit views directly adjacent to or within the stations; however, views in LU-5 as a whole would not be substantially affected. New stations would be expected to slightly increase intactness in LU-5, which would increase from moderately low to moderate at 4. New stations and parking removal would also be expected to slightly increase unity in LU-5, which would increase from moderately low to moderate at 4. Following implementation of the LPA, visual quality in this LU would remain moderately low at 3.7.
- LU-6 (San Fernando Road Unit): Because the LPA would not operate along San Fernando Road, this alternative would not be expected to affect vividness, intactness, or unity in LU-6. Following implementation of the LPA, visual quality in this LU would remain moderately low at 3.3.
- LU-7 (San Fernando Mall Unit): Because the LPA would not operate along San Fernando Road, this alternative would not be expected to affect vividness, intactness, or unity in LU-7. Following implementation of the LPA, visual quality in this LU would remain moderate at 4.
- LU-8 (Truman Street Unit): Because the LPA would not operate along Truman Street, this alternative would not be expected to affect vividness, intactness, or unity in LU-8. Following implementation of the LPA, visual quality in this LU would remain moderate at 4.
- LU-9: Under the LPA, the existing single rail track would be relocated to continue to serve commuter and freight rail operations and accommodate the two LRT tracks. Because the LPA would operate along existing railroad tracks, this alternative would not be expected to substantially affect vividness, intactness, or unity in LU-9. If constructed, the proposed pedestrian overcrossing would create a new vertical feature in the landscape that may limit views directly adjacent to the overcrossing; however, views in LU-9 as a whole would not be substantially affected. Following implementation of the LPA, visual quality in this LU would remain moderately low at 3.

Figures 4.5-14 through 4.5-23 on the following pages depict locations along the corridor before and after implementation of the LPA. As discussed above, visual quality would increase slightly, decrease slightly, or remain the same under the LPA, depending on the LU. Therefore, the impacts of the LPA on visual quality would not be adverse or would be beneficial under NEPA and less than significant or beneficial under CEQA.

Unlike visual quality impacts, visual character impacts are based on viewer response and the sensitivity of viewer groups. Along the project corridor, viewer response would be expected to vary by viewer group and location, and would be dependent on sensitivity, exposure, and awareness. Residents, employees, and recreational users would be expected to have the greatest response to visual change and viewer response would likely be the greatest in the residential and recreational areas, where visual changes related to the LPA would be most noticeable. Multiple elements of this alternative, including the new stations and the OCS in the median, and the proposed pedestrian bridge at the Sylmar/San Fernando Metrolink Station, if constructed could affect both visual character and quality in certain sections of the project corridor. Viewer response in residential areas along Van Nuys Boulevard would likely be moderate and may also be negative because this alternative would result in the highest level of change to visual character in this area. However, in other areas, the new stations would also result in an overall minor improvement to visual character and quality; therefore, overall viewer response would be expected to be moderate and positive. However, in those residential areas or other areas where there are sensitive viewer groups and where the LPA would require new vertical elements, impacts on visual character would be substantial and adverse under NEPA and significant under CEQA.

Figure 4.5-14: Photograph before Implementation of LPA at RV-1

Location: Van Nuys Boulevard and Haynes Street; Source: GPA, 2013.

Figure 4.5-15: Visual Simulation after Implementation of LPA at RV-1

Location: Van Nuys Boulevard and Haynes Street; Source: GPA, 2014.

Figure 4.5-16: Photograph before Implementation of LPA at RV-3

Location: Van Nuys Boulevard and Haynes Street; Source: GPA, 2014.

Figure 4.5-17: Visual Simulation after Implementation of LPA at RV-3

Location: Van Nuys Boulevard just north of Chase Street; Source: GPA, 2014.

Figure 4.5-18: Photograph before Implementation of LPA at RV-5

Location: Van Nuys Boulevard just south of El Dorado Avenue; Source: GPA, 2014.

Figure 4.5-19: Visual Simulation after Implementation of LPA at RV-5

Location: Van Nuys Boulevard just south of El Dorado Avenue; Source: GPA, 2014.

Figure 4.5-20: Photograph before Implementation of LPA at RV-6

Location: San Fernando Road just north of Pinney Street; Source: GPA, 2014.

Figure 4.5-21: Visual Simulation after Implementation of LPA at RV-6

Location: San Fernando Road just north of Pinney Street; Source: GPA, 2014.

Figure 4.5-22: Photograph before Implementation of LPA at RV-9

Location: Metrolink Antelope Valley Line railroad right-of-way near entrance to Mission City Bike Trail just south of Hubbard Street; Source: GPA, 2014.

Figure 4.5-23: Visual Simulation after Implementation of LPA at RV-9

Location: UPRR railroad corridor near entrance to Mission City Bike Trail just south of Hubbard Street; Source: GPA, 2014.

Lighting, Glare, and Shading

Because the project study area is located in a developed, urban area, there is a substantial amount of existing lighting and glare. Current lighting and glare sources in the project study area include streetlights, buildings and other structures, vehicles, and other various sources. Shading sources include buildings, other structures, utilities, and vegetation. The primary elements included under the LPA that could result in lighting, glare, and shading are the light rail vehicles, the OCS, new stations, TPSSs, and the MSF. These elements would not be expected to result in a substantial change in existing lighting, glare, or shading along the project corridor, with the exception of residential areas where elements of this alternative could increase nighttime lighting. Impacts would not be adverse under NEPA and would be less than significant under CEQA.

Cumulative Impacts

Per CEQA Section 15130 (b), the cumulative impacts analysis can consider either a "list of past, present, and probable future projects producing related or cumulative impacts" 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." The cumulative impacts analysis below is based on the approach that considers cumulative projects listed in Table 2-3 of the FEIS/FEIR.

The project study area for cumulative visual impacts consists of those areas that have views of the project corridor and those areas that can be seen from locations along the project corridor.

Because construction impacts from past, present, and reasonably foreseeable future projects are temporary, cumulative impacts are less than significant. Because impacts under the LPA would also be temporary, and impacts would be minimized or mitigated through mitigation measures, the LPA's contribution to cumulative impacts during construction would not be cumulatively considerable.

During operation, the LPA would result in potentially significant operational visual impacts on sensitive viewer groups. Past projects have resulted in a highly urbanized landscape along the project corridor from the construction of buildings, transportation infrastructure, and other structures that have adversely affected scenic vistas, scenic resources, and visual character and quality. In addition, other present or reasonably foreseeable future projects in the area could further degrade the visual character and quality of the area, though this is unlikely as the related projects mostly consist of infill development projects that would not drastically change the existing visual and aesthetic setting along the corridor. Therefore, cumulative impacts from past, present, and reasonably foreseeable future projects are significant. As a result, any adverse impacts from the LPA would be considered cumulatively considerable. Because impacts from the LPA would remain significant after implementation of mitigation measures, the alternative's contribution to cumulative impacts during operation would be cumulatively considerable.

Compliance Requirements and Design Features

The LPA would be designed in accordance with local codes and ordinances. This would include visual and aesthetic elements including siting and height restrictions, structure scale, streetscaping features, and landscape design.

Mitigation Measures

Construction Mitigation Measures

MM-VIS-1: Construction staging shall be located away from residential and recreational areas and shall be screened to minimize visual intrusion into the surrounding landscape. The screening shall be a height and type of material that is appropriate for the context of the surrounding land uses. There shall be Metro-branded community-relevant messaging on the perimeter of the construction staging walls. Lighting within construction areas shall face downward and shall be designed to minimize spillover lighting into adjacent properties.

Operational Mitigation Measures

The following measures are recommended to minimize potential impacts:

MM-VIS-2: Vegetation removal shall be minimized and shall be replaced following construction either in-kind or following the landscaping design palette for the project, which would be prepared in consultation with the Cities of Los Angeles and San Fernando and in accordance with the cities' tree removal and replacement policies.

MM-VIS-3: Scenic resources, including landscape elements such as rows of palm trees (along Van Nuys Boulevard) or mature trees (along San Fernando Road) and uniform lighting, shall be preserved, where feasible.

MM-VIS-4: Lighting associated with the project shall be designed to face downward and minimize spillover lighting into adjacent properties, in particular residential and recreational properties.

MM-VIS-5: Infrastructure elements shall be designed with materials that minimize glare.

Impacts Remaining After Mitigation

NEPA Finding

The potential construction effects on visual and aesthetic resources would not be adverse after implementation of proposed mitigation measures. The potential operational effects would be potentially adverse on scenic views, scenic resources, and visual character, and would not be adverse or would be beneficial on visual quality.

CEQA Determination

The potential construction impacts on visual and aesthetic resources would be less than significant after implementation of proposed mitigation measures. The potential operational impacts would be significant on scenic views, scenic resources, and visual character, and less than significant or beneficial on visual quality.

4.5.3.3 Initial Operating Segment

An Initial Operating Segment (IOS) has been included in this FEIS/FEIR to enable Metro to realize potential cost savings, which would not otherwise occur under the LPA, from phasing the project. It should be noted that Metro is proceeding with IOSs on other Metro projects for that reason and to specifically provide the decision-making body of Metro (the Metro Board) with flexibility in determining the most efficient and cost-effective manner to implement those projects. Proceeding with an IOS for the proposed project would also allow further coordination to occur with the Public Utilities Commission (PUC) and Metrolink, which will be necessary to accommodate double tracking of the Antelope Valley Line, and with the City of San Fernando regarding traffic impacts at intersections in the City prior to development of the remaining northern segment of the LPA.

Although the IOS for the proposed project would run along the same alignment and have the same design features and operating characteristics as those described above for the LPA, it would occupy a smaller project footprint than the LPA because it would extend from the Metro Orange Line on the south to the proposed the Van Nuys/San Fernando station on the north. It remains Metro's intent, however, to build the remaining northern 2.5 miles of the LPA within the existing railroad right-of-way, from the Van Nuys/San Fernando station to the Sylmar/San Fernando Metrolink station. Impacts associated with the IOS are discussed below.

Construction Impacts

The construction of the IOS could result in temporary visual impacts within and surrounding the project corridor. As discussed above for the LPA, construction areas along the project corridor would be visible to all viewer groups identified in Section 4.5.2. Similar to the LPA, glare from construction lighting could spill over onto adjacent properties and could adversely affect nighttime views in the area. All viewer groups near the construction areas may be affected by the presence of equipment, as well as stockpiled construction-related materials. In addition, mature vegetation, including trees, may need to be temporarily or permanently removed from some areas. These activities could adversely affect visual character and quality within the IOS project area. As a consequence, construction activities associated with the LPA could result in substantial adverse effects on all viewer groups under NEPA and significant impacts under CEQA.

Operational Impacts

For the IOS, the main new visual elements would be the LRT cars, OCS, median stations, fencing, railroad crossing gates, TPSS, MSF, and changes in parking, lanes, and sidewalks. As was discussed for the LPA, the main scenic vistas within the project area are the views of the surrounding mountains. The addition of new stations for the IOS, would present new vertical features that could partially block views of the surrounding mountains. However, views in the corridor as a whole would not be substantially affected by these stations. Unlike the LPA, the IOS would not contain the Sylmar/San Fernando Metrolink Station and its proposed pedestrian overcrossing (note: a pedestrian tunnel is also under consideration at this location).

Like the LPA, the IOS would require the construction of the MSF. The MSF would not substantially affect existing views or the visual character of the surrounding area because the facility would replace existing commercial and industrial buildings, would typically look similar to existing buildings, and would not include any structures or features that would be taller than existing buildings. The IOS would also require TPSS facilities, similar to the LPA. The TPSSs would only be 12 to 14 feet high and would not be expected to substantially block views of scenic vistas or change the overall visual character of the area. As was discussed for the LPA, sidewalks would be minimally narrowed in some areas for the IOS; however, sidewalk widths vary throughout the project alignment, and as such, this would not be expected to substantially affect views.

The main scenic resources within the IOS area include existing landscaping elements, such as rows of palm trees along Van Nuys Boulevard, and historic properties along the project corridor. The impacts to these resources would be the same as those that would occur due to the LPA. The addition of LRT cars, stations, the MSF, TPSS and plazas along the corridor could require the removal of existing landscaping. However, views in the corridor as a whole would not be substantially affected because the visual changes would be localized to specific areas and vegetation removal would be minimized along the project corridor. No historic properties would be removed to construct the LRT facilities.

As discussed above for the LPA, the OCS, would substantially affect existing views of scenic vistas and scenic resources due to their height and frequency along the corridor. Therefore, overall impacts on scenic vistas and resources due to the addition of the OCS required for the operation of the MOS, would be substantial and adverse under NEPA, and significant under CEQA.

For the IOS the addition of LRT cars and their associated OCS, and new stations would affect the visual character of the project corridor. These features would introduce new vertical elements that could affect existing visual character and visual quality by limiting views. As discussed for the LPA, the impacts of the IOS on visual character are based on viewer response and the sensitivity and expected to vary along the corridor. Overall viewer response would be expected to be moderate and positive. However, in those residential areas or other areas where there are sensitive viewer groups and where the IOS would require new vertical elements, impacts on visual character would be substantial and adverse under NEPA and significant under CEQA.

As stated for the LPA, the IOS would not cause new substantial glare throughout the project area. The IOS is located within an urbanized area with ample lighting and existing glare. Impacts would not be adverse under NEPA and would be less than significant under CEQA.

Cumulative Impacts

Cumulative impacts associated with the IOS would be similar to those discussed for the LPA. Because impacts associated with the construction of the IOS would be temporary, and impacts would be minimized or mitigated through mitigation measures, impacts associated with IOS construction would not be cumulatively considerable. During operation, the IOS would result in potentially significant operational visual impacts on sensitive viewer groups. Past projects have resulted in a highly urbanized landscape along the project corridor that have adversely affected scenic vistas, scenic resources, and visual character and quality. Other reasonably foreseeable future projects could further degrade the visual character and quality of the area. Therefore, cumulative impacts from past, present, and reasonably foreseeable future projects are significant. As a result, any adverse impacts from the IOS would be considered cumulatively considerable.

Compliance Requirements and Design Features

The IOS would be in compliance with all local codes and ordinances.

Mitigation Measures

All mitigation measures for the operation and construction of the LPA would also be required for the IOS. These include MM-VIS-1, MM-VIS-2, MM-VIS-3, MM-VIS-4 and MM-VIS-5.

Impacts Remaining After Mitigation

NEPA Finding

The potential construction effects on visual and aesthetic resources would not be adverse after implementation of proposed mitigation measures. The potential operational effects would be potentially adverse on scenic views, scenic resources, and visual character, and would not be adverse or would be beneficial on visual quality.

CEQA Determination

The potential construction impacts on visual and aesthetic resources would be less than significant after implementation of proposed mitigation measures. The potential operational impacts would be significant on scenic views, scenic resources, and visual character, and less than significant or beneficial on visual quality.

4.6 Air Quality

4.6.1 Regulatory Framework and Methodology

4.6.1.1 Regulatory Framework

The applicable federal, state, and local regulations that are relevant to an analysis of the proposed project's air quality impacts are listed below. For additional information regarding these regulations, please see the Air Quality Technical Report in Appendix L of this FEIS/FEIR.

Federal

- Federal Clean Air Act (CAA);
- Transportation Conformity Requirements; and
- Mobile-Source Air Toxics.

State

- California Clean Air Act.

Local

- South Coast Air Quality Management District's, Air Quality Management Plan; and
- Regional Transportation Plan (RTP)/Sustainable Communities Strategy.

4.6.1.2 Methodology

The proposed project would generate construction-related and operational emissions. The methodology used to evaluate construction and operational effects is described below.

Project construction would be a source of fugitive dust and exhaust emissions that could have temporary effects on local air quality. Such emissions would result from earthmoving and the use of heavy equipment as well as land clearing, ground excavation, cut-and-fill operations, and roadway reconstruction. Dust emissions can vary substantially from day to day, depending on the level of activity, the specific operations, and the prevailing weather. A major portion of dust emissions for the proposed project would most likely be caused by construction traffic in temporary construction areas.

Construction emissions have been quantified (see Section 4.6.3 below) using the CalEEMod model, which has been approved by the South Coast Air Quality Management District (SCAQMD) for emissions estimation within the South Coast Air Basin (Basin). To determine the significance of potential construction air quality impacts, the calculated daily emissions were measured against applicable SCAQMD local and regional significance thresholds.

The durations of construction used for the purposes of calculating construction-period emissions are shorter or equal to those discussed in the February 2015 Construction Methods and Impacts Report. Although they may differ, the compressed construction schedule for the purposes of calculating emissions represents a conservative approach in that emissions are concentrated into a shorter timeframe, thereby yielding higher estimates of single-day maximums. Actual single-day emissions could be less than those identified in this section, but this FEIS/FEIR assumes a "worst-case" scenario if construction were to be done under a compressed schedule. If construction actually occurs under a longer schedule, single-day emissions would be less than what was analyzed for this FEIS/FEIR.

The primary operational emissions associated with the proposed project would be carbon monoxide (CO), fine particulate matter (PM_{10} and $PM_{2.5}$), ozone precursors (reactive organic gases [ROG] and nitrogen oxides [NO_X]), and carbon dioxide (CO_2) emitted as vehicle exhaust. In addition to emissions from vehicle exhaust, PM_{10} and $PM_{2.5}$ can result from vehicular travel on paved roads (entrained dust). With respect to criteria pollutants, the evaluation of transportation conformity is done by affirming that the proposed project is included in the currently conforming RTP and Federal Transportation Improvement Program (FTIP) modeling lists. In addition, estimates of criteria pollutant exhaust emissions (ozone precursors, CO, PM_{10}, and $PM_{2.5}$) are quantified by using CT-EMFAC2017 emissions factors. Re-entrained dust emissions are calculated using the emission factor equation found in the US Environmental Protection Agency's (EPA's) Compilation of Air Pollutant Emission Factors, AP-42, Section 13.2.1.[1]

The Locally Preferred Alternative (LPA) was also compared to existing conditions, based on the guidance for a lead agency to describe physical environmental conditions as they exist at the time the notice of preparation is published, per Section 15125(a)(1) of the State CEQA Guidelines. In addition, the emissions of the LPA have been evaluated against the No-Build Alternative for a future baseline (2040) analysis.

The potential impacts related to localized CO hot-spot emissions are evaluated following the methodology prescribed in the Transportation Project-Level Carbon Monoxide Protocol (CO Protocol) developed for the California Department of Transportation (Caltrans) by the Institute of Transportation Studies at the University of California, Davis.[2] The potential impacts related to localized particulate matter were evaluated using the EPA and Federal Highway Administration's (FHWA's) guidance manual, Transportation Conformity Guidance for Quantitative Hot-spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas.[3] Mobile Source Air Toxic (MSAT) emissions were evaluated using FHWA's Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents[4] and California-specific guidance from Caltrans.[5,6]

Transportation Conformity

Regional Conformity

The proposed project is located in an extreme nonattainment area for the federal 8-hour ozone standard. The extreme nonattainment designation differs from other nonattainment designations because the South Coast Air Basin has greater pollutant concentrations than other nonattainment

[1] US Environmental Protection Agency. 2013b. *Compilation of Air Pollutant Emission Factors*. AP-42, Section 13.2.1.
[2] Garza, V., P. Graney, D. Sperling. 1997. *Transportation Project-level Carbon Monoxide Protocol*. Developed for Caltrans by the Institute of Transportation Studies at the University of California, Davis.
[3] US Environmental Protection Agency and Federal Highway Administration. 2015. *Transportation Conformity Guidance for Quantitative Hot-spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas.*
[4] Federal Highway Administration. 2016. *Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents*. October.
[5] Brady, Mike. January 6, 2010—email to ICF regarding the analysis of MSATs in Caltrans documents.
[6] California Air Resources Board. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective.* Available: <http://www.arb.ca.gov/ch/landuse.htm>. April.

areas and has therefore been granted a longer compliance schedule under the federal CAA. Because ozone and its precursors are regional pollutants, the proposed project must be evaluated under the transportation conformity requirements described earlier. An affirmative regional conformity determination must be made before the proposed project can proceed. A determination of conformity can be made if the proposed project is described, as currently proposed, in an EPA-approved RTP and FTIP.

Project-Level Conformity

The proposed project is located in an attainment/maintenance area for the federal CO standard. Consequently, the evaluation of transportation conformity for CO is required. The CO transportation conformity analysis is based on the CO Protocol. The CO Protocol details a qualitative step-by-step procedure to determine whether project-related CO concentrations have the potential to generate new air quality violations, worsen existing violations, or delay attainment of the California Ambient Air Quality Standards (CAAQS) or National Ambient Air Quality Standards (NAAQS) for CO. If the screening procedure reveals that such a potential may exist, then the CO protocol details a quantitative method to ascertain project-related CO impacts.

The proposed project is located in an attainment/maintenance area for the federal PM_{10} standard and a nonattainment area for the federal $PM_{2.5}$ standard. On March 10, 2006, EPA published a final rule that establishes the transportation conformity criteria and procedures for determining which transportation projects must be analyzed for local air quality effects in $PM_{2.5}$ and PM_{10} nonattainment and maintenance areas. The final rule requires PM_{10} and $PM_{2.5}$ hot-spot analyses to be performed for any Project of Air Quality Concern (POAQC) or any other project identified by the $PM_{2.5}$ State Implementation Plan (SIP) as a localized air quality concern.

In December 2010, FHWA and EPA issued a guidance document titled *Transportation Conformity Guidance for Quantitative Hot-spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas*.[7] POAQCs are certain highway and transit projects that involve significant levels of diesel traffic or any other project identified in the $PM_{2.5}$ or PM_{10} SIP as a localized air quality concern.

Because the proposed project would be located in an area classified as a nonattainment area for the $PM_{2.5}$ standards, a determination must be made as to whether it would result in a PM_{10} or $PM_{2.5}$ hot spot. At its meeting on October 22, 2019, members of the Southern California Association of Governments (SCAG) Transportation Conformity Working Group determined that the LPA and the Initial Operating Segment (IOS) would not be considered a POAQC, and would therefore not require quantitative dispersion modeling for particulate matter.

4.6.1.3 CEQA Significance Thresholds

CEQA requires state and local government agencies to identify the significant environmental effects of proposed actions; however, 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 at the discretion of the Lead Agency and are at the levels at which the Lead Agency finds the effects of the project to be significant.[8]

[7] US Environmental Protection Agency and Federal Highway Administration. 2015. *Transportation Conformity Guidance for Quantitative Hot-spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas.*
[8] OPR (State of California, Governor's Office of Planning and Research). 2016. *2016 California Environmental Quality Act (CEQA Statute and Guidelines.* Available: http://resources.ca.gov/ceqa/docs/2016_CEQA_Statutes_and_Guidelines.pdf. Accessed: July 11, 2016.

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).

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, which are often used as thresholds or guidance in developing thresholds for determining impact significance.[9] As outlined in Appendix G, a project may have a significant effect on air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality management plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations;
- Create objectionable odors affecting a substantial number of people; or
- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

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

Based on the SCAQMD's regulatory role in the Basin, the significance thresholds and analysis methodologies outlined in the SCAQMD *CEQA Air Quality Handbook* (as updated per their website), *Localized Significance Threshold Methodology for CEQA Evaluations*, and *Particulate Matter (PM)$_{2.5}$ Significance Thresholds and Calculation Methodology* guidance documents were used in evaluating project impacts.[10,11]

Construction Emissions

According to criteria set forth in the SCAQMD CEQA Air Quality Handbook, Localized Significance Threshold Methodology for CEQA Evaluations, and Particulate Matter (PM)$_{2.5}$ Significance Thresholds and Calculation Methodology guidance documents, the project would have a significant impact on construction emissions if any of the following were to occur:

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[9] The Environmental Checklist questions in Appendix G of the State CEQA Guidelines were used as guidance in developing thresholds for determining impact significance. In late 2018, subsequent to completion of the DEIS/DEIR, changes to the State CEQA Guidelines were adopted by the State including revisions to the Environmental Checklist questions in Appendix G. To maintain consistency between the DEIS/DEIR and FEIS/FEIR when evaluating the significance of impacts under CEQA, the significance thresholds identified in this chapter are unchanged from those in the DEIS/DEIR.
[10] South Coast Air Quality Management District. 2003. *Localized Significance Threshold Methodology for CEQA Evaluations*. June.
[11] South Coast Air Quality Management District. 2006. *Particulate Matter (PM) 2.5 Significance Thresholds and Calculation Methodology*. October.

- Regional emissions from both direct and indirect sources exceed any of the following SCAQMD prescribed threshold levels: (1) 75 pounds a day for ROG, (2) 100 pounds per day for NO_X, (3) 550 pounds per day for CO, (4) 150 pounds per day for PM_{10} or sulfur oxides (SO_X), and (5) 55 pounds per day for $PM_{2.5}$.
- Localized emissions from on-site construction equipment and site disturbance activity exceed any of the following SCAQMD-prescribed threshold levels: (1) 80 pounds per day for NO_X, (2) 498 pounds per day for CO, (3) 5 pounds per day for PM_{10}, and (4) 3 pounds per day for $PM_{2.5}$.[12]

The SCAQMD thresholds are used as the basis for the determination of significance for construction-period emissions.

Operations Emissions

According to criteria set forth in the SCAQMD *CEQA Air Quality Handbook*, the project would have a significant impact with regard to operational emissions if:

- Regional emissions from both direct and indirect sources would exceed any of the following SCAQMD prescribed threshold levels: (1) 55 pounds a day for ROG, (2) 55 pounds per day for NO_X, (3) 550 pounds per day for CO, (4) 150 pounds per day for PM_{10} or SO_X, and (5) 55 pounds per day for $PM_{2.5}$ (South Coast Air Quality Management District 1993 and 2006).
- Localized emissions from on-site sources exceed any of the following SCAQMD prescribed threshold levels: (1) 80 pounds per day for NO_X, (2) 498 pounds per day for CO, (3) 1 pound per day for PM_{10}, and (4) 1 pounds per day for $PM_{2.5}$.[13]
- The project would cause an exceedance of the California 1-hour or 8-hour CO standards of 20 or 9 ppm, respectively, at an intersection or roadway within 0.25 mile of a sensitive receptor.[14]

The SCAQMD thresholds are used as the basis for the determination of significance for operational emissions.

Health-Based Thresholds for Project-Generated Pollutants of Human Health Concern

In December 2018, the California Supreme Court issued its decision in *Sierra Club v. County of Fresno* (6 Cal. 5th 502) (hereafter referred to as the Friant Ranch Decision). The case reviewed the long-term, regional air quality analysis contained in the EIR for the proposed Friant Ranch development. The Friant Ranch project is a 942-acre master-plan development in unincorporated Fresno County within the San Joaquin Valley Air Basin, an air basin currently in nonattainment for the ozone and $PM_{2.5}$ NAAQS and CAAQS. The Court found that the air quality analysis was inadequate because it failed to provide enough detail "for the public to translate the bare [criteria pollutant emissions] numbers provided into adverse health impacts or to understand why such a

[12] Derived from SCAQMD Localized Significance Threshold Tables—SRA 7 (eastern San Fernando Valley), 1-acre site, 25-meter receptor distance.
[13] Ibid.
[14] Where the CO standard is exceeded at the intersection, a project would result in a significant impact if the incremental increase due to the project is equal to or greater than 1.0 ppm for the California 1-hour CO standard or 0.45 ppm for the 8-hour CO standard.

translation is not possible at this time." The Court's decision clarifies that environmental documents must connect a project's air quality impacts to specific health effects or explain why it is not technically feasible to perform such an analysis.

As discussed in Section 3.2.2, *Regulatory Setting*, all criteria pollutants that would be generated by the proposed project are associated with some form of health risk (e.g., asthma). Criteria pollutants can be classified as either regional or localized pollutants. Regional pollutants can be transported over long distances and affect ambient air quality far from the emissions source. Localized pollutants affect ambient air quality near the emissions source. Ozone is considered a regional criteria pollutant, whereas CO, nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead (Pb) are localized pollutants. Particulate matter can be both a local and a regional pollutant, depending on its composition. As discussed above, the primary criteria pollutants of concern generated by the project are ozone precursors (ROG and NO_X), CO, and particulate matter (including diesel particulate matter [DPM]).

Regional Project-Generated Criteria Pollutants (Ozone Precursors and Regional Particulate Matter)

Adverse health effects induced by regional criteria pollutant emissions generated by the proposed project (ozone precursors and particulate matter) are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, the number and character of exposed individuals [e.g., age, gender]). For these reasons, ozone precursors (ROG and NO_X) contribute to the formation of ground-borne ozone (O_3) on a regional scale, where emissions of ROG and NO_X generated in one area may not equate to a specific O_3 concentration in that same area. Similarly, some types of particulate pollutant may be transported over long distances or formed through atmospheric reactions. As such, the magnitude and locations of specific health effects from exposure to increased O_3 or regional particulate matter concentrations are the product of emissions generated by numerous sources throughout a region, as opposed to a single individual project.

Models and tools have been developed to correlate regional criteria pollutant emissions to potential community health impacts. While there are models capable of quantifying O_3 and secondary particulate matter formation and associated health effects, these tools were developed to support regional planning and policy analysis and have limited sensitivity to small changes in criteria pollutant concentrations induced by individual projects. Therefore, translating project-generated criteria pollutants to the locations where specific health effects could occur or the resultant number of additional days of nonattainment cannot be estimated with a high degree of accuracy for relatively small projects (relative to the regional air basin).

Technical limitations of existing models to correlate project-level regional emissions to specific health consequences are recognized by air quality management districts throughout the state, including the San Joaquin Valley Air Pollution Control District (SJVAPCD) and SCAQMD, both of which provided amici curiae briefs for the Friant Ranch legal proceedings. In its brief, SJVAPCD (2015) acknowledges that while health risk assessments for localized air toxics, such as DPM, are commonly prepared, "it is not feasible to conduct a similar analysis for criteria air pollutants because currently available computer modeling tools are not equipped for this task." The air district further notes that emissions solely from the Friant Ranch project (which equate to less than one-tenth of one percent of the total NO_X and volatile organic compounds [VOC] in the Valley) is not likely to yield valid information," and that any such information should not be "accurate when applied at the local level." SCAQMD (2015) presents similar information in their brief, stating that "it takes a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels."[15]

As discussed above, air districts develop region-specific CEQA thresholds of significance in consideration of existing air quality concentrations and attainment or nonattainment designations under the NAAQS and CAAQS. The NAAQS and CAAQS are informed by a wide range of scientific evidence that demonstrates there are known safe concentrations of criteria pollutants. While recognizing that air quality is cumulative problem, air districts typically consider projects that generate criteria pollutant and O_3 precursor emissions below these thresholds to be minor in nature and would not adversely affect air quality such that the NAAQS or CAAQS would be exceeded. Emissions generated by the project could increase photochemical reactions and the formation of tropospheric O_3 and secondary particulate matter, which, at certain concentrations, could lead to increased incidence of specific health consequences. Although these health effects are associated with O_3 and particulate pollution, the effects are a result of cumulative and regional emissions. As such, a project's incremental contribution cannot be traced to specific health outcomes on a regional scale, and a quantitative correlation of project-generated regional criteria pollutant emissions to specific human health impacts is not included in this analysis.

Localized Project-Generated Criteria Pollutants (Particulate Matter and CO) and Air Toxics (DPM)

Localized pollutants generated by a project are deposited and potentially affect population near the emissions source. Because these pollutants dissipate with distance, emissions from individual projects can result in direct and material health impacts on adjacent sensitive receptors. Models and thresholds are readily available to quantify these potential health effects and evaluate their significance (CAPCOA 2009; OEHHA 2003; SCAQMD 2009, 2011c; CARB 2000). Locally adopted thresholds and analysis procedures for the localized pollutants of concern associated with the proposed project (DPM and CO)[16] are identified below.

Toxic Air Contaminant Emissions

According to guidelines provided in the SCAQMD *CEQA Air Quality Handbook*, the project would have a significant impact from toxic air contaminants (TACs) if:

- On-site stationary sources emit carcinogenic or TACs that individually or cumulatively exceed the maximum individual cancer risk of ten in one million (1.0 x 10-5) or an acute or chronic hazard index of 1.0.
- Hazardous materials associated with on-site stationary sources result in an accidental release of air toxic emissions or acutely hazardous materials, posing a threat to public health and safety.
- The project would be occupied primarily by sensitive individuals within 0.25 mile of any existing facility that emits TACs, which could result in a health risk from pollutants identified in District Rule 1401.[17]

[15] For example, SCAQMD's analysis of its 2012 Air Quality Attainment Plan showed that modeled NOX and ROG reductions of 432 and 187 tons per day, respectively, only reduced O3 levels by 9 parts per billion. Analysis of SCAQMD's Rule 1315 showed that emissions of NOX and ROG of 6,620 and 89,180 pounds per day, respectively, contributed to 20 premature deaths per year and 89,947 school absences (SCAQMD 2015).
[16] Although SO_2 NO_2, and Pb may also concentration locally, the project does not represent a significant source of these pollutants at the local level. Accordingly, they are not discussed or evaluated further.
[17] South Coast Air Quality Management District. 1993. *CEQA Air Quality Handbook*. November.

L.A. CEQA Thresholds Guide

The *L.A. CEQA Thresholds Guide* identifies the SCAQMD significance criteria, described above, to determine impacts.

4.6.1.4 Sensitive Receptors

Some population groups, such as children, the elderly, and acutely and chronically ill persons, especially those with cardio-respiratory diseases, are considered more sensitive to air pollution than others. Sensitive receptors within the project vicinity include multi-family residential land uses and schools located along the routes. Proposed construction activities would occur adjacent to sensitive receptors in some instances; for analysis purposes, however, a 25-meter receptor distance was used in the evaluation of localized impacts, as the SCAQMD localized significance threshold for a 25-meter receptor distance is the most conservative published threshold. The 25-meter receptor distance allows for the lowest emissions and is therefore most protective of health.

4.6.2 Affected Environment/Existing Conditions

4.6.2.1 Description of Relevant Pollutants

The air pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state law. These regulated air pollutants are known as “criteria air pollutants” and are categorized as primary and secondary pollutants. Primary air pollutants are those that are emitted directly from sources. Carbon monoxide, ROGs, NO_X, SO_2, and most fine particulate matter (PM_{10}, $PM_{2.5}$), including Pb and fugitive dust, are primary air pollutants. Of these, CO, SO_2, PM_{10}, and $PM_{2.5}$ are criteria pollutants. ROG and NO_X are criteria pollutant precursors and go on to form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. Ozone and NO_2 are the principal secondary pollutants.

The proposed project is located within the Los Angeles County portion of the Basin that fails to meet federal standards for O_3, particulate matter ($PM_{2.5}$) and Pb and, therefore, is considered a federal nonattainment area for those pollutants.

Presented below is a description of each of the primary and secondary criteria air pollutants and their known health effects.

Carbon monoxide (CO) is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation.[18] Exposure to CO at high concentrations can also cause fatigue, headaches, confusion, dizziness, and chest pain. There are no ecological or environmental effects due to ambient CO (California Air Resources Board 2019).[19]

[18] South Coast Air Quality Management District. 2005. *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*.
[19] California Air Resources Board. 2019. What is Carbon Monoxide? Available: https://ww2.arb.ca.gov/resources/carbon-monoxide-and-health. Accessed: December 19, 2019.

Reactive organic gases (ROG) are compounds made up primarily of atoms of hydrogen and carbon. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. Other sources of ROG are emissions associated with the use of paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. Adverse effects on human health are not caused directly by ROG but rather by reactions of ROG to form secondary pollutants such as ozone.[20]

Nitrogen oxides (NO_X) serve as integral participants in the process of photochemical smog production. The two major forms of NO_X are nitric oxide (NO) and nitrogen dioxide (NO_2). NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO_2 is a reddish-brown irritating gas formed by the combination of NO and oxygen. NO_X acts as an acute respiratory irritant and increases susceptibility to respiratory pathogens.

Nitrogen dioxide (NO_2) is a by-product of fuel combustion. The principal form of NO_2 produced by combustion is NO, but NO reacts with oxygen to form NO_2, creating the mixture of NO and NO_2 commonly called NO_X. NO_2 acts as an acute irritant and, in equal concentrations, is more injurious than NO. At atmospheric concentrations, however, NO_2 is only potentially irritating. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis. Some increase in bronchitis in children (two and three years old) has also been observed at concentrations below 0.3 parts per million (ppm). NO_2 absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO_2 also contributes to the formation of PM_{10}. NO_X are also precursors to the formation of both O_3 and $PM_{2.5}$.[21,22]

Sulfur dioxide (SO_2) is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. Fuel combustion is the primary source of SO_2. At high concentrations SO_2 may irritate the upper respiratory tract. At lower concentrations, when combined with particulates, SO_2 may do greater harm by injuring lung tissue. A primary source of SO_2 emissions is high sulfur content coal. Gasoline and natural gas have very low sulfur content and hence do not release significant quantities of SO_2.[23]

Particulate matter consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of particulates are now generally considered: inhalable course particles, or PM_{10}, and inhalable fine particles, or $PM_{2.5}$. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. However, wind on arid landscapes also contributes substantially to local particulate loading.

Particulate pollution can be transported over long distances and may adversely affect humans, especially people who are naturally sensitive or susceptible to breathing problems. Numerous studies have linked particulate matter exposure to premature death in people with preexisting heart or lung disease. Other symptoms of exposure may include nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms. In

[20] *Ibid.*
[21] *Ibid;* South Coast Air Quality Management District. 2007 *Air Quality Management Plan*.
[22] South Coast Air Quality Management District. 2005. *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*.
[23] Ibid.

2008, CARB estimated that annual $PM_{2.5}$ emissions for the entire Sacramento Metropolitan Area[24] causes 90 premature deaths, 20 hospital admissions, 1,200 asthma and lower respiratory symptom cases, 110 acute bronchitis cases, 7,900 lost work days, and 42,000 minor restricted activity days.[25] Depending on its composition, both PM_{10} and $PM_{2.5}$ can also affect water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain.[26]

Ozone (O_3), or smog, is photochemical oxidant that is formed when VOC and NO_X (both by-products of the internal combustion engine) react with sunlight. VOC are compounds made up primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. Other sources of VOC are emissions associated with the use of paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. The two major forms of NO_X are nitric oxide (NO) and NO_2. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO_2 is a reddish-brown irritating gas formed by the combination of NO and oxygen. In addition to serving as an integral participant in O_3 formation, NO_X also directly acts as an acute respiratory irritant and increases susceptibility to respiratory pathogens.

Ozone poses a higher risk to those who already suffer from respiratory diseases (e.g., asthma), children, older adults, and people who are active outdoor. Exposure to O_3 at certain concentrations can make breathing more difficult, cause shortness of breath and coughing, inflame and damage the airways, aggregate lung diseases, increase the frequency of asthma attacks, and cause chronic obstructive pulmonary disease. Studies show associations between short-term O_3 exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest long-term exposure to O_3 may increase the risk of respiratory-related deaths (US Environmental Protection Agency 2019a).[27] The concentration of O_3 at which health effects are observed depends on an individual's sensitivity, level of exertion (i.e., breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms to the least responsive individual after a 2-hour exposure to 400 parts per billion of O_3 and a 50% decrement in forced airway volume in the most responsive individual. Although the results vary, evidence suggest that sensitive populations (e.g., asthmatics) may be affected on days when the 8-hour maximum O_3 concentration reaches 80 parts per billion.[28]

In addition to human health effects, O_3 has been tied to crop damage, typically in the form of stunted growth, leaf discoloration, cell damage, and premature death. Ozone can also act as a corrosive and oxidant, resulting in property damage such as the degradation of rubber products and other materials.

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[24] Sacramento Metropolitan Area includes: El Dorado, Sacramento, Yolo counties and portions of Placer and Solano counties.
[25] Sacramento Metropolitan Air Quality Management District. 2013. PM2.5 Implementation/Maintenance Plan and Redesigntation Request for Sacramento PM2.5 Nonattainment Area. October.
[26] U.S. Environmental Protection Agency (EPA) 2019. Health and Environmental Effects of Particulate Matter (PM). Available: <https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm>. Accessed: December 19, 2019.
[27] U.S. Environmental Protection Agency (EPA) 2019c. Health Effects of Ozone Pollution. Available: <https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution>. Accessed: December 19, 2019.
[28] *Ibid.*

Toxic Air Contaminants

With respect to criteria pollutants, federal and state ambient air quality standards (AAQS) represent the exposure level (with an adequate margin of safety) deemed safe for humans. No AAQS exist for TACs because there is no exposure level deemed safe for humans. Pollutants are identified as TACs because of their potential to increase the risk of developing cancer or because of their acute or chronic health risks. For TACs that are known or suspected carcinogens, CARB has consistently found that there are no levels or thresholds below which exposure is risk-free. Individual TACs vary greatly in the risk they present. At a given level of exposure, one TAC may pose a hazard that is many times greater than another. For certain TACs, a unit risk factor can be developed to evaluate cancer risk. For acute and chronic health risks, a similar factor, called a Hazard Index, is used to evaluate risk. In the early 1980s, CARB established a statewide comprehensive air toxics program to reduce exposure to air toxics. The Toxic Air Contaminant Identification and Control Act (AB 1807, CARB 1999) created California's program to reduce exposure to air toxics. The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, CARB 1999) supplements the AB 1807 program by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks.

In August 1998, CARB identified particulate emissions from diesel-fueled engines as TACs. In September 2000, CARB approved a comprehensive diesel risk reduction plan to reduce emissions from both new and existing diesel-fueled engines and vehicles. The goal of the plan is to reduce diesel PM_{10} emissions and the associated health risk by 85% by 2020.

4.6.2.2 Regional Setting

The project site is located within the South Coast Air Basin, an approximately 6,745-square-mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Gorgonio Pass area in Riverside County. The terrain and geographical location determine the distinctive climate of the Basin, which is a coastal plain with connecting broad valleys and low hills.

The Southern California region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The extent and severity of the air pollution problem in the Basin is a function of the area's natural physical characteristics (weather and topography) and human influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and dispersion of pollutants throughout the Basin, making it an area of high pollution potential.

The greatest air pollution impacts throughout the Basin occur from June through September. These are attributed to the large amount of pollutant emissions, light winds, and shallow vertical atmospheric mixing, which frequently reduce pollutant dispersion, thus causing elevated air pollution levels. Pollutant concentrations in the Basin vary with location, season, and time of day. Ozone concentrations, for example, tend to be lower along the coast, higher in the near inland valleys, and lower in the far inland areas of the Basin and adjacent desert. Over the past 30 years, substantial progress has been made in reducing air pollution levels in southern California.

The SCAQMD has recently completed the Multiple Air Toxics Exposure Study IV (MATES IV), which was an ambient air monitoring and evaluation study conducted in the Basin.[29] MATES IV was a follow-up to previous air toxics studies in the Basin and is part of the SCAQMD Governing Board Environmental Justice Initiative. Compared to previous studies of air toxics in the Basin, MATES IV found a decreasing risk for air toxics exposure, with the population weighted risk down by 57% from the analysis in MATES III. While there has been improvement in air quality regarding air toxics, the risks are still unacceptable and are higher near sources of emissions such as ports and transportation corridors. Diesel particulate matter continues to dominate the risk from air toxics. The highest risks are found near the port area, an area near central Los Angeles, and near transportation corridors. The results from the MATES IV study underscore that a continued focus on reduction of toxic emissions, particularly from diesel engines, is needed to reduce air toxics exposure.

The MATES IV study concluded that the average carcinogenic risk throughout the Basin, attributed to TACs, is approximately 418 in one million. As the MATES-IV study was being prepared, the California Environmental Protection Agency Office of Environmental Health Hazard Assessment (OEHHA) adopted revised methods for estimating cancer risks, which resulted in a Basin-wide cancer risk of 1,023 in one million. This revised figure represents a change in methodology of risk calculations taking into account age sensitivity factors and breathing rates to a greater extent than previous efforts. Mobile sources (e.g., cars, trucks, trains, ships, aircraft, etc.) represent the greatest contributors, at 90%. About 68% of all risk is attributed to diesel particulate matter emissions.

4.6.2.3 Local Climate

Local climate conditions are considered, as they affect the dispersion and chemical reactions of air pollutants. Data from the Western Regional Climate Center's San Fernando climate monitoring station were used to characterize the eastern project vicinity climate conditions because it is nearest to the project alignment. The average project study area summer (August) high and low temperatures are 92.2 degrees Fahrenheit (°F) and 56.3°F, respectively, while the average winter (January) high and low temperatures are 65.0°F and 42.8°F, respectively. The average annual rainfall is 17.7 inches.[30]

The wind monitoring station located nearest to the project site is in Reseda; therefore, data from the Reseda wind monitoring station was used to characterize project study area wind conditions. Wind patterns (provided in the appendix to the Air Quality Technical Report – see Appendix L) in the project vicinity display a multi directional flow, with winds primarily from the east–southeast, at an average speed of 4 miles per hour. Calm wind conditions are present 12% of the time.

4.6.2.4 Project Vicinity Mobile-Source Emissions

The estimate of daily vehicle miles traveled (VMT) within the project vicinity under the existing/ baseline condition is approximately 5.3 million. The estimate of local mobile source emissions generated by this existing level of VMT is included in the Air Quality Technical Report in Appendix L.

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[29] South Coast Air Quality Management District. 2015. *Final Report: Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES-IV)*. May. Available: < http://www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/mates-iv-final-draft-report-4-1-15.pdf?sfvrsn=7>. Accessed: July 11, 2016.
[30] Western Regional Climate Center. 2013. *Los Angeles Area, California Climate Summaries.* San Fernando, California (047759). Available: <http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca5115>. Accessed: July 29, 2013.

4.6.2.5 Local Ambient Pollutant Concentrations

SCAQMD, which has divided the Basin into air monitoring areas, maintains a network of air quality monitoring stations throughout the Basin. The project site is in the Eastern San Fernando Valley Monitoring Area (i.e., Source Receptor Area [SRA] Number 7), which was served by the Burbank-West Palm Avenue monitoring station through mid-2014. Monitoring data are presented in Table 4.6-1.

Table 4.6-1: Air Quality Data from Burbank-West Palm Avenue Station (CARB 70069)

Pollutant Standards	2013	2014	2015
Ozone (O_3)			
State Standard (1-Hour Average = 0.09 ppm); National Standard (8-Hour Average = 0.075 ppm)			
Maximum Concentration 1-Hour Period (ppm)	0.110	0.091	N/A
Maximum Concentration 8-Hour Period (ppm)	0.083	0.079	N/A
Days State 1-Hour Standard Exceeded	4	0	N/A
Days National 8-Hour Standard Exceeded	6	1	N/A
Nitrogen Dioxide (NO_2)			
State Standard (1-Hour Average = 0.18 ppm)			
Maximum 1-Hour Concentration	0.072	0.073	N/A
Days State Standard Exceeded	0	0	N/A
Suspended Particulates (PM_{10})			
State Standard (24-Hour Average = 50 µg/m3); National Standard (24-Hour Average = 150 µg/m3)			
Maximum State 24-Hour Concentration	51	58	N/A
Maximum National 24-Hour Concentration	53	68	N/A
Days Exceeding State Standard	1	1	N/A
Days Exceeding National Standard	0	0	N/A
Suspended Particulates ($PM_{2.5}$)			
National Standard (24-Hour Average = 35 µg/m3)			
Maximum 24-Hour Concentration	45.1	64.6	N/A
Days Exceeding National Standard	4	2	N/A

Notes:
Monitoring data summaries provided in Appendix L.
ppm = parts per million
µg/m^3 = microgram per cubic meter
N/A = Data not available; the Burbank-West Palm Avenue Station closed June 30, 2014.
Source: California Air Resources Board 2016.

Using existing (2013) traffic data, local CO concentrations were calculated at the most congested intersections within the project vicinity. Of the 83 intersections that were evaluated for project traffic impacts, 14 were selected for the CO hot-spot assessment. Intersections that currently operate at congested levels of service (LOS) D, E, and/or F during either the AM or PM peak hour were modeled. If the intersection was LOS D, E, or F during either the AM or PM peak hour, that intersection was modeled for both periods. The local CO concentrations are presented below in Table 4.6-2. As shown therein, 1-hour and 8-hour concentrations are below the respective CAAQS of 20 parts per million (ppm) and 9.0 ppm, respectively, at all intersection locations.

Table 4.6-2: Baseline Conditions (Year 2013) at Congested Intersections—Local Area Carbon Monoxide Concentrations

Intersection	Peak Period[a]	Maximum 1-Hour Concentration (ppm)[b]	Maximum 8-Hour Concentration (ppm)[e]
San Fernando Rd & Paxton St	AM	7.9	6.5
	PM	8.1	6.6
Laurel Canyon Blvd & Van Nuys Blvd	AM	8.2	6.7
	PM	8.2	6.7
Arleta Ave & Van Nuys Blvd	AM	8.1	6.6
	PM	8.2	6.7
Van Nuys Blvd & Nordhoff St	AM	8.0	6.6
	PM	8.2	6.7
Van Nuys Blvd & Chase St	AM	8.0	6.6
	PM	7.7	6.3
Van Nuys Blvd & Saticoy St	AM	8.2	6.7
	PM	8.2	6.7
Van Nuys Blvd & Sherman Way	AM	7.9	6.5
	PM	8.2	6.7
Van Nuys Blvd & Vanowen St	AM	8.0	6.6
	PM	8.2	6.7
Van Nuys Blvd & Burbank Blvd	AM	8.4	6.8
	PM	8.7	7.0
Van Nuys Blvd & Magnolia Blvd	AM	8.3	6.8
	PM	8.2	6.7
Van Nuys Blvd & Ventura Blvd	AM	8.0	6.6
	PM	8.0	6.6
Sepulveda Blvd & Burbank Blvd	AM	8.5	6.9
	PM	8.6	7.0
Sepulveda Blvd & Magnolia Blvd	AM	7.8	6.4
	PM	7.9	6.5
Sepulveda Blvd & Ventura Blvd	AM	7.9	6.5
	PM	8.7	7.0

Notes:
ppm = parts per million
Source: ICF Caline4 and EMFAC Emissions Modeling, SCAQMD 2003, KOA 2013.

4.6.2.6 Existing Health Risk in Surrounding Area

According to the most current SCAQMD inhalation cancer risk data (Mobile Air Toxics Exposure Study MATES IV Carcinogenic Interactive Map), the project study area is located within a cancer risk zone of approximately 640 to 1,040 cases per one million people.[31] This is largely due to the project study area's proximity to the Interstate 405, Interstate 5, State Route 210 and State Route 118 freeways. The alignment travels through 11 different areas mapped by MATES-IV; the alignment travels through only one area that has a higher cancer risk than the Basin-wide average. For comparison, the average cancer risk in the Basin is 1,023 cases per million people. The purpose of the comparison is to demonstrate that the existing risks in the project study area are not substantially different than the Basin-wide average. There are 11 different areas that the alignment runs through (from the MATES-IV interactive map), each with its own cancer risk. Only one of the 11 areas through which the alignment runs would be greater than the Basin-wide average cancer risk.

4.6.3 Environmental Consequences, Impacts, and Mitigation Measures

4.6.3.1 No-Build Alternative

Construction Impacts

While the No-Build Alternative would not preclude: (1) future construction of other transportation system improvements, (2) general maintenance to improve local transportation system operation, or (3) incorporation of safety enhancements, none of the project improvements proposed would occur under the No-Build Alternative. Since no improvements would be constructed under the No-Build Alternative, and because it is not considered to be a "project" under CEQA or NEPA, it would not result in any construction impacts and no further analysis is required.

Operational Impacts

Regional Criteria Pollutant Emissions

The No-Build Alternative would not include any project improvements and would not generate any operational air quality impacts. However, under the No-Build Alternative, emissions would continue to be generated in the future by motor vehicles operating in the project study area. The regional VMT and travel speed profile predicted to occur under the No-Build Alternative in 2040 would generate the regional emissions estimates presented in Table 4.6-3. The emissions of the LPA have been evaluated against the No-Build Alternative (i.e., future year 2040 baseline) emissions (see Table 4.6-3) to determine the impacts of the LPA under NEPA.

Localized Criteria Pollutant Emissions

Within an urban setting, vehicle exhaust is the primary source of localized pollutant concentrations. The primary localized pollutants of concern are CO and particulate matter. Discussions of each pollutant are provided below.

[31] South Coast Air Quality Management District. n.d. *Draft Mobile Air Toxics Exposure Study MATES IV Carcinogenic Risk Interactive Map.* Available: http://www3.aqmd.gov/webappl/OI.Web/OI.aspx?jurisdictionID=AQMD.gov&shareID=73f55d6b-82cc-4c41-b779-4c48c9a8b15b. Accessed: July 11, 2016.

Table 4.6-3: No-Build Alternative Regional Criteria Pollutant Emissions (2012 and 2040)

Project Alternative	Daily Emissions in Pounds per Day				
	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$
2012 Existing Conditions	190,615	2,543,910	671,262	109,240	39,631
2040 No-Build	53,827	648,715	174,018	130,420	35,736

Note: Discrepancies between emissions estimated in the DEIS/DEIR and the FEIS/FEIR are attributable to updated versions of the regional travel demand model and the CT-EMFAC emission factor model. The models were re-run subsequent to the circulation of the DEIS/DEIR to account for the modified version of Alternative 4 identified as the LPA and to provide a consistent basis of comparison between the LPA and No-Build Alternative.
Source: ICF, 2019; calculated using regional VMT and CT-EMFAC2017 emission factors.

Carbon Monoxide Hot-spot Analysis

The highest CO concentrations are generally found close to congested intersections. Local CO concentrations are a function of intersection LOS. Higher CO concentrations are found at poor LOS intersection locations (i.e., LOS D through F). Under typical meteorological conditions, CO concentrations tend to decrease as the distance from the emissions source (i.e., congested intersection) increases. For a conservative worst-case impact analysis, CO concentrations are typically analyzed at the most congested intersections. If impacts are less than significant at congested intersection locations, impacts would also be less than significant at more distant sensitive receptor locations.

The No-Build Alternative proposes no project improvements and thus would not result in any CO impacts. However, No-Build Alternative (i.e., future 2040 baseline) conditions provide the basis against which the LPA is compared for purposes of NEPA. Specifically, the potential for local traffic redistribution to occur as a result of improvements under the LPA could result in changes in LOS and delay. As a consequence, in the discussions for the LPA below, the LPA LOS and delay statistics have been compared to No-Build Alternative (future year 2040 baseline) conditions to identify intersections where LOS and delay statistics would worsen. Identified intersection locations have been evaluated for local CO impacts under the LPA discussion below. No-Build Alternative intersection LOS and delay statistics information are provided in the Air Quality Technical Report in Appendix L.

Particulate Matter Hot-spot Analysis

EPA specifies in 40 CFR 93.123(b)(1) that only "projects of air quality concern" are required to undergo $PM_{2.5}$ and PM_{10} hot-spot analysis. EPA defines such projects as certain highway and transit projects that involve significant levels of diesel traffic or any project identified by the $PM_{2.5}$ SIP as a localized air quality concern. Because the No-Build Alternative is not considered to be a "project" under CEQA or NEPA, no evaluation of the impacts of the No-Build Alternative is required.

Toxic Air Contaminant Emissions

The regional VMT and travel speed profile predicted to occur under the No-Build Alternative (i.e., future year 2040 baseline conditions) would generate the regional MSAT emissions estimates presented in Table 4.6-4. MSAT emissions from the LPA have been evaluated against these No-Build Alternative (future 2040 baseline) MSAT emissions to determine the LPA's impacts under NEPA.

Table 4.6-4: No-Build Alternative MSAT Emissions (2040)

Pollutant Name	Daily Emissions Pounds per Day[32]
1,3-Butadiene	152
Acetaldehyde	371
Acrolein	33
Benzene	1,012
DPM	903
Ethylbenzene	810
Formaldehyde	967
Naphthalene	75
POM	24
DEOG	3,323

Note: Discrepancies between emissions estimated in the DEIS/DEIR and the FEIS/FEIR are attributable to updated versions of the regional travel demand model and the CT-EMFAC emission factor model. The models were re-run subsequent to the circulation of the DEIS/DEIR to account for the modified version of Alternative 4 identified as the LPA and to provide a consistent basis of comparison between the LPA and No-Build Alternative.
Source: ICF, 2019; calculated using regional VMT and CT-EMFAC2017 emissions factors.

Cumulative Impacts

The No-Build Alternative does not include any new project improvements and thus would not result in additional pollutant emissions that would contribute to cumulative air quality impacts.

Mitigation Measures

Construction Mitigation Measures

No construction mitigation measures are required.

Operational Mitigation Measures

No operational mitigation measures are required.

Impacts Remaining After Mitigation

NEPA Finding

No adverse effects would occur under NEPA.

CEQA Determination

No impacts would occur under CEQA.

[32] It should be noted that there are no quantitative thresholds for MSATs as there are for criteria pollutants, and this analysis follows FHWA guidance by quantifying project impacts with respect to MSATs and then making a determination based on the relative contribution to an issue. In cases where MSAT emissions would be more substantial than those of this project, a health risk assessment would be conducted.

4.6.3.2 Locally Preferred Alternative (Alternative 4 Modified: At-Grade LRT)

Construction Impacts

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

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

The total amount of construction, the duration of construction, and the intensity of construction activity would have a substantial effect on the amount of daily construction pollutant emissions, pollutant concentrations, and the resulting impacts occurring at any one time. As such, the emissions forecasts provided herein reflect a specific set of conservative assumptions based on the expected construction scenario wherein a relatively large amount of construction would occur in a relatively intensive manner. Because of these conservative assumptions, actual emissions would likely be less than those forecasted. For example, if construction is delayed or occurs over a longer time period, emissions would be reduced because of: (1) a more modern and cleaner burning construction equipment fleet mix, and/or (2) a less intensive build-out schedule (i.e., lower daily emissions occurring over a longer time interval).

Criteria Pollutant Emissions

The estimate of construction-period regional mass emissions is shown in Table 4.6-5. As shown in the table, regional emissions for ROG and NO_X are expected to exceed the SCAQMD regional emissions thresholds under the modeled construction activities for Year 2017 and Year 2018. As noted above in section 4.6.3.2, the construction equipment fleet mix modeled for construction activities for Year 2017 and Year 2018 would be older and generate more emissions than the proposed project's actual construction equipment fleet mix. Thus, actual project emissions would likely be less than those modeled. Impacts would be significant under CEQA and adverse under NEPA prior to implementation of mitigation measures.

With respect to local impacts, SCAQMD has developed a set of local mass emissions thresholds to evaluate localized impacts. According to SCAQMD, only those emissions that occur on site are to be considered in the Localized Significance Thresholds (LST) analysis. Consistent with SCAQMD LST evaluation guidelines, emissions related to haul truck and employee commuting activity during construction are not considered in the evaluation of localized impacts. As shown in Table 4.6-6, localized NO_X, PM_{10} and $PM_{2.5}$ emissions during construction would exceed local thresholds. As such, short-term local mass emissions would be significant under CEQA and adverse under NEPA without implementation of mitigation measures.

Table 4.6-5: LPA – Estimated Worst-Case Regional Construction Mass Emissions (Pounds Per Day)

Construction Year/Facility	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Year 2017						
Maintenance Facility	6	67	53	<1	14	8
At-Grade Track Installation, Sidewalks/Curbs, Aboveground Stations	8	101	77	<1	16	8
Bridges and TPSS Facilities	3	20	16	<1	1	1
Concurrent Construction[1]	17	188	146	<1	31	17
Year 2018						
Maintenance Facility	81	24	20	<1	2	1
At-Grade Track Installation, Sidewalks/Curbs, Aboveground Stations	8	92	73	<1	15	8
Bridges and TPSS Facilities	3	18	16	<1	1	1
Concurrent Construction[a]	92	134	109	<1	18	10
Year 2019						
Maintenance Facility **(Complete)**	—	—	—	—	—	—
At-Grade Track Installation, Sidewalks/Curbs, Aboveground Stations	30	15	21	<1	3	1
Bridges and TPSS Facilities **(Complete)**	—	—	—	—	—	—
Regional Construction Threshold	75	100	550	150	150	55
Exceed Threshold?	Yes	Yes	No	No	No	No

[a] All phases of construction are conservatively assumed to overlap in 2017 and 2018.

TPSS = traction power substation

Source: CalEEMod emissions modeling by ICF 2015.

Table 4.6-6: LPA – Estimated Maximum Localized Construction Mass Emissions (Pounds Per Day)

Construction Activity	NO_X	CO	PM_{10}[a]	$PM_{2.5}$[a]
Maintenance Facility	67	53	11	6
At-Grade Track Installation, Sidewalks/Curbs, Aboveground Stations	101	77	13	6
Bridges and TPSS Facilities	20	16	1	1
Localized Significance Thresholds [b]	80	498	4	3
Exceed Thresholds?	Yes	No	Yes	Yes

[a] PM_{10} and $PM_{2.5}$ emissions estimates assume compliance with SCAQMD Rule 403 requirements for fugitive dust suppression, which require that no visible dust be present beyond the site boundaries.

[b] The project site is in SCAQMD SRA Number 7 (Eastern San Fernando Valley). LSTs shown herein are based on the site location SRA, distance to nearest sensitive receptor location from the project site (25 meters), and the approximate local project construction size (1 acre).

TPSS = traction power substation

Source: CalEEMod emissions modeling by ICF 2015.

Health Implications of Criteria Pollutants

All criteria pollutants are associated with some form of health risk, such as asthma and other respiratory conditions. The potential health effects associated with criteria pollutants are described in Section 4.6.2.1. However, negative health effects associated with criteria pollutant emissions are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, the number and character of exposed individuals [e.g., age, health, gender]). In particular, O_3 can be formed through complex chemical reactions over long distances. Directly emitted particulate matter also does not always equate to a specific localized impact because emissions can be transported and dispersed. Given factors that influence the formation and transport of pollution, quantifying specific health consequences from the proposed project's construction emissions is not feasible because the models designed to evaluate future O_3 and particulate matter levels and resulting health effects are based on regional or national conditions. In other words, the minor increases in air pollution from the proposed project's construction activities would not result in material changes to ambient air quality or human health.

SCAQMD has indicated that it would take a large amount of additional precursor emissions to cause a modeled increase in ambient O_3 levels over an entire region. Specifically, SCAQMD's own modeling showed that reducing NO_X by 432 tons per day (157,680 tons/year) and reducing VOC by 187 tons per day (68,255 tons/year) would reduce ozone levels at the SCAQMD's monitor site with the highest levels by only 9 parts per billion.[33] Additionally, based on a health impact analysis conducted by SCAQMD, it was found that emissions of NO_X and VOC of 6,620 and 89,180 pounds per day, respectively, only resulted in 20 premature deaths per year. In turn, SCAQMD affirms that a project emitting NO_X or VOC below its threshold of 10 tons per year "is small enough that its regional impact on ambient ozone levels may not be detected in the regional air quality models" and it would "not be feasible to directly correlate project emissions of VOC or NO_X with specific health impacts from ozone."[34]

As shown in Table 4.6-10, p. 4.6-28, the LPA's estimated regional construction emissions would not exceed any of SCAQMD's regional significance thresholds for criteria pollutants after the implementation of mitigation. Additionally, given that the LPA's peak daily construction regional emissions of 29 pounds per day for VOC and 93 pounds per day for NO_X would not exceed 10 tons per year for either pollutant, the LPA would represent a project of a size where it would not be feasible to directly correlate its emissions of VOC or NO_X with specific health impacts from O_3. Accordingly, an analysis correlating the relatively minor emissions generated by the project with specific levels of health impacts would not yield reliable or accurate results and has therefore not been conducted.

It should be noted that the NAAQS and CAAQS are health-protective standards and define the maximum amount of ambient pollution that can be present without harming public health. SCAQMD's LSTs represent the level of pollutant emissions from onsite sources from a project that would not exceed the most stringent applicable federal or state ambient air quality standards.

As described above, several residential and educational land uses are within the project area. Although proximity to receptors indicates the potential for a health risk, air quality management agencies recognize that other variables, such as duration of the construction period, types of

[33] South Coast Air Quality Management District. 2015. Applicable of the South Coast Air Quality Management District for Leave to File Brief of Amicus Curiae in Support of Neither Party. Filed April.
[34] *Ibid.*

construction equipment, and the amount of onsite diesel-generated $PM_{2.5}$ exhaust, can influence DPM concentrations and the potential for a project to result in increased health risk. Accurately quantifying DPM concentrations and predicting associated health risks (e.g., excess cancer cases) requires detailed site-specific information on the locations of specific construction activity. Given the preliminary level of design at this time, the inventory of construction-generated DPM was prepared based on generalized project information and model defaults. Specific details on the timing and locations of individual equipment and vehicles are currently unavailable, and as such, a quantitative health risk assessment is not possible. Based on the mass emissions results, the greatest potential for DPM emissions would occur when the maintenance and storage facility and track/station installation are undertaken. Construction activities during this time would be spread along the entire alignment and offsite locations, as opposed to at a single location. Similar geographic dispersion would occur throughout construction. In addition, construction-period emissions would be minimized with implementation of measure MM-AQ-1 through MM-AQ-9.

Appendix L presents the results of the CO screening procedure and indicates that CO concentrations are not expected to contribute to any new localized violations of the 1-hour or 8-hour ambient air quality standards. Consequently, implementation of project would not result in CO concentrations in excess of the health protective CAAQS or NAAQS and, as such, would not expose sensitive receptors significant pollutant concentrations or health effects.

Toxic Air Contaminant Emissions

With respect to construction-period impacts, the greatest potential for TAC emissions would be related to DPM emissions associated with heavy equipment operations during project construction. Construction activities associated with the project would be sporadic, transitory, and short term in nature. The assessment of cancer risk is typically based on a 70-year exposure period; however, the LPA construction is anticipated to have duration of approximately 4.5 to 5.5 years. Because exposure to diesel exhaust would be well below the 70-year exposure period, project construction is not anticipated to result in an elevated cancer risk to exposed persons due to the short-term nature of construction. As such, project-related toxic emission impacts during construction would be less than significant under CEQA and non-adverse under NEPA.

Operational Impacts

Regional Criteria Pollutant Emissions

Operation of the LPA would involve criteria pollutant emissions from the maintenance and storage facility, transit vehicle propulsion, and from motor vehicles operating in the vicinity of the project. Most of the emissions related to the maintenance and storage facility and transit vehicle propulsion would occur outside the Basin, as much of the electricity consumed in the region is produced elsewhere. Emissions from motor vehicles operating in the project vicinity, however, would occur entirely within the Basin.

As demonstrated in Table 4.6-7, there would be net reductions in operational emissions of criteria pollutants under the 2012 LPA scenario relative to the 2012 Existing Conditions scenario. Because no SCAQMD thresholds would be exceeded under the 2012 LPA scenario and operational emissions are accounted for in the State Implementation Plan (SIP), impacts would be less than significant under CEQA and would not be adverse under NEPA.

Table 4.6-7: LPA – Regional Criteria Pollutant Emissions (2012)

Project Alternative	Daily Emissions in Pounds per Day				
	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$
Maintenance Facility	2	< 1	< 1	< 1	< 1
Transit Vehicle Propulsion	1	7	8	1	1
Traffic Emissions					
2012 LPA	190,532	2,543,576	671,190	109,234	39,627
2012 No-Build	190,615	2,543,910	671,262	109,240	39,631
Net Project Emissions [a]	(80)	(326)	(64)	(5)	(3)
SCAQMD Thresholds	55	550	55	150	55
Exceed Threshold	No	No	No	No	No

[a] Accounts for emissions from the maintenance facility, transit vehicle propulsion, and vehicles in the project study area.
Note: Discrepancies between emissions estimated in the DEIS/DEIR and the FEIS/FEIR are attributable to updated versions of the regional travel demand model and the CT-EMFAC emission factor model. The models were re-run subsequent to the circulation of the DEIS/DEIR to account for the modified version of Alternative 4 identified as the LPA and to provide a consistent basis of comparison between the LPA and No-Build Alternative.
Source: ICF, 2019; calculated using CT-EMFAC2017, CalEEMod, and 2014 Metro Rail energy data.

Emissions from motor vehicles operating in the project vicinity, however, would occur entirely within the Basin. As shown in Table 4.6-7, compared to 2012 Existing Conditions scenario, the LPA would result in a net decrease in emissions of ROG, CO, NO_X, PM_{10}, and $PM_{2.5}$ emissions, and no SCAQMD thresholds would be exceeded. The proposed project's requirement to demonstrate transportation conformity ensures that project emissions are accounted for in the SIP, which demonstrated attainment of the federal ozone standard. Because no SCAQMD thresholds would be exceeded and operational emissions are accounted for in the SIP, impacts would be less than significant under CEQA and would not be adverse under NEPA.

The regional VMT and travel speed profile predicted to occur under the 2040 LPA scenario would generate the regional criteria pollutant emissions estimates presented in Table 4.6-8. As shown in the table, there would be reductions in regional criteria pollutant emissions under the 2040 LPA scenario relative to the 2040 No-Build Alternative, and emissions would not exceed the SCAQMD thresholds.

Health Implications of Criteria Pollutants

As shown in Tables 4.6-7 and 4.6-8, the LPA's estimated regional net operational emissions would not exceed any of SCAQMD's regional significance thresholds for criteria pollutants. Given that the LPA's daily operational regional emissions would be less than those from the corresponding existing conditions and 2040 No-Build scenarios, there would be a net reduction of VOC and NO_X emissions and the LPA would not exceed 10 tons per year for either pollutant. As such, the LPA would represent a project of a size where it would not be feasible to directly correlate its emissions of VOC or NO_X with specific health impacts from O_3, but a net improvement in health outcomes is anticipated based on the lower operational emissions. Accordingly, an analysis correlating the emissions generated by the LPA with specific levels of health impacts would not yield reliable or accurate results and has therefore not been conducted. As discussed below, implementation of the LPA is not anticipated to result in CO or particulate matter hot-spots such that an increase in adverse health outcomes would occur.

Table 4.6-8: LPA – Regional Criteria Pollutant Emissions for Operations (2040)

Project Alternative	Daily Emissions in Pounds per Day				
	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$
Maintenance Facility	2	< 1	< 1	< 1	< 1
Vehicle Propulsion	1	7	8	1	1
Traffic Emissions					
2040 LPA	53,614	648,163	173,677	130,401	35,731
2040 No-Build	53,827	648,715	174,018	130,420	35,736
Net Project Emissions [a]	(210)	(545)	(332)	(18)	(4)
SCAQMD Thresholds	55	550	55	150	55
Exceed Threshold	No	No	No	No	No

[a] Accounts for emissions from the maintenance facility, transit vehicle propulsion, and vehicles in the project study area.
Note: Discrepancies between emissions estimated in the DEIS/DEIR and the FEIS/FEIR are attributable to updated versions of the regional travel demand model and the CT-EMFAC emission factor model. The models were re-run subsequent to the circulation of the DEIS/DEIR to account for the modified version of Alternative 4 identified as the LPA and to provide a consistent basis of comparison between the LPA and No-Build Alternative.
Source: ICF, 2019; calculated using CT-EMFAC2017, CalEEMod, and 2014 Metro Rail energy data.

Carbon Monoxide Hot-Spot Analysis

Based on ambient air monitoring data collected by SCAQMD, the Basin has continually met state and federal ambient air quality standards for CO since 2003. As such, the Basin was reclassified to attainment/maintenance status from serious nonattainment, effective June 11, 2007. While the *Final 2016 Air Quality Management Plan* (AQMP) is the most recent AQMP, no additional regional or hot-spot CO modeling has been conducted to demonstrate attainment of the 8-hour average CO standard since the analysis provided in the 2003 AQMP.

Since local CO concentrations are a function of: 1) intersection traffic volumes, 2) peak-hour intersection LOS, 3) CO emissions factors [idle and grams/mile], and 4) the ambient CO background concentration; it is possible to identify which, if any, of the most congested intersection locations anticipated to exist under the LPA, have a potential to violate state or federal CO standards. The LPA intersections included in the Air Quality Technical Report in Appendix L meet the following criteria: 1) intersection LOS and/or delay would worsen under the LPA when compared to the No-Build Alternative, and 2) the intersection would operate at LOS F.

As discussed in the Air Quality Technical Report (see Appendix L), total intersection approach volumes under the LPA would not exceed the maximum total intersection approach volume identified for a 2003 attainment demonstration intersection, during the AM or PM peak-hour period. In addition, the eastern San Fernando Valley is predicted to have lower future background CO concentrations and idle and 5-mph emission factors would be lower than those used for the 2003 AQMP attainment demonstration.

Based on the LPA's lower intersection approach volumes, idle emissions, and grams/mile emissions relative to the 2003 AQMP attainment demonstration, there would be no potential for the LPA CO emissions at any intersection to result in an exceedance of either the NAAQS or CAAQS for CO. Impacts would be less than significant under CEQA and would not be adverse under NEPA.

Particulate Matter Hot-Spot Analysis

The EPA has specified a quantitative method for analyzing localized $PM_{2.5}$ or PM_{10} concentrations from operational traffic titled, *Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas* in November 2015. EPA specifies in 40 CFR 93.123(b)(1) that only "projects of air quality concern" are required to undergo a $PM_{2.5}$ and PM_{10} hot-spot analysis. EPA defines projects of air quality concern as certain highway and transit projects that involve significant levels of diesel traffic or any other project that is identified by the $PM_{2.5}$ SIP as a localized air quality concern. A discussion of the LPA compared to projects of air quality concern, as defined by 40 CFR 93.123(b)(1), is provided below:

<u>New or expanded highway projects that have a significant number of or significant increase in diesel vehicles</u>. The LPA proposes to add LRT service along selected roadway corridors in the eastern San Fernando Valley. While the proposed improvements would have some effect on local traffic volumes, the effect on the number of diesel-powered vehicles that use the affected roadway facility or any adjacent facilities would be negligible.

Projects affecting intersections that are at LOS D, E, or F with a significant number of diesel vehicles or those that will change to LOS D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project. The LPA is proposing to add LRT service along selected roadway corridors in the eastern San Fernando Valley. The primary project objective is to improve both existing and future mobility, and reduce congestion. The LPA would have no effect on diesel truck traffic volumes.

New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location. The LPA would not use any diesel-powered vehicles. No diesel-powered transit would be used to provide service to any bus or rail terminal.

Expanded bus and rail terminals and transfer points significantly increase the number of diesel vehicles congregating at a single location. The LPA would not expand any bus terminal, rail terminal, or related transfer point that would increase the number of diesel vehicles congregating at any single location.

Projects in or affecting locations, areas, or categories of sites that are identified in the $PM_{2.5}$- or PM_{10}-applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation. The project vicinity is not in or affecting an area or location identified in any PM_{10} or $PM_{2.5}$ implementation plan. The immediate project area is not considered to be a site of violation or possible violation.

The discussion provided above indicates that the LPA would not be considered a POAQC, as defined by 40 CFR 93.123(b)(1). At its meeting on October 22, 2019, members of the SCAG Transportation Conformity Working Group determined that the LPA would not be considered a POAQC, and would not require quantitative dispersion modeling for particulate matter. Therefore, the LPA would not generate new air quality violations, worsen existing violations, or delay attainment of NAAQS for $PM_{2.5}$ and PM_{10}. Potential impacts would be less than significant under CEQA and would not be adverse under NEPA.

Toxic Air Contaminant Emissions

The regional VMT and travel speed profile predicted to occur under the LPA would generate the regional (Mobile Source Air Toxics (MSAT) emissions estimates presented in Table 4.6-9. As shown in the table, there would be no material change in regional MSAT pollutant emissions under the LPA, when compared to the No-Build Alternative. Moreover, EPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with EPA's MOVES model forecasts a combined reduction of over 80% in the total annual emission rate for the priority MSAT from 2010 to 2050 while vehicle-miles of travel are projected to increase by over 100%. This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project. Impacts would be less than significant under CEQA and would not be adverse under NEPA.

Table 4.6-9: LPA – MSAT Emissions (2040)

Pollutant Name	Daily Emissions (pounds per day)		
	LPA	No-Build Alternative	Net Emissions
1,3-Butadiene	152	152	(< 1)
Acetaldehyde	370	371	(1)
Acrolein	33	33	(< 1)
Benzene	1,009	1,012	(3)
DPM	904	903	1
Ethylbenzene	807	810	(3)
Formaldehyde	966	967	(1)
Naphthalene	74	75	(< 1)
POM	24	24	(< 1)
DEOG	3,319	3,323	(4)

Note: Discrepancies between emissions estimated in the DEIS/DEIR and the FEIS/FEIR are attributable to updated versions of the regional travel demand model and the CT-EMFAC emission factor model. The models were re-run subsequent to the circulation of the DEIS/DEIR to account for the modified version of Alternative 4 identified as the LPA and to provide a consistent basis of comparison between the LPA and No-Build Alternative.
Source: ICF, 2019; calculated using project study area VMT and CT-EMFAC2017 emissions factors.

Cumulative Impacts

California is divided geographically into 15 air basins for the purpose of managing the air resources of the state on a regional basis. Each air basin generally has similar meteorological and geographic conditions throughout. Local districts are responsible for preparing the portion of the SIP applicable within their boundaries.

The proposed project is located in the South Coast Air Basin; and as such, the Basin is the appropriate project study area for evaluation of cumulative impacts for air quality. SCAQMD has responsibility for managing the Basin’s air resources and is responsible for bringing the Basin into attainment for federal and state air quality standards. To achieve this goal, the SCAQMD prepares/updates the Basin’s AQMP every 4 years.

The “on-road emissions” AQMP budgets are developed based on the regional transportation planning documents that are prepared by SCAG. The LPA is included in the SCAG 2016-2040 RTP/Sustainable Communities Strategy (SCS) under Project ID S1160326. The LPA has been incorporated into the

SCAG 2019 FTIP under project ID LA0G1301. The 2016-2040 RTP/SCS was found by FHWA and the Federal Transit Administration to be in conformity with the SIP on June 1, 2016. The 2019 FTIP was found to be in conformity with the SIP on December 17, 2018 (see Appendix L).

Per State CEQA Guidelines Section 15130 (d), where a project is included in an approved regional transportation plan (among other land use plans) that adequately address the effected resource area, no additional analysis is required. Because the proposed project is listed, as currently proposed, in the region's currently conforming SCAG 2016-2040 RTP/SCS and 2019 FTIP regional transportation planning documents, project emissions would not be cumulatively considerable.

Compliance Requirements and Design Features

The project would comply with all applicable SCAQMD Rules, which include Rule 403 (fugitive dust), Rule 431.2 (sulfur content of liquid fuels) and Rule 1113 (architectural coatings), among other rules.

Mitigation Measures

Construction Mitigation Measures

The following measures are prescribed and shall be implemented to reduce short-term construction emissions that exceed SCAQMD significance thresholds:

MM-AQ-1: Construction vehicle and equipment trips and use shall be minimized to the extent feasible and unnecessary idling of heavy equipment shall be avoided.

MM-AQ-2: Solar powered, instead of diesel powered, changeable message signs shall be used.

MM-AQ-3: Electricity from power poles, rather than from generators, shall be used where feasible.

MM-AQ-4: Engines shall be maintained and tuned per manufacturer's specifications to perform at EPA certification levels and to perform at verified standards applicable to retrofit technologies. Periodic, unscheduled inspections shall be conducted to limit unnecessary idling and to ensure that construction equipment is properly maintained, tuned, and modified consistent with established specifications.

MM-AQ-5: Any tampering with engines shall be prohibited and continuing adherence to manufacturer's recommendations shall be required.

MM-AQ-6: New, clean (diesel or retrofitted diesel) equipment meeting the most stringent applicable federal or state standards shall be used and the best available emissions control technology shall be employed. Tier 4 engines shall be used for all construction equipment. If non-road construction equipment that meets Tier 4 engine standards is not available, the Construction Contractor shall be required to use the best available emissions control technologies on all equipment.

MM-AQ-7: EPA-registered particulate traps and other appropriate controls shall be used where suitable to reduce emissions of diesel particulate matter and other pollutants at the construction site.

MM-AQ-8: Consistent with South Coast Air Quality Management District Rule 1113, all architectural coatings for building envelope associated with the project shall use coatings with a Volatile Organic Compound content of 50 grams per liter or less.

MM-AQ-9: The Design-Builder shall implement feasible means and methods that would minimize cumulative air quality impacts during the construction period, including, but not limited to, the following:

1. Timing project-related construction activities associated with the maintenance facility, stations, and track installation such that overlapping schedules are minimized.
2. Timing project-related construction activities so that overlapping schedules with other projects in the area are avoided.
3. Reducing the number of pieces of diesel-fueled equipment used at a given time when construction activities occur in the vicinity of sensitive receptors, such as residences, schools, parks, hospitals, and nursing homes.

Operational Mitigation Measures

No mitigation measures are necessary.

Impacts Remaining After Mitigation

Without the implementation of mitigation measures, construction-period emissions for ROG and NO_X were forecasted to exceed the SCAQMD regional emissions thresholds under the LPA. As shown in Table 4.6-10, with the implementation of proposed mitigation measures MM-AQ-1 through MM-AQ-9, there would be no exceedances of the regional emissions thresholds. As such, regional effects under NEPA would not be adverse. Impacts would be less than significant under CEQA after the implementation of mitigation measures.

With the implementation of proposed mitigation measures, construction emissions under the LPA would be reduced, but would exceed the LSTs for PM_{10} and $PM_{2.5}$, as shown in Table 4.6-11. Based on the reduction of emissions, localized effects under NEPA would not be adverse. However, based on the emissions of PM_{10} and $PM_{2.5}$ exceeding the LSTs, localized impacts would remain significant under CEQA after the implementation of proposed mitigation measures.

NEPA Finding

Construction effects would not be considered adverse after the implementation of mitigation measures. Operational effects would not be adverse under NEPA.

CEQA Determination

Construction of the LPA would result in the emission of ROGs and NO_X in excess of regional thresholds. ROG and NO_X emissions would be reduced below the regional thresholds following the implementation of mitigation measures. Construction of the LPA would exceed the LSTs for PM_{10} and $PM_{2.5}$ after the implementation of mitigation measures. Construction impacts under the LPA would be significant under CEQA after the implementation of mitigation measures.

Table 4.6-10: LPA – Estimated Mitigated Worst-Case Regional Construction Mass Emissions (Pounds Per Day)

Construction Year/Facility	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Year 2017						
Maintenance Facility	2	27	43	<1	10	4
At-Grade Track Installation, Sidewalks/Curbs, Aboveground Stations	4	52	59	<1	11	5
Bridges and TPSS Facilities	<1	4	15	<1	<1	<1
Concurrent Construction[1]	6	83	117	<1	21	9
Year 2018						
Maintenance Facility	16 [a]	3	20	<1	<1	<1
At-Grade Track Installation, Sidewalks/Curbs, Aboveground Stations	4	48	58	<1	11	5
Bridges and TPSS Facilities	<1	4	15	<1	<1	<1
Concurrent Construction[1]	20	55	93	<1	11	5
Year 2019						
Maintenance Facility **(Complete)**	—	—	—	—	—	—
At-Grade Track Installation, Sidewalks/Curbs, Aboveground Stations	29	2	21	<1	2	1
Bridges and TPSS Facilities **(Complete)**	—	—	—	—	—	—
Regional Construction Threshold	75	100	550	150	150	55
Exceed Threshold?	No	No	No	No	No	No

[1] All phases of construction are conservatively assumed to overlap in 2017 and 2018.

[a] Consistent with the model defaults of CalEEMod version 2013.2.2, the DEIS/DEIR construction analysis used the nonresidential interior and exterior default VOC content for architectural coatings of 250 grams VOC/liter. Subsequent to circulation of the DEIS/DEIR, SCAQMD Rule 1113 reduced the allowable VOC content for architectural coatings to 50 grams per liter. The ROG emissions in this table have been revised to account for the use of low-VOC architectural coatings on the maintenance facility, as required by Rule 1113.

TPSS = traction power substation

Source: CalEEMod emissions modeling by ICF 2015.

Table 4.6-11: LPA – Estimated Maximum Localized Construction Mass Emissions (Pounds Per Day)

Construction Activity	NO_X	CO	PM_{10}[a]	$PM_{2.5}$[a]
Maintenance Facility	27	43	10	4
At-Grade Track Installation, Sidewalks/Curbs, Aboveground Stations	52	59	11	5
Bridges and TPSS Facilities	4	15	<1	<1
Localized Significance Thresholds [b]	80	498	4	3
Exceed Thresholds?	No	No	Yes	Yes

[a] PM_{10} and $PM_{2.5}$ emissions estimates assume compliance with SCAQMD Rule 403 requirements for fugitive dust suppression, which require that no visible dust be present beyond the site boundaries.

[b] The project site is in SCAQMD SRA Number 7 (Eastern San Fernando Valley). LSTs shown herein are based on the site location SRA, distance to nearest sensitive receptor location from the project site (25 meters), and the approximate local project construction size (1 acre).

TPSS = traction power substation

Source: CalEEMod emissions modeling by ICF 2015.

The operation of the LPA would result in decreased emissions of criteria and MSAT pollutants. In addition, no localized operational impacts related to hot-spots for CO or particulate matter were identified. Therefore, operational impacts under the LPA would be less than significant under CEQA.

4.6.3.3 Initial Operating Segment

An IOS has been included in this FEIS/FEIR to enable Metro to realize potential cost savings, which would not otherwise occur under the LPA, from phasing the project. It should be noted that Metro is proceeding with IOSs on other Metro projects for that reason and to specifically provide the decision-making body of Metro (the Metro Board) with flexibility in determining the most efficient and cost-effective manner to implement those projects. Proceeding with an IOS for the proposed project would also allow further coordination to occur with the Public Utilities Commission (PUC) and Metrolink, which will be necessary to accommodate double tracking of the Antelope Valley Line, and with the City of San Fernando regarding traffic impacts at intersections in the City prior to development of the remaining northern segment of the LPA.

Although the IOS for the proposed project would run along the same alignment and have the same design features and operating characteristics as those described above for the LPA, it would occupy a smaller project footprint than the LPA because it would extend from the Metro Orange Line on the south to the proposed the Van Nuys/San Fernando station on the north. It remains Metro's intent, however, to build the remaining northern 2.5 miles of the LPA within the existing railroad right-of-way, from the Van Nuys/San Fernando station to the Sylmar/San Fernando Metrolink station. Impacts associated with the IOS are discussed below.

Construction Impacts

Construction impacts under the IOS would be similar to those impacts identified under the LPA, with the exception that no construction activities would occur within the 2.5-mile segment of the LPA within the existing railroad right-of-way between the Van Nuys/San Fernando Station and Sylmar/San Fernando Metrolink station. Because the improvements and the amount of construction activities occurring per day for the remainder of alignment would be the same under the IOS and the LPA, estimated unmitigated daily regional mass emissions would be approximately the same as identified in Table 4.6-5, and unmitigated daily localized emissions would be approximately the same as identified in Table 4.6-6. With implementation of MM-AQ-1 through MM-AQ-9, daily mass and localized emissions from the IOS would be approximately the same as identified in Tables 4.6-10 and 4.6-11, respectively. It is expected that the duration of construction for the IOS would be approximately the same as for the LPA, which would begin in approximately June 2022 and conclude in December 2026. Thus, there would be negligible differences between the IOS and LPA related to daily emissions, and exceedances of the SCAQMD thresholds are expected under the IOS prior to the implementation of mitigation. Construction-period regional and localized mass emissions under the IOS would be significant under CEQA and adverse under NEPA without implementation of mitigation measures.

Operational Impacts

Operational impacts under the IOS would be similar to those identified under the LPA, with the exception that the IOS would have lower ridership due to the shorter alignment. The reduced ridership would mean that these individuals would take other modes of transportation, and a portion of these individuals would use passenger vehicles. As such, VMT and associated emissions would be marginally higher under IOS than under the LPA. However, given that the IOS would introduce a new LRT service where none exists at present, project-related air pollutant emissions are anticipated to be lower than under the No-Build Alternative. As shown in Table 4.6-12, compared to the 2012 Existing Conditions scenario, operation of the 2012 IOS scenario would result in a net decrease in emissions of ROG, CO, NO_X, PM_{10}, and $PM_{2.5}$ emissions, and no SCAQMD thresholds would be exceeded.

Table 4.6-12: IOS – Regional Criteria Pollutant Emissions for Operations (2012)

Project Alternative	Daily Emissions in Pounds per Day				
	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$
Maintenance Facility	2	< 1	< 1	< 1	< 1
Vehicle Propulsion	1	7	8	1	1
Traffic Emissions					
2012 IOS	190,535	2,543,619	671,201	109,236	39,628
2012 No-Build	190,615	2,543,910	671,262	109,240	39,631
Net Project Emissions [a]	(76)	(283)	(53)	(3)	(2)
SCAQMD Thresholds	55	550	55	150	55
Exceed Threshold	No	No	No	No	No

[a] Accounts for emissions from the maintenance facility, transit vehicle propulsion, and vehicles in the project study area. Totals may not sum due to rounding.
Source: ICF, 2020; calculated using CT-EMFAC2017, CalEEMod, and 2014 Metro Rail energy data.

The regional VMT and travel speed profile forecasted to occur under the 2040 IOS scenario would generate the regional criteria pollutant emissions estimates presented in Table 4.6-13. As shown in the table, there would be reductions in regional criteria pollutant emissions under the 2040 IOS scenario relative to the 2040 No-Build Alternative, and emissions would not exceed the SCAQMD thresholds.

As shown in Table 4.6-12 and Table 4.6-13 and as discussed for the LPA, the IOS is not expected to result in exceedances of SCAQMD thresholds or generation of substantial MSAT/TAC emissions (see Table 4.6-14). Generation of CO or particulate matter hot-spots would also not occur. Based on the IOS's lower intersection approach volumes, idle emissions, and grams/mile emissions relative to the 2003 AQMP attainment demonstration, there would be no potential for the IOS CO emissions at any intersection to result in an exceedance of either the NAAQS or CAAQS for CO.

At its meeting on October 22, 2019, members of the SCAG Transportation Conformity Working Group determined that the IOS would not be considered a POAQC and would not require quantitative dispersion modeling for particulate matter. Operational effects of the IOS related to air quality would be less than significant under CEQA and not adverse under NEPA.

A schedule for completing the northern 2.5-mile segment (phase 2) will be contingent upon securing the necessary funding and thus remains to be determined. However, it is Metro's expectation that the funding will be secured, and construction of phase 2 would likely begin within 3 to 5 years of completion of the IOS. However, for the purposes of this FEIS/FEIR, a conservative 2040 future-year scenario has been assumed to assess potential impacts in the future. If the northern 2.5-mile segment within the existing railroad right-of-way between the Van Nuys/San Fernando station and Sylmar/San Fernando Metrolink station is constructed before or by 2040, then operational impacts related to air quality would be similar to those identified under the LPA's future 2040 conditions, as discussed in the previous section.

Table 4.6-13: IOS – Regional Criteria Pollutant Emissions for Operations (2040)

Project Alternative	Daily Emissions in Pounds per Day				
	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$
Maintenance Facility	2	< 1	< 1	< 1	< 1
Vehicle Propulsion	1	7	8	1	1
Traffic Emissions					
2040 IOS	53,619	648,222	173,693	130,413	35,734
2040 No-Build	53,827	648,715	174,018	130,420	35,736
Net Project Emissions [a]	(205)	(486)	(317)	(6)	(1)
SCAQMD Thresholds	55	550	55	150	55
Exceed Threshold	No	No	No	No	No

[a] Accounts for emissions from the maintenance facility, transit vehicle propulsion, and vehicles in the project study area. Totals may not sum due to rounding.
Source: ICF, 2020; calculated using CT-EMFAC2017, CalEEMod, and 2014 Metro Rail energy data.

Table 4.6-14: IOS – MSAT Emissions (2040)

Pollutant Name	Daily Emissions (pounds per day)		
	IOS	No-Build Alternative	Net Emissions
1,3-Butadiene	152	152	(< 1)
Acetaldehyde	370	371	(< 1)
Acrolein	33	33	(< 1)
Benzene	1,009	1,012	(3)
DPM	904	903	1
Ethylbenzene	807	810	(3)
Formaldehyde	966	967	(1)
Naphthalene	74	75	(< 1)
POM	24	24	(< 1)
DEOG	3,319	3,323	(4)

Source: ICF, 2020; calculated using project study area VMT and CT-EMFAC2017 emissions factors.

Cumulative Impacts

Cumulative impacts under the IOS would be similar to those identified under the LPA. As discussed in the cumulative analysis for the LPA above, SCAQMD has responsibility for managing the Basin's air resources, and is responsible for bringing the Basin into attainment for federal and state air quality standards, which is done through the development of the AQMP. AQMP on-road emissions budgets are developed based on the regional transportation planning documents that are prepared by SCAG. Given that the IOS is a variation of one of the build alternatives included the SCAG's RTP/SCS and 2019 FTIP, both of which were found to be in conformity with the SIP and Clean Air Act, project emissions would not be cumulatively considerable.

Compliance Requirements and Design Features

Implementation of the IOS would comply with all applicable SCAQMD Rules, which include Rule 403 (fugitive dust), Rule 431.2 (sulfur content of liquid fuels) and Rule 1113 (architectural coatings), among other rules.

Mitigation Measures

Construction Mitigation Measures

The mitigation measures for the IOS would be the same as those stated for the LPA. These include MM-AQ-1 through MM-AQ-9.

Operational Mitigation Measures

No mitigation measures are necessary.

Impacts Remaining After Mitigation

NEPA Finding

Construction effects of the IOS would not be considered adverse after the implementation of mitigation measures. Operational effects would not be adverse under NEPA.

CEQA Determination

Construction of the IOS would result in the emission of ROGs and NOx in excess of regional thresholds. ROG and NOx emissions would be reduced below the regional thresholds following the implementation of mitigation measures. Construction of the LPA would exceed the LSTs for PM_{10} and $PM_{2.5}$ after the implementation of mitigation measures. Construction impacts under the IOS would be significant under CEQA after the implementation of mitigation measures.

The operation of the IOS is expected to result in decreased emissions of criteria and MSAT pollutants. In addition, no localized operational impacts related to hot-spots for CO or particulate matter were identified. Therefore, operational impacts under the IOS would be less than significant under CEQA.

4.7 Greenhouse Gas Emissions

4.7.1 Regulatory Framework and Methodology

4.7.1.1 Regulatory Framework

The applicable federal, state, and local regulations that are relevant to an analysis of the proposed project's greenhouse gas (GHG) emissions impacts are listed below. For additional information regarding these regulations, please see the Climate Change Technical Report in Appendix BB of this FEIS/FEIR.

Federal

The following federal regulations are applicable to the proposed project:

- Section 202(a) of the Clean Air Act; and
- National Clean Car Program.

State

The following state regulations are applicable to the proposed project:

- Executive Order (EO) S-3-05;
- EO S-01-07 (January 18, 2007);
- EO B-30-15;
- Assembly Bill (AB) 32, the Global Warming Solutions Act of 2006;
- AB 1493, Pavley, Vehicular Emissions: Greenhouse Gases, 2002;
- Senate Bill (SB) 97;
- SB 375, Sustainable Communities and Climate Protection Act of 2008;
- SB 391 Chapter 585, 2009 California Transportation Plan; and
- SB 32 Global Warming Solutions Act of 2006 (passed in 2016).

Local

The following local and regional agencies and regulations are applicable to the proposed project:

- Southern California Association of Governments 2016-2040 RTP/SCS;
- South Coast Air Quality Management District Air Quality Management Plan;
- City of Los Angeles Green LA: An Action Plan to Lead the Nation in Fighting Global Warming;
- City of Los Angeles ClimateLA;
- City of Los Angeles Sustainable City pLAn;
- Metro 2019 Climate Action and Adaptation Plan; and
- Metro Green Construction Policy.

4.7.1.2 Methodology

The proposed project would generate construction-related and operational emissions. The methodology used to evaluate construction and operational effects is described below.

Evaluation of Construction-Period Impacts

Project construction would be a source of GHG emissions. Such emissions would result from earthmoving and the use of heavy equipment as well as land clearing, ground excavation, cut-and-fill operations, and the reconstruction of roadways. Construction-period GHG emissions are quantified by using the California Emissions Estimator Model (CalEEMod) (version 2013.2.2). CalEEMod has been approved by SCAQMD for emissions estimations within the South Coast Air Basin. Consistent with SCAQMD-recommended methodology, total construction-period emissions are amortized over a 30-year period, then added to the opening-year GHG emissions total to arrive at the annual tons per year total, which accounts for construction and operations emissions.

Evaluation of Operational Impacts

Operational GHG emissions would result from transit vehicle and maintenance facility operations as well as changes in local VMT related to local traffic redistribution, changes in roadway network travel speeds, and mode-shift effects that would occur because of the proposed project.

CalEEMod was used to estimate emissions related to maintenance facility operations that would result from trips made by workers; facility energy demands related to lighting, temperature control, and water conveyance; and area sources, such as the use of consumer products, periodic application of architectural coatings, the use of landscaping equipment, etc., that would occur during long-term project operations. In calculating mobile-source emissions, the version of CalEEMod used in this analysis relied on EMFAC2011 emissions factors and default trip generation rates and distances. Area-source emissions were compiled using CalEEMod default assumptions.

Fixed guideway transit vehicle operations emissions were calculated by applying Los Angeles Department of Water and Power carbon intensity factors to the annual estimate of system electricity demand. Propulsion and station electricity demand were established by determining the per-mile energy demand for Metro's existing LRT lines and applying that consumption rate to the proposed 9.2-mile alignment for the LPA.

Emissions related to changes in local VMT and roadway network travel speeds were calculated using traffic data (VMT apportioned into 5 mph speed bins) that were derived from a micro-simulation model that captures project effects and CT-EMFAC2017 emissions factors.

The LPA and Initial Operating Segment (IOS) were compared against the existing (2012) and future (2040) baseline conditions.

4.7.1.3 CEQA Significance Thresholds

CEQA requires state and local government agencies to identify the significant environmental effects of proposed actions. According to the Governor's Office of Planning and Research, significance thresholds for a given environmental effect are at the discretion of the Lead Agency and are the levels at which the Lead Agency finds the effects of the project to be significant.

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). The State CEQA Guidelines also state that the determination of the significance of GHG emissions calls for a careful judgment by the lead agency and that the lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of GHG emissions resulting from a project (State CEQA Guidelines, Section 15064.4).

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, which are often used as thresholds or guidance in developing thresholds for determining impact significance.[1] Accordingly, for the purposes of this FEIS/FEIR, a project would have a significant effect due to GHG emissions under CEQA, if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

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

Although SCAQMD has a regulatory role in the South Coast Air Basin, it has not adopted or proposed any quantitative thresholds that would be applicable to the proposed project. As such, project GHG emissions are evaluated for consistency with California's AB 32 (Global Warming Solutions Act of 2006) and SB 32 emissions reduction goals to determine significance.

4.7.1.4 L.A. CEQA Thresholds Guide

The City's *L.A. CEQA Threshold Guide* does not contain thresholds for climate change impacts related to GHG emissions. As such, project GHG emissions are evaluated for consistency with AB 32 and SB 32 emissions reduction goals to determine significance.

4.7.2 Affected Environment/Existing Conditions

4.7.2.1 Description of Relevant Pollutants

GHGs include CO_2, CH_4, N_2O, and fluorinated gases. Presented below is a description of each GHG and their known sources.

[1] The Environmental Checklist questions in Appendix G of the State CEQA Guidelines were used as guidance in developing thresholds for determining impact significance. In late 2018, subsequent to completion of the DEIS/DEIR, changes to the State CEQA Guidelines were adopted by the State, including revisions to the Environmental Checklist questions in Appendix G. To maintain consistency between the DEIS/DEIR and FEIS/FEIR when evaluating the significance of impacts under CEQA, the significance thresholds identified in this chapter are unchanged from those in the DEIS/DEIR.

Carbon dioxide (CO_2) enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, respiration, and also as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is also removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle.

Methane (CH_4) is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and the decay of organic waste in municipal solid waste landfills.

Nitrous oxide (N_2O) is emitted during agricultural and industrial activities as well as during the combustion of fossil fuels and solid waste.

Fluorinated gases are synthetic, strong GHGs that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances. These gases are typically emitted in smaller quantities, but because they are potent GHGs, they are sometimes referred to as High Global Warming Potential gases.

Chlorofluorocarbons (CFCs) are GHGs and covered under the 1987 Montreal Protocol. CFCs are used in refrigeration, air-conditioning, packaging, insulation, solvents, or aerosol propellants. Because they are not destroyed in the lower atmosphere (troposphere, stratosphere), CFCs drift into the upper atmosphere where, given suitable conditions, they break down ozone. These gases are being replaced by other compounds that are GHGs and covered under the Kyoto Protocol.

Perfluorocarbons (PFCs) are a group of human-made chemicals composed of carbon and fluorine only. These chemicals (predominantly perfluoromethane [CF_4] and perfluoroethane [C_2F_6]) were introduced as alternatives, along with HFCs, to the ozone-depleting substances. In addition, PFCs are emitted as by-products of industrial processes and are also used in manufacturing. PFCs do not harm the stratospheric ozone layer, but they are strong GHGs.

Sulfur hexafluoride (SF_6) is a colorless gas that is soluble in alcohol and ether and slightly soluble in water. SF_6 is a strong GHG and used primarily in electrical transmission and distribution systems as a dielectric.[2]

Hydrochlorofluorocarbons (HCFCs) contain hydrogen, fluorine, chlorine, and carbon atoms. Although ozone-depleting substances, they are less potent than CFCs. They have been introduced as temporary replacements for CFCs and are also GHGs.

Hydrofluorocarbons (HFCs) contain only hydrogen, fluorine, and carbon atoms. They were introduced as alternatives to ozone-depleting substances in items that serve many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and used in manufacturing. They do not significantly deplete the stratospheric ozone layer, but they are strong GHGs.

4.7.2.2 California GHG Emissions

California is the second-largest emitter of GHGs in the United States (Texas is the largest GHG emitter) and the sixteenth largest GHG emitter in the world.[3] However, because of more stringent air pollutant emission regulations and mild climate, in 2011, California ranked fourth lowest in carbon

[2] An electrical insulator that is highly resistant to the flow of an electric current.

[3] California Energy Commission. 2006. *Our Changing Climate, Assessing the Risks to California, 2006 Biennial Report*. California Climate Change Center, California Energy Commission Staff Paper, Sacramento, CA. Report CEC-500-2006-077.

emissions per capita and fifth lowest among states (including the District of Columbia) in CO_2 emissions per unit economic output.[4] In 2010, California produced 452 million metric tons (MMT) of CO_2-equivalent (CO_2e)[5] emissions, of which, 38% were from transportation sources, 21% from activities related to electric power generation, and 19% from industrial sources.[6] Other major sources of state GHG emissions include mineral production, waste combustion and land use, and forestry changes. Agriculture, forestry, commercial, and residential activities compose the balance of California's GHG emissions.[7]

Climate change could affect the natural environment in California in the following ways, among others:

- Rising sea levels along the California coastline, particularly in San Francisco and the San Joaquin Delta due to ocean expansion;
- Extreme heat conditions, such as heat waves and very high temperatures, which could last longer and become more frequent;
- An increase in heat-related human deaths, infectious diseases, and a higher risk of respiratory problems caused by deteriorating air quality;
- Reduced snow pack and streamflow in the Sierra Nevada, affecting winter recreation and water supplies;
- Potential increase in the severity of winter storms, affecting peak streamflows and flooding;
- Changes in growing season conditions that could affect California agriculture, causing variations in crop quality and yield; and
- Changes in the distribution of plant and wildlife species due to changes in temperature, competition from colonizing species, changes in hydrologic cycles, changes in sea levels, and other climate-related effects.

These changes in California's climate and ecosystems are occurring at a time when California's population is expected to increase from 34 million to 59 million (i.e., by 2040) (California Energy Commission [CEC] 2005). As such, the number of people that could be affected by climate change, as well as the amount of anthropogenic GHG emissions expected under a "business as usual" scenario, is expected to increase. Changes similar to those noted above for California would also occur in other parts of the world, with regional variations in resources affected and vulnerability to adverse effects. GHG emissions in California are attributable to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors (CEC 2006) as well as natural processes.

[4] US Energy Information Administration. 2014. State-Level Energy-Related Carbon Dioxide Emissions, 2000-2011. Available: <http://www.eia.gov/environment/emissions/state/analysis/pdf/stateanalysis.pdf>. Tables 5 and 8.
[5] GHG emissions, other than CO_2, are commonly converted into CO_2 equivalents, which take into account the differing global warming potential of different gases. For example, the Intergovernmental Panel on Climate Change finds that N_2O has a GWP of 310, and CH_4 has a GWP of 21. Thus, the emission of 1 ton of N_2O and 1 ton of CH_4 is represented as the emission of 310 tons of CO_2e and 21 tons of CO_2e, respectively. This allows for the summation of different GHG emissions into a single total.
[6] California Air Resources Board. 2013. *California Greenhouse Gas Inventory for 2000–2010 by Category, as Defined in the Scoping Plan.*
[7] *Ibid*.

4.7.2.3 Project Vicinity Mobile-Source Emissions

The estimate of daily VMT that occurs within the project vicinity under the existing/baseline condition is approximately 5.3 million. This generates approximately 996,578 metric tons of CO_2e emissions per year.

4.7.3 Environmental Consequences, Impacts, and Mitigation Measures

4.7.3.1 No-Build Alternative

Construction Impacts

No construction activities would be undertaken under the No-Build Alternative, and no construction-related GHG emissions would be generated.

Operational Impacts

The No-Build Alternative would not involve any new project facilities or services and as a consequence, it would not generate new GHG emissions and no project-related impacts under CEQA or NEPA would occur as a result of the No-Build Alternative. However, future conditions in the year 2040 under the No-Build Alternative represent the future baseline against which the LPA is compared for purposes of NEPA. As shown in Table 4.7-1, traffic operations in 2040 under No-Build conditions would result in the annual emissions of just over 51 MMT of CO_2e under the 2040 scenario. Emissions were calculated using traffic data from the study area (VMT apportioned into 5 mph speed bins) that were derived from a traffic micro-simulation model and CT-EMFAC2017 emissions factors. The fleet assumed by the model takes into consideration the fuel-efficiency of the most recent vehicle models as well as older models that will continue to be in operation (and are phased out over time). Due to regional population growth, more cars are assumed to be in operation in 2040 relative to existing conditions.

Table 4.7-1: Baseline Conditions – GHG Emissions

Phase	CO_2e (metric tons)
Operation	
2012 Traffic Emissions	64,839,459
2040 Traffic Emissions	51,208,513

Note: Discrepancies between emissions estimated in the DEIS/DEIR and the FEIS/FEIR are attributable to updated versions of the regional travel demand model and the CT-EMFAC emission factor model. The models were re-run subsequent to the circulation of the DEIS/DEIR to account for the modified version of Alternative 4 identified as the LPA and to provide a consistent basis of comparison between the LPA and No-Build Alternative.

Source: Emissions modeling by ICF 2019 (See Appendix BB to this FEIS/FEIR).

Potential for Conflict with GHG Reduction Plans

The No-Build Alternative would not involve construction and would not affect capacity on roadways in the project vicinity. It would not conflict with the Metro Climate Action and Adaptation Plan, GreenLA, ClimateLA, Sustainable City pLAn, SB 375, or California's Climate Change Scoping Plan measures, nor would it be inconsistent with the goals of reducing local and statewide GHG emissions. No project-related impacts under CEQA or NEPA would occur as a result of the No-Build Alternative; however, the No-Build Alternative would not include transit system improvements that could help achieve the goals of those plans.

Cumulative Impacts

No impact would occur under the No-Build Alternative; therefore, it would not contribute to any cumulative GHG impacts.

Mitigation Measures

Construction Mitigation Measures

No mitigation measures are required. No construction activities would occur under the No-Build Alternative.

Operational Mitigation Measures

No operational mitigation measures are required.

Impacts Remaining After Mitigation

NEPA Finding

No effects would occur as a result of construction and operation of the No-Build Alternative.

CEQA Determination

No impacts would occur as a result of construction and operation of the No-Build Alternative.

4.7.3.2 Locally Preferred Alternative (Alternative 4 Modified: At-Grade LRT)

Construction Impacts

The Locally Preferred Alternative (LPA) would involve construction activities and changes to roadways and sidewalks to accommodate LRT service. In addition, the LPA would involve construction of a maintenance and storage facility (MSF), a pedestrian bridge or tunnel to the Sylmar/San Fernando Metrolink station, the LRT and heavy rail bridges over the Pacoima Wash, and the installation of 14 traction power substation (TPSS) units. MSF Option B site construction was assumed because it would result in the greatest impacts with respect to GHG emissions. In total, these activities would result in the emissions of approximately 6,187metric tons of CO_2e, as shown in Table 4.7-2. Consistent with SCAQMD-recommended methodology, construction-period emissions were amortized over a 30-year period, resulting in an annual equivalent of approximately 181 metric tons of CO_2e.

Table 4.7-2: LPA – GHG Emissions in Year 2012

Phase	CO_2e (metric tons)
Operation	
2012 LPA Traffic Emissions	64,831,144
2012 Baseline Traffic Emissions	64,839,459
Net Operational Traffic Emissions	(8,314)
Maintenance Facility	1,416
Vehicle Propulsion and Stations	12,904
Construction	
Roadway/Track, Sidewalks, Aboveground Stations	4,528
Maintenance Facility	562
TPSS, Bridges, and Other	347
30-Year Amortization of Construction Emissions	181
TOTAL	**6,187**
Percent Change Compared to 2012 Baseline	0.01%

Note: Discrepancies between emissions estimated in the DEIS/DEIR and the FEIS/FEIR are attributable to updated versions of the regional travel demand model and the CT-EMFAC emission factor model. The models were re-run subsequent to the circulation of the DEIS/DEIR to account for the modified version of Alternative 4 identified as the LPA and to provide a consistent basis of comparison between the LPA and No-Build Alternative.
Source: Emissions modeling by ICF (2016, 2019).

Operational Impacts

Operation of the LPA would involve GHG emissions stemming from the use of motor vehicles, operation of the MSF, and electricity consumption for vehicle propulsion and stations. As shown in Table 4.7-2, traffic operations in 2012, under the LPA, would result in annual emissions reductions of approximately 8,300 MT of CO_2e compared with the baseline condition vehicle emissions, a decrease of 0.01% in regional GHG emissions from vehicles. Emissions were calculated using traffic data (VMT apportioned into 5-mph speed bins) that were derived from a traffic micro-simulation model and CT-EMFAC2017 emissions factors. Operation of the MSF would be responsible for an additional 1,420 metric tons of CO_2e emitted annually. LRT vehicle propulsion and station operation would result in the emission of 12,900 metric tons of CO_2e per year. Including the amortized construction emissions and operation of facilities and vehicles, implementation of the LPA would result in a 0.01% increase in GHG emissions compared with existing (2012) baseline conditions.

Although there would be increases in operational emissions under the 2012 LPA scenario, emissions would be reduced over time, as there would be greater emissions reductions from traffic in the study area in the future. Such emissions reductions from traffic would offset the increases in emissions associated with construction, vehicle propulsion, and station and MSF operation. As shown in Table 4.7-3, traffic operations in 2040, under the LPA, would result in the annual emissions reduction of approximately 25,400 MT of CO_2e compared with the future (2040) baseline condition vehicle emissions, a decrease of 0.05% in regional GHG emissions from vehicles.

Table 4.7-3: LPA – GHG Emissions in Year 2040

Phase	CO_2e (metric tons)
Operation	
2040 LPA Traffic Emissions	51,183,133
2040 Baseline Traffic Emissions	51,208,513
Net Operational Traffic Emissions	(25,380)
Maintenance Facility	1,416
Vehicle Propulsion and Stations	12,904
Construction	
Roadway/Track, Sidewalks, Aboveground Stations	4,528
Maintenance Facility	562
TPSS, Bridges, and Other	347
30-Year Amortization of Construction Emissions	181
TOTAL	**(10,878)**
Percent Change Compared to 2040 Baseline	(0.02%)

Note: Discrepancies between emissions estimated in the DEIS/DEIR and the FEIS/FEIR are attributable to updated versions of the regional travel demand model and the CT-EMFAC emission factor model. The models were re-run subsequent to the circulation of the DEIS/DEIR to account for the modified version of Alternative 4 identified as the LPA and to provide a consistent basis of comparison between the LPA and No-Build Alternative.
Source: Emissions modeling by ICF (2016, 2019).

Emissions from operation of the MSF, LRT vehicle propulsion and station operation, and amortized construction activities would be the same as identified for the 2012 LPA scenario discussed above. Including the amortized construction emissions and operation of facilities and vehicles, implementation of the LPA would result in an approximately 10,900 MT decrease (0.02%) in study area GHG emissions compared with future (2040) baseline conditions. LPA-related GHG emissions would reduce further over time due to LADWP's transition to renewable sources of electricity.

Although the 2012 LPA scenario estimates in Table 4.7-2 show an increase in GHG emissions relative to existing conditions, a reduction in GHG emissions is expected over time due to the project and improving vehicle technologies. Per Section 15064.4(b) of the CEQA Guidelines, a lead agency's "analysis should consider a timeframe that is appropriate for the project." Given that the 2012 LPA scenario represents a hypothetical scenario in which the project is in operation as of the date of the 2012 Notice of Preparation, use of a future baseline in the determination of significance is appropriate. The year 2040 is an appropriate baseline for determining the significance of impacts related to GHG emissions in that it is a representative date at which the project and other regional transit system improvements would be fully integrated into the travel behaviors of members of the public. Based on the reduction in GHG emissions forecasted under the 2040 LPA scenario relative to both existing conditions and the 2040 No-Build Alternative, the proposed project would have a less-than-significant impact related to the generation of GHG emissions under CEQA. GHG emissions would not be adverse under NEPA due to the reductions over time.

Potential for Conflict with GHG Reduction Plans

The LPA would provide new LRT service capable of increasing transit capacity, which would support the RTP/SCS goal of improved access and capacity in its implementation of SB 375. Therefore, the LPA would not conflict with the goals of SB 375 and the SCAG RTP/SCS.

The Metro Climate Action and Adaptation Plan identified the goal of reducing Metro's GHG emissions by 79 percent relative to 2017 levels by 2030 and 100 percent (i.e., zero emissions) by 2050. As identified in Chapter 2 of this FEIS/FEIR, operation of the LPA would result in an estimated 9,584 new transit trips. Given that increased ridership would be achieved with minor increases in GHG emissions relative to the existing (2012) baseline and decreases in GHG emissions relative to the future (2040) baseline conditions, the LPA would contribute to a decrease in GHG emissions per boarding and would not conflict with the Climate Action and Adaptation Plan. In addition, construction activities would comply with the Metro Green Construction Policy.

The LPA would not conflict with the Sustainable City pLAn GHG reduction goals related to VMT reduction and increasing transit use, as it would provide an additional high-capacity transit service that would contribute to the achievement of such goals.

Although the LPA year 2040 traffic scenario predicts a certain level of mode-shift from passenger vehicle to transit, bicycle, and walking trips based on existing land use patterns, additional mode-shift may occur as a result of future TOD/redevelopment that this project may facilitate. Since these potential changes are not well understood and would be speculative to establish, the potential future transportation-source GHG emissions reductions are not quantified.

Operation of the LPA is predicted to result in GHG increases of approximately 6,200 MT above the existing (2012) baseline conditions based on predicted future travel behavior and existing land use patterns (i.e., non-TOD). This estimate would be reduced further by future transportation-source GHG emissions reductions as the project vicinity becomes more transit-oriented and sustainable over time. Changes in development patterns would lead to higher levels of mode-shift from passenger vehicle to transit, bicycle, and walking trips.

Overall, the LPA would not conflict with the AB 32, SB 32, SB 375, and Metro and City of Los Angeles' goals to reduce GHG emissions by providing the transportation infrastructure necessary to enable more sustainable communities. Although the LPA would be supportive of many of the state and local GHG reduction efforts, emissions would increase relative to the No-Build Alternative due to the addition of the new service. Such impacts would reduce over time as LADWP transitions to renewable sources of electricity, and would therefore not have significant impacts related to the potential for conflicts with GHG reduction plans, policies, and regulations.

Cumulative Impacts

Under the 2012 LPA scenario, the LPA would result in increases in GHG emissions over existing baseline conditions, as reductions in emissions from motor vehicles in the project vicinity would not completely offset emissions resulting from construction activities and operation of the new MSF, LRT vehicle propulsion, and stations. However, as discussed above, use of a future baseline in the determination of significance is appropriate. The year 2040 is an appropriate baseline for determining the significance of impacts related to GHG emissions in that it is a representative date at which the project and other regional transit system improvements would be fully integrated into the travel behaviors of members of the public. Given that the proposed project would result in a net decrease in GHG emissions over time, the LPA would not contribute to cumulative climate change impacts in combination with past, present, and reasonably foreseeable anthropogenic and natural sources of GHG emissions. Based on the minor increases in GHG emissions under the 2012 LPA scenario and the overall reductions in GHG emissions over time, the GHG emissions from the LPA would not be cumulatively considerable.

Mitigation Measures

Construction Mitigation Measures

No mitigation measures are required. However, MM-AQ-1, MM-AQ-2, and MM-AQ-3 would reduce construction-period GHG emissions.

Operational Mitigation Measures

Given that the implementation would result in long-term reductions in GHG emissions, no mitigation measures are required. However, Metro is addressing system-wide GHG emissions, and measures to reduce GHG emissions will be implemented as part of the LPA. As specified in Metro's 2019 Climate Action and Adaptation Plan, Metro has identified 13 mitigation measures to drastically reduce Metro's GHG emissions by 2050. By implementing all 13 mitigation measures, Metro's overall GHG emissions would be reduced by 96% by 2050 (Metro 2019).

Impacts Remaining After Mitigation

NEPA Finding

No adverse effects would occur under NEPA.

CEQA Determination

Impacts would be less than significant under CEQA.

4.7.3.3 Initial Operating Segment

An IOS has been included in this FEIS/FEIR to enable Metro to realize potential cost savings, which would not otherwise occur under the LPA, from phasing the project. It should be noted that Metro is proceeding with IOSs on other Metro projects for that reason and to specifically provide the decision-making body of Metro (the Metro Board) with flexibility in determining the most efficient and cost-effective manner to implement those projects. Proceeding with an IOS for the proposed project would also allow further coordination to occur with the Public Utilities Commission (PUC) and Metrolink, which will be necessary to accommodate double tracking of the Antelope Valley Line, and with the City of San Fernando regarding traffic impacts at intersections in the City prior to development of the remaining northern segment of the LPA.

Although the IOS for the proposed project would run along the same alignment and have the same design features and operating characteristics as those described above for the LPA, it would occupy a smaller project footprint than the LPA because it would extend from the Metro Orange Line on the south to the proposed the Van Nuys/San Fernando station on the north. It remains Metro's intent, however, to build the remaining northern 2.5 miles of the LPA within the existing railroad right-of-way, from the Van Nuys/San Fernando station to the Sylmar/San Fernando Metrolink station. Impacts associated with the IOS are discussed below.

Construction Impacts

Construction impacts under the IOS would be similar to those impacts identified under the LPA, with the exception that no construction activities would occur within the 2.5-mile segment within the existing railroad right-of-way between the Van Nuys/San Fernando Station and Sylmar/San Fernando Metrolink station. Tables 4.7-4 and 4.7-5 show the estimated GHG emissions that would be generated during construction of the IOS. In total, construction activities would result in the emissions of approximately 3,740 metric tons of CO_2e. Consistent with SCAQMD-recommended methodology, construction-period emissions were amortized over a 30-year period, resulting in an annual equivalent of approximately 140 metric tons of CO_2e. It is expected that the duration of construction for the IOS would be approximately the same as for the LPA, which would begin in June 2022 and conclude in December 2026. However, because of the shorter alignment and reduction in the total amount of construction activities required, GHG emissions would be lower under the IOS than under the LPA.

Operational Impacts

Operation of the IOS would involve GHG emissions stemming from the use of motor vehicles, operation of the MSF, and electricity consumption for vehicle propulsion and stations. As shown in Table 4.7-4, traffic operations in 2012, under the IOS, would result in annual emissions reductions of approximately 7,200 MT of CO_2e compared with the baseline conditions vehicle emissions, a decrease of 0.01% in regional GHG emissions from vehicles. Operation of the MSF would be responsible for an additional 1,420 metric tons of CO_2e emitted annually. LRT vehicle propulsion and station operation would result in the emission of approximately 3,300 metric tons of CO_2e per year. Including the amortized construction emissions and operation of facilities and vehicles, implementation of the IOS would result in a 0.01% increase in GHG emissions compared with existing (2012) baseline conditions.

Table 4.7-4: IOS – GHG Emissions in Year 2012

Phase	CO_2e (metric tons)
Operation	
2012 IOS Traffic Emissions	64,832,245
2012 Baseline Traffic Emissions	64,839,459
Net Operational Traffic Emissions	(7,214)
Maintenance Facility	1,416
Vehicle Propulsion and Stations	9,397
Construction	
Roadway/Track, Sidewalks, Aboveground Stations	3,298
Maintenance Facility	562
TPSS, Bridges, and Other	347
30-Year Amortization of Construction Emissions	140
TOTAL	**3,740**
Percent Change Compared to 2012 Baseline	0.01%

Source: Emissions modeling by ICF (2016, 2019).

Table 4.7-5: IOS – GHG Emissions in Year 2040

Phase	CO_2e (metric tons)
Operation	
2040 IOS Traffic Emissions	51,187,762
2040 Baseline Traffic Emissions	51,208,513
Net Operational Traffic Emissions	(20,751)
Maintenance Facility	1,416
Vehicle Propulsion and Stations	9,397
Construction	
Roadway/Track, Sidewalks, Aboveground Stations	3,298
Maintenance Facility	562
TPSS, Bridges, and Other	347
30-Year Amortization of Construction Emissions	140
TOTAL	**(9,797)**
Percent Change Compared to 2040 Baseline	(0.02%)

Source: Emissions modeling by ICF (2016, 2019).

Although there would be increases in operational emissions under the 2012 IOS scenario, emissions would be reduced over time, as there would be greater emissions reductions from traffic in the study area. Such emissions reductions from traffic would offset the increases in emissions associated with construction, LRT vehicle propulsion, and station and MSF operation. As shown in Table 4.7-5, traffic operations in 2040, under the IOS, would result in the annual emissions reduction of approximately 20,800 MT of CO_2e compared with the future (2040) baseline condition vehicle emissions, a decrease of 0.04% in regional GHG emissions from vehicles.

Emissions from operation of the MSF, LRT vehicle propulsion and station operation, and amortized construction activities would be the same as identified for the 2012 IOS scenario discussed above. Including the amortized construction emissions and operation of facilities and vehicles, implementation of the IOS would result in an approximately 9,800-MT decrease (0.02%) in study area GHG emissions compared with future (2040) baseline conditions. IOS-related GHG emissions would reduce further over time due to LADWP's transition to renewable sources of electricity.

Although the 2012 IOS scenario estimates in Table 4.7-4 show an increase in GHG emissions relative to existing conditions, a reduction in GHG emissions is expected over time due to the project and improving vehicle technologies. Per Section 15064.4(b) of the CEQA Guidelines, a lead agency's "analysis should consider a timeframe that is appropriate for the project." Given that the 2012 IOS scenario represents a hypothetical scenario in which the project is in operation as of the date of the 2012 Notice of Preparation, use of a future baseline in the determination of significance is appropriate. The year 2040 is an appropriate baseline for determining the significance of impacts related to GHG emissions in that it is a representative date at which the project and other regional transit system improvements would be fully integrated into the travel behaviors of members of the public. Based on the reduction in GHG emissions forecasted under the 2040 IOS scenario relative to both existing conditions and the 2040 No-Build Alternative, the proposed project would have a less-than-significant impact related to the generation of GHG emissions under CEQA. GHG emissions would not be adverse under NEPA due to the reductions over time.

A schedule for completing the northern 2.5-mile segment (phase 2) will be contingent upon securing the necessary funding and thus remains to be determined. However, it is Metro's expectation that the funding will be secured, and construction of phase 2 would likely begin within 3 to 5 years of completion of the IOS. However, for the purposes of this FEIS/FEIR, a conservative 2040 future-year scenario has been assumed to assess potential impacts in the future. If the northern 2.5-mile segment within the existing railroad right-of-way between the Van Nuys/San Fernando station and Sylmar/San Fernando Metrolink station is constructed before or by 2040, then operational impacts related to GHG emissions would be similar to those identified under the LPA's future 2040 conditions, as discussed in the previous section.

Cumulative Impacts

Under the 2012 IOS scenario, the IOS would result in increases in GHG emissions over existing baseline conditions, as reductions in emissions from motor vehicles in the project vicinity would not completely offset emissions resulting from construction activities and operation of the new MSF, LRT vehicle propulsion, and stations. However, as discussed above, use of a future baseline in the determination of significance is appropriate. The year 2040 is an appropriate baseline for determining the significance of impacts related to GHG emissions in that it is a representative date at which the project and other regional transit system improvements would be fully integrated into the travel behaviors of members of the public. Given that the proposed project would result in a net decrease in GHG emissions over time, the IOS would not contribute to cumulative climate change impacts in combination with past, present, and reasonably foreseeable anthropogenic and natural sources of GHG emissions. Based on the minor increases in GHG emissions under the 2012 IOS scenario and the overall reductions in GHG emissions over time, the GHG emissions from the IOS would not be cumulatively considerable.

Compliance Requirements and Design Features

The project would comply with the Metro Green Construction Policy and 2019 Climate Action and Adaptation Plan.

Mitigation Measures

Construction Mitigation Measures

No mitigation measures are required. However, MM-AQ-1, MM-AQ-2, and MM-AQ-3 would reduce construction-period GHG emissions.

Operational Mitigation Measures

No mitigation measures are required.

Impacts Remaining After Mitigation

NEPA Finding

No adverse effects would occur under NEPA.

CEQA Determination

No significant impacts would occur under CEQA.

4.8 Noise and Vibration

4.8.1 Regulatory Framework and Methodology

4.8.1.1 Regulatory Framework

Federal

Federal noise and vibration impact assessment methodology is defined in the FTA (2018) *Transit Noise and Vibration Impact Assessment* guidance manual. The FTA Guidance Manual provides prediction procedures and impact criteria for noise and vibration from transit sources and the criteria apply to transit projects seeking federal funds. The FTA assessment procedures and criteria are well suited to compare noise impacts among different transit modes and project alternatives. Therefore, noise and vibration criteria from the FTA Guidance Manual are applied to the Locally Preferred Alternative (LPA) and No-Build Alternative for the project.

The FTA Guidance Manual also includes prediction procedures and impact criteria for noise and vibration from construction.

State

The State of California published *Guidelines for the Preparation and Content of the Noise Element for the General Plan*. The guidelines are meant to provide information concerning the community noise environment so that noise may be effectively considered in the land use planning process. In contrast with Federal Transit Administration criteria and guidelines, the state noise guidelines were not developed to apply specifically to transit projects and are not relevant to a transit noise impact assessment.

The State of California does not have limits or guidelines for vibration from transit systems or vibration during construction. The State of California also does not have limits for construction noise, and instead defers to the limits put forth in local ordinances.

While the State of California does not provide specific limits for noise and vibration from transit projects, it does provide the following checklist to evaluate potential noise and vibration impacts in Appendix G of the State CEQA Guidelines:[1]

a. Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
b. Would the project result in exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?
c. Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

[1] The Environmental Checklist questions in Appendix G of the State CEQA Guidelines were used as guidance in developing thresholds for determining impact significance. In late 2018, subsequent to completion of the DEIS/DEIR, changes to State CEQA Guidelines were adopted by the State including revisions to the Environmental Checklist questions in Appendix G. To maintain consistency between the DEIS/DEIR and FEIS/FEIR when evaluating the significance of impacts under CEQA, the significance thresholds identified in this chapter are unchanged from those in the DEIS/DEIR.

d. For a project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

e. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

Questions (a), (c), and (d) in the checklist are evaluated using the standards in the local *L.A. CEQA Thresholds Guide*. Question (b) in the checklist is evaluated using the vibration impact thresholds from the FTA *Noise and Vibration Impact Assessment* Guidance Manual. Question (e) in the checklist is not relevant to this project.

Local

The City of Los Angeles has prepared the *L.A. CEQA Thresholds Guide*, which specifies noise criteria for railroad and vehicular noise sources. The *L.A. CEQA Thresholds Guide* noise limits are applied to the LPA and the No-build Alternative for the project.

The City of San Fernando has adopted a noise control ordinance as part of its municipal code. However, the ordinance exempts trains operated in conformity with and regulated by any federal or state agency. Therefore, the FTA operational noise threshold should be applied for the project to comply with the City of San Fernando noise ordinance.

The City of Los Angeles construction noise regulations are addressed in the City of Los Angeles Municipal Code Chapter IV Section 41.40 and the *L.A. CEQA Thresholds Guide*. The City of Los Angeles Municipal Code prohibits construction work between the hours of 9 p.m. and 7 a.m. in commercial and residential areas. The *L.A. CEQA Thresholds Guide* provides noise limits for construction activities.

The City of San Fernando addresses construction noise in its municipal code in Section 34-31. The City of San Fernando Municipal Code prohibits construction noise between the hours of 6 p.m. and 7 a.m. on weekdays and 6 p.m. and 8 a.m. on Saturdays, or at any time on Sundays or on federal holidays. The code also limits noise sources associated with construction to 70 dB measured at the property line. The project may file an application with the City for a variance from the noise code.

There are no local regulations from the City of Los Angeles or the City of San Fernando that address operational vibration or construction vibration.

4.8.1.2 Methodology

The noise assessment methodology follows the Detailed Noise Assessment guidelines outlined in the FTA Guidance Manual. The basic approach used to identify potential noise impacts is:

1. **Identify sensitive receivers**. Noise-sensitive land uses along the corridor are identified using aerial photography and field visits. Sensitive receivers are grouped into clusters based on their location relative to the proposed track and their land use. The land uses that qualify as noise-sensitive are defined in the FTA Guidance Manual and include spaces where quiet is an important element of their intended uses such as concert halls, residential land uses where people sleep such as houses or hotels, and institutional land uses such as schools or churches.
2. **Determine existing conditions**. Existing noise levels were measured throughout the project corridor. FTA noise impact thresholds are a function of the measured existing noise levels.

3. **Apply prediction models**. The noise prediction models in the FTA Guidance Manual use standard formulas to characterize noise from light-rail vehicles (LRVs). Measurements of noise at existing light rail are also incorporated into the prediction model.
4. **Evaluate receivers for predicted impact**. The prediction models are used to estimate future noise for each cluster of sensitive receivers. Predictions for each cluster are compared to the applicable FTA impact thresholds and CEQA thresholds to identify potential noise impacts.
5. **Evaluate mitigation options**. Mitigation options are evaluated for all clusters of sensitive receivers where the predicted noise levels exceed the applicable threshold.

The vibration assessment methodology follows the Detailed Vibration Assessment guidelines outlined in the FTA Guidance Manual. The approach for the vibration assessment is similar to the approach for the noise assessment and follows the same basic steps. The primary differences are:

- The propagation of the vibration through the ground must be based on measurements while the propagation of noise through air can be based on standard attenuation formulas.
- Existing vibration is usually not a consideration when assessing vibration impacts because it is relatively rare for people to be exposed to perceptible ground-borne vibration unless they are near a construction site or near roadways with large potholes and heavy vehicles. However, existing vibration is taken into consideration for sensitive receivers located near existing rail operations.
- Outdoor spaces are not considered sensitive to ground-borne vibration. In contrast, outdoor spaces where quiet is important for their intended function are considered noise sensitive.
- Vibration assessment is applicable only for FTA based evaluation of LRT operations.

Noise and vibration impacts from construction were also assessed using the procedures in the FTA Guidance Manual. Actual construction noise and vibration levels would depend on the means and methods decided upon by the contractor, which are not available at this time. The predicted construction noise and vibration levels are based on hypothetical scenarios developed from similar projects for the purposes of modeling.

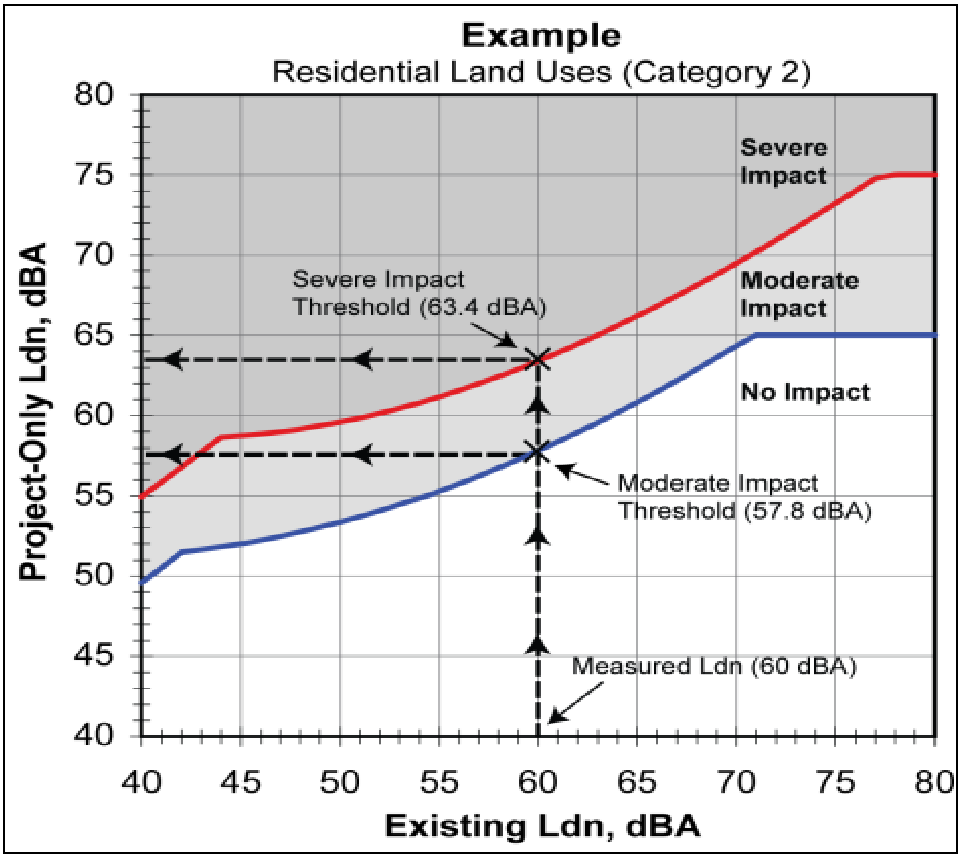
4.8.1.3 Significance Thresholds

NEPA

Operational Noise

The FTA has established specific operational noise and vibration criteria for transit projects in the FTA Guidance Manual. The FTA Guidance Manual presents both moderate and severe noise impact thresholds. The severe noise impact criteria are used as the NEPA noise significance thresholds for the project; however, noise mitigation is also considered for any locations where moderate noise impact is identified. The FTA noise impact threshold is a sliding scale based on existing noise exposure and land use of sensitive receivers. The basic concept of the FTA impact thresholds is that more project noise is allowed in areas where existing noise exposure is higher. The FTA impact thresholds for residential (Category 2) land uses are presented graphically in Figure 4.8-1. The figure illustrates how to determine the moderate and severe noise impact thresholds for an existing day/night noise level of 60 dBA. The FTA impact thresholds for all uses are presented with more detail in Chapter 2 of the *East San Fernando Valley Transit Corridor Noise and Vibration Impacts Report* (ATS Consulting 2015) (see Appendix M of this FEIS/FEIR).

Figure 4.8-1: FTA Noise Impact Criteria for Residential Land Uses



Source: FTA Guidance Manual.

The FTA has not established standardized construction noise criteria for transit projects and instead defers to state and local guidelines. Therefore, there are no federal significance thresholds for construction noise that are applicable to the project and the state and local significance thresholds for construction noise will be used to assess potential for impact.

Operational Vibration

The FTA vibration impact criteria are based on the maximum indoor vibration level as a light-rail vehicle passes. The detailed vibration impact thresholds from the FTA Guidance Manual are used as the NEPA vibration significance threshold. The detailed vibration impact threshold for residential land uses is 72 VdB in any 1/3 octave band. A 1/3 octave band is a range of frequencies and each 1/3 octave band is referred to by the center frequency of that band. Table 4.8-1 shows the FTA vibration criteria for a detailed assessment. The FTA vibration impact thresholds for all land uses are presented with more detail in Chapter 2 of the *East San Fernando Valley Transit Corridor Noise and Vibration Impacts Report* (see Appendix M of this FEIS/FEIR).

Table 4.8-1: FTA Vibration Impact Thresholds

Land Use	Max Lv (VdB)	Description of Use
Workshop	90	Distinctly feelable vibration. Appropriate to workshops and non-sensitive areas.
Office	84	Feelable vibration. Appropriate to offices and non-sensitive areas.
Residential Day	78	Barely fellable vibration. Adequate for computer equipment and low-power optical microscopes (up to 20X).
Residential Night	72	Vibration not feelable, but ground-borne noise may be audible inside quiet rooms. Suitable for medium-power optical microscopes (100X) and other equipment of low sensitivity.

[1] RMS velocity in decibel (VdB) ref 1 micro-inch/second
Source: FTA Guidance Manual, 2018.

Construction Vibration

The FTA Guidance Manual includes recommended impact thresholds for construction vibration to reduce the risk of potential damage to structures. The FTA Guidance Manual provides four different thresholds for four different building categories that are used as the federal significance thresholds. Those limits are presented in Table 4.8-2.

Table 4.8-2: Construction Vibration Damage Criteria

Building Category	PPV (in/sec)	Approximate Lv (VdB)[1]
I. Reinforced-concrete, steel or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry buildings	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90

[1] RMS velocity in decibel (VdB) ref 1 micro-inch/second
Source: FTA Guidance Manual, 2018.

CEQA

Operational Noise

The thresholds set forth for noise in the *L.A. CEQA Thresholds Guide* are used as CEQA operational noise significance thresholds for the proposed project. The *L.A. CEQA Thresholds Guide* presents the following impact criteria that are adopted as CEQA noise significance thresholds:

- If the existing L_{dn} is 67 dBA or greater at residential and institutional land uses and the project will cause noise in L_{dn} at the noise-sensitive receiver to increase by 3 decibels or more.
- The project would cause noise in L_{dn} at any noise-sensitive receiver to increase by 5 decibels or more.

Construction Noise

The construction noise limits from the *L.A. CEQA Thresholds Guide* are used as the significance threshold for construction noise. Based on the guide, there would be a significant impact on noise levels from construction if:

- Construction activities lasting more than one day would exceed existing ambient exterior noise levels by 10 dBA or more at a noise-sensitive use;
- Construction activities lasting more than 10 days in a three-month period would exceed ambient exterior noise levels by 5 dBA or more at a noise-sensitive use; or
- Construction activities would exceed the ambient noise level by 5 dBA at a noise-sensitive use between the hours of 9 p.m. and 7 a.m. Monday through Friday, before 8 a.m. or after 6 p.m. on Saturday, or at any time on Sunday.

Operational and Construction Vibration

There are no state or local operational or construction vibration criteria that are applicable to the project. Therefore, the NEPA significance thresholds defined in the FTA Guidance Manual are also used as CEQA significance thresholds for the vibration impact assessment.

4.8.2 Affected Environment/Existing Conditions

A noise measurement program was carried out to document the existing noise levels at sensitive receivers throughout the project corridor. The primary noise source throughout the Van Nuys Boulevard portion of the project corridor is motor vehicle traffic. Along the San Fernando Road/Truman Street portion of the corridor, the primary sources of noise include motor vehicle and train traffic, including train horns. The existing noise measurements also capture all other environmental noises, including emergency sirens, airplanes, and pedestrians.

The measurement sites were selected to represent a range of existing noise conditions at representative sensitive receiver locations throughout the project corridor. Short term (1-hour) noise measurements were conducted at 12 locations with primarily daytime use, such as schools and churches. Long-term (24-hour) noise measurements were conducted at nine residential land uses where people sleep and are sensitive to nighttime noise. Short-term and long-term measurement locations are shown in Tables 4.8-3 and 4.8-4, respectively, and Figure 4.8-2.

The 1-hour L_{eq} measured at the short-term sites ranged from 62 dBA to 71 dBA. The 24-hour L_{dn} measured at the long-term sites ranged from 54 dBA to 76 dBA. The noisiest measurement sites were near the Metrolink ROW, and the high noise levels are most likely due to horn noise from the freight and Metrolink trains. The lowest noise levels were measured at second-row sites that had an intervening row of buildings between the microphone location and Van Nuys Boulevard. The intervening row of buildings was shielding the traffic noise from Van Nuys Boulevard, which is the dominant noise source throughout most of the project area.

Table 4.8-3: Summary of Short-Term Noise Measurement Results

Site Label	Measurement Location	Distance to Nearest Major Roadway	Start of Measurement		L_{eq} (1-hr) (dBA)
			Date	Time	
ST-1	San Fernando Middle School 130 N Brand Boulevard	30 ft	3/14/13	11:19	62
ST-2	Pacoima Branch Library 13605 Van Nuys Boulevard	30 ft	1/20/12	14:53	71
ST-3	Mary Immaculate School 10390 Remick Avenue	390 ft	1/20/12	14:46	65
ST-4	Arleta High School 14200 Van Nuys Boulevard	45 ft	1/19/12	15:21	70
ST-5	Imam Bukhari Masjid 8741 Van Nuys Boulevard	45 ft	1/19/12	14:02	69
ST 6	Western Beauty Institute 8612 Van Nuys Boulevard	30 ft	1/25/12	13:57	71
ST 7	Panorama High School 8015 Van Nuys Boulevard	40 ft	1/19/12	12:41	71
ST 8	UEI College 7335 Van Nuys Boulevard	70 ft	1/18/12	13:55	65
ST 9	ICDC College 14434 Sherman Way	150 ft	1/18/12	14:10	62
ST 10	CHAMPS Charter High School 6952 Van Nuys Boulevard	50 ft	1/24/12	11:19	69
ST 11	Preferred College of Nursing 6551 Van Nuys Boulevard	20 ft	1/20/12	12:19	70
ST 12	Los Angeles ORT College 14159 Sylvan Street	195 ft	1/24/12	14:13	62

Source: ATS Consulting, 2013

Table 4.8-4: Summary of Long-Term Noise Measurement Results

Site Label	Measurement Location	Distance[1]	Start of Measurement		L_{dn} (dBA)
			Date	Time	
LT-1	12171 San Fernando Rd	365 ft (this is to NT)[3]	3/05/13	16:00	68
LT-2	101 Park Avenue	145 ft (this is to NT)[3]	3/05/13	16:00	76
LT-3	13642 Pinney Street	255 ft[2]	1/25/12	15:00	62
LT-4	1396 Bartee Street	45 ft	1/19/12	16:00	72
LT-5	9301 Van Nuys Boulevard	50 ft	1/19/12	14:00	69
LT-6	8924 Van Nuys Boulevard	35 ft	3/04/13	13:00	73
LT-7	8801 Tilden Avenue	290 ft[2]	2/28/13	15:00	54
LT-8	7467 Sylmar Avenue	285 ft[2]	1/26/12	16:00	58
LT-9	5322 Circle Drive	175 ft[2]	1/18/12	11:00	62

[1] Distance to closest lane of traffic on Van Nuys Boulevard, Sepulveda Boulevard, or Ventura Boulevard.
[2] The measurement location is a second-row receiver. There is an intervening row of buildings between the measurement location and the project.
[3] Distance to the existing Metrolink/freight tracks. The dominant noise source in this area is horn noise from Metrolink and freight trains.
Source: ATS Consulting, 2013.

Figure 4.8-2: Map of Noise and Vibration Measurement Sites

Source: ATS Consulting, 2019.

Metro

The primary existing vibration source in the project study area along Van Nuys Boulevard is vehicular traffic. Vehicular traffic does not generally cause perceptible vibration, and when it does, the source can usually be traced to bumps in the roadway surface such as potholes or wide expansion joints. Because the existing environmental vibration is often too low to be noticed by humans, the FTA Guidance Manual recommends only a limited survey of existing vibration conditions where there are existing sources of perceptible vibration, such as existing train lines.

The primary existing vibration source on the San Fernando Road portion of the corridor is the train traffic on the existing Metrolink tracks. An existing vibration measurement was performed at the San Fernando Middle School Auditorium, which is next to the Metrolink ROW along San Fernando Road. The measurement duration was approximately one hour, during which one Metrolink and one freight train passed by. The measured vibration of the Metrolink train was 61 VdB and the measured vibration of the freight train was 54 VdB at distance of 550 feet from the existing tracks.

4.8.3 Environmental Consequences, Impacts, and Mitigation Measures

This section presents the results of the noise and vibration impact assessment for the two alternatives:

- No-Build Alternative; and
- Locally Preferred Alternative.

4.8.3.1 No-Build Alternative

Construction Impacts

Under the No-Build Alternative, no new infrastructure would be built within the project study area as part of the project. Therefore, there would be no construction noise or vibration impacts associated with the No-Build Alternative.

Operational Impacts

There would be predicted change in the noise or vibration levels for the No-Build Alternative; therefore, the noise levels for the No-Build Alternative would not exceed the NEPA or CEQA significance thresholds.

Cumulative Impacts

The No-Build Alternative would result in no noise impact and no vibration impacts, so it would not contribute to any cumulative impacts.

Mitigation Measures

No noise or vibration mitigation measures are recommended or required for the No-Build Alternative.

Impacts Remaining After Mitigation

NEPA Finding

No adverse noise or vibration effects would occur.

CEQA Determination

No noise or vibration impacts would occur.

4.8.3.2 Locally Preferred Alternative (Alternative 4 Modified: At-Grade LRT)

Construction Impacts

Construction of the LPA would require the use of heavy earth-moving equipment, pneumatic tools, generators, concrete pumps, and similar equipment. Project construction would typically take place between the hours of 7 a.m. and 9 p.m. in the City of Los Angeles in accordance with the Los Angeles Municipal Code and between the hours of 7 a.m. and 6 p.m. in the City of San Fernando in accordance with the San Fernando City Code. If it is necessary for construction to occur outside of these hours, Metro may seek a variance from Municipal Code requirements.

Actual construction noise levels would depend on means and methods decided upon by the contractor, which are not available at this time. The predicted construction noise levels are based on a hypothetical scenario for the purposes of modeling. The predicted noise level from a typical 8-hour work-shift is 87 dBA (8-hour L_{eq}) at 50 feet, which is about 15 to 20 decibels higher than the ambient noise level. The NEPA and CEQA significance threshold pertains to construction noise levels that exceed existing ambient noise levels by 10 dBA or more at a sensitive land use. Therefore, noise from construction of the LRT would result in a significant impact. Mitigation measures are recommended for high construction noise levels that may occur at 50 feet. A list of best practice mitigation measures to address noise-related impacts can be found within this section on page 4.18-16.

Many construction activities, such as pavement breaking and the use of tracked vehicles such as bulldozers could result in noticeable levels of ground-borne vibration. These activities would be limited in duration and vibration levels are likely to be well below thresholds for minor cosmetic building damage. However, the predicted vibration levels for equipment that produces the highest levels of vibration, such as a vibratory roller, is about equal to the construction vibration NEPA and CEQA significance threshold for non-engineered and timber masonry buildings at a distance of 25 feet. Mitigation measures are recommended for these high-vibration-generating activities if they occur within 25 feet of sensitive receivers. A list of best practice mitigation measures to address high-vibration-related impacts can be found within this section on page 4.18-16.

Operational Impacts

Noise

Changes in noise levels as a result of the LPA would occur as a result of the introduction of light-rail vehicles (LRVs) and a decrease in the volume of buses. Metro Rapid Line 761 would be removed from Van Nuys Boulevard in the project area, and Metro Local Line 233 service would be preserved with decreased headways. The LRT noise predictions are based on reference-level measurements of Metro Gold Line LRVs, and the bus noise predictions are based on reference-level measurements of the Metro Orange Line buses. The predicted noise levels would exceed the NEPA and CEQA significance thresholds at eight clusters of residences:

- **Two clusters of single-family residences (12 units total) west of El Dorado Avenue on Pinney Street.** Two factors contribute to the high predicted noise levels at these sensitive receivers: (1) they are located near a curve in the LRT alignment and wheel squeal at curves can increase noise levels by up to 10 decibels and (2) they are behind existing buildings that would be removed as a part of the project. The removal of the buildings would result in an increase in traffic noise at the sensitive receivers. The existing noise level at these sensitive receivers is 54 dBA L_{dn} and the predicted future noise level with the project is 71 dBA L_{dn}.

- **A cluster of eight single-family residences east of El Dorado Avenue on Pinney Street**. The two factors that contribute to the high predicted noise levels at these sensitive receivers are the same as those for the residences west of El Dorado Avenue: (1) they are located near a curve where wheel squeal may cause noise levels to increase by up to 10 decibels and (2) they are behind buildings that would be removed as part of the project, which would result in an increase in traffic noise. The existing noise level at these sensitive receivers is 54 dBA L_{dn} and the predicted future noise level with the project is 72 dBA L_{dn}.
- **A cluster of sixteen single-family residences between Tamarack Avenue and El Dorado Avenue south of Van Nuys Boulevard.** These sensitive receivers are located near a curve where wheel squeal may cause noise levels to increase by up to 10 decibels. The existing noise level at these sensitive receivers is 58 dBA L_{dn} and the predicted future noise level with the project is 69 dBA L_{dn}.
- **Four clusters of multifamily residences on Van Nuys Boulevard west of Woodman Avenue.** These sensitive receivers are located near a curve where wheel squeal may cause noise levels to increase by up to 10 decibels. The existing noise level at these sensitive receivers is 67 dBA L_{dn} and the predicted future noise level with the project is 77 dBA L_{dn}.

Moderate noise impacts are predicted at an additional 67 clusters of sensitive receivers, which extend along much of Van Nuys Boulevard. FTA guidance for moderate impacts is that noise mitigation should be considered and adopted when it is considered reasonable. The FTA Guidance Manual recommends considering the number of affected sites, the increase over existing noise levels, and the cost of mitigation among other factors. These details are included in the *Noise and Vibration Impacts Report* (see Appendix M in this FEIS/FEIR) and should be considered before mitigation measures are finalized.

Traction power substations (TPSS) are the only ancillary equipment associated with the LPA that have the potential to cause noise impacts. Noise impact is predicted to occur at several clusters of sensitive receivers, which are all located within 20 feet of a TPSS site. Figures showing the locations of the TPSS sites are included in the *Noise and Vibration Impacts Report* (see Appendix M of this FEIS/FEIR). The TPSS sites near the adversely affected receivers are: 6A, 7, and 8A.

The maintenance and storage facility (MSF) site associated with the LPA is located in an industrialized area a block west of Van Nuys Boulevard and just south of the Ventura Metrolink tracks. The noise sources associated with the MSF would include carwashes, blowdown facilities, repair shops, train movements across track switches, and vehicle traffic into and out of the facility. The predicted noise levels associated with the MSF do not exceed the NEPA or CEQA significance thresholds at any sensitive receivers.

The locations of the clusters where predicted noise levels exceed the NEPA and CEQA significance thresholds are shown in Figure 4.8-3.

Figure 4.8-3: Map of Predicted Operational Impacts for LPA

Source: ATS Consulting, 2019.

Metro

Ground-borne Vibration

The predicted vibration levels would exceed the NEPA and CEQA significance threshold at 24 clusters of residential receivers and two institutional land use areas. There are a total of 705 residential units within the clusters of sensitive receivers where vibration impacts are predicted:

- **Van Nuys Boulevard between Parthenia Street and Woodman Avenue.** Vibration propagation measurements show that there is very efficient vibration propagation through this area, where multifamily residences line both sides of Van Nuys Boulevard. Vibration levels are predicted to exceed the residential threshold level by 5 decibels.

Traditional crossovers can increase vibration levels by up to 10 dB at nearby receivers. Due to the close proximity of receivers to the alignment, predicted vibration levels assume the use of low-impact devices such as spring or conformal frogs, which increase vibration levels less dramatically, by around 5 dB. Without the low-impact frogs, impacts are predicted at 6 additional residential and 2 additional institutional locations. Assuming the use of low-impact frogs, predicted vibration impacts remain at two crossover locations:

- **Van Nuys Boulevard and Osborne Street.** This crossover increases vibration levels for multifamily residences on the east and west sides of Van Nuys Boulevard. The predicted vibration levels exceed the limit by up to 4 dB at these receivers.
- **Van Nuys Boulevard and Canterbury Avenue.** The crossover to the in-line siding track at this location is predicted to increase vibration levels for the two multifamily residential buildings north of Van Nuys Boulevard, and a cluster of single-family residences east of Canterbury Avenue and south of Van Nuys Boulevard. Vibration levels exceed the limit by up to 4 dB at these receivers.

Typically, impacts from ground-borne noise levels are not assessed for at-grade transit systems because the airborne noise masks the ground-borne noise. There are no vibration impacts predicted because of MSF operations. Detailed tables including predicted vibration levels are presented in the *Noise and Vibration Impacts Report* (see Appendix M of this FEIS/FEIR).

Cumulative Impacts

The resource project study area for the cumulative impacts analysis encompasses the area where project construction or operational noise and vibration would be perceptible. For cumulative construction noise impacts, this area would extend approximately 500 feet from the construction area. For construction vibration impacts, the cumulative impacts project study area would extend 50 feet. For operational cumulative noise impacts, this area would extend approximately 175 feet from the proposed LRT tracks and for operational vibration impacts the area would extend approximately 150 feet.

Construction Impacts

Construction of LRT would require heavy equipment and, therefore, could result in significant increases in ambient noise levels. Recommended construction noise mitigation measures (see below) would reduce temporary construction noise levels; however, temporary construction noise impacts would still remain significant and unavoidable.

The residual increases in noise levels due to the LPA, when combined with increased noise generated by other sources or projects in the vicinity of the project study area, could result in adverse cumulative noise impacts. The significance of cumulative noise impacts would depend on the locations of other proposed projects and potential sources of noise and the extent to which they would increase noise levels within the project study area during construction of the LRT. Although it's not possible to predict with certainty what future projects would contribute to cumulative noise levels and to quantify the increase in noise levels; nonetheless, because the construction noise levels associated with the LPA could increase ambient noise levels by as much as 15 to 20 decibels, the project's contribution would be cumulatively considerable over the temporary construction period. Because vibration impacts are evaluated based on single-event levels, the fact that the cumulative vibration impacts project study area is limited to within 50 feet of project construction activities, and because mitigation measures are proposed (see below) that would reduce vibration generated by the LPA's construction activities to a less-than-significant level, the probability is very low that a project construction activity and another single-event activity would occur simultaneously and in very close proximity and would result in a significant cumulative impact. Therefore, during construction, the proposed LPA and other projects are not expected to result in significant cumulative vibration impacts on sensitive uses within the project study area.

Operational Impacts

Because roadway noise is the primary source of existing noise in the corridor, increases in roadway traffic volumes over time due to cumulative growth and development could also increase ambient noise levels in the area. However, future increases in roadway traffic are expected to result in a less than 1-decibel increase in community noise levels. The estimated increase in noise from the LRT, however, would be significant. Consequently, the cumulative impacts due to operational noise from the LPA and roadway traffic would be significant. However, the mitigation measures identified below would reduce the operational noise impacts to a less-than-significant level; therefore, the noise impacts from the LPA would not be cumulatively considerable after mitigation.

A possibly significant source of noise along the San Fernando Road portion of the corridor is the California High Speed Rail (CAHSR) Project and the proposed Brighton to Roxford double track commuter rail project. If the CAHSR Project and the double track commuter rail project were constructed in the Metrolink ROW on San Fernando Road, it would likely result in a significant noise impact and require noise mitigation. However, it is not known whether CAHSR or commuter rail noise impacts could be mitigated to a less-than-significant level. Therefore, although the potential increase in noise levels along San Fernando due to the LPA would be less than significant after mitigation, remaining noise due to the LPA, when combined with other future sources of noise along San Fernando Road, such as the CAHSR Project and double track project, would be cumulatively considerable or significant.

Because vibration impact is evaluated based on single-event levels and because it is unlikely that a LRT vehicle and other potential vibration sources, such as the HSR train cars, would simultaneously pass by a vibration-sensitive use within 150 feet, operation of the LPA is not expected to result in significant cumulative vibration impacts.

Mitigation Measures

Construction Mitigation Measures

Construction noise impacts can be reduced with operational methods, scheduling, equipment choice, and acoustical treatments. The following best-practice noise mitigation measures shall be implemented to minimize annoyance from construction noise:

MM-NOI-1a: Specific measures to be employed to mitigate construction noise impacts shall be developed by the contractor and presented in the form of a Noise Control Plan. The Noise Control Plan shall be submitted for review and approval before the beginning of construction noise activities.

MM-NOI-1b: The contractor shall adequately notify the public of construction operations and schedules no less than 72 hours in advance of construction through a construction notice with confirmed details and a look-ahead briefing several weeks in advance.

MM-NOI-1c: If a noise variance from Section 41.40(a) of the Los Angeles Municipal Code is sought for nighttime construction work, a noise limit shall be specified. The contractor shall employ a combination of the noise-reducing approaches listed in MM-NOI-1d to meet the noise limit.

MM-NOI-1d: Where feasible, the contractor shall use the following noise-reducing approaches:

- The contractor shall use specialty equipment with enclosed engines and/or high-performance mufflers.
- The contractor shall locate equipment and staging areas as far from noise-sensitive receivers as possible.
- The contractor shall limit unnecessary idling of equipment.
- The contractor shall install temporary noise barriers to enclose stationary noise sources, such as compressors, generators, laydown and staging areas, and other noisy equipment.
- The contractor shall reroute construction-related truck traffic away from residential buildings to the extent practicable.
- The contractor shall sequence the use of equipment so that simultaneous use of the loudest pieces of equipment is avoided as much as practicable.
- The contractor shall avoid the use of impact equipment and, where practicable, use non-impact equipment. Non-impact equipment could include electric or hydraulic-powered equipment rather than diesel and gasoline-powered equipment where feasible.
- The contractor shall use portable noise control enclosures for welding in the construction staging area.
- The contractor shall use lined or covered storage bins, conveyors, and chutes with noise-deadening material for truck loading and operations.
- Contractor shall use strobe lights or other OSHA-accepted methods rather than back-up alarms during nighttime construction.

MM-VIB-1: Where equipment, such as a vibratory roller, that produces high levels of vibration is used near buildings, the Construction Vibration Control Plan shall also include mitigation measures to minimize vibration impact during construction. Recommended construction vibration mitigation measures that shall be considered and implemented where feasible include:

- The contractor shall minimize the use of tracked vehicles.
- The contractor shall avoid vibratory compaction.
- The contractor shall monitor vibration levels near sensitive receivers during activities that generate high vibration levels to ensure thresholds are not exceeded.

Operational Mitigation Measures

Predicted noise levels exceed the NEPA and CEQA significance thresholds at eight clusters of sensitive receivers located near curves in the track alignment, the intersection of Van Nuys Boulevard and San Fernando Road where a row of buildings would be removed, and the intersection of Van Nuys Boulevard and Vesper Avenue. The following measures will be incorporated:

MM-NOI-2a: A sound wall shall be constructed at the northern edge of the alignment where the LRT curves to transition between Van Nuys Boulevard and San Fernando Road, in the area bounded by Pinney Street, El Dorado Avenue, Van Nuys Boulevard, and San Fernando Road. The sound wall shall be constructed to mitigate the increase in traffic noise levels that would result from removing the row of buildings in this area. Sound walls shall be constructed in such a fashion as to not impair the train operator vision triangle–sightlines.

MM-NOI-2b: Friction control shall be incorporated into the design for the curves at Van Nuys Boulevard/San Fernando Road, Van Nuys Boulevard/El Dorado Boulevard, and Van Nuys Boulevard/Vesper Avenue. Friction control may consist of installing lubricators on the rail or using an onboard lubrication system that applies lubrication directly to the wheel.

Noise impacts are also predicted near ten of the proposed TPSS sites. The measures that are proposed to mitigate noise from the TPSS units are:

MM-NOI-3a: The following noise limit shall be included in the purchase specifications for the TPSS units: TPSS noise shall not exceed 50 dBA at a distance of 50 feet from any part of a TPSS unit.

MM-NOI-3b: The TPSS units shall be located within the parcel as far from sensitive receivers as feasible. If possible, the cooling fans shall be oriented away from sensitive receivers.

MM-NOI-3c: If necessary, a sound enclosure shall be built around the TPSS unit to further reduce noise levels at sensitive receivers to below the applicable impact threshold.

Predicted vibration levels could be reduced to below the NEPA and CEQA significance thresholds at all sensitive receivers with traditional floating slab track and use of low-impact frogs. A floating slab consists of a concrete slab supported by rubber or steel springs. Floating slab is the most expensive vibration mitigation measure; however, it provides the most reduction in vibration levels. Further investigation may show that vibration levels could be reduced to below the applicable thresholds with a less expensive option, such as a continuous mat floating slab. Low-impact frogs such as conformal frogs and spring frogs result in a smoother transition over the gaps, reducing noise and vibration levels. Conformal frogs smooth the transition through wing slopes which match the wheel profile, and spring frogs use a spring-loaded mechanism. A moveable point frog includes a signal mechanism which allows trains running on the mainline to avoid any gaps in the rail, eliminating the noise and vibration impact of the special trackwork. Moveable point frogs are required mitigation measures in areas where other low-impact frogs do not provide enough vibration reduction:

MM-VIB-2a: Metro shall complete additional vibration analysis during final design to confirm the locations where vibration levels would exceed NEPA significance thresholds, as defined in the FTA (2018) *Transit Noise and Vibration Impact Assessment* guidance manual. Where exceedances would occur, the contractor shall employ methods to reduce vibration to levels below applicable thresholds. A floating-slab track, a continuous-mat floating slab, or a vibration-isolated embedded track system, such as QTrack, or other feasible measures, could be considered.

MM-VIB-2b: The contractor shall install moveable point frogs at the crossovers on Van Nuys Boulevard/Osborne Street and at Van Nuys Boulevard/Canterbury Avenue. If further investigation confirms that an alternative low-impact frog would reduce vibration levels below the applicable thresholds, the alternative may be installed.

MM-VIB-2c: Low-impact frogs such as conformal frogs or spring frogs shall be used at all crossovers and turnouts not covered under MM-VIB-2b. Traditional crossovers may be used in locations where analysis shows vibration levels will not exceed the applicable thresholds at nearby sensitive receivers.

Impacts Remaining After Mitigation

NEPA Finding

The noise and vibration from construction of the LRT would be temporary; however, due to the increase in noise levels above ambient levels, the LPA would result in adverse effects, even with implementation of proposed mitigation measures.

The noise and vibration from operation of the LRT would not result in adverse effects with implementation of proposed mitigation measures.

CEQA Determination

The noise and vibration from construction of the LPA would be temporary; however, due to the increase in noise levels above ambient levels, the LPA would still result in significant and unavoidable impacts, even with implementation of proposed mitigation measures.

The noise and vibration from operation of the LRT would result in less-than-significant impacts with implementation of proposed mitigation measures.

4.8.3.3 Initial Operating Segment

An Initial Operating Segment (IOS) has been included in this FEIS/FEIR to enable Metro to realize potential cost savings, which would not otherwise occur under the LPA, from phasing the project. It should be noted that Metro is proceeding with IOSs on other Metro projects for that reason and to specifically provide the decision-making body of Metro (the Metro Board) with flexibility in determining the most efficient and cost-effective manner to implement those projects. Proceeding with an IOS for the proposed project would also allow further coordination to occur with the Public Utilities Commission (PUC) and Metrolink, which will be necessary to accommodate double tracking of the Antelope Valley Line, and the City of San Fernando regarding traffic impacts at intersections in the City, prior to development of the remaining northern segment of the LPA.

Although the IOS for the proposed project would run along the same alignment and have the same design features and operating characteristics as those described above for the LPA, it would occupy a smaller project footprint than the LPA because it would extend from the Metro Orange Line on the south to the proposed Van Nuys/San Fernando station on the north. It remains Metro's intent, however, to build the remaining northern 2.5 miles of the LPA within the existing railroad right-of-way, from the Van Nuys/San Fernando station to the Sylmar/San Fernando Metrolink station. Impacts associated with the IOS are discussed below.

Construction Impacts

Construction impacts associated with the IOS would be the same as those discussed for the LPA for the segment along Van Nuys Boulevard but would not include the 2.5-mile segment north of the Van Nuys/San Fernando Station. The NEPA and CEQA significance thresholds for construction noise levels are those that exceed existing ambient noise levels by 10 dBA or more at a sensitive land use. The construction of the IOS would have a predicted noise level of 87 dBA (8-hour L_{eq}) at 50 feet, which is about 15 to 20 decibels higher than the current ambient noise level. Therefore, noise from construction of the IOS would result in a significant impact. Mitigation measures are recommended for high construction noise levels that may occur at 50 feet.

Construction activities could result in noticeable levels of temporary ground-borne vibration. The use of equipment that produces the highest predicted vibration levels is about equal to the construction vibration NEPA and CEQA significance threshold, as discussed for the LPA. Mitigation measures are recommended for these high-vibration-generating activities if they occur within 25 feet of sensitive receivers.

Operational Impacts

The IOS would have operational noise impacts that are the same as those discussed above for the LPA for the segment along Van Nuys Boulevard due to the introduction of LRVs and a decrease in bus volumes. The predicted noise levels would exceed the NEPA and CEQA significance thresholds at multiple clusters of residences. Moderate noise impacts are predicted at clusters of sensitive receivers, along much of Van Nuys Boulevard.

As was stated for the LPA above, the predicted vibration levels would exceed the NEPA and CEQA significance threshold at multiple clusters of residential receivers and institutional land use areas.

Traditional crossovers can increase vibration levels by up to 10 dB at nearby receivers. Due to the close proximity of receivers to the alignment, predicted vibration levels assume the use of low-impact devices such as spring or conformal frogs, which increase vibration levels less dramatically, by around 5 dB. Without the low-impact frogs, impacts are predicted at 6 additional residential and 2 institutional locations.

Cumulative Impacts

The resource project study area for the cumulative impacts analysis encompasses the area where project construction or operational noise and vibration would be perceptible. For cumulative construction noise impacts, this area would extend approximately 500 feet from the construction area. For construction vibration impacts, the cumulative impacts project study area would extend 50 feet. For operational cumulative noise impacts, this area would extend approximately 175 feet from the proposed LRT tracks and for operational vibration impacts the area would extend approximately 150 feet.

Construction Impacts

Construction of LRT would require heavy equipment and, therefore, could result in significant increases in ambient noise levels. Recommended construction noise mitigation measures would reduce temporary construction noise levels; however, temporary construction noise impacts would remain significant and unavoidable.

The residual increases in noise levels due to the IOS, when combined with increased noise generated by other sources or projects in the vicinity of the project study area, could result in adverse cumulative noise impacts. Although it's not possible to predict with certainty what future projects would contribute to cumulative noise levels and to quantify the increase in noise levels; nonetheless, because the construction noise levels associated with the IOS could increase ambient noise levels by as much as 15 to 20 decibels, the project's contribution would be cumulatively considerable over the temporary construction period.

Because vibration impacts are evaluated based on single-event levels, the fact that the cumulative vibration impacts project study area is limited to within 50 feet of project construction activities, and because mitigation measures are proposed, the probability is very low that a project construction activity and another single-event activity would occur simultaneously and in very close proximity and would result in a significant cumulative impact. Therefore, during construction, the proposed IOS and other projects are not expected to result in significant cumulative vibration impacts.

Operational Impacts

The estimated increase in noise from the LRT, would be significant. Consequently, the cumulative impacts due to operational noise from the IOS would be significant. Mitigation measures would reduce the operational noise impacts to a less-than-significant level; therefore, the noise impacts from the IOS would not be cumulatively considerable after mitigation.

Because vibration impact is evaluated based on single-event levels and because it is unlikely that a LRT vehicle and other potential vibration sources, would simultaneously pass by a vibration-sensitive use within 150 feet, operation of the IOS is not expected to result in significant cumulative vibration impacts.

Compliance Requirements and Design Features

The IOS would comply with all local codes and ordinances.

Mitigation Measures

All mitigation measures for the operation and construction of the LPA would also be required for the IOS. These include MM-NOI-1a through MM-NOI-1d, MM-NOI-2a, MM-NOI-2b, MM-NOI-3a through MM-NOI-3c, MM-VIB-1, MM-VIB-2a through MM-VIB-2c.

Impacts Remaining After Mitigation

NEPA Finding

The noise and vibration from construction of the LRT would be temporary; however, due to the increase in noise levels above ambient levels, the IOS would result in adverse effects, even with implementation of proposed mitigation measures.

The noise and vibration from operation of the LRT would not result in adverse effects with implementation of proposed mitigation measures.

CEQA Determination

The noise and vibration from construction of the IOS would be temporary; however, due to the increase in noise levels above ambient levels, the IOS would still result in significant and unavoidable impacts, even with implementation of proposed mitigation measures.

The noise and vibration from operation of the LRT would result in less-than-significant impacts with implementation of proposed mitigation measures.

4.9 Geology, Soils, and Seismicity

4.9.1 Regulatory Framework and Methodology

4.9.1.1 Regulatory Framework

The applicable federal, state, and local regulations that are relevant to an analysis of the proposed project's geological impacts are listed below. For additional information regarding these regulations, please see the Geotechnical Report in Appendix O of this FEIS/FEIR.

Federal

- The National Flood Insurance Program (NFIP)

State

- The Alquist-Priolo Geologic Hazards Zone (APEFZ) Act[1]
- The Seismic Hazards Mapping Act of 1990

Local

- Metro Design Criteria (Metro, 2012)

4.9.1.2 Methodology

Impacts associated with the geotechnical considerations have been identified from a review of available published and unpublished literature that includes, but is not limited to, the Safety Element of the Los Angeles City General Plan; official APEFZ maps; official seismic hazard zone maps; and geologic and topographic maps and other publications of the California Geological Survey (CGS), US Geological Survey (USGS), and the California Division of Oil and Gas.

4.9.1.3 Significance Thresholds

NEPA

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.[2]

Context relates to the various levels of society where effects could result, such as society as a whole, the affected region, the affected interests, and the locality. The intensity of an effect relates to several factors, including the degree to which public health and safety would be affected; the proximity of a project to sensitive resources; and the degree to which effects on the quality of the human environment are likely to be highly controversial or involve unique or unknown risks.

[1] Bryant, W. A. and E.W. Hart, 2007, Fault Rupture Hazard Zones in California, Alquist-Priolo Earthquake Fault Zoning Act with Index to Earthquake Fault Zone Maps, California Division of Mines and Geology Special Publication 42, Interim Revision 2007.
[2] Code of Federal Regulations. *CEQ – Regulations for Implementing NEPA, 40 CFR Part 1508, Terminology and Index*. Available: <http://ceq.hss.doe.gov/nepa/regs/ceq/1508.htm>. Accessed: February 15, 2013.

CEQA

CEQA requires state and local government agencies to identify the significant environmental effects of proposed actions; however, 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 at the discretion of the Lead Agency and are at the levels at which the Lead Agency finds the effects of the project to be significant.[3]

State CEQA Guidelines

The State CEQA Guidelines generally 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).[4,5]

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, which are often used as thresholds or guidance in developing thresholds for determining impact significance. Accordingly, for the purposes of this FEIS/FEIR, a project would normally have a significant geology/soils impact, under CEQA, if it would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving:
  - Rupture of a known earthquake fault, as delineated on the most recent APEFZ Map for the area or based on other substantial evidence of a known fault,
  - Strong seismic ground shaking,
  - Seismic-related ground failure, including liquefaction, or
  - Landslides;
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;
- Be located on expansive soil creating substantial risks to life or property; or
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater.

[3] OPR (State of California, Governor's Office of Planning and Research). 1994. *Thresholds of Significance: Criteria for Defining Environmental Significance*. September.
[4] AEP. 2012. *California Environmental Quality Act (CEQA) Statute and Guidelines.* Reproduced with permission from the California Resources Agency.
[5] The environmental checklist questions in Appendix G of the State CEQA Guidelines were used as guidance in developing thresholds for determining impact significance. In late 2018, subsequent to completion of the DEIS/DEIR, changes to the State CEQA Guidelines were adopted by the state, including revisions to the environmental checklist questions in Appendix G. To maintain consistency between the DEIS/DEIR and FEIS/FEIR when evaluating the significance of impacts under CEQA, the significance thresholds identified in this chapter are unchanged from those in the DEIS/DEIR.

L.A. CEQA Thresholds

The *L.A. CEQA Thresholds Guide*[6] states that a project would normally have a significant geologic hazard, landform, or soil sedimentation and erosion impact if it would:

- Cause or accelerate geologic hazards, which would result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury;
- Constitute a geologic hazard to other properties by causing or accelerating instability or erosion;
- Accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition, which would not be contained or controlled on-site; or
- Destroy, permanently cover, or materially and adversely modify one or more distinct and prominent geologic or topographic features; such features may include, but are not limited to, hilltops, ridges, hill slopes, canyons, ravines, rock outcrops, water bodies, streambeds, and wetlands.

4.9.2 Affected Environment/Existing Conditions

The following description of geologic and soil conditions in the project study area is based on information provided in the Geotechnical Report, which is included in Appendix O to this FEIS/FEIR.

4.9.2.1 Geologic Units and Structure in the Eastern San Fernando Valley

The project area along Van Nuys Boulevard is located in the eastern portion of the San Fernando Valley, north of the Santa Monica Mountains, south of the San Gabriel Mountains, southeast of the foothills of the Santa Susana Mountains, and west of the Verdugo Hills. This portion of the San Fernando Valley ranges in elevation from approximately 1,100 feet above mean sea level (MSL) at the northeast end to 640 feet MSL at the Los Angeles River, a drop of 460 feet over the length of the project study area. Ground surface generally slopes to the south and southwest because of a merger of alluvial fan surfaces, except at the far southern end, where slopes adjacent to the Santa Monica Mountains are to the north and northeast.

The San Fernando Valley is a geologic area underlain by a thick (several thousand feet) sequence of Tertiary age[7] sedimentary bedrock overlain by younger alluvial deposits. Older and younger Quaternary (Holocene through early Pleistocene)[8,9] alluvial fan deposits consist predominantly of sand, silt, and gravel/boulders, along with smaller amounts of clay-rich materials. Descriptions of materials encountered in most borings drilled into these deposits for unrelated previous projects at various locations along the project corridor consist of loose to moderately dense sand. These deposits have been historically saturated to within 10 feet below the ground surface (bgs) near the south end of the project area to approximately 35 feet bgs at the northeast end and deeper within approximately 220 feet in the area of San Fernando Road and Van Nuys Boulevard. Deposits along the alignment south of approximately Vanowen Street are considered susceptible to liquefaction, as are deposits at/near the intersection of San Fernando Road and Hubbard Street at the northeast end of the project area.

[6] City of Los Angeles. 2006. *L.A. CEQA Thresholds Guide*, E. Geology.
[7] The Tertiary age occurred from 65 to 2 million years ago.
[8] The Holocene epoch began 10,000 years ago.
[9] The Pleistocene epoch began about 2 million years ago and ended 10,000 years ago.

Most soils within the project area have been modified and disturbed by grading and earthmoving associated with development, which includes the placement of artificial fill. Therefore, it is unlikely that significant areas of undisturbed native soils are present along the surface of the proposed alignment. Project area soil types are described below:

Af – Artificial Fill: Artificial fill is located along the freeways in the project study area (US 101, I-210, SR-118, and I-5) and at Hanson Dam; this is noted by the CGS (1997, 1998). Other fill materials likely exist in areas scattered across the San Fernando Valley and, therefore, even though not shown on published maps, potentially exist to some extent in the project area. These fills may be engineered and compacted to modern standards or may be undocumented with unknown properties. In general, it can be expected that the engineered fill materials will be predominantly sand, silt, and fine gravel due to the ease of compaction. Locally present undocumented fills may contain larger materials (cobble, boulders) and trash (e.g., organic matter, metal, concrete, wood).

Qf – Alluvial Fan Deposits (Holocene): The Qf deposits extend into the San Fernando Valley from the larger canyons to the north and east of the project area (e.g., Pacoima and Tujunga Canyons, respectively). The map view of these deposits is typically an irregular linear ribbon, some of which passes beneath portions of the proposed alignment. Qf deposits generally consist of unconsolidated gravelly, sandy, or silty alluvial deposits with cobbles and boulders on active and recently active alluvial fans.

Qyf – Young Alluvial Fan Deposits (Holocene-Late Pleistocene): Young alluvial fans cover a slightly greater percentage of the proposed alignment area than the alluvial fan deposits. As described by Yerkes and Campbell (2005),[10] Qyf consists of unconsolidated gravel, sand, and silt, coarser-grained closer to the mountains deposited from flooding streams and debris flows. The alluvial fan surfaces can show slight to moderate soil development including clay development and cementation.

Qof – Old Alluvial Fan Deposits (Late-Middle Pleistocene): Qof is the undifferentiated older alluvial fan deposits (Yerkes and Campbell, 2005). Qof is found along San Fernando Road as it approaches Hubbard Street from the southeast. Qof consists of slightly to moderately consolidated silt, sand, and gravel deposits on incised alluvial fans; surfaces can show moderately to well-developed soil formation.

4.9.2.2 Groundwater

Groundwater levels are shallow at the southern end of the project area near the Los Angeles River and become deeper at the northern end of the project area near the foothills. Based on the review of the Caltrans logs of test borings and California Geological Survey LOTBs and CGS data, groundwater was detected in the previous borings near elevation 635 feet MSL, approximately 25 bgs at the southern end. Borings at the northern end did not encounter groundwater. Historically, groundwater has been as high as the ground surface at the southern end of the project area near the Los Angeles River (CGS,1997).[11] The historically high groundwater levels specified by the CGS are shown on Figure 3-3 in the Geotechnical Report included in Appendix O.

[10] Yerkes, R. F. and Campbell, R. H., 2005, Preliminary Geologic Map of the Los Angeles 30' x 60' Quadrangle, Southern California US Department of the Interior US Geological Survey Open File Report 2005-1019, Scale 1:100000.
[11] California Geological Survey, 1997 (Revised 2001), Seismic Hazard Zone Report 008, Seismic Hazard Zone Report for the Van Nuys 7.5-Minute Quadrangle, Los Angeles County, California, 1997 (Revised 2001).

4.9.2.3 Faulting and Earthquake Potential

Plate tectonics and the forces that affect the earth's crust affect all of Southern California geology and seismicity. Faults are formed at the plate boundaries and other stress points within tectonic plates. Faults adjacent to, within, and beneath the City of Los Angeles and San Fernando Valley areas may be classified as inactive, potentially active, or active. Figure 4.9-1 identifies known faults in the region (CGS, 2010).[12] Regional faults of concern are strike slip faults (e.g., San Andreas, San Jacinto, Elsinore, Newport-Inglewood), normal, reverse, and thrust faults (e.g., Santa Monica-Hollywood, Sierra Madre-San Fernando, Palos Verdes, Raymond, and Verdugo), and buried (blind) thrust faults (e.g., Puente Hills, Northridge, and Elysian Park). This seismotectonic setting has been a part of the evolution of the Los Angeles County landscape for the past 5 million years.

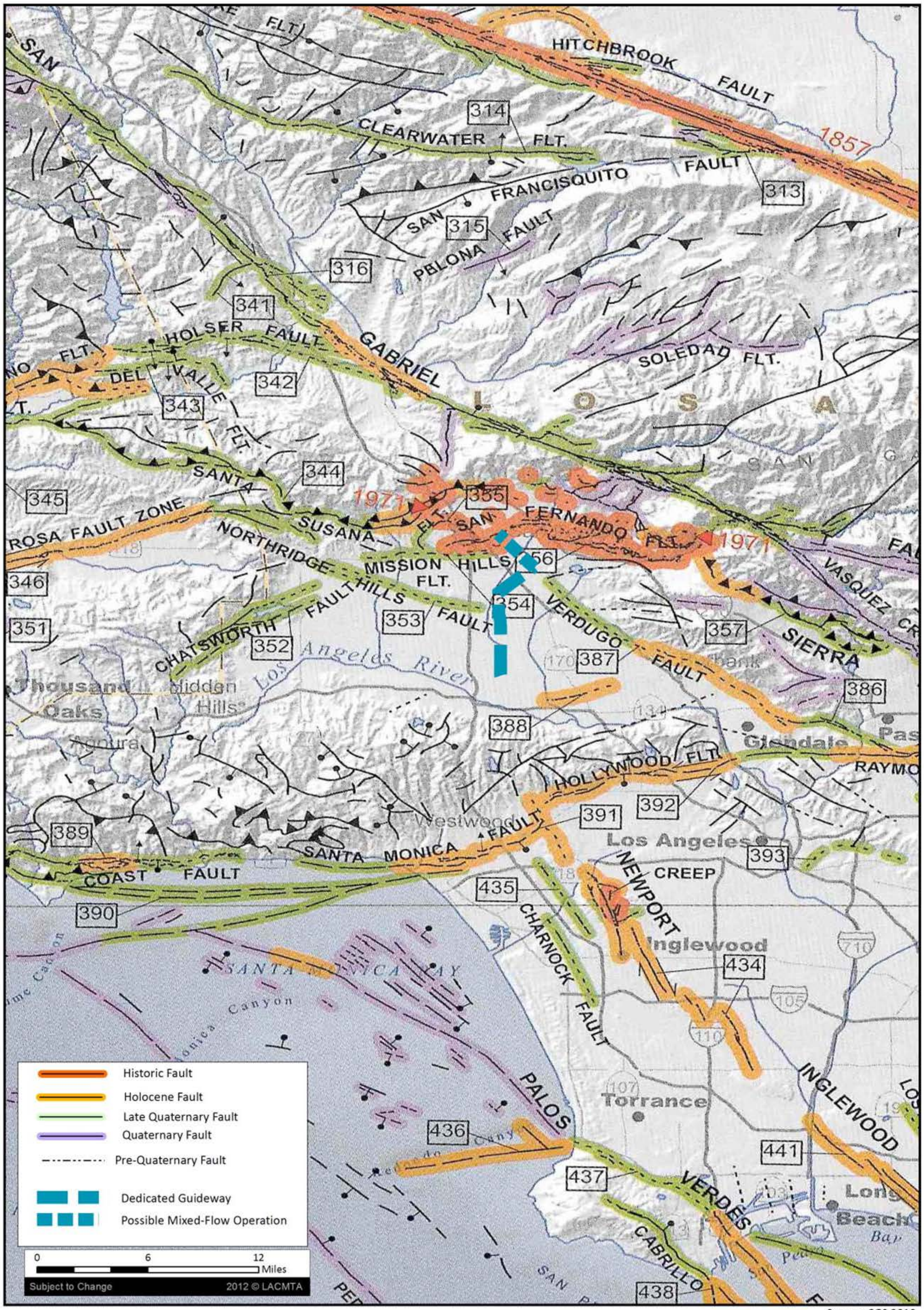
The surface faults of most concern for the project area with respect to strong ground shaking are the Verdugo, San Fernando, Santa Monica-Hollywood, Oak Ridge, Newport-Inglewood, and San Andreas faults. Other smaller faults, such as the Mission Hills and Northridge Hills north and west of the project area, and the possible North Hollywood fault south and east of the project area, are of lesser concern due to their lower likelihood of independently generating moderate to large earthquakes. There remains uncertainty with regard to the earthquake characteristics of blind thrust faults (e.g., Elysian Park, Puente Hills, and Northridge) because they are buried; the Northridge blind thrust (source of the 1994 Northridge earthquake) underlies the northeastern San Fernando Valley at a depth of several thousand feet. Additional descriptions of the San Fernando, Verdugo, and Northridge Hills, and possible North Hollywood faults are included below because each fault crosses or projects toward the project area, and each could produce ground rupture or ground deformation in a significant earthquake centered in this portion of the San Fernando Valley.

San Fernando Fault: The active Sierra Madre fault zone marks the southern margin of uplift of the western San Gabriel Mountains; the fault within the zone affecting the project area is the north-dipping San Fernando. Mapped San Fernando faults are within the APEFZ and the City of Los Angeles Fault Rupture Study Area (FRSA) at the intersection of San Fernando Road and Hubbard Street. The San Fernando fault (also divided by some into the San Fernando, Mission Wells, and Reservoir fault segments) ruptured most significantly in the 1971 San Fernando earthquake. Ground rupture occurred approximately 1,000 feet northeast of the above-named intersection. Offsets measure approximately 3 inches of left lateral and 10 inches of vertical displacement. The overall ratio of horizontal to vertical movement across the San Fernando fault zone in the 1971 earthquake was 1.9:1.39 (horizontal:vertical), and the maximum oblique displacement was 7.9 feet. Vertical movement within limited areas appears to have been greater in magnitude for bedrock sites 3.3 feet, less for older alluvium sites (1.6 feet), and substantially less for younger alluvium sites (2+ inches).

Verdugo Fault: The northwest-southeast trending Verdugo fault is the major bounding structure of the eastern San Fernando Valley and is considered active, although not within an APEFZ. Within the project area, the Verdugo fault is less well studied, but at a minimum, data from the neighboring cities of Glendale and Burbank indicate the fault would be considered potentially active.

[12] California Geological Survey, 2010, Fault Activity Map of California, Geologic Data Map No. 6, Compilation and Interpretation by Charles W. Jennings and William A. Bryant.

Figure 4.9-1: Fault Map



Source: CGS 2010.

Northridge Hills Fault: The 2010 State Fault Map shows the eastern end of the Northridge Hills fault stopping just west of the proposed alignment. A paleoseismic evaluation of the Northridge Hills fault has been conducted nearer the center of the fault's trend in the community of Northridge. The Northridge Hills fault has been described as a fault-propagation fold above an underlying blind thrust fault dipping northward at about 45 degrees; the fault is considered potentially active. This means that the fault has not yet broken the ground to the surface, but could cause local uplift, tilting, and ground deformation.

Possible Fault in North Hollywood (Unnamed Fault L 66a): The CSG shows this fault projecting from approximately 1/4 mile on the east toward the southern portion of the project area south of US 101. The fullest description of this fault indicates it is defined on the 1901 and 1928 USGS topographic maps as an elevation change across a possible low, south-facing break in slope in younger Holocene alluvial deposits. This feature is also associated with an area of subsidence north of the Benedict Canyon fault and is suggestive of down-on-the-south movement affecting Holocene deposits. The fault lies outside any City of Los Angeles FRSA.

4.9.2.4 Surface Faulting/Ground Rupture Hazard

The anticipated (average) amount of surface fault rupture on any given fault trace for the maximum earthquake can be inferred from measurements of offsets caused by past earthquakes. In general, these estimates range from zero to about 1 foot for magnitudes under M6.0, and from 1 foot to 10 feet or more for magnitudes between M6.0 and 7.5. Many variables affect the amount of surface rupture, including the depth of the earthquake hypocenter where the strain energy is released. Site-specific study is typically conducted to refine such estimates for a fault segment at a given project site.

A portion of the project area on San Fernando Road near the existing Sylmar/San Fernando Metrolink Station is within an APEFZ for the San Fernando fault. Additionally, the Verdugo fault is located within the project area and is considered to have potential ground rupture and differential uplift. The potential for earthquake activity and ground rupture is known for the San Fernando fault and not well understood for the Verdugo fault.

4.9.2.5 Seismic Ground Motion

The site is located within a seismically active region. The characteristics of nearby known faults are summarized in Table 4.9-1.

4.9.2.6 Liquefaction Potential and Seismic Settlement

Liquefaction occurs when saturated, low relative density, low plastic materials are transformed from a solid to a near-liquid state. This phenomenon occurs when moderate to severe ground shaking causes pore-water pressure to increase. Site susceptibility to liquefaction is a function of the depth, density, soil type, and water content of granular sediments, along with the magnitude and frequency of earthquakes in the surrounding region. Saturated sands, silty sands, and unconsolidated silts within 50 feet of the ground surface are most susceptible to liquefaction. Liquefaction-related phenomena include lateral spreading, ground oscillation, flow failures, loss of bearing strength, subsidence, and buoyancy effects.

Table 4.9-1: Major Fault Characterization in the Project Vicinity

Fault	Approximate Distance[1] (miles)	Type of Fault	Maximum Earthquake Magnitude[2] (Mw)
Verdugo	3.1	Reverse	6.9
Sierra Madre (San Fernando)	5.0	Reverse	6.7
Sierra Madre Connected	5.0	Reverse	7.3
Northridge	7.2	Thrust	6.9
Santa Susana, Alt 1	7.2	Reverse	6.9
Hollywood	9.5	Strike Slip	6.7
Sierra Madre	9.7	Reverse	7.2
San Gabriel	10	Strike Slip	7.3
Santa Monica Connected, Alt 1	11	Strike Slip	7.3
Santa Monica, Alt 1	11	Strike Slip	6.6
Santa Monica Connected, Alt 2	11	Strike Slip	7.4
Elysian Park (Upper)	11	Reverse	6.7
Newport-Inglewood, Alt 1	13	Strike Slip	7.2
Newport-Inglewood Connected, Alt 1	13	Strike Slip	7.5
Newport-Inglewood Connected, Alt 2	13	Strike Slip	7.5

Notes:
1. Distances measured from intersection of Roscoe Boulevard and Van Nuys Boulevard.
2. The maximum earthquake magnitude values are based on the Ellsworth relation.
Source: USGS National Seismic Hazard Maps 2008.

The expected level of ground shaking in the project area is high. However, for liquefaction to take place, groundwater must be present. According to CGS historical high groundwater maps, there is shallow groundwater (less than 50 feet bgs) at the southern end of the project alignment from approximately Vanowen Street to the southern limit of the project area and near the northeast end of the project area along Hubbard Street. These portions of the project area are potentially susceptible to liquefaction. A seismic hazard zone map, based on data produced by the CGS, is presented in Figure 4.9-2.

4.9.2.7 Landslide and Slope Instability

The project site is not located within a landslide potential zone designated on a CGS seismic hazard map or areas designated by the City of Los Angeles Hillside Ordinance (City of Los Angeles, 2004). Based on the level topography of the site, the landslide potential at the site is judged to be low.

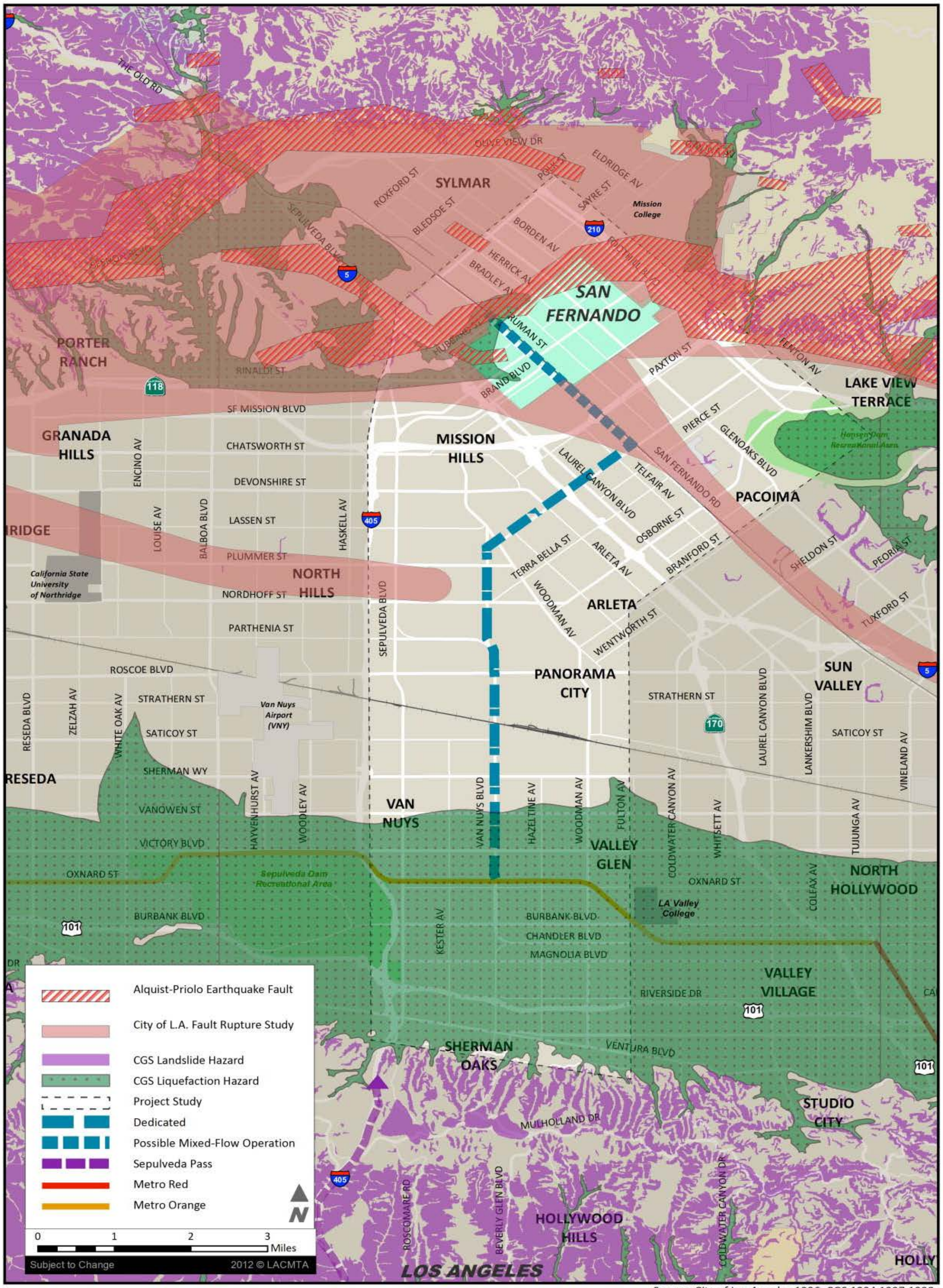
4.9.2.8 Scour Potential

Scour is not a design concern at this time because the drainage channels within the project site are concrete-lined.

4.9.2.9 Corrosion Potential

No corrosion test results from subsurface soils were available for the project site. Sands, silty sands, and silts are expected at the site. Generally, sands and silty sands do not present a corrosive environment.

Figure 4.9-2: Seismic Hazard Zones



Source: City of Los Angeles 1996; CGS 1994,1997,1998.

Metro

4.9.2.10 Flooding and Inundation

FEMA's NFIP maps the flooding potential of Los Angeles County and associated areas. Figure 4.9-3 depicts those flood zones as presented by the City of Los Angeles Safety Element (1996).[13] The project area crosses a 100-year floodplain at the Los Angeles River and a 500-year floodplain at the Pacoima Wash and Pacoima Diversion Channel. The City of Los Angeles Safety Element (1996) also summarizes inundation potential from dam failures and water storage facility failures. These areas are shown on Figure 4.9-4. The project area is located within a potential inundation zone.

4.9.2.11 Methane

In 2004, the City of Los Angeles identified methane gas intrusion into buildings as a potential hazard in some areas of the City and incorporated construction standards to mitigate the potential hazard into the Los Angeles Municipal Code (LAMC). All new buildings and paved areas located in a methane zone or methane buffer zone are required to comply with the requirements of the Methane Mitigation Standards established by the Superintendent of Buildings.

The City of Los Angeles Department of Building and Safety (LADBS) has defined the following areas as a Methane Hazard Site because a portion of the parcel is located within a Methane Zone/Methane Buffer Zone.

- Van Nuys Boulevard between Saticoy Street and Sherman Way.
- Van Nuys Boulevard between approximately 500 feet north of Plummer Street to San Fernando Road.
- San Fernando Road between Van Nuys Boulevard and the City of San Fernando eastern city limits.

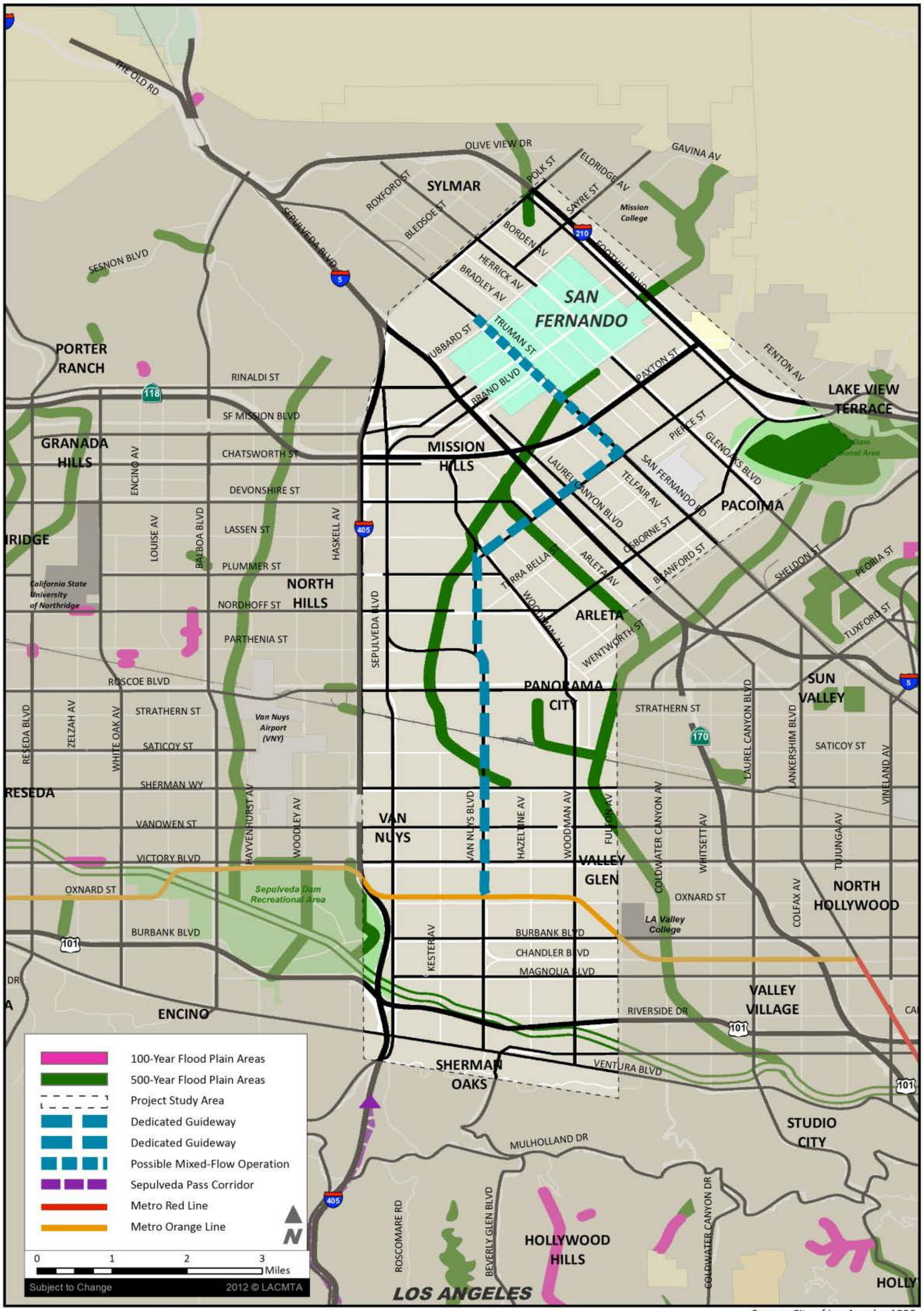
According to the LADBS, " ... if any portion of a parcel fell within the methane impact area or its buffer zone, the entire parcel was subject to investigation." The site investigation shall be conducted under the supervision of a licensed Architect or registered Engineer or Geologist and shall be performed by a testing agency approved by LADBS. The licensed Architect, registered Engineer or Geologist shall indicate in a report to LADBS, the testing procedure, the testing instruments used to measure the concentration and pressure of the methane gas. The measurements of the concentration and pressure of the methane gas shall be used to determine the Design Methane Concentration and the Design Methane Pressure.

4.9.2.12 Mineral Resources

Although limited oil and gas exploration and pumping from proven reserves have occurred in the areas surrounding the project site, the proposed alignment passes through the Pacoima Oil field (Hesson, 1993). According to the Wildcat Maps and the California Department of Conservation Division of Gas and Geothermal Resources digital wells database, the wells within the project study area and vicinity are idle or abandoned dry wells. Several plugged and abandoned dry holes are located within approximately a block of the project alignment. The locations of these wells are shown on Figure 3-8 in the Geotechnical Report contained in Appendix O.

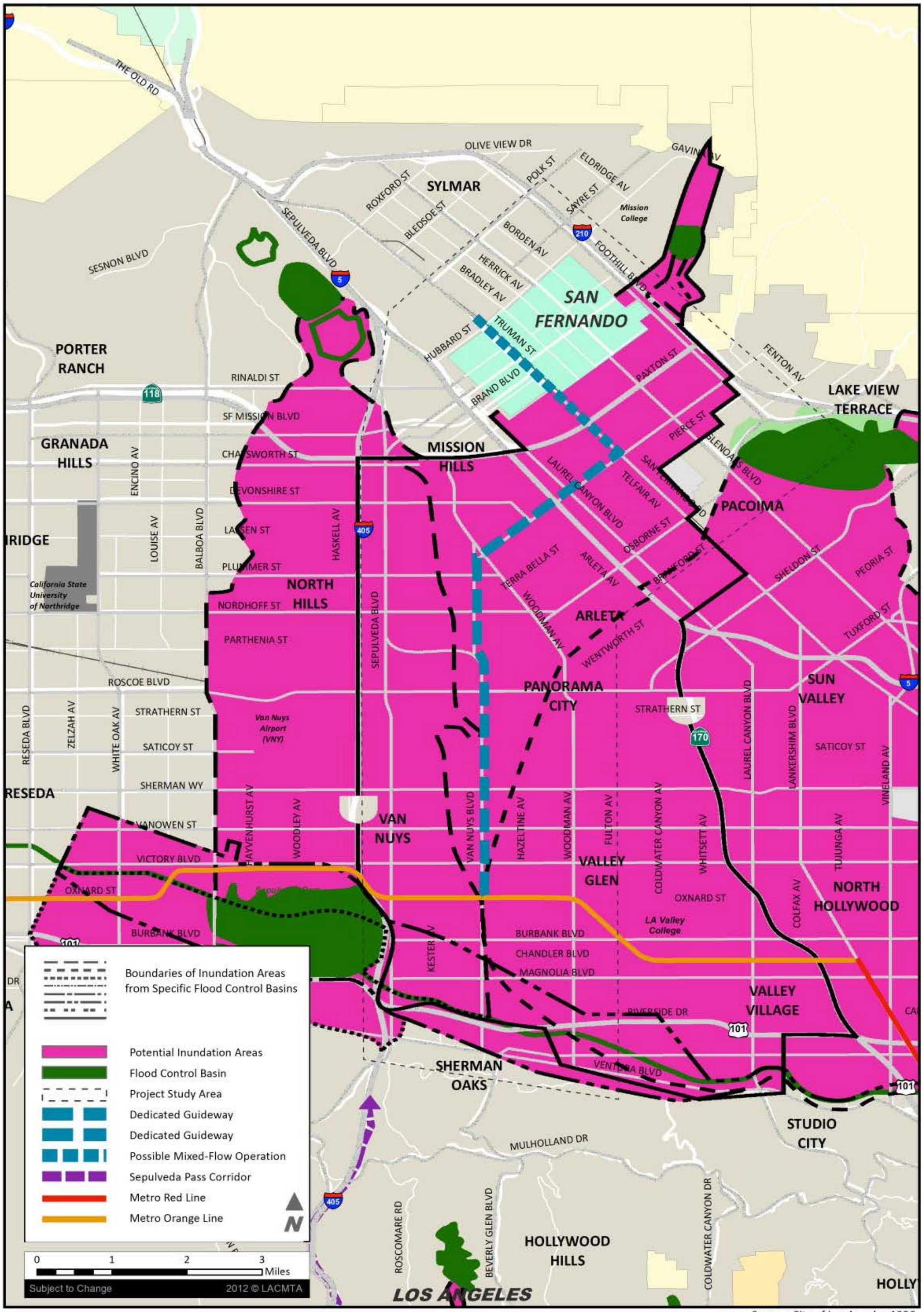
[13] City of Los Angeles, 1996, Safety Element of the Los Angeles City General Plan, Department of City Planning, Los Angeles, California, City Plan Case No. 95-0371, Adopted November 26, 1996.

Figure 4.9-3: Flood Plain Areas



Source: City of Los Angeles 1996.

Figure 4.9-4: Inundation Areas



Source: City of Los Angeles 1996.

Abandoned wells and dry holes represent potential vertical migration pathways for crude oil, methane, H_2S, and other compounds, and can represent potential hazards for nearby buildings and occupants. The California Department of Conservation/Division of Oil, Gas, and Geothermal Resources (DOGGR) regulates drilling and abandonment of wells and dry holes. DOGGR regulations evolved over time to address problems and hazards identified in older wells. As a result, there are fewer problems associated with recently plugged wells and dry holes. Nevertheless, even when a well is plugged in accordance with DOGGR regulations, leaks can occur later.

4.9.3 Environmental Consequences, Impacts and Mitigation Measures

4.9.3.1 No-Build Alternative

Construction Impacts

The No-Build Alternative would not result in any project-related construction activities along the project alignment. Therefore, there would be no geological construction impacts as a result of the No-Build Alternative.

Operational Impacts

Under this alternative, no new project facilities would be constructed; therefore, the No-Build Alternative would not result in any new operational impacts.

Cumulative Impacts

The No-Build Alternative would not contribute to any cumulative impacts.

Mitigation Measures

Construction Mitigation Measures

No construction mitigation measures are required.

Operational Mitigation Measures

No operational mitigation measures are required.

Impacts Remaining After Mitigation

NEPA Finding

No adverse effect under NEPA would occur.

CEQA Determination

No impact under CEQA would occur.

4.9.3.2 Locally Preferred Alternative (Alternative 4 Modified: At-Grade LRT)

Construction Impacts

Potential impacts due to construction of the Locally Preferred Alternative (LPA) would be similar to those that would occur as result of a typical construction project. Potential impacts could include damage to existing utilities, undermining of existing structures, and potential geologic/soils hazards to construction workers and structures under construction due to ground shaking or liquefaction (in area south of Vanowen Street) during a seismic event. Compliance with best construction practices and adherence to regulatory requirements would reduce potential risks to structures, the public, and construction workers. Therefore, the construction impacts/effects under this alternative would be less than significant under CEQA and non-adverse under NEPA.

Operational Impacts

On the north end of the alignment, the proposed pedestrian bridge or underpass for the Sylmar/San Fernando Metrolink Station is located within an APEFZ (see Figure 4.9-1). In addition, the Pacoima Wash Bridge on San Fernando Road is located in the City of Los Angeles FRSA (see Figure 4.9-1). If further studies indicate that there is a potential for fault rupture at the proposed Sylmar/San Fernando Metrolink Station pedestrian crossing and/or the Pacoima Wash Bridge on San Fernando Road, the fault rupture hazards to these project facilities could be significant.

Other project structures along the alignment including the Pacoima Channel Bridge, traffic and pedestrian signs, and train stop canopies would be subject to strong seismic ground shaking and could pose a hazard to riders and passers-by. In addition, the proposed catenary wires, traffic and pedestrian signs, and train stop canopies south of Vanowen Street would be subject to potential liquefaction hazards. The catenary wires would move during a seismic event and the system, like other light rail systems currently operated by Metro, would need to be inspected prior to continuing service.

Since the project would be designed in compliance with current building codes and regulatory requirements, the impacts/effects during operation of the LPA would be less than significant under CEQA and non-adverse under NEPA.

The project site is located outside a landslide hazard zone. No steep slopes were observed within the project area and no significant fill slopes are proposed.

The LPA alignment is not located within a designated 100-year floodplain. The alignment would, however, cross 500-year flood plain areas at three locations as shown on Figure 4.9-3. The LRT alignment is also located in a dam failure inundation zone, these areas are shown on Figure 4.9-4. Although flooding could cause damage to proposed facilities, the risk of substantial flooding would be low and the proposed project would not cause or exacerbate existing flooding risks.

Because the LPA would be designed in compliance with current building codes and regulatory requirements, the risks posed by the geological hazards identified above would be reduced and therefore, the resulting impacts would be less than significant under CEQA and non-adverse under NEPA.

Cumulative Impacts

The cumulative impacts analysis for geology, soils, and seismicity is based on the cumulative projects list method of cumulative analysis, as described by State CEQA Guidelines, Section 15130, subd. (b)(1)(A), and refers to the projects listed in Table 2-3 of the FEIS/FEIR. These projects are located within or in the neighborhoods and communities surrounding the proposed project alignment. Even though geology and seismicity are regional issues, in general, geologic hazards are site specific, so a more localized project study area is appropriate for the analysis of geology, soils, and seismicity. Consequently, it's unlikely that related and proposed projects would contribute to cumulative geological hazards impacts, due to the site-specific nature of geologic hazards. One exception would be when subsurface excavations result in ground and differential settlement that could affect adjacent properties. Other nearby projects, including the cumulative projects listed in Table 2-3, would also include excavation activities that could result in the potential settlement of soils and settlement impacts on nearby properties. Therefore, there is potential for significant cumulative settlement impacts. However, compliance with mitigation measure MM-GEO-2, regulatory requirements, and design features would minimize impacts; as a consequence, the LPA would not result in a cumulatively considerable contribution to a significant cumulative impact on ground and differential settlement.

Compliance Requirements and Design Features

Construction and design would be performed in accordance with Metro's Design Criteria, the latest federal and state seismic and environmental requirements, and state and local building codes.

Mitigation Measures

Construction Mitigation Measures

No construction mitigation measures are required.

Operational Mitigation Measures

To reduce and minimize potential geologic hazards to project facilities and operations, Metro standard design criteria shall be implemented according to the *Metro Rail Design Criteria*, 2012.

MM-GEO-1: Metro design criteria require probabilistic seismic hazard analyses (PSHA) to estimate earthquake loads on structures. These analyses take into account the combined effects of all nearby faults to estimate ground shaking. During Final Design, site-specific PSHAs shall be used as the basis for evaluating the ground motion levels along the project corridor. The structural elements of the proposed project shall be designed and constructed to resist or accommodate appropriate site-specific estimates of ground loads and distortions imposed by the design earthquakes and conform to Metro's *Design Standards for the Operating and Maximum Design Earthquakes*. The concrete structures are designed according to the *Building Code Requirements for Structural Concrete* (ACI 318) by the American Concrete Institute.

MM-GEO-2: At liquefaction or seismic settlement prone areas, evaluations by geotechnical engineers shall be performed during Final Design to provide estimates of the magnitude of the anticipated liquefaction or settlement. Based on the magnitude of evaluated liquefaction, either structural design, or ground improvement (such as deep soil mixing) or deep foundations to non-liquefiable soil (such as drilled piles) measures shall be selected. Site-specific design shall be selected based on State of California guidelines and design criteria set forth in the *Metro Seismic Design Criteria*.

Impacts Remaining After Mitigation

NEPA Finding

Effects would not be adverse under NEPA.

CEQA Determination

Impacts would be less than significant under CEQA.

4.9.3.3 Initial Operating Segment

An Initial Operating Segment (IOS) has been included in this FEIS/FEIR to enable Metro to realize potential cost savings, which would not otherwise occur under the LPA, from phasing the project. It should be noted that Metro is proceeding with IOS's on other Metro projects for that reason and to specifically provide the decision-making body of Metro (the Metro Board) with flexibility in determining the most efficient and cost-effective manner to implement those projects. Proceeding with an IOS for the proposed project would also allow further coordination to occur with the Public Utilities Commission (PUC) and Metrolink, which will be necessary to accommodate double tracking of the Antelope Valley Line, and the City of San Fernando regarding traffic impacts at intersections in the City, prior to development of the remaining northern segment of the LPA.

Although the IOS for the proposed project would run along the same alignment and have the same design features and operating characteristics as those described above for the LPA, it would occupy a smaller project footprint than the LPA because it would extend from the Metro Orange Line on the south to the proposed Van Nuys/San Fernando station on the north. It remains Metro's intent, however, to build the remaining northern 2.5 miles of the LPA within the existing railroad right-of-way, from the Van Nuys/San Fernando station to the Sylmar/San Fernando Metrolink station. Impacts associated with the IOS are discussed below.

Construction Impacts

The impacts due to construction of the IOS would be the same as those that would occur for the LPA for the segment along Van Nuys Boulevard. Potential impacts could include damage to existing utilities, undermining of existing structures, and potential geologic/soils hazards to construction workers and structures under construction due to ground shaking or liquefaction (in area south of Vanowen Street) during a seismic event. Compliance with best construction practices and adherence to regulatory requirements would reduce potential risks to existing structures, the public, and construction workers. Therefore, the construction impacts/effects under this alternative would be less than significant under CEQA and non-adverse under NEPA.

Operational Impacts

Project structures associated with the IOS would be subject to strong seismic ground shaking and could pose a hazard to riders and passers-by, in the event of an earthquake. As stated for the LPA above, the proposed project improvements south of Vanowen Street would be subject to potential liquefaction hazards during a seismic event. The IOS would be constructed in accordance with codes and regulatory requirements, and as a consequence, the impacts/effects during operation of the IOS, similar to the LPA, would be less than significant under CEQA and non-adverse under NEPA. Like other light rail systems currently operated by Metro, these project features would need to be inspected prior to continuing service. The project site is located outside a landslide hazard zone.

The IOS alignment is not located within a designated 100-year floodplain. Like the LPA, the alignment would, cross 500-year flood plain areas and would be located in a dam failure inundation zone. Although flooding could cause damage to proposed facilities, the risk of substantial flooding would be low and the proposed project would not cause or exacerbate existing flooding risks.

Cumulative Impacts

The IOS would have cumulative impacts similar to those stated for the LPA. The IOS would include the mitigation measures stated for the LPA and would be in compliance with regulatory requirements and design features, which would further minimize impacts. As a consequence, the IOS is not expected to result in a cumulatively considerable contribution to significant cumulative impacts.

Compliance Requirements and Design Features

Construction and design of the IOS would follow Metro's Design Criteria, as well as latest federal and state seismic and environmental requirements, and state and local building codes.

Mitigation Measures

Construction Mitigation Measures

No construction mitigation measures are proposed.

Operational Mitigation Measures

The mitigation measures for the IOS would be the same as those stated for the LPA. To reduce and minimize potential geologic hazards to project facilities and operations, the following Metro standard design criteria shall be implemented according to the *Metro Rail Design Criteria*, 2012.

Impacts Remaining After Mitigation

NEPA Finding

Effects would not be adverse under NEPA.

CEQA Determination

Impacts would be less than significant under CEQA.

4.10 Hazardous Waste and Materials

4.10.1 Regulatory Framework and Methodology

4.10.1.1 Regulatory Framework

The applicable federal, state, and local regulations that are relevant to an analysis of the proposed project's hazardous materials impacts are listed below. For additional information regarding these regulations, please see the Hazardous Materials Technical Report in Appendix P of this FEIS/FEIR.

Federal

- Resource Conservation and Recovery Act (RCRA)
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- Superfund Amendments and Reauthorization Act (SARA)
- Toxic Substance Control Act
- Federal Occupational Safety and Health Act

State

- California Hazardous Waste Control Law, California Health and Safety Code, Division 20, Chapter 6.5
- Carpenter-Presley-Tanner Hazardous Substance Account Act, California Health and Safety Code, Division 20, Chapter 6.8
- State of California Safety and Health Act
- Unified Hazardous Waste and Hazardous Materials Management Regulatory Program
- Waters Bill of 1985 (Business Emergency Plan/Hazardous Materials Business Plan)
- La Follette Bill of 1986 (Risk Management Plan)
- South Coast Air Quality Management District Rule 1403

Local

Local jurisdictions, departments, and documents that regulate and oversee issues related to hazardous materials within the project study area are listed below:

- The City of Los Angeles Department of Building and Safety
- The City of Los Angeles Bureau of Sanitation, Industrial Waste Management Division
- The City of Los Angeles Fire Department, Hazardous Materials Divisions
- The City of Los Angeles Fire Department, Underground Storage Tank Division
- Uniform Fire Code
- Los Angeles Municipal Code – Methane and Methane Buffer Zones

4.10.1.2 Methodology

The methodology used to identify potential impacts consisted of locating potentially hazardous sites and comparing their locations with the route of the proposed project. A Phase I Environmental Site Assessment (ESA) was prepared by DYA in April 2013 (see Appendix P) in which hazardous assessment documents previously prepared for the project were reviewed and potential hazards on the project site were evaluated.

4.10.1.3 Significance Thresholds

NEPA

NEPA does not include specific significance thresholds. According to the Council on Environmental Quality's (CEQ) Regulations for Implementing the Procedural Provisions of NEPA, the determination of significance under NEPA is based on context and intensity.[1] Context relates to the various levels of society where effects could result, such as society as a whole, the affected region, the affected interests, and the locality. The intensity of an effect relates to several factors, including the degree to which public health and safety would be affected; the proximity of a project to sensitive resources; and the degree to which effects on the quality of the human environment are likely to be highly controversial or involve unique or unknown risks.

The CEQA thresholds (described below) encompass the 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, CEQA thresholds listed below also apply to NEPA for the project and its alternatives.

CEQA

CEQA requires state and local government agencies to identify the significant environmental effects of proposed actions; however, 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 at the discretion of the Lead Agency and are at the levels at which the Lead Agency finds the effects of the project to be significant.[2]

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).[3]

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, which are often used as thresholds or guidance in developing thresholds for determining impact significance. Accordingly, for the purposes of this FEIS/FEIR, a project would normally have a significant hazardous waste and materials impact, under CEQA, if it would:

[1] Code of Federal Regulations. *CEQ – Regulations for Implementing NEPA, 40 CFR Part 1508, Terminology and Index.*
[2] OPR (State of California, Governor's Office of Planning and Research). 1994. *Thresholds of Significance: Criteria for Defining Environmental Significance*. September.
[3] AEP. 2015. *California Environmental Quality Act (CEQA) Statute and Guidelines.*

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or wastes within one-quarter mile of an existing or proposed school;
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;
- Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and as a result, would create a safety hazard for people residing or working in the project area;
- Be located within the vicinity of a private airstrip and result 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
- Expose people or structures to a significant risk or loss, injury, or death involving wildland fires including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

The only public use airport or private airstrip within two miles of the proposed project alignment is Whiteman Airport, located just under a mile southeast of the intersection of Van Nuys Boulevard and San Fernando Road. However, the proposed project is a transit improvement project on an existing transit corridor and would not propose tall elevated structures or buildings over approximately 30 feet that would create a safety hazard for people residing or working in the project area, nor have an effect on existing operations of Whiteman Airport. The proposed project would not expose people or structures to a significant risk of loss, injury, or death involving wild-land fires since the proposed project corridor is not located in a wild-land fire hazard area, but rather is located in an urban environment. For information regarding the proposed project's potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, please see Section 4.14, *Safety and Security*, in this FEIS/FEIR.

L.A. CEQA Thresholds Guide

The *L.A. CEQA Thresholds Guide* addresses impacts with respect to hazards under Section F, including F.1 Risk of Upset/Emergency Preparedness and F.2 Human Health Hazards. The L.A. CEQA Thresholds Guide (pages F.1-3, F2-3, and F2-4) states that the determination of significance for risk of upset/emergency preparedness impacts shall be made on a case-by-case basis, considering the following factors:

- The regulatory framework.
- The probable frequency and severity of consequences to people or property as a result of a potential accidental release or explosion of a hazardous substance.
- The degree to which the project may require a new, or interfere with an existing emergency response or evacuation plan, and the severity of consequences.
- The degree to which project design will reduce the frequency or severity of a potential accidental release or explosion of a hazardous substance.

For human health hazards, the L.A. CEQA Thresholds Guide (pages F.2-3 and F.2-4) states that the determination of significance shall be made on a case-by-case basis, considering the following factors:

- The regulatory framework for the health hazard.
- The probable frequency and severity of consequences to people from exposure to the health hazard.
- The degree to which project design would reduce the frequency of exposure or severity of consequences of exposure to the health hazard.

4.10.2 Affected Environment/Existing Conditions

The ESA prepared for the project site focused on potential hazardous substances that may be encountered by construction activities associated with the project. The components of the alternatives that may require earthwork are summarized below.

- Excavations as deep as 10 feet below the ground surface (bgs) at the centers and as deep as 5 feet bgs at the shoulders of existing street rights-of-way for at-grade portions of the alternatives including the station, traction power substations (TPSS), and maintenance and storage facility (MSF) locations.
- Widening and/or structurally retrofitting existing culvert crossings and bridges along the potential corridor alignments to accommodate the proposed LRT improvements may require excavations of approximately 15 feet bgs.
- Replacing the Pacoima Wash Bridge on Metro right-of-way may require excavations greater than 50 feet bgs for cast-in-drilled-hole (CIDH) piles. The right-of-way is owned by Metro, and Metrolink trains currently operate on this right-of-way. Metrolink has been made aware of the project, and Metro will continue coordinating with Metrolink through its Regional Rail Department.
- Constructing the pedestrian bridge or tunnel at the San Fernando Metrolink Station, which could potentially be supported on CIDH piles as the foundation system.

The ESA identified facilities located within one-quarter mile of the project right-of-way that might reasonably be anticipated to emit hazardous emissions or handle hazardous or acutely hazardous material. Due to the large volume of site inventory and supporting data, a summary of the sites that have potentially recognizable environmental concerns (REC) directly related to the project is provided below.

4.10.2.1 National Priority List

Soil and groundwater contamination is potentially present in the area of the Pacoima Wash Bridge located within the Metro right-of-way, adjacent to San Fernando Road. Contamination in this area has historically been caused by several adjacent sites that are listed under the National Priority List (NPL) and EnviroStor databases. Contaminants included volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), heavy metals, and total petroleum hydrocarbons (TPH). Research of nearby database sites in the area indicates that groundwater may be as shallow as 45 feet bgs.

4.10.2.2 Underground Storage Tanks and Leaking Underground Storage Tanks

Registered underground storage tanks (USTs) could be an environmental concern when they are within, or immediately adjacent to, the project right-of-way. Leaking underground storage tanks (LUSTs) cases could potentially contaminate the groundwater. UST and LUSTs within ¼ mile of the project alignment are shown on Figure 4.10-1. UST and LUSTs were determined to have a potential to result in impacts to the project if they met the following criteria:

- LUSTS have caused soil and groundwater contamination within ⅛ mile of the project right-of-way. The assumption being that contamination would have generally occurred below a depth of 2 feet bgs and may have encroached on the project right-of-way from multiple former auto stations.
- USTs have caused undocumented soil and groundwater contamination adjacent to the project right-of-way. The assumption being that contamination would have generally occurred below a depth of 5 feet bgs.

4.10.2.3 Oil Wells

Limited oil and gas exploration and pumping from proven reserves have occurred in the areas surrounding the project right-of-way. The Wildcat Maps and the California Department of Conservation Division of Gas and Geothermal Resources (DOGGR) identified two former plugged and abandoned dry hole wells that exist adjacent to the proposed project right-of-way, and several that are located within approximately a block of the project alignment. The locations of these wells are shown on Figure 4.10-2.

4.10.2.4 Spills

A record of releases of hazardous substances contaminating soil within and adjacent to the project right-of-way were registered in the Emergency Response and Notification System (ERNS) database. The assumption being that contamination would have generally occurred within the upper 5 feet of soil.

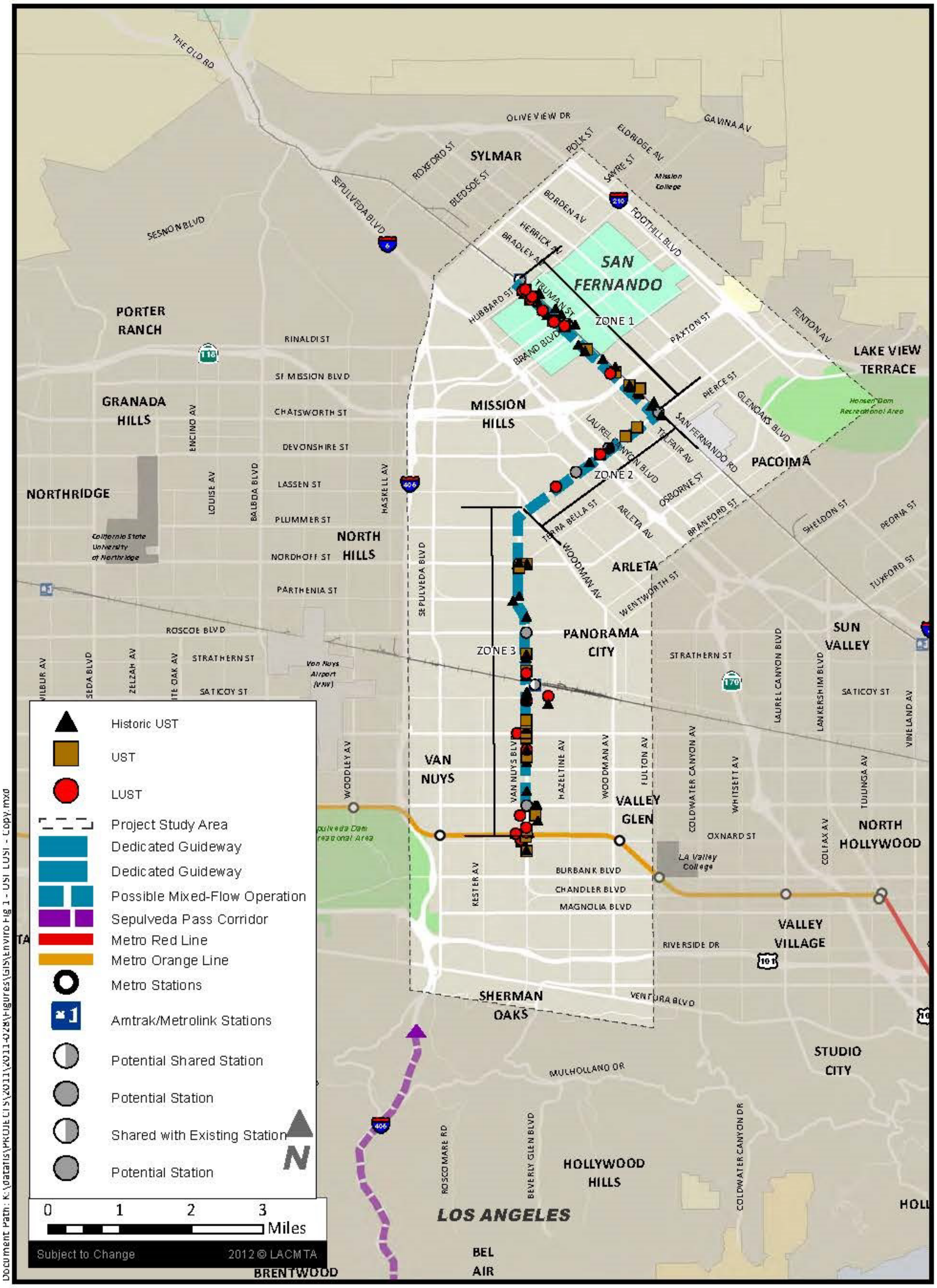
4.10.2.5 Polychlorinated Biphenyl

Potential polychlorinated biphenyl– (PCB-) containing equipment, such as electrical transformers and substations were present adjacent to the project right-of-way at the northwest corner of the intersection of Van Nuys Boulevard and Kewen Avenue. PCBs may be encountered within the upper 5 feet of soil adjacent to the electrical transformers and substations.

4.10.2.6 Asbestos-Containing Material

Asbestos-containing material (ACM) may be present in the bridges on the Metro railroad right-of-way and Van Nuys Boulevard that cross over the Pacoima Diversion Channel. Existing structures located within areas of proposed right-of-way acquisitions may also contain ACM.

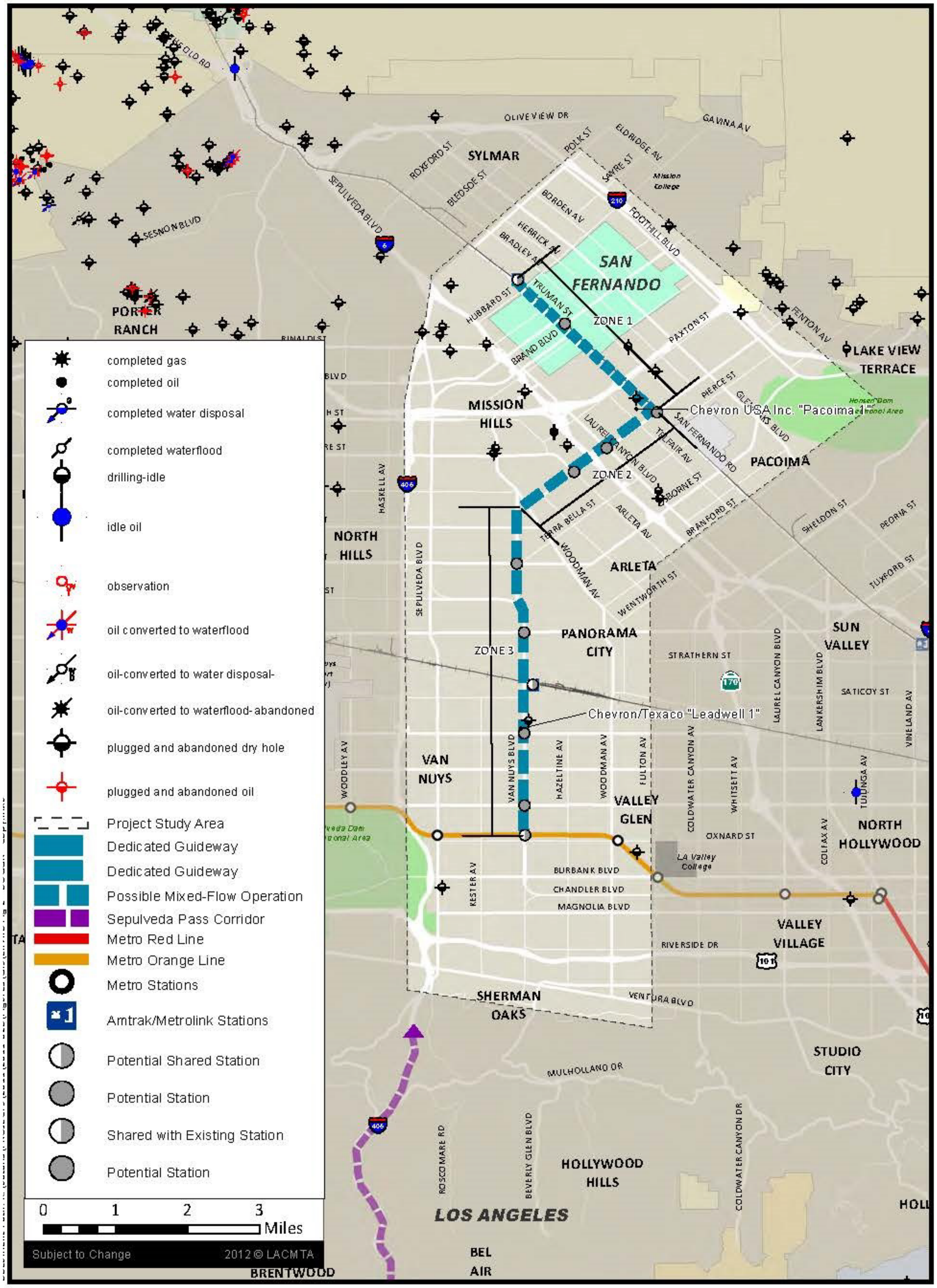
Figure 4.10-1: UST and LUSTs



Source: EDR, 2014

Metro

Figure 4.10-2: DOGGR Wells



Source: California Department of Conservation, DOGGR .

Also, lead-based paint (LBP) may be present in the existing bridges that cross over the Pacoima Diversion Channel. Existing structures located within areas of proposed right-of-way acquisitions may also contain LBP.

4.10.1.1 Arsenic from Weed Killer

Railroad operations have historically been known to use various substances for weed control within the railroad right-of-way. Near-surface soils within the Metro Orange Line and Metrolink railroad rights-of-way may contain arsenic from weed killers (herbicides) commonly used in the past by railroads.

4.10.2.7 Railroad Ties

Railroad ties may be present beneath Van Nuys Boulevard and those within the Metro-owned railroad right-of-way along San Fernando Road. Railroad ties are commonly treated with various chemicals for preservation including, but not limited to, creosote, pentachlorophenol, and metallic arsenates.

4.10.2.8 Lead

Soils adjacent to paved areas within the project right-of-way may contain aerially deposited lead (ADL) from vehicle exhaust. Lead and other heavy metals such as chromium may be present within yellow thermoplastic paint markings on the pavement. These surfacing materials should be tested for LBP prior to removal.

Existing structures located within areas of proposed right-of-way acquisitions should be evaluated for suspect lead-based paint (LBP) as part of site-specific ESAs.

4.10.2.9 Manufacture, Storage, or Release of Hazardous Materials

Properties potentially to be acquired are listed on multiple databases and should be evaluated further for contaminants that were manufactured, stored, or released from the facility if the properties will be acquired.

4.10.2.10 Underground Injection Control Wells

An existing underground injection control well was located adjacent to the project area along Van Nuys Boulevard north of Sherman Way.

4.10.2.11 Dry Cleaners

Portions of the project alignment are adjacent to former or current dry cleaners, and the soil and groundwater along the portions of the project alignment that are adjacent to former and current dry cleaners may contain perchloroethylene (PCE).

4.10.3 Environmental Consequences, Impacts, and Mitigation Measures

4.10.3.1 No-Build Alternative

Construction Impacts

The No-Build Alternative would not result in project-related construction along the project alignment. Therefore, there would be no construction impacts related to hazardous materials under this alternative.

Operational Impacts

The No-Build Alternative would not result in new project facilities; therefore, there would be no operational impacts related to hazardous materials under this alternative.

Cumulative Impacts

No cumulative impacts would occur.

Mitigation Measures

Construction Mitigation Measures

No construction mitigation measures are required.

Operational Mitigation Measures

No operational mitigation measures are required.

Impacts Remaining After Mitigation

NEPA Finding

No adverse effects under NEPA would occur.

CEQA Determination

No impacts under CEQA would occur.

4.10.3.2 Locally Preferred Alternative (Alternative 4 Modified: At-Grade LRT)

Construction Impacts

Construction of proposed improvements may encounter hazardous materials during grading and excavation within the right-of-way. The Environmental Site Assessment (ESA) indicated that in or adjacent to the project right-of-way, there are potential instances of LUSTs and hazardous substances from industrial activities. In addition, it is likely that lead and arsenic may have been deposited within the soil along the project alignment and may occur at hazardous levels. Also, as noted above, any yellow thermoplastic paint markings on pavement to be removed may contain lead and other heavy metals such as chromium.

The risk of encountering hazardous materials is a potentially significant impact under CEQA and an adverse effect under NEPA. However, these impacts/effects would be eliminated or reduced to less than significant or non-adverse as a result of compliance with the requirements and design features and implementation of the mitigation measures described below. In addition, dust created from construction activities may contain hazardous contaminants, a potentially significant impact under CEQA and adverse effect under NEPA.

Construction equipment contains fuel, hydraulic oil, lubricants, and other hazardous materials, which could be released accidentally during operation of the equipment, a potentially significant impact under CEQA and an adverse effect under NEPA. Compliance with federal, state, and local regulations, however, would reduce the impact to less than significant under CEQA and minor adverse under NEPA.

The Locally Preferred Alternative (LPA) also includes MSF and TPSS facilities. The ESA indicated historical land usage as auto repair facilities, waste transfer facilities, manufacturing, and other industrial purposes at the potential properties to be acquired for the proposed MSF and TPSS sites. During demolition of the existing structures, LBP and ACM may be encountered in waste building materials. The construction work for the proposed MSF and TPSS sites would generally include excavations in the upper 5 to 10 feet of soil and may encounter subsurface hazardous waste residue from spills or releases from the former facilities, a potentially significant impact under CEQA and an adverse effect under NEPA. Construction of the MSF and TPSS facilities would include removal of existing hazardous materials within the construction footprint. The removal, handling, and disposal of hazardous materials would be conducted in accordance with all applicable federal, state, and local regulations, and would comply with the design features and mitigation measures, which would reduce the potential impacts to less than significant under CEQA and non-adverse under NEPA.

Operational Impacts

The LPA includes an MSF, which will use and store hazardous materials including fuels, lubricants, and paints, for maintenance of the rail vehicles. Compliance with federal, state, and local regulations, and adherence to Metro's standard operating procedures, would reduce operational impacts/effects to less than significant under CEQA and non-adverse under NEPA. Additionally, it should be noted that the LRT vehicles, would be electrically powered and would not contain fuels (i.e., natural gas) that could be released to the environment in the event of an accident or mechanical failure.

Cumulative Impacts

The project study area for the cumulative impacts discussion consists of the area within a quarter mile of the project right-of-way. That project study area was identified because it has a high probability of capturing all areas that might be significantly affected by the combined impacts of the proposed and related projects. The cumulative impacts project study area is also consistent with the project study area as defined above and the area for which database searches were conducted to document potential RECs.

The project study area is characterized by urban uses including industrial, commercial, residential, institutional, and infrastructure uses with few vacant parcels and limited open space. As a consequence, construction of other related projects could encounter soils or groundwater contaminated by current or historical uses. Similar to the project, disturbance of contaminated soils or groundwater could expose workers, the public, and environment to increased hazards and result in cumulative hazardous materials impacts. The extent of potential cumulative impacts would depend on the location and extent of construction, the level of any on-site contamination, as well as construction practices and methods.

Given the extent of construction to construct the LPA, including the MSF, stations, and TPSS, there is a high probability that contaminated soils or groundwater would be encountered during construction. However, compliance with the regulatory requirements and implementation of the additional measures described below would ensure that the combined effects of the LPA and related projects in the project study area would be minimized and would be less than significant.

Mitigation Measures

Compliance Requirements and Design Features

Compliance with the federal, state, and local regulations listed in Section 4.10.1.1 governing the investigation, testing, handling, treatment, transport, and disposal of hazardous wastes and materials would minimize potential impacts due to encountering hazardous materials. The project would also comply with all applicable SCAQMD Rules relevant to hazardous waste and materials including Rule 403 (fugitive dust).

Construction Mitigation Measures

MM-HAZ-1: An environmental investigation shall be performed during design for transit structures, TPSS locations, stations, and the MSF. The environmental investigation shall collect soil, groundwater, and/or soil gas samples to delineate potential areas of contamination that may be encountered during construction or operations. The environmental investigation shall include the following:

- Properties potentially to be acquired are listed on multiple databases and shall be evaluated further for contaminants that were manufactured, stored, or released from the facility. If contaminated soil (e.g., soil contaminated from organic wastes, sediments, minerals, nutrients, thermal pollutants, toxic chemicals, and/or other hazardous substances) is found, it shall be removed, transported to an approved disposal location, and remediated according to state law.
- Phase II subsurface investigations for potential impacts from adjoining current or former UST sites and nearby LUST sites.
- A Phase II subsurface investigation to evaluate potential presence of PCE shall be performed along the portions of the project alignment that are adjacent to former and current dry cleaners. If contaminated soil is found, it shall be removed, transported to an approved disposal location, and remediated according to state law.
- If construction encroaches into the two former plugged and abandoned dry-hole oil exploration wells mapped adjacent to the proposed project right-of-way, the project team shall consult with DOGGR regarding the exact locations of the abandoned holes and the potential impact of the wells on proposed construction.
- The locations of proposed improvements involving excavations adjacent to (within 50 feet of) the electrical substation shall be screened prior to construction by testing soils within 5 feet of the existing ground surface for PCBs. If contaminated soil is found, it shall be removed, transported to an approved disposal location, and remediated according to state law.

- Buildings that will be demolished shall have a comprehensive ACM inspection prior to demolition. In addition, ACM may be present in the existing bridge crossings at the Pacoima Diversion Channels. If improvements associated with the proposed project will disturb the existing bridge crossings, then these structures shall be evaluated for suspect ACM. If ACM is found, it shall be removed, and transported to an approved disposal location according to state law.
- Areas where soil may be disturbed during construction shall be tested for ADL according to Caltrans ADL testing guidelines. If contaminated soil is found, it shall be removed, transported to an approved disposal location, and remediated according to state law.
- Lead and other heavy metals, such as chromium, may be present within yellow thermoplastic paint markings on the pavement. These surfacing materials shall be tested for LBP prior to removal. If contaminated soil is found, it shall be removed, transported to an approved disposal location, and remediated according to state law.
- Former railroad rights-of-way that crossed or were adjacent to the project right-of-way may contain hazardous materials from the use of weed control, including herbicides and arsenic, and may also contain Treated Wood Waste (TWW). Soil sampling for potentially hazardous weed control substances shall be conducted for health and safety concerns in the event that construction earthwork involves soil removal from the former railroad rights-of-way. If encountered during construction, railroad ties designated for reuse or disposal (including previously salvaged railroad ties in the project right-of-way) shall be managed or disposed of as TWW in accordance with Alternative Management Standards provided in CCR Title 22 Section 67386.

MM-HAZ-2: The contractor shall implement a Worker Health and Safety Plan prior to the start of construction activities. All workers shall be required to review the plan, receive training if necessary, and sign the plan prior to starting work. The plan shall identify properties of concern, the nature and extent of contaminants that could be encountered during excavation activities, appropriate health and environmental protection procedures and equipment, emergency response procedures including the most direct route to a hospital, and contact information for the Site Safety Officer.

MM-HAZ-3: The contractor shall implement a Contaminated Soil/Groundwater Management Plan during construction to establish procedures to follow if contamination is encountered in order to minimize associated risks. The plan shall be prepared during the final design phase of the project, and the construction contractor shall be held to the level of performance specified in the plan. The plan shall include procedures for the implementation of the following measures:

- Contacting appropriate regulatory agencies if contaminated soil or groundwater (e.g., groundwater contaminated from organic wastes, sediments, minerals, nutrients, thermal pollutants, toxic chemicals, and/or other hazardous substances) is encountered
- Sampling and analysis of soil and/or groundwater known or suspected to be impacted by hazardous materials
- The legal and proper handling, storage, treatment, transport, and disposal of contaminated soil and/or groundwater shall be delineated and conducted in consultation with regulatory agencies and in accordance with established statutory and regulatory requirements in Section 4.10.1.1 of this FEIS/FEIR

- Implementation of dust control measures such as soil wetting, wind screens, etc., for contaminated soil
- Groundwater collection, treatment, and discharge shall be performed according to applicable standards and procedures listed in Section 4.10.1.1 of this FEIS/FEIR

MM-HAZ-4: The contractor shall properly maintain equipment and properly store and manage related hazardous materials, so as to prevent motor oil, or other potentially hazardous substances used during construction, from spilling onto the soil. If contaminated soil is found, it shall be removed, transported to an approved disposal location, and remediated according to state law.

MM-HAZ-5: If reconstruction of the Pacoima Wash bridge that crosses Metro right-of-way is required, the construction spoils (e.g., excavated soils, cuttings generated during installation of CIDH piles), including those in contact with the groundwater, shall be contained and tested for total chromium, 1,4-dioxane, trichloroethylene (TCE), and PCE to determine appropriate disposal.

MM-HAZ-6: A Contaminated Soil/Groundwater Management Plan shall be prepared during final design that describes appropriate methods and measures to manage contamination encountered during construction.

Operational Mitigation Measures

No operational hazardous materials impacts were identified that would require mitigation measures.

Impacts Remaining After Mitigation

NEPA Finding

Effects under NEPA would not be adverse.

CEQA Determination

Impacts under CEQA would be less than significant.

4.10.3.3 Initial Operational Segment

An Initial Operating Segment (IOS) has been included in this FEIS/FEIR to enable Metro to realize potential cost savings, which would not otherwise occur under the LPA, from phasing the project. It should be noted that Metro is proceeding with IOSs on other Metro projects for that reason and to specifically provide the decision-making body of Metro (the Metro Board) with flexibility in determining the most efficient and cost-effective manner to implement those projects. Proceeding with an IOS for the proposed project would also allow further coordination to occur with the Public Utilities Commission (PUC) and Metrolink, which will be necessary to accommodate double tracking of the Antelope Valley Line, and with the City of San Fernando regarding traffic impacts at intersections in the City prior to development of the remaining northern segment of the LPA.

Although the IOS for the proposed project would run along the same alignment and have the same design features and operating characteristics as those described above for the LPA, it would occupy a smaller project footprint than the LPA because it would extend from the Metro Orange Line on the south to the proposed the Van Nuys/San Fernando station on the north. It remains Metro's intent, however, to build the remaining northern 2.5 miles of the LPA within the existing railroad right-of-way, from the Van Nuys/San Fernando station to the Sylmar/San Fernando Metrolink station. Impacts associated with the IOS are discussed below.

Construction Impacts

The impacts that could occur due to construction of the IOS would be similar to those described above for the LPA for the segment along Van Nuys Boulevard. The IOS would not result in the potential hazardous waste and materials impacts that could occur due to construction of the LPA along the railroad right-of-way segment of the LPA. To reduce the potential impacts to less than significant under CEQA and non-adverse under NEPA, the removal, handling, and disposal of hazardous materials would be conducted in accordance with all applicable Federal, state, and local regulations and in compliance with the mitigation measures identified above.

Operational Impacts

The operational impacts associated with the IOS would be similar to those that would occur along Van Nuys Boulevard due to the LPA. Similar to the LPA, the IOS would include an MSF, which would involve the storage and usage of hazardous materials, including but not limited to fuels, lubricants, and paints for the purpose of maintaining the rail vehicles. Compliance with Federal, state, and local regulations, and adherence to Metro's standard procedures of operation, would ensure that operational impacts/effects would be less than significant under CEQA and non-adverse under NEPA. Additionally, it should be noted that the LRT vehicles, would be electrically powered and would not contain fuels (e.g., natural gas) that could be released to the environment in the event of an accident or mechanical failure.

Cumulative Impacts

The operational impacts under the IOS would be similar to those stated for the LPA. Construction of other related projects could encounter soils or groundwater contaminated by current or historical uses. Similar to the project, disturbance of contaminated soils or groundwater could expose workers, the public, and environment to increased hazards and result in cumulative hazardous materials impacts. The extent of potential cumulative impacts would depend on the location and extent of construction, the level of any on-site contamination, as well as construction practices and methods. Given the extent of the construction activities, there is a high probability that contaminated soils or groundwater would be encountered during construction. However, compliance with the regulatory requirements and implementation of the additional measures described above for the LPA (and listed below for the IOS) would ensure that the combined effects of the IOS (and LPA) and related projects in the project study area would be minimized and would be less than significant.

Mitigation Measures

Construction Mitigation Measures

The mitigation measures for the IOS would be the same as those stated for the LPA. These include MM-HAZ-1, MM-HAZ-2, MM-HAZ-3, MM-HAZ-4, MM-HAZ-5 and MM-HAZ-6.

Operational Mitigation Measures

Similar to the LPA, there are no operational impacts that were identified for the IOS that would require mitigation measures.

Impacts Remaining After Mitigation

NEPA Finding

Effects due to the IOS would not be adverse under NEPA.

CEQA Determination

Impacts due to the IOS would be less than significant under CEQA.

4.11 Energy

4.11.1 Regulatory Framework and Methodology

4.11.1.1 Regulatory Framework

The applicable federal, state, and local regulations that are relevant to an analysis of the proposed project's energy impacts are listed below. For additional information regarding these regulations, please see the Energy Technical Report in Appendix R of this FEIS/FEIR.

Federal

The following federal regulations are applicable to the w project:

- The Energy Policy and Conservation Act of 1975 (EPCA);
- Moving Ahead for Progress in the 21st Century Act (MAP-21); and
- The Energy Independence and Security Act of 2007.

State

The following state agency and regulations are applicable to the proposed project:

- California Energy Commission;
- Executive Order S-3-05;
- AB 32: Global Warming Solutions Act; and
- AB 2076, Reducing Dependence on Petroleum.

Local

The following local and regional regulations and policies are applicable to the proposed project:

- Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS);
- Metro Energy and Sustainability Policy (June 2007);
- Metro Energy Conservation and Management Plan (September 2011);
- Metro Sustainability Implementation Plan (December 2012);
- Metro Green Construction Policy (July 2011);
- Metro Climate Action and Adaptation Plan (June 2012);
- Los Angeles Department of Water and Power: Power Integrated Resource Plan (December 2012);
- Los Angeles Municipal Code (June 2015); and
- Los Angeles Green Building Code (December 2010).

4.11.1.2 Methodology

Construction

The estimate of construction-related energy use was calculated by applying the US Environmental Protection Agency– (USEPA-) derived carbon dioxide equivalent (CO_2e) emissions per gallon of fuel to the total CO_2e emissions estimated using the California Emissions Estimator Model™ (CalEEMod) in the air quality emissions analysis prepared for the proposed project. The Air Quality Technical Report includes details on construction equipment and activity assumptions that were used to estimate CO_2e emissions. Emissions were then converted to million British thermal units (MMBTU) using energy unit conversion factors.

Operation

To estimate operational automobile traffic energy consumption, future (2040) local vehicle miles traveled (VMT) and roadway network travel speeds were calculated using traffic data (VMT apportioned into 5 mph speed bins) derived from a micro-simulation model that captures project effects. The VMT-by-speed-bin data were used as inputs in CT-EMFAC2017, which is Caltrans' tool for estimating pollutant emissions from on-road vehicles. The outputs for fuel use were converted to MMBTU using conversion factors. The year 2040 was chosen for the definition of future baseline conditions, primarily due to the need to match the future baseline year of the Metro Travel Demand Model. The Locally Preferred Alternative (LPA) was also compared to existing conditions based on the guidance for a lead agency to describe physical environmental conditions as they exist at the time the notice of preparation is published, per Section 15125(a)(1) of the State CEQA Guidelines.

For the LPA, CalEEMod was used to estimate emissions from operation of the maintenance and storage facility (MSF) that would result from trips made by workers and direct energy electricity and natural gas consumption. The CO_2e emissions were converted to MMBTU.

Energy estimates for rail vehicle propulsion and station operation under the LPA were calculated based on the 2014 energy consumption of Metro's existing light-rail transit (LRT) lines (the Blue, Gold, Green, and Expo lines). The average per-mile energy consumption was applied to the length of the proposed 9.2-mile alignment and converted to MMBTU. The figure was then increased by 10% to account for proposed 24-hour service.

Energy estimates provided herein are not intended to be used for energy planning purposes; they are used as a standard method to conservatively assess the relative impacts of the LPA. Actual energy use would vary based on the age and efficiency of equipment, operational characteristics, technological changes, and other factors.

4.11.1.3 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.

NEPA

Although there are no specific NEPA criteria for analyzing impacts to energy resources, 40 CFR Section 1502.16(e) and (f) direct that EISs shall include a discussion of the "energy requirements and conservation potential of various alternatives," "natural or depletable resource requirements and conservation potential of various alternatives," and, if applicable, mitigation measures.

CEQA

CEQA requires state and local government agencies to identify the significant environmental effects of proposed actions; however, 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 at the discretion of the Lead Agency and are at the levels at which the Lead Agency finds the effects of the project to be significant.[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).[2]

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, which are often used as thresholds or guidance in developing thresholds for determining impact significance. Additionally, Section 15126.4(a)(1)[3] provides further guidance on determining the significance of energy impacts. Accordingly, for the purposes of this FEIS/FEIR, a project would normally have a significant energy impact under CEQA if it would:

- Result in the wasteful, inefficient, or unnecessary consumption of energy; or
- Result in a substantial increase in demand or transmission service, resulting in the need for new or expanded sources of energy supply or new or expanded energy delivery systems or infrastructure, the construction of which could cause significant impacts on the environment.

Additionally, Appendix F to the State CEQA Guidelines[4] recommends consideration of the following impact possibilities and potential energy conservation measures when preparing an EIR:

- The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project, including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed;
- The effects of the project on local and regional energy supplies and requirements for additional capacity;
- The effects of the project on peak- and base-period demands for electricity and other forms of energy;
- The degree to which the project complies with existing energy standards;
- The effects of the project on energy resources; and
- The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

[1] OPR (State of California, Governor's Office of Planning and Research). 1994. *Thresholds of Significance: Criteria for Defining Environmental Significance*. September.
[2] AEP. 2012. *California Environmental Quality Act (CEQA) Statute and Guidelines.* Reproduced with permission from the California Resources Agency.
[3] California Public Resources Code, Title 14, Division 6, Chapter 3, California Environmental Quality Act Guidelines, Section 15126.4(a)(1).
[4] The Environmental Checklist questions in Appendix G of the State CEQA Guidelines were used as guidance in developing thresholds for determining impact significance. In late 2018, subsequent to completion of the DEIS/DEIR, changes to the State CEQA Guidelines were adopted including revisions to the Environmental Checklist questions in Appendix G. As part of those revisions, an "energy" category was added to Appendix G. To maintain consistency between the DEIS/DEIR and FEIS/FEIR when evaluating the significance of impacts under CEQA, the significance thresholds identified in this chapter are unchanged from those in the DEIS/DEIR.

L.A. CEQA Thresholds Guide

The *L.A. CEQA Thresholds Guide* (2006)[5] provides further guidance for determining the significance of impacts on utilities and service systems. With respect to energy, a determination of impacts would be made on a case-by-case basis by considering the following factors:

- The extent to which the project would require new (off-site) energy supply facilities and distribution infrastructure or capacity-enhancing alterations to existing facilities;
- Whether and when the needed infrastructure was anticipated by adopted plans; and
- The degree to which the project design and/or operations incorporate energy conservation measures, particularly those that go beyond City requirements.

4.11.2 Affected Environment/Existing Conditions

4.11.2.1 Energy Consumption

Statewide Energy Consumption

Energy consumption can be accounted for in a number of ways, with fuel source (i.e. gasoline, natural gas, or coal) and end-use sector (i.e., transportation or residential energy use) being among the most common. As shown in Figure 4.11-1, California's most prevalent fuel source is natural gas, representing 32% of the state's energy consumption, and is the fuel source responsible for over 60% of in-state electricity generation.[6,7] Motor gasoline accounts for 22% of statewide energy consumption and petroleum-based fuels other than motor gasoline represent a combined 21% of California's energy use.

Figure 4.11-2 shows California energy use by end-use sector. The transportation sector is responsible for largest share of the state's energy use, accounting for just under 40% of the California total. Residential, commercial, and industrial users are each responsible for roughly one-fifth of energy use.[8]

Energy resources for transportation include gasoline, natural gas, biofuels, and electricity, with petroleum-based fuels accounting for 96% of the state's transportation needs.[9]

In the 2011 Integrated Energy Policy Report, the CEC staff forecast that future gasoline consumption may range from a decline of 15.6% from 2009 levels to an increase of 3.6% by 2030, based respectively on low and high petroleum fuel demand scenarios. The CEC projects diesel consumption to increase by between 22% and 50% compared to 2009 levels, and expects an increase in the consumption of alternative fuels.

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[5] As of May 2019, the City of Los Angeles Department of Planning applies the updated State CEQA Guidelines Appendix G checklist questions as thresholds of significance. The City continues to rely on its 2006 *L.A. CEQA Thresholds Guide* to inform environmental analysis, as appropriate, but the City no longer uses this guide as its default thresholds.

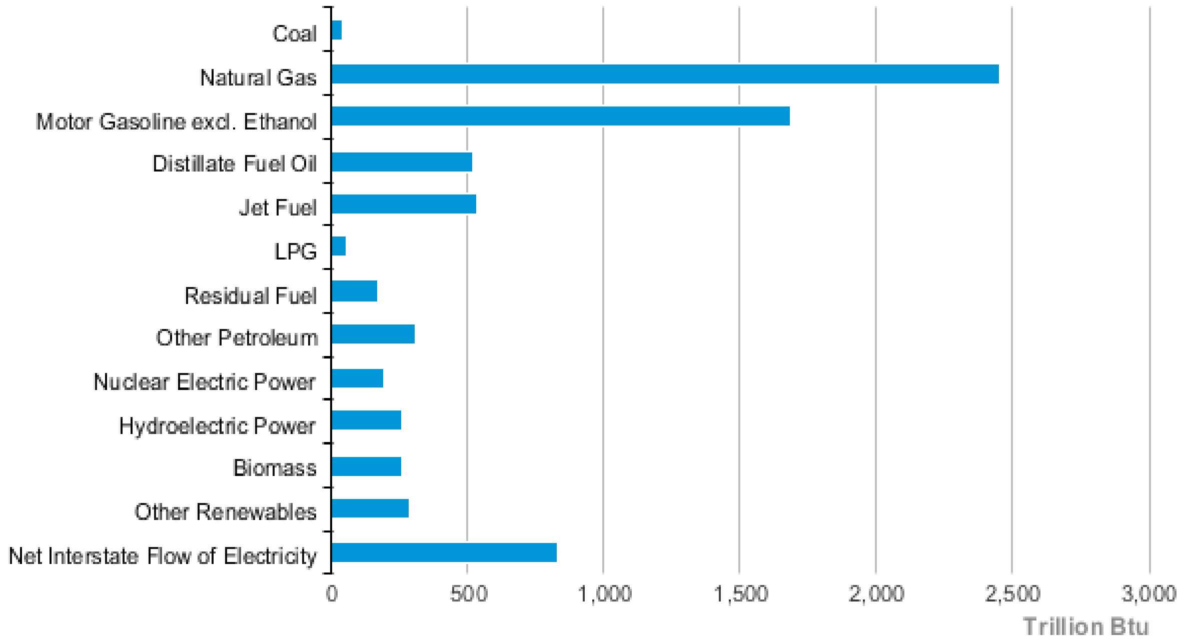
[6] US Energy Information Administration. 2014a. *California Energy Consumption Estimates by Source, 2012.* Available: <http://www.eia.gov/state/?sid=CA#tabs-1>. Accessed: December 10, 2014.

[7] California Energy Commission. 2014. *California Energy Almanac: 2013 Total System Power in Gigawatt Hours.* Available: <http://energyalmanac.ca.gov/electricity/total_system_power.html >. Accessed: December 10, 2014.

[8] US Energy Information Administration. 2014b. *California Energy Consumption by End-Use Sector, 2012.* Available: <http://www.eia.gov/state/?sid=CA#tabs-1>. Accessed: December 10, 2014.

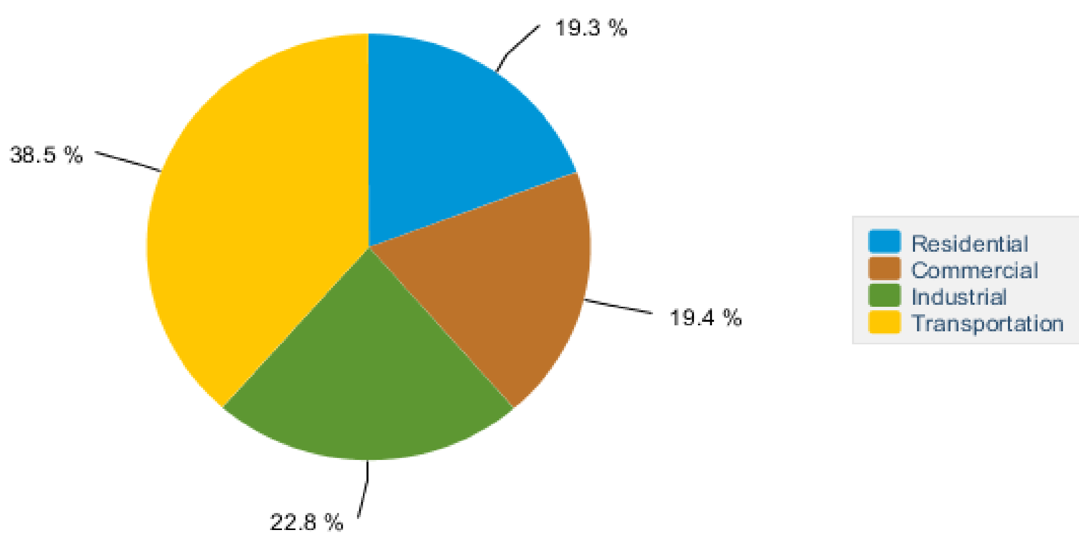
[9] California Energy Commission. 2013. *Energy Almanac*. California Petroleum Statistics and Data. Available: <http://energyalmanac.ca.gov/petroleum/index.html>. Accessed: February 14, 2013.

Figure 4.11-1: California Energy Consumption Estimates by Source, 2012



Source: US Energy Information Administration, 2014a.

Figure 4.11-2: California Energy Consumption by End-Use Sector, 2012



Source: US Energy Information Administration, 2014b.

CEC estimates the consumption of natural gas as a transportation fuel to increase at a compound annual rate of more than 3% with natural gas consumption by 2030, representing 87% to 96% above 2009 levels.[10] Presently, after ethanol, natural gas is the most consumed alternative fuel for transportation use in California, with electricity consumption ranked third.[11]

Regional Energy Consumption

Southern California's energy consumption differs from the state as a whole in that a greater proportion of the energy consumed in the region is for the purposes of transportation, owing to the high density of population that relies on freeways and local roads for mobility, two major ports that serve as a hub for the movement of goods, as well as three large airports. As shown in Figure 4.11-3, approximately 60% of energy used in the South Coast Air Basin (which comprises all of Orange County and the non-desert portions of Los Angeles, San Bernardino, and Riverside counties) is transportation-related.[12]

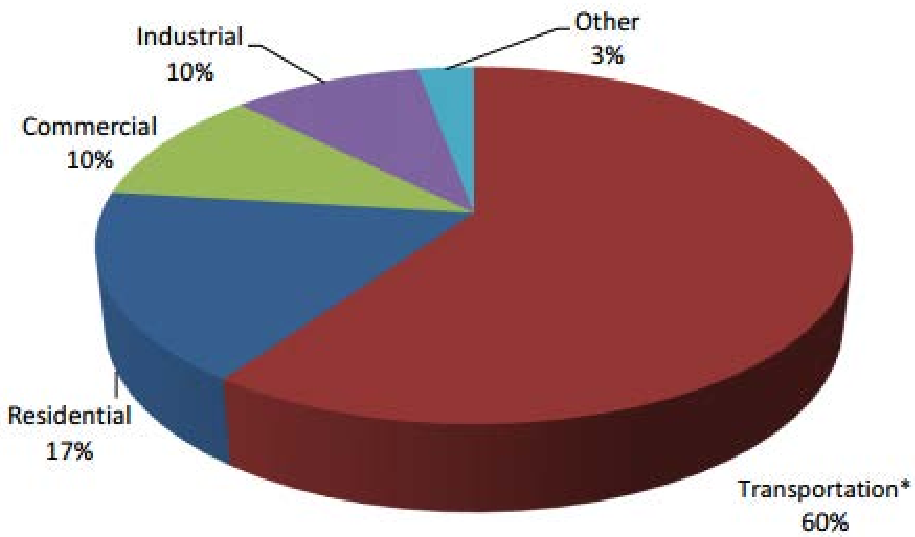
According to SCAG's 2016-2040 RTP/SCS, the six-county SCAG region (Ventura, Los Angeles, Orange, San Bernardino, Riverside, and Imperial counties) is expected to add approximately 3.8 million people by 2040.[13] This additional population growth is expected to pose transportation challenges for the region, as travel demand in California will likely increase.

Transportation energy consumption reflects the type and number of vehicles, the extent of their use, and their fuel economy. According to the SCAG 2012–2035 RTP/SCS, the six-county region's transportation network supports a daily total of approximately 445.8 million VMT, almost half of which occurs in Los Angeles County. Even with implementation of the 2012 RTP/SCS measures intended to reduce VMT, projections show that the Los Angeles region will experience a 16.3% increase in VMT by 2035.[14] The addition of alternative modes of transportation could result in a change in the dynamics of all vehicle classes with regard to VMT. Changes in VMT, in turn, could affect regional energy consumption. A reduction in VMT through alternative modes of transportation could lower energy needs and reduce pollutant emissions.

As stated in the SCAG 2012-2035 RTP/SCS, the daily total VMT in the SCAG transportation network is approximately 445.8 million VMT; of this six-county total, the daily total VMT in the Los Angeles County is approximately 225.6 million VMT.

[10] California Energy Commission. 2012. *2011 Integrated Energy Policy Report.* February. Available: http://www.energy.ca.gov/2011publications/CEC-100-2011-001/CEC-100-2011-001-CMF.pdf. Accessed: February 14, 2013.
[11] California Energy Commission. 2011. *Transportation Energy Forecasts and Analyses for the 2011 Integrated Energy Policy Report.* Draft staff report. August. Report No. CEC-600-2011-007-SD. Available: <http://energy.ca.gov/2011publications/CEC-600-2011-007/CEC-600-2011-007-SD.pdf>. Accessed: February 17, 2013.
[12] South Coast Air Quality Management District. 2012. *2012 Air Quality Management Plan.* Chapter 10: Energy and Climate. Available: <http://www.aqmd.gov/aqmp/2012aqmp/Final/Ch10.pdf>. Accessed: February 18, 2013.
[13] Southern California Association of Governments. 2016. 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy. Available: <http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS.pdf>. Accessed: July 20, 2016.
[14] Southern California Association of Governments. 2012. *2012–2035 Regional Transportation Plan/Sustainable Communities Strategy.* April. Available: <http://rtpscs.scag.ca.gov/Documents/2012/final/f2012RTPSCS.pdf>. Accessed: February 13, 2013.

Figure 4.11-3: Share of Energy Use in South Coast Basin in 2008 ("Transportation" includes off-road sources)



Metro's contribution to regional energy consumption includes on-road vehicle fuel use (which is primarily compressed natural gas, or CNG) and electricity for rail vehicle propulsion and maintenance and administrative facility operation. Metro's bus fleet is now fueled by CNG. In 2011, Metro's fleet, excluding vanpool services, used over 41 million gallons of gasoline-equivalent (GGE) fuels. When accounting for gasoline used in vanpools, Metro's gasoline use accounts for 6% of all fuel use, when compared on a GGE basis. Metro's electric power comes from several sources including the Los Angeles Department of Water and Power (over 50% of all power), Southern California Edison, and Pasadena Water and Power. In 2011, Metro's rail lines consumed approximately 164 million kilowatt hours (kWh) of electricity and Metro facilities used 97 million kWh of electricity.[15]

4.11.3 Environmental Consequences, Impacts, and Mitigation Measures

4.11.3.1 No-Build Alternative

Construction Impacts

The No-Build Alternative would not include construction of any project-related facilities or infrastructure; therefore, no impacts or effects under CEQA and NEPA would occur.

[15] Los Angeles County Metropolitan Transportation Authority. 2012. *Moving Towards Sustainability, 2012 Metro Sustainability Report Using Operational Metrics.* Available: <http://www.metro.net/projects_studies/sustainability/images/Sustainability_Report.pdf>. Accessed: February 21, 2013.

Operational Impacts

Under the No-Build Alternative, no new project facilities, infrastructure, or development would be constructed as part of eastern San Fernando Valley Transit Corridor Project. The No-Build Alternative would not result in an increase in the consumption of energy and no energy infrastructure would be required to meet project demands. Consequently, no operational energy impacts or effects would occur. The projected conditions under the No-Build Alternative represent the future baseline (for year 2040) against which the LPA is compared to determine project impacts for purposes of NEPA. Future (2040) baseline project area traffic energy consumption is shown in Table 4.11-1.

Table 4.11-1: Future (2040) Baseline Operational Energy Consumption

Baseline Conditions	Operational (Annual MMBTU)
2012 Traffic Energy	919,589,546
2040 Traffic Energy	723,871,876
Bus Propulsion Energy (233 and 761 Bus Lines)	60, 484

Note: Discrepancies between energy consumption estimated in the DEIS/DEIR and the FEIS/FEIR are attributable to updated versions of the regional travel demand model and the CT-EMFAC emission factor model. The models were re-run subsequent to the circulation of the DEIS/DEIR to account for the modified version of Alternative 4 identified as the LPA and to provide a consistent basis of comparison between the LPA and No-Build Alternative.
Source: ICF, 2019.

Cumulative Impacts

The No-Build Alternative would not result in any construction impacts; therefore, it would not contribute to any cumulative impacts.

Mitigation Measures

Construction Mitigation Measures

No mitigation measures are required.

Operational Mitigation Measures

No operational mitigation measures are required.

Impacts Remaining After Mitigation

NEPA Finding

No adverse effects would occur under NEPA.

CEQA Determination

No impacts would occur under CEQA.

4.11.3.2 Locally Preferred Alternative (Alternative 4 Modified: At-Grade LRT)

Construction Impacts

The LPA would involve the construction of an LRT system within a 9.2-mile corridor along Van Nuys Boulevard and the San Fernando Road/Metrolink railroad right-of-way. The LPA would also involve construction of an MSF, new stations, a pedestrian bridge (or tunnel) to the Sylmar Metrolink station, modifications to sidewalks and roadways, and the installation of approximately 14 traction power substations (TPSS).

Diesel fuel for construction vehicles and equipment would be the primary source of energy used throughout the course of the construction period. In total, the 4.5- to 5-year construction period would result in the consumption of approximately 61,809 MMBTU (see Table 4.11-2 and the Energy Technical Report in Appendix R). Although fuel would be consumed by construction vehicles and equipment, the estimated consumption would be limited to the construction period. An estimated 445,000 gallons of fuel would be consumed, but the fuel consumption would be temporary in nature and would represent a negligible increase in regional demand, and an insignificant amount relative to the more than 18 billion gallons of on-road fuels used in the state in 2013 (California Energy Commission 2014b). Given the extensive network of fueling stations throughout the project vicinity and the fact that construction would be short-term, no new or expanded sources of energy or infrastructure would be required to meet the energy demands due to construction activities. Additionally, construction activities would comply with the Metro Green Construction Policy and all construction equipment would be maintained in accordance with manufacturers' specifications so equipment performance would not be compromised. Therefore, the LPA would not result in the wasteful or inefficient use of energy. Impacts related to regional energy supply, demand, and conservation during the construction period would be less than significant under CEQA and non-adverse under NEPA.

Table 4.11-2: LPA – Construction Energy Consumption

Alternative	Construction (MMBTU)
LPA	61,809

Source: ICF, 2019.

Operational Impacts

The LPA would introduce LRT service within an existing transportation right-of-way along Van Nuys Boulevard and along the San Fernando Road/Metrolink railroad right-of-way. As discussed in Chapter 2, with improved transit travel times and headways, approximately 9,600 new daily system-wide linked trips are expected.

It is anticipated that there would be a reduction in CNG fuel use by Metro buses, as the LPA would involve the maintenance of service along the existing 233 line, and the 761 line would be modified to serve only areas south of the project limits. Relative to the existing baseline operations of the 233 and 761 bus lines, there would be a 1,600 MMBTU reduction in CNG consumption for bus propulsion resulting from the reduced service on the 761S bus line, which represents an approximately 3% reduction.

The MSF would result in the consumption of both fuels and electricity. Approximately 11,000 MMBTU would be consumed annually due to the fuels consumed by employee, supplier, and maintenance vehicle trips to and from the MSF. Annual MSF electricity consumption would total approximately 2,878 MMBTU. Operation of the MSF would also result in natural gas consumption. The total amount consumed by the MSF is presented in Tables 4.11-3 and 4.11-4. Although the MSF would result in the consumption of energy, it should be noted that proposed MSF buildings would be designed and constructed in compliance with mandatory Title 24 and the CALGreen Building Code requirements and would achieve a minimum of LEED Silver rating, as specified in the Metro Sustainability Implementation Plan.

Table 4.11-3: LPA – Operational Energy Consumption (2012)

Component	Operational (Annual MMBTU)	Percent Change Relative to Existing Conditions
Net Traffic Energy	(118,514)	(0.01%)
Net Bus Propulsion Energy (233 and 761S)	(1,625)	(2.69%)
MSF Energy	2,878	N/A
LPA LRT/Station Energy	68,604	N/A
Net Total	**(48,657)**	**(0.005%)**

Note: Discrepancies between energy consumption estimated in the DEIS/DEIR and the FEIS/FEIR are attributable to updated versions of the regional travel demand model and the CT-EMFAC emission factor model. The models were re-run subsequent to the circulation of the DEIS/DEIR to account for the modified version of Alternative 4 identified as the LPA and to provide a consistent basis of comparison between the LPA and No-Build Alternative.
Source: ICF, 2019.

Table 4.11-4: LPA – Operational Energy Consumption (2040)

Component	Operational (Annual MMBTU)	Percent Change Relative to No-Build
Net Traffic Energy	(351,478)	(0.05%)
Net Bus Propulsion Energy (233 and 761S)	(1,625)	(2.69%)
MSF Energy	2,878	N/A
LPA LRT/Station Energy	68,604	N/A
Net Total	**(281,621)**	**(0.039%)**

Note: Discrepancies between traffic-related energy consumption estimated in the DEIS/DEIR and the FEIS/FEIR are attributable to updated versions of the regional travel demand model and the CT-EMFAC emission factor model. The models were re-run subsequent to the circulation of the DEIS/DEIR to account for the modified version of Alternative 4 identified as the LPA and to provide a consistent basis of comparison between the LPA and No-Build Alternative.
Source: ICF, 2019.

Other components of the LPA that would require energy in the form of electricity consumption include the LRT propulsion systems, and lighting and accessory equipment at station platforms. The electricity consumed by these facilities is included in Table 4.11-3 (see Appendix R for additional details).

Energy use for vehicle propulsion and station operation is based on the average per-mile 2014 energy consumption for existing Metro LRT lines applied to the proposed project. Approximately 68,604 MMBTU would be required annually to operate the 9.2-mile line. Although the LRT system would increase the consumption of electricity in the LADWP service area, the estimated 68,604 MMBTU (20 million kWh) represents a small portion of the 85.3 million MMBTU (25,000 GWh) of electricity that LADWP projects selling to customers in the year 2030 (LADWP 2014). As specified in the Climate Action and Adaptation Plan, Metro plans to install systems to store energy captured from trains. Metro installed a 2-MW wayside energy storage substation pilot in 2014 and is verifying long-term energy savings (Metro 2019). Such efforts implemented for the LPA would result in lower overall energy requirements.

A letter has been sent to LADWP identifying the projected energy consumption required for the LPA and requesting confirmation that there would be sufficient energy available to meet the proposed project's demands. Although increased electricity consumption for vehicle propulsion and station operation along a fixed dedicated guideway would be required, it is anticipated that the increase in energy would be negligible and would not require new electricity infrastructure beyond that which is existing or has been previously planned.

Overall operational energy consumption from LPA implementation would decrease based on the energy savings from lower VMT in the study area. As shown in Table 4.11-3, energy use from vehicles in the study area under the 2012 LPA scenario would fall by 118,514 MMBTU annually due to the annual VMT reduction of 3.9 million relative to existing conditions. In the longer term, the 2040 scenario would reduce regional VMT by approximately 27 million annually, which would result in fuel consumption reductions of approximately 351,478 MMBTU per year, a decrease of 0.05% compared to the future (2040) baseline condition under the No-Build Alternative (see Table 4.11-4 and the Energy Technical Report in Appendix R). Given the projected reduction in fuel consumption, the LPA would not adversely affect the regional supply of, and demand for, gasoline.

As indicated in Table 4.11-3, total annual operational energy consumption under the 2012 LPA scenario would be approximately 48,657 MMBTU less than the 2012 baseline conditions. As indicated in Table 4.11-4, total annual operational energy consumption under the 2040 LPA scenario is estimated to be 281,621 MMBTU less than the 2040 baseline conditions, much of which would be attributable to energy savings associated with the reduction of fuel use by private vehicles.

Compliance Requirements and Design Features

Per the Metro Sustainability Implementation Plan, the MSF would be required to meet LEED Silver requirements at a minimum. Also, as specified in the Metro Climate Action and Adaptation Plan, project-level energy-saving measures would be implemented in order to achieve energy and GHG reduction goals.

In addition, in order to minimize energy consumption, the construction contractor would implement energy conserving BMPs, as feasible, in accordance with Metro's Energy and Sustainability Policy. BMPs would include, but would not be limited to the following: implementing a construction energy conservation plan; using energy-efficient equipment; consolidating material delivery to ensure efficient vehicle use; scheduling delivery of materials during non-rush hours to maximize vehicle fuel efficiency; encouraging construction workers to carpool; and maintaining equipment and machinery in good working condition. With the implementation of these measures, the LPA would not lead to a wasteful, inefficient, or unnecessary usage of fuel or energy.

Cumulative Impacts

The project study area for this cumulative energy impacts analysis is Los Angeles County, within which nearly all project-related electricity, fuel, and natural gas consumption would occur. Because each energy resource is managed by different entities, the specific approach to the cumulative analysis is identified below.

With the exception of instances in which projects require the physical development of new power generation, transmission, or fueling facilities, energy use impacts are cumulative impacts in that all energy consumed comes from a common resource pool. No new power generation, transmission, or fueling facilities would be required for implementation of the proposed project.

Electricity

For the purposes of electricity consumption, this cumulative impact discussion uses the projections/plans approach identified in CEQA Guideline 15130 (b)(1)(b), specifically the projections contained within the LADWP 2014 Power Integrated Resource Plan.

Electricity consumption would be required for operational lighting and accessory features at stops/stations, MSF operation, fixed dedicated-guideway vehicle propulsion, and may be necessary for a minority of the components of construction.

The LADWP 2014 Power Integrated Resource Plan was used for this cumulative electricity impact analysis. The resource project study area is the LADWP service area covered by the plan, which includes the City of Los Angeles and surrounding areas.[16] The LADWP 2014 Power Integrated Resource Plan projects future energy demand in the LADWP service area. LADWP sales, net energy for load forecasting, peak demand forecast, and hourly allocation are based on:

- An economic forecast of Los Angeles County from the Los Angeles Modeling Group of the University of California, Los Angeles (Anderson Forecast Project);
- Demographic information from the California Department of Finance, Demographic Research Unit; and
- A construction forecast from McGraw-Hill construction services.

LADWP has been contacted, via mailed letter, regarding the energy requirements of fixed dedicated-guideway vehicle service. It is anticipated that forecasting efforts have allowed for new energy consumption levels sufficient to meet the demands of fixed dedicated-guideway transit vehicle propulsion. However, increased electricity consumption associated with the proposed project in combination with future projects within LADWP's service area may require new electricity transmission infrastructure or the rehabilitation of existing electricity infrastructure to meet that increased demand and maintain adequate levels of service, notwithstanding future savings resulting from increased energy efficiencies. Although regional utility providers have planned for long-term increases in demand, new supply and delivery infrastructure facilities could be required to meet increased regional demands, the construction of which could result in impacts to the environment. However, the project's contribution to such impacts would not be substantial enough to affect potential increases in energy demand, and therefore, impacts related to electricity would not be cumulatively considerable.

[16] LADWP's overall service area includes parts of the Owens Valley, but because of the limited developable land and slow rates of growth, energy forecasts are not considered in the *2012 Power Integrated Resource Plan* (LADWP 2012:A-2).

Gasoline and Diesel Fuel

For the purposes of fuel consumption, this cumulative impact discussion uses the list of past, present, and reasonably foreseeable projects list approach identified in CEQA Guideline 15130 (b)(1)(a). The proposed project, in combination with the projects identified in Table 2-3 and numerous other projects, require the use of gasoline and diesel fuel for construction and for vehicles associated with operation.

Direct diesel and gasoline consumption would result from the use of construction vehicles and equipment as well as from employee and maintenance trips during operation. Indirect fuel consumption would result from redistribution of trips that would occur from capacity changes along the proposed alignment. The proposed project, in combination with regional population growth, and more people traveling by motor vehicles, additional gasoline and diesel fuel infrastructure may be required to meet motor vehicle fuel demands in the future. Such increases may be at least partially offset by increasing fuel economy standards for vehicles, but new supply and delivery infrastructure facilities could be required to meet increased regional demand, the construction of which could result in impacts to the environment. However, the project's contribution to such impacts would not be substantial, as the project's gasoline and diesel fuel requirements would be small and could be met by the extensive network of fueling stations found throughout Los Angeles County. Therefore, impacts related to gasoline and diesel fuel would not be cumulatively considerable.

Natural Gas

For the purposes of natural gas consumption, this cumulative impact uses the list of past, present, and reasonably foreseeable projects list approach identified in CEQA Guideline 15130 (b)(1)(a). The proposed project, in combination with the projects identified in Table 2-3 and numerous other projects, require the use of natural gas, primarily for building operation, but also for some construction equipment and vehicles.

Natural gas would be consumed by Metro buses during and following construction and may be consumed by some construction equipment and during operation of the MSF. The proposed project, in combination with increasing demand for natural gas due to projected regional population growth, may require new or expanded natural gas infrastructure. Such increases in demand may be at least partially offset by increased energy efficiency of buses, buildings, and other users of natural gas, but new supply and delivery infrastructure facilities could be required to meet increased regional demand, the construction of which could result in impacts to the environment. The project's contribution to such impacts would not be substantial, as the project's natural gas requirements would be small and could be met by existing natural gas resources. Therefore, impacts related to natural gas would not be cumulatively considerable.

Mitigation Measures

Construction Mitigation Measures

No significant impacts would occur and mitigation measures would not be necessary.

Operational Mitigation Measures

No significant impacts would occur and mitigation measures would not be necessary.

Impacts Remaining After Mitigation

NEPA Finding

Effects would not be adverse under NEPA.

CEQA Determination

Impacts would be less than significant under CEQA.

4.11.3.3 Initial Operating Segment

An Initial Operating Segment (IOS) has been included in this FEIS/FEIR to enable Metro to realize potential cost savings, which would not otherwise occur under the LPA, from phasing the project. It should be noted that Metro is proceeding with IOSs on other Metro projects for that reason and to specifically provide the decision-making body of Metro (the Metro Board) with flexibility in determining the most efficient and cost-effective manner to implement those projects. Proceeding with an IOS for the proposed project would also allow further coordination to occur with the Public Utilities Commission (PUC) and Metrolink, which will be necessary to accommodate double tracking of the Antelope Valley Line, and with the City of San Fernando regarding traffic impacts at intersections in the City prior to development of the remaining northern segment of the LPA.

Although the IOS for the proposed project would run along the same alignment and have the same design features and operating characteristics as those described above for the LPA, it would occupy a smaller project footprint than the LPA because it would extend from the Metro Orange Line on the south to the proposed the Van Nuys/San Fernando station on the north. It remains Metro's intent, however, to build the remaining northern 2.5 miles of the LPA within the existing railroad right-of-way, from the Van Nuys/San Fernando station to the Sylmar/San Fernando Metrolink station. Impacts associated with the IOS are discussed below.

Construction Impacts

Construction impacts under the IOS would be similar to those impacts identified under the LPA, with the exception that no construction activities would occur within the 2.5-mile LPA segment within the existing railroad right-of-way between the Van Nuys/San Fernando station and the Sylmar/San Fernando Metrolink station. In total, the 4.5- to 5-year construction period would result in the consumption of 48,387 MMBTU (see Table 4.11-5 and the Addendum to the Energy Technical Report in Appendix R).

Table 4.11-5: IOS – Construction Energy Consumption

Alternative	Construction (MMBTU)
IOS	48,387

Source: ICF, 2020.

It is expected that the duration of construction for the IOS would be approximately the same as for the LPA, which would begin in June 2022 and conclude in December 2026. However, because of the shorter alignment and reduction in the amount of construction activities required, energy consumption would be lower under the IOS than under the LPA. Construction-period energy use under the IOS would be less than significant under CEQA and not adverse under NEPA.

Operational Impacts

Operational impacts under the IOS would be similar to those identified under the LPA, with the exception that the IOS would have a shorter alignment. The shorter alignment is projected to result in lower ridership than under the LPA, which would mean that these individuals would take other modes of transportation, and a portion of these individuals would use passenger vehicles. As such, VMT from traffic and associated energy consumption from vehicles would be higher under the IOS than it would be for the LPA, as shown in Table 4.11-6 and Table 4.11-7. The shorter alignment would reduce the amount of energy required for vehicle propulsion and station operations, and this portion of energy consumption would be lower than for the LPA.

Table 4.11-6: IOS – Operational Energy Consumption (2012)

Component	Operational (Annual MMBTU)	Percent Change Relative to Existing Conditions
Net Traffic Energy	(102,901)	(0.011%)
Net Bus Propulsion Energy (233 and 761S)	(1,625)	(2.69%)
MSF Energy	2,878	N/A
IOS LRT/Station Energy	49,962	N/A
Net Total	**(51,686)**	**(0.006%)**

Source: ICF, 2020.

Table 4.11-7: IOS – Operational Energy Consumption (2040)

Component	Operational (Annual MMBTU)	Percent Change Relative to No-Build
Net Traffic Energy	(286,046)	(0.04%)
Net Bus Propulsion Energy (233 and 761S)	(1,625)	(2.69%)
MSF Energy	2,878	N/A
IOS LRT/Station Energy	49,962	N/A
Net Total	**(234,831)**	**(0.032%)**

Source: ICF, 2020.

Overall operational energy consumption from IOS implementation would decrease based on the energy savings from lower VMT in the study area. As shown in Table 4.11-6, energy use from vehicles in the study area under the 2012 IOS scenario would fall by 102,901 MMBTU annually due to the annual VMT reduction of 1.5 million relative to existing conditions. In the longer term, the 2040 scenario would reduce regional VMT by approximately 10.3 million annually, which would result in fuel consumption reductions of approximately 286,046 MMBTU per year, a decrease of 0.04% compared to the future (2040) baseline condition under the No-Build Alternative (see Table 4.11-7 and the Energy Technical Report in Appendix R). Given the projected reduction in fuel consumption, the IOS would not adversely affect the regional supply of, and demand for, gasoline.

As indicated in Table 4.11-6, total annual operational energy consumption under the 2012 IOS scenario would be approximately 51,686 MMBTU less than the 2012 baseline conditions. As indicated in Table 4.11-7, total annual operational energy consumption under the 2040 IOS scenario is estimated to be 234,831 MMBTU less than the 2040 baseline conditions, much of which would be attributable to energy savings associated with the reduction of fuel use by private vehicles.

Overall, given that the IOS would introduce a new LRT service where none exists at present, operational energy consumption under the IOS is anticipated to be lower than under the No-Build Alternative. For reasons similar to those identified for the LPA, operation of the IOS is not expected to result in conflicts with state or local plans for renewable energy or energy efficiency. Operational impacts of the IOS related to energy would be less than significant under CEQA and not adverse under NEPA.

A schedule for completing the northern 2.5-mile segment (phase 2) will be contingent upon securing the necessary funding and thus remains to be determined. However, it is Metro's expectation that the funding will be secured, and construction of phase 2 would likely begin within 3 to 5 years of completion of the IOS. However, for the purposes of this FEIS/FEIR, a conservative 2040 future-year scenario has been assumed to assess potential impacts in the future. If the northern 2.5-mile segment within the existing railroad right-of-way between the Van Nuys/San Fernando station and Sylmar/San Fernando Metrolink station is constructed before or by 2040, then operational impacts related to energy would be similar to those identified under the LPA's future 2040 conditions, as discussed in the previous section.

Cumulative Impacts

As discussed under the LPA, with the exception of instances in which projects require the physical development of new power generation, transmission, or fueling facilities, energy use impacts are cumulative impacts in that all energy consumed comes from a common resource pool. The IOS would require less electricity than required for the LPA due to the shorter alignment. Given that electricity within the project area is managed through the LADWP Power Integrated Resource Plan and that LADWP has been contacted to confirm that electricity services would accommodate the needs of the LPA, impacts related to electricity under the LPA would not be cumulatively considerable. As such, impacts related to energy in regards to the IOS would be similar to that of the LPA. With respect to gasoline and diesel fuel consumption, the IOS would require less fuel for construction activities than the LPA due to the shorter alignment, but could result in greater operational fuel demand based on the lower ridership projected. However, the project's contribution to such impacts would not be substantial, as the project's gasoline and diesel fuel requirements would be small and could be met by the extensive network of fueling stations found throughout Los Angeles County. Therefore, impacts related to gasoline and diesel fuel would not be cumulatively considerable. Natural gas consumption requirements of the IOS would be similar to those identified for the LPA, and IOS operation would likely result in a decrease in demand for natural gas relative to the No Build Alternative, as the IOS would displace some bus service that relies on natural gas with an electric-powered LRT service. As such, the contribution of the IOS to natural gas impacts would not be substantial, as the project's natural gas requirements would be small and could be met by existing natural gas resources. Therefore, impacts related to natural gas would not be cumulatively considerable.

Compliance Requirements and Design Features

The project would comply with the Metro Green Construction Policy and Climate Action and Adaptation Plan. In addition, the construction contractor would implement energy-conserving BMPs, as feasible, in accordance with Metro's Energy and Sustainability Policy.

Mitigation Measures

Construction Mitigation Measures

No mitigation measures are required.

Operational Mitigation Measures

No mitigation measures are required.

Impacts Remaining After Mitigation

NEPA Finding

No adverse effects would occur under NEPA.

CEQA Determination

Impacts under CEQA would be less than significant.

4.12 Ecosystems and Biological Resources

4.12.1 Regulatory Framework and Methodology

4.12.1.1 Regulatory Framework

The applicable federal, state, and local regulations that are relevant to an analysis of the proposed project's ecosystems and biological impacts are listed below. For additional information regarding these regulations, please see the *Biological Resources Impacts Report* in Appendix N of this FEIS/FEIR.

Federal

The following federal ecosystems/biological resources regulations would be applicable to the proposed project:

- Federal Endangered Species Act
- Migratory Bird Treaty Act
- Federal Noxious Weed Act
- Federal Clean Water Act
- Fish and Wildlife Coordination Act

State

The following state ecosystems/biological resources regulations would be applicable to the proposed project:

- California Endangered Species Act
- California Department of Fish and Wildlife Regulations
  - Protected Species in the Fish and Game Code
  - California Native Plant Protection Act and Natural Community Conservation Planning Act
  - Streambed Alteration Agreements
  - Bird/Raptor Protections in the Fish and Game Code
- Porter-Cologne Water Quality Control Act

Local

The following local ecosystems/biological resources would be applicable to the proposed project:

- Los Angeles County General Plan
- City of Los Angeles General Plan
  - Section 6: Endangered Species
  - Section 12: Habitats

- City of Los Angeles Native Tree Protection Ordinance
- City of San Fernando Comprehensive Tree Management Program Ordinance

4.12.1.2 Methodology

The analysis in this section is based on the eastern San Fernando Valley Transit Corridor Ecosystems/Biological Resources Impacts Report.

Literature Review

A comprehensive literature review was conducted to evaluate the environmental setting of the biological project study area and identity potential special-status plant communities and species that may be found on the site. The review included a search of the California Natural Diversity Database[1] and the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants[2] for the Newhall, Mint Canyon, Agua Dulce, Oat Mountain, San Fernando, Sunland, Canoga Park, Van Nuys, Burbank, Topanga, Beverly Hills, and Hollywood 7.5-minute USGS quadrangles. In addition, US Fish and Wildlife Service (USFWS), Carlsbad office, species occurrence data (3/5/2013 and 6/29/2020) and designated critical habitat data were reviewed. Recent aerial photographs were also reviewed to assess the biological project study area with respect to potential habitat for plants and wildlife. Furthermore, the US Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (2013) was reviewed and available soils data did not cover the biological project study area. Soil data from the Los Angeles County Department of Public Works was also reviewed (southeastern and west San Fernando Valley area). The soil data were then evaluated to determine the potential for rare plants to occur.

For this section, “special-status” species are those that are: listed, proposed for listing, or candidates for listing under the federal ESA as threatened or endangered; listed or candidates for listing under the CESA as threatened or endangered; listed as rare under the Native Plant Protection Act; a state species of special concern or fully protected species; or are on the California Rare Plant Rank as 1B, 2, or 3. Plants with a California Rare Plant Rank of 1B are rare, threatened, or endangered in California and elsewhere and are rare throughout their range with the majority of them endemic to California. Most of the plants that are ranked 1B have declined significantly over the last century. Plants with a California Rare Plan Rank of 2 are rare, threatened, or endangered in California, but more common elsewhere. Except for being common beyond the boundaries of California, plants with a California Rare Plant Rank of 2 would have been ranked 1B. Nearly all of the plants constituting California Rare Plant Rank 3 are taxonomically problematic. Plants with a California Rare Plant Rank of 3 are ones for which more information is needed for these species to fall under one of the other ranks or to reject them from rank classification altogether. All of the plants constituting California Rare Plant Rank 1B or 2 meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Sections 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing. Some of the plants constituting California Rare Plant Rank 3 meet the definitions of Section 1901, Chapter 10 (Native Plant Protection Act) or Sections 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing.

[1] California Department of Fish and Wildlife. 2013. *California Natural Diversity Database*. Sacramento, CA: Wildlife Habitat Data Analysis Branch, Habitat Conservation Division. Accessed: February 25, 2013.

[2] California Native Plant Society. 2013. *Inventory of Rare and Endangered Plants* (online edition, v7-11). Sacramento, CA. Available: <http://www.cnps.org/inventory>. Accessed: February 25, 2013.

The *L.A. CEQA Thresholds Guide* (2006) defines a Sensitive Biological Resource as:

- A plant or animal that is currently listed by a state or federal agency(ies) as endangered, threatened, rare, protected, sensitive or a Species of Special Concern or federally listed critical habitat;
- A plant or animal that is currently listed by a state or federal agency(ies) as a candidate species or proposed for state or federal listing; or
- A locally designated or recognized species or habitat.

Field Investigation

A site visit was conducted between 9:30 a.m. and 1:15 p.m. on February 27, 2013, by an ICF biologist/arborist. The site visit focused on mapping vegetation, assessing jurisdictional resources, and conducting habitat assessments for special-status plants and wildlife. Weather conditions during the site visit consisted of temperatures ranging from 15.5˚C to 22.7˚C (60˚F to 73˚F), winds ranging from 0 to 5 mph, and clear skies with no cloud cover. Visibility was good.

To evaluate biological and regulatory conditions, a 500-foot buffer from the centerline of the project corridor, which was extended as necessary to include the traction power substation (TPSS) and maintenance and storage facility (MSF) locations, was established as the biological resource project study area. The biological resource project study area was evaluated to determine the presence, absence, or likelihood of occurrence of special-status species and vegetation types. General biological resource issues with the potential to pose a constraint to the project through applicable laws and regulations were also evaluated. The field effort included hand mapping natural vegetation communities and developing detailed field notes to identify the extent and character of potential jurisdictional drainage features. This included compiling compendia of wildlife and relevant plant species observed, natural vegetation communities and their composition, observed soil types, animal sign, and both natural and anthropogenic (human) disturbances that may affect use of the biological project study area by relevant species. Focused plant and wildlife surveys were not performed during the site visit.

Parameters evaluated for special-status plants included topography, soil condition, elevation, hydrology, operational activities, and the life history needs of the specific species. Special-status parameters for wildlife included connectivity to documented and potentially occurring habitat, hydrology, access to the site, foraging and nesting habitat, the site's operational activities, and the life history needs of each species.

All plant and wildlife species observed during the site visit were recorded in field notes. Plants were detected and identified through direct sight. Plants were identified to the species level based on previous experience with the species or through use of the Jepson Manual, Vascular Plants of California (2012). Special-status rankings for plant species were identified through a review of the CNPS online inventory of rare and endangered plants. Wildlife species were detected by sight, calls, tracks, scat, or other sign. Special-status rankings for wildlife were identified through a review of the California Department of Fish and Game *Special Animals List* (2011).

Vegetation Mapping

Vegetation mapping was conducted in the field using Google Earth aerials dated August 26, 2013. During the vegetation mapping, any areas of special-status habitat under the jurisdiction of the US Army Corps of Engineers (USACE) and/or California Department of Fish and Wildlife (CDFW) were noted (see results in Figure 2-1, Biological Resources Map, of the *Ecosystems/Biological*

Resources Impacts Report). Where possible, the vegetation mapping followed the classifications defined in *A Manual of California Vegetation* (Sawyer et al. 2009); however, Holland (1986) was also consulted.

Impact Analysis Approach

The significance thresholds listed below were used to determine whether an impact would be significant. The biological resource project study area considered the geographical extent of physical disturbance related to the project. Potential effects on special-status species and natural communities within the biological resource project study area were evaluated according to the highest likelihood of occurrence of each resource.

The impact analysis compares all project alternatives to existing conditions. Direct impacts are those impacts that are caused by the project and occur at the same time and place as the actions that may cause the impacts (State CEQA Guidelines, Section 15358). Indirect impacts are impacts caused by the project and are later in time or farther removed in distance from the actions that cause the impacts, but are still reasonably foreseeable (State CEQA Guidelines, Section 15358). Short-term or temporary impacts can be direct or indirect, and are those that occur over a short timeframe of a project (examples include construction-related indirect impacts and staging area direct impacts that will be returned to pre-project conditions). Long-term or permanent impacts can also be direct or indirect, and are those that will occur through the life of a project (examples include the permanent footprint of a project, indirect operational impacts, and maintenance activities).

4.12.1.3 Significance Thresholds

NEPA

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. The CEQA thresholds (described below) encompass the 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, CEQA thresholds listed below also apply to NEPA for the proposed project and its alternatives. In addition, impacts on biological resources could be considered significant if the project would result in adverse modification of US Army Corps of Engineers regulated non-wetland waters of the United States (WoUS) under Section 404 of the Clean Water Act.

CEQA

CEQA does not describe specific significance thresholds. According to the Governor's Office of Planning and Research (OPR), 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 the project to be significant (OPR 1994).

With respect to the California Fish and Game Code and the regulation of state waters, a significant impact could occur if a project would result in:

- Adverse modification of CDFW jurisdictional authority over rivers, streams, and lakes under California Fish and Game Code Section 1602; or
- Adverse modification of State Water Resources Control Board regulation of discharges into state waters.

The State CEQA Guidelines generally 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).

The State CEQA Guidelines do not describe specific significance thresholds. However, the State CEQA Guidelines lists a variety of potentially significant effects. [3] As outlined in Appendix G of the State CEQA Guidelines, a project may have a significant effect on ecosystems/biological resources if the project would result in and of the following conditions:

- A substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- A substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS.
- A substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (CWA) (including, but not limited to, marshes, vernal pools, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

L.A. CEQA Thresholds Guide

According to the *L.A. CEQA Thresholds Guide* (2006), a project would normally have a significant impact on ecosystems/biological resources if it would result in any of the following:

- The loss of individuals, or the reduction of existing habitat, of a state or federal listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or federally listed critical habitat.
- The loss of individuals, or the reduction of existing habitat, of a locally designated species or a reduction in a locally designated natural habitat or plant community.
- Interference with wildlife movement/migration corridors that may diminish the chances for long-term survival of a sensitive species.
- The alteration of an existing wetland habitat.
- Interference with habitat such that normal species behaviors are disturbed (e.g., from the introduction of noise, light) to a degree that may diminish the chances for long-term survival of a sensitive species.

[3] The Environmental Checklist questions in Appendix G of the State CEQA Guidelines were used as guidance in developing thresholds for determining impact significance. In late 2018, subsequent to completion of the DEIS/DEIR, changes to the State CEQA Guidelines were adopted by the State including revisions to the Environmental Checklist questions in Appendix G. To maintain consistency between the DEIS/DEIR and FEIS/FEIR when evaluating the significance of impacts under CEQA, the significance thresholds identified in this chapter are unchanged from those in the DEIS/DEIR.

Project Study Area

To evaluate biological and regulatory conditions and potential direct and indirect effects, the project study area for the impacts analysis was defined as encompassing a 500-foot buffer from the centerline of the project corridor, which was extended as necessary to include the TPSS and MSF locations.

4.12.2 Affected Environment/Existing Conditions

The biological resources project study area is urbanized, but supports urban park space and ornamental landscaping. Three drainage features intersect the biological resource project study area. These are, from south to north, the Pacoima Wash (twice; at Van Nuys Blvd and again at Truman St.), the Pacoima Diversion Canal, and East Canyon Creek (see Figure 2-1, Biological Resources Map, of the *Ecosystems/Biological Resources Impacts Report*).

4.12.2.1 Vegetation Communities

Developed areas dominate the biological resources project study area and, for this report, include impervious surfaces and ornamental landscaping. Within the biological resources project study area, developed areas consist of roadways, sidewalks, driveways and parking areas, loading docks, restaurants, retail businesses, equipment and supply storage facilities (e.g., for landscaping and building material suppliers), residences, and transit stations. Ornamental vegetation is present along much of the corridor and in the residential areas. In addition, a number of mature western sycamores are planted as street trees at various locations along the corridor, and young coast live oak (*Quercus agrifolia*) plantings are at Tobias Avenue Park, just north of Nordhoff Street.

Ornamental plant species observed to be common within the biological resource project study area include, though are not limited to:

- Italian cypress (*Cupressus sempervirens*);
- Lemon-scented gum tree (*Eucalyptus citriodora*);
- Fig tree (*Ficus microcarpa*);
- Ginkgo (*Ginkgo biloba*);
- Jacaranda (*Jacaranda mimosifolia*);
- Crape myrtle (*Lagerstroemia indica*);
- American sweet gum (*Liquidambar styraciflua*);
- Flaxleaf paperbark (*Melaleuca linariifolia*);
- Olive tree (*Olea europaea*);
- Canary Island date palm (*Phoenix canariensis*);
- Canary Island pine (*Pinus canariensis*);
- Italian stone pine (*Pinus pinea*)
- Fern pine (*Podocarpus gracilior*);
- Holly oak (*Quercus ilex*);
- Peruvian pepper-tree (*Schinus molle*);

- Coast redwood (*Sequoia sempervirens*);
- Queen palm (*Syagrus romanzoffianum*);
- Mexican fan palm (*Washingtonia robusta*); and
- Turf grasses.

In addition, western sycamore and coast live oak, which are clearly planted within the ornamental landscaping, were the only tree species observed that are native to southern California. A small amount of weedy native annuals and short-lived perennials are also scattered in the ornamental areas.

Ruderal/disturbed areas are dirt areas (e.g., abandoned parkways, railroad rights-of-way) that have been or are currently subject to intensive disturbance; these areas preclude any natural community. Plant species occurring in disturbed areas are typically opportunistic, invasive species. Such species are adapted to rapid colonization of soils that have been recently exposed or compacted, amended, or otherwise greatly altered. Open areas in the biological resource project study area exhibit fairly high to very high degrees of past disturbance. The most extensive areas in the biological resource project study area are the vacant lots along the alignment; these areas are largely bare dirt or overgrown. Plant species found in these areas of the biological resource project study area include a moderate variety of disturbance-adapted species, such as common horseweed (*Conyza canadensis*), Bermuda grass (*Cynodon dactylon*), crabgrass (*Digitaria sanguinalis*), telegraph weed (*Heterotheca grandiflora*), prickly lettuce (*Lactuca serriola*), cheeseweed (*Malva parviflora*), smilo grass (*Piptatherum miliaceum*), Russian-thistle (*Salsola tragus*), and common sow thistle (*Sonchus oleraceus*).

4.12.2.2 Soils

Soils within the biological resource project study area are compacted throughout, except in landscaped areas, and nearly devoid of vegetation, except for planted street trees and shrubbery. Several soil types are mapped within the biological resource project study area and include Hanford fine sandy loam, Hanford gravelly sandy loam, Hanford silt loam, Ramona loam, Tujunga sandy loam, Yolo fine sandy loam, Yolo sandy loam, and Yolo loam.[4] Soil results are in Figure 3-1, Soil Resources Map, of the *Ecosystems/Biological Resources Impacts Report* (see Appendix N) prepared for the proposed project.

4.12.2.3 Wildlife

Overall wildlife abundance and species richness appear to be low because of the urbanized nature of the biological resources project study area. However, nine species of birds were observed during the site visit. These include house sparrow (*Passer domesticus*), house finch (*Carpodacus mexicanus*), rock pigeon (*Columba livia*), American crow (*Corvus brachyrhynchos*), California gull (*Larus californicus*), northing mockingbird (*Mimus polyglottos*), cliff swallow (*Petrochelidon pyrrhonota*), black phoebe (*Sayornis nigricans*), and European starling (*Sturnus vulgaris*). All of these are common, widespread species and strongly adapted to human-altered landscapes with intensive use.

[4] Los Angeles County Department of Public Works. 2006. *2006 Hydrology Manual, Appendix B Hydrologic Maps*. Los Angeles County Department of Public Works. Available: <http://ladpw.org/wrd/publication/engineering/2006_Hydrology_Manual/2006%20Hydrology%20Manual-Divided.pdf>. Accessed: March 1, 2013.

4.12.2.4 Wildlife Corridors

Although the Pacoima Wash, Pacoima Diversion Canal, and East Canyon Creek are waterways, which are typically considered potential wildlife movement corridors, each is a concrete channel that supports little to no plant growth. Furthermore, all are located in an urbanized environment. Therefore, they would not be expected to function as significant wildlife movement corridors. Both the Hansen and Sepulveda Dams are upstream of the aforementioned jurisdictional resources.[5] Sensitive species within these dams have limited potential to utilize these downstream wildlife corridors.

4.12.2.5 Critical Habitat

A review of USFWS critical habitat maps indicates that no critical habitat has been mapped within the biological resources project study area.[6,7]

4.12.2.6 Raptor Foraging

The site was evaluated for its potential to support raptor foraging. No raptors or raptor nests were observed within or in the vicinity of the biological resource project study area during the visit. Because of the urban character of the biological resource project study area, it does not support quality raptor foraging habitat.

4.12.2.7 Nesting Birds

Ornamental landscaping, including mature trees, throughout the biological resource project study area has the potential to provide nesting habitat for birds. Common native urban bird species that may nest in ornamental landscaping include lesser goldfinch (*Carduelis pinus*), Brewer's blackbird (*Euphagus cyanocephalus*), northern mockingbird, common raven (*Corvus corax*), American crow, Anna's hummingbird (*Calypte anna*), house finch, and hooded oriole (*Icterus cucullatus*). In addition, there is reasonable potential for buildings and bridges/overpasses to support nesting opportunities for native birds that are common in urbanized areas, such as American kestrel, house finch, black phoebe, cliff swallow, northern rough-winged swallow (*Stelgidopteryx serripennis*), and white-throated swift (*Aeronautes saxatalis*). A few species, primarily killdeer (*Charadrius vociferus*), may choose to nest on bare ground within the biological resources project study area. Refer to Figure 3-2 of the *Ecosystems/Biological Resources Impacts Report* (see Appendix N) for representational photographs of potential nesting and roosting habitat as observed within the biological resources project study area.

4.12.2.8 Tree Protection

Ornamental trees are present within the biological resource project study area, including a number of mature western sycamores scattered throughout Van Nuys Boulevard and young coast live oak plantings in Tobias Avenue Park, just north of Nordhoff Avenue also along Van Nuys Boulevard. It is

[5] Jurisdictional resources are rivers, creeks, streambeds, channels, spillways, culverts, or other water features that are found to be under the jurisdiction of one or all of the following agencies: US Army Corps of Engineers, California Regional Water Quality Control Board, and California Department of Fish and Wildlife.

[6] US Fish and Wildlife Service. 2013. Carlsbad office database of threatened and endangered species; dated March 5, 2013.

[7] US Fish and Wildlife Service. 2020. Carlsbad office database of threatened and endangered species; dated June 29, 2020.

likely that the majority of observed western sycamores and coast live oaks exceed the City of Los Angeles requirement regarding a four-inch diameter above breast height and may qualify as protected trees under City of Los Angeles ordinance. Within the City of San Fernando, there may be heritage trees located within the biological resources project study area. The City of San Fernando determines heritage trees on a case by case basis.[8] For an inventory of street trees along the project alignment, please see Appendix EE of this FEIS/FEIR.

4.12.2.9 Jurisdictional Resources

The proposed project would not require in-water work or work that would affect wetlands under the CWA, Porter Cologne Water Quality Control Act, or the California Fish and Game Code. The following text discusses the potential for other jurisdictional resources affected by the project. The Pacoima Wash, a concrete open box culvert with a flat bottom, intersects the biological resources project study area at the approximate midway point, just south of Saticoy Street. At this point, the wash ceases to be a surface water feature and transitions to become part of the City's underground stormwater system. Minimal surface flows were present during the site assessment. At that time, water within the approximately 20-foot-wide (from top of banks) wash, consisted of seasonal runoff from adjacent developed areas. There are trace amounts of vegetation within the wash bottom. The Pacoima Wash is again intersected at San Fernando Road just north of the State Route 118. At this point, the wash is a trapezoidal channel with a concrete bottom, approximately 65 feet wide at the top of banks and bottom approximately 12 feet wide at toe of slopes, and similar to downstream with respect to the relative lack of vegetation (well below one percent). The *Ecosystems/Biological Resources Impacts Report* (see Appendix N) included as an appendix a representational photograph of the Pacoima Wash as observed within the biological resources project study area.

The Pacoima Diversion Canal intersects the biological resources project study area, crossing Van Nuys Boulevard near the northern end of the biological resources project study area, just southwest of Interstate (I) 5. The canal is a trapezoidal channel with a concrete bottom, approximately 120 feet wide at the top of the banks, and similar to the Pacoima Wash with trace amounts of vegetation present.

The East Canyon Creek, a concrete open box culvert with a flat bottom, intersects the biological resources project study area at the approximate north end point of the project study area, crossing from near Sayre Street and underneath San Fernando Road. Minimal surface flows were present during the reconnaissance-level site assessment. At that time, water within the approximately 20-foot-wide from top of banks wash consisted of seasonal runoff from adjacent developed areas. There are trace amounts of vegetation within the wash bottom. Refer to Figure 3-3 in the *Ecosystems/Biological Resources Impacts Report* (see Appendix N) for a representational photograph of the East Canyon Creek as observed within the biological resources project study area.

The East Canyon Creek, Pacoima Wash, and Pacoima Diversion Canal possess hydrologic connectivity to downstream waters that eventually flow to the Los Angeles River. The Los Angeles River has been determined to be a Traditionally Navigable Water (TNW) by USACE. Therefore, all three open channels that intersect the biological resources project study area will most likely be determined to be jurisdictional by the US Army Corp of Engineers, California Department of Fish and Wildlife, and Regional Water Quality Control Board (see jurisdictional resources results in Figure 2-1, Biological Resources Map, of the *Ecosystems/Biological Resources Impacts Report*).

[8] Ruiz, Ron. Public Works Director. City of San Fernando. Email Conversation. March 26, 2013.

4.12.2.10 Sensitive Plant Communities

After the literature review and initial field visit, it was determined that, due to the urbanized conditions, none of the 12 natural communities initially evaluated have potential to occur within the biological resources project study area.

4.12.2.11 Special-Status Species

During the literature review, a total of 50 special-status plants were initially determined to have some potential to occur within the geographical vicinity of the biological resources project study area. However, given the observed conditions during the initial field evaluation, none of the species were judged to have the potential to occur within the biological resources project study area. No plants with special status were detected during any of the current fieldwork; however, the fieldwork was not conducted during the peak blooming period for many of the species listed. Table 3.1, included in the *Ecosystems/Biological Resources Impacts Report* (see Appendix N), lists the special-status plant species reviewed and their likelihood of occurrence in the biological resources project study area. The determinations are based on a combination of factors (e.g., the species' requirements with respect to soils, hydrology, habitats, elevation range, and disturbance tolerance) along with consideration of biological resources project study area conditions and observed resources. Because the natural habitats that may have previously existed in the biological resources project study area have since been converted to residential and industrial development, essentially no habitat for special-status plant species exists.

4.12.2.12 Special-Status Wildlife

Table 3.2, included in the *Ecosystems/Biological Resources Impacts Report* (see Appendix N), lists the special-status wildlife species and their likelihood of occurrence in the biological resources project study area. The determinations are based on a combination of factors (e.g., the species' requirements with respect to soils, hydrology, habitats, elevation range, and disturbance tolerance), along with consideration of biological resources project study area conditions and observed resources. The discussion below summarizes that information.

Of the 33 special-status animal species reviewed for potential occurrence, three special-status bat species, pallid bat (*Antrozous pallidus*), western yellow bat (*Lasiurus xanthinus*), and big free-tailed bat (*Nyctinomops macrotis*), were judged to have at least some reasonable potential for occurrence within the biological resources project study area. The existing bridges over the Pacoima Wash, Pacoima Diversion Canal, and East Canyon Creek; the existing overpasses at I-5, State Route 118, and the Union Pacific Railroad (on Van Nuys Boulevard); and the adjacent vegetation (in particular, palm trees and trees with cavities, crevices, exfoliating bark, and bark fissures) may support roosting habitat for special-status bat species.

The USFWS database has records of Santa Ana sucker (*Catostomus santaanae*) (federally threatened and state sensitive) (3.75 miles to the east), coastal California gnatcatcher (*Polioptila californica californica*) (federally threatened and state sensitive) (2.6 miles to the east), least Bell's vireo (*Vireo bellii pusillus*) (federally and state listed endangered) (1.62 miles to the east), and southwestern willow flycatcher (*Empidonax traillii extimus*) (federally and state listed endangered) (2.3 miles to the east), occurring within the Hansen Dam Recreational Area, which is outside the northeast portion of the biological resources project study area. Also, within the Hansen Dam Recreational Area is USFWS designated critical habitat for the Santa Ana sucker. The USFWS and CNDDB database also have records of least Bell's vireo (0.75 mile to the west) within the Sepulveda Dam Recreation Area, which is outside the southwest portion of the biological resources project study area. Due to the urbanized conditions within the biological resources project study area, habitat supporting these threatened and endangered species is not expected to occur.

The CNDDB lists western pond turtle (*Emys marmorata*) (3.2 miles to the east), Sierra Madre yellow-legged frog (*Rana muscosa*) (4.6 miles to the east), arroyo chub (3.3 miles to the east), and Santa Ana speckled dace (*Rhinichthys osculus* ssp.) (3.3 miles to the east) as being present at the Hansen Dam Recreational Area, but they are not expected to occur in the Los Angeles River, the Pacoima Wash, the Pacoima Diversion Canal, and the East Canyon Creek because they are concrete-lined and do provide suitable habitat.

4.12.3 Environmental Consequences, Impacts, and Mitigation Measures

No riparian habitat or sensitive natural communities occur within the biological resources project study area; therefore, none of the alternatives discussed below would have an impact/effect on riparian habitat or sensitive natural communities under CEQA and NEPA. No further discussion of these biological resources is required.

Additionally, the biological resources project study area does not overlap with any adopted habitat conservation plan, natural community conservation plan, or any other approved local, regional, or state habitat conservation plan. Therefore, implementation of any of the alternatives would not affect any adopted plan and no impact/effect would occur under CEQA or NEPA. No further discussion of impacts on these resources is required.

4.12.3.1 No-Build Alternative

Construction Impacts

The No-Build Alternative represents projected conditions without implementation of the project. Since no construction is proposed under this alternative, it would not result in changes to the environment and; therefore, no impacts under CEQA and no effects under NEPA to biological resources would occur.

Operational Impacts

The No-Build Alternative represents projected conditions without implementation of the project. Because no new transportation infrastructure would be built within the project study area with exception of those projects already planned, programmed, and funded, implementation of the No-Build Alternative would not cause new impacts on the ecosystem and changes to existing conditions. Under CEQA, no operational impacts on biological resources would occur. Because there would be no change in the existing environment, for the purposes of NEPA, this alternative would have no adverse effect on biological resources within the biological resources project study area.

Cumulative Impacts

No impacts would occur under construction or operation; therefore, the No-Build Alternative would not contribute to any cumulative impacts.

Mitigation Measures

Construction Mitigation Measures

No construction mitigation measures would be required.

Operational Mitigation Measures

No operational mitigation measures would be required.

Impacts Remaining After Mitigation

NEPA Finding

The No-Build Alternative would not result in adverse effects under NEPA.

CEQA Determination

The No-Build Alternative would result in no impacts under CEQA.

4.12.3.2 Locally Preferred Alternative (Alternative 4 Modified: At-Grade LRT)

Construction Impacts

Special-status Plant Species

Because the project area is already disturbed due to urban development and infrastructure including sidewalks, buildings, roadways, parking areas, retail businesses, etc., the site currently possesses almost no value to special-status plant species. No special-status plant species, as documented in Appendix N, *Ecosystems/Biological Resources Impacts Report,* are expected to occur within the biological resources project study area. Therefore, construction of this alternative would have no impact and no effect on special-status plants.

Special-status Species

As stated within Appendix N, *Ecosystems/Biological Resources Impacts Report*, there is a potential for pallid bat (*Antrozous pallidus*), western yellow bat (*Lasiurus xanthinus*), and big free-tailed bat (*Nyctinomops macrotis*) to occur in the biological resources project study area. No bats or signs of bats (i.e., urine staining and guano droppings) were visually observed at the time of the site visits; however, it should be noted that specific focused surveys for bats were not conducted.

This alternative would require removal of existing median islands, road widening in other areas, and construction of new LRT stations, TPSS, and an MSF, which would be constructed west of Van Nuys Boulevard and south of the Metrolink railroad right-of-way and Raymer Street. Construction of these improvements would require removal of trees potentially affecting nesting birds and/or tree roosting bats. Additionally, two bridge upgrades are proposed for this alternative: one bridge at Van Nuys Boulevard where it crosses over the Pacoima Diversion Canal, and one adjacent to San Fernando Road as it crosses over the Pacoima Wash. The existing bridges could be used by nesting birds and/or bat species. Construction would also result in increases in noise, movement, and vibration at the bridges over the Pacoima Wash, the Pacoima Diversion Canal, and East Canyon Creek and the existing overpasses at I-5, State Route 118, and the Union Pacific Railroad (on Van Nuys Boulevard). As a consequence, the Locally Preferred Alternative (LPA) could result in potentially significant impacts under CEQA and adverse effects under NEPA to nesting birds or roosting bats if construction activities remove vegetation where nesting birds are present or affect structures or vegetation used by special-status bat species. However, Mitigation Measures BIO-1 and BIO-2, detailed below, would reduce potential impacts to less than significant under CEQA and non-adverse under NEPA.

Jurisdictional Waters

The two bridge upgrades identified above that would be required under the LPA could potentially affect WoUS, waters of the state (WoS), and CDFW jurisdictional streambeds, though it should be noted that the channels that may be affected are concrete lined and contain trace amounts of vegetation. If project-related impacts on WoUS occur, permitting under Section 404 of the Clean Water Act (CWA) may be required, most likely in the form of a Nationwide Permit 14 if project-related impacts on WoUS are less than 0.5 acre. Impacts on WoUS/WoS would also trigger the need for a Section 401 Certification, issued by the RWQCB. Acquisition of these permits would ensure compliance with CWA (Section 401 and 404). A streambed Alteration Agreement, as regulated by Section 1602 of the California Fish and Game Code, would be required for project-related impacts on a CDFW jurisdictional streambed.

If permanent impacts on WoUS/WoS and CDFW unvegetated streambeds are unavoidable, compensatory mitigation may be required under section 401 and 404 of the CWA and Section 1602 of the California Fish and Game Code. This is expected to be required at a minimum 1:1 ratio. Final compensatory mitigation will be determined during the aquatic permitting process. In addition, temporary impacts would be required to be restored to pre-project conditions at the location of these impacts. Impacts on WoUS/WoS and CDFW streambeds would be less than significant under CEQA and would not be adverse under NEPA after compliance with regulatory permit requirements and implementation of mitigation measure MM BIO-3 described below.

Wildlife Corridors

This alternative would not substantially interfere with the movement of resident or migratory fish or wildlife species, or established resident or migratory wildlife corridors, or impede use as a wildlife nursery site. Potential impacts would be less than significant under CEQA and non-adverse under NEPA.

Conflict with Local Policies

This alternative would require the removal of trees. Removal of any protected trees would conflict with City ordinances, which would be a potentially significant impact under CEQA and an adverse effect under NEPA. If protected trees are removed, implementation of Mitigation Measure BIO-4 would be required to ensure compliance with City ordinances. The biological consequence of removing or trimming urban trees would be less than significant under CEQA and would not be an adverse effect under NEPA with implementation of Mitigation Measure BIO-4.

Operational Impacts

The operation of proposed facilities, including the MSF and TPSSs, would generally result in no impacts under CEQA and no effects under NEPA on biological resources. However, installation of the overhead contact system lines for the LRT would potentially have an impact on avian species by increasing line collisions and electrocution risks. In addition, increased noise, motion, and vibration from LRT vehicles could affect bat roosts on the underside of the bridge crossings over the Pacoima Wash, Pacoima Diversion Canal, and East Canyon Creek and the existing overpasses at I-5, State

Route 118, and the Union Pacific Railroad (on Van Nuys Boulevard). However, because the project is planned within an existing urban area, and wildlife species in the area are urban-tolerant, the overhead contact system lines and LRT operations would result in less-than-significant impacts on common bird species and bats under CEQA and non-adverse effects under NEPA.

Cumulative Impacts

This cumulative impacts analysis for biological resources is based on the related projects list method of cumulative impacts analysis, as described by State CEQA Guidelines, Section 15130, subd. (b)(1)(A). Figure 2-18 in Chapter 2 of this FEIS/FEIR shows the locations of these related projects (see Table 2-3 in Chapter 2 of this FEIS/FEIR for more details on these related projects) and generally defines the project study area for the ecosystems/biological resources cumulative impacts discussion. The project study area depicted in Figure 2-21 in Chapter 2 of this FEIS/FEIR is the appropriate project study area as the alignment of the proposed project is located in an urban, developed environment, which lacks sufficient suitable native habitat that would attract species from a larger geographic area.

The biological resources project study area supports only marginally suitable foraging, nesting, and roosting habitat for wildlife species. The biological resources project study area has no potential to support a high diversity of native plants. Most wildlife species that could be expected to use the project site are species that are adapted to urban environments and disturbances caused by human-induced activities. Therefore, the related projects are not expected to result in significant cumulative impacts to biological resources. Since the related projects and implementation of the LPA would have limited adverse effects on the diversity and abundance of native flora and fauna in the region and because any biological resources impacts due to the LPA would be mitigated with implementation of the mitigation measures identified below, implementation of the LPA would not result in a cumulatively considerable contribution to significant cumulative impacts on regional flora and fauna.

Mitigation Measures

Construction Mitigation Measures

MM-BIO-1: Avoid and Minimize Project-Related Impact on Special-Status Bat Species

In the maternity season (April 15 through August 31) prior to the commencement of construction activities, a field survey shall be conducted by a qualified biologist to determine the potential presence of colonial bat roosts (including palm trees) on or within 100 feet of the project boundaries. Should a potential roost be identified that will be affected by proposed construction activities, a visual inspection and/or one night emergence survey shall be used to determine if it is being used as a maternity-roost.

To avoid any impacts on roosting bats resulting from construction activities, the following measures shall be implemented:

Bridges and Overpasses

- Should potential bat roosts be identified that will require removal, humane exclusionary devices shall be used. Installation would occur outside of the maternity season and hibernation period (February 16-April 14 and August 16-October 30, or as determined by a qualified biologist) unless it has been confirmed as absent of bats. If the roost has been determined to have been used by bats, the creation of alternate roost habitat shall be required, with CDFW consultation. The roost shall not be removed until it has been confirmed by a qualified biologist that all bats have been successfully excluded.

- Should an active maternity roost be identified, a determination (in consultation with the California Department of Fish and Wildlife or a qualified bat expert) shall be made whether indirect effects of construction-related activities (i.e., noise and vibration) could substantially disturb roosting bats. This determination shall be based on baseline noise/vibrations levels, anticipated noise-levels associated with construction of the proposed project, and the sensitivity to noise-disturbances of the bat species present. If it is determined that noise could result in the temporary abandonment of a day-roost, construction-related activities shall be scheduled to avoid the maternity season (April 15 through August 31), or as determined by the biologist.

Trees

All trees to be removed as part of the project shall be evaluated for their potential to support bat roosts. The following measures would apply to trees to be removed that are determined to provide potential bat roost habitat by a qualified biologist.

- If trees with colonial bat roost potential require removal during the maternity season (April 15 through August 31), a qualified bat biologist shall conduct a one-night emergence survey during acceptable weather conditions (no rain or high winds, night temperatures above 52°F) or if conditions permit, physically examine the roost for presence or absence of bats (such as with lift equipment) before the start of construction/removal. If the roost is determined to be occupied during this time, the tree shall be avoided until after the maternity season when young are self-sufficiently volant.
- If trees with colonial bat roost potential require removal during the winter months when bats are in torpor, a state in which the bats have significantly lowered their physiological state, such as body temperature and metabolic rate, due to lowered food availability. (October 31 through February 15, but is dependent on specific weather conditions), a qualified bat biologist shall physically examine the roost if conditions permit for presence or absence of bats (such as with lift equipment) before the start of construction. If the roost is determined to be occupied during this time, the tree shall be avoided until after the winter season when bats are once again active.
- Trees with potential colonial bat habitat can be removed outside of the maternity season and winter season (February 16 through April 14 and August 16 through October 30, or as determined by a qualified biologist) using a two-step tree trimming process that occurs over 2 consecutive days. On Day 1, under the supervision of a qualified bat biologist, Step 1 shall include branches and limbs with no cavities removed by hand (e.g., using chainsaws). This will create a disturbance (noise and vibration) and physically alter the tree. Bats roosting in the tree will either abandon the roost immediately (rarely) or, after emergence, will avoid returning to the roost. On Day 2, Step 2 of the tree removal may occur, which would be removal of the remainder of the tree. Trees that are only to be trimmed and not removed would be processed in the same manner; if a branch with a potential roost must be removed, all surrounding branches would be trimmed on Day 1 under supervision of a qualified bat biologist and then the limb with the potential roost would be removed on Day 2.

- Trees with foliage (and without colonial bat roost potential), such as sycamores, that can support lasiurine bats, shall have the two-step tree trimming process occur over one day under the supervision of a qualified bat biologist. Step 1 would be to remove adjacent, smaller, or non-habitat trees to create noise and vibration disturbance that would cause abandonment. Step 2 would be to remove the remainder of tree on that same day. For palm trees that can support western yellow bat (the only special-status lasiurine species with the potential to occur in the project area), shall use the two-step tree process over two days. Western yellow bats may move deeper within the dead fronds during disturbance. The two-day process will allow the bats to vacate the tree before removal.

MM BIO-2: Avoid Impacts on Nesting Birds (including raptors)

To avoid any impacts on migratory birds, resulting from construction activities that may occur during the nesting season, March 1 through August 31, the following measure shall be implemented:

- A qualified biologist shall conduct a preconstruction survey of the proposed construction alignment with a 150-foot buffer for passerines and 500-feet for raptors around the site. This preconstruction survey shall commence no more than 3 days prior to the onset of construction, such as clearing and grubbing and initial ground disturbance.
- If a nest is observed, an appropriate buffer shall be established, as determined by a qualified biologist, based on the sensitivity of the species. For nesting raptors, the minimum buffer shall be 150 feet. The contractor shall be notified of active nests and directed to avoid any activities within the buffer zone until the nests are no longer considered to be active by the biologist.

MM BIO-3: Jurisdictional Waters

Any work resulting in materials that could be discharged into jurisdictional features shall adhere to strict best management practices (BMPs) to prevent potential pollutants from entering any jurisdictional feature. Applicable BMPs to be applied shall be included in the Stormwater Pollution Prevention Plan and/or Water Quality Management Plan and shall include, but not be limited to, the following BMPs as appropriate:

- Containment around the site shall include use of temporary measures such as fiber rolls to surround the construction areas to prevent any spills of slurry discharge or spoils recovered during the separation process.
- Downstream drainage inlets shall be temporarily covered to prevent discharge from entering the storm drain system.
- Construction entrances/exits shall be properly set up so as to reduce or eliminate the tracking of sediment and debris offsite by including grading to prevent runoff from leaving the site, and establishing “rumble racks” or wheel water points at the exit to remove sediment from construction vehicles.
- Onsite rinsing or cleaning of any equipment shall be performed in contained areas and rinse water shall be collected for appropriate disposal.
- Use of a tank on work sites to collect the water for periodic offsite disposal.
- Soil and other building materials (e.g., gravel) stored onsite shall be contained and covered to prevent contact with stormwater and offsite discharge.
- Water quality of runoff shall be periodically monitored before discharge from the site and into the storm drainage system.

MM BIO-4: A Project Tree Report Shall Be Approved by the City of Los Angeles and City of San Fernando

Prior to construction, the contractor shall review the approved alternative alignment to determine whether any trees protected by the City of Los Angeles Tree Ordinance 177404 and City of San Fernando Comprehensive Tree Management Program Ordinance (Ordinance No. 1539) will be removed or trimmed. A tree report must be prepared, by a qualified arborist, for the project and approved by each city. Trees approved for removal (or replacement) shall be done in accordance to the specifications outlined in the city ordinances.

Operational Mitigation Measures

No operational mitigation measures would be required.

Impacts Remaining After Mitigation

NEPA Finding

Biological resources impacts would not be adverse following implementation of proposed mitigation measures.

CEQA Determination

Biological resources impacts would be less than significant following implementation of proposed mitigation measures.

4.12.3.3 Initial Operating Segment

An Initial Operating Segment (IOS) has been included in this FEIS/FEIR to enable Metro to realize potential cost savings, which would not otherwise occur under the LPA, from phasing the project. It should be noted that Metro is proceeding with IOSs on other Metro projects for that reason and to specifically provide the decision-making body of Metro (the Metro Board) with flexibility in determining the most efficient and cost-effective manner to implement those projects. Proceeding with an IOS for the proposed project would also allow further coordination to occur with the Public Utilities Commission (PUC) and Metrolink, which will be necessary to accommodate double tracking of the Antelope Valley Line, and with the City of San Fernando regarding traffic impacts at intersections in the City prior to development of the remaining northern segment of the LPA.

Although the IOS for the proposed project would run along the same alignment and have the same design features and operating characteristics as those described above for the LPA, it would occupy a smaller project footprint than the LPA because it would extend from the Metro Orange Line on the south to the proposed the Van Nuys/San Fernando station on the north. It remains Metro's intent, however, to build the remaining northern 2.5 miles of the LPA within the existing railroad right-of-way, from the Van Nuys/San Fernando station to the Sylmar/San Fernando Metrolink station. Impacts associated with the IOS are discussed below.

Construction Impacts

Due to the urbanized nature of the project area, special-status plant species are not expected to occur within the biological resources project study area. Therefore, construction of the IOS would have no impact and no effect on special-status plants.

As was stated for the LPA, there is a potential for three bat species to occur in the biological resources project study area. However, no bats or signs of bats were visually observed at the time of the site visits for the development of the DEIR/DEIS. Construction would require removal of trees potentially affecting nesting birds and/or tree roosting bats. Existing bridges within the project area could be used by nesting birds and/or bat species. Construction would also result in increases in noise, movement, and vibration and as a result, the IOS could result in potentially significant impacts under CEQA and adverse effects under NEPA to nesting birds or roosting bats if construction activities remove vegetation where nesting birds are present or affect structures or vegetation used by special-status bat species. However, Mitigation Measures BIO-1 and BIO-2 would reduce potential impacts to less than significant under CEQA and non-adverse under NEPA.

Jurisdictional Waters

One bridge upgrade is proposed along Van Nuys Boulevard where it crosses over the Pacoima Diversion Canal, which could affect WoUS, waters of the state (WoS), and CDFW jurisdictional streambeds, though it should be noted that the channel that may be affected is concrete lined and contains trace amounts of vegetation. If permanent impacts on WoUS/WoS and CDFW unvegetated streambeds would result from construction of the IOS, permits and compensatory mitigation may be required under section 401 and 404 of the CWA and Section 1602 of the California Fish and Game Code. In addition, temporary impacts would be required to be restored to pre-project conditions at the location of these impacts. Impacts on WoUS/WoS and CDFW streambeds would be less than significant under CEQA and would not be adverse under NEPA after compliance with regulatory permit requirements and implementation of mitigation measure MM BIO-3.

Wildlife Corridors

The IOS, due to its urbanized location, would not interfere with the movement of resident or migratory fish or wildlife species, or with established resident or migratory wildlife corridors, or impede use as a wildlife nursery site. Potential impacts would be less than significant under CEQA and non-adverse under NEPA.

Conflict with Local Policies

If protected trees are removed as a result of the IOS, implementation of Mitigation Measure BIO-4 would be required to ensure compliance with city ordinances. The biological consequence of removing or trimming urban trees would be less than significant under CEQA and would not be an adverse effect under NEPA with implementation of Mitigation Measure BIO-4.

Operational Impacts

Operation of the IOS, would generally result in no impacts under CEQA and no effects under NEPA on biological resources. However, installation of the overhead contact system lines for the LRT would potentially have an impact on avian species by increasing line collisions and electrocution risks. In addition, increased noise, motion, and vibration from LRT vehicles could affect bat roosts on the underside of the bridge crossings. However, because the project is planned within an existing urban area, and wildlife species in the area are urban-tolerant, the overhead contact system lines and LRT operations would result in less-than-significant impacts on common bird species and bats under CEQA and non-adverse effects under NEPA.

Cumulative Impacts

Due to the urbanized nature of the IOS project area and lack of quality habitat, the related projects are not expected to result in significant cumulative impacts to biological resources.

Mitigation Measures

Construction Mitigation Measures

The mitigation measures for the IOS would be the same as those stated for the LPA. These include MM-BIO-1, MM-BIO-2, MM-BIO-3 and MM-BIO-4 described above.

Operational Mitigation Measures

No operational mitigation measures would be required.

Impacts Remaining After Mitigation

NEPA Finding

Effects would not be adverse under NEPA with the above stated mitigation measures.

CEQA Determination

Impacts would be less than significant under CEQA with the above stated mitigation measures.

4.13 Water Resources/Hydrology and Water Quality

4.13.1 Regulatory Framework and Methodology

4.13.1.1 Regulatory Framework

The applicable federal, state, and local regulations that are relevant to an analysis of the proposed project's hydrology and water quality impacts are listed below. For additional information regarding these regulations, please see the *Water Resources Technical Report* in Appendix Q of this FEIS/FEIR.

Federal

- Clean Water Act (Sections 303, 402)
- Executive Order 11988
- Federal Emergency Management Agency (Flood Disaster Protection Act of 1973, National Flood Insurance Reform Act of 1994)
- Rivers and Harbors Act

State

- Porter-Cologne Water Quality Control Act of 1969
- National Pollutant Discharge Elimination System
- Construction General Permit
- Industrial Permit

Local

- Water Quality Control Plan for the Los Angeles Region
- General Waste Discharge Requirements for Low-threat Discharges to Surface Water
- County of Los Angeles Municipal Stormwater NPDES Permit (MS4 Permit)
- Los Angeles County Stormwater Program
- Master Drainage Plan for Los Angeles County
- Standard Urban Stormwater Mitigation Plan
- Stormwater and Runoff Pollution Control Ordinance of the County of Los Angeles
- Los Angeles County Flood Control Act
- Metro Water Action Plan
- City of San Fernando Stormwater Program
- City of Los Angeles Stormwater Program
- City of Los Angeles Municipal Code

- The Los Angeles Specific Plan for Management of Flood Hazards (Ordinance 172081)
- City of Los Angeles Stormwater Ordinance
- City of Los Angeles Low Impact Development Ordinance

4.13.1.2 Methodology

The impact section addresses the adverse effects of the alternatives based on an analysis of the water and hydrologic resources and stormwater conveyance facilities described in the existing conditions section. The analysis considers:

- Construction and operation activities that could affect surface water runoff and drainage;
- Impacts related to surface runoff from impervious surfaces;
- Floodplains and groundwater resources;
- Required permits; and
- Whether project stormwater drainage and water quality requirements are met during construction and operation.

4.13.1.3 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.

NEPA

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.[1]

Context relates to the various levels of society where effects could result, such as society as a whole, the affected region, the affected interests, and the locality. The intensity of an effect relates to several factors, including the degree to which public health and safety would be affected; the proximity of a project to sensitive resources; and the degree to which effects on the quality of the human environment are likely to be highly controversial or involve unique or unknown risks.

Under NEPA, the context and intensity of the project’s effects are discussed in this Land Use section regardless of any thresholds levels, and mitigation measures would be included where reasonable.

CEQA

CEQA requires state and local government agencies to identify the significant environmental effects of proposed actions; however, CEQA does not describe specific significance thresholds. According to the 2016 State CEQA Guidelines (15064.7. Thresholds of Significance), each public agency is encouraged to develop and publish thresholds of significance that the agency uses in the determination of the significance of environmental effects. A threshold of significance is an

[1] Code of Federal Regulations. *CEQ – Regulations for Implementing NEPA, 40 CFR Part 1508, Terminology and Index*.

identifiable quantitative, qualitative, or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant.

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).

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, which are often used as thresholds or guidance in developing thresholds for determining impact significance.[2] Accordingly, for the purposes of this FEIS/FEIR, a project would normally have a significant impact on existing water resources, hydrology, and water quality, under CEQA, if any of the following would result:

- Violate any water quality standards or waste discharge requirements
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or offsite.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or offsite.
- Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff
- Otherwise substantially degrade water quality.
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
- Place within a 100-year flood hazard area structures that would impede or redirect flood flows
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.
- Expose people or structures to a significant risk of loss, injury, or death involving inundation by seiche, tsunami, or mudflow.[3]

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[2] The Environmental Checklist questions in Appendix G of the State CEQA Guidelines were used as guidance in developing thresholds for determining impact significance. In late 2018, subsequent to completion of the DEIS/DEIR, changes to the State CEQA Guidelines were adopted by the State including revisions to the Environmental Checklist questions in Appendix G. To maintain consistency between the DEIS/DEIR and FEIS/FEIR when evaluating the significance of impacts under CEQA, the significance thresholds identified in this chapter are unchanged from those in the DEIS/DEIR.

[3] Due to the low risk of seiche, tsunami, or mudflow in the project area, these impacts are not addressed in the Environmental Consequences/Environmental Impacts section below.

L.A. CEQA Thresholds Guide

According to the *L.A. CEQA Thresholds Guide,* a project would normally have a significant impact on surface water hydrology if it would:

- Cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources.
- Substantially reduce or increase the amount of surface water in a water body.
- Result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the current or direction of water flow.
- A project would normally have a significant impact on surface water quality if discharges associated with the project would create pollution, contamination or nuisance as defined in Section 13050 of the California Water Code (CWC) or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or Basin Plan (i.e., beneficial uses, 303(d)-listed impairments, and water quality objectives) for the receiving water body.

4.13.2 Affected Environment/Existing Conditions

4.13.2.1 Surface Hydrology

Precipitation in the San Fernando Valley is characterized by intermittent rain during winter months and negligible rain during summer months; 85 percent of the annual precipitation occurs from November to March. Although precipitation normally occurs as rainfall, winter snow is common in the higher elevations of the San Gabriel Mountains. As is typical of many semi-arid regions, the Los Angeles area experiences a wide variation in monthly and seasonal precipitation totals.

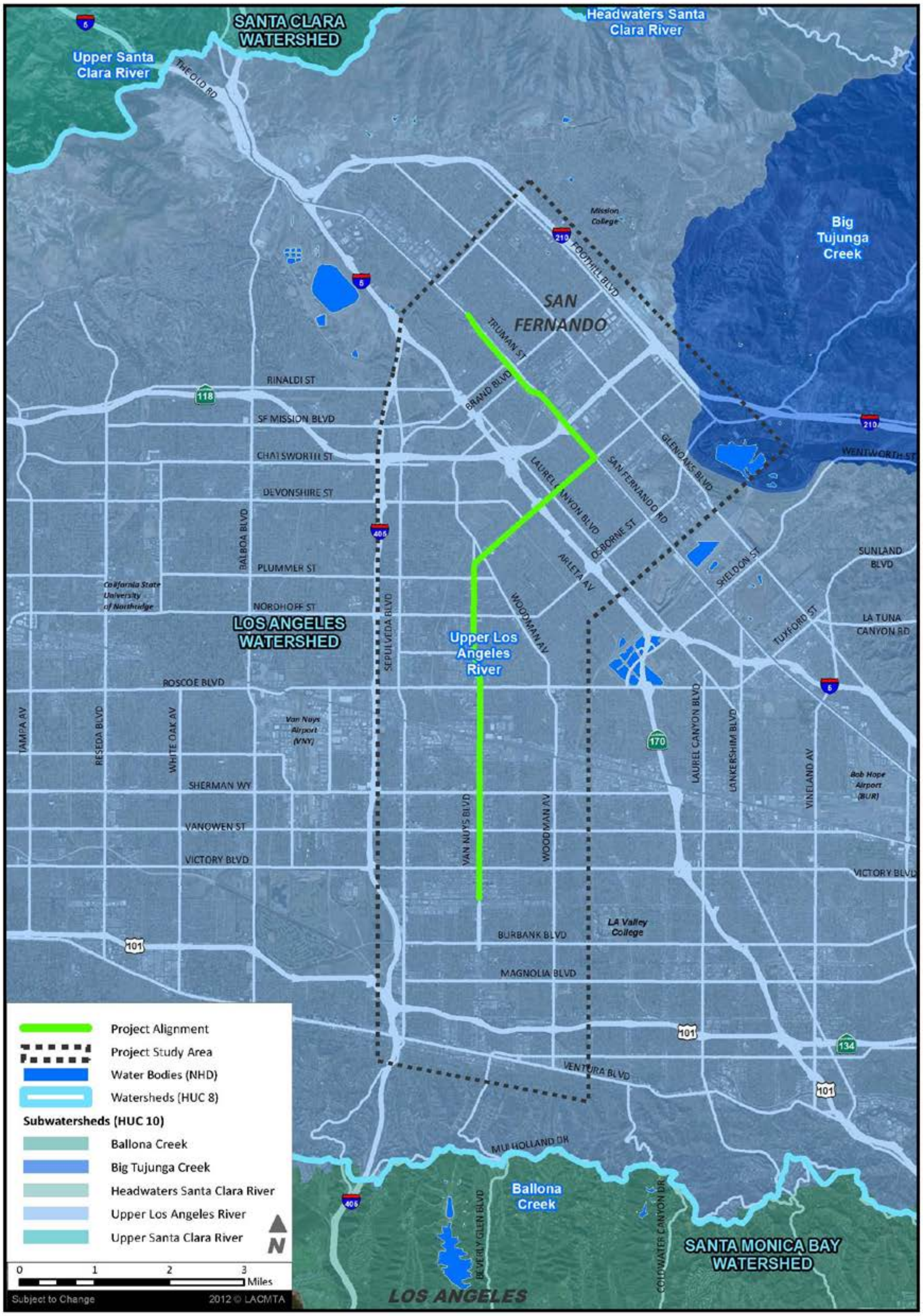
Precipitation may flow into surface reservoirs and groundwater basins or run off to the ocean. Short-term water storage is in surface reservoirs and long-term storage is in groundwater basins. The amount of infiltration to groundwater basins is dependent upon the slope, the soil type, and the intensity and duration of rainfall. Because most of the greater Los Angeles area is either paved or developed, a great deal of runoff occurs. Flood control structures have been constructed to channel runoff through inhabited areas to minimize flooding and to aid in recharging groundwater storage units.

4.13.2.2 Regional Surface Hydrology

The project site is located within the northwestern area of the Los Angeles River Watershed (Upper Los Angeles River Watershed) in the San Fernando Valley. The project is located primarily within the Los Angeles subwatershed within the upper Los Angeles River Watershed. Surface water in the San Fernando Valley drains out of the Valley through the Los Angeles River, which flows in an east-west direction and crosses the project corridor at the south end.

The Los Angeles River Watershed (HUC12-I80701050206) covers a land area of approximately 834 square miles. The Los Angeles River has evolved from an uncontrolled, meandering river providing a valuable source of water for early inhabitants to a major flood protection waterway. A small area in the northern portion of the project area is located within the Big Tujunga Creek subwatershed in the Hansen Flood Control Basin area as well. Watersheds and subwatersheds within the project vicinity are shown in Figure 4.13-1.

Figure 4.13-1: Watersheds and Subwatersheds within the Project Vicinity



Source: ICF, 2015.

Metro

The Los Angeles River flows from the southwest side of the San Fernando Valley through the Los Angeles Coastal Plain to San Pedro Bay. Within the project study area, it is located approximately 0.5 mile north of the Metro Orange Line right-of-way at the west end of the Metro Orange Line corridor, crosses the Metro Orange Line corridor 0.5 mile west of the Balboa Station, and is 1.5 miles south of the Metro Orange Line right-of-way at the east end of the Metro Orange Line corridor. The Los Angeles River, has been channelized, and lined with concrete along most of its course for flood control purposes. Within the Sepulveda Flood Control Basin, the floor of the channel is unlined, allowing percolation of water from the channel into the ground.

Numerous tributaries, most of which have intermittent flow, discharge into the Los Angeles River. These include the Arroyo Calabasas, Bell Creek, Aliso Wash, Browns Canyon Wash, Chatsworth Creek, Pacoima Wash, Tujunga Wash, and Verdugo Wash. These washes and creeks are primarily concrete-lined within the urban areas. Flows in the Los Angeles River system are highly variable. Dry season flows are comprised chiefly of excess irrigation water applied in urban areas, controlled release of reservoirs, and municipal and industrial wastewater including effluent from the Tillman and Los Angeles-Glendale sewage treatment plants. During the wet season, flows in the Los Angeles River are augmented by stormwater runoff that varies with storm duration, intensity, and frequency.

The Los Angeles Department of Public Works is tasked with finding ways to restore or revitalize the channels within the watershed and, thereby, provide significant opportunities for recreation use and aesthetic improvements along the waterways in the Los Angeles metropolitan area while protecting the Los Angeles Basin from major flooding.

4.13.2.3 Local Surface Water Hydrology

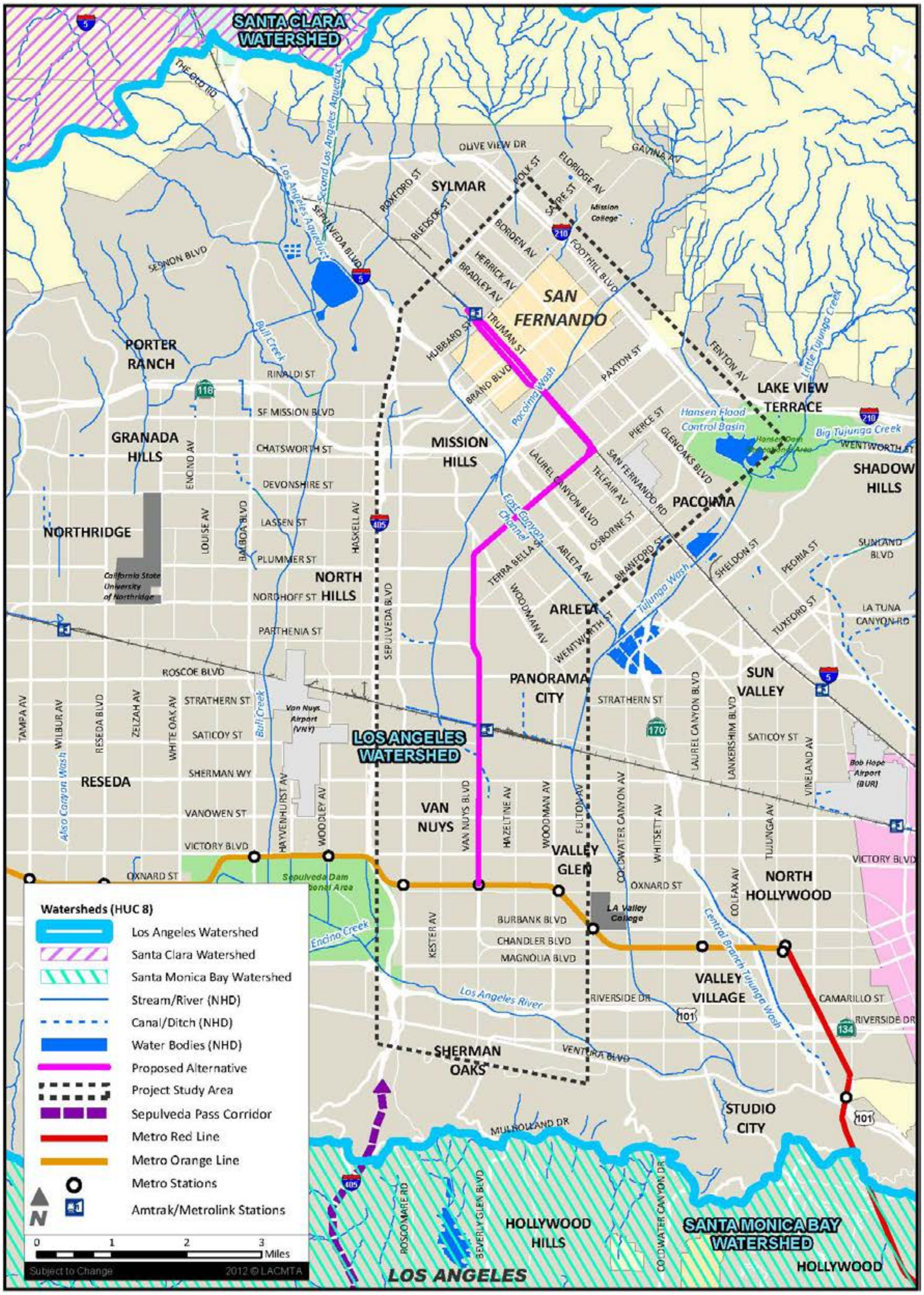
The project area is highly urbanized with few natural areas or drainage features. Hydrological features within the project study area are shown in Figure 4.13-2.

There are four major waterways crossing the project corridor. The crossings are located as follows:

1. Pacoima Wash at San Fernando Road
2. Pacoima Wash at Van Nuys Boulevard
3. Pacoima Channel at Van Nuys Boulevard
4. Pacoima South Channel at Van Nuys Boulevard

Other major surface water resources in the vicinity of the project corridor are Caballero Creek, Bull Creek, and the Tujunga Wash. Caballero Creek drains an area of approximately 10 square miles, most of which lies within the Santa Monica Mountains. The creek flows only intermittently. It crosses the Metro Orange Line corridor as a box culvert approximately 0.4 mile east of the Reseda Station and joins the Los Angeles River 1 mile to the north. Bull Creek drains an area of approximately 150 square miles, including large areas within the San Gabriel and Santa Susana Mountains. Bull Creek is regulated by the Upper Van Norman Dam and Lake, which is located approximately 7 miles north of the Metro Orange Line. It crosses the Metro Orange Line as a concrete lined channel 0.2 miles east of Balboa Station and joins the Los Angeles River 0.6 mile to the south within the Sepulveda Basin. The Tujunga Wash drains an area of approximately 150 square miles, including large areas within the San Gabriel Mountains. The Tujunga Wash is regulated by the Hansen Dam and Flood Control Basin, which is located approximately 5 miles north of the Metro Orange Line. In the vicinity of the Metro Orange Line, it flows through two branches; the main concrete-lined flood control channel crosses the project corridor 0.9 miles west of the Laurel Canyon Station, and the Central Branch of the Tujunga Wash crosses the Metro Orange Line corridor 0.4 miles west of the North Hollywood Station as a box culvert. Both branches flow into the Los Angeles River 2 miles to the southeast of the crossings in Studio City.

Figure 4.13-2: Hydrological Features within the Project Vicinity



Source: ICF, 2015.

Drainage within the project area is primarily dependent on a network of existing storm drains and drainage channels. The Pacoima Wash, which is a tributary of the Los Angeles River, begins in the north and flows southerly and crosses the project corridor at San Fernando Road. Beginning from the north on San Fernando Road, the flow is easterly and discharges into Pacoima Wash, then easterly from Pacoima Wash to Van Nuys Boulevard, then southerly on Van Nuys Boulevard and discharges into the I-5 drainage system, then southerly from I-5 and discharges into the Pacoima Channel, then southerly on Van Nuys Boulevard from the Pacoima Channel and discharges into the South Channel of the Pacoima Wash at the Metrolink railroad tracks, then southerly on Van Nuys Boulevard from the Metrolink railroad tracks and discharges into the Los Angeles River, and then surface flow continues southerly on Van Nuys Boulevard from the Los Angeles River and is conveyed northerly in a closed system in Van Nuys Boulevard back to the Los Angeles River. Additionally, surface flows that are not intercepted at intersections on Van Nuys Boulevard, continue to flow in the easterly direction on the cross streets.

Major storm drain lines run through the Van Nuys Boulevard corridor and San Fernando Road corridor within the project study area. The typical tributary area captured by these main storm drain lines are within two city blocks of the corridor. Storm drain pipe sizes range from 42 to 72 inches. Maintenance and jurisdiction of these facilities varies between the City of Los Angeles and County of Los Angeles.

The Pacoima Wash Control Channel crosses the project corridor along San Fernando Road approximately 0.5 mile west of SR-118. The crossing is a single-span bridge. The channel is a trapezoidal concrete lined channel with a 12-foot bottom width and 1.5:1 side slopes with a depth of 16 feet.

The project alignment crosses the Pacoima Wash Diversion Channel 600 feet west of Arleta Avenue. The channel is a trapezoidal concrete lined channel. The depth of the channel is 20.4 feet. The bottom width is 30 feet with 2.25:1 side slopes.

The project alignment crosses the South Channel of the Pacoima Wash along Van Nuys Boulevard at the under crossing of the Metrolink right-of-way near the Van Nuys Metrolink Station. The South Channel is north of the Metrolink right-of-way and transitions to the south of the Metrolink right-of-way on the east side of Van Nuys Boulevard.

The project alignment crosses the Pacoima Wash Channel along Van Nuys Boulevard at mid-block between Covello Street and Valero Street. At this location, the open channel transitions to a box culvert that proceeds west underneath Van Nuys Boulevard.

Surface Water Quality

The project area is highly urbanized and generally captures contaminants from roads, vehicles, and household wastes. Urbanized impervious surfaces are known for concentrating and redirecting flows that carry such contaminants into local waterways. In more recent years, municipalities have been implementing best management practices (BMPs) to help protect water quality.

In accordance with the federal CWA and state Porter-Cologne Water Quality Control Act, TMDLs have been developed and incorporated into the Basin Plan for some pollutants identified on the 303(d) list as causing contamination in project sites receiving waters. For other pollutants listed on the 303(d) list (e.g., Section 303[d] of the Clean Water Act), TMDLs are scheduled for development, undergoing development, or in the process of review by the SWRCB.

CWA Section 303(d) List of Impaired Waters within the project vicinity are listed in the *Water Resources Technical Report* (see Appendix Q). The Pacoima Wash and Pacoima Diversion Channel are not listed as being impaired for anything on the 303(d) List.

Groundwater Supply and Recharge

The project study area is located within the San Fernando Valley Groundwater Basin (Department of Water Resources Groundwater Basin Number: 4-12), which is part of the South Coast Hydrologic Region. The San Fernando Basin is the largest of the four basins in the Upper Los Angeles River Area (ULARA). The basin consists of 112,000 acres and comprises 91.2 percent of the total valley fill in the ULARA. It is bounded on the east and northeast by the San Rafael Hills, the Verdugo Mountains, and the San Gabriel Mountains; on the north by the San Gabriel Mountains and the eroded south limb of the Little Tujunga Syncline, which separates it from the Sylmar Basin; on the northwest and west by the Santa Susana Mountains and Simi Hills; and on the south by the Santa Monica Mountains.

The City of Los Angeles Department of Water and Power (LADWP) provides customers with water from three sources: local groundwater and water imported through the State Water Project (SWP) and Metropolitan Water District of Southern California, which transports water from the California Aqueduct and Colorado River Aqueduct. In areas where local groundwater is available, the Los Angeles County Waterworks Districts own and operate groundwater production wells that are used to pump the water from the groundwater basin to the surface. All of the groundwater pumped by the City of San Fernando is extracted from the Sylmar Basin. However, groundwater has been found to be contaminated in the San Fernando Groundwater Basin, as described below.

The elevation of groundwater within a basin varies with the amount of water being pumped out of the basin and the amount of recharge returning water to the basin. The basin is adjudicated, and therefore pumping of groundwater is controlled by the ULARA Watermaster in order to prevent groundwater levels from declining. Despite this, groundwater levels in the San Fernando Basin have undergone a general decline during recent years. Probable causes of this decline include increased urbanization and runoff leaving the basin, reduced artificial recharge, and continued groundwater extractions by the three major pumping parties in the basin—the Cities of Los Angeles, Burbank, and Glendale. The ULARA Watermaster continues to monitor this situation, and efforts to reverse this trend are underway. The long-term solution will require the close cooperation of the three major pumping parties (Upper Los Angeles River Area Watermaster 2013).

Groundwater flow in the San Fernando Valley is generally eastward, parallel to the course of the Los Angeles River. The highly non-uniform character of the soils in the San Fernando Valley results in local “perched” aquifers that are not connected to deeper groundwater. A geotechnical survey conducted for the proposed project found that groundwater depths in the vicinity of the project varied from 15 to more than 100 feet below the ground surface during the dry season, with depth to groundwater generally increasing from west to east. Groundwater levels are shallow at the southern end of the project area near the Los Angeles River and become deeper at the northern end of the project area near the foothills, as shown in Figure 3-3 of the *Water Resources Technical Report* (see Appendix Q).

Groundwater Quality

The groundwater quality in the basin is characterized as having a calcium sulfate-bicarbonate water type in the western part of the basin and calcium bicarbonate in the eastern part of the basin. Groundwater impairments based on a number of investigations have determined there is volatile organic compounds (VOCs) contamination in the basin. Such VOCs include trichloroethylene (TCE), and perchloroethylene (PCE). In addition, petroleum compounds, chloroform, nitrate, sulfate, and heavy metals are all other impairments in the basin.

The beneficial uses of the groundwater in the San Fernando Basin are described in the *Water Resources Technical Report* (see Appendix Q).

Groundwater in the ULARA basins has significant contamination issues. A number of the groundwater production wells are located within the bounds of a Superfund area. Elevated concentrations of VOCs, such as TCE and PCE, as well as other contaminants, such as hexavalent chromium have prompted the City of Los Angeles to discontinue pumping at numerous production wells (MWD, 2007). Emerging contaminants, such as 1.4 dioxane, have also been found in concentrations high enough to necessitate the alteration of groundwater pumping operations.

In addition, perchlorate, a constituent of regional concern has been detected in two wells above the notification level of 6 µg/L, one in the Sylmar Basin and one in the eastern end of the San Fernando Basin (MWD 2007). In these areas of contamination, wells have been removed from service or the groundwater is being blended or treated to meet state drinking water standards as discussed below. In the San Fernando Basin, the estimated capacity of all the wells that have been removed from service due to elevated contamination levels is approximately 200 cfs or 396 AF/day (MWD 2007). In addition to the contaminants in the San Fernando groundwater basin, one well was removed from service in the Sylmar basin due to elevated TCE levels.

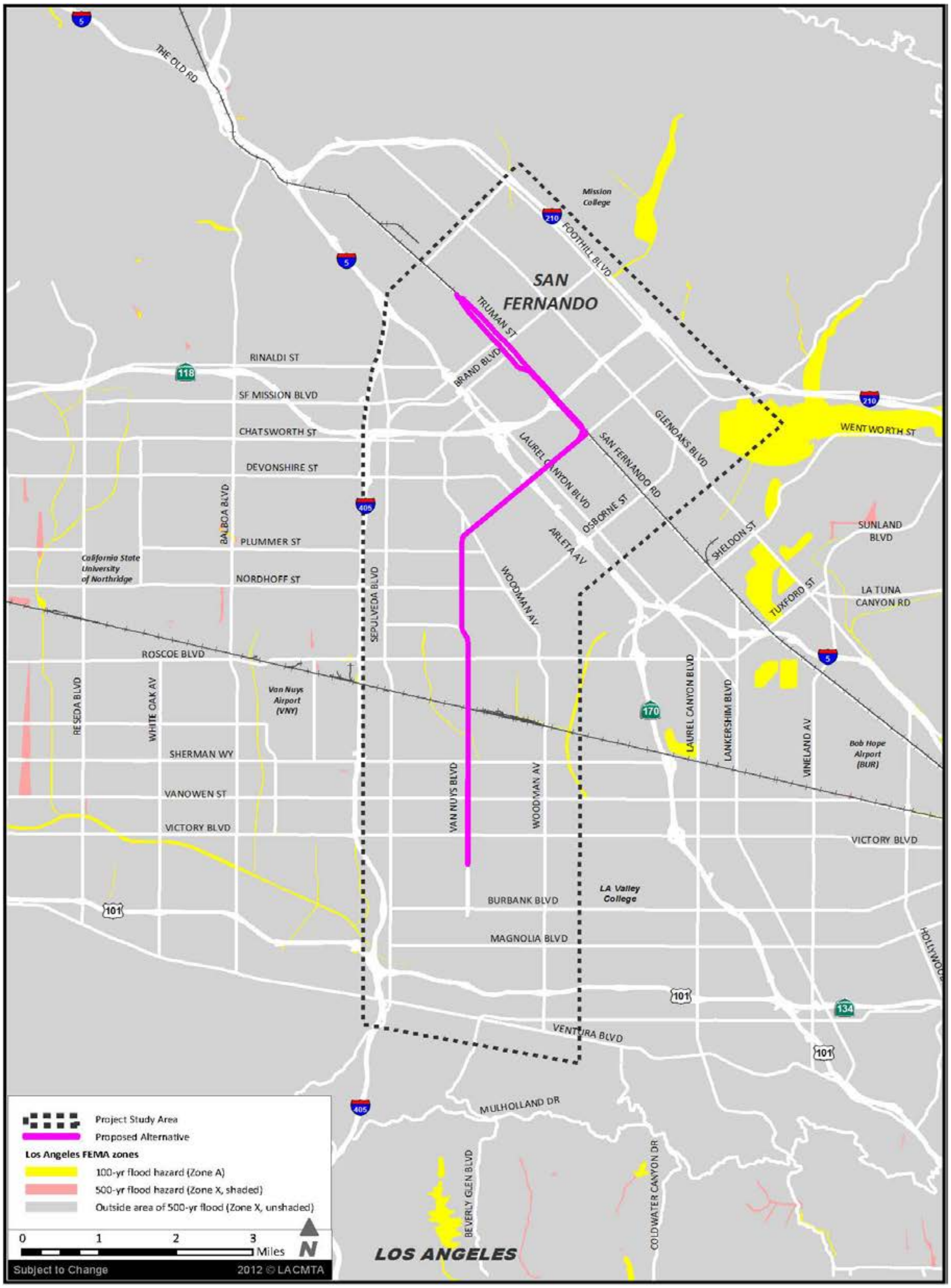
Flooding

A few small areas within the project study area were identified as being within the FEMA 100-year flood zone (Zone A); one of which crosses the proposed project alignment, as shown in Figure 4.13-3. However, the FEMA maps indicate that the 100-year storm event is fully contained within the County flood channels and drainage facilities. The following areas within the project study area are FEMA-designated Flood Zone A:

- A portion of the Pacoima Wash Channel that begins just west of the proposed project alignment and then crosses it just north of Sherman Way.
- A portion of the Pacoima Wash in the north of the project study area near Foothill Boulevard.
- An unnamed drainage ditch near the Metrolink railroad tracks just east of the proposed project alignment.
- A portion of the Tujunga Wash Control Channel east of the proposed project alignment.
- A small portion of the Los Angeles River near the Sepulveda Dam. The part of the Metro Orange Line that is within the Sepulveda Flood Control Basin lies above the maximum design flood elevation everywhere except for a 1,000-foot stretch immediately west of the Woodley Station.
- The Hansen Flood Control Basin in the northeast portion of the project study area.

Los Angeles County historic flooding records show that since 1811, the Los Angeles River has flooded 30 times (on average once every 6.1 years). But averages are deceiving, for the Los Angeles Basin goes through periods of drought and then periods of above average rainfall. Between 1889 and 1891, the river flooded every year, and from 1941 to 1945, the river flooded five times. Conversely, from 1896 to 1914, a period of 18 years, and again from 1944 to 1969, a period of 25 years, the river did not have serious floods.

Figure 4.13-3: FEMA Flood Zones within the Project Vicinity



Source: ICF, 2015.

Dams and Levees

There are reservoirs and associated dams located within the project vicinity. Although the likelihood is low, dams within the project vicinity may be at risk of failure should a major earthquake or other catastrophic event occur. If they fail, it could cause flooding within the project study area. As shown in Figure 4.13-4, the City of Los Angeles Safety Element (1996) summarizes inundation potential from dam failures and water storage facility failures.

There are eight reservoirs located upstream and downstream of the project, as follows:

- Chatsworth Reservoir
- Sepulveda Flood Control Basin[4]
- Upper Van Norman Lake
- Lower Van Norman Reservoir
- Los Angeles Reservoir
- Pacoima Spreading Grounds;
- Hansen Flood Control Basin; and
- Encino Reservoir.

Only portions of the Sepulveda and Hansen Flood Control Basins are located in the project study area.

The Los Angeles River is partially located within the Sepulveda Dam and the Flood Control Basin.

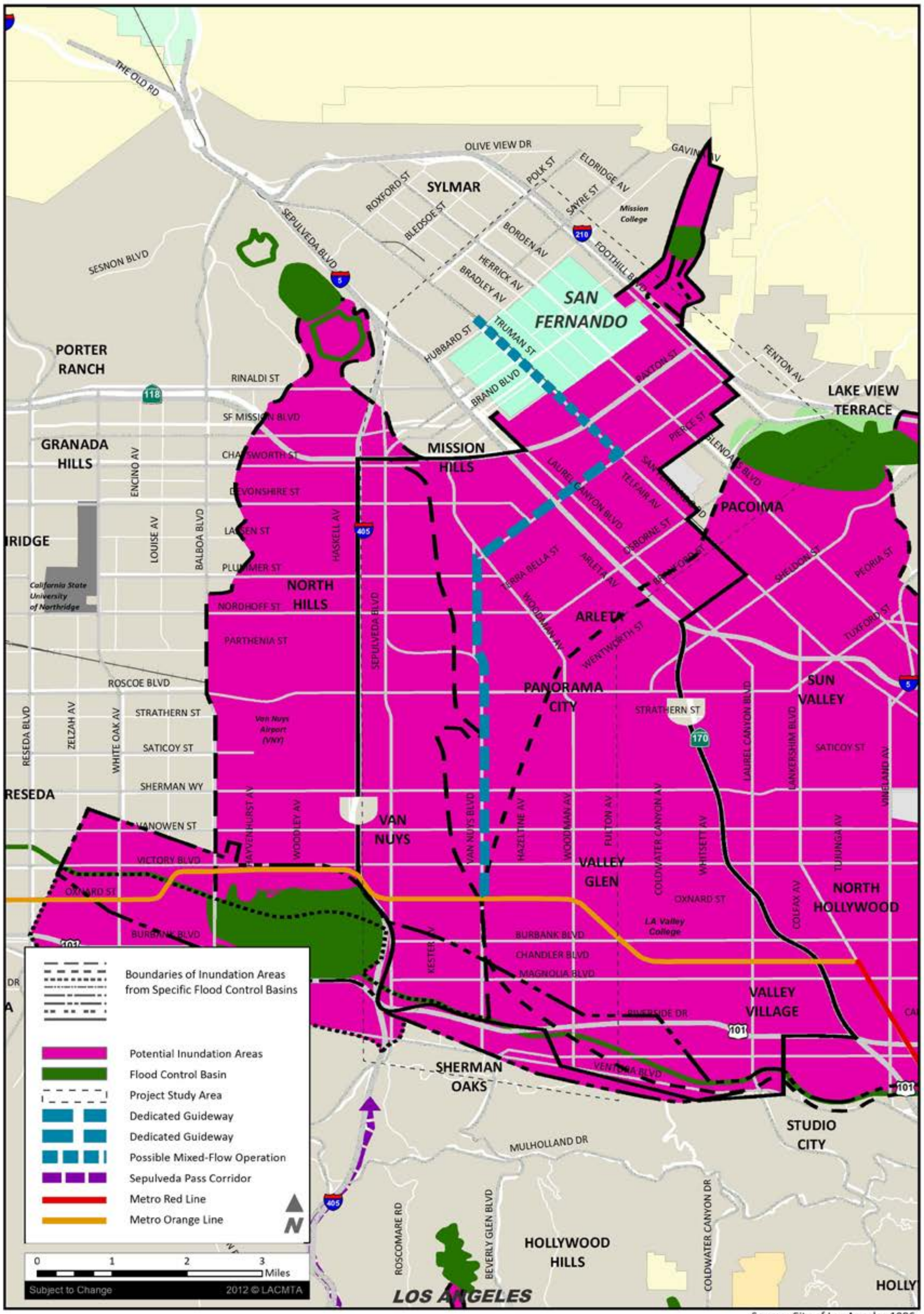
Both are owned and maintained by the USACE, who constructed the facilities in 1941 following the Flood Control Act of 1936. The Sepulveda Dam is an earth filled structure consisting of an earth embankment with a concrete spillway near the center. The dam is 15,444 feet long and has a maximum height of 57 feet above the streambed. The basin has a storage capacity of 17,425 acre feet at the crest of the raised spillway, which is located at an elevation of 710 feet above sea level. During a maximum design flood (greater magnitude the 100-year flood event), the basin can hold 17,563 acre feet of water, cresting at an elevation of 717 feet.

The Hansen Dam and Flood Control Basin was constructed in 1940 and lies within the Tujunga Wash system. The dam is an earth-filled structure with a maximum height above streambed of 97 feet. The dam has a storage capacity of 33,348 acre-feet at spillway crest (elevation 1060 feet) based on the November 2004 topographic survey. The Dam embankment extends in a general east and west direction at right angles to Tujunga Wash. All of the major inflow and impoundment events in project history have resulted from winter storms. Inflow rates drop rapidly between storms, and inflow during the dry summer season is usually less than 10 cfs.

According to a query of the USACE National Levee Database, there are no levees located within the project study area. There are no levees associated with either Tujunga or Pacoima Wash. The Los Angeles River appears to be bordered by levees in certain locations, but the nearest levees are located south of the project study area where it is likely outside of the levee failure inundation area.

[4] This reservoir is located within two miles of the project area.

Figure 4.13-4: Inundation Areas within the Project Vicinity



Source: Diaz•Yourman & Associates, 2015.

Seiches, Tsunamis, and Mudflows

Seiches are large waves generated in enclosed bodies of water, such as lakes, induced by ground shaking. Tsunamis are large waves generated at sea by significant disturbance of the ocean flow, causing the water column above the point of disturbance to displace rapidly. Mudflows result from the down-slope movement of soil and/or rock under the influence of gravity, and are also often caused by earthquakes. The Hansen Flood Control Basin is the only reservoir located completely within the project study area. However, it is fairly small and only fills up during a wet winter season, and therefore, wave action is minimal and seiches would most likely not be large enough to present a flood risk. The project study area is located approximately 9 miles from Santa Monica Bay; and therefore, it is outside of tsunami potential inundation area, and, due to the relatively flat terrain, is not prone to mudflows.

4.13.3 Environmental Consequences, Impacts, and Mitigation Measures

4.13.3.1 No-Build Alternative

Construction Impacts

The No-Build Alternative would result in no project-related improvements and as a consequence it would not result in any construction impacts to water resources and water quality.

Operational Impacts

The No-Build Alternative would result in no project-related improvements and as a consequence it would not result in any operational impacts to water resources and water quality.

Cumulative Impacts

The No-Build Alternative would not result in any significant or adverse environmental impacts or effects under CEQA or NEPA; therefore, it would not contribute to any cumulative environmental impacts.

Mitigation Measures

Compliance Requirements and Design Features

No compliance requirements and design features are required.

Construction Mitigation Measures

No construction mitigation measures are required.

Operational Mitigation Measures

No operational mitigation measures are required.

Impacts Remaining After Mitigation

NEPA Finding

No adverse effect under NEPA would occur.

CEQA Determination

No impact under CEQA would occur.

4.13.3.2 Locally Preferred Alternative (Alternative 4 Modified: At-Grade LRT)

Construction Impacts

Water Quality

Construction of the Locally Preferred Alternative (LPA) would include pavement removal; utilities relocation; excavation; construction of at-grade trackwork and stations, including station platforms and reconstruction of sidewalks; construction of pedestrian access ways; installation of specialty system work, such as overhead contact electrification systems and communications and signaling systems; construction of traction power substations (TPSS); reconstruction of sidewalks paving and striping; and subgrade preparation and placement of rail ballast. Construction of the LPA could result in an increase in surface water pollutants such as sediment, oil and grease, and miscellaneous wastes from construction activities. The LPA also includes the construction of a new maintenance and storage facility (MSF); the General Construction Permit would apply and a Stormwater Pollution Prevention Plan (SWPPP) would be developed. The SWPPP would specify BMPs to ensure that water quality standards or waste discharge requirements are not violated.

SWPPPs and the associated BMPs are routinely developed for construction sites and are proven to be effective in reducing pollutant discharges from construction activities. Implementation of the SWPPP during construction would ensure water quality objectives, standards, and wastewater discharge thresholds would not be violated. The SWPPP would be prepared by the project applicant (i.e., Metro) or its construction contractor and approved by the City of Los Angeles and City of San Fernando prior to commencement of construction activities. As selection of the appropriate BMPs is a standard process of the engineering review and grading plan approval, impacts/effects from construction on water quality would be less than significant under CEQA and non-adverse under NEPA. The LPA would not require in-water work or work that would affect wetlands.

Groundwater Supplies and Recharge

The LPA would require excavation in order to relocate utilities or construct LRT facilities including the MSF. Excavation may result in contact with groundwater depending on the season and location within the corridor. Should dewatering be necessary, a General Dewatering Permit would be obtained from the Los Angeles RWQCB. Residual contaminated groundwater could be encountered during dewater activities. Groundwater extracted during dewatering activities would either be treated prior to discharge or disposed of at a wastewater treatment facility.

Local groundwater is one of several sources of water supplies to the City of Los Angeles. If groundwater is used during construction for dust control, concrete pouring, etc., the amount would be relatively minimal and temporary, and therefore, would not result in substantial depletion of groundwater supplies.

Adherence to dewatering requirements of the Los Angeles RWQCB, and minimal water use during construction would ensure that impacts on groundwater would be less than significant under CEQA and the effects would not be adverse under NEPA.

Stormwater and Drainage

Construction activities, such as grading and excavation, could result in increased erosion that could adversely affect the water quality of stormwater runoff from the construction sites. As noted above, the proposed project would be in compliance with the Construction General Permit, and a SWPPP that contains temporary construction site BMPs would be prepared and implemented. These BMPs would be implemented during construction to prevent, or minimize the potential for erosion sedimentation onsite or offsite, impacts to the water quality of stormwater runoff, and the potential for flooding on- or off-site. Because the proposed project would be required to comply with the conditions of the Construction General Permit, impacts/effects would be less than significant under CEQA and would not be adverse under NEPA.

Temporary drainage facilities would be required to redirect runoff from work areas during utility relocations. The temporary facilities would be sized according to City standards to avoid any exceedance to the capacity of existing or planned stormwater drainage systems. Storm drain relocation may require the need for groundwater dewatering at locations with a high water table. Residual contaminated groundwater may be encountered during dewatering activities. If dewatering is necessary, the project contractor would be required to comply with Los Angeles RWQCB's General Dewatering Permit.

Flooding and Flood Hazards

The 100-year flood zone areas within the project study area are fully contained within County flood channels and drainage facilities. No construction is proposed in these 100-year flood zones; therefore, construction of the LPA would not place structures that would impede or redirect flood flows as mapped on any flood hazard delineation map.

There are no levees located within the project study area, and therefore no flood impacts associated with levee failure would occur that could affect construction activities, workers, or equipment. The LPA, however, would be located in a dam failure inundation zone area, as shown in Figure 4.13-4 above and in Figure 3-5 of the *Water Resources Technical Report* (see Appendix Q). Portions of the Sepulveda and Hansen Flood Control Basins (and the associated dams) are located in the project study area. Therefore, the LPA could be adversely affected if these dams fail. However, project construction activities would not increase the present risk of dam failure, which is considered low, and would not place construction workers, equipment, or temporary structures in an area where there is a significant risk and high probability of flooding.

Temporary drainage facilities could be required to redirect runoff from work areas. The temporary drainage facilities would be sized according to City standards to avoid any exceedance of the capacity of existing or planned stormwater drainage systems. As a consequence, overall drainage patterns would remain the same and construction activities are not expected to have a substantial effect on flood capacities due to temporary changes in drainage patterns or facilities. Therefore, the construction impacts/effects during construction related to flooding and flood hazards would be less than significant under CEQA and non-adverse under NEPA.

Seiche, Tsunami, and Mud Flows

The project study area is outside of tsunami potential inundation areas and, due to the relatively flat terrain, is not prone to mudflows. The potential for a catastrophic seiche event at the Hanson Flood Control Basin reservoir is low. Therefore, construction activities are not expected to substantially affect or be affected by seiche, tsunami, or mudflow hazards. Construction impacts/effects due to the LPA would be less than significant under CEQA and non-adverse under NEPA.

Surface Water Use and Flows

Construction of the LPA would require the use of water; however, the amounts are not expected to be substantial and they would be temporary. As a consequence, construction activities are not expected to substantially reduce the amount of surface water in water bodies. Additionally, construction activities would not substantially change the overall impervious area, nor would construction substantially change stormwater flows that could affect either the volume or movement of water in surface water bodies. Impacts and effects would be less than significant under CEQA and non-adverse under NEPA.

Operational Impacts

Water Quality

Operational impacts on water quality for the LPA would be the same as existing conditions because the project would result in very minor increases in the amount of impervious area.

The LPA would require the construction of a new MSF. Although the MSF would not substantially increase the amount of impervious area, maintenance facilities are subject to the conditions of the Industrial General Permit because any type of vehicle maintenance, such as fueling, cleaning, repairing, etc., has the potential to degrade water quality. The most common pollutant sources from maintenance areas are spills/leaks of fuel and other liquids. Additionally, pollutants in train wash water are likely to include surfactants, suspended solids, oil and grease, asbestos (from brake pads), heavy metals, and lead.

The Industrial General Permit requires the implementation of management measures that will achieve the performance standard of best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT). The Industrial General Permit also requires the development of an SWPPP and a monitoring plan. Through the Industrial SWPPP, sources of pollutants are to be identified and the means to manage the sources to reduce stormwater pollution are described.

As per the County's SUSMP requirements as part of the stormwater program, because the project would create or replace 5,000 square feet or more of impervious surface area on an already developed site, SUSMP and Site-Specific Stormwater Mitigation Plans must be incorporated into project plans. Compliance with these regulations would require the inclusion of post-construction stormwater measures and LID measures designed to minimize runoff flows and water quality degradation.

With compliance with the county's stormwater program, City of San Fernando and City of Los Angeles stormwater requirements, and the Industrial General Permit, impacts/effects on water quality during project operation would be less than significant under CEQA and non-adverse under NEPA.

Groundwater Supplies and Recharge

For the LPA, the existing area that would be occupied by the proposed project facilities is mostly impervious and does not contribute substantially to groundwater recharge. This alternative would result in a negligible change to impervious surface area, and therefore, would not substantially interfere with groundwater recharge. Operational impacts or effects would be less than significant under CEQA and would not be adverse under NEPA.

Stormwater and Drainage

The LPA would not substantially alter the existing drainage pattern and no stream or river would be altered. Currently, stormwater drains to a major storm drain line that runs through the Van Nuys Boulevard corridor and San Fernando Road corridor and crosses the Pacoima Wash Channel and Pacoima Wash Control Channel. Under the LPA, stormwater would continue to drain into the existing storm drain line and according to SUSMP requirements, the drainage design would limit the design water surface elevations and velocities to no greater than the existing conditions or to what can be handled by the existing conditions within the project area. Therefore, drainage would remain the same as existing conditions and no substantial erosion, siltation, or flooding would occur on- or offsite as a result of the LPA. Impacts would be less than significant under CEQA and effects under NEPA would not be adverse.

Adherence to the project's SUSMP, as described above, would ensure that the appropriate treatment BMPs are applied to the project so that there would not be additional sources of polluted runoff. Therefore, project operation impacts/effects on runoff would be less than significant under CEQA and non-adverse under NEPA.

Flooding and Flood Hazards

The 100-year flood zone areas within the project study area are fully contained within County flood channels and drainage facilities. In addition, operation of the LRT would not place structures that would impede or redirect flood flows as mapped on any flood hazard delineation map. Potential locations for 14 TPSS units (including one at the MSF) were determined through an extensive search of aerial imagery in addition to multiple site visits to the project area. These structures would be protected from floodwaters. The stations for the LRT would be at grade. All existing as well as new stations and crosswalks would be located to keep pedestrians as much as possible away from stepping down or up at catch basins and deep gutter flows. The finish floor of the MSF and other occupied structures would be protected from floodwaters. Drainage systems would be prepared according to Metro's design criteria. Therefore, flood impacts/effects would be less than significant under CEQA and non-adverse under NEPA.

As stated above for the LPA, there are no levees located within the project study area; and therefore, no associated flood impacts with levee failure would occur. However, the project alignment is located in a dam failure inundation zone area. Portions of the Sepulveda and Hansen Flood Control Basins (and the associated dams) are located in the project study area. Therefore, the LRT facilities could be adversely affected in the event of dam failure. Although the LPA would be located within an inundation zone area, the project itself would not increase the present risk of dam failure. Additionally, new structures for human occupancy would be limited to new stations and the MSF. The MSF would be constructed on a site currently occupied by existing industrial uses. Although the LPA would result in some new structures that could put property or persons at risk as a result of a dam or water storage facility failure, the risk of dam failure is considered to be low.

There would be no substantial increase in impervious area and overall drainage patterns would remain the same; therefore, flood capacities would not be affected. Furthermore, because the project is in a highly urbanized area, it's not anticipated that the project would indirectly result in substantial increases in population or employment densities within the project study area. Therefore, impacts/effects would be less than significant under CEQA and non-adverse under NEPA.

Seiche, Tsunami, and Mudflow Hazards

The project study area is outside of tsunami potential inundation areas and, due to the relatively flat terrain, is not prone to mudflows. The potential for a catastrophic seiche event at the Hanson Flood Control Basin reservoir is low. Therefore, impacts/effects due to the LPA would be less than significant under CEQA and non-adverse under NEPA.

Surface Water Use and Flows

Operation of the MSF would result in the use of water by MSF employees and for washing and maintaining the LRT vehicles. Sources of water supplied to the City of Los Angeles include the Los Angeles aqueducts, local groundwater, and supplemental water purchased from the Metropolitan Water District of Southern California (MWD). Water is stored in large in-city open reservoirs. It's not expected that the proposed project, by itself, would increase water consumption to the extent required to result in an appreciable reduction in the amount of water in local City of Los Angeles reservoirs. Additionally, as noted above, the LPA would not substantially change the overall impervious area; therefore, stormwater volumes are not anticipated to change. Therefore, the LPA would not appreciably reduce or increase the amount of surface water in surrounding water bodies, nor would it result in a substantial adverse change in the current or direction of water flows. Therefore, impacts or effects would be less than significant under CEQA and non-adverse under NEPA.

Cumulative Impacts

The project study area for this cumulative impacts discussion is the San Fernando Valley in Los Angeles County and generally encompasses the area from Ventura Boulevard in the south, in the City of Los Angeles, to the City of San Fernando and the Sylmar/San Fernando Metrolink station in the north.

The analysis of cumulative water resources impacts is based on the list of related projects included in Chapter 2.

Water Quality

Development of the project and other development within the project study area would potentially degrade stormwater quality by contributing pollutants during construction and operation. Stormwater quality varies according to surrounding land uses, impervious surface area, and topography, as well as with the intensity and frequency of rainfall or irrigation. Runoff can contain grease, oil, and metals accumulated in streets and driveways, as well as sediment and other particulates, animal waste, pesticides, herbicides, fertilizer, and trash.

Cumulative development could affect water quality if the land use changes, the intensity of land use changes, and/or drainage is altered such that the introduction of pollutants to surface water or groundwater is facilitated. Land use changes would potentially alter the type and concentration of pollutants in stormwater runoff, and increased intensity of land use would potentially increase pollutant concentrations. The most common sources of stormwater pollutants in urban areas are from construction sites, streets, parking lots, large landscaped areas, and household and industrial materials dumped into storm drains.

When the effects of the project on water quality are considered in combination with the potential effects of other projects in the area, there would be the potential for cumulative impacts to surface, stormwater and groundwater quality. The incremental water quality impact contribution from implementation of the project would be minor for the reasons as discussed above. The combined effects on water quality from the project and other projects in the project study area could result in a cumulatively significant impact. However, new projects within the project study area are subject to the requirements of the associated Los Angeles MS4 Permit, the Construction General Permit, and City municipal codes as they relate to water quality; these regulatory requirements have been designed to be protective of water quality. Additionally, development projects may be subject to an environmental review process, which would identify potential site- and/or project-specific water quality impacts, and any feasible measures to mitigate potential significant impacts. Adherence to regulatory and permit requirements would minimize the proposed and related project's adverse water quality impacts. Therefore, there would be a less than significant cumulative impact on water quality as a result of project implementation.

Groundwater Recharge and Supplies

The project study area is located in the San Fernando Valley groundwater subbasin, which generally flows eastward, parallel to the course of the Los Angeles River. Because the area is heavily developed, cumulative projects would be in-fill development projects (see Table 2-3 in Chapter 2 for a list of cumulative development projects). Cumulative development would not be expected to substantially increase the amount of impervious surfaces, so groundwater recharge potential from percolating rainfall would not be adversely affected, and indirect lowering of the local groundwater table is not likely to occur. As a result, groundwater recharge would not be adversely affected. The project's contribution to cumulative groundwater recharge impacts would not be cumulatively considerable, and there would be a less than significant cumulative impact.

Stormwater and Drainage

Cumulative development in the project study area could increase the volume and rate of stormwater runoff. Such increases could cause localized flooding if the storm drainage capacity is exceeded or if flows exceed channel capacities and are conveyed to overbank areas where flood storage may not be available. For the most part, the cumulative projects in the project study area would occur in developed areas with impervious surfaces, and these projects would not be expected to substantially increase the amount of impervious surfaces. All cumulative projects within the project study area would be required to include design features to reduce flows to pre-project conditions. If improvements to storm drainage capacity are needed, the project applicants would be required to coordinate with local city agencies to ensure the appropriate conditions of approval for storm drainage improvements are identified. Therefore, the proposed project would not likely contribute to the cumulative exceedance of the project study area's storm drainage capacity, and there would be a less than significant cumulative impact.

Flooding and Flood Hazards

Cumulative development in the project study area could increase the exposure of people and structures to flood risks if County flood channels or dams in the project area failed. However, the potential for failure of these channels or dams is considered low. Therefore, the proposed project would not contribute to a cumulative exposure of people and structures to risks of flooding, and there would be a less than significant cumulative impact.

Compliance Requirements and Design Features

Water Quality – Construction

Because construction activities would disturb more than 1 acre, preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) would be required, in accordance with the statewide National Pollutant Discharge Elimination System General Permit for Stormwater Discharges Associated with Construction Activity (Order No. 2009-0009-DWQ, NPDES No. CAR000002) (Construction General Permit). The SWPPP would list BMPs that would be implemented to protect stormwater runoff and include monitoring of the BMP's effectiveness. At a minimum, BMPs would include practices to minimize contact of construction materials, equipment, and maintenance supplies (e.g., fuels, lubricants, paints, solvents, adhesives, concrete) with stormwater. The SWPPP would specify properly designed, centralized storage areas to keep these materials covered or out of the rain. If land disturbance activities must be conducted during the rainy season, the primary BMPs selected would focus on erosion control (i.e., keeping sediment on the site). Construction activities would temporarily cease during rain events.

The SWPPP would specify BMPs to ensure that water quality standards or waste discharge requirements are not violated. BMPs selected would be designed to comply with the requirements of the Los Angeles Regional Water Quality Control Board[5] (RWQCB) and may be subject to review and approval by the Cities of Los Angeles and San Fernando. BMPs during construction may include, but not be limited to, the following:

- Silt fences;
- Fiber rolls;
- Street sweeping and vacuuming;
- Stockpile management;
- Vehicle and equipment maintenance;
- Erosion control mats and spray-on applications;
- Desilting basins;
- Gravel bag berms;
- Sandbag barriers;
- Spill prevention and control;
- Concrete waste management; and
- Water conservation practices.

Such measures are routinely developed for construction sites and are proven to be effective in reducing pollutant discharges from construction activities. Implementation of the SWPPP during construction would ensure that water quality objectives, standards, and wastewater discharge thresholds would not be violated. The SWPPP would be prepared by the project applicant (i.e., Metro) or the construction contractor and approved by the Cities of Los Angeles and San Fernando prior to commencement of construction activities (i.e., approval of grading plans).

[5] The Los Angeles Regional Water Quality Control Board covers a regional geographic area that encompasses most of Los Angeles County and all of Ventura County.

Other impacts on water quality that can occur during construction projects include discharges of dredged or fill material into waters of the United States. These impacts could affect beneficial uses of wetlands, including estuarine and wildlife habitat. The LPA would not require in-water work or work that would affect wetlands.

With compliance with the Construction General Permit, grading permits, and other relevant regulations, impacts/effects from construction on water quality would be less than significant under CEQA and would not be adverse under NEPA.

Stormwater and Drainage – Construction

Temporary drainage facilities could be required to redirect runoff from work areas during utility relocations. These facilities would be sized according to City standards to avoid any exceedance of the capacity of existing or planned stormwater drainage systems. Storm drain relocation may require the need for groundwater dewatering at locations with a high water table. Residual contaminated groundwater may be encountered during dewatering activities. As described above, if dewatering is necessary, the project contractor would be required to comply with Los Angeles RWQCB's General Dewatering Permit. Groundwater extracted during dewatering activity would either be treated prior to discharge or disposed of at a wastewater treatment facility. In compliance with the Construction General Permit and SWPPP, BMPs would be implemented during construction to prevent or minimize the potential for erosion or sedimentation on- or off-site and discharges of polluted runoff into storm drains. Because the proposed project would be in compliance with the conditions of the Construction General Permit and other relevant regulations, impacts/effects related to erosion and siltation and impacts on stormwater runoff would be less than significant under CEQA and non-adverse under NEPA.

Because the temporary drainage facilities would redirect runoff from work areas and be sized according to City standards to avoid any exceedance of the capacity of existing or planned stormwater drainage systems, overall drainage patterns would remain the same. Therefore, construction activities are not expected to have a substantial effect on flood capacities due to temporary changes in drainage patterns or facilities. The impacts/effects during construction related to flooding and flood hazards would be less than significant under CEQA and would not be adverse under NEPA.

Mitigation Measures

Construction Mitigation Measures

No construction mitigation measures would be required.

Operational Mitigation Measures

No operational mitigation measures would be required.

Impacts Remaining After Mitigation

NEPA Finding

The LPA would not result in adverse effects to hydrology and water resources during construction and operation.

CEQA Determination

The LPA would result in less-than-significant impacts to hydrology and water resources during construction and operation.

4.13.3.3 Initial Operating Segment

An Initial Operating Segment (IOS) has been included in this FEIS/FEIR to enable Metro to realize potential cost savings, which would not otherwise occur under the LPA, from phasing the project. It should be noted that Metro is proceeding with IOSs on other Metro projects for that reason and to specifically provide the decision-making body of Metro (the Metro Board) with flexibility in determining the most efficient and cost-effective manner to implement those projects. Proceeding with an IOS for the proposed project would also allow further coordination to occur with the Public Utilities Commission (PUC) and Metrolink, which will be necessary to accommodate double tracking of the Antelope Valley Line, and with the City of San Fernando regarding traffic impacts at intersections in the City prior to development of the remaining northern segment of the LPA.

Although the IOS for the proposed project would run along the same alignment and have the same design features and operating characteristics as those described above for the LPA, it would occupy a smaller project footprint than the LPA because it would extend from the Metro Orange Line on the south to the proposed the Van Nuys/San Fernando station on the north. It remains Metro's intent, however, to build the remaining northern 2.5 miles of the LPA within the existing railroad right-of-way, from the Van Nuys/San Fernando station to the Sylmar/San Fernando Metrolink station. Impacts associated with the IOS are discussed below.

Construction Impacts

Water Quality

Construction of the IOS would result in similar or slightly less impacts (because of shorter length and smaller project footprint) than those described for the LPA above. As discussed in the LPA section above, construction of the IOS could result in an increase in surface water pollutants such as sediment, oil and grease, and miscellaneous wastes from construction activities. The General Construction Permit would apply to this project and an SWPPP would be developed, specific to the IOS. The SWPPP would specify BMPs to ensure that water quality standards or waste discharge requirements are not violated. With the development of an SWPPP, as well as the selection of appropriate BMPs, impacts/effects from construction on water quality would be less than significant under CEQA and non-adverse under NEPA.

The LPA would not require in-water work or work that would affect wetlands.

Groundwater Supplies and Recharge

Like the LPA discussed above, the IOS would require excavation, which may result in contact with groundwater. Should dewatering be necessary, a General Dewatering Permit would be obtained from the Los Angeles RWQCB. Additionally, if residual contaminated groundwater is encountered during dewater activities, it would either be treated prior to discharge or disposed of at a wastewater treatment facility.

During construction of the IOS, the use of groundwater may be required for activities such as dust control. If groundwater is used, the amount would be relatively minimal and temporary, and therefore, would not result in substantial depletion of groundwater supplies.

Adherence to dewatering requirements of the Los Angeles RWQCB, and minimal water use during construction, would ensure that impacts on groundwater would be less than significant under CEQA and the effects would not be adverse under NEPA.

Stormwater and Drainage

IOS construction could result in increased erosion that could adversely affect the water quality of stormwater runoff from the construction sites. As noted above, the proposed project would be in compliance with the Construction General Permit, and an SWPPP that contains temporary construction site BMPs would be prepared and implemented. Because the proposed project would be required to comply with the conditions of the Construction General Permit, impacts/effects would be less than significant under CEQA and would not be adverse under NEPA.

Temporary drainage facilities would be required to redirect runoff from work areas during utility relocation and would be sized according to City standards to avoid any exceedance to the capacity of existing or planned stormwater drainage systems. If dewatering is necessary to move drains within a high water table, the project contractor would be required to comply with Los Angeles RWQCB's General Dewatering Permit.

Flooding and Flood Hazards

The 100-year flood zone areas within the project study area are fully contained within County flood channels and drainage facilities. No construction is proposed in these 100-year flood zones; therefore, construction of the IOS would not place structures that would impede or redirect flood flows as mapped on any flood hazard delineation map. Additionally, like the LPA discussed above, there are no levees located within the project study area, and therefore no flood impacts associated with levee failure would occur that could affect construction activities, workers, or equipment.

The IOS, would be located in a dam failure inundation zone area, as was stated for the LPA, and could be adversely affected by dam failure. However, project construction activities would not increase the present risk of dam failure and would not place construction in an area where there is a significant risk and high probability of flooding.

As discussed above, overall drainage patterns would remain the same and construction activities associated with the IOS are not expected to have a substantial effect on flood capacities. Therefore, the construction impacts/effects during construction related to flooding and flood hazards would be less than significant under CEQA and non-adverse under NEPA.

Seiche, Tsunami, and Mud Flows

The project study area is outside of tsunami potential inundation areas and, due to the relatively flat terrain, is not prone to mudflows. Construction impacts/effects due to the IOS would be less than significant under CEQA and non-adverse under NEPA.

Surface Water Use and Flows

As stated above for the LPA, water would be used during construction of the IOS; however, the amounts are not expected to be substantial and they would be temporary. As a consequence, construction activities are not expected to substantially reduce the amount of surface water in water bodies. Additionally, construction activities associated with the IOS would not substantially change the overall impervious area, nor would construction substantially change stormwater flows that could affect either the volume or movement of water in surface water bodies. Impacts and effects would be less than significant under CEQA and non-adverse under NEPA.

Operational Impacts

Water Quality

Operational impacts on water quality for the IOS would be the same as existing conditions because the project would result in very minor increases in the amount of impervious area. Operational impacts to water quality would be the same as or very similar to those discussed for the LPA above.

The construction of the MSF would require an Industrial General Permit because any type of vehicle maintenance that would take place has the potential to degrade water quality. The Industrial General Permit requires the implementation of management measures that will achieve the performance standard of best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT). The Industrial General Permit also requires the development of an SWPPP and a monitoring plan. Through the Industrial SWPPP, sources of pollutants are to be identified and the means to manage the sources to reduce stormwater pollution are described.

With compliance with the county's stormwater program, City of San Fernando and City of Los Angeles stormwater requirements, and the Industrial General Permit, impacts/effects on water quality during project operation would be less than significant under CEQA and non-adverse under NEPA.

Groundwater Supplies and Recharge

As stated above for the LPA, the IOS would result in a negligible change to impervious surface area, and therefore, would not substantially interfere with groundwater recharge. Operational impacts or effects would be less than significant under CEQA and would not be adverse under NEPA.

Stormwater and Drainage

The IOS would not substantially alter the existing drainage patterns and stormwater would continue to drain into the existing storm drain line and according to SUSMP requirements, as stated above for the LPA. Additionally, the project SUSMP would require appropriate BMPs for polluted runoff. Therefore, drainage would remain the same as existing conditions and no substantial polluted runoff, erosion, siltation, or flooding would occur. Impacts would be less than significant under CEQA and effects under NEPA would not be adverse.

Flooding and Flood Hazards

As stated above, the 100-year flood zone areas within the project study area are fully contained within County flood channels and drainage facilities. In addition, operation of the IOS would not place structures that would impede or redirect flood flows as mapped on any flood hazard delineation map.

Impacts to flooding and flood hazards would be the same as those stated for the LPA. Therefore, flood impacts/effects as a result of the IOS would be less than significant under CEQA and non-adverse under NEPA.

As stated above for the LPA, there are no levees located within the project study area; and therefore, no associated flood impacts with levee failure would occur. The IOS is located in a dam failure inundation zone area, as is the LPA. Therefore, IOS facilities could be adversely affected in the event of dam failure, however risk of dam failure is considered to be low.

There would be no substantial increase in impervious area and overall drainage patterns would remain the same under the IOS. Therefore, flood capacities would not be affected and impacts/effects would be less than significant under CEQA and non-adverse under NEPA.

Seiche, Tsunami, and Mudflow Hazards

Due to the IOS project area being outside of tsunami potential inundation areas and, due to the relatively flat terrain, which is not prone to mudflow; impacts/effects due to the IOS would be less than significant under CEQA and non-adverse under NEPA.

Surface Water Use and Flows

Operation of the MSF would result in the use of water by MSF employees and for vehicle cleaning. As was stated for the LPA, it's not expected that the IOS would increase water consumption to the extent required to result in an appreciable reduction in the amount of water in local reservoirs. The IOS would not substantially change the overall impervious area; therefore, stormwater volumes are not anticipated to change. As such, the IOS would not appreciably reduce or increase the amount of surface water in surrounding water bodies, nor would it result in a substantial adverse change in the current water flows. Therefore, impacts or effects would be less than significant under CEQA and non-adverse under NEPA.

Cumulative Impacts

Water Quality

The incremental water quality impact contribution from implementation of the IOS would be minor for the reasons as discussed above. The combined effects on water quality from the project and other projects in the project study area could result in a cumulatively significant impact. However, new projects within the project study area are subject to the requirements of the associated Los Angeles MS4 Permit, the Construction General Permit, and City municipal codes as they relate to water quality. Adherence to regulatory and permit requirements would minimize the proposed and related project's adverse water quality impacts. Therefore, there would be a less than significant cumulative impact on water quality as a result of project implementation.

Groundwater Recharge and Supplies

Cumulative development would not be expected to substantially increase the amount of impervious surfaces, due to the location within an urbanized area, groundwater recharge potential from percolating rainfall would not be adversely affected, and indirect lowering of the local groundwater table is not likely to occur. As a result, groundwater recharge would not be adversely affected. The project's contribution to cumulative groundwater recharge impacts would not be cumulatively considerable, and there would be a less than significant cumulative impact.

Stormwater and Drainage

As was stated for the LPA above, cumulative development in the project study area could increase the volume and rate of stormwater runoff, which could result in localized flooding. However, cumulative projects within the IOS project study area would be required to include design features to reduce flows to pre-project conditions. The project applicants would be required to coordinate with local city agencies to ensure the appropriate conditions of approval for storm drainage improvements are identified. Therefore, the proposed project would not likely contribute to the cumulative exceedance of the project study area's storm drainage capacity, and there would be a less than significant cumulative impact.

Flooding and Flood Hazards

Cumulative development in the project study area could increase the exposure of people and structures to flood risks if County flood channels or dams in the project area failed. However, the potential for failure of these channels or dams is considered low. Therefore, the proposed project would not contribute to a cumulative exposure of people and structures to risks of flooding, and there would be a less than significant cumulative impact.

Compliance Requirements and Design Features

Water Quality – Construction

Construction activities for the IOS would have the same compliance requirements as stated for the LPA. Construction activities would disturb more than 1 acre, requiring the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP would list BMPs that would be implemented to protect stormwater runoff and include monitoring of the BMP's effectiveness.

With compliance with the Construction General Permit, grading permits, and other relevant regulations, impacts/effects from construction on water quality would be less than significant under CEQA and would not be adverse under NEPA.

Stormwater and Drainage – Construction

Impacts to stormwater and drainage during construction of the IOS would be the same as those stated above for the LPA. Since the proposed project would be in compliance with the conditions of the Construction General Permit and other relevant regulations, impacts/effects related to erosion and siltation and impacts on stormwater runoff would be less than significant under CEQA and non-adverse under NEPA.

As stated above, overall drainage patterns would remain the same during construction of the IOS. Therefore, construction activities are not expected to have a substantial effect on flood capacities due to temporary changes in drainage patterns or facilities. The impacts/effects during construction related to flooding and flood hazards would be less than significant under CEQA and would not be adverse under NEPA.

Mitigation Measures

Construction Mitigation Measures

No construction mitigation measures would be required.

Operational Mitigation Measures

No operational mitigation measures would be required.

Impacts Remaining After Mitigation

NEPA Finding

The IOS would not result in adverse effects to hydrology and water resources during construction and operation.

CEQA Determination

The IOS would result in less-than-significant impacts to hydrology and water resources during construction and operation.

4.14 Safety and Security

4.14.1 Regulatory Framework and Methodology

The applicable federal, state, and local regulations that are relevant to an analysis of the proposed project's safety and security impacts are listed below. For additional information regarding these regulations, please see the Safety and Security Impact Report (KOA Corporation 2015) in Appendix W of this FEIS/FEIR.[1]

4.14.1.1 Regulatory Framework

Federal

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

- Public Transportation Safety Act of 2010;
- Moving Ahead for Progress in the 21st Century;
- FTA's State Safety Oversight Rule;
- US Department of Homeland Security Act of 2002;
- Uniform Fire Code; and
- Standards for Accessible Design.

State

State safety and security regulations and agencies that would be applicable to the proposed project are listed below.

- California Public Utilities Commission; and
- California Building Code.

Local

Local safety and security regulations and agencies that would be applicable to the proposed project are listed below.

Metro Transit Safety and Security Measures

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

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[1] ICF. 2015. Safety and Security Impact Report, East San Fernando Valley Transit Corridor Project.

- Cameras have been installed at Metro facilities. Metro security personnel will monitor the cameras in real-time. The video feeds can also be shared with local police;
- Metro General Safety and Education Programs;
- Metro System Safety Program Plan;
- Metro Emergency Response Procedures;
- Metro System Security Plan;
- Metro Rail Design Fire/Life Safety Design Criteria; and
- City of Los Angeles General Plan Safety Element.

Metro Complete Streets Policy

While this project does not meet all of the goals of the Metro Complete Streets Policy, the following goal is in alignment with one of the main purposes of this project:

- Maximize the benefits of transit service and improve access to public transit by making it convenient, safe, and attractive for users.

The City of Los Angeles Bureau of Fire Prevention and Public Safety

- City of Los Angeles Emergency Preparedness Department;
- City of San Fernando Safety Element; and
- City of San Fernando Emergency Operations Plan.

4.14.1.2 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, FTA/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 the proposed project's impacts on pedestrian, bicyclist, and motorist safety along the proposed 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 existing police and fire protection services would be adequate with respect to proposed project facilities and comply with federal, state, and local safety regulations pertaining to system operations and passenger/pedestrian safety. The assessment of security addresses crime prevention and the potential for crime against persons, property theft, and vandalism. The analysis also reviews the proposed 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.

4.14.1.3 Significance Thresholds

NEPA

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.[2] The 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, CEQA thresholds listed below also apply to NEPA for the proposed project and its alternatives.

CEQA

CEQA does not describe specific significance thresholds. According to the 2016 State CEQA Guidelines (15064.7. Thresholds of Significance), each public agency is encouraged to develop and publish thresholds of significance that the agency uses in the determination of the significance of environmental effects. A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant.[3] The State CEQA Guidelines generally define a significant effect on the environmental 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).[4]

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.[5] 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; and
- 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.

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

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[2] Council on Environmental Quality. n.d. *Regulations for Implementing NEPA, 40 CFR Part 1508, Terminology and Index*. Available: < https://ceq.doe.gov/ceq_regulations/regulations.html >. Accessed: July 8, 2016.

[3] 2016 California Environmental Quality Act (CEQA) Statute and Guidelines.

[4] 2014 State CEQA Guidelines, Association of Environmental Professionals.

[5] At the end of 2018, the State adopted changes to State CEQA Guidelines including a number of the questions in the Environmental Checklist (Appendix G) that were used as the basis for CEQA significance thresholds in the DEIS/DEIR. To ensure consistency between the analyses in the DEIS/DEIR and this FEIS/FEIR, CEQA significance thresholds remain unchanged from those in the DEIS/DEIR.

4.14.2 Affected Environment/Existing Conditions

4.14.2.1 Pedestrian, Bicyclist, and Vehicle Safety

The proposed project is composed of two primary corridors in the eastern San Fernando Valley (i.e., the Van Nuys Boulevard corridor and the San Fernando Road/Truman Street corridor). The pedestrian circulation system, which consists of sidewalks, crosswalks, street lighting, and street furniture, is generally well developed and complete, serving both adjacent residential and commercial land uses in the two corridors as shown in Figure 4.14-1.

Figure 4.14-1: Existing Pedestrian Infrastructure

Source: Metro, 2015.

Crosswalks at signalized intersections have pedestrian indicators and push-button activation for pedestrian phases in the Cities of Los Angeles and San Fernando. Most intersections in the project study area allow pedestrian crossings along all four sides.

Sidewalk widths along Van Nuys Boulevard range from a minimum of 5 feet to a maximum of 20 feet, with most sidewalks ranging from 10 to 13 feet in width.[6] Along San Fernando Road and Truman Street, the sidewalks range from a minimum of 7 feet to a maximum of 13 feet, with most sidewalks falling in the 8 to 12 foot range. There are sections of sidewalk where pedestrian accessibility is compromised by crossing driveways and obstructions protrude into the path of pedestrians. Some of these sections are shown in the photos comprising Figure 4.14-2.

[6] Van Nuys Boulevard is classified as a Class II Major Highway by the City of Los Angeles. The City's standard for sidewalk widths along Class II Major Highways is 12 feet.

Figure 4.14-2: Examples of Existing Obstructions to Pedestrian Accessibility

Source: Metro, 2015.

Streets are generally well lit throughout the project study 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.

There are striped Class II bike lanes on Van Nuys Boulevard north of Parthenia Street to Beachy Avenue. There is an existing Class I bike path adjacent to San Fernando Road.

According to California Highway Patrol data collected and geocoded by the Safe Transportation Research and Education Center at the University of California, Berkeley, 262 vehicle incidents occurred during the 2018 calendar year on or adjacent to the proposed alignment.[7] As shown in Table 4.14-1, of the 262 vehicle incidents in the vicinity, the most prevalent vehicle collision type involved a vehicle and another vehicle or other object, resulting in 325 injuries. Thirty-six vehicle incidents involving pedestrians were reported in 2018, resulting in 35 injuries and one death. There were also 26 vehicle incidents involving bicyclists in 2018, resulting in 26 injuries. It should be noted that figures provided in Table 4.14-1 most likely underrepresent the number of vehicle incidents that occurred in the area in 2018 because many incidents result in property damage but not injury or death.

[7] Safe Transportation Research and Education Center. 2019. *Transportation Injury Mapping System.* Available: https://tims.berkeley.edu/tools/query/. Accessed: April 2, 2019.

Table 4.14-1: Vehicle Collisions within or Adjacent to Proposed Alignment, 2018

Collision Type	Total Incidents	Persons Injured	Persons Killed
2018			
With Pedestrian	36	35	1
With Bicycle	26	26	0
With Other Motor Vehicle or Other Object	200	325	1
Total	**262**	**386**	**2**

Source: Safe Transportation Research and Education Center, 2019.

4.14.2.2 Fire Protection

The Los Angeles Fire Department (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 proposed project. Figure 4.14-3 shows the fire stations located within the project study area, which are the following:[8]

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

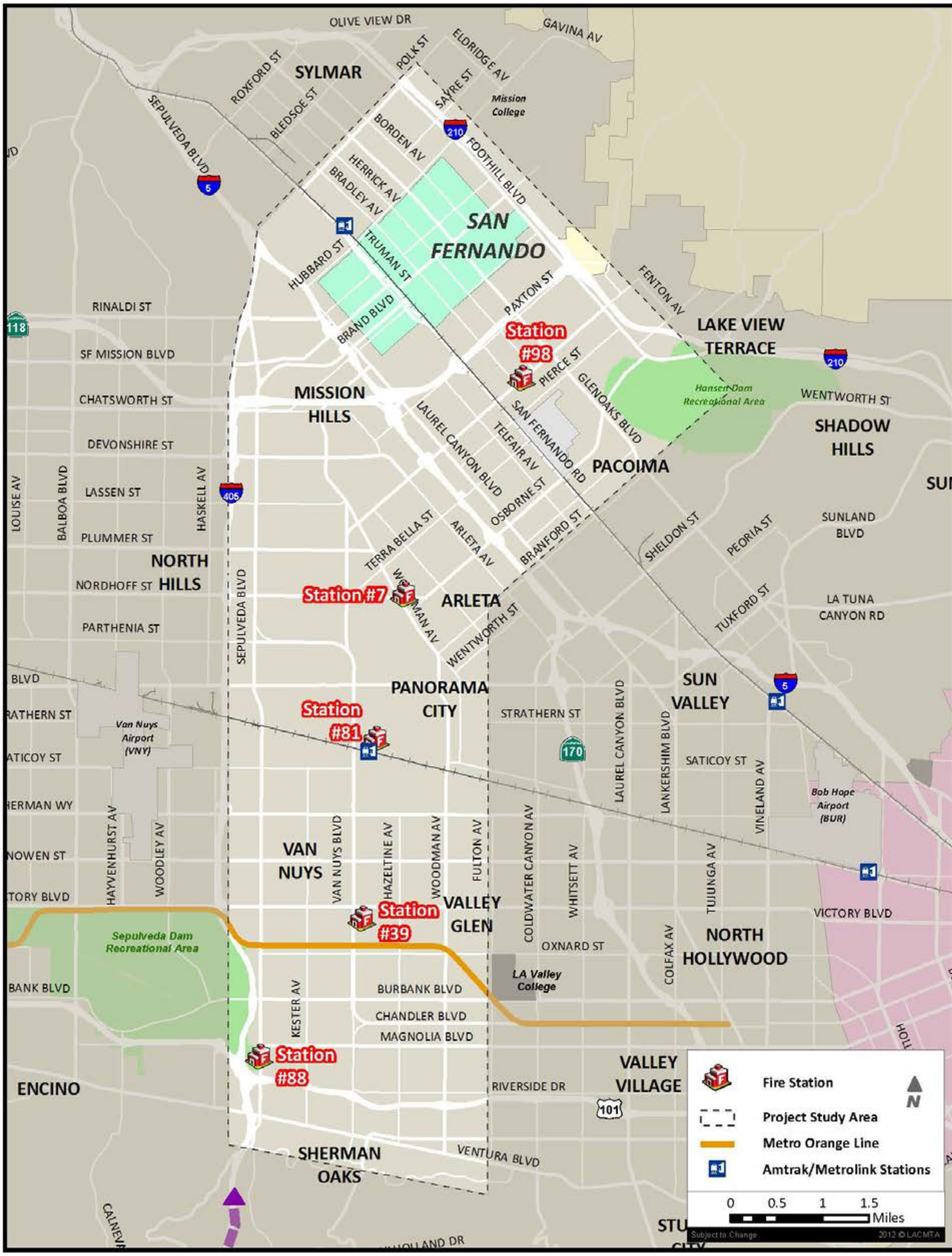
The project study area is partly located within the City of San Fernando. Fire protection and emergency medical services within the City of San Fernando are provided by the LAFD.

4.14.2.3 Security

The affected environment with respect to security is the bus and rail system, which includes stations, vehicles, and ancillary facilities, and the areas in the immediate vicinity of those 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, bicycle parking, 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.

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

Figure 4.14-3: LAFD Stations Located in the Project Study Area



Source: ICF, 2014.

The majority of the project study area is served by the Los Angeles Police Department (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.

4.14.2.4 Police Protection

The following LAPD stations are located within the project study area:[9]

- Foothill Community Police Station, 12760 Osborne Street, Pacoima; and
- 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.[10]

Figure 4.14-4 shows the police stations located within the project area.

Existing Crime for Metro Train/Bus Facilities and Rights-of-Way

According to the Los Angeles County Sheriff's Department Transit Services Bureau, a total of 3,581 incidents were reported in 2017, the most recent year for which data have been compiled and released to the public.[11] As shown in Table 4.14-2, a total of 972 of the indicated Part I crimes (crimes involving criminal homicide, forcibly rape, robbery, aggravated assault, burglary, larceny theft, grand theft auto, and arson) were reported for light-rail/bus facilities in 2017, which represents a 44 percent decrease from 2016 and a 48 percent decrease from 2013.[12, 13, 14]

There were 474 adult arrests and 64 juvenile arrests made by the Los Angeles County Sheriff's Department (LASD) Transit Services Bureau deputies on or near light-rail/bus facilities in 2016 pertaining to Part I crimes.[15]

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[9] City of Los Angeles Police Department. 2013. *Our Communities*. Available: <http://www.lapdonline.org/our_communities>. Accessed: March 2013.
[10] 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.
[11] Los Angeles County Sheriff's Department. 2016. *Transit Policing Division 2016 Incident & Arrest* Summary. Transit Services Bureau. Available: < http://shq.lasdnews.net/CrimeStats/yir9600/yir2016/tsb/1.htm>. Accessed: April 2, 2019.
[12] Los Angeles County Sheriff's Department. 2015. *Transit Policing Division 2015 Incident & Arrest* Summary. Transit Services Bureau. Available: < http://shq.lasdnews.net/CrimeStats/yir9600/yir2015/tsb/1.htm>. Accessed: April 2, 2019,
[13] Los Angeles County Sheriff's Department. 2013. *Transit Policing Division 2013 Incident & Arrest* Summary. Transit Services Bureau. Available: < http://shq.lasdnews.net/CrimeStats/yir9600/yir2014/tsb/1.htm>. Accessed: April 2, 2019
[14] Los Angeles County Sheriff's Department. 2017. *Transit Policing Division 2017 Incident & Arrest Summary*. Transit Services Bureau. Available <http://shq.lasdnews.net/CrimeStats/yir9600/yir2014/tsb/1.htm: >. Accessed: August 27, 2019
[15] Los Angeles County Sheriff's Department. 2016. *Transit Policing Division 2016 Incident & Arrest* Summary. Transit Services Bureau. Available: < http://shq.lasdnews.net/CrimeStats/yir9600/yir2016/tsb/1.htm>. Accessed: April 2, 2019.

Figure 4.14-4: Police Stations Located in the Project Study Area

Source: ICF, 2014.

Metro

Table 4.14-2: Los Angeles County Sheriff's Department, Transit Services Bureau, Incidents Reported for Metro Train/Bus Facilities and Rights-of-Way

Crime	2017	2016	2015	2013[16]
Larceny Theft	478	877	983	1034
Robbery	237	412	388	408
Grand Theft Auto	69	109	138	107
Aggravated Assault	171	316	409	282
Burglary	10	12	13	18
Arson	1	8	6	5
Forcible Rape	4	7	8	2
Homicide	2	3	3	1
Total (not including vandalism)	**972**	**1,744**	**1,948**	**1,857**
Vandalism		331	466	429

Source: Los Angeles County Sheriff's Department, Transit Services Bureau 2013, 2015, 2016, 2017; ICF, 2019.

4.14.3 Environmental Consequences, Impacts, and Mitigation Measures

No impacts related to airport hazards and wildland fires would occur under any of the alternatives as described below.

4.14.3.1 Airport Hazards

The project study area is not located in the immediate vicinity of an airport. 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 project study area. Impacts related to increased airport hazards would not occur under the No-Build Alternative or Locally Preferred Alternative (LPA). No impact would occur. No further discussion of these impacts is required.

4.14.3.2 Wildland Fires

The project study area is not located in a City of Los Angeles–designated wildland fire area.[17] The No-Build Alternative and LPA are not anticipated to result in exposure to persons to wildland fire hazards. Therefore, no impacts related to wildland fires would occur under the No-Build Alternative or LPA. No further discussion of these impacts is required.

[16] 2013 data is included because 2014 data is not available.
[17] City of Los Angeles Safety Element. Exhibit D. http://cityplanning.lacity.org/cwd/gnlpln/saftyelt.pdf. Accessed: March 27, 2014.

4.14.3.3 No-Build Alternative

Construction Impacts

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.

Operational Impacts

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

Cumulative Impacts

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.

Mitigation Measures

Construction Mitigation Measures

No construction mitigation measures are required.

Operational Mitigation Measures

No operational mitigation measures are required.

Impacts Remaining After Mitigation

NEPA Finding

No effects would occur.

CEQA Determination

No impacts would occur under the No-Build Alternative.

4.14.3.4 Locally Preferred Alternative (Alternative 4 Modified: At-Grade LRT)

Construction Impacts

Construction of the LPA may have temporary adverse effects on public safety and security in the project study area. During construction, motorists, pedestrians, and bicyclists in close proximity to construction activities would experience circulation impacts and could be exposed to hazards posed by construction activities and equipment. Construction activities could also result in lane closures, traffic detours, and designated truck routes, which could adversely affect emergency vehicle response time, a potentially significant impact under CEQA and an adverse effect under NEPA.

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), City traffic control plans, and Metro safety and security programs, which are designed to reduce potential adverse effects during construction. Specifically, the alternative would comply with Metro safety standards for construction workers, and would 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. Community outreach efforts, which would provide information to the public and public agencies regarding construction activities, detours, lane closures, and construction hazards, would also serve to mitigate construction impacts.

Incidents of crime adjacent to the project alignment would most likely not increase during construction. 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.

Operational Impacts

Pedestrian, Vehicle, and Bicycle Safety

LRT vehicles would be similar to those currently used throughout the existing Metro LRT system. All vehicle movements across the median at currently unsignalized intersections would be prohibited under this alternative by closing all such intersections. 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.

Issues of pedestrian safety under the LPA would include pedestrian safety along the alignment and at station locations and designated crossings. The proposed 14 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. A pedestrian bridge or tunnel 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 (or tunnel) would comply with Metrolink/SCRRA Design Criteria. 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 pedestrian safety impacts are potentially adverse and significant, implementation of mitigation measures would reduce effects/impacts to non-adverse under NEPA and less than significant under CEQA. Examples of mitigating measures that will be evaluated include: active 'TRAIN' signs, active 'Look Both Ways' signs, in-pavement lights, pedestrian count-down timers at crosswalks, pedestrian gates/swing gates, and fencing. These measures will be evaluated as applicable to the two primary corridors on the alignment.

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 LRT line. (Note: At Van Nuys Boulevard and Amboy Avenue [east of Van Nuys and north of Amboy], the sidewalk would be narrowed from 13 feet to 9 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 Vanowen Station), the reduction in sidewalk width (from 13 feet to 10 feet) would result in further crowding of the sidewalk, particularly during passenger boarding and exiting of buses. Crowded sidewalks could affect pedestrian safety, particularly for people with limited mobility. The sidewalk reduction, therefore, would result in a potentially adverse effect and significant impact on pedestrians.

This alternative would require a number of additional elements to support train operations, including an overhead contact system (OCS), traction power substations (TPSS), signaling, and a maintenance and storage facility (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 Van Nuys Boulevard/Keswick Street (MSF Option B).

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

This alternative would result in modifications to existing bicycle lanes in the corridor. 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 under NEPA and a significant impact under CEQA.

Accidents and Collisions

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 below would ensure impacts on safety due to the at-grade crossings would be reduced to less-than-significant levels under CEQA and non-adverse levels under NEPA.

Security

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 times and access or evacuation plans in the event of an emergency. The proposed motor vehicle turn restrictions could also result, in some instances, in emergency vehicles taking a slightly more circuitous route, and therefore, require more time to respond to emergencies. For these reasons, this alternative would result in an adverse effect under NEPA and significant impact under CEQA.

Cumulative Impacts

The cumulative projects listed in Table 2-3 in this FEIS/FEIR consist primarily of infill development projects in an existing urban area. Construction of related projects that would occur concurrently with construction of the LPA that would result in lane closures or traffic detours could cumulatively contribute to impacts to emergency vehicle response time, a potentially significant cumulative impact under CEQA and an adverse cumulative effect under NEPA. However, the LPA's contribution to these potentially significant cumulative impacts would be minimized with implementation of proposed mitigation measures.

While development of housing or commercial buildings could increase the demand for emergency and private security services, in the context of the project study area, development would be limited to these individual sites that are either already developed or consist of infill development parcels. When compared with the context of the already heavily developed urban neighborhoods along and adjacent to the proposed project corridor, the cumulative projects would not result in a substantial increase in development that would clearly strain existing emergency services in the project study area.

Operation of the LPA 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. However, none of the cumulative projects listed in Table 2-3 would result in the removal of bicycle lanes, sidewalk narrowing, or the conversion of mixed-flow traffic lanes. Therefore, the impacts to safety due to the removal of bicycle lanes, sidewalk narrowing, and conversion of mixed-flow lanes under the LPA, would be significant at the project-level, but since none of the other reasonably foreseeable projects would remove bicycle lanes, narrow the sidewalks, or convert mixed-flow traffic lanes, the LPA would not contribute to a significant cumulative impact.

Mitigation Measures

Construction Mitigation Measures

MM-SS-1: Alternate walkways for pedestrians shall be provided around construction staging sites in accordance with ADA requirements.

MM-SS-2: Safe and convenient pedestrian routes to local schools shall be maintained during construction.

MM-SS-3: Ongoing communication with school administrators shall be maintained to ensure sufficient notice of construction activities that could affect pedestrian routes to schools is provided.

MM-SS-4: 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.

MM-SS-5: Appropriate traffic controls (signs and signals) shall be installed and maintained to ensure pedestrian and vehicular safety.

MM-SS-6: To the extent feasible, construction haul trucks shall not use haul routes that pass any school, except when the school is not in session.

MM-SS-7: Staging or parking of construction-related vehicles, including worker-transport vehicles, shall not occur on or adjacent to a school property when school is in session.

MM-SS-8: Crossing guards or flaggers shall be provided at affected school crossings when the safety of children may be compromised by construction-related activities.

MM-SS-9: Barriers or fencing shall be installed to secure construction equipment and to minimize trespassing, vandalism, short-cut attractions, and attractive nuisances.

MM-SS-10: Security patrols shall be provided to minimize trespassing, vandalism, and short-cut attractions where construction activities occur in the vicinity of local schools.

MM-SS-11: Project plans, work plans, and traffic control measures shall be coordinated with emergency responders during preliminary engineering, final design, and construction to limit effects on emergency response times.

Operational Mitigation Measures

To reduce operational safety and security impacts, the following mitigation measures shall be implemented.

MM-SS-12: All stations shall be illuminated 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.

MM-SS-13: 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.

MM-SS-14: The following measures shall be implemented to reduce pedestrian circulation impacts and hazards:

- Sidewalk widths shall be designed with the widest dimensions feasible in conformance with the Los Angeles/Metro's adopted "Land Use/Transportation Policy."
- Minimum widths shall not be less than those allowed by the State of California Title 24 access requirements, or the ADA 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.
- Accommodating pedestrian movements and flows shall take priority over other transportation improvements, including automobile access.
- Physical improvements shall ensure that all stations are fully accessible as defined in the ADA.

MM-SS-15: Wide crosswalks shall be provided in areas immediately around proposed stations to facilitate pedestrian mobility.

MM-SS-16: Metro shall coordinate and consult with the LAFD, LAPD, LASD, and City of San Fernando Police Department to develop safety and security plans for the proposed alignment, parking facilities, and station areas.

MM-SS-17: 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.

MM-SS-18: 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 California Public Utilities Commission (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. Crossings shall require approval from the CPUC and shall meet applicable CPUC standards for grade crossings.

MM-SS-19: 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.

MM-SS-20: 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.

MM-SS-21: Metro is continuing to investigate light rail vehicle modifications to increase light rail vehicle safety and minimize or prevent train and pedestrian conflicts. Metro's design criteria also identifies multiple efforts to increase light rail vehicle safety and minimize or prevent the potential for pedestrians and vehicle conflicts. Measures identified shall be included during the final design of the LPA.

MM-SS-22: To reduce potential risk of collisions between LRTs and automobiles on the street portion of the LPA, Metro shall coordinate with the CPUC, City and County of Los Angeles 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.

MM-SS-23: 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.

Also see mitigation measure MM-TRA-6 in Chapter 3 for measures to reduce the impact due to removal of the existing bike lanes on Van Nuys Boulevard.

Impacts Remaining After Mitigation

NEPA Finding and CEQA Determination

After implementation of proposed mitigation measures, the reduced sidewalk width 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 under NEPA and unavoidable significant impacts under CEQA.

4.14.3.5 Initial Operating Segment

An Initial Operating Segment (IOS) has been included in this FEIS/FEIR to enable Metro to realize potential cost savings, which would not otherwise occur under the LPA, from phasing the project. It should be noted that Metro is proceeding with IOSs on other Metro projects for that reason and to specifically provide the decision-making body of Metro (the Metro Board) with flexibility in determining the most efficient and cost-effective manner to implement those projects. Proceeding with an IOS for the proposed project would also allow further coordination to occur with the Public Utilities Commission (PUC) and Metrolink, which will be necessary to accommodate double tracking of the Antelope Valley Line, and with the City of San Fernando regarding traffic impacts at intersections in the City prior to development of the remaining northern segment of the LPA.

Although the IOS for the proposed project would run along the same alignment and have the same design features and operating characteristics as those described above for the LPA, it would occupy a smaller project footprint than the LPA because it would extend from the Metro Orange Line on the south to the proposed the Van Nuys/San Fernando station on the north. It remains Metro's intent, however, to build the remaining northern 2.5 miles of the LPA within the existing railroad right-of-way, from the Van Nuys/San Fernando station to the Sylmar/San Fernando Metrolink station. Impacts associated with the IOS are discussed below.

Construction Impacts

Construction of the IOS may have temporary adverse effects on public safety and security in the project study area, similar to the LPA. During construction, motorists, pedestrians, and bicyclists in proximity to construction activities would experience circulation impacts and could be exposed to hazards posed by construction activities and equipment. IOS construction activities could also result in lane closures, traffic detours, and designated truck routes, which could adversely affect emergency vehicle response time, a potentially significant impact under CEQA and an adverse effect under NEPA.

Compliance with OSHA, Cal/OSHA, City traffic control plans, and Metro safety and security programs, would minimize the potential for significant safety and security impacts. Community outreach efforts would also serve to mitigate the construction impacts.

Operational Impacts

Pedestrian, Vehicle, and Bicycle Safety

Operational impacts associated with the IOS would be similar to those that would occur due to the LPA: however, the IOS would not include the segment of the LPA that would be located within the Metrolink railroad right-of-way adjacent to San Fernando Road and consequently the IOS would not result in hazards to potential pedestrians, bicyclists, and motor vehicles that would occur due to

LRT operations along this segment under the LPA. Along Van Nuys Boulevard, the potential hazards to pedestrians due to LRT operations and narrowing of sidewalks and the impacts to bicyclists due to elimination of existing bike lanes would be similar to those described above for the LPA and would be adverse under NEPA and significant under CEQA.

The IOS would require a number of additional elements to support train operations, including an OCS, TPSSs, signaling, and an MSF. The OCS poles would be approximately 30 feet tall and typically located every 90 to 170 feet between two LRT tracks. Where the available public right-of-way width is extremely limited, the OCS poles would be placed on the sidewalk. At such locations, curbside 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 below would further minimize potential effects.

Accidents and Collisions

The IOS would not include the northern 2.5-mile segment of the LPA along the railroad right-of-way. As a consequence, there would be fewer at-grade crossings of the LRT alignment under the IOS than under the LPA and reduced potential for motor vehicle/LRT conflicts and resulting accidents.

Similar to the LPA, the IOS would be placed within a dedicated guideway, which would reduce the potential for conflicts between LRT vehicles and mixed-flow traffic. Design and operating characteristics as well as the grade crossing application process, as specified in the mitigation measures described above for the LPA and listed below, would ensure impacts on safety due to the at-grade crossings would be reduced to less-than-significant levels under CEQA and non-adverse levels under NEPA.

Security

Similar to the LPA, along Van Nuys Boulevard, the IOS would require the removal of mixed-flow lanes, resulting in additional roadway congestion due to decreased roadway capacity, which could adversely affect emergency vehicle response times and access or evacuation plans in the event of an emergency. To accommodate the IOS, motor vehicle turn restrictions have been proposed, and could also result, in some instances, in emergency vehicles taking a slightly more circuitous route, and therefore, require more time to respond to emergencies. For these reasons, this alternative would result in an adverse effect under NEPA and significant impact under CEQA.

Cumulative Impacts

The IOS would result in cumulative impacts similar to those that would occur under the LPA. The cumulative projects listed in Table 2-3 in this FEIS/FEIR consist primarily of infill development projects in an existing urban area.

Similar to the LPA, construction of related projects that would occur concurrently with construction of the IOS that would result in lane closures or traffic detours could cumulatively contribute to impacts to emergency vehicle response time, a potentially significant cumulative impact under CEQA and an adverse cumulative effect under NEPA. However, the LPA’s contribution to these potentially significant cumulative impacts would be minimized with implementation of proposed mitigation measures.

When compared with the context of the already heavily developed urban neighborhoods along and adjacent to the proposed project corridor, the cumulative projects would not result in a substantial increase in development that would clearly strain existing emergency services in the project study area.

None of the cumulative projects listed in Table 2-3 would result in the removal of bicycle lanes, sidewalk narrowing, or the conversion of mixed-flow traffic lanes. Therefore, the IOS impacts related to safety due to the removal of bicycle lanes, sidewalk narrowing, and conversion of mixed-flow lanes under the LPA, would be significant at the project-level, but since none of the other reasonably foreseeable projects would remove bicycle lanes, narrow the sidewalks, or convert mixed-flow traffic lanes, the impacts at the project level would not be considered a significant contribution to a significant cumulative impact.

Mitigation Measures

Construction Mitigation Measures

The mitigation measures for the IOS would be the same as those stated for the LPA. These include MM-SS-1, MM-SS-2, and MM-SS-3.

Operational Mitigation Measures

The mitigation measures for the IOS would be the same as those stated for the LPA. These include MM-SS-4 through MM-SS-23.

Impacts Remaining After Mitigation

NEPA Finding and CEQA Determination

The reduced sidewalk width 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 under NEPA and unavoidable significant impacts under CEQA that would remain after implementation of proposed mitigation measures.

4.15 Parklands and Community Facilities

4.15.1 Regulatory Framework and Methodology

4.15.1.1 Regulatory Framework

The applicable federal, state, and local regulations relevant to an analysis of the project's parkland and community facilities impacts are listed below. For additional information regarding these regulations, please see the Parklands and Community Facilities Impact Report in Appendix T of this FEIS/FEIR.

Federal

- NEPA

State

- CEQA

Local

- County of Los Angeles (Pacoima Wash Vision Plan);
- City of Los Angeles (City of Los Angeles Land Use/Transportation Policy, General Plan, Hazard Mitigation Plan, Zoning Code); and
- City of San Fernando (General Plan, San Fernando Corridors Specific Plan, Pacoima Wash Greenway Master Plan, Natural Hazard Mitigation Plan, Zoning Code).

4.15.1.2 Methodology

This analysis has been prepared in accordance with NEPA and CEQA. The following five steps were used to assess potential project impacts on parklands and community facilities in the project study area:

- Existing parklands and community facilities were identified and compiled into a list;
- Maps were created to illustrate existing land uses, parklands, and community facilities;
- Existing parklands and community facilities were described;
- Community issues and concerns regarding parklands and community facilities were identified through public meetings; and
- An assessment of the project's impacts on communities and neighborhoods was conducted.

The following impacts on parklands and community facilities are discussed in this section:

Direct Impacts

- Physical acquisition, displacement, or relocation; and
- Noise, air quality, traffic, and visual impacts.

Indirect Impacts

- Induced population growth leading to an increase in demand for parklands and community facilities, and the need to construct additional facilities; and
- Changes in access to parklands and community facilities.

4.15.1.3 CEQA Significance Thresholds

CEQA requires state and local government agencies to identify the significant environmental effects of proposed actions; however, 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 at the discretion of the lead agency and are the levels at which the lead agency finds the effects of the project to be significant.

State CEQA Guidelines

The State CEQA Guidelines define "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, 14 CCR Section 15382).[1]

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, which are often used as thresholds or guidance in developing thresholds for determining impact significance.[2] Accordingly, for the purposes of this FEIS/FEIR, a project would normally have a significant effect on parklands and community facilities, under CEQA, if the project would:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- Affect existing recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.
- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:
  - Fire protection;
  - Police protection;
  - Schools;
  - Parks; or
  - Other public facilities.

[1] California Natural Resources Agency. 2010b. *State CEQA Guidelines, 14 CCR Section 15382.*
[2] The Environmental Checklist questions in Appendix G of the State CEQA Guidelines were used as guidance in developing thresholds for determining impact significance. In late 2018, subsequent to completion of the DEIS/DEIR, changes to the State CEQA Guidelines were adopted by the State including revisions to the Environmental Checklist questions in Appendix G. To maintain consistency between the DEIS/DEIR and FEIS/FEIR when evaluating the significance of impacts under CEQA, the significance thresholds identified in this chapter are unchanged from those in the DEIS/DEIR.

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

L.A. CEQA Thresholds Guide

The *L.A. CEQA Thresholds Guide* for Public Services states that a determination of significance shall be made on a case-by-case basis, considering the following factors:[3]

Recreation and Parks

- The net population increase resulting from the proposed project.
- The demand for recreation and park services anticipated at the time of project buildout compared to the expected level of service available. Consider, as applicable, scheduled improvements to recreation and park services (renovation, expansion, or addition) and the project's proportional contribution to demand.
- Whether the project includes features that would reduce the demand for recreation and park services (e.g., on-site recreation facilities, land dedication or direct financial support to the Department of Recreation and Parks).

Public Schools

- The population increase resulting from the proposed project, based on the net increase of residential units or square footage of non-residential floor area.
- The demand for school services anticipated at the time of project buildout compared to the expected level of service available. Consider, as applicable, scheduled improvements to the LAUSD services (facilities, equipment, and personnel) and the project's proportional contribution to the demand.
- Whether (and the degree to which) accommodation of the increased demand would require construction of new facilities, a major reorganization of students or classrooms, major revisions to the school calendar (such as year-round sessions), or other actions which would create a temporary or permanent impacts on the school(s).
- Whether the project includes features that would reduce the demand for school services (e.g., on-site school facilities or direct support to LAUSD).

Libraries

- The net population increase resulting from the proposed project.
- The demand for library services anticipated at the time of project buildout compared to the expected level of service available. Consider, as applicable, scheduled improvements to recreation and park services (renovation, expansion, or addition) and the project's proportional contribution to demand.
- Whether the project includes features that would reduce the demand for library services (e.g., on-site library facilities or direct support to the LAPL).

[3] City of Los Angeles. 2006. *L.A. CEQA Thresholds Guide, K. Public Services.* Available: <http://www.ci.la.ca.us/ead/programs/Thresholds/K-Public%20Services.pdf>. Accessed: February 13, 2013.

Police Protection

- The population increase resulting from the proposed project, based on the net increase of residential units or square footage of non-residential floor area.
- The demand for police services anticipated at the time of project buildout compared to the expected level of service available. Consider, as applicable, scheduled improvements to LAPD services (facilities, equipment, and officers) and the project's proportional contribution to the demand.
- Whether the project includes security and/or design features that would reduce the demand for police services.

Fire Protection and Emergency Medical Services

- A project would normally have a significant impact on fire protection if it requires the addition of a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain service.

Hazards

- The degree to which the project may require a new, or interfere with an existing, emergency response or evacuation plan, and the severity of the consequences.

4.15.2 Affected Environment/Existing Conditions

4.15.2.1 Regional and Project Study Area Setting

The project study area is located in the San Fernando Valley area of Los Angeles (see Figure 3-1 in the Parklands and Community Facilities Impact Report in Appendix T). The San Fernando Valley is a flat area consisting of approximately 260 square miles, and is bounded by the Santa Susana Mountains to the northwest, the Simi Hills to the west, the Santa Monica Mountains and Chalk Hills to the south, the Verdugo Mountains to the east, and the San Gabriel Mountains to the northeast.

The project corridor is approximately 9.2 miles in length, and runs nearly the entire length of the valley floor.[4] The project corridor is in an urbanized area that includes a variety of land uses, including residential, commercial, industrial, recreation (parks), schools, community centers, office and government, and other urban land use (see Figure 3-2 in the Parklands and Community Facilities Impact Report in Appendix T).

The project study area encompasses the area in which direct and/or indirect effects associated with the project could result. For the analysis of parklands and community facilities impacts, the project study area is defined as extending one-half mile surrounding the project corridor to incorporate the surrounding neighborhoods that potentially could be affected by the proposed project. The parklands and community facilities in the project study area are listed and described below. For maps depicting the locations of these parks and facilities, please see Figures 3-3 through 3-8 in the Parklands and Community Facilities Impacts Report contained in Appendix T of this FEIS/FEIR.

[4] The topographically flat area bounded by the Santa Susana and San Gabriel Mountains to the north, and the Santa Monica mountains to the south.

4.15.2.2 Parklands and Community Facilities

The parklands and community facilities within a 0.25-mile of the project alignment are described below and shown in Figure 4.15-1. In the project study area, there are several parcels of land in the Cities of Los Angeles and San Fernando that are designated as parklands and open space. The parklands listed in this section include neighborhood parks, community parks, regional parks, golf courses, public swimming facilities, and open space used for recreational and educational purposes, or for the preservation of natural resources.

Recreation Centers

The following recreation centers are located in the project study area:

- Delano Recreation Center (#1 in Figure 4.15-1), 15100 Erwin Street, Van Nuys. This recreation center, which features outdoor athletic fields, an indoor gymnasium, an auditorium, and indoor table games, is 0.75 mile west of Van Nuys Boulevard.
- Van Nuys Recreation Center (#2 in Figure 4.15-1), 14301 Vanowen Avenue, Van Nuys. This recreation center, which features several indoor and outdoor multi-activity sports facilities, is approximately 0.20 mile east of the project corridor.

City of Los Angeles Department of Recreation and Parks

The City of Los Angeles Department of Recreation and Parks aims to enrich the lives of the residents of Los Angeles by providing safe, welcoming parks and recreation facilities, and affordable, diverse recreation and human services activities for people of all ages. The department manages more than 15,700 acres of parkland.

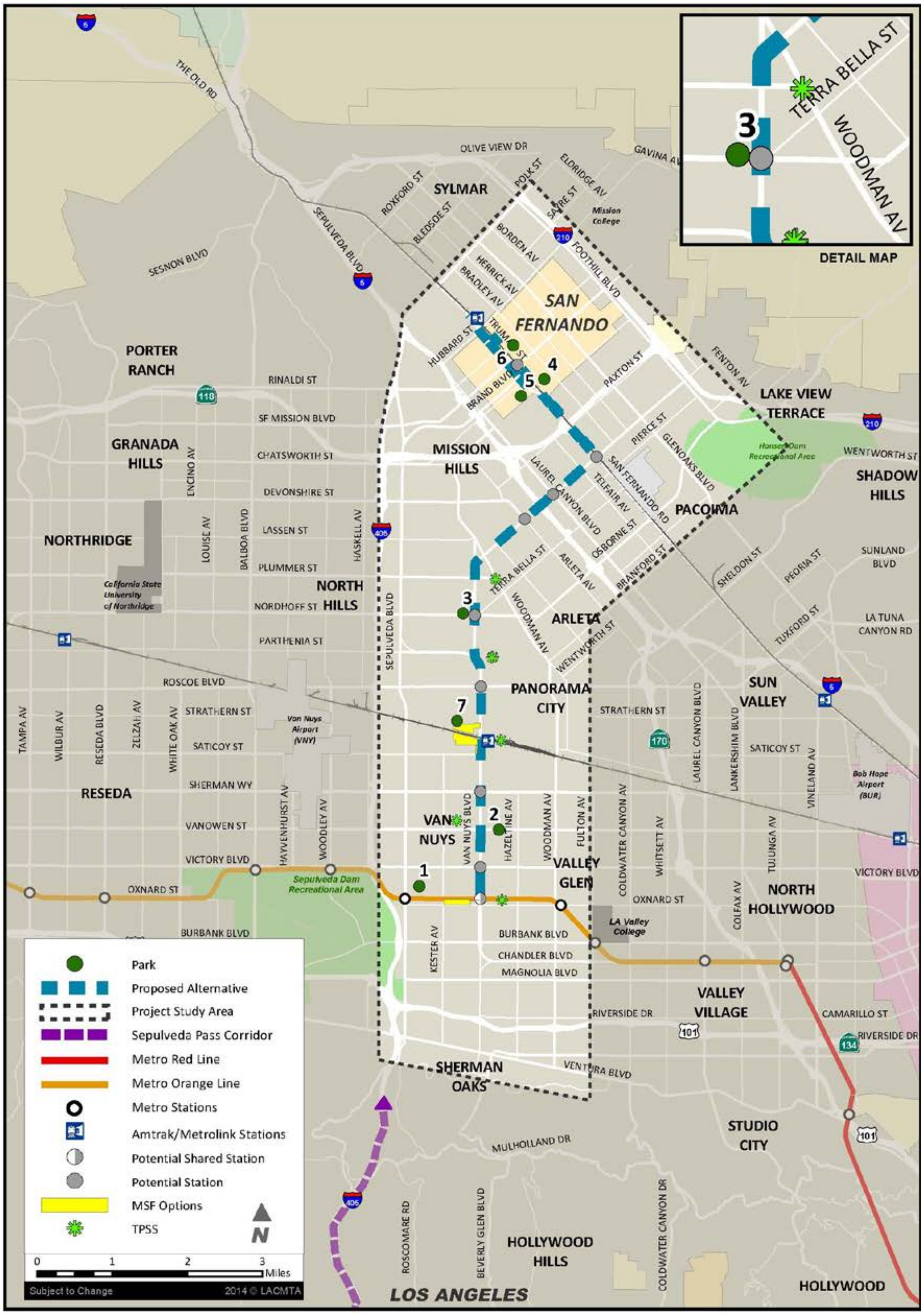
The following parks in the project study area are managed by the City of Los Angeles Department of Recreation and Parks:

- Tobias Avenue Park (#3 in Figure 4.15-1), 9122 Tobias Avenue, Panorama City. The park, which is west of and adjacent to Van Nuys Boulevard and the project corridor, features basketball courts, a children's play area, and picnic tables.
- Blythe Street Park (#7 in Figure 4.15-1), 14740 Blythe Street, Van Nuys. Blythe Street Park, which is 0.3 mile west of Van Nuys Boulevard and 0.17 mile north of the maintenance and storage facility (MSF) Option B site, is a pocket park between apartment buildings; it provides a children's play area, picnic tables, and a small grass area.

City of San Fernando Recreation and Community Services Department

The City of San Fernando Recreation and Community Services Department develops and implements programs and activities that provide for the well-being and personal development of the City of San Fernando's residents. The Facility Operations/Playgrounds Division is responsible for the operation of the City of San Fernando's parks and community centers, currently totaling 34.13 acres. The aquatics program is responsible for seasonal operation of the City of San Fernando's pool and maintaining the swim team, junior lifeguard, and recreational swim programs.

Figure 4.15-1: Map of Parks, Recreation Areas, or Community Facilities



Source: ICF, 2015.

The following parks in the project study area are managed by the City of San Fernando Recreation and Community Services Department:

- Recreation Park (and San Fernando Regional Pool Facility) (#4 in Figure 4.15-1), 208 Park Avenue, San Fernando. The park comprises 11 acres of multi-activity sports facilities and is immediately northeast of Robert Kennedy Drive, which is adjacent to the project corridor.
- Cesar E. Chavez Memorial Park (#5 in Figure 4.15-1), 30 Wolfskill Street, San Fernando. This memorial honoring the late farm worker leader consists of four separate art pieces in a park setting. The memorial is adjacent to the Metro-owned railroad right-of-way and project corridor.
- Layne Park (#6 in Figure 4.15-1), 120 North Huntington Street, San Fernando. The park houses a basketball court, picnic area, and a children's play area, and is located approximately 0.10 mile from the project corridor.

Other Open Spaces

The following proposed open space is also located in the project study area:

- Pacoima Wash Greenway Project, no address (future proposed project): Approximately $2.5 million in funds were awarded to the Mountains Recreation Conservation Authority (MRCA) and the City of San Fernando for the development of 5.79 acres in the Pacoima Wash Greenway. The future Pacoima Wash Greenway trail would connect with the San Fernando Road Metrolink Bike Path, a 12-mile path that has been partially completed with other sections of the path planned for future construction (a 1.75-mile section of the Metrolink Bike Path has already been completed and connects to the Sylmar/San Fernando Metrolink Station). The City of Los Angeles is currently extending a bike path with an underpass adjacent to the alignment on San Fernando Road in the City of Los Angeles and in proximity to the City of San Fernando. The project is in the early stages with no construction drawings available. The Pacoima Wash Greenway Master Plan Project, an early document prepared in 2004, has been a basis to conceptualize the project, includes the construction of underpasses, although specific locations would be confirmed through the design process.

4.15.2.3 Schools

Los Angeles Unified School District

Public educational services in the project study area are provided by the Los Angeles Unified School District (LAUSD). The LAUSD is comprised of eight local districts with 219 year-round schools and 439 schools on the traditional school calendar (with a summer break). For some school facilities, the City of Los Angeles Department of Recreation and Parks has a joint use agreement with LAUSD, which allows use of recreational facilities after educational hours. In addition, the LAUSD issues Civic Center permits that allow public use of school facilities for supervised not-for-profit recreational activities, meetings, and public discussions during non-school hours.

The following schools are located in the project study area:

Elementary Schools

- Van Nuys Elementary School, Serving 550 students, 6464 Sylmar Avenue, Van Nuys, approximately 0.20 mile from the project corridor;

- Burton Street Elementary School, Serving 690 students, 8111 Calhoun Avenue, Panorama City, approximately 0.30 mile from the project corridor;
- Panorama City Elementary School, Serving 761 students, 8600 Kester Avenue, Panorama City, approximately 0.35 mile from the project corridor;
- Primary Academy for Success, Serving 300 students, 9075 Willis Avenue, Panorama City, approximately 0.30 mile from the project corridor;
- Liggett Street Elementary School, Serving 786 students, 9373 Moonbeam Avenue, Panorama City, approximately 0.15 mile from the project corridor;
- Beachy Avenue Elementary School, Serving 645 students, 9757 Beachy Avenue, Arleta, approximately 0.20 mile from the project corridor;
- Sharp Avenue Elementary School, Serving 900 students, 13800 Pierce Street, Arleta, approximately 0.20 mile from the project corridor;
- Telfair Avenue Elementary School, Serving 1,100 students, 10975 Telfair Avenue, Pacoima, approximately 0.35 mile from the project corridor;
- Osceola Elementary School, Serving 450 students, 14940 Osceola Street, Sylmar, approximately 0.30 mile from the project corridor; and
- Dyer Street Elementary School, Serving 830 students, 14500 Dyer Street, Sylmar approximately 0.50 mile from the project corridor.

Middle Schools

- Pacoima Middle School, Serving 1,600 students, 9919 Laurel Canyon Boulevard, Pacoima, approximately 0.15 mile from the project corridor; and
- San Fernando Valley Middle School, Serving 1,553 students, 130 North Brand Boulevard, San Fernando; adjacent to the project corridor.

High Schools

- Van Nuys High School, Serving 2,946 students, 6535 Cedros Avenue, Van Nuys, approximately 0.25 mile from the project corridor;
- Will Rogers Continuation High School, Serving 160 students, 14711 Gilmore Street, Van Nuys, approximately 0.30 mile from the project corridor;
- Panorama High School, Serving 2,210 students, 8015 Van Nuys Boulevard, Panorama City, approximately 0.10 mile from the project corridor; and
- Arleta High School, Serving 2,000 students, 14200 Van Nuys Boulevard, Pacoima, adjacent to the project corridor.

Other Schools

- Pacoima Skills Center (Adult), 13545 Van Nuys Boulevard, Pacoima, adjacent to the project corridor.

Private Educational Facilities

In addition to public school facilities in the project study area, there are several other private educational facilities. The following schools are in the project study area:

Elementary Schools

- Aarat Charter School, Serving 312 students, 6555 Sylmar Avenue and 13400 Erwin Street, Van Nuys, approximately 0.2 mile from the project corridor;
- Saint Ferdinand's School (Preschool-8th), Serving 266 students, 1012 Coronel Street, San Fernando, approximately 0.25 mile from the project corridor; and
- Santa Rosa School (Preschool-8th), Serving 248 students, 668 S. Workman Street, San Fernando, approximately 0.30 mile from the project corridor.

Middle Schools

- Nueva Esperanza Charter Academy, Serving 210 students, 1218 North 4th Street, San Fernando, approximately 0.17 mile from the project corridor.

High Schools

- Champs Charter High School (of the Arts), Serving 910 students, 6952 Van Nuys Boulevard, Van Nuys, adjacent to the project corridor;
- Soledad Enrichment School (Charter), Number of students unavailable, 13452 Van Nuys Boulevard, Pacoima, adjacent to the project corridor; and
- Lakeview Charter Academy, Serving 215 students, 1445 Celis Street, San Fernando adjacent to the project corridor.

Other Schools

- Los Angeles ORT College, 14519 Sylvan Street, Van Nuys, approximately 0.05 mile from the project corridor; and
- American Nursing School, 14545 Victory Boulevard, Van Nuys, approximately 0.10 mile from the project corridor.

4.15.2.4 Libraries

City of Los Angeles Public Library System

The majority of the project study area is serviced by branches of the LAPL system, which comprises six service areas (i.e., Central Southern Area, Northeast Area, East Valley Area, West Valley Area, Hollywood Area, Western Area). The project study area is in the limits of the East Valley Area.

The following City of Los Angeles libraries are in the project study area:

- Van Nuys Branch Library, 6250 Sylmar Avenue, Van Nuys, approximately 0.10 mile from the project corridor;
- Panorama City Branch Library, 14345 Roscoe Boulevard, Panorama City, approximately 0.10 mile from the project corridor; and
- Pacoima Branch Library, 13605 Van Nuys Boulevard, Pacoima, adjacent to the project corridor.

County of Los Angeles Public Library System

The City of San Fernando is serviced by the County of Los Angeles Public Library System. This county system provides service to the unincorporated areas and 51 of the 88 cities of the County of Los Angeles. There is one county branch located in the project study area:

- San Fernando Branch Library, 217 North Maclay Avenue, San Fernando.

4.15.2.5 Police Protection

The portion of the project study area in the City of Los Angeles is served by the Valley Bureau of the LAPD. The LAPD's response time goal is seven minutes for high priority calls, and 40 minutes for nonemergency calls. In 2018, the LAPD had a citywide average response time of 6.1 minutes.[5]

There is one station in the project study area:

- Van Nuys Community Police Station, 6240 Sylmar Avenue, Van Nuys, approximately 0.10 mile from the project corridor.

The City of San Fernando is served by the City of San Fernando Police Department. The City of San Fernando Police Department has an average response time of two minutes.[6] There is one station in the project study area:

- San Fernando Police Station, 910 First Street, San Fernando, adjacent to the project corridor.

4.15.2.6 Fire Protection

The LAFD provides fire protection and emergency medical services for the majority of the project study area. The National Fire Protection Association's response time goal is six minutes for 90 percent of medical responses. From January to May of 2019, the LAFD had a citywide average response time of six minutes and 38 seconds.[7]

The following LAFD stations are located in the project study area:

- Station #39, 14415 Sylvan Street, Van Nuys (S-1, CF-8), approximately 0.07 mile from the project corridor;
- Station #81, 14355 Arminta Street, Panorama City (S-2, CF-40), approximately 0.20 mile from the project corridor; and
- Station #98, 13035 Van Nuys Boulevard, Pacoima (S-5, CF-71), approximately 0.30 mile from the project corridor.

4.15.2.7 Hospitals and Medical Facilities

The following hospitals and medical facilities are located in the project study area:

- San Fernando Valley Community Mental Health Center, 14660 Oxnard Street, Van Nuys, approximately 0.15 mile from the project corridor;
- Valley Community Counseling, 6201 Van Nuys Boulevard, Van Nuys, adjacent to the project corridor;

[5] ASecureLife. 2019. Police Response Times in US Cities. Available: < https://www.asecurelife.com/safety/average-police-response-time/>. Accessed: June 19, 2019.
[6] City of San Fernando. 2008. *San Fernando Downtown Parking Lots Environmental Impact Report, Section 5.9, Police Protection Services.* Available: < http://www.ci.san-fernando.ca.us/city_government/departments/comdev/news/Draft%20EIR/Sec05.09.PoliceProtection.pdf>. Accessed: December 18, 2014.
[7] Los Angeles Fire Department. 2019. *FireStatLA, City-wide Response Metrics.* Available: <http://www.lafd.org/fsla/stations-map>. Accessed: June 19, 2019.

- Expert Care Health Group, 14532 Friar Street, Van Nuys, approximately 0.07 mile from the project corridor;
- Victoria Medical Clinic, 14614 Victory Boulevard, Van Nuys, approximately 0.10 mile from the project corridor;
- Family Medical Center, 14547 Victory Boulevard, Van Nuys, approximately 0.15 mile from the project corridor;
- Cedars Health Clinic, 14649 Victory Boulevard, Van Nuys, approximately 0.20 mile from the project corridor;
- Northeast Valley Health Corporation, 6551 Van Nuys Boulevard, Van Nuys, approximately 0.05 mile from the project corridor;
- University Medical Care, 14600 Sherman Way #100, Van Nuys, approximately 0.15 mile from the project corridor;
- Kidney Center of Van Nuys, 14624 West Sherman Way, Van Nuys, approximately 0.20 mile from the project corridor;
- Mission Community Hospital, 14860 Roscoe Boulevard, Panorama City, approximately 0.30 mile from the project corridor;
- Clinica Latino Americano, 8727 Van Nuys Boulevard, Panorama City, approximately 0.05 mile from the project corridor;
- UCLA Early Head Start, 14423 Van Nuys Boulevard, Arleta, adjacent to the project corridor.
- San Fernando Acupuncture Clinic, 820 San Fernando Road, San Fernando, adjacent to the project corridor.
- Valley Family Center, 302 South Brand Boulevard, San Fernando, approximately 0.15 mile from the project corridor;
- San Fernando Dental Center, 125 South Brand Boulevard, San Fernando, adjacent to the project corridor.
- San Fernando Medical Center, 501 North Maclay Avenue, San Fernando, approximately 0.35 mile from the project corridor;
- Aurora Medical Center, 405 North Maclay Avenue, San Fernando, approximately 0.20 mile from the project corridor;
- Maya Chiropractic Center, 321 N Maclay Avenue, San Fernando Valley, approximately 0.15 mile from the project corridor;
- Western Dental Center, 1101 Truman Street, San Fernando, adjacent to the project corridor;
- Valley Care San Fernando Clinic, 1212 Pico Street, San Fernando, approximately 0.25 mile from the project corridor;
- Santa Maria Dental Center, 1230 San Fernando Road, San Fernando, adjacent to the project corridor; and
- Northeast Valley Health Corporation, 1600 San Fernando Road, San Fernando, adjacent to the project corridor.

4.15.2.8 Religious Facilities

The following religious facilities are in the project study area:

- Kingdom Hall of Jehovah's Witnesses, 14659 Erwin Street, Van Nuys, approximately 0.20 mile from the project corridor;
- Iglesia De Dios Fuente, 14520 Friar Street, Van Nuys, approximately 0.05 mile from the project corridor;
- First Presbyterian Church of Van Nuys, 14701 Friar Street, Van Nuys, approximately 0.05 mile from the project corridor;
- Central Lutheran Church of Van Nuys, 6425 Tyrone Ave, Van Nuys, approximately 0.20 mile from the project corridor;
- Christian Science Church, 14654 Hamlin Street, Van Nuys, approximately 0.20 mile from the project corridor;
- Faith Compassion Ministry, 6518 Cedros Avenue, Van Nuys, approximately 0.20 mile from the project corridor;
- God Answers Prayer Ministry, 14541 Hamlin Street, Van Nuys, approximately 0.10 mile from the project corridor;
- Church of the Valley, 6565 Vesper Avenue, Van Nuys, approximately 0.15 mile from the project corridor;
- Saint Elizabeth's Church, 6635 Tobias Avenue, Van Nuys, approximately 0.20 mile from the project corridor;
- Kingdom of Jesus Christ, 14424 Vanowen Street, Van Nuys, approximately 0.07 mile from the project corridor;
- First Lutheran Church, 6952 Van Nuys Boulevard, Van Nuys, adjacent to the project corridor;
- Church on the Way, 6952 Van Nuys Boulevard, Van Nuys, approximately 0.20 mile from the project corridor;
- Mark's Episcopal Church, 14646 Sherman Way, Van Nuys, approximately 0.25 mile from the project corridor;
- Seventh-Day Adventist Church, 14615 Sherman Way, Van Nuys, approximately 0.25 mile from the project corridor;
- Van Nuys Church of Christ, 14655 Sherman Way, Van Nuys, approximately 0.20 mile from the project corridor;
- Sunrise Japanese Foursquare Church, 14705 Wyandotte Street, Van Nuys, approximately 0.25 mile from the project corridor;
- Panorama Presbyterian Church, 14201 Roscoe Boulevard, Panorama City, approximately 0.25 mile from the project corridor;
- Imam Bukhari Masjid, 8741 Van Nuys Boulevard, Panorama City, adjacent to the project corridor;
- San Fernando Valley Interfaith, 14555 Osborne Street, Panorama City, adjacent to the project corridor;

- Panorama SDA Church, 14517 Osborne Street, Panorama City, approximately 0.05 mile from the project corridor;
- Panorama City Four Square Church, 14320 Nordhoff Street, Panorama City, approximately 0.15 mile from the project corridor;
- Iglesia Ni Cristo (Church of Christ), 14308 Nordhoff St, Panorama City, approximately 0.20 mile from the project corridor;
- Valley Church, 14301 Nordhoff Street, Panorama City, approximately 0.25 mile from the project corridor;
- Ministerios Rhema Inc., 14246 Nordhoff Street, Panorama City, approximately 0.30 mile from the project corridor;
- Universal Church, 9110 Van Nuys Boulevard, Panorama City, adjacent to the project corridor;
- Iglesia Del Nazareno, 9260 Van Nuys Boulevard, Panorama City, adjacent to the project corridor;
- Iglesia De Restauracion, 9936 Beachy Avenue, Arleta, adjacent to the project corridor;
- Bible Baptist Church, 14101 Van Nuys Boulevard, Arleta, adjacent to the project corridor;
- San Fernando Valley Southern Baptist, 10135 Arleta Avenue, Arleta, adjacent to the project corridor;
- Greater Missionary Baptist Church, 13451 Vaughn Street, San Fernando, approximately 0.25 mile from the project corridor;
- St. Alphonsa Syro-Malabar Catholic Church, 607 4th Street, San Fernando, approximately 0.25 mile from the project corridor;
- First Church of Christ, 606 Chatsworth Drive, San Fernando, approximately 0.35 mile from the project corridor;
- Living Hope Community Church, 214 N Maclay Avenue, San Fernando, approximately 0.15 mile from the project corridor;
- Saint Ferdinand Church, 1109 Coronel Street, San Fernando, approximately 0.25 mile from the project corridor;
- Park Chapel African Methodist Episcopal Church, 1102 4th Street, San Fernando, approximately 0.17 mile from the project corridor;
- Calvary United Pentecostal Church, 1119 3rd Street, San Fernando, approximately 0.12 mile from the project corridor;
- Lighthouse Christian Center, 1231 1st Street, San Fernando, approximately 0.05 mile from the project corridor;
- Church of the Nazarene, 1420 4th Street, San Fernando, approximately 0.17 mile from the project corridor;
- Liberty Missionary Baptist Church, 511 North Workman Street, San Fernando, approximately 0.35 mile from the project corridor;
- Santa Rosa Catholic Church, 668 Workman Street, San Fernando, approximately 0.30 mile from the project corridor; and
- First Baptist Church of San Fernando, 215 Macneil Street, San Fernando, approximately 0.20 mile from the project corridor.

4.15.2.9 Preschools and Daycare Facilities

The following preschools and daycare facilities are in the project study area:

- Head Start, 14612 Calvert Street, Van Nuys, approximately 0.10 mile from the project corridor;
- Cheburashka Day Care, 14249 Kittridge Street, Van Nuys, approximately 0.25 mile from the project corridor;
- Kids First Learning Center, 13232 Kagel Canyon Street, Pacoima, approximately 0.35 mile from the project corridor; and
- KinderCare, 2100 Frank Modugno Drive, San Fernando, adjacent to the project corridor.

4.15.2.10 Senior Services

The following senior services are located in the project study area:

- Van Nuys Multipurpose Senior Citizen Center, 6514 Sylmar Avenue, Van Nuys, approximately 0.25 mile from the project corridor;
- San Fernando Senior Center, 208 Park Avenue, San Fernando, approximately 0.15 mile from the project corridor; and
- Las Palmas Park Senior Center, 505 South Huntington Street, San Fernando, approximately 0.20 mile from the project corridor.

4.15.2.11 Community Issues and Concerns

A series of community outreach meetings were held in order to gauge community concerns and potential issues that could arise within the project study area. Mobility, access, and traffic issues and concerns related to parklands and community facilities impacts were expressed (please see the Parklands and Community Facilities Impacts Report in Appendix T for further details on these issues).

Outreach to the community, through public meetings and other methods, shall continue throughout the environmental review process. This community input is critical in assessing potential issues within the project study area; therefore, any additional information that is made available from future community outreach efforts shall be taken into consideration in project development.

4.15.3 Environmental Consequences, Impacts, and Mitigation Measures

4.15.3.1 No-Build Alternative

Construction Impacts

The No-Build Alternative would not involve new transportation or infrastructure improvements aside from projects currently under construction or funded for future construction. Therefore, the No-Build Alternative would have no construction impacts on parklands and community facilities.

Operational Impacts

Direct Impacts

The No-Build Alternative would not include any new transportation infrastructure, construction, or major service changes beyond what is identified in Metro's 2009 Long Range Transportation Plan (LRTP) and Southern California Association of Governments (SCAG) 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). This alternative would not result in the physical acquisition, displacement, or relocation of parklands and community facilities, or result in the disturbance of these facilities from noise, air quality, traffic, or visual impacts.

Indirect Impacts

The No-Build Alternative would not indirectly induce growth or result in access changes that would affect the demand and use of parklands and community facilities, or that would affect the service ratios, response times, or performance objectives of public services.

Under this alternative, existing Metro Rapid and Local bus service would continue to operate along the project corridor, and existing or planned pedestrian and bicycle projects would continue to be implemented on Van Nuys Boulevard and connecting east/west facilities. Therefore, the No-Build Alternative would not result in changes to existing or planned pedestrian and bicycle access, access to public transportation, or vehicular access to parklands or community facilities in the project study area, and would not result in changes to emergency vehicle access.

This alternative, however, would not achieve the improvements in circulation within the existing community that would result from the Locally Preferred Alternative (LPA). Community access would likely continue to deteriorate with increasing regional traffic congestion expected between now and 2040, resulting in a long-term reduction in access to parklands and community facilities and reduced emergency vehicle access.

Cumulative Impacts

Per CEQA Section 15130 (b), the cumulative impacts analysis can consider either a "list of past, present, and probable future projects producing related or cumulative impacts" 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." The cumulative impacts analysis below is based on the approach that considers the cumulative projects, which are listed in Table 2-3 in Chapter 2 of this FEIS/FEIR.

The project study area for the cumulative impacts analysis for the No-Build Alternative in this section consists of the service areas of the parklands and community facilities that serve the project site or would be affected by the proposed project. In general, the cumulative impacts project study area encompasses the neighborhoods and communities adjacent to the project corridor.

Under the No-Build Alternative, there would be no impacts on parklands and community facilities; therefore, this alternative would not contribute to any cumulative impacts on parklands and community facilities.

Mitigation Measures

Construction Mitigation Measures

No construction mitigation measures are required.

Operational Mitigation Measures

No operational mitigation measures are required.

Impacts Remaining After Mitigation

NEPA Finding

No adverse effects under NEPA would occur.

CEQA Determination

No impacts under CEQA would occur.

4.15.3.2 Locally Preferred Alternative (Alternative 4 Modified: At-Grade LRT)

Construction Impacts

Implementation of the LPA would include construction of a light-rail transit line, including track, an overhead contact system (OCS), traction power substations (TPSSs), and MSF structures. Construction of the LPA would last approximately 5 years. However, it's expected that construction would not occur for more than 18 months at any one particular location.

Direct Impacts

Physical Acquisition, Displacement, or Relocation of Parklands and Community Facilities

The LPA would not require the physical acquisition, displacement, or relocation of parklands or community facilities during construction.[8]

Noise, Air Quality, Traffic, and Visual Impacts on Parklands and Community Facilities

LPA construction activities would result in noise, dust, odors, and traffic delays resulting from haul trucks and construction equipment in public streets and staging areas. These temporary impacts could adversely affect the recreational values of adjacent parklands or could cause disturbance to community facilities that are sensitive to these impacts, such as schools, libraries, hospitals, daycare facilities, and senior facilities. As described in Sections 4.6 and 4.8 of this FEIS/FEIR, respectively, localized air quality impacts and noise impacts on nearby sensitive uses during construction of the LPA would be significant under CEQA and adverse under NEPA. Odor impacts during construction would be minor.

[8] A sliver take of property may be required from San Fernando Middle School that could affect a small portion of an exterior paved playground area; however, no buildings or structures would be displaced.

Construction of the LPA may also result in visual impacts on viewers from parklands and community facilities within and surrounding the project corridor, which could adversely affect the aesthetic value of these resources. Views of construction areas could be possible from parklands and community facilities on some of the adjacent parcels, either directly through fencing, through entrance gates, or over fencing from second story and higher windows. Construction activities at staging areas and construction sites may introduce considerable heavy equipment such as cranes and associated vehicles, including bulldozers, backhoes, graders, scrapers, and trucks, into the view corridor of public streets, sidewalks, and properties. In addition, mature vegetation, including trees, could temporarily or permanently be removed from some areas. These visual impacts on nearby visually sensitive uses (see Section 4.5 for additional details on potential visual impacts) would be significant under CEQA and adverse under NEPA; however, they would be reduced to less-than-significant or not adverse levels with implementation of proposed mitigation measures (measures listed in Section 4.5).

Indirect Impacts

Induced Population Growth and Increased Demand for Parklands and Community Facilities

Construction of the LPA is not expected to result in substantial changes to the existing population in the project study area. A substantial employment base and residential population currently exist in the San Fernando Valley within commuting distance of the project corridor, and the employment opportunities, which would be temporary, would not be expected to result in a substantial migration of additional residents to the project study area and induce substantial population growth in communities and neighborhoods in the project study area.

Proposed new stops and LRT patrons could be targets for vandalism and crime, which could result in a potential increase in the demand for police or fire protection services. However, the project corridor is currently a transportation corridor served by bus lines with a number of existing bus stops. In the event of an emergency or safety/security incident on Metro property, personnel from the Transit Services Bureau of LASD would be responsible for responding with assistance provided by LAPD, as needed. Additionally, all Metro facilities (e.g., LRT stations) would be designed in accordance with Metro Design Criteria including Fire/Life Safety Design Criteria. Consequently, the LPA would not substantially increase the demand for police or fire protection services and it would not require the construction of new police or fire protection facilities.

Changes in Access to Parklands and Community Facilities

Construction of stations and the alignment would require temporary sidewalk, lane, and road closures, and temporary removal of parking on Van Nuys Boulevard, San Fernando Road, Truman Street, and their cross streets. These closures would reduce pedestrian, bicycle, and vehicle access to parklands and community facilities along the project corridor during construction. However, alternative routes would be provided and the impacts would be temporary. Therefore, the impacts of the LPA on access would be less than significant under CEQA and would not be adverse under NEPA.

Lane and/or road closures would be scheduled to minimize disruptions, and a Traffic Management Plan would be approved, in coordination with both the Cities of Los Angeles and San Fernando, prior to construction. With the implementation of a Traffic Management Plan, including traffic control measures such as providing detours, displaying detour signage, and/or using traffic control flaggers to direct traffic around the construction site, access to parklands and community facilities would be maintained during construction and these temporary impacts would be less than significant under CEQA and would not be adverse under NEPA.

Operational Impacts

Direct Impacts

Physical Acquisition, Displacement, or Relocation of Parklands and Community Facilities

The LPA would not result in the physical acquisition, displacement, or relocation of parklands and community facilities to implement the proposed transportation improvements.[9]

Noise, Air Quality, Traffic, and Visual Impacts on Parklands and Community Facilities

Operation of the LPA would result in higher noise levels than existing conditions and impacts on nearby land uses. Local parklands and community facilities could be adversely affected by these higher noise levels. However, as described in the Noise and Vibration section (see Section 4.8) of this FEIS/FEIR, although parklands or community facilities could experience higher noise levels, the predicted increases are not expected to result in significant noise impacts.

Under the LPA, no substantial changes in aesthetic character would result from this alternative along the majority of the project corridor. The LPA, however, would require a number of elements to support vehicle operations, including median fences, an overhead contact system, traction power substations, signaling, a pedestrian bridge (or tunnel) at the Sylmar/San Fernando Metrolink Station, and an MSF, which could adversely affect the aesthetic value of parklands and community facilities. These additional elements would result in substantial changes to the aesthetic character of some areas along the project corridor, especially in residential and recreational areas, as well as along the Mission City Trail, a bike path in the Metro-owned railroad right-of-way in the City of San Fernando that would run parallel and adjacent to the light rail alignment.

The following parks are also in proximity to the proposed improvements and could be affected by visual changes from the LPA:

- Tobias Avenue Park, 9122 Tobias Avenue, Panorama City: This park is adjacent to the project corridor, immediately west of Van Nuys Boulevard.
- Pacoima Wash Greenway: This greenway is a future proposed project that crosses under the project corridor south of Van Nuys Boulevard and Arleta Avenue, and at San Fernando Road to the south of La Rue Street in San Fernando.
- Recreation Park (and San Fernando Regional Pool Facility), 208 Park Avenue, San Fernando: The park and pool facility are immediately northeast of Robert Kennedy Drive, which is adjacent to the project corridor at the Metro-owned railroad right-of-way.

The median fences, OCS, and pedestrian bridge at the Sylmar/San Fernando Metrolink Station, in particular, would introduce additional vertical elements that could substantially change the existing visual character and quality in these areas of the project corridor, especially for residents, pedestrians, and bicyclists, who would be expected to have high viewer sensitivity to their surroundings. Therefore, changes in aesthetic character from the LPA would be expected to be substantial in areas where sensitive viewers are located. Potential impacts on aesthetic character from the LPA are also addressed in more detail in Section 4.5 of this FEIS/FEIR. The visual impacts on sensitive viewers at local parklands or community facilities could be significant under CEQA and adverse under NEPA.

[9] Ibid.

Indirect Impacts

Induced Growth and Increased Demand for Parklands and Community Facilities

The LPA would not include the development of new housing or businesses that would directly induce population growth. The LPA would generate additional permanent employment opportunities for light rail train drivers and MSF employees; however, the number of jobs would be relatively few and a substantial employment base and residential population currently exist in the San Fernando Valley. Therefore, the employment opportunities provided by the LPA are not expected to result in a substantial migration of additional residents to the project study area.

The LPA could indirectly affect growth and development in the project study area by promoting planned development and redevelopment near station areas. The type of development expected around station areas would most likely be Transit-Oriented Development (TOD), which is mixed-use residential and commercial development designed to maximize access to public transport. The LPA may also attract businesses from other areas of the region to the immediate areas surrounding the proposed stations. However, because the LPA would be located in an urban area containing a limited number of vacant or underutilized parcels, it would not be expected to substantially change existing growth and development patterns. The LPA is also intended to accommodate future population growth that has been projected in for region. Any development that could result around station areas is anticipated to be consistent with current growth projections. Therefore, it's not expected that any induced growth due to the LPA would substantially increase the demand for parklands and community facilities and require the construction of new facilities to meet that demand. Impacts would be less than significant under CEQA and would not be adverse under NEPA.

Changes in Access to Parklands and Community Facilities

To implement the LPA, restrictions on motor vehicle movements would be required to allow for the reconfiguration of the roadway and reduced number of travel lanes necessary to accommodate the light rail facilities or eliminate vehicle conflicts. Left turns from Van Nuys Boulevard onto cross streets would be maintained at most of the currently signalized intersections; however, all movements across the median at currently unsignalized intersections would be blocked by the LRT dedicated guideway, including 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.

In addition to restrictions on vehicle movements, all curbside parking would be prohibited on Van Nuys Boulevard, which could require vehicles to park further away from parklands and community facilities. Under this alternative, vehicle movements and parking would be maintained along San Fernando Road and Truman Street where the LRT alignment would run along the Metro-owned railroad right-of-way. On-street parking would still be available on side streets near the project corridor, and many parklands and community facilities may have dedicated parking lots that would provide sufficient off-street parking. Under the LPA, parking demand may spill over into adjacent residential neighborhoods, resulting in decreased parking availability for nearby residences. However, more people may be using transit as a result of the project, which could reduce the need for parking.

While restrictions on vehicle movements and loss of parking on Van Nuys Boulevard would present an inconvenience for vehicles traveling along the project corridor, vehicles would continue to have access to either side of the roadway at signalized intersections, and mobility and access by public transit would be enhanced under the LPA; therefore, access would be maintained under the LPA, and no substantial impacts would be expected.

As described in Chapter 3, the LPA would result in increased congestion and significant impacts at study intersections along the corridor due the reduction in the number of mixed-flow lanes. As a consequence and because of the reduced access, impacts on emergency vehicle access would be potentially significant.

As a consequence of the reduced access and because of the increased congestion that would occur along the corridor due to the reduction in the mixed-flow lanes, impacts on emergency vehicle access would be potentially significant.

Cumulative Impacts

Other present and reasonably foreseeable future projects in the area, including the cumulative projects in Table 2-3 of the FEIS/FEIR, could result in temporary impacts from construction activities. In addition, the impacts from past projects may also have resulted in temporary impacts. All cumulative impacts would be less than significant, except for potentially significant operational visual impacts.

The LPA would result in no impacts related to the physical acquisition, displacement, or relocation of parkland and community facilities with the exception of a potential small sliver take of property from San Fernando Middle School. During construction, the LPA could result in substantial adverse effects and significant impacts under NEPA and CEQA related to noise, air quality, traffic, and visual impacts from construction activities and equipment; and reduced access and delayed emergency response resulting from temporary sidewalk, lane, and road closures, and removal of parking. Construction effects and impacts would be reduced or minimized through construction management and abatement measures, as detailed below (Construction Mitigation Measures) and in Sections 4.5-Visual Quality and Aesthetics, 4.6-Air Quality, 4.8-Noise and Vibration, and Chapter 3-Transportation, Transit, Circulation, and Parking. In addition, effects and impacts under the LPA would be short-term and temporary, and with the implementation of mitigation measures, the project's contribution to noise, and traffic cumulative impacts would be reduced to levels that would not be cumulatively considerable under NEPA and CEQA. Because construction air quality impacts would remain significant and unavoidable after implementation of mitigation measures, the project's contribution to cumulative air quality impacts on users of parklands along the project corridor would remain cumulatively considerable after mitigation.

Past projects have resulted in localized air quality, traffic, or noise impacts, and other present or reasonably foreseeable future projects in the area, including those listed in Table 2-3 of this FEIS/FEIR, could further degrade air quality, traffic, and noise conditions in the area, which could adversely affect parklands and communities facilities. Therefore, cumulative impacts from past, present, and reasonably foreseeable future projects are significant. During operation, the LPA would result in no or negligible air quality, traffic, or noise impacts on parklands and community facilities.

Past projects have resulted in substantial growth impacts in the area, and other present or reasonably foreseeable future projects in the area could further result in growth impacts that could adversely affect parklands and communities facilities. Therefore, cumulative impacts from past, present, and reasonably foreseeable future projects are considered to be potentially significant. The LPA would not result in adverse effects under NEPA, and impacts that are less than significant under CEQA, related to induced population growth around station areas. The project corridor is in an urbanized area containing a limited number of vacant or underutilized parcels. Therefore, the LPA would not be expected to change existing growth and development patterns substantially. In addition, the LPA is intended to accommodate future population growth that has already been projected in the region, and any development that could result around station areas is anticipated to be consistent with these current growth projections. Consequently, the LPA's contribution to cumulative growth impacts would not be cumulatively considerable.

Related projects in the project study area include housing and mixed-use development, which could result in population growth and consequently the increased use of parklands and facilities. However, developers of housing and mixed-use projects in the project study area would be required to pay fees for park improvements, in accordance with the Quimby Act, to ensure that there are adequate parklands to serve the additional residents resulting from development projects. In addition, the jurisdictions in the project study area have plans to increase recreational opportunities and facilities, including through the implementation of the City of Los Angeles "50 New Parks Initiative", discussed above in Section 2.3.1 (Parklands and Open Space), and the City of San Fernando Pacoima Wash Greenway Project. which proposes a 1.6 mile bike path, discussed above in Section 2.1.3 (Local Regulations). With the availability of additional recreational opportunities, there would be sufficient recreational opportunities to accommodate any increase in residents and visitors to the facilities. Therefore, cumulative impacts from past, present, and reasonably foreseeable future projects would be less than significant. The LPA would not result in adverse effects under NEPA, and impacts that are less than significant under CEQA, related to increased regional access to parklands and community facilities, which has the potential to result in the increased use of these facilities. However, given the project corridor is in an urbanized area with substantial existing recreational facilities, in addition to planned facilities, in surrounding areas, and because this and the LPA are unlikely to draw substantial numbers of visitors from those areas to the project study area, the project's contribution to cumulative impacts due to increased use of parklands would not be cumulatively considerable.

The LPA would result in potentially significant operational visual impacts because it would introduce new vertical structures, such as the OCS that could obstruct views to and from parklands along the alignment. Past projects have resulted in a highly urbanized landscape along the project corridor from the construction of buildings, transportation infrastructure, and other structures that have adversely affected scenic vistas, scenic resources, and visual character and quality. In addition, other present or reasonably foreseeable future projects in the area could further degrade the visual character and quality of the area, although that is unlikely since the related projects consist of infill development projects that would not result in drastic changes to the existing visual character of the corridor or introduce new elements that would obstruct views. However, because impacts from the LPA would remain significant after implementation of mitigation measures, its contribution to cumulative visual impacts on parklands and community facilities during operation would be cumulatively considerable.

Mitigation Measures

The reader is referred to the following sections in this FEIS/FEIR for mitigation measures to reduce or avoid potential construction and operational impacts on parklands and community facilities: Chapter 3, *Transportation, Transit, Circulation, and Parking*; Section 4.5, *Visual Quality and Aesthetics*; Section 4.6, *Air Quality*; Section 4.8, *Noise and Vibration*; and Section 4.14, *Safety and Security.*

Mitigation Measures MM-TRA-1 and MM-TRA-2 require a Traffic Management Plan, creation of a Construction Relations team to inform the general public about the construction process, and, where feasible, temporary removal of on-street parking to maximize vehicular capacity at locations affected by construction closures. Mitigation Measure MM-VIS-1 requires construction staging to be located away from residential and recreational areas and screened to minimize visual intrusion into the surrounding landscape. Mitigation Measures MM-AQ-1 through MM-AQ-8 require the construction contractor to limit vehicle trips and the idling of heavy equipment and use methods and equipment types that reduce potential emissions and pollutants to the extent feasible. Mitigation Measures MM-NOI-2a and 2b and MM-NOI-3a to 3c include the construction of sound walls, the use of friction control (i.e., a lubrication system), and placement of the TPSS. In addition, Mitigation Measure MM-VIB-2 requires the installation of track and track equipment to reduce potential vibration due to operation of the rail vehicle near sensitive receptors. Mitigation Measures MM-SS-2, MM-SS-4, MM-SS-5 require coordination with public safety and transit providers to ensure access to parklands and community facilities.

During project operation and construction, these measures would minimize direct impacts that could adversely affect the quality of the human environment with respect to parklands and community facilities.

Impacts Remaining After Mitigation

NEPA Finding

The potential construction air quality effects on parklands and community facilities, operational effects on emergency vehicle access, and operational visual impacts on sensitive viewers at parklands or community facilities would be adverse after mitigation. All other effects would not be considered adverse.

CEQA Finding

The potential construction air quality impacts on parklands and community facilities would remain significant after implementation of proposed mitigation measures. The operational impacts of the LPA on emergency vehicle access and visual impacts on sensitive viewers would be significant after implementation of proposed mitigation measures. All other impacts would be less than significant.

4.15.3.3 Initial Operating Segment

An Initial Operating Segment (IOS) has been included in this FEIS/FEIR to enable Metro to realize potential cost savings, which would not otherwise occur under the LPA, from phasing the project. It should be noted that Metro is proceeding with IOS's on other Metro projects for that reason and to specifically provide the decision-making body of Metro (the Metro Board) with flexibility in determining the most efficient and cost-effective manner to implement those projects. Proceeding with an IOS for the proposed project would also allow further coordination to occur with the Public Utilities Commission (PUC) and Metrolink, which will be necessary to accommodate double tracking of the Antelope Valley Line, and the City of San Fernando regarding traffic impacts at intersections in the City, prior to development of the remaining northern segment of the LPA.

Although the IOS for the proposed project would run along the same alignment and have the same design features and operating characteristics as those described above for the LPA, it would occupy a smaller project footprint than the LPA because it would extend from the Metro Orange Line on the south to the proposed Van Nuys/San Fernando station on the north. It remains Metro's intent, however, to build the remaining northern 2.5 miles of the LPA within the existing railroad right-of-way, from the Van Nuys/San Fernando station to the Sylmar/San Fernando Metrolink station. Impacts associated with the IOS are discussed below.

Construction Impacts

Similar to the LPA, implementation of the IOS would include construction of a light rail transit line including track, OCS, TPSSs, and MSF structures. Under the IOS, construction would last approximately 4.5 to 5 years. However, construction is not expected to last more than 18 months at any one particular location.

Direct Impacts

Physical Acquisition, Displacement, Relocation of Parklands and Community Facilities

The IOS would not require the physical acquisition, displacement, or relocation of parklands or community facilities during construction.

Noise, Air Quality, Traffic, and Visual Impacts on Parklands and Community Facilities

Impacts would be similar to or slightly less than those stated for the LPA. The three parks in proximity to the LPA (Tobias Avenue Park, Pacoima Wash Greenway, and Recreational Park), located north of the Van Nuys/San Fernando Road station, would not be affected by the IOS. IOS construction activities would result in noise, dust, odors, and traffic delays. These temporary impacts could adversely affect the recreational values of adjacent parklands or cause disturbance to community facilities. As described in Sections 4.6 and 4.8 of this FEIS/FEIR, respectively, localized air quality impacts and noise impacts on nearby sensitive uses during construction of the LPA would be significant under CEQA and adverse under NEPA. As such, localized air quality impacts and noise impacts on nearby sensitive uses during construction of the IOS would be similar. Odor impacts during construction would be minor.

Indirect Impacts

Induced Population Growth and Increased Demand for Parklands and Community Facilities

Impacts resulting from induced population growth and its effect on parklands and community facilities would be similar to or slightly less than those stated for the LPA. The three parks (Tobias Avenue Park, Pacoima Wash Greenway, and Recreational Park) located in the immediate vicinity of the segment of the LPA within the Metro-owned railroad right-of-way would not be affected by the IOS.

The project corridor is currently served by bus lines with a number of existing bus stops. Personnel from the Transit Services Bureau of LASD would be responsible for responding with assistance provided by LAPD, in the event of an emergency or safety/security incident on Metro property. As a result, the IOS would not substantially increase the demand for police or fire protection services and it would not require the cosntruction of new police or fire protection services.

Changes in Access to Parklands and Community Facilities

Impacts resulting from changes in access to parklands and community facilities as a result of the IOS, would be similar to or slightly less than those stated for the LPA. As state above, there are three parks (Tobias Avenue Park, Pacoima Wash Greenway, and Recreational Park) located in the immediate vicinity of the segment of the LPA within the Metro-owned railroad right-of-way that would not be affected by the IOS. Temporary closure of sidewalks, lanes and roads would reduce pedestrian, bicycle and vehicle access to parklands and community facilities along the project corridor during construction. Alternative routes would be provided and the impacts would be temporary. Therefore, the impacts of the IOS on access would be less than significant under CEQA and would not be adverse under NEPA.

Operational Impacts

Direct Impacts

Physical Acquisition, Displacement, Relocation of Parklands and Community Facilities

The IOS would not require the physical acquisition, displacement, or relocation of parklands or community facilities during operation. Unlike the LPA, the IOS would not require a sliver take of property from San Fernando Middle School.

Noise, Air Quality, Traffic, and Visual Impacts on Parklands and Community Facilities

Similar to the LPA, operation of the IOS would result in higher noise levels than existing conditions and impacts on nearby land uses. Local parklands and community facilities could be adversely affected by these higher noise levels. However, as described in the Noise and Vibration section (see Section 4.8) of this FEIS/FEIR, although parklands or community facilities could experience higher noise levels, the predicted increases are not expected to result in significant noise impacts. The IOS would require infrastructure, such as an OCS, to support vehicle operation, which could adversely affect the aesthetic value of parklands and community facilities. The IOS, however, would not include the segment of the LPA along the Metro owned railroad right-of-way that may include a pedestrian bridge at the Sylmar/San Fernando station. Nonetheless, similar to the LPA, the vertical elements under the IOS would result in substantial changes to the aesthetic character of some areas along the project corridor.

The IOS is close to the same parks along or near Van Nuys Boulevard mentioned in the operational impacts for the LPA. As discussed above, the IOS would not affect the three parks along the railroad right-of-way segment of the LPA located north of the Van Nuys Boulevard/San Fernando Road station.

Indirect Impacts

Induced Population Growth and Increased Demand for Parklands and Community Facilities

Operational impacts related to induced population growth and increased demand for parklands and community facilities would be similar to those stated for the LPA. Impacts could include an indirect effect on growth and development in the project study area by promoting planned development and infill development near station areas. Simiar to the LPA, the IOS would be located in an urban area containing a limited number of vacant or underutilized parcels; consequently, it would not be expected to substantially change existing growth and development patterns. The IOS is also intended to accommodate future population growth that has already been projected in the region, and development proposed near station areas would be consistent with that projected population growth. Therefore, it’s not expected that any induced growth due to the IOS would substantially increase the demand for parklands and community facilities and require the construction of new facilities to meet that demand. Impacts would be less than significant under CEQA and would not be adverse under NEPA.

Changes in Access to Parklands and Community Facilities

As stated above for the LPA, implementation of the IOS would include restrictions on motor vehicle movements, such as turn lane restrictions. 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. In addition to restrictions on vehicle movements, all curbside parking would be prohibited on Van Nuys Boulevard. However, on-street parking would still be available on side streets near the project corridor, and many parklands and community facilities may have dedicated parking lots that would provide sufficient off-street parking. As was stated with the LPA, demand may spill over into adjacent residential neighborhoods, resulting in decreased parking availability for nearby residences. However, more people may be using transit as a result of the project, which could reduce the need for parking.

As a consequence of the reduced access and because of the increased congestion due to the reduction in the mixed-flow lanes, impacts on emergency vehicle access to parks and community facilities would be similar to the LPA and would be potentially significant.

Cumulative Impacts

The IOS would result in similar cumulative impacts as those stated above for the LPA. Other present and reasonably foreseeable future projects in the area, including the cumulative projects in Table 2-3 of this FEIS/FEIR, could result in temporary impacts from construction activities, and impacts from past projects may also have resulted in temporary impacts. All cumulative impacts would be less than significant, except for potentially significant operational visual impacts.

The IOS would result in potentially significant operational visual impacts because it would introduce new vertical structures, such as the OCS that could obstruct views to and from parklands along the alignment. Past projects have resulted in a highly urbanized landscape along the project corridor resulting in adversely affected scenic vistas, scenic resources, and visual character and quality. In addition, other present or reasonably foreseeable future projects in the area could further degrade the visual character and quality of the area. Because impacts from the IOS would remain significant after implementation of mitigation measures, its contribution to cumulative visual impacts on parklands and community facilities during operation would be cumulatively considerable.

Mitigation Measures

The same mitigation measures as those stated above for the LPA, would be required for the IOS. These measures include those in Chapter 3, Transportation, Transit, Circulation, and Parking; Section 4.5, Visual Quality and Aesthetics; Section 4.6, Air Quality; Section 4.8, Noise and Vibration; and Section 4.14, Safety and Security.

Impacts Remaining After Mitigation

NEPA Finding

The potential construction air quality effects on parklands and community facilities, operational effects on emergency vehicle access, and operational visual impacts on sensitive viewers at parklands or community facilities would be adverse after mitigation. All other effects would not be adverse.

CEQA Finding

The potential construction air quality impacts on parklands and community facilities would remain significant after implementation of proposed mitigation measures. The operational impacts of the IOS on emergency vehicle access and visual impacts on sensitive viewers would be significant after implementation of proposed mitigation measures. All other impacts would be less than significant.

4.16 Historical, Archaeological, and Paleontological Resources

4.16.1 Regulatory Framework and Methodology

4.16.1.1 Regulatory Framework

The applicable federal, state, and local regulations that are relevant to an analysis of the proposed project's cultural resources impacts are listed below. For additional information regarding these regulations, please see the Cultural Resources Impact Report in Appendix S of this FEIS/FEIR.

Federal

The following federal regulations would be applicable to the proposed project:

- National Environmental Policy Act;
- Section 106 of the National Historic Preservation Act (NHPA);
- National Register of Historic Places;
- Code of Federal Regulations Part 800;
- Archeological and Historic Preservation Act of 1974;
- Archeological Resources Protection Act of 1979;
- American Indian Religious Freedom Act of 1978;
- Native American Graves Protection and Repatriation Act of 1990;
- Executive Order 11593 (1971), Protection and Enhancement of the Cultural Environment;
- Executive Order 13007 (1996), Protection and Preservation of Native American Sacred Sites;
- Executive Order 13175 (2000), Consultation and Coordination with Indian Tribal Governments;
- Executive Order 13287 (2003), Preserve America; and
- Antiquities Act.

State

The following state regulations would be applicable to the proposed project:

- California Environmental Quality Act (CEQA);
- Public Resources Code (PRC); and
- State Health and Safety Code (HSC) § 7050.5/California PRC §5097.9.

Local

The project study area lies in the Cities of Los Angeles and San Fernando. NEPA and CEQA guides lead agencies to incorporate local designations in the review and evaluation of project effects. At the local level, the City of Los Angeles designates individual historical resources as Historic-Cultural

Monuments (LAHCM) and historic districts as Historic Preservation Overlay Zones (HPOZ). Also at the local level, the City of San Fernando designates Historic Resources, which are included in its San Fernando Register of Historic Resources. Local designations, including HCMs and HPOZs designated by the City of Los Angeles and Historic Resources designated by the City of San Fernando, have "presumptive significance" under CEQA, and mitigation measures are recommended to address any significant impacts on these resources.

The project study area lies in the Cities of Los Angeles and San Fernando. Although the City of San Fernando has no guidelines concerning fossils, the City of Los Angeles has adopted a CEQA thresholds guide (CoLA 2006):

> If a project could disturb "surface or subsurface fossils, either through site preparation, construction or operational activities, or through an increase in human activities at or near the fossil site" then "an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration, or EIR may be required" (CoLA 2006, page D. 1-2 section 1C).
>
> Potential mitigation measures for this project include (1) nonexcavation, or (2) retention of "a qualified paleontologist to monitor, and if necessary, salvage scientifically significant fossil remains", "divert grading efforts in the area of an exposed fossil to allow excavation and if necessary salvage of exposed fossils", and to "ensure that scientific specimens become the property of a public, nonprofit educational institution, such as the Los Angeles County Museum of Natural History" (now the Natural History Museum of Los Angeles County; CoLA 2006, page D. 1-5 section 2B).
>
> Additionally, the City of Los Angeles Public works Construction, Section 6-3.2 "Requires that grading, excavation, or other ground disturbing activities for a public project be halted in the area of a paleontological or archaeological find, until such time as a resource expert can review the find, determine its significance, and if required, determine appropriate mitigation measures" (CoLA 2006, page D. 1-8).

4.16.1.2 Methodology

Archaeological Resources

For the purposes of this project, a general project study area for the NEPA and CEQA analysis and a smaller Area of Potential Effects (APE) for the Section 106 analysis were identified. The project study area was the same broad area generally utilized for all environmental impacts analysis on this project, whereas a narrower APE was defined to solely identify known and potential cultural resources in the project area that have the potential to be physically or indirectly affected by the undertaking. For this project, a preliminary project study area was identified for research and records search purposes and encompassed a one-half mile radius on either side of the proposed alignment areas.

Information on existing archaeological resources within the project study area was gathered through the use of a cultural resources literature and records search. On October 6, 2011, ICF conducted a records search at the South Central Coastal Information Center (SCCIC) located at California State University Fullerton. SCCIC is a branch of the California Historical Resources Information Center, which maintains the State of California's official records of previously recorded cultural resource studies and recorded archaeological sites. SCCIC maintains the records for Los Angeles and Orange Counties. The SCCIC records search included the project study area and a 0.5-mile buffer surrounding the project study area. In addition, the ICF cultural resources library and the following sources were consulted:

- National Register of Historic Places (NRHP);
- Historic Property Data Files;
- The California Register of Historical Resources (CRHR);
- California Historical Landmarks Database; and
- Los Angeles Historic-Cultural Landmarks Database.

Potential impacts to archaeological resources resulting from the project alternatives were evaluated by determining whether ground disturbing activities would affect areas that contain or could contain any archaeological sites listed in or eligible for listing in the National Register of Historic Places (NRHP) or the CRHR, or that are archaeological resources designated as a City of Los Angeles Historic-Cultural Monument, or that are otherwise considered a unique or important archaeological resource under CEQA.

Historical Resources

The following steps were used to identify known and potentially eligible historical resources within the project area that could be affected by the proposed project alternatives:

- Determine scope of identification efforts and APE;
- Review existing information/identification of previously recorded properties;
- Seek information from the public/interested parties; and
- Identify and evaluate potential historic properties.

Descriptions of these steps and the APE maps for historic resources are included in the Cultural Resources Impacts Report in Appendix S.

4.16.1.3 Significance Thresholds

NEPA and Section 106

NEPA does not include specific significance thresholds. According to the Council on Environmental Quality's (CEQ) Regulations for Implementing the Procedural Provisions of NEPA, the determination of significance under NEPA is based on context and intensity.[1] Context relates to the various levels of society where effects could result, such as society as a whole, the affected region, the affected interests, and the locality. The intensity of an effect relates to several factors, including the degree to which public health and safety would be affected; the proximity of a project to sensitive resources; and the degree to which effects on the quality of the human environment are likely to be highly controversial or involve unique or unknown risks.

However, Section 106 of the NHPA requires federal agencies that license or fund projects to consider the undertaking's effects on historic properties (and archaeological resources). Provided below are descriptions of the criteria that are used to determine whether an undertaking or project would result in an adverse effect on archaeological and historic resources under Section 106.

[1] Code of Federal Regulations. *CEQ – Regulations for Implementing NEPA, 40 CFR Part 1508, Terminology and Index*.

Archaeological Resources

An adverse effect is found on archaeological resources when an undertaking may alter, directly or indirectly, any of the characteristics of an archaeological resource that qualify the resource for inclusion in the NRHP because it:

- Is associated with events that have made a significant contribution to the broad patterns of history;
- Is associated with the lives of persons significant in the past;
- Embodies the distinctive characteristics of a type, period, or method of construction, represents the work of a master, possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction; or
- Has yielded, or may be likely to yield, information important in prehistory or history.

Historic Properties

An adverse effect is found on historic properties when an undertaking may alter, directly or indirectly, any of the characteristics of historic properties that qualify the resource for inclusion in the NRHP because it:

- Is associated with events that have made a significant contribution to the broad patterns of history;
- Is associated with the lives of persons significant in the past;
- Embodies the distinctive characteristics of a type, period, or method of construction, represents the work of a master, possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction; or
- Has yielded, or may be likely to yield, information important in prehistory or history.

According to 36 CFR 800.5(a)(1), an adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, setting, design, materials, workmanship, feeling, or association.

Examples of adverse effects on historic properties include, but are not limited to:

(i). Physical destruction of or damage to all or part of the property;

(ii). Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines;

(iii). Removal of property from its historic location;

(iv). Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;

(v). Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;

(vi). Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and

(vii). Transfer, lease, or sale of property out of federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.[2]

CEQA

State CEQA Guidelines

Archaeological Resources

For the purposes of the analysis in the FEIS/FEIR, in accordance with Appendix G of the State CEQA Guidelines, the project would have a significant archaeological resources impact under CEQA if it would:

- Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5; or
- Disturb any human remains, including those interred outside of formal cemeteries.

Section 15064.5(b) of Appendix G of the State CEQA Guidelines goes on to define "substantial adverse change," in relevant part, as follows:

1. Substantial adverse change in the significance of a historical resource, including significant archaeological resources, means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource would be materially impaired.
2. The significance of a historical resource, including significant archaeological resources, is materially impaired when a project:

   a. Demolishes or materially alters in an adverse manner those physical characteristics of the resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the CRHR; or

   b. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register or historic resources pursuant to PRC § 5020.1(k) or its identification in a historic resources survey meeting the requirements of PRC § 5024.1(g), unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically significant; or

   c. Demolishes or materially alters in an adverse manner those physical characteristics of the resource that convey its historical significance and that justify its eligibility for inclusion in the CRHR as determined by a lead agency for the purposes of CEQA.

[2] 36 CFR 800.5(a)(2)(i through vii).

Historical Resources

In enacting the CRHR in 1998, the Legislature amended CEQA to clarify which properties are significant, as well as which project impacts are considered to be significantly adverse:

> A project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment.[3]
>
> A substantial adverse change means demolition, destruction, relocation, or alteration of the resource such that the significance of a historical resource is materially impaired.[4]

The State CEQA Guidelines include a slightly different definition of "substantial adverse change:"[5]

> Substantial adverse change in the significance of a historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource is materially impaired.[6]

The Guidelines go on to state that "the significance of a historic resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics that convey its significance and that justify its inclusion in or eligibility for inclusion in the CRHR local register, or its identification in a historic resources survey."[7]

Paleontological Resources

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, which are often used as thresholds or guidance in developing thresholds for determining impact significance. Accordingly, for the purposes of this FEIS/FEIR, a project would normally have a significant impact on paleontological resources, under CEQA, if it would:

- Directly or indirectly destroy a unique paleontological resource or site.

Only qualified, trained paleontologists with specific expertise in the type of fossils being evaluated can determine the scientific significance of paleontological resources. Fossils are considered to be significant if one or more of the following criteria apply:

1. The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct.
2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein.
3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas.
4. The fossils demonstrate unusual or spectacular circumstances in the history of life.
5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

[3] PRC § 21084.1.
[4] PRC § 5020.1(q).
[5] 14 CCR § 15064.5(b)(2)(A)
[6] 14 CCR § 15064.5(b)(2)(A).
[7] 14 CCR §15064.5(b)(2).

As so defined, significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important. Significant fossils can include remains of large to very small aquatic and terrestrial vertebrates or remains of plants and animals previously not represented in certain portions of the stratigraphy. Assemblages of fossils that might aid stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, and paleoclimatology are also critically important (Scott and Springer 2003; Scott et al. 2004).

L.A. CEQA Thresholds Guide

Archaeological Resources

According to the *L.A. CEQA Thresholds Guide*, a project would have a significant impact upon archaeological resources if it could disturb, damage, or degrade an archaeological resource or its setting that is found to be important under the criteria of CEQA because it:

- Is associated with an event or person of recognized importance in California or American prehistory or of recognized scientific importance in prehistory;
- Can provide information which is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable archaeological research questions;
- Has a special or particular quality, such as the oldest, best, largest, or last surviving example of its kind;
- Is at least 100-years-old and possesses substantial stratigraphic integrity; or
- Involves important research questions that historical research has shown can be answered only with archaeological methods.

Historical Resources

The following factors are set forth in the *L.A. CEQA Thresholds Guide*, which states that a project would normally have a significant impact on historical resources if it would result in a substantial adverse change in the significance of a historical resource. A substantial adverse change in significance occurs if the project involves:

- Demolition of a significant resource;
- Relocation that does not maintain the integrity and (historical/architectural) significance of a significant resource;
- Conversion, rehabilitation, or alteration of a significant resource which does not conform to the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings; or
- Construction that reduces the integrity or significance of important resources on the site or in the vicinity.

Therefore, the test for determining whether or not the project will have a significant impact on identified historical resources is whether it will materially impair the physical integrity of the historical resource such that it would no longer be listed in the NRHP or CRHR, or other landmark programs such as the list of Los Angeles Historic-Cultural Monuments.

Paleontological Resources

According to the *L.A. CEQA Thresholds Guide*, the determination of significance of impacts on paleontological resources shall be made on a case-by-case basis, considering the following factors:

- Whether, or the degree to which, the project might result in the permanent loss of, or loss of access to, a paleontological resources; and
- Whether the paleontological resource is of regional or statewide significance.

4.16.2 Affected Environment/Existing Conditions

4.16.2.1 Archaeological Resources

Prehistoric Human Occupation

People have lived in California for more than 13,000 years and in the greater Los Angeles area for more than 9,000 years Before Present (BP). The Topanga Complex is used to date sites within the San Fernando Valley. Treganza and Bierman identified two phases of the Topanga Complex, Phase I and Phase II, with their research at sites CA-LAN-1 and CA-LAN-2 in Topanga Canyon.[8] In 1966, K. Johnson identified a third phase based on his work at CA-LAN-2 and compiled dates for all three phases.[9] Michael Moratto summarizes the three phases in his 2004 study, California Archaeology.[10] Moratto's summary was used as the basis for the following discussion.

Phase I: Phase I began prior to 5000 BP. An abundance of millingstones and manos found at Phase I sites indicate that processing hard seeds was a major subsistence activity. Archaeological deposits also contain large stone tools such as scrapers, choppers, hammerstones, and projectile points. During Phase I, the deceased were interred under millingstones and secondary burials were common.

Phase II: Radiocarbon dates acquired from Phase II sites place them temporally between 5000 BP and 3000 BP. Phase II is distinguished from Phase I by the inclusion of small projectile points, incised and cogged stones, and fewer core tools than Phase I. Secondary burials continued into Phase II and extended burials oriented south were introduced.

Phase III: Phase III dates between 3000 BP and 2000 BP and is marked by the introduction of large, circular rock ovens and flexed burials. Additional tools found at Phase III sites include mortars, pestles, pressure flaked projectile points, core tools, and millingstones.

Native American Ethnography

The project study area lies within Gabrielino and Fernandeño ethnographic territories. The terms Gabrielino and Fernandeño refer to Native American groups historically associated with the San Gabriel and San Fernando Missions. Gabrielino and Fernandeño territory is not well defined, but generally believed to incorporate the watersheds of the Los Angeles, San Gabriel, and Santa Ana

[8] Treganza, A.E. and A. Bierman. 1958. The Topanga Culture: Final Report on Excavations, 1948. Berkeley: *University of California Anthropological Records* 20(2):45-86.
[9] Johnson, K.L. 1966. LAN-2: A Late Manifestation of the Topanga Complex in Southern California Prehistory. Berkeley: *University of California Anthropological Records* 23:1-36.
[10] Moratto, Michael J. 2004. *California Archaeology*. Academic Press, Inc.

Rivers. It includes the entire Los Angeles Basin, the coast between Aliso Creek and Topanga Creek and the islands of San Clemente, San Nicholas, and Santa Catalina. The ancestors of the Gabrielinos and Fernandeños likely arrived in the Los Angeles Basin around 2500 B.P. as part of what Kroeber (1925)[11] referred to as the "Shoshonean Wedge." By 1500 B.P., permanent villages were built in the lowlands along rivers and streams. Over 50 villages may have been occupied simultaneously with populations between 50 and 200 people per village (Bean and Smith 1978).[12]

Gabrielino and Fernandeño houses were primarily domed, semi-subterranean, thatched structures of locally accessible materials including tule, fern, and carrizo. Principal game included deer, rabbit, fish, sea mammals, jackrabbit, woodrat, mice, ground squirrels, antelope, quail, and other birds. Acorns were the most important single food source and villages seem to have been located near water resources necessary for the leaching of acorns. Grass seeds were the next most abundant food source. Seeds were parched, ground, and cooked as a mush in various combinations. Additional food sources included various greens, cactus pods, yucca buds, bulbs, roots, and tubers. Tools for food acquisition, storage, and preparation included an inventory made from widely available materials. Hunting tools included shoulder-height bows with fire-hardened wood or stone-tipped arrows curved throwing sticks, rabbit nets, slings, and traps. Seeds were ground with handstones on shallow unshaped basin metates. The same granites were made into shaped or unshaped mortars and pestles for pounding acorns or small game. Coiled and twined baskets and steatite bowls were used in food gathering, preparation, storage, and serving. Other utensils for food preparation included wooden food paddles, brushes, tongs, tweezers, and wooden digging sticks.

Historic Background

European settlement of California began with the founding of Mission San Diego de Alcala in 1769. Several expeditions into California followed and led to the establishment of the San Gabriel Mission in 1771 and the San Fernando Mission in 1797. Mexico, including Southern California, won independence from Spain in 1821. In 1848, following the Mexican-American war, the American Southwest, including the project study area, was ceded to the United States.

The project study area is located in the San Fernando Valley of Southern California. Van Nuys Boulevard and the associated City of Van Nuys, is named after Isaac Van Nuys, a senior partner of San Fernando Farm Homestead Association (SFFHA). In 1869, the SFFHA purchased former California Governor Pio Pico's interest in the Valley and sold it to the Los Angeles Suburban Home Association (LASHA). Senior members of the LASHA included Harry Chandler and Harrison Gray Otis of the Los Angeles Times, Moses Sherman, a streetcar line owner, and Hobart Johnstone Whitley, a real-estate promoter. The group subdivided the Valley into three cities: Van Nuys, Marian (now Reseda), and Owensmouth (now Canoga Park). Van Nuys was designed around the Pacific Electric Redline and marketed by the SFFHA as the "town that started right." The City joined the City of Los Angeles in 1915. The project study area experienced a population boom after World War II, where it became a popular suburb for returning GIs. In 1945, General Motors built an Assembly Plant in Van Nuys, which led to continued growth. Today, Van Nuys is home to over 60,000 people.

[11] Kroeber, A.L. 1925. Handbook of the Indians of California, Washington D.C.: *Smithsonian Institution, Bureau of American Ethnology Bulletin 78*.
[12] Bean L. J. and C.R. Smith. 1978. Gabrielino. In R.F. Heizer, vol. ed., *Handbook of North American Indians, Vol. 8., California*: 550-563. Washington D.C. Smithsonian Institute.

Previously Identified Historical Resources

On October 6, 2011, ICF conducted a records search at the SCCIC located at California State University Fullerton. SCCIC is a branch of the California Historical Resources Information Center, which maintains the State of California's official records of previously recorded cultural resource studies and recorded archaeological sites. SCCIC maintains the records for Los Angeles and Orange Counties. The SCCIC records search included the project study area and a 0.5-mile buffer surrounding the project study area.

A review of SCCIC's records indicates that 56 previous cultural resource studies have been conducted within a 0.5-mile radius of the project alternatives. Approximately 25% of the project alternatives have been previously surveyed. Previous cultural resource studies have identified two archaeological sites within the project APE. Previous cultural resource studies have identified 15 additional cultural resource within a ½ mile radius of the APE, of which 12 are built resources and three are prehistoric archaeological sites.

The two archaeological sites located in the APE are Site #19-001124, three historical archaeological features associated with the Southern Pacific Railroad, and Site #19-002681, a disturbed site that included prehistoric artifacts and historical archaeological materials. The boundary of Site #19-001124 extends into the project footprint; however, historical map analysis of the area indicates that the features associated with Site #19-001124 are located outside the project footprint and railroad right-of-way. Therefore, Site #19-001124 is not considered to be in the project footprint. Site #19-001124 has not been evaluated for the CRHR. Site #19-002681 has been recommended as not eligible for the CRHR.

Site #19-001124 encompasses three historical archaeological features associated with the circa 1874 Southern Pacific Railroad San Fernando Station, engine house, and turntable. All of these buildings had been removed and the site was a vacant lot when the site was recorded in 1982. Three features were recorded at that time (Howell 1982). Further historical map analysis determined that the features associated with Site #19-001124 are outside the current project footprint and the railroad right-of-way. Site #19-001124 is not located in the project footprint; however, the vicinity of the site is considered sensitive for cultural deposits.

Feature A consisted of two parallel linear foundations, apparently associated with the engine house. Feature B, also associated with the engine house location, was a single course brick foundation remnant. Feature C consisted of a 73.5-foot diameter circular brick foundation on which the roundhouse tracks had been laid.

Site #19-002681 encompasses a diffuse scatter of disturbed prehistoric and historical artifacts, two brick features, and a concentration of historical glass (Knight 2001). Prehistoric items recovered included a metate fragment, a mano, a pestle, a hammerstone, a scrapper, and two flakes. Additional items that possibly were prehistoric included two possible groundstone or anvil fragments, a possible chopper, and three possible manuports.

The California State Historic Preservation Office (SHPO) reviewed the site and project in a letter dated February 14, 2020 (Polanco 2020), and provided a detailed review of the site deposits, stratigraphy, and context, as described in both the Pacific Pipeline Report (2001) and the site Department of Parks and Recreation (DPR) form (Knight 2001). The SHPO concluded that, given the disturbed nature of the encountered site deposits,"site CA-LAN-2681 does not represent a contextually cohesive multi-component site with definable horizontal and vertical boundaries and does not possess any intact stratigraphy or feature associations that would relate the disparate elements to each other" (Polanco 2020). In addition, the letter also detailed that the partially intact bottle deposit noted in the trench does not have a clear association with any datable features, and the 13 prehistoric artifacts are isolated finds because they were all found in spoil piles and have no clear association with each other or a specific area within the site. The presence of the prehistoric artifacts indicates an increased level of archaeological sensitivity in the locale for the potential for other prehistoric materials and deposits (Polanco 2020).

As a result of the detailed review, the SHPO finds that CA-LAN-002681 is not eligible for the NRHP/CRHR and not a historic property or historical resource for the purposes of this project; therefore, the deposits identified at CA-LAN-002681 would not be adversely affected by the project (Polanco 2020).

Archaeological Monitoring is recommended for all ground disturbing construction activities proposed within a 50-feet buffer of both site boundaries, CA-LAN-001124 and CA-LAN-002681, located in the APE.

4.16.2.2 Historical Resources

Historical Context

The early history of the San Fernando Valley was characterized by Native American settlement, Spanish, and Mexican colonization during the late eighteenth century and first part of the nineteenth century, and agricultural development under US governance in the late nineteenth century. The town of San Fernando was founded in 1874 and is the oldest City in the San Fernando Valley. The land that became the City of San Fernando was located within the holdings of the Mission San Fernando, founded in 1797. The mission itself was abandoned following secularization of the missions in the 1830s, and the land became ranchos. Charles Maclay founded San Fernando; he sold town lots as well as agricultural land.[13] After the arrival of the Southern Pacific Railroad in 1876, the agricultural economy, which was the cornerstone of the town, flourished. Land was devoted to citrus and olives, among other crops.[14]

The City of San Fernando, which incorporated in 1911, remained a separate City and refused annexation by Los Angeles. The City possessed its own deep water wells, which allowed it to maintain its independence and retaining a reliable source of water. The communities of Pacoima and Van Nuys were among those annexed to the City of Los Angeles after the completion of the Owens Valley Aqueduct. Pacoima was established in 1887 along the Southern Pacific Railroad. Its founder, Jouett Allen, purchased 1,000 acres of land from San Fernando founder Charles Maclay, and the land was soon devoted to agricultural purposes, including the growth of citrus, olives, and apricots. After annexation by Los Angeles and access to water from the Owens Valley Aqueduct, agriculture flourished. The area became known for its farms, poultry ranches, and thoroughbred horses.[15] This remained the case until after World War II.

[13] Leonard Pitt and Dale Pitt, Los Angeles A to Z: An Encyclopedia of the City and County (Berkeley: University of California Press, 1997), 447.
[14] County of Los Angeles Public Library, "San Fernando Community History," <http://www.colapublib.org/history/sanfernando/>. Accessed May 14, 2013.
[15] Pacoima Chamber of Commerce, "Pacoima's History," <http://www.pacoimachamber.com/pacoimas-history/> Accessed May 14, 2013.

Van Nuys developed on land originally owned by Isaac Newtown Van Nuys, a prominent wheat rancher. The Van Nuys family sold approximately 475,000 acres of land to the Los Angeles Suburban Homes Company in 1909. From the 1910s onward, the separate agricultural communities of the San Fernando Valley grew and merged into residential communities that were increasingly served and designed for automobile use. These communities remained largely agricultural and disparate until after World War II.[16] In the five years following the end of the war, the population of the San Fernando Valley more than doubled from 176,000 to 402,538.[17] The landscape of the San Fernando Valley changed rapidly. Residential neighborhoods replaced agricultural land, and home construction could not keep up with demand.

When World War II ended, the thousands of returning veterans, defense workers and their families created a huge demand not only for housing but for material goods and services. As a result, industrial production facilities in Los Angeles were expanded in order to meet those needs, primarily in the San Fernando Valley and near LAX; however, available land for industrial development was becoming more and more scarce. To solve this issue, the Industrial Association of the San Fernando Valley was formed, with the aim of rezoning farmland for industrial use. In the 1950s, they succeeded in rezoning over 7,000 acres along the Southern Pacific Railroad tracks through the San Fernando Valley.

The unprecedented growth of the San Fernando Valley – the population again doubled in the 1950s – caused congestion of its now outdated streets. In the late 1950s and 1960s, the construction of freeways through the San Fernando Valley helped alleviate traffic congestion. During this period, a shift towards development of multiple-family housing resulted.

Prior to the construction of the freeway system, a number of the major thoroughfares in the San Fernando Valley were laid out and utilized as highways. They were also designated as such. Ventura Boulevard was US 101, Sepulveda Boulevard was State Route 7, and San Fernando Road was both US 6 and State Route 99.[18] Ventura Boulevard was initially part of the El Camino Real, the route laid out by the Spanish to connect the missions in the mission system. It was widened by 70 feet in the 1920s to accommodate increased automobile traffic and was often utilized by commuters traveling between Los Angeles and the San Fernando Valley.[19] In the post-war period, it became an even more heavily traveled corridor lined with commercial development.

Van Nuys Boulevard was laid out by developers in the early twentieth century as a major north-south thoroughfare at the eastern end of the San Fernando Valley. Early on, Van Nuys Boulevard contained an electric railroad line, and it was increasingly used as an automobile route, resulting in the widening of the boulevard in the late 1950s. From its inception, commercial and entertainment uses gravitated to well-traveled Van Nuys Boulevard, including theatres, restaurants, shops, and recreational facilities. By the mid-century, large shopping plazas appeared, and automobile-related commerce like car washes, drive-through diners, and dealerships were prevalent on Van Nuys Boulevard. The corridor also became the administrative and public services center for the San Fernando Valley, beginning with the establishment of important civic institutions during the 1920s and 1930s within the community of Van Nuys. This area became known as the Van Nuys Government Center. As the San Fernando Valley's population expanded and its communities grew

[16] Roderick, 113.
[17] Roderick, 113 and 123.
[18] Roderick, 108.
[19] Roderick, 77 and 113.

during the postwar period, additional civic institutions, public utility buildings, health services, and government-financed public housing were constructed along Van Nuys Boulevard. In this way, Van Nuys Boulevard served as the San Fernando Valley's Main Street, and it became an outdoor "show room" for commercial and institutional architecture that was expressive of the development of the broader San Fernando Valley.

Previously Identified Historical Resources

Within the project study area, there are 15 individual properties that were previously recorded as historic properties/historical resources that are currently extant. Three of the 15 properties are located within the APE. They are indicated with an * in Table 4.16-1 and described in additional detail in the text that follows the tables below. Of the 15 previously recorded resources, two individual properties are listed in the NRHP and the CRHR and local landmark programs; two individual properties are listed in the CRHR only; six properties are listed on the CRHR and local landmark programs, and three are designated at the local level as Los Angeles Historic Cultural Monuments (LA HCMs). Two properties were identified as appearing to be eligible as part of a previous study, including the San Fernando Road and the San Fernando Road Bridge over Pacoima Wash.

Table 4.16-1: Previously Recorded Individual Historic Properties

Ref. No.	Address	City	Zip	Designation/ Listing Type	Notes
1.	14601 Aetna Street*	Van Nuys	91411	CRHR	Department of Water and Power Building
2.	216 Hagar Street	San Fernando	91340	CRHR, identified City of San Fernando Historic Preservation Element	/
3.	447 Hagar Street	San Fernando	91340	CRHR, identified City of San Fernando Historic Preservation Element	/
4.	14603 Hamlin Street	Los Angeles	91411	HCM No. 203	Baird House (Volunteer League Community Center)
5.	130 N. Brand Boulevard*	San Fernando	91340	CRHR, identified City of San Fernando Historic Preservation Element	San Fernando Junior High School
6.	575 N. Maclay Avenue	San Fernando	91340	CRHR, identified City of San Fernando Historic Preservation Element	Morningside Elementary
7.	208 Park Avenue	San Fernando	91340	CRHR, identified City of San Fernando Historic Preservation Element	Old Rock Scout House
8.	804 Park Avenue	San Fernando	91340	CRHR, identified City of San Fernando Historic Preservation Element	Elks Lodge
9.	1100 Pico Street	San Fernando	91340	NRHP, CRHR, identified City of San Fernando Historic Preservation Element	Lopez Adobe

Ref. No.	Address	City	Zip	Designation/ Listing Type	Notes
10.	14410 Sylvan Street	Los Angeles	91411	HCM No. 202, CRHR	Valley Municipal Building (Van Nuys City Hall)
11.	14415 Sylvan Street	Los Angeles	91401	CRHR	Fire Station #39
12.	14553 Sylvan Street	Los Angeles	91411	NRHP, CRHR, HCM No. 911	Van Nuys Branch Library
13.	14832 Sylvan Street	Los Angeles	91411	HCM No. 201	Van Nuys Woman's Club
14.	Havana and Bleeker Streets	Los Angeles	91342	HCM No. 50	Mission Wells and the Settling Basin (Area Of)
15.	San Fernando Road*	San Fernando	91340	Appears to be eligible for NRHP.	Portion of Segment B, including Bridge #53C-0302

Source: GPA Consulting, 2015.

Bridge #53C-0302, the San Fernando Bridge over Pacoima Wash, was evaluated in 2012 and found to be not eligible for the NRHP or CRHR as an individual resource, but is a contributing feature of San Fernando Road, which was previously found eligible for listing in the NRHP and CRHR as part of a CEQA review process. A small segment of both San Fernando Road and Bridge #53C-0302 is located within the project's APE.

Within the project study area, there are two previously recorded historic districts. The previously recorded historic districts include the Van Nuys Historic Preservation Overlay Zone (HPOZ), which is locally designated by the City of Los Angeles, and the Panorama City Historic District, which is recorded as eligible for listing in the NRHP and is listed in the CRHR. Neither district is located within the APE and is not discussed further in this report.

The City of Los Angeles' Office of Historic Resources (OHR) is currently managing a citywide survey, called SurveyLA, to identify and document historical resources in the City. Surveys are being completed in phases and are divided by City of Los Angeles Community Plan Area (CPA). Portions of the project study area within Los Angeles city limits are within the Mission Hills-Panorama City CPA and the Van Nuys-North Sherman Oaks CPA. The survey findings for the Mission Hills-Panorama City CPA were finalized in March 2014; the survey findings for the Van Nuys-North Sherman Oaks CPA were finalized in August 2015. The results of SurveyLA have been included in this report.

The Cultural Resources Impacts Report in Appendix S includes information regarding the 15 individual properties that were previously recorded as historical resources that are located within the project study area. See Figure 2-1 in the Cultural Resources Impacts Report for a full list of the California Historical Resource Status Codes and their meanings.

Table 4.16-2 includes information regarding the 15 properties within the APE that were identified through SurveyLA efforts.

Table 4.16-2: SurveyLA Findings within the APE

Ref. No.	Address	CPA
1.	14601-14603 Aetna Street	Van Nuys - North Sherman Oaks
2.	6103 Cedros Avenue	Van Nuys - North Sherman Oaks
3.	14463 Haynes Street	Van Nuys - North Sherman Oaks
4.	6000 Kester Avenue	Van Nuys - North Sherman Oaks
5.	14829-33 Oxnard Street	Van Nuys – North Sherman Oaks
6.	6353 Van Nuys Blvd	Van Nuys - North Sherman Oaks
7.	6362 Van Nuys Blvd	Van Nuys - North Sherman Oaks
8.	6551 Van Nuys Blvd	Van Nuys - North Sherman Oaks
9.	6569 Van Nuys Blvd	Van Nuys - North Sherman Oaks
10.	6920 Van Nuys Blvd	Van Nuys - North Sherman Oaks
11.	8324 Van Nuys Boulevard	Mission Hills - Panorama City - North Hills
12.	8333 Van Nuys Boulevard	Mission Hills - Panorama City - North Hills
13.	8201 Van Nuys Boulevard	Mission Hills - Panorama City - North Hills
14.	8121 Van Nuys Boulevard	Mission Hills - Panorama City - North Hills
15.	14035 Van Nuys Boulevard	Mission Hills - Panorama City - North Hills
16.	9110 Van Nuys Boulevard	Mission Hills - Panorama City - North Hills
17.	14035 Van Nuys Boulevard	Mission Hills - Panorama City - North Hills

Source: GPA Consulting, 2015.

Properties Identified for Further Study

There are 180 properties located in the APE that are more than 45 years old that were identified during the historic resources field study as requiring further study as an individual resource or as a district area (see Section 2.2.1.1 of the Cultural Resources Impacts Report in Appendix S for a detailed explanation of identification efforts and the methodology utilized for determining properties that warrant further study). Twenty-one of the 180 properties had a moderate to high level of integrity and an apparent potential for significance, based on the City of Los Angeles' Citywide Historic Context Statement and SurveyLA methodology for evaluating potential historical resources (as administered by the City of Los Angeles OHR).[20] Each of these 21 properties were inventoried on a DPR 523 A Form and evaluated on a DPR 523 B Form; previous evaluations were updated.

[20] The streamlined methodology for this report was established in consultation with the SHPO on February 11, 2015. Only properties that were more than 45 years old, retained a moderate to high level of integrity, and had apparent potential significance were evaluated and recorded on DPR 523 A and B forms. The determination of "potential significance" would be made by qualified architectural historians utilizing the historic contexts included in the City of Los Angeles' Citywide Historic Context Statement and SurveyLA methodology for evaluating potential historical resources.

Concentrations of related properties identified during the field study were evaluated as potential districts.[21] Each property within the district was inventoried on a DPR 523 A Form. These forms are attached to a DPR 523 D Form (District Record) that includes an evaluation of each potential district. A list of the properties identified within the APE, the results of their evaluations, and the alternatives that may affect them are listed in Tables 3-3 through 3-7 of the Cultural Resources Impacts Report (see Appendix S of this FEIS/FEIR). Please refer to the DPR form sets in the Cultural Resources Impacts Report in Appendix S for additional details.

Evaluation Results

Of the 21 properties that were evaluated individually for historic significance, the following 10 properties were determined to be historically significant at the national, state, or local level of significance. The results of the evaluations are summarized below. See Figure 2-1 in the Cultural Resources Impacts Report in Appendix S for a full list of the California Historical Resource Status Codes and their meanings. Please refer to the DPR form sets in Appendix A of the Cultural Resources Impacts Report for additional details.

Historic Properties

The following 10 individual properties have either been previously evaluated or evaluated for this report and given a status code of 3S or 2S2. A 3S status code indicates that a property appears eligible for the NRHP as an individual property through a survey evaluation. A 2S2 status code indicates that it is an individual property determined eligible for the NRHP by a consensus through the Section 106 process, and it is listed in the CRHR. Therefore, all of the following are historic properties for the purposes of NEPA and Section 106 of the National Historic Preservation Act (NHPA). The 10 properties are also historical resources for the purposes of CEQA because properties that are listed on or formally determined eligible for the NRHP are automatically included in the CRHR.

4601-3 Aetna Street –3S

The building at 14601-3 Aetna Street was identified for further study as an example of PWA Moderne architecture and early infrastructure in the San Fernando Valley. The property was individually re-evaluated for listing on the NRHP and CRHR as part of this study. The evaluation determined that the property appears to be significant at the national and state level as a rare example of a pre-war DWP facility in the San Fernando Valley, and as an excellent example of the PWA Moderne style; the property retains sufficient integrity to convey its association with that trend and architectural style. As a result of this evaluation, the property was assigned a 3S status code, “Appears eligible for NRHP as an individual property through survey evaluation.”

[21] For concentrated areas of potential right-of-way acquisition (such as the proposed MSFs), SHPO approved the proposed approach of evaluating these areas as districts within the SurveyLA historic context themes, rather than evaluating each of the properties on an individual basis, during consultation on February 11, 2015.

130 N. Brand Boulevard – 2S2

The building at 130 N. Brand Boulevard was identified for further study due to its Classical Revival architecture on the junior high campus. It was previously evaluated in 1995 as part of a Section 106 survey of earthquake-damaged properties. It was given a status code of 2S2, "individual property determined eligible for NRHP by consensus through Section 106 process," and listed in the CRHR as an excellent example of Classical Revival architecture. Therefore, it was subsequently listed in the CRHR. The project team reviewed the previous evaluation and after field inspection determined that the existing 2S2 status code is still valid.

1140 San Fernando Road – 3S

The building at 1140 San Fernando Road was identified for further study as a unique example of a J.C. Penney department store in a commercial strip, as opposed to a shopping mall. The property was individually evaluated for listing on the NRHP and CRHR. The evaluation determined that the property appears to be eligible for the NRHP and CRHR at the local level of significance for its association with the commercial development of the City of San Fernando and for its architectural style; it retains sufficient integrity to convey those associations. As a result of this evaluation, the property was assigned a 3S status code, "Appears eligible for NRHP as an individual property through survey evaluation."

1601 San Fernando Road – 3S

The building at 1601 San Fernando Road was identified for further study as an example of a Googie style car wash on San Fernando Road. The property was individually evaluated for listing on the NRHP and CRHR. The evaluation determined that the property is significant under Criterion C as exemplifying a Googie car wash and that it retains sufficient integrity for listing. As a result of this evaluation, the property was assigned a 3S status code, "Appears eligible for NRHP as an individual property through survey evaluation."

6353 Van Nuys Boulevard - 3S

The building at 6353 Van Nuys Boulevard was identified for further study as an example of Streamline Moderne architecture that represents an early period of commercial development in the San Fernando Valley. The property was individually evaluated for listing on the NRHP and CRHR. The evaluation determined that the property appears to meet the NRHP and CRHR Criteria at the local level of significance as a rare example of pre-World War II commercial development in the San Fernando Valley, as well as exemplifying the Streamline Moderne style; the property retains sufficient integrity to convey this significance. As a result of this evaluation, the property was assigned a 3S status code, “Appears eligible for NRHP as an individual property through survey evaluation.”

6551 Van Nuys Boulevard – 3S

The building at 6551 Van Nuys Boulevard was identified for further study as an example of New Formalist architecture and the work of Millard Sheets. The property was individually evaluated for listing on the NRHP and CRHR. The evaluation determined that the property appears to be eligible for the NRHP and CRHR as a good example of New Formalism in the San Fernando Valley. As a result of this evaluation, the property was assigned a 3S status code, “Appears eligible for NRHP as an individual property through survey evaluation.”

8201 Van Nuys Boulevard – 3S

The building at 8201 Van Nuys Boulevard was identified for further study as a rare example of Expressionist architecture. The property was individually evaluated for listing on the NRHP and CRHR. The evaluation determined that the property appears to meet the NRHP and CRHR Criteria for its architecture and as the work of W.A. Sarmiento, who was pivotal to the shift in bank design during the twentieth century, and that it retains sufficient integrity to convey that significance. As a result of this evaluation, the property was assigned a 3S status code, “Appears eligible for NRHP as an individual property through survey evaluation.”

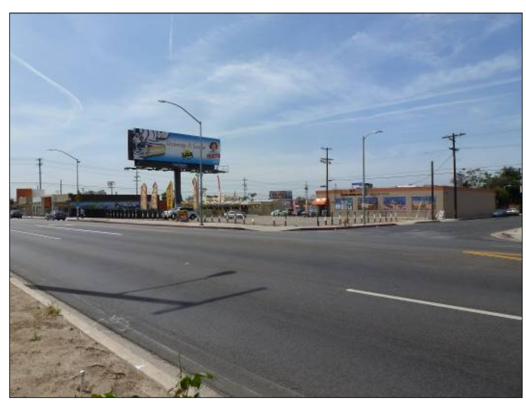
8324 Van Nuys Boulevard – 3S

The building at 8324 Van Nuys Boulevard was identified for further study as part of a planned commercial strip for the successful post-war suburb of Panorama City. The property was individually evaluated for listing on the NRHP and CRHR. The evaluation determined that the property appears to be eligible for the NRHP and CRHR at the local level for its association with the planned development of Panorama City, and it retains sufficient integrity to convey that significance. As a result of this evaluation, the property was assigned a 3S status code, "Appears eligible for NRHP as an individual property through survey evaluation."

9110 Van Nuys Boulevard – 3S

The building at 9110 Van Nuys Boulevard was identified for further study as part of a planned commercial strip for the successful post-war suburb of Panorama City, and as the work of master architect William Pereira. The property was individually evaluated for listing on the NRHP and CRHR. The evaluation determined that the property was not an important example of Pereira's work, but that it appears to meet the NRHP and CRHR Criteria at the local level for its association with Panorama City, and it retains sufficient integrity to convey that significance. As a result of this evaluation, the property was assigned a 3S status code, "Appears eligible for NRHP as an individual property through survey evaluation."

San Fernando Road – 3S



A portion of San Fernando Road was identified for further study due to its historic alignment, dating from as early as 1871. It was previously evaluated in 2013 as part of a CEQA review process. Segments of the road were given a status code of 3S, "Appears eligible for NRHP as an individual property through survey evaluation." One of the segments is included within the APE. The project team reviewed the previous evaluation and after field inspection determined that the existing 3S status code appears to still be valid.

Non-Historic Properties

Eleven individual properties and four historic districts were evaluated either individually or as a potential district area. As described in Appendix S *Cultural Resources Impact Report,* none of the identified properties are historic properties for the purposes of NEPA or Section 106 of the NHPA, nor are they historical resources for the purposes of CEQA. For additional information on non-Historic Properties, please refer to Appendix S *Cultural Resources Impact Report*.

4.16.2.3 Paleontological Resources

Regional Geology

The San Fernando Valley and adjacent mountains are part of the Transverse Ranges physiographic province that is composed of parallel, east-west trending mountain ranges and sediment-filled valleys (USGS 1996). The San Fernando Valley is a structurally complex, sedimentologically diverse, and tectonically evolving late Tertiary-Quaternary basin that contains the headwaters of the Los Angeles River and its tributaries. Prior to the advent of flood control, the valley floor was composed of active alluvial fans and floodplains. Seasonal streams emanating from Pacoima and Big Tujunga Canyons drain the complex western San Gabriel Mountains and deposit coarse, highly permeable alluvium that contains generally high-quality ground water. The San Fernando Valley is a structural trough that has been filled from the sides, with the major source of sediment being large drainages in the San Gabriel Mountains. Deposition on the major alluvial fan of Tujunga Wash and Pacoima Wash, which issues from the San Gabriel Mountains, and on smaller fans, has been influenced by ongoing compressional tectonics in the valley. Late Pleistocene deposits have been cut by active faults and warped over growing folds.

The Saugus Formation consists of interbedded light gray pebble-cobble conglomerate, sandstone, and green to red claystone. This formation was laid down in a stream environment during the Pliocene and Pleistocene epochs (5.3 my–11 thousand years [ky]) (Dibblee 1991a). For additional information on the geology and stratigraphy of the project study area, please refer to Appendix S, *Cultural Resources Impact Report*.

Known Fossils in Project Vicinity

Paleontological resources are remnants of ancient life. Vertebrate fossils (e.g., mammals, birds, reptiles, amphibians, fish) are rare and, if identifiable, usually significant under CEQA. Fossils of invertebrates (e.g., snails, corals, sand dollars, etc.) and plants are relatively common and may not meet significance criteria unless they are unusual for their time period or environment.

A search for known fossils was performed by the Natural History Museum of Los Angeles County (LACM) (McLeod 2012). No vertebrate fossils are known within the project boundaries. Nearby, vertebrate fossils are known from the Quaternary older alluvium. Known depths of these fossils range from 14 to 100 feet below the surface (Table 4.16-3). Fossils are also known from the Saugus, Pico, Topanga, and Monterey formations.

Table 4.16-3: Known Fossils in Quaternary Older Alluvium

Common Name	Taxon	Depth	Locality
Bison, extinct	Bison	75 feet	LACM 3397
Mammoth, extinct	Mammuthus	unknown	LACM 7152
Bison, extinct	*Bison*		
Horse, extinct	Equus	unknown	LACM 1733
Mastodon, extinct	Mammut	unknown	LACM 5745
Horse, extinct	Equus		
Peccary, extinct	Platygonus	75–100 feet	LACM 3822
Camel, extinct	Camelops		
Bison, extinct	Bison		
Bison, extinct	Bison	20 feet	LACM 6208
Horse, extinct	Equus	14 feet	LACM 3263

Source: McLeod, 2012.

Paleontological Survey Results

Cogstone performed a field survey of the project alignment on February 14, 2013. The field reconnaissance consisted of a windshield survey followed by a pedestrian survey of sediment exposures as encountered. Photographs were taken to document the condition of the project study area. Scale bars are centimeter scales.

Ground visibility in the project study area was very poor. Approximately 95% of the survey area was developed and obscured by hardscaping and landscaping. Where exposed, sediments primarily consisted of artificial fill used to build up roads and railways and previous building developments. However, a few exposures of native sediments were encountered. Where observed, native sediments consisted of light brown to tan, fine-grained, unconsolidated sand. This is consistent with the Holocene alluvium that is mapped at the surface of the project study area (Dibblee 1991a, 1991b). The best sediment exposure was located near the intersection of Van Nuys Boulevard and Gault Street, at an active construction site. Access to the site was restricted, making a close examination of the sediments impossible. However, a trench near the sidewalk revealed that the first few inches of surficial artificial fill was underlain by fine grained alluvial sediments to depths of at least six feet. No paleontological resources, whole or fragmentary, were observed within the project study area.

Paleontological Sensitivity

Using the Potential Fossil Yield (PFYC) system, geologic units are assigned a ranking from 1 (very low potential for fossils) to 5 (very high potential for fossils). Classifications are determined based on the relative abundance and scientific importance of vertebrate fossil localities or scientifically significant invertebrate or plant fossil localities. In Class 1 geologic units, fossils are non-existent or extremely rare due to transformation by extreme heat or deformation. Class 2 units are unlikely to contain fossils due mostly to young age of sediments. Class 3 rock units are divided into two subclasses. Class 3a includes rocks known to produce fossils but in unpredictable locations and abundance, while class 3b includes sedimentary rocks where fossils are not known and thus have an undemonstrated sensitivity. Class 4 units have a high abundance of known significant fossil localities. Class 5 units have highly significant fossil localities and occur in predictable locations.

Although significant localities may occasionally occur in a geologic unit, a few widely scattered important fossils or localities do not necessarily indicate a higher PFYC value; instead, the relative abundance of localities is intended to be the major determinant for the value assignment. Geological setting and fossil localities were considered in determining paleontological sensitivity according to PFYC criteria.

The Mesozoic quartz diorite is an igneous unit and does not contain fossils. It is ranked as Class 1 having very low sensitivity (Table 4.16-4). The Quaternary alluvium and gravel is ranked Class 2 or low. Due to the young age of these sediments, they are not sensitive for fossil resources.

The remaining project formations are all known to produce fossils within Los Angeles County but those fossils are distributed unevenly and sediments conducive to the preservation of fossils are generally fine-grained. The Quaternary older alluvium, Topanga Formation, Monterey Formation, Pico Formation, and the Saugus Formation are ranked as 3a or moderate on the PFYC scale.

The Quaternary older alluvium is a minimum of 100 feet thick under the project area (refer to Table 4.16-3).

Table 4.16-4: Paleontological Sensitivity Rankings

PFYC Ranking	Map Symbol	5 Very High	4 High	3a Moderate; Patchy	3b Moderate; Undemonstrated	2 Low	1 Very Low
Rock Units							
Mesozoic quartz diorite	qd						X
Topanga Formation	Ttucg/Tvb/Ttr			X			
Monterey Formation	Tm/Tmss/Tud			X			
Pico Formation	Tush/Tucg/ Ttoc/Ttos/Ttog			X			
Saugus Formation	QTs/Ts/Tar			X			
Quaternary older alluvium	Qoa			X			
Quaternary alluvium and gravel	Qa/Qg					X	

Source: Cogstone, 2015.

4.16.3 Environmental Consequences, Impacts and Mitigation Measures

4.16.3.1 Archaeological Resources

No-Build Alternative

Construction Impacts

The No-Build Alternative would result in no excavation activities. There would be no construction impacts to archaeological resources associated with the No-Build Alternative.

Operational Impacts

The No-Build Alternative would not result in new project facilities and consequently it would not result in any operational impacts on archaeological resources or human remains.

Cumulative Impacts

Under the No-Build Alternative, there would be no adverse effects or impacts to archaeological resources; therefore, this alternative would not contribute to cumulative impacts on archaeological resources that could occur as a result of any other planned projects within the region.

Mitigation Measures

Construction Mitigation Measures

No construction mitigation measures are required.

Operational Mitigation Measures

No operational mitigation measures are required.

Impacts Remaining After Mitigation

NEPA Finding

No adverse effects under NEPA would occur.

CEQA Determination

No impacts under CEQA would occur.

Locally Preferred Alternative (Alternative 4 Modified: At-Grade LRT)

Construction Impacts

The Locally Preferred Alternative (LPA) would involve shallow excavation during platform construction in the median, station upgrades, and sidewalk widening. Archaeological sites 19-001124 and 19-002681 are located immediately adjacent to and within the footprint of the LPA. Even though neither resource is considered eligible for the CRHR or a historical resource under CEQA, the immediate resource areas are still considered sensitive for containing previously undiscovered archaeological resources. As a result, archaeological monitoring is recommended within a 50-foot buffer of all site areas within the project footprint.

With the implementation of appropriate mitigation and avoidance measures, the LPA has a low potential to encounter and adversely affect archaeological resources and human remains. However, construction would involve earth-disturbing activities, and it is still possible that archaeological resources or human remains may be discovered and damaged or destroyed, which would be considered a significant impact/adverse effect. Implementation of Mitigation Measure MM AR-2 would avoid or reduce potential impacts on archaeological resources, and Mitigation Measure MM AR-3 would avoid or reduce potential impacts on human remains.

No archaeological resources are recorded within the proposed maintenance and storage facility (MSF) site. Previous construction within the MSF site has probably destroyed most subsurface archaeological resources. For this reason, construction of the MSF has a low potential for ground-disturbing activities to expose and affect previously unknown significant archaeological resources. However, there is still a possibility that archaeological materials may be exposed during construction. Grading and trenching, as well as other ground-disturbing actions, have the potential to damage or destroy previously unidentified and potentially significant cultural resources within the project area, including archaeological resources. Disturbance of any deposits that have the potential to provide significant cultural data would be considered a significant impact/adverse effect. Implementation of Mitigation Measure MM AR-2 would avoid or reduce potential impacts on cultural resources, including archaeological resources, associated with the proposed project.

No human remains have been previously discovered in the MSF site portion of the APE, and no burials or cemeteries are known to occur within the MSF location. However, construction would involve earth-disturbing activities, and it is still possible that human remains may be discovered. Compliance with regulatory requirements in conjunction with implementation of Mitigation Measure MM AR-3 would avoid or reduce potential impacts on human remains that are found during ground-disturbing activities.

Based on the information above, the FTA, as the federal lead agency under NEPA, has determined the LPA would result in no adverse effects on known archaeological resources under Section 106 of the NHPA. The SHPO has informally concurred with a Finding of No Adverse Effect with Conditions. Formal concurrence is pending from SHPO.

Operational Impacts

The LPA would result in no operational impacts or effects on archaeological resources.

Cumulative Impacts

Related and other proposed projects in the project study area, i.e., the San Fernando Valley, could require earthmoving activities during construction that could disturb or result in the destruction of archaeological resources, a potentially significant impact. If previously unknown resources are discovered during construction of the LPA, proposed measures would avoid or reduce potential impacts to archaeological resources or human remains to no adverse or less-than-significant level. As a consequence, and because the related projects may also include mitigation measures to minimize or reduce potential impacts to archaeological resources, the LPA is not expected to result in or contribute to significant cumulative impacts on archaeological resources within the project study area.

Compliance Requirements and Design Features

If human remains are encountered during construction, the provisions of California PRC § 5097.98 and HSC § 7050.5 shall be followed. HSC § 7050.5 states that further disturbances and activities will cease in any area or nearby area suspected to overlie remains, and the County Coroner be contacted. Pursuant to PRC § 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC), who will then notify the Most Likely Descendent (MLD). Metro will contact the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC § 5097.98 are to be followed as applicable. Also, see mitigation measure MM-AR-3 below.

Mitigation Measures

Construction Mitigation Measures

If construction occurs in the immediate vicinity of Archaeological sites 19-001124 and 19-002681, the following measure is proposed to mitigate potential impacts.

MM-AR-1: Ground disturbing activities within site areas 19-001124 and 19-002681 and within a 50-foot buffer area around the sites shall be monitored by an Archaeological and Native American monitor. Construction related ground disturbance includes grading, excavation, trenching, and drilling. An Archaeological monitor and a Native American monitor shall examine all sediments disturbed during earth moving activities, including geotechnical drilling and environmental borings, if being conducted, prior to construction.

Archaeological monitoring for site CA-LAN-2681 shall be conducted as discussed in the project's Cultural Resources Monitoring Plan (CRMP). All archeological monitoring and any necessary identification, testing, and evaluation of resources identified during monitoring shall be conducted per the methods and procedures described in the CRMP for the project.

Standard methods of excavation such as grading and trenching shall be monitored by observation of the excavations as they occur.

Drilling of project features such as the overhead contact system (OCS) results in earthen materials being delivered to the ground surface as loosened spoils. Materials to be examined by the Archaeological and Native American monitors are spoils removed from the drill holes while the drilling occurs. The monitors must be provided a safe location and opportunity to view spoils as they are being stored prior to being hauled away from the work area. Access of the monitors to the spoils material may be limited by safety concerns or by hazardous materials contamination.

If requested by an Archaeological or Native American monitor, opportunities shall be provided for the monitor, as part of their daily shift activities, to screen or rake spoils to determine if the spoils contain cultural materials.

Archaeological monitors are empowered to briefly halt construction if a discovery is made during standard excavation, such as grading and trenching, in the area of that discovery and a 50-foot buffer zone. If a Native American monitor wishes to halt construction, the monitor shall consult with the Archaeological monitor, who may then briefly halt construction. A request to halt activities by the Archaeological monitor should have no effect on ground disturbing activities outside the 50-foot buffer zone; however, spoil piles may not be removed until the monitor can examine them.

If an Archaeological or Native American monitor observes an isolated find, the Archaeological monitor shall temporarily halt construction in order to document the find. Documentation shall be completed by collecting a GPS point, photography, and recording information onto the daily monitoring log. All isolated prehistoric artifacts shall be collected. Diagnostic historic-era items shall be collected. Once an isolated item is documented, construction may resume.

If previously unidentified and potentially significant archaeological resources are encountered during construction activities, the following measure is proposed to mitigate potential impacts:

MM-AR-2: If buried cultural materials are encountered in areas not actively being monitored during construction, the Contractor Project Foreman shall halt construction in a 50-foot radius around the discovery and shall immediately contact the Metro Project Manager, Metro Environmental Specialist, and Project Archaeologist.

Per the CRMP prepared for the proposed project, for any discovery of an archaeological feature, regardless of eligibility, the Metro Environmental Specialist shall notify all consulting parties identified for the project within 48 hours of any discovery. Notifications shall not be made for ubiquitous infrastructure elements such as modern utilities (cistern, electric, gas, sewer, and water supply lines), transportation infrastructure (bridge piers, buried roadways, and rail segments), sidewalks, and concrete rubble, fill, or waste.

In the event that human remains are found during ground-disturbing activities, the compliance measures identified above shall be followed. In addition, if the remains are thought to be Native American, the following measure is proposed to mitigate the impact:

MM-AR-3: In the event that human remains are encountered during construction, potentially destructive activities in the vicinity of the discovery shall be stopped and the provisions of California PRC § 5097.98 and HSC § 7050.5 shall be followed. The Archaeological monitor shall halt construction, establish a 50-foot buffer around the discovery, and shall contact the Metro Project Manager, Metro Environmental Specialist, and Project Archaeologist. The Metro Environmental Specialist shall notify the County Coroner on the same day as the discovery and other consulting parties within 48 hours of discovery. Treatment of the remains and all subsequent actions shall be completed per the CRMP.

Operational Mitigation Measures

No operational mitigation measures are required.

Impacts Remaining After Mitigation

NEPA Finding

The proposed mitigation measures would avoid or reduce impacts to archaeological resources to a no adverse effect under NEPA.

CEQA Determination

The proposed mitigation measures would avoid or reduce impacts to archaeological resources to a less-than-significant level under CEQA.

Initial Operating Segment

An Initial Operating Segment (IOS) has been included in this FEIS/FEIR to enable Metro to realize potential cost savings, which would not otherwise occur under the LPA, from phasing the project. It should be noted that Metro is proceeding with IOSs on other Metro projects for that reason and to specifically provide the decision-making body of Metro (the Metro Board) with flexibility in determining the most efficient and cost-effective manner to implement those projects. Proceeding with an IOS for the proposed project would also allow further coordination to occur with the Public Utilities Commission (PUC) and Metrolink, which will be necessary to accommodate double tracking of the Antelope Valley Line, and the City of San Fernando regarding traffic impacts at intersections in the City, prior to development of the remaining northern segment of the LPA.

Although the IOS for the proposed project would run along the same alignment and have the same design features and operating characteristics as those described above for the LPA, it would occupy a smaller project footprint than the LPA because it would extend from the Metro Orange Line on the south to the proposed Van Nuys/San Fernando station on the north. It remains Metro's intent, however, to build the remaining northern 2.5 miles of the LPA within the existing railroad right-of-way, from the Van Nuys/San Fernando station to the Sylmar/San Fernando Metrolink station. Impacts associated with the IOS are discussed below.

Construction Impacts

The IOS would involve shallow excavation during platform construction in the median, station upgrades, and sidewalk widening, similar to the LPA. Unlike the LPA, which identified archaeological sites 19-001124 and 19-002681 within the footprint of the LPA, the IOS does not include the segment containing these resources. Therefore, the IOS does not have the potential to affect these documented archaeological resources.

With the implementation of appropriate mitigation and avoidance measures, the IOS has a low potential to encounter and adversely affect archaeological resources and human remains. It is still possible that unknown archaeological resources or human remains may be discovered and damaged or destroyed, which would be considered a significant impact/adverse effect. Implementation of Mitigation Measure MM AR-2 would avoid or reduce potential impacts on archaeological resources, and Mitigation Measure MM AR-3 would avoid or reduce potential impacts on human remains.

No archaeological resources are recorded within the proposed MSF site. For this reason, construction of the MSF facility has a low potential for ground-disturbing activities to expose and affect previously unknown significant archaeological resources. However, there is still a possibility that unknown archaeological materials may be exposed during construction. Disturbance of any deposits that have the potential to provide significant cultural data would be considered a significant impact/adverse effect. Implementation of Mitigation Measure MM AR-2 would avoid or reduce potential impacts on cultural resources, including archaeological resources, associated with the proposed project.

No human remains have been previously discovered in the MSF site portion of the study area, and no burials or cemeteries are known to occur within the MSF location. However, construction would involve earth-disturbing activities, and it is still possible that human remains may be discovered, possibly in association with archaeological sites. Compliance with regulatory requirements in conjunction with implementation of Mitigation Measure MM AR-3 would avoid or reduce potential impacts on human remains that are found during ground-disturbing activities.

Operational Impacts

The IOS would result in no operational impacts or effects on archaeological resources.

Cumulative Impacts

As was stated above for the LPA, other proposed projects in the project study area could require earthmoving activities during construction that could disturb or result in the destruction of archaeological resources, a potentially significant impact. If previously unknown resources are discovered, proposed measures would avoid or reduce potential impacts to archaeological resources or human remains to no adverse or less-than-significant level. As a consequence, and because the related projects may also include mitigation measures to minimize or reduce potential impacts to archaeological resources, the IOS is not expected to result in or contribute to significant cumulative impacts on archaeological resources within the project study area.

Compliance Requirements and Design Features

If human remains are encountered during construction, the provisions of California PRC § 5097.98 and HSC § 7050.5 shall be followed. HSC § 7050.5 states that further disturbances and activities will cease in any area or nearby area suspected to overlie remains, and the County Coroner be contacted. Pursuant to California PRC § 5097.98, if the remains are thought to be Native American, the coroner will notify the NAHC, which will then notify the MLD. Metro will contact the MLD on the respectful treatment and disposition of the remains. Further provisions of California PRC § 5097.98 are to be followed as applicable. Also, see mitigation measure MM-AR-3, below.

Mitigation Measures

Construction Mitigation Measures

The mitigation measures for the IOS would be the same as those stated for the LPA, with the exception of MM-AR-1, which applies to work around known archaeological sites. Because the IOS would not affect archaeological sites, MM-AR-1 would not apply. As a consequence, the archaeological mitigation measures for the IOS include MM-AR-2 and MM-AR-3, which are described above for the LPA.

Operational Mitigation Measures

Operational mitigation measures are not required since there are no anticipated operational effects on archaeological resources, historic properties and paleontological as a result of the proposed project.

Impacts Remaining After Mitigation

NEPA Finding

The proposed mitigation measures would avoid or reduce impacts to archaeological resources to a no adverse effect under NEPA.

CEQA Determination

The proposed mitigation measures would avoid or reduce impacts to archaeological resources to a less-than-significant level under CEQA.

4.16.3.2 Historical Resources

No-Build Alternative

Construction Impacts

Under the No-Build Alternative, no new infrastructure would be built within the project study area as part of the project. There would be no construction or vibration effects on historic properties associated under the No-Build Alternative.

Operational Impacts

The No-Build Alternative, which establishes a baseline for comparison with other alternatives, involves no construction or changes to the existing transportation systems. No new transportation infrastructure would be built, apart from projects that are currently under construction or funded for construction and operation by 2040.

As no new project facilities are proposed under the No-Build Alternative, no operational impacts on historic properties would occur.

Cumulative Impacts

Under the No-Build Alternative, there would be no adverse effects or impacts to historic properties; therefore, this alternative would not contribute to cumulative impacts on any historic properties identified as part of this study or as a result of any other planned projects within the region.

Mitigation Measures

Construction Mitigation Measures

No mitigation measures are required.

Operational Mitigation Measures

Operational mitigation measures are not required.

Impacts Remaining After Mitigation

NEPA Finding

No adverse effect under NEPA would occur.

CEQA Determination

No impact under CEQA would occur.

Locally Preferred Alternative (Alternative 4 Modified: At-Grade LRT)

Construction Impacts

Earth moving and demolition activities could result in the destruction or alteration of cultural resources. Additionally, the LPA has the potential to cause mild damage to historic properties as a result of temporary vibration caused during construction. Any physical effects caused by vibration would meet Criterion (i) for adverse effect, "Physical destruction of or damage to all or part of the property." However, even if physical damage would occur due to construction vibration, it is unlikely that the damage caused would diminish the integrity of design, materials, or workmanship in a manner that the properties would no longer qualify for the NRHP.

The Noise and Vibration Impacts Report, (see Appendix M of this FEIS/FEIR), outlines the predicted FTA damage risk vibration limits for different building types, as well as the predicted vibration levels generated by construction equipment that may be used to construct proposed stations near the historic properties (see Tables 4.16-5 and 4.16-6).

Table 4.16-5: FTA Construction Vibration Damage Criteria

Building Category	PPV (in/sec)
I. Reinforced-concrete, steel or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

Source: FTA Guidance Manual, 2018.

Table 4.16-6: Construction Vibration Predictions for General Construction Equipment

Equipment	PPV at 25 ft (in/sec)	PPV at 50 ft (in/sec)
Vibratory Roller	0.21	0.07
Hoe Ram	0.09	0.03
Large Bulldozer	0.09	0.03
Caisson Drilling	0.09	0.03
Loaded Trucks	0.08	0.03
Jackhammer	0.04	0.01
Small Bulldozer	0.003	0.001

Source: ATS Consulting, 2014.

Under the LPA, there are four historic properties that have a potential to be affected by the construction of the proposed LRT structures or stations:

1. 130 N. Brand Boulevard – Approximately 600 feet from proposed Maclay Station;
2. 6353 Van Nuys Boulevard – Approximately 75 feet from proposed Victory Station;
3. 8324 Van Nuys Boulevard – Approximately 40 feet from proposed Roscoe Station; and
4. 9110 Van Nuys Boulevard – Approximately 40 feet from proposed Nordhoff Station.

None of the buildings within the APE appear to be Building Category IV, such as an adobe building, so the lowest possible threshold of vibration damage would be 0.2 in/sec PPV. The highest predicted level of vibration for a station is the use of a vibratory roller at 0.21 in/sec PPV from a distance of 25 feet (see Tables 4.16-5 and 4.16-6 for additional information regarding the FTA construction damage criteria and predictions of vibration caused by typical construction equipment).

As the above four properties are located more than 25 feet away from the proposed construction areas, equipment used for the construction of a station would not exceed the predicted FTA damage risk vibration limits.

There are no historic properties that have the potential to be affected by the construction of the MSF. Additionally, construction of the LPA would not result in alterations to or demolition of any historic properties. Therefore, the LPA would not result in adverse effects on any historic properties during construction.

Operational Impacts

Since operation of the LPA would not involve a change in use, demolition, alteration, removal, or neglect of a property, nor are any of the historic properties within the project study area under federal ownership, the only potential operational impacts or effects that could occur under the LPA would be potential visual effects (see Section 4.16.1.3 for a list of criteria for adverse effect). Therefore, the applicable Criterion for adverse effect would be Criterion (v): introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features. Criterion (v) generally addresses potential changes to a historic property's integrity of setting. Under Criterion (v), the LPA would not result in atmospheric or audible elements that could diminish significant historic features of any properties; therefore, the impacts analysis focuses on the introduction of visual elements.

There are 10 historic properties in the APE. Four of the historic properties have a potential to be affected by the introduction of new visual elements under the LPA; however, based on the evaluations below, the LPA would not cause an adverse effect on any historic properties because none of the new features would diminish the setting of any historic property in a manner that the property would no longer be eligible for the NRHP.

130 N. Brand Avenue

Under the LPA, the proposed Maclay Station would be constructed on the Antelope Valley Metrolink Railroad corridor, south of its crossing with Maclay Street. While the school campus (indicated with red arrow) is near the proposed station (indicated with the black circle), the station would not be constructed near the historic properties on the campus. The Auditorium, Science Building, and Boys' Gymnasium are set back onto the campus, and would be visually separated from the proposed station by other, non-historic school buildings, and the primary views of the historic properties would not be adversely affected by a new visual element. The properties' integrity of setting has already been diminished through the introduction of new school buildings, but the properties are still able to convey their significance through other aspects of integrity. Furthermore, the three properties are significant for their architecture. Properties significant for this reason are able to convey their significance even if their integrity of setting has been diminished (e.g., architectural specimens that have been moved from their original locations can still be eligible for the NRHP regardless of setting). The property is already located along the railroad track, which is an early alignment that predates the historic school buildings. Therefore, the introduction of the new LRT station and increased use of the existing railroad tracks would not diminish the property's integrity of setting in such a way that it would no longer be eligible for the NRHP. All other aspects of integrity would remain unchanged. There would be no other anticipated effects. Therefore, the LPA would not result in adverse effects on this historic property.

Figure 4.16-1: Proposed Maclay Station location (circled) in relation to Boy's Gymnasium (indicated with red arrow)

Source: KOA, Google Earth, 2019.

6353 Van Nuys Boulevard

Under the LPA, the proposed Victory Station would be a center platform station constructed south of Victory Boulevard and extending southward toward Sylvan Street. While the historic property (indicated with red arrow) is near the proposed station (indicated with black circle), the station would be located approximately 35 feet away from the building. The primary views of the building from the west side of Van Nuys Boulevard and Friar Street would not be adversely affected by a new visual element. While the view might be obscured, the property is already located in a dense urban area with existing transit service and other vehicular traffic. Streetscape elements, such as overhead power lines, billboards, bus stops, lighting, and other transportation infrastructure, already exist in the area immediately surrounding the property. Furthermore, the property's setting is not an essential aspect of integrity for the property to convey its significance. Therefore, the introduction of the new LRT station and OCS would not diminish the property's integrity of setting in such a way that it would no longer be eligible for the NRHP of CRHR, and all other aspects of integrity would remain unchanged. No other potential effects are anticipated. Therefore, the LPA would not result in adverse effects on this historic property.

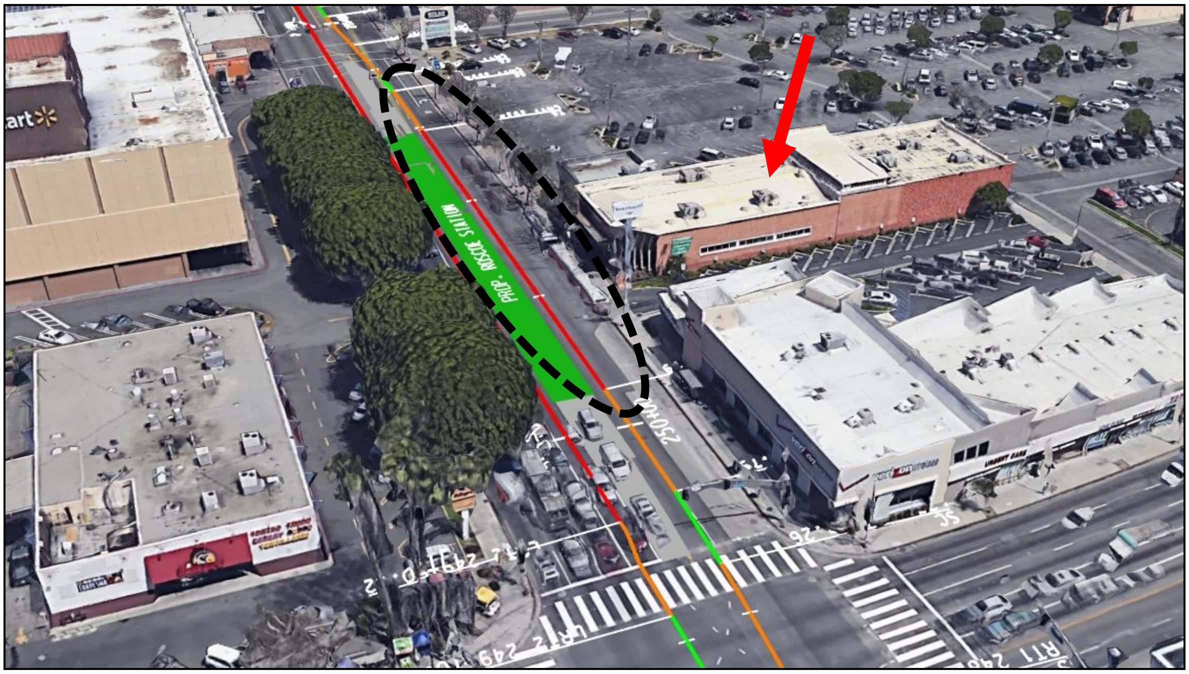
Figure 4.16-2: Proposed Victory Station location (circled) in relation to 6353 Van Nuys Boulevard (indicated with red arrow)

Source: KOA, Google Earth, 2019.

8324 Van Nuys Boulevard

Under the LPA, the proposed Roscoe Station would be a center platform station located on the north side of the intersection of Roscoe and Van Nuys. While the historic property (indicated with red arrow) is near the proposed station (indicated with the black circle), the primary views of the building from the east side of Van Nuys Boulevard would not be adversely affected by a new visual element. While the view might be obscured from the west side of Van Nuys Boulevard, the property is already located in a dense urban area with existing bus service and other vehicular traffic. Streetscape elements, such as overhead power lines, billboards, bus stops, lighting, and other transportation infrastructure, already exist in the area immediately surrounding the property. The introduction of the new LRT station, supporting facilities, and its continued operation would not diminish the property's integrity of setting in such a way that it would no longer be eligible for the NRHP, and all other aspects of integrity would remain unchanged. The property's historic significance would still be conveyed by its remaining physical features that illustrate its historic use and architectural style, including its location along Van Nuys Boulevard, the large display windows that would allow passersby to see the products for sale, the vertical pylon that would increase the visibility of the store's signage, and use of incised geometric ornament and the remaining surrounding low-rise commercial buildings. Although many have been physically altered, their massing and proximity are the same. Therefore, the LPA would not cause an adverse effect on this historic property's setting.

Figure 4.16-3: Proposed Roscoe Station location (circled) in relation to 8324 Van Nuys Boulevard (indicated with red arrow)



Source: KOA, Google Earth, 2019.

9110 Van Nuys Boulevard

Under the LPA, the proposed northbound Nordhoff Station would be constructed near the center of Van Nuys Boulevard between the intersections of Tupper and Nordhoff Streets. While the historic property (indicated with red arrow) is near the proposed station (indicated with the black circle), the station would not be constructed directly in front of the building. The proposed station is located approximately 475 feet away from the property. The property's integrity of setting has already been diminished through the introduction of infill, but it is still able to convey its significance through its other aspects of integrity. The property's setting is not an essential aspect of integrity for it to convey its significance. In addition, the property is already located in a dense urban area with existing bus service and other vehicular traffic. Streetscape elements, such as overhead power lines, billboards, bus stops, lighting, and other transportation infrastructure, already exist in the area immediately surrounding the property. Therefore, the introduction of the new LRT station and OCS would not further diminish the property's integrity of setting in such a way that it would no longer be eligible for the NRHP, and all other aspects of integrity would remain unchanged. Therefore, the LPA would not result in adverse effects on this historic property.

Figure 4.16-4: Proposed Nordhoff Station location (circled) in relation to 9110 Van Nuys Boulevard (indicated with red arrow)

Source: KOA, Google Earth, 2019.

Cumulative Impacts

Under the LPA, there would be no adverse effects or impacts to historic properties; therefore, the LPA would not contribute to cumulative impacts on the properties identified as part of this study or as a result of any other planned projects within the region.

Mitigation Measures

Construction Mitigation Measures

Construction mitigation measures are not required since there are no anticipated construction effects on historic properties that would occur as a result of the construction of the LPA.

Operational Mitigation Measures

Operational mitigation measures are not required since there are no anticipated operational effects on historic properties as a result of operation of the proposed LPA transit facilities.

Impacts Remaining After Mitigation

NEPA Finding

No adverse effects under NEPA would occur.

CEQA Determination

Impacts under CEQA would be less than significant.

Initial Operating Segment

Construction Impacts

There are four historic properties that have a potential to be affected by the construction of proposed LRT stations. None of the buildings within the APEappear to be Building Category IV, such as an adobe building, so the lowest possible threshold of vibration damage would be 0.2 in/sec PPV. The highest predicted level of vibration for an aboveground station is the use of a vibratory roller at 0.21 in/sec PPV from a distance of 25 feet (see Tables 4.16-5 and 4.16-6 for additional information regarding the FTA construction damage criteria and predictions of vibration caused by typical construction equipment). The four properties are located more than 25 feet away from the proposed construction areas, equipment used for the construction of a station would not exceed the predicted FTA damage risk vibration limits. Additionally, for the IOS, there are no historic properties that have the potential to be affected by the construction of the MSF or other proposed LRT facilities. Therefore, the IOS would not result in adverse effects on any historic properties during construction.

Operational Impacts

The operation of the IOS will not involve a change in use, demolition, alteration, removal, or neglect of a property, nor are any of the historic properties within the project study area under federal ownership, the only potential operational impacts or effects that could occur under the IOS would be potential visual effects. Therefore, the applicable Criterion for adverse effect would be Criterion v: introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features. Criterion v generally addresses potential changes to a historic property's integrity of setting. Under Criterion v, this alternative would not result in atmospheric or audible elements that could diminish significant historic features of any properties; therefore, the impacts analysis focuses on the introduction of visual elements.

There are 10 historic properties in the APE. Four of the historic properties have a potential to be affected by the introduction of the introduction of new visual elements; however, based on the evaluations discussed above for the LPA, the IOS would not cause an adverse effect on any historic properties because none of the new features would diminish the setting of any historic property in a manner that the property would no longer be eligible for the NRHP.

Cumulative Impacts

There would be no adverse effects or impacts to historic properties as a result of the IOS; therefore, this alternative would not contribute to cumulative impacts on the properties identified as part of this study or as a result of any other planned projects within the region.

Mitigation Measures

Construction Mitigation Measures

Construction mitigation measures are not required since there are no anticipated construction effects on historic properties that would occur as a result of the IOS.

Operational Mitigation Measures

Operational mitigation measures are not required since there are no anticipated operational effects on historic properties that would occur as a result of the IOS.

Impacts Remaining After Mitigation

NEPA Finding

No adverse effects under NEPA would occur to historic properties due to the IOS.

CEQA Determination

Impacts to historical resources under CEQA due to the IOS would be less than significant.

4.16.3.3 Paleontological Resources

No-Build Alternative

Construction Impacts

The No-Build Alternative would result in no excavation activities. There would be no construction impacts to paleontological resources associated with the No-Build Alternative.

Operational Impacts

The No-Build Alternative would not result in new facilities due to the proposed project and consequently it would not result in any operational impacts on paleontological resources.

Cumulative Impacts

The No-Build Alternative would not result in any adverse effects or impacts to paleontological resources; therefore, it would not contribute to any cumulative paleontological resources impacts.

Mitigation Measures

Construction Mitigation Measures

No construction mitigation measures are required.

Operational Mitigation Measures

No operational mitigation measures are required.

Impacts Remaining After Mitigation

NEPA Finding

No adverse effect would occur under NEPA.

CEQA Determination

No impact would occur under CEQA.

Locally Preferred Alternative (Alternative 4 Modified: At-Grade LRT)

Construction Impacts

The LPA would involve shallow excavation within the Quaternary alluvium during platform construction in the median, station upgrades, and sidewalk widening. These shallow earthmoving activities would not adversely affect paleontological resources, since the disturbed sediments are too young in age to contain fossils.

No paleontological resources are recorded within the MSF site. Although there has been prior construction at this site, fossils in valley areas are located subsurficially. If excavation extends into native sediments, e.g., for sewer and water lines as well as for underground storage tanks, significant impacts/adverse effects to any paleontological resources that are encountered could occur.

Operational Impacts

Operation of the LPA would result in no impacts or effects on paleontological resources.

Cumulative Impacts

Other related projects could require excavation to depths containing fossil bearing soils and could result in the destruction of fossil resources, a potentially significant impact. However, potential impacts to any paleontological resources that may be encountered during construction of the LPA would be mitigated to a less-than-significant-level. Additionally, the related projects may also include mitigation measures that would minimize or reduce potential impacts to a less-than-significant level. Therefore, the LPA, after mitigation, would not contribute to any cumulative impacts to paleontological resources.

Mitigation Measures

Construction Mitigation Measures

Although no impacts to paleontological resources are anticipated as a result of the LPA due to the anticipated shallow depth of excavation, the following construction mitigation measure is proposed should excavation depths be greater than anticipated and construction impacts to paleontological resources occur.

> **MM-PR-1:** Metro shall retain the services of a qualified paleontologist (minimum of graduate degree, 10 years of experience as a principal investigator, and specialty in vertebrate paleontology) to oversee execution of this mitigation measure. Metro's qualified principal paleontologist shall then develop a Paleontological Resources Monitoring and Mitigation Plan (PRMMP) acceptable to the collections manager of the Vertebrate Paleontology Section of the Natural History Museum of Los Angeles County. Metro will implement the PRMMP during construction. The PRMMP will clearly demarcate the areas to be monitored and specify criteria. At the completion of paleontological monitoring for the proposed project, a paleontological resources monitoring report will be prepared and submitted to the Natural History Museum of Los Angeles County to document the results of the monitoring activities and summarize the results of any paleontological resources encountered.

The PRMMP shall include specifications for processing, stabilizing, identifying, and cataloging any fossils recovered as part of the proposed project. Metro's qualified principal paleontologist shall prepare a report detailing the paleontological resources recovered, their significance, and arrangements made for their curation at the conclusion of the monitoring effort.

The following construction mitigation measure is proposed to mitigate potentially significant impacts to paleontological resources that could occur during construction.

MM-PR-2: Prior to the start of construction a qualified Principal Paleontologist shall prepare a Paleontological Mitigation Plan (PMP) that includes the following requirements:

- All project personnel involved in ground-disturbing activities shall receive paleontological resources awareness training before beginning work.
- Excavations, excluding drilling, deeper than 8 feet below the current surface in the Quaternary alluvium shall be periodically spot checked to determine when older sediments conducive to fossil preservation are encountered. Once the paleontologically sensitive older alluvium is reached, a qualified paleontologist shall perform full-time monitoring of construction. Should sediments in a particular area be determined by the paleontologist to be unsuitable for fossil preservation, monitoring shall be suspended in those areas. A paleontologist shall be available to be on call to respond to any unanticipated discoveries and may adjust monitoring based on the construction plans and field visits.
- Sediment samples from the Quaternary older alluvium shall be collected and screened for microfossils.
- Recovered specimens shall be stabilized and prepared to the point of identification. Specimens shall be identified to the lowest taxonomic level possible and transferred to an accredited repository for curation along with all associated field and lab data.
- Upon completion of project excavation, a Paleontological Mitigation Report (PMR) documenting compliance shall be prepared and submitted to the Lead Agency under CEQA.

Operational Mitigation Measures

No operational mitigation measures are required.

Impacts Remaining After Mitigation

NEPA Finding

The proposed mitigation measures would reduce potential effects on paleontological resources to no adverse effect under NEPA.

CEQA Determination

The proposed mitigation measures would reduce potential impacts to paleontological resources to a less-than-significant level under CEQA.

Initial Operating Segment

Construction Impacts

Similar to the LPA, the IOS would involve shallow excavation within the Quaternary alluvium during platform construction in the median, station upgrades, and sidewalk widening. These shallow earthmoving activities would not adversely affect paleontological resources, since the disturbed sediments are too young in age to contain fossils.

No paleontological resources are recorded within the preferred MSF site. Although there has been prior construction at this site, fossils in valley areas are located subsurficially. If excavation extends into native sediments, significant impacts/adverse effects to any paleontological resources that are encountered could occur.

Operational Impacts

Operation of the IOS would result in no impacts or effects on paleontological resources.

Cumulative Impacts

Other related projects could require excavation to depths containing fossil bearing soils and could result in the destruction of fossil resources, a potentially significant impact. However, potential impacts to any paleontological resources that may be encountered during construction of the IOS would be mitigated to a less-than-significant-level. Additionally, the related projects may also include mitigation measures that would minimize or reduce potential impacts to a less-than-significant level. Therefore, the IOS, after mitigation, would not contribute to any cumulative impacts to paleontological resources.

Mitigation Measures

Construction Mitigation Measures

Paleontological resources mitigation measures for the IOS include MM-PR-1 and MM-PR-2, which are described above for the LPA.

Operational Mitigation Measures

Operational mitigation measures are not required since there are no anticipated operational effects on paleontological resources as a result of the proposed project.

Impacts Remaining After Mitigation

NEPA Finding

No adverse effects under NEPA would occur to paleontological resources.

CEQA Determination

The proposed mitigation measures would reduce potential impacts to paleontological resources to a less-than-significant level under CEQA.

4.17 Environmental Justice

4.17.1 Regulatory Framework and Methodology

4.17.1.1 Regulatory Framework

The applicable federal, state, and local regulations that are relevant to an analysis of the proposed project's environmental justice impacts are listed below. For additional information regarding these regulations, please see the Environmental Justice Impacts Report in Appendix AA of this FEIS/FEIR.

Federal

- National Environmental Policy Act (NEPA);
- Executive Order 12898;
- Council on Environmental Quality Environmental Justice Guidance;
- United States Department of Transportation Order 5610.2(a);
- FTA Circular 4703.1(Environmental Justice Policy Guidance for FTA Recipients); and
- Civil Rights Act.

State

- California Public Resources Code Division 13. Environmental Quality [21000 - 21189.57]; and
- California Public Resources Code Section 21083.2. (Amended by Stats. 1993, Ch. 375, Sec. 1.)

Local

- Metro Complete Streets Policy;
- City of Los Angeles (City of Los Angeles Land Use/Transportation Policy, General Plan, Special Districts, and Targeted Neighborhood Initiatives); and
- City of San Fernando (General Plan, San Fernando Corridors Specific Plan, Transit-Oriented Development [TOD] Overlay Zone [Proposed]).

4.17.1.2 Methodology

The following three steps were used to assess the project's impacts on minority and low-income populations in the project study area:

- Demographic information was collected for Census tracts and block groups within the project study area, as well as for the City and County of Los Angeles.
- Textual and visual representations of the data were provided through written descriptions, tables, and maps.
- An assessment of the project's impacts on minority and low-income populations was conducted.

An assessment of the project's impacts on minority and low-income populations was conducted by following the guidance and methodologies provided in the CEQ Environmental Justice Guidance, United States Department of Transportation (USDOT) Order 5610.2(a), and FTA Circular 4703.1. These guidance documents define the range of potentially significant effects on minority and low-income populations that could result from a project.

4.17.1.3 CEQA Significance Thresholds

Significance thresholds are used to determine whether a project may have a significant environmental effect under CEQA. CEQA requires state and local government agencies to identify the significant environmental effects of proposed actions; however, 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 at the discretion of the lead agency and are the levels at which the lead agency finds the effects of the project to be significant.

State CEQA Guidelines

The State CEQA Guidelines define "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, 14 CCR Section 15382). The State CEQA Guidelines do not describe specific significance thresholds. Appendix G of the State CEQA Guidelines lists a variety of potentially significant effects; however, none of these effects are related to environmental justice, as CEQA does not specifically address environmental justice impacts.

4.17.2 Affected Environment/Existing Conditions

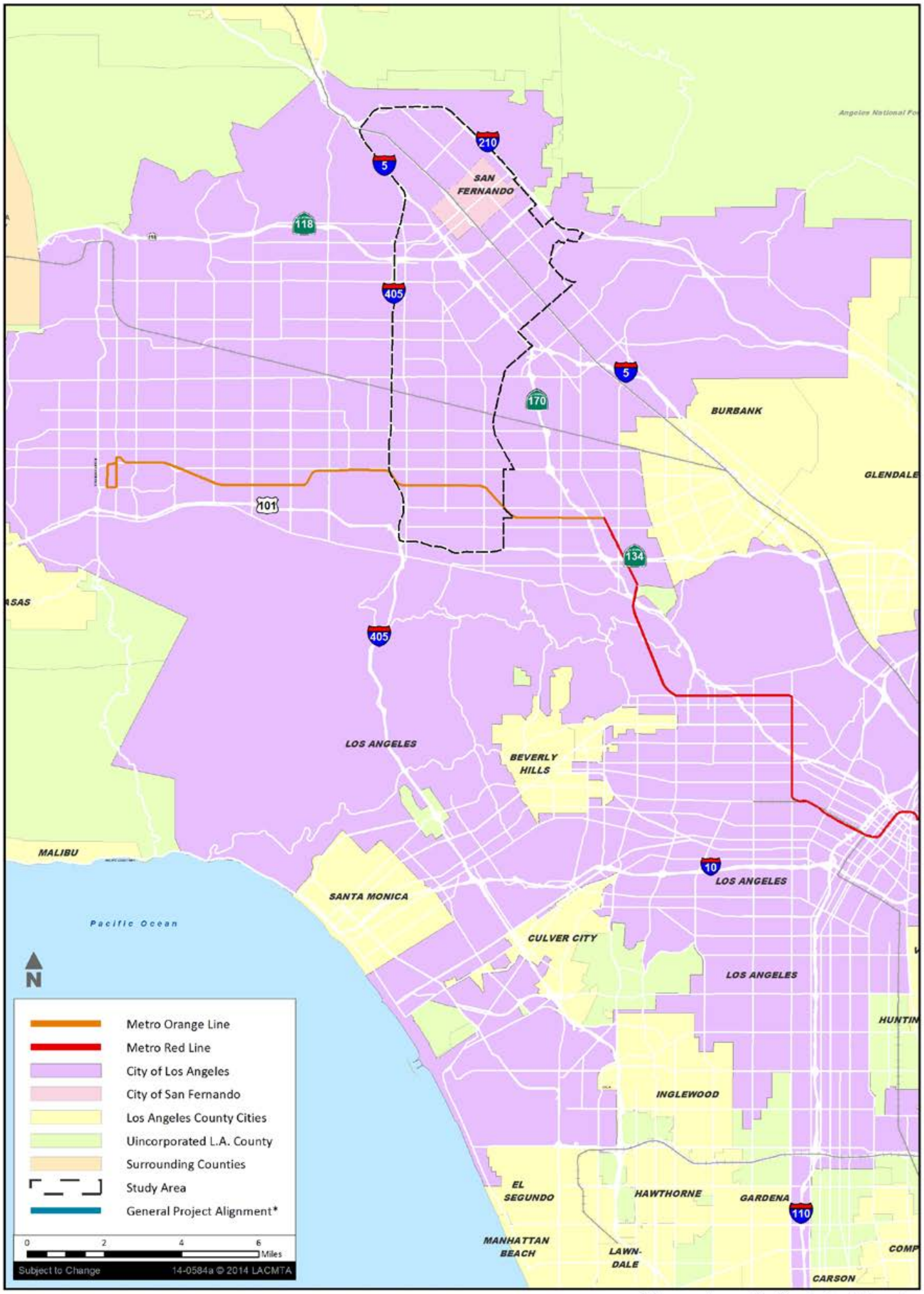
4.17.2.1 Project Study Area and Regional Setting

Project Study Area

The environmental justice project study area is located in the San Fernando Valley area of Los Angeles and shown in Figure 4.17-1. The San Fernando Valley is a flat area consisting of approximately 260 square miles, and is bounded by the Santa Susana Mountains to the northwest, the Simi Hills to the west, the Santa Monica Mountains and Chalk Hills to the south, the Verdugo Mountains to the east, and the San Gabriel Mountains to the northeast. The project corridor is approximately 9.2 miles in length, and runs nearly the entire length of the valley floor.

The project study area encompasses the area in which direct and/or indirect effects associated with the project could result. For this report, the project study area is generally bound by the San Diego Freeway (I-405) to the west, open space to the south (Deervale-Stone Canyon Park, Fossil Ridge Park, and Coldwater Canyon Open Space), Fulton Avenue and the Los Angeles River to the east, and the Foothill Freeway (I-210) to the north (see Figure 4.17-2).

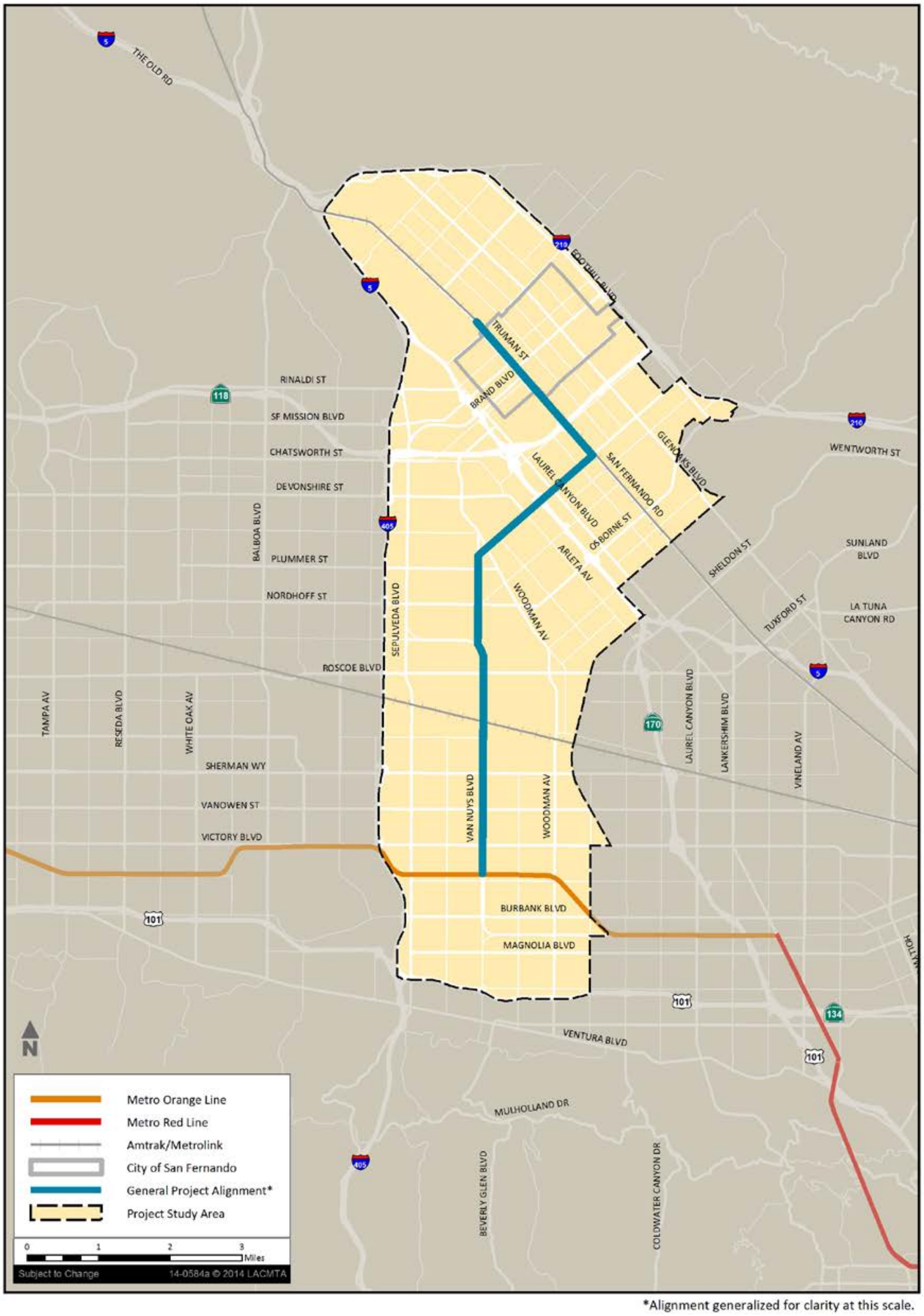
Figure 4.17-1: Project Vicinity



Source: ESRI, 2013

Metro

Figure 4.17-2: Environmental Justice Study Area



Source: ESRI, 2013; US Census Bureau, 2010.

The project study area was identified using information provided in the Purpose and Need Framework, site visits conducted October 2011 and February 2013, Google maps, and aerial photographs of the project corridor.[1,2] Research was performed to identify physical characteristics, such as freeways, which serve to naturally delineate areas, neighborhood designations and specific planning areas, 2010 Census tract and block group boundaries, and available demographic information. Potential impacts, such as those related to construction and project operations, were also taken into consideration when determining the extent of the project study area.

The project study area includes 108 Census tracts (2010 boundaries) as shown in Figure 4.17-2, and 256 block groups. The Census tracts in the project study area are shown in Figure 4.17-3, and the Census block groups are shown in Figure 4.17-4, respectively.

Regional Areas

An environmental justice project study area is often compared with the surrounding region in order to gain perspective and identify similarities, differences, and relationships between the project study area and the region. Generally, a region is defined as the jurisdiction that is larger than, and includes, the project study area, although some circumstances may dictate deviations from this standard. For the purpose of this report, two regional areas have been used: the County of Los Angeles (County) and the City of Los Angeles (City). These regional areas are shown in Figure 4.17-5.

Community Outreach and Meetings with Environmental Justice Communities

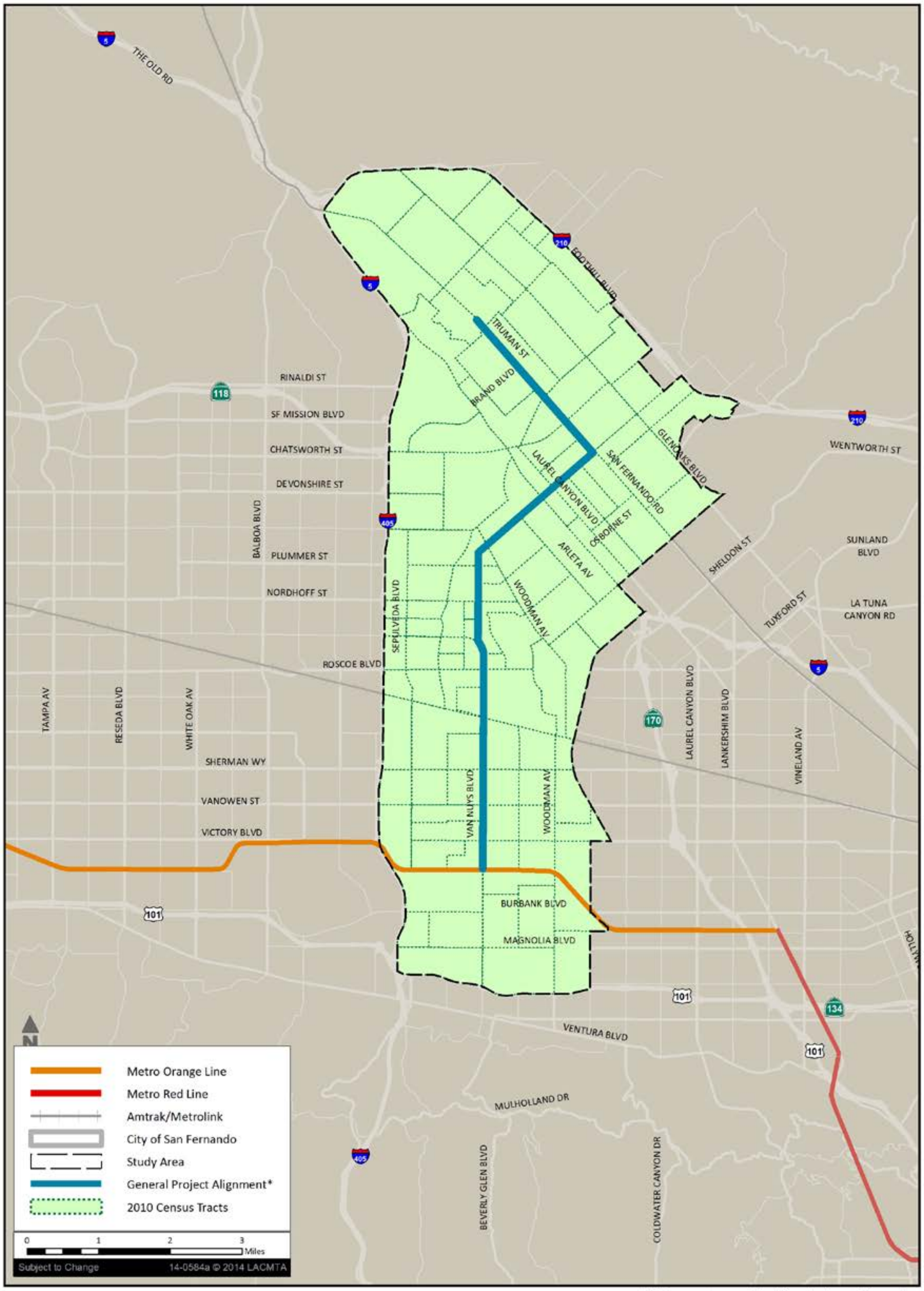
Throughout the Alternatives Analysis and DEIS/DEIR phases, a variety of informational documents was made available to communities surrounding the project corridor, most of which include environmental justice communities. These documents included project fact sheets, frequently asked questions, meeting notices, electronic newsletters/e-bulletins, and other collateral materials. In addition, a complete set of collateral pieces was developed and distributed at the various community meetings, stakeholder briefings, and public events or electronically when requested. These collateral materials were updated throughout the project development process and produced in English and Spanish. These materials are included in Appendix DD, Agency Coordination and Public Involvement, of this FEIS/FEIR. Also, please see Chapter 7 of this FEIS/FEIR for a summary of public and agency outreach efforts.

4.17.2.2 Minority Populations

In the United States 2000 and 2010 Census data used for this report, racial groups listed as White, Black/African American, American Indian/Alaska Native, Asian, Native Hawaiian/Other Pacific Islander, Some Other Race, and Two or More Races are categorized as "Not Hispanic" (NH). Those listed as Hispanic or Latino are not reported as a race, but as an ethnic group, and are calculated as a proportion of all races.

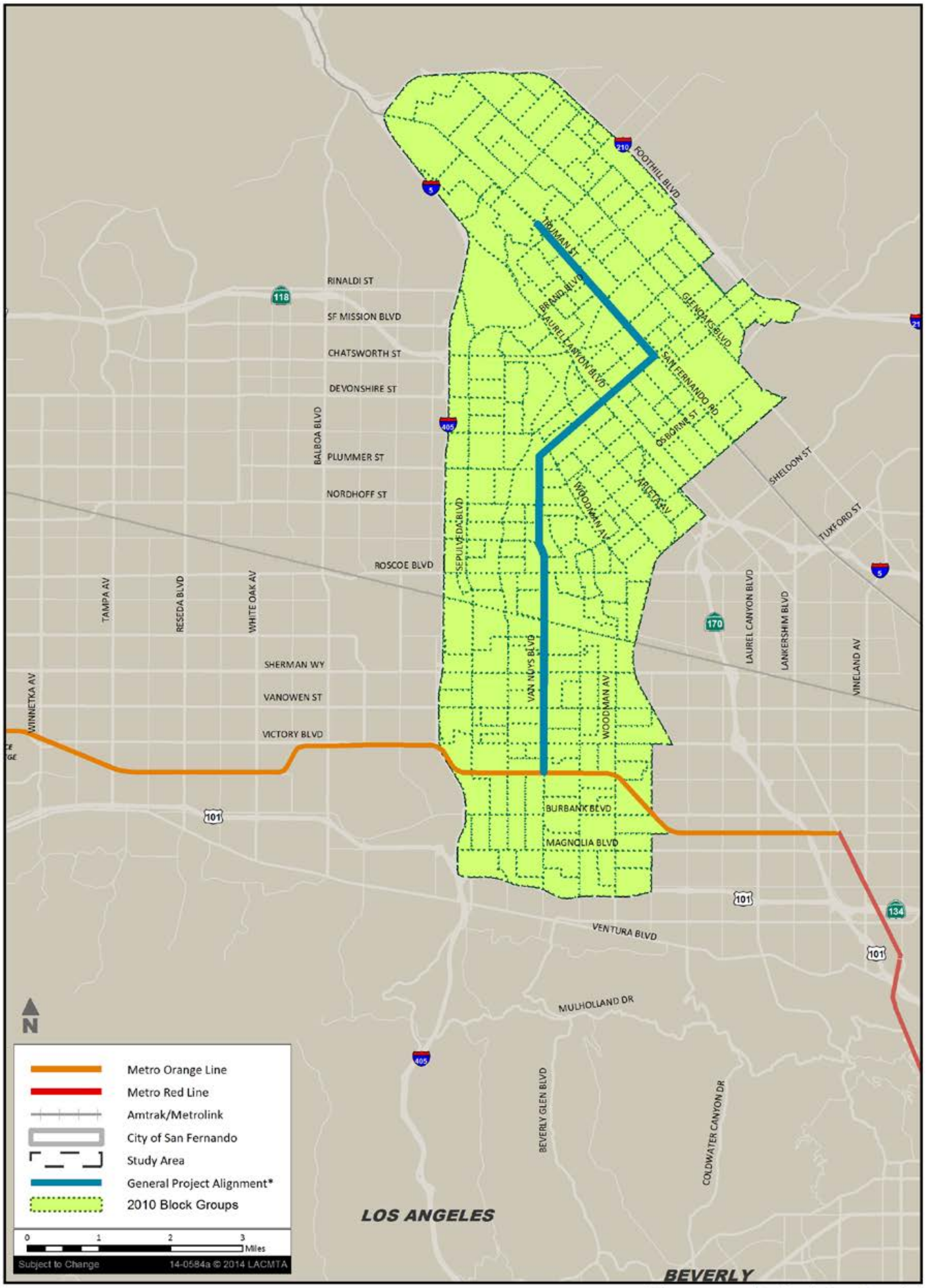
[1] KOA Corporation. 2011. *Van Nuys Boulevard Corridor Mobility Study, Purpose and Need Framework. Monterey Park, CA.*
[2] Google, Inc. 2013. *Google Maps*. Available: <http://maps.google.com/>. Accessed: February 13, 2013.

Figure 4.17-3: Census Tracts in the Environmental Justice Study Area



Source: ESRI, 2013; US Census Bureau, 2010.

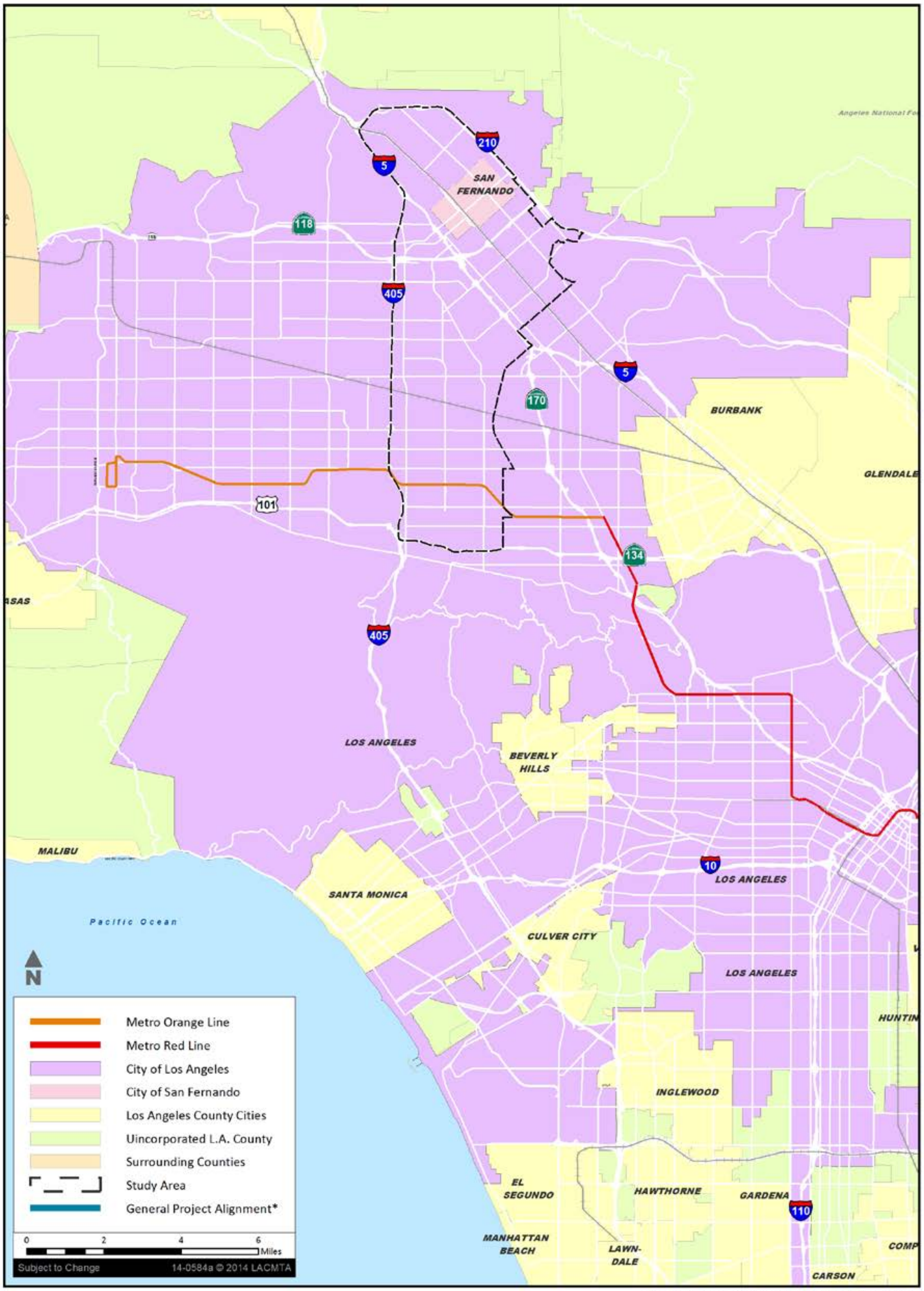
Figure 4.17-4: Census Block Groups in the Environmental Justice Study Area



*Alignment generalized for clarity at this scale.

Source: ESRI, 2013; US Census Bureau, 2010.

Figure 4.17-5: Environmental Justice Regional Areas



*Alignment generalized for clarity at this scale.

Source: ESRI, 2013; US Census Bureau, 2010.

In 2000, all racial categories in the project study area were a similar percentage or a lower percentage than the City and County, with the exception of the Hispanic or Latino ethnic category (see Table 4.4-2 in Section 4.4 of this FEIS/FEIR). At that time, the project study area was comprised predominantly of Hispanic or Latino persons at 66.8 percent, which was 20.3 percent higher than the City and two percent higher than the County.

In 2010, all racial categories in the project study area were either the same percentage or a proportionately lower percentage than the City and County, with the exception of the Hispanic or Latino ethnic category (see Table 4.4-3 in Section 4.4 of this FEIS/FEIR). The project study area was comprised predominantly of Hispanic or Latino persons at 71.7 percent, which was 23.2 percent higher than the City and 24.0 percent higher than the County. Of the block groups adjacent to the project corridor, 100 percent contain minority populations, and 100 percent contain low-income populations.

Overall, between 2000 and 2010, there was a decrease in the proportion of Whites, Black/African Americans, American Indian/Alaska Natives, and individuals of Two or More Races in the project study area. During the same period, the proportion of Asians and Hispanic and Latino populations increased in the project study area, and the percentage of Native Hawaiian/Other Pacific Islanders remained the same. Similar trends can be seen in the City and County during that period.

All other minority categories in the project study area were at a similar or lower percentage than the same populations in the regional areas. However, according to FTA Circular 4703.1, a very small minority or low-income population (statistically "insignificant") in the project study area does not eliminate the possibility of a disproportionately high and adverse effect on these populations. Therefore, this report addresses potential effects on all minority populations regardless of the size of the population in the project study area.

4.17.2.3 Low-Income Populations

Households below Poverty Level

Households below the poverty level in 2000 are shown in Table 3-4 in the Environmental Justice Impacts Report in Appendix AA. Approximately 17.7 percent of households in the project study area were below the poverty level, which was 0.9 percent lower than the City and 2.6 percent higher than the County.

Households below the poverty level in 2010 are shown in Table 3-5 in the Environmental Justice Impacts Report in Appendix AA. Approximately 17.5 percent of households in the project study area were below the poverty level, which was 0.2 percent higher than the City and 3.5 percent higher than the County.

Between 2000 and 2010, the project study area, the City, and County experienced a decrease in the proportion of households below the poverty level, but the project study area experienced the smallest decrease (by 0.2 percent) compared to the City (a 1.3 percent decrease) and the County (a 1.0 percent decrease).

Low-Income Housing

While there are no mobile home parks adjacent to the 9.2-mile project corridor, there are five low-income housing developments:

- 12157 San Fernando Road (near Hubbard Avenue; adjacent to a TPSS site for the Low-Floor LRT/Tram Alternative);
- 9628 Van Nuys Boulevard (near Vesper Avenue);
- 9640 Van Nuys Boulevard (near Vesper Avenue);
- 9618 Van Nuys Boulevard (near Vesper Avenue); and
- 9247 Van Nuys Boulevard (near Tupper Street).

4.17.3 Environmental Consequences, Impacts, and Mitigation Measures

4.17.3.1 No-Build Alternative

Construction Impacts

The No-Build Alternative would not involve new transportation or infrastructure improvements aside from projects currently under construction or funded for future construction. Therefore, the No-Build Alternative would not result in disproportionately high and adverse effects on minority and low-income populations with respect to construction.

Operational Impacts

Mobility and Access Impacts

The No-Build Alternative would not result in changes to existing mobility and access in the project study area. The No-Build Alternative would not result in changes to on-street parking, existing or planned pedestrian and bicycle access, access to public transportation, or vehicular access to businesses and community resources within the communities and neighborhoods in the project study area. Therefore, the No-Build Alternative would not result in any effects on minority or low-income populations with respect to mobility and access.

This alternative would not result in any actions to implement Metro's Complete Streets Policy. In addition, while this alternative would not result in effects on minority or low-income populations, it would not achieve the potential transportation benefits, such as improved circulation, transit equity, reliability, and access that would be expected to result from the proposed build alternatives. As detailed in Chapter 3 of this FEIS/FEIR, the No-Build Alternative establishes a baseline for comparison to evaluate potential traffic effects of the other alternatives. Daily vehicle traffic within the project study area is projected to increase under future baseline conditions (and the No-Build Alternative), as compared to existing conditions. Community mobility would be expected to deteriorate with the increased regional traffic congestion anticipated between now and 2040, which could result in a long-term reduction in access to public transportation, businesses, and community resources, as well as reduced emergency vehicle access.

Social and Economic Impacts

The No-Build Alternative would not result in changes to social and economic conditions in the project study area. This alternative would not induce population growth, result in changes to businesses or employment rates, displace housing or people, or result in changes to community cohesion, interaction, quality of life, or social values. In addition, the No-Build Alternative would not result in the denial of, reduction in, or substantial delay in the receipt of benefits of USDOT programs, policies, or activities for minority or low-income populations. Therefore, the No-Build Alternative would not result in effects on minority or low-income populations with respect to social and economic conditions. More information on economic impacts is provided in Section 4.3, Economic and Fiscal Impacts, in this FEIS/FEIR.

While this alternative would not result in effects on minority or low-income populations, it would not achieve the potential circulation, transit equity, and access improvements that would be expected to result from the Locally Preferred Alternative (LPA). Community mobility would be expected to deteriorate with the increased regional traffic congestion anticipated between now and 2040, which could limit local economic growth.

Physical Impacts

The No-Build Alternative would not result in changes to the physical environment, including land use patterns or visual character; result in safety impacts; or introduce physical intrusions to communities and neighborhoods in the project study area. No geological, hazardous materials, water quality, public health, or community facility impacts are anticipated. The No-Build Alternative would not require street closures or result in reductions in community cohesion, reductions in access, or increased exclusion. Under this alternative, transportation facilities would operate entirely within existing transportation corridors, and no physical barriers would be introduced that would divide the existing communities surrounding the project corridor. This alternative would not decrease the performance or safety of public transit, bicycle, or pedestrian facilities. The No-Build Alternative would not require displacement of any housing, people, or businesses or require the acquisition of properties. Therefore, the No-Build Alternative would not result in effects on minority or low-income populations with respect to physical conditions.

While this alternative would not result in effects on minority or low-income populations, it would not achieve the potential circulation, transit equity, and access improvements that are expected to result from the LPA. Community mobility would be expected to deteriorate with the increased regional traffic congestion anticipated between now and 2040, which could result in increased vehicle hours traveled, fuel (energy) consumption, air quality emissions, and generation of greenhouse gas emissions.

Cumulative Impacts

Per CEQA Section 15130 (b), the cumulative impacts analysis can consider either a "list of past, present, and probable future projects producing related or cumulative impacts" 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." The cumulative impacts analysis below is based on the approach that considers the cumulative projects listed in Table 2-3 of the DEIS/DEIR.

The project study area for the cumulative impacts analysis consists of the communities and neighborhoods that would be affected by the proposed project. In general, the cumulative impacts project study area encompasses the neighborhoods and communities adjacent to the project corridor.

The No-Build Alternative would not result in effects on minority or low-income populations; therefore, this alternative would not contribute to cumulative impacts on environmental justice communities.

Mitigation Measures

Construction Mitigation Measures

No construction mitigation measures are required.

Operational Mitigation Measures

No operational mitigation measures are required.

Impacts Remaining After Mitigation

NEPA Finding

No adverse effects under NEPA would occur.

CEQA Determination

There are no thresholds of significance in CEQA for environmental justice impacts. Therefore, no CEQA determination can be made for environmental justice impacts resulting from this alternative.

4.17.3.2 Locally Preferred Alternative (Alternative 4 Modified: At-Grade LRT)

Construction Impacts

Mobility and Access Impacts

Construction of LRT stations and the transit alignment would require temporary sidewalk, lane, and road closures, and temporary removal of parking along Van Nuys Boulevard, San Fernando Road, Truman Street, and their cross streets. These closures could reduce pedestrian, bicycle, and vehicle access to areas along the project corridor during construction. These temporary effects are anticipated to affect all communities within the project study area and communities adjacent to the project study area comparably. To minimize potential impacts on pedestrians and cyclists, adequate pedestrian and bicycle accommodations would be made available during construction, including signage, construction barriers to reduce any conflicts with construction equipment and vehicles, and supervision of trained safety personnel. Additionally, mitigation measures MM-TRA-1 to MM-TRA-3 are proposed (see Chapter 3 of this FEIS/FEIR), which would require preparation of a Traffic Management Plan and Traffic Control Plan that would include measures to ensure potential impacts on bicycle facilities are minimized to the extent feasible. These measures may include on-street bicycle detour routes would be used to address temporary effects on bicycle circulation. In addition, signage would be posted, stating that “Bikes May Use Full Lane,” and/or alternative route signage would be provided. Uneven surfaces would also be clearly marked.

Road and sidewalk closures, and the addition of construction vehicles and equipment on major City of Los Angeles and City of San Fernando streets, could reduce public access to annual festivals and events in the various communities along the alignment. In addition, construction could disrupt traffic patterns and make public access to businesses and community resources more difficult. Lane closures, traffic detours, and designated truck routes associated with construction could also result in decreased access for emergency vehicles, which could result in a delay in response times. Lane and/or road closures would be scheduled to minimize disruptions, and a Traffic Management Plan (TMP) would be approved in coordination with both the Cities of Los Angeles and San Fernando prior to construction. For these reasons and because the lane and/or road closures and the potential for temporary effects associated with emergency vehicle response times would affect all neighborhoods along the alignment, regardless of origin, no disproportionate adverse effects on minority or low-income populations are anticipated.

Social and Economic Impacts

Construction of the LPA would not be expected to result in substantial changes to the existing population in the project study area. A substantial employment base and residential population currently exist in the San Fernando Valley and are within commuting distance of the project corridor; therefore, employment opportunities would not be expected to result in substantial migration of additional residents to the project study area. In addition, because of the temporary nature of construction jobs, employment opportunities resulting from construction would not be expected to induce substantial population growth in communities and neighborhoods in the project study area.

Construction activities would likely result in a decrease in accessibility to many businesses and could reduce on-street and off-street parking, which may negatively affect business activity levels because the number of customers may temporarily decline. All attempts would be made to provide adequate detours and to minimize road closures; however, some consumers may avoid the area altogether, which could have an indirect effect on businesses within the project area. The displacement of businesses to accommodate construction of the LPA could result in economic impacts to those businesses that are dependent on transactions from the displaced businesses. Although it's not possible to quantify these impacts, they're considered to be an adverse effect under NEPA and a less-than-significant impact under CEQA. Construction activities would take place throughout the project corridor, and the temporary decrease in accessibility would affect all businesses comparably.

Displacement of Businesses, Housing and People

To assess the types of potential displacements resulting from the LPA, conceptual engineering plans for the proposed alignment, station options, and rights-of-way were reviewed. When an acquisition is required, it typically results in either a partial or full acquisition of a parcel. A partial acquisition would result if a portion of the parcel is required to accommodate the project. A full acquisition would result if either: (1) the majority of the property is required for the horizontal alignment due to insufficient right-of-way or the need to construct storage or maintenance facilities, or (2) a severe loss of access reduces the useful operation of the property.

The majority of the LPA alignment would be constructed in the median of an existing roadway and would not require the displacement of businesses or residences along the majority of the project corridor. As detailed in Section 4.2 - Real Estate and Acquisition of this FEIS/FEIR, some areas of the project alignment, however, would require commercial or light industrial property acquisitions to accommodate the LRT facilities.

Partial property acquisitions would also be required for traction power substations (TPSSs). These acquisitions would be located near potential stations or at the maintenance and storage facility (MSF) site, primarily using vacant lots, parking lots, or commercial properties.

The areas needed for construction storage and access would be established by the construction contractor near the project alignment and would be located within the right-of-way, parking lots, on vacant land, or within the properties to be acquired for the proposed MSF. If additional land is required for construction, either as temporary construction easements or permanent acquisitions, affected properties would be minimized to the extent feasible and would be limited to commercial or industrial areas along the alignment.

Although some acquisitions would be required to construct the track and support facilities, most of the acquisitions that would be required to construct the LPA would occur as a result of the construction of the MSF. MSF Option B was identified by Metro as the preferred MSF location. The MSF Option B site is located west of Van Nuys Boulevard between Raymer Street and Keswick Street.

MSF Option B would require the full or partial acquisition of 34 parcels. The majority of the acquisitions would be from light manufacturing and commercial properties, which contain businesses oriented toward automobile repair and supplies or raw materials supply and manufacturing. No residential acquisitions would be required for the MSF Option B. These businesses are located in a predominantly low-income and minority neighborhood and could be supported by owners, workers, or customers from low-income or minority block groups that could be affected by the economic changes or job losses associated with these displacements. Therefore, the displacement impacts of MSF Option B would be predominantly borne by an environmental justice population.

Depending on the availability of vacant light industrial and commercial properties, it is possible that not all of the displaced businesses could be accommodated in the project area. As a consequence, construction of the LPA, and specifically the MSF, could have an adverse effect on local economic conditions in the project study area. The extent of those impacts would be dependent on whether the displaced businesses are successful in relocating within the project area. If the displaced businesses are not able to relocate within the project area, there could be a net loss in the overall number of jobs in the project study area. Additionally, the viability of displaced businesses that are able to relocate may still be adversely affected as customers would need to access new businesses or old businesses at their new locations. As a consequence, the removal of some businesses from their local customer base may lead to the disruption and termination of the businesses, resulting in localized job losses.

Business displacements required for construction of the LPA could also result in substantial changes to local neighborhood character, and potentially the social fabric of the local community. Neighborhood residents or visitors may be accustomed to accessing businesses in their existing locations, and the displacement of those businesses could be psychologically or socially disruptive, which could affect professional and social interactions. However, if relocation sites are available within proximity to the existing business sites, disruptions to professional and social interactions may be temporary because residents would likely become accustomed to accessing the displaced businesses at their new locations.

To minimize potential impacts, Metro would coordinate with the appropriate jurisdictions regarding business relocations so that job losses would be minimized to the extent feasible. In addition, joint-use agreements (allowing concurrent transportation and business uses) would be considered for land acquisitions required for stations and construction staging to avoid the displacement of businesses and potential job losses in these areas to the extent feasible. Metro would also conduct early and ongoing public outreach to discuss potential public concerns with affected property owners and community members.

Although the displacement impacts described above would be predominantly borne by environmental justice populations, all communities within the project study area would be affected and the impacts suffered by the environmental justice populations would not be appreciably more severe or greater in magnitude than the adverse effects that would be suffered by the non-environmental justice populations. Additionally, relocation assistance and compensation in accordance with federal and state regulations would be provided for all displaced businesses. With implementation of compliance and mitigation measures and given that the LPA would provide improved transit service and connectivity in an area with large transit-dependent and environmental justice populations, the impacts on the environmental justice populations would not be disproportionately high and adverse.

Physical Impacts

Construction of the LPA would not likely result in changes to existing land use patterns or result in physical division of communities because construction would be short-term, and would not affect land use designations or introduce barriers that would divide communities. However, construction activities could result in several other physical impacts and intrusions, including noise, dust, odors, and traffic delays resulting from haul trucks and construction equipment in public streets and staging areas and lane or street closures. Local neighborhoods, businesses, and community facilities may be inconvenienced temporarily, and community activities could be disrupted by construction.

Construction of the LPA may also result in several visual impacts within and surrounding the project corridor. Construction areas could be visible from residential land uses on some of the adjacent parcels, either directly through fencing, through entrance gates, or over fencing from second story and higher windows. Construction activities at staging areas and proposed stations may include the use of heavy equipment such as cranes and associated vehicles, including bulldozers, backhoes, graders, scrapers, and trucks, which could be visible from public streets, sidewalks, and adjacent properties.

Viewers in the construction area may be affected by the presence of this equipment, as well as stockpiled construction-related materials. In addition, mature vegetation, including trees, could be temporarily removed from some areas. Construction impacts associated with noise, air quality, visual quality/aesthetics, and traffic would be reduced or minimized through construction management and abatement measures, as detailed in the respective sections of this FEIS/FEIR and in the technical reports.

Construction of the LPA could also have temporary effects on public safety and security within the project study area. During construction, motorists, pedestrians, and bicyclists would be exposed to additional safety hazards because of proximity to construction activities. The potential for safety and security effects 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 construction effects. In addition, an adequate level of signage, construction barriers, and supervision of trained safety personnel would be provided to ensure that pedestrian and motorist safety is maintained during construction.

Incidents of crime adjacent to the project alignment are not expected to increase substantially during construction of the LPA. Although theft involving construction machinery and materials could occur at construction sites, these incidents would be minimized through implementation of standard site security practices.

According to the Initial Site Assessment in Appendix P, right-of-way acquisitions and excavations would be required for construction of the project, and a Phase II Site Assessment would be recommended to evaluate individual locations.[3] There are properties within the project area that are listed on hazardous waste databases, and/or are reported to have soil or groundwater contamination. The effects from potential hazardous materials would be reduced through construction management and abatement measures, as detailed in the Initial Site Assessment. In addition, the Phase II Site Assessment would include recommendations on how to treat or handle any hazardous materials that have the potential to be encountered during construction of the project.

Since the project would comply with regulatory requirements and measures would be implemented to mitigate construction impacts and because the potential effects are anticipated to affect all communities within the project study area comparably, regardless of the block groups' socioeconomic or demographic characteristics, the LPA would not result in disproportionately high and adverse effects on minority or low-income populations with respect to construction.

Operational Impacts

Mobility and Access Impacts

Changes in Access to Public Transportation, Businesses, and Community Resources

By providing transit stations and facilities along San Fernando Road, the LPA would be consistent with the proposed City of San Fernando TOD Overlay Zone, which would create a transit-oriented district along San Fernando Road between the Sylmar/San Fernando Metrolink Station and the San Fernando Mall (on San Fernando Road between Kittridge Street and San Fernando Mission Boulevard).

According to Metro fare policies, additional fares would not be required for transfers within a two-hour time frame between Metro Rapid and Metro local buses to the LRT. Therefore, LRT service would not be cost-prohibitive and would comply with Metro fare policies. Public outreach would be conducted to ensure that community and neighborhood concerns, including fare policies, are addressed.

To implement the LPA, restrictions on motor vehicle movements would be required to allow for the reconfiguration of the roadway and reduced number of travel lanes necessary to accommodate the light rail facilities or eliminate vehicle conflicts. Left turns from Van Nuys Boulevard onto cross streets would be maintained at most of the currently signalized intersections; however, all movements across the median at currently unsignalized intersections would be blocked by the LRT dedicated guideway, including 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.

[3] Diaz Yourman & Associates. 2014. *Environmental Site Assessment: East San Fernando Valley Transit Corridor.* November.

In addition to restrictions on vehicle movements, all curbside parking would be prohibited on Van Nuys Boulevard, which could require vehicles to park further away from local businesses and community facilities. Under this alternative, vehicle movements and parking would be maintained along San Fernando Road and Truman Street where the LRT alignment would run along the Metro-owned railroad right-of-way. On-street parking would still be available on side streets near the project corridor, and some local businesses and many community facilities may have dedicated parking lots that would provide off-street parking. Nonetheless, under the LPA, parking demand may spill over into adjacent residential neighborhoods, resulting in decreased parking availability for nearby residences. However, more people may be using transit as a result of the project, which could reduce the need for parking. In addition, there may be access issues for delivery trucks for smaller businesses (those without truck loading bays or other on-site loading/delivery facilities) since they would not be able to dwell within the roadway when loading or unloading. Consequently, delivery trucks would either have to use off-street parking facilities, or parking on an adjacent street, or alleyway behind the property. This impact would not be adverse under NEPA and would be less than significant under CEQA.

While restrictions on vehicle movements and loss of parking on Van Nuys Boulevard would present an inconvenience for vehicles traveling along the project corridor, vehicles would continue to have access to either side of the roadway at signalized intersections, and mobility and access by public transit would be enhanced under the LPA; therefore, no substantial impacts would be expected.

For these reasons and because these effects are anticipated to affect all communities within the project study area comparably, regardless of the block groups' socioeconomic or demographic characteristics, the LPA would not result in disproportionately high and adverse effects on minority or low-income populations with respect to changes in vehicle access.

Changes in Pedestrian and Bicycle Access

At the Van Nuys Civic Center between the Metro Orange Line north of Hartland Street, the existing 13-foot-wide sidewalks on each side of the roadway would be narrowed to 10 feet to accommodate the installation of the light rail facilities, while providing two vehicle travel lanes in each direction.

These modifications to pedestrian movements and sidewalk widths would not be expected to substantially interfere with pedestrian access along the project corridor. In addition, all stations would be ADA compliant and would be designed to meet accessibility requirements. A pedestrian underpass or bridge would be provided at the Sylmar/San Fernando Metrolink Station from the LRT platform to the parking lot.

The City's Bicycle Plan designates Van Nuys Boulevard as part of the "Backbone Bicycle Network," which plans an interconnected system facilitating mobility on key arterials.[4] Under the LPA, the existing Class II bike lanes, which convert to a protected bike lane, between San Fernando Road and Laurel Canyon Boulevard on Van Nuys Boulevard north of Nordhoff Street would be removed. In addition, curbside lanes on Van Nuys Boulevard between the Metro Orange Line and San Fernando Road would typically be 11 feet wide, requiring motorist in the curbside lane to shift to the left to pass a bicyclist. These changes would conflict with the City's Bicycle Plan because designated bicycle lanes on Van Nuys Boulevard would not be feasible with the implementation of the LPA, affecting future bicycle access within the project study area. The City's General Plan designates Van Nuys Boulevard as a transit priority street, and the transit accommodations under the LPA would only be feasible with the removal of the bicycle lanes. In addition, as stated in

[4] City. 2011. *2010 Bicycle Plan*. March.

Metro's Complete Streets Policy, a number of streets might not provide accommodations for all modes of transportation due to physical right-of-way constraints, which is the case for the LPA. The change from a Class II bike lane to a shared bicycle lane could result in safety impacts as discussed later in this section.

The bicycle path, also known as the Mission City Trail located in the City of San Fernando along the Metro-owned railroad right-of-way, would be maintained under the LPA because the right-of-way is sufficiently wide enough to allow the bicycle path to remain alongside a pair of LRT tracks and the relocated track for Metrolink and Union Pacific trains. To accommodate the LRT tracks and relocated rail track, the bike path would be shifted slightly to the east. At the point where the LRT alignment crosses the bicycle path, near the intersection of Pinney Street and San Fernando Road, a signalized grade crossing would be provided.

The City's Bicycle Plan includes planned bicycle lanes along Woodman Avenue (one-mile east of and parallel to Van Nuys Boulevard) between Ventura Boulevard and the Osborne Street and Nordhoff Street corridors. Bicycle lanes are also planned along the Osborne Street corridor and would connect to San Fernando Road. As detailed in Chapter 3 of this FEIS/FEIR, measures to mitigate impacts on bicycle facilities include proposed designation and development of Filmore Street to the west and Pierce Street to the east as Class III bike-friendly streets. Metro will also continue to work with LADOT to identify, to the extent feasible, replacement locations for the Class II bike lanes, including the implementation of bicycle lanes on one or more of the parallel roadways identified above. Nonetheless, the effects would still be considered adverse, after mitigation, under NEPA.

To use the planned bicycle lanes along Woodman Avenue, bicyclists would need to travel one mile east of Van Nuys Boulevard, which may be an inconvenience for some bicyclists depending on their final destination. However, bicycle accommodations would be provided at light rail stations to provide options for passengers to leave their bicycles at the stations or to bring them onto the light rail vehicles. Additionally, it should be noted that under Metro's First/Last Mile Strategic Plan and implementation policy, bicycle and pedestrian improvements will be implemented at selected transit stations County wide including in neighborhoods surrounding the project corridor.

The average distance of a bicycle trip in Los Angeles is four miles, and affected bicyclists would be expected to travel from several neighborhoods within and outside of the project study area, which include block groups of varying socioeconomic and demographic characteristics.[5] The changes to the Class II bike lanes along Van Nuys Boulevard would be expected to affect all bicyclists within an approximate 4-mile radius comparably, regardless of socioeconomic or demographic characteristics. Therefore, for those reasons and because the LPA would improve transit service and would include measures to mitigate potential bicycle impacts, the LPA would not result in disproportionately high and adverse effects on minority or low-income populations with respect to pedestrian and bicycle access.

Changes in Circulation and Emergency Access

As detailed in Chapter 3 of this FEIS/FEIR, the LPA would be expected to improve transit service with a projected 32,938 daily LRT transit boardings (in 2040), and reduce traffic congestion, which could facilitate faster response times for emergency service vehicles. However, existing mixed-flow lanes on Van Nuys Boulevard would be converted to a dedicated guideway for light rail vehicles and

[5] City. 2011. *2010 Bicycle Plan.* March.

could result in additional roadway congestion from decreased roadway capacity for mixed-flow traffic and turning restrictions at unsignalized intersections. The LPA would result in adverse effects on 20 of 73 study intersections within the corridor, which could reduce access for emergency vehicle response or interfere with evacuation plans. Impacts on emergency access would be predominantly borne by an environmental justice population; however, all communities within the project study area would be affected comparably, regardless of the block groups' socioeconomic or demographic characteristics. Additionally, the LPA would provide improved transit service and connectivity within an area that has a relatively large transit-dependent population. The improved transit service would increase access to local medical facilities for the transit dependent and environmental justice populations in the corridor. As a consequence, the net effects on the environmental justice populations would not be disproportionately high and adverse.

Social and Economic Impacts

Population, Business, and Employment Growth

The LPA is not expected to result in substantial changes to the existing population in the project study area. The LPA would not include the development of new housing or businesses that would directly induce population growth. The LPA would include additional LRT service and could therefore generate additional employment opportunities for LRT conductors; however, there is currently a substantial employment base and residential population in the San Fernando Valley, and the employment opportunities would not be expected to result in substantial migration of additional residents to the project study area. Therefore, the LPA would not be expected to induce substantial population growth in existing communities and neighborhoods.

The LPA could indirectly affect growth and development in the project study area by promoting planned development and redevelopment near station areas. The type of development expected around station areas would most likely be Transit-Oriented Development (TOD), which is mixed-use residential and commercial development designed to maximize access to public transportation. The LPA may also attract businesses from other areas of the region to the immediate areas surrounding the proposed stations. The LPA would be located in an urban area containing a limited number of vacant or underutilized parcels; therefore, it is not expected to result in substantial changes to existing growth and development patterns. In addition, the LPA would accommodate projected population growth in the region, and any development that could result around station areas is anticipated to be consistent with current growth projections.

Under the LPA, enhanced transit service could stimulate the local economy by facilitating access to local businesses. In addition, business viability could improve from the increase in pedestrian traffic near the proposed stations, which could provide new potential customers. The proposed stations would be situated relatively evenly throughout the project corridor, which could have the potential to provide improved economic conditions to all businesses located near station areas comparably. Therefore, the LPA would not result in disproportionate effects on, or result in fewer benefits for, minority or low-income populations with respect to improved economic conditions. More information on economic impacts is provided in Section 4.3 - Economic and Fiscal Impacts of this FEIS/FEIR.

Changes in Community Cohesion and Interaction

The LPA would increase connectivity within the San Fernando Valley area, and would result in more unified communities within the project study area by providing additional transit services connecting these areas. Therefore, the LPA would be expected to enhance community cohesion and interaction. In addition, the LPA would not result in the denial of, reduction in, or substantial delay in the receipt of benefits of USDOT programs, policies, or activities for minority or low-income populations.

Because the proposed stations would be spaced relatively evenly, transit connectivity would be improved throughout the entire project corridor. Therefore, the LPA would not result in disproportionate effects on, or fewer benefits for minority or low-income populations with respect to community cohesion.

Changes in Quality of Life or Social Values

As discussed previously, the LPA could result in additional roadway congestion from decreased roadway capacity for mixed-flow traffic. However, the LPA would be expected to result in a long-term overall improved quality of life for the communities and neighborhoods in the project study area resulting from the availability of enhanced transit access to businesses and between communities. The LPA would permanently improve community mobility by providing a new mode of transportation, which would be beneficial due to the communities and neighborhoods strong reliance on public transportation.

The LPA would be expected to enhance connections to other neighborhoods within the project study area and across the region, and increased pedestrian traffic near the proposed stations would provide new potential customers and improve business viability. As a consequence, it's expected that the LPA would result in social and economic benefits for the communities and neighborhoods in the project study area. The proposed stations would be spaced evenly throughout the project corridor, and would improve access and business viability comparably. Therefore, the LPA would not result in disproportionate effects on, or fewer benefits for, minority or low-income populations with respect to improved quality of life.

Physical Impacts

Changes in Land Use Patterns

The LPA is not expected to result in substantial changes in land use patterns. While there would be some modifications to the project corridor (e.g., changes in bicycle lanes), the project corridor is an existing transportation route; therefore, the proposed LRT operations would be consistent with existing operations and land use patterns.

The LPA could indirectly affect development in the project study area by encouraging housing, employment, and commercial development within walking distance of the proposed transit stations along the project corridor. However, because the LPA is located in an urban area containing a limited number of vacant or underutilized parcels, the LPA would not be expected to substantially change existing growth and development patterns. The proposed stations would be spaced evenly throughout the project corridor, and would affect land use comparably. Therefore, the LPA would not result in disproportionate effects on minority or low-income populations with respect to land use.

Changes in Visual Character

The LPA would include new LRT stations, and the installation of a dedicated LRT line. The project corridor is an existing transportation route; the proposed LRT operations would be consistent with existing transportation operations, and no substantial changes in visual character would result from the LPA. Station upgrades and sidewalk widening could also result in a more cohesive landscape along the corridor with canopies and benches that would provide a more unified appearance in station areas. These proposed elements would be situated relatively evenly throughout the entire project corridor. Therefore, the LPA would not result in disproportionate effects on, or fewer benefits for, minority or low-income populations with respect to visual character.

Safety Impacts and Other Physical Intrusions

The LPA would run in a dedicated guideway along Van Nuys Boulevard between the Metro Orange Line and San Fernando Road, and then within the existing Metro-owned railroad right-of-way on separate dedicated tracks from Van Nuys Boulevard to the Sylmar/San Fernando Metrolink Station. Therefore, the LPA would not be expected to result in a substantial increase in accidents or collisions between light rail vehicles and other motor vehicles, and no adverse effects would result on minority or low-income populations.

Light rail vehicles would not exceed the posted adjacent roadway speed limit, which is typically 35 mph. In addition, Metro would prepare grade crossing agreements in coordination with local public agencies to further increase safety and reduce the potential for conflicts, accidents, and collisions.

The LPA could result in several pedestrian safety concerns. Pedestrian safety issues would mostly apply to proposed at-grade stations. At-grade stations could result in potential collisions between pedestrians and light rail vehicles. In addition, a potential safety hazard could result 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 to encourage the use of designated pedestrian crossings. A pedestrian underpass or bridge at the Sylmar/San Fernando Metrolink Station between the LRT platform and the parking lot is proposed under the LPA. Therefore, no adverse effects would occur to minority or low-income populations.

Physical Division of Communities

Under the LPA, a fence would be installed along the LRT dedicated guideway to prevent illegal pedestrian crossings of the LRT tracks along the entire Van Nuys Boulevard segment. The installation of fencing could be considered a physical intrusion in communities and neighborhoods in the project study area. However, the LPA would operate entirely within existing transportation corridors and would not introduce physical barriers that would substantially affect access between the existing communities and neighborhoods in the project study area. Therefore, the LPA would not result in disproportionately high and adverse effects on minority or low-income populations with respect to physical divisions.

Cumulative Impacts

The LPA would result in impacts that would be borne by predominantly minority and low-income populations; however, the potential effects are anticipated to affect all communities within the project study area comparably, regardless of the block groups' socioeconomic or demographic characteristics. As a consequence, the LPA would not result in disproportionately high and adverse effects on minority or low-income populations.

The proposed project would implement mitigation measures, including relocation benefits and assistance to businesses displaced by the project, to minimize potential impacts. The LPA would improve transit service and connectivity, benefitting environmental justice populations in the corridor; therefore, it is unlikely that the LPA would result in a cumulatively considerable contribution to any significant cumulative effects on environmental justice populations.

Compliance Requirements and Design Features

Relocation assistance and compensation for all displaced businesses and residences will be provided, as required by the Uniform Act and the California Act. All real property to be acquired will be appraised to determine its fair market value. Just compensation, which shall not be less than the approved appraisal, will be made to each displaced property owner. Each business and residence displaced by the project will be given advance written notice and will be informed of their eligibility for relocation assistance and payments under the Uniform Act.

Mitigation Measures

Construction Mitigation Measures

The reader is referred to the following sections in this FEIS/FEIR for measures to reduce or avoid potential construction impacts on local communities, including environmental justice populations: Chapter 3, Transportation, Transit, Circulation, and Parking; Section 4.2, Real Estate and Acquisitions; Section 4.4, Communities and Neighborhoods; Section 4.5, Visual Quality and Aesthetics; Section 4.6, Air Quality; Section 4.8, Noise and Vibration; and Section 4.14, Safety and Security.

Please see MM-TRA-1 through MM-TRA-3, MM-VIS-1 through MM-VIS-5, MM-AQ-1 through MM-AQ-7, MM-NOI-1A through MM-NOI-1D, MM-NOI-2A and MM-NOI-2B, MM-NOI-3A through MM-NOI-3C, and MM-SS-1 through MM-SS-23.

Operational Mitigation Measures

See MM-CN-1 in the Communities and Neighborhoods section (Section 4.4) of this FEIS/FEIR.

Impacts Remaining After Mitigation

NEPA Finding

The LPA would not result in disproportionately high and adverse effects on minority and low-income populations. Additionally, the LPA would also result in new transit opportunities that are anticipated to result in improved connectivity and transit equity. Mitigation measures would reduce or minimize the adverse effects, where feasible.

CEQA Determination

There are no thresholds of significance in CEQA for environmental justice impacts. Therefore, no CEQA determination can be made for environmental justice impacts resulting from the LPA.

4.17.3.3 Initial Operating Segment

An Initial Operating Segment (IOS) has been included in this FEIS/FEIR to enable Metro to realize potential cost savings, which would not otherwise occur under the LPA, from phasing the project. It should be noted that Metro is proceeding with IOSs on other Metro projects for that reason and to specifically provide the decision-making body of Metro (the Metro Board) with flexibility in determining the most efficient and cost-effective manner to implement those projects. Proceeding with an IOS for the proposed project would also allow further coordination to occur with the Public Utilities Commission (PUC) and Metrolink, which will be necessary to accommodate double tracking of the Antelope Valley Line, and with the City of San Fernando regarding traffic impacts at intersections in the City prior to development of the remaining northern segment of the LPA.

Although the IOS for the proposed project would run along the same alignment and have the same design features and operating characteristics as those described above for the LPA, it would occupy a smaller project footprint than the LPA because it would extend from the Metro Orange Line on the south to the proposed the Van Nuys/San Fernando station on the north. It remains Metro's intent, however, to build the remaining northern 2.5 miles of the LPA within the existing railroad right-of-way, from the Van Nuys/San Fernando station to the Sylmar/San Fernando Metrolink station. Impacts associated with the IOS are discussed below.

Construction Impacts

Mobility and Access Impacts

Construction impacts related to mobility and access would be similar to those stated for the LPA. Construction of LRT stations and the transit alignment for the IOS would require temporary sidewalk, lane, and road closures, and temporary removal of parking along Van Nuys Boulevard, Truman Street, and their cross streets. (Note: Implementation and operation of the IOS and LPA would result in the prohibition of all parking along Van Nuys Boulevard.) These closures could reduce pedestrian, bicycle, and vehicle access to areas along the project corridor during construction. These temporary effects are anticipated to affect all communities within the project study area and communities adjacent to the project study area. To minimize potential impacts on pedestrians and cyclists, adequate pedestrian and bicycle accommodations would be made available during construction, including signage, construction barriers to reduce any conflicts with construction equipment and vehicles, and supervision of trained safety personnel. A Traffic Management Plan and Traffic Control Plan will be prepared by the construction contractor that will include measures to ensure potential impacts on bicycle facilities are minimized to the extent feasible. Lane closures, traffic detours, and designated truck routes associated with construction could also result in decreased access for emergency vehicles, which could result in a delay in response times. Lane and/or road closures would be scheduled to minimize disruptions, and a Traffic Management Plan would be approved in coordination with both the Cities of Los Angeles and San Fernando. For these reasons and because the lane and/or road closures and the potential for temporary effects associated with emergency vehicle response times would affect all neighborhoods along the alignment, regardless of origin, no disproportionate adverse effects on minority or low-income populations are anticipated.

Social and Economic Impacts

Social and economic impacts for the IOS relating to construction activities would likely result in a decrease in accessibility to many businesses and could reduce on-street and off-street parking, which may negatively affect business activity levels because the number of customers may temporarily decline. All attempts would be made to provide adequate detours and to minimize road closures; however, some consumers may avoid the area altogether, which could have an indirect effect on businesses within the project area. Construction activities would take place throughout the project corridor, and the temporary decrease in accessibility would affect all businesses comparably.

Displacement of Businesses, Housing and People

Construction of the IOS guideway, stations, TPSS, and MSF could result in 83 acquisitions including 17 partial acquisitions, 64 full acquisitions, a Metro-owned property, and one vacant area/alley. The acquisitions along Van Nuys Boulevard from the Metro Orange Line to San Fernando Road would be the same as those for the LPA. However, since the IOS would not include the northern 2.5-mile segment of the LPA, it would not result in the partial and full takes of property that would be required for that segment by the LPA. Similar to the LPA, most of the acquisitions that would be required for the IOS are commercial or industrial properties, though up to four full acquisitions of single-family residences could also be required. To minimize potential impacts, coordination with the appropriate jurisdictions regarding business relocations so that job losses are minimized to the extent feasible would be conducted. In addition, joint-use agreements (allowing concurrent transportation and business uses) would be considered for land acquisitions required for stations and construction staging to avoid the displacement of businesses and potential job losses in these areas to the extent feasible. Metro would also conduct early and ongoing public outreach to discuss potential public concerns with affected property owners and community members. Although displacement impacts would be borne primarily by environmental justice populations, all communities within the project study area would be affected and impacts suffered by the environmental justice populations would not be appreciably more severe or greater in magnitude than the adverse effects that would be suffered by the non-environmental justice populations. Relocation assistance and compensation in accordance with federal and state regulations would be provided for all displaced businesses. With implementation of compliance and mitigation measures, given that the IOS would provide improved transit service and connectivity in an area that is transit-dependent and contains substantial environmental justice populations, the impacts on the environmental justice populations would not be disproportionately high and adverse.

Physical Impacts

Physical impacts due to IOS construction activities would be similar to those stated for the LPA. Such impacts could include noise, dust, odor, and traffic delay impacts resulting from haul trucks and construction equipment on public streets and in staging areas as well as lane or street closures. Local neighborhoods, businesses, and community facilities may be inconvenienced temporarily, and community activities could be disrupted by construction impacts.

Visual impacts within and surrounding the project corridor could occur. Construction areas could be visible from residential land uses on some of the adjacent parcels, either directly through fencing, through entrance gates, or over fencing from second story and higher windows. Construction activities at staging areas and proposed stations may include the use of heavy equipment such as cranes and associated vehicles, including bulldozers, backhoes, graders, scrapers, and trucks, which could be visible from public streets, sidewalks, and adjacent properties.

Incidents of crime adjacent to the project alignment are not expected to increase substantially during construction of the IOS. Although theft involving construction machinery and materials could occur at construction sites; these incidents would be minimized through implementation of standard site security practices.

Because the project would comply with regulatory requirements and measures would be implemented to mitigate construction impacts, and because the potential effects are anticipated to affect all communities within the project study area comparably, regardless of the block groups' socioeconomic or demographic characteristics, the IOS would not result in disproportionately high and adverse effects on minority or low-income populations with respect to construction.

Operational Impacts

Mobility and Access Impacts

Changes in Access to Public Transportation, Businesses, and Community Resources

Impacts related to changes in access and mobility would be similar to those stated for the LPA. However, the IOS would not include the 2.5-mile LPA segment along the Metro-owned railroad right-of-way. Similar to the LPA, the IOS would require restrictions on motor vehicle turn movements to allow reconfiguration of the roadway and accommodate the LRT tracks and stations. In addition, all curbside parking would be prohibited along Van Nuys Boulevard, which could require vehicles to park further away from business establishments. On-street parking would still be available on side streets near the project corridor, and some local businesses and many community facilities may have dedicated parking lots that would provide off-street parking. Nonetheless, under the IOS, parking demand may spill over into adjacent residential neighborhoods, resulting in decreased parking availability for nearby residences. However, more people may be using transit as a result of the project, which could reduce the need for parking. In addition, there may be access issues for delivery trucks for smaller businesses (those without truck loading bays or other on-site loading/delivery facilities) since they would not be able to dwell within the roadway during operations. Consequently, they would either have to use off-street parking facilities, or parking on an adjacent street, or alleyways behind the property. This impact would not be adverse under NEPA and would be less than significant under CEQA.

While restrictions on vehicle movements and loss of parking on Van Nuys Boulevard would present an inconvenience for vehicles traveling along the project corridor, vehicles would continue to have access to either side of the roadway at signalized intersections, and mobility and access by public transit would be enhanced under the IOS; therefore, no substantial impacts would be expected.

As a result of the aforementioned impacts, these effects are anticipated to affect all communities within the project study area, regardless of the block groups' socioeconomic or demographic characteristics. As such, the IOS would not result in disproportionately high and adverse effects on minority or low-income populations with respect to changes in vehicle access.

Changes in Pedestrian and Bicycle Access

IOS operational impacts related to pedestrian and bicycle access would be similar to those stated for the LPA. However, the IOS would not include the northern 2.5-mile segment of the LPA, which would result in impacts on and relocation of the bicycle path known as the Mission City Trail, nor would it include the proposed pedestrian bridge or tunnel at the Sylmar/San Fernando station. Pedestrian impacts along Van Nuys Boulevard would include narrowing the existing 13-foot-wide sidewalks on each side of the roadway to 10 feet to accommodate the installation of light-rail facilities and provide two vehicle travel lanes in each direction. However, these modifications would not be expected to substantially interfere with pedestrian access along the project corridor. In addition, all stations would be ADA compliant and would be designed to meet accessibility requirements. The IOS would improve transit service and would include measures to mitigate potential bicycle impacts; therefore, the IOS would not result in disproportionately high and adverse effects on minority or low-income populations with respect to pedestrian and bicycle access.

Changes in Circulation and Emergency Access

Operational impacts related to changes in circulation and emergency access for the IOS would be similar to those stated for the LPA. Existing mixed-flow lanes on Van Nuys Boulevard would be converted to a dedicated guideway for light-rail vehicles. This could result in additional roadway congestion due to decreased roadway capacity for mixed-flow traffic and turning restrictions at unsignalized intersections. The reduction in roadway capacity and turn restrictions could have an impact on emergency service response times. However, the IOS would provide improved transit service and connectivity within an area that has a relatively large transit-dependent population. The improved transit service would increase access to local medical facilities for the transit dependent and environmental justice populations in the corridor. As a consequence, the net effects on the environmental justice populations would not be disproportionately high and adverse.

Social and Economic Impacts

Changes in Community Cohesion and Interaction

Operational impacts related to changes in community cohesion and interaction would be similar to those stated for the LPA. Although the IOS would not include the northern 2.5-mile segment of the LPA that extends from Van Nuys Boulevard to the Sylmar/San Fernando Metrolink station, the IOS would still increase community connectivity as well as enhance community cohesion and interaction within the project study area and the San Fernando Valley by providing improved transit services. In addition, because the proposed stations would be spaced relatively evenly, transit connectivity would be improved within the area served by the IOS. Furthermore, the IOS would not result in a denial of benefits, reduction in benefits, or substantial delay in the receipt of benefits from USDOT programs, policies, or activities for minority or low-income populations. Therefore, the IOS would not result in disproportionate effects on, or fewer benefits for, minority or low-income populations with respect to community cohesion.

Changes in Quality of Life or Social Values

Operational impacts related to the change in quality of life or social values would be similar to those stated for the LPA. The IOS could result in increased congestion as a result of decreased roadway capacity for mixed-flow traffic. However, the IOS could result in a long-term improvement in the overall quality of life for the communities and neighborhoods in the project study area. The IOS would enhance connections to other neighborhoods within the project study area and across the region, which could increase pedestrian traffic near the proposed stations, provide new customers, and improve business viability. As a consequence, it’s expected that the IOS would result in social and economic benefits for the communities and neighborhoods in the project study area. Therefore, the IOS would not result in disproportionate effects on, or fewer benefits for, minority or low-income populations with respect to improved quality of life.

Physical Impacts

Changes in Land Use Patterns

Operational impacts related to changes in land use patterns are similar to those that would occur due to the LPA. The IOS is not expected to result in substantial changes to land use patterns. The IOS could indirectly affect and increase development in the project study area by encouraging housing, employment, and commercial development within walking distance of the alignment. However, because the IOS is located in an urban area containing a limited number of vacant or underutilized parcels, the IOS would not be expected to substantially change existing growth and development patterns. The proposed stations would be spaced evenly throughout the project corridor, and would affect land use comparably. Therefore, the IOS would not result in disproportionate effects on minority or low-income populations with respect to land use.

Changes in Visual Character

Operational impacts related changes in visual character would be similar to those stated for the LPA. The project corridor is an existing transportation route; therefore, the proposed LRT operations would be consistent with existing transportation operations. Although the overhead contact system (OCS) could affect scenic views and vistas, no substantial changes in visual character would occur. Upgrades to stations, including canopies and benches, would provide a more unified appearance in station areas and a more cohesive landscape along the corridor. These elements would be situated relatively evenly throughout the entire project corridor. Therefore, the IOS would not result in disproportionate effects on, or fewer benefits for, minority or low-income populations with respect to visual character.

Safety Impacts and Other Physical Intrusions

Operational impacts related to safety impacts and other physical intrusions would be similar to those stated for the LPA.

Physical Division of Communities

Under the IOS, a fence would be installed along the LRT guideway to prevent illegal pedestrian crossings of the LRT tracks along the entire Van Nuys Boulevard segment. The installation of fencing could be considered a physical intrusion in communities and neighborhoods in the project study area. However, the IOS would operate entirely within existing transportation corridors. Therefore, the IOS would not result in disproportionately high and adverse effects on minority or low-income populations with respect to physical divisions.

Cumulative Impacts

As was stated for the LPA, the IOS would result in impacts that would be borne by predominantly minority and low-income populations; however, the potential effects are anticipated to affect all communities within the project study area comparably, regardless of the block groups' socioeconomic or demographic characteristics. As a consequence, the IOS would not result in disproportionately high and adverse effects on minority or low-income populations.

Past projects may have resulted in disproportionately high and adverse effects on minority or low-income populations, and other planned or proposed projects in the corridor could further result in adverse effects on environmental justice populations. However, as noted above, the proposed project would implement mitigation measures to minimize potential impacts including relocation benefits and assistance to businesses displaced by the project. Similar measures may also be provided by other proposed or related projects that could affect the environmental justice populations in the project area. Furthermore, the IOS would improve transit service and connectivity benefitting environmental justice populations in the corridor; therefore, it is unlikely that the IOS would result in a cumulatively considerable contribution to any significant cumulative effects on environmental justice populations.

Compliance Requirements and Design Features

Relocation assistance and compensation for all displaced businesses and residences will be provided, as required by the Uniform Act and the California Act. All real property to be acquired will be appraised to determine its fair market value. Just compensation, which shall not be less than the approved appraisal, will be made to each displaced property owner. Each business and residence displaced by the project will be given advance written notice and will be informed of their eligibility for relocation assistance and payments under the Uniform Act.

Mitigation Measures

Construction Mitigation Measures

The reader is referred to the following sections in this FEIS/FEIR for measures to reduce or avoid potential construction impacts on local communities, including environmental justice populations: Chapter 3, Transportation, Transit, Circulation, and Parking; Section 4.2, Real Estate and Acquisitions; Section 4.4, Communities and Neighborhoods; Section 4.5, Visual Quality and Aesthetics; Section 4.6, Air Quality; Section 4.8, Noise and Vibration; and Section 4.14, Safety and Security.

Operational Mitigation Measures

See MM-CN-1 in the Communities and Neighborhoods section (Section 4.4) of this FEIS/FEIR.

Impacts Remaining After Mitigation

NEPA Finding

The IOS would not result in disproportionately high and adverse effects on minority and low-income populations. Additionally, the IOS would also result in new transit opportunities that are anticipated to result in improved connectivity and transit equity. Mitigation measures would reduce or minimize the adverse effects, where feasible.

CEQA Determination

There are no thresholds of significance in CEQA for environmental justice impacts. Therefore, no CEQA determination can be made for environmental justice impacts resulting from the IOS.

4.18 Growth-Inducing Impacts

4.18.1 Regulatory Framework and Methodology

4.18.1.1 Regulatory Framework

The applicable federal, state, and local regulations that are relevant to an analysis of the proposed project's growth-inducing impacts are listed below. For additional information regarding these regulations, please see the Growth-Inducing Impacts Report in Appendix Y of this FEIS/FEIR.

Federal

Federal regulations that would be applicable to the proposed project include the following:

- National Environmental Policy Act; and
- Federal Transit Administration Guidelines.

State

The following state regulation would be applicable to the proposed project:

- California Environmental Quality Act.

Local

Local regulations that would be applicable to the proposed project include the following:

- Metropolitan Planning Organization;
- 2008 Regional Comprehensive Plan (2008 RCP);
- 2012–2035 Regional Transportation Plan/Sustainable Communities Strategy;
- Compass Blue Print;
- City of Los Angeles Community Plans; and
- City of Los Angeles Framework Element.

4.18.1.2 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 United States Code [U.S.C.] 4331(b)(2)). NEPA does not include specific guidance or direction with respect to evaluating alternatives and relative effects of inducing growth.

The growth inducing impact analysis is based on the established demographic characteristics within the project study area, which are identified by using the most current available data from SCAG, the California Department of Finance, and the California Employment Development Department. This data is used to document changes in various trends (population, housing, and employment). The potential for the project alternatives to result in growth inducing impacts is based on their ability to influence the: (1) rate, (2) location, (3) amount, and (4) type of growth in the project study area and/or Los Angeles County.

4.18.1.3 Significance Thresholds

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

NEPA

NEPA does not include specific significance thresholds. According to the Council on Environmental Quality Regulations for Implementing NEPA, the determination of significance under NEPA is based on context and intensity.[1] The CEQA thresholds (described below) encompass the 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, CEQA thresholds listed below also apply to NEPA for the proposed project and its alternatives.

CEQA

CEQA requires analysis of a project's potential to induce growth. State CEQA Guidelines Section 15126.2(e) require that environmental documents "discuss the ways in which the project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment."[2]

Per the State CEQA Guidelines, the proposed project would result in a significant growth-inducing impact if it would:[3]

- Induce substantial unplanned population growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

L.A. CEQA Thresholds Guide

According to the *L.A. CEQA Thresholds Guide*, the determination of significance shall be made on a case-by-case basis and shall consider the following factors in determining whether a project would normally have a significant growth-inducing impact:[4]

- The degree to which the project would cause growth (i.e., new housing or employment generators) or accelerate development in an undeveloped area that exceeds projected/planned levels for the year of projected occupancy/buildout and that would result in an adverse physical change in the environment;
- Whether the project would introduce unplanned infrastructure that was not previously evaluated in the adopted community plan or general plan; and
- The extent to which growth would occur without implementation of the project.

[1] Code of Federal Regulations. *CEQ-Regulations for Implementing NEPA, 40 CFR Part 1508, Terminology and Index*.
[2] Association of Environmental Professionals. *2019 CEQA Statute and Guidelines.*
[3] Association of Environmental Professionals. *2019 CEQA Statute and Guidelines.*
[4] City of Los Angeles. 2006. *L.A. CEQA Thresholds Guide*. Available: http://www.http://environmentla.com/programs/Thresholds/Jci.la.ca.us/ead/programs/Thresholds/J-Population%20and%20Housing.pdf. Accessed March 30, 2015.

4.18.2 Affected Environment/Existing Conditions

4.18.2.1 Regional Population, Housing, and Employment

As shown in Table 4.18-1, the population for the SCAG region in 2008 was more than 17 million persons. The number of households in the region in 2008 was 5,814,000. Approximately 7,738,000 persons were employed at that time in the SCAG region.

Table 4.18-1: Regional Population, Housing, and Employment Growth

County	2008 Population	2035 Population	2008 Households	2035 Households	2008 Employment	2035 Employment
Imperial	170,000	288,000	49,000	91,000	62,000	121,000
Los Angeles	9,778,000	11,353,000	3,228,000	3,852,000	4,340,000	4,827,000
Orange	2,989,000	3,421,000	987,000	1,125,000	1,624,000	1,779,000
Riverside	2,128,000	3,324,000	679,000	1,092,000	664,000	1,243,000
San Bernardino	2,016,000	2,750,000	606,000	847,000	701,000	1,059,000
Ventura	813,000	954,000	266,000	318,000	348,000	411,000
SCAG Region	17,895,000	22,091,000	5,814,000	7,325,000	7,738,000	9,441,000

Source: Southern California Association of Governments 2012 Final Adopted Integrated Growth Forecast. Available: http://www.scag.ca.gov/forecast/adoptedgrowth.htm.

The population, number of households, and employment in the SCAG region are all expected to increase by 2035. Population is expected to increase by approximately 23 percent to 22,091,000 persons. The number of households is expected to increase by 26 percent to 7,325,000 in 2035. Similarly, the number of employed persons is expected to increase to 9,441,000, which amounts to a 22 percent increase from 2008.

Project Study Area Population, Housing, and Employment

This section provides population, housing, and employment growth estimates for the Cities of Los Angeles and San Fernando. The project study area is located primarily in the City of Los Angeles. A small portion of the project study area is located within the City of San Fernando. Therefore, for purposes of this report, the City of Los Angeles and City of San Fernando are used to define the project study area.

Table 4.18-2 shows population growth projections for both the City of Los Angeles and the City of San Fernando. The population of the City of Los Angeles is estimated to increase by 550,100 persons from 2008 to 2035. This is a 15 percent change. The population in the City of San Fernando is expected to increase by 1,900 during this time period, which would result in an estimated change of 8 percent.

Table 4.18-2: Project Study Area – Cities of Los Angeles and San Fernando Population Growth 2008–2035

Area	2008	2035	Population Change	Percent Change
City of Los Angeles	3,770,500	4,320,600	550,100	15
City of San Fernando	23,600	25,500	1,900	8

Source: Southern California Association of Governments. 2012. *Final Adopted Integrated Growth Forecast.* Available: http://www.scag.ca.gov/forecast/adoptedgrowth.htm.

Table 4.18-3 shows household growth projections for the City of Los Angeles and the City of San Fernando. The number of households in the City of Los Angeles is estimated to increase by 316,700 households from 2008 to 2035, which is an estimated 25 percent increase. As shown in the table, the number of households in the City of San Fernando is also estimated to increase during this time period. Specifically, the number of households in the City of San Fernando is expected to increase by 12 percent during this same period. This would amount to an increase of 700 households by 2035.

Table 4.18-3: Project Study Area – Cities of Los Angeles and San Fernando Household Growth 2008–2035

Area	2008	2035	Household Change	Percent Change
City of Los Angeles	1,309,900	1,626,600	316,700	25
City of San Fernando	5,900	6,600	700	12

Source: Southern California Association of Governments. 2012. *Final Adopted Integrated Growth Forecast.* Available: http://www.scag.ca.gov/forecast/adoptedgrowth.htm.

Table 4.18-4 shows employment growth projections for the City of Los Angeles and the City of San Fernando. The number of jobs in the City of Los Angeles is estimated to increase by 171,600 jobs by 2035, which is a 10 percent increase. During this same period, the number of jobs in the City of San Fernando is anticipated to increase by 6 percent, from 15,000 jobs in 2008 to 15,900 in 2035.

Table 4.18-4: Project Study Area – Cities of Los Angeles and San Fernando Employment Growth 2008–2035

Area	2008	2035	Employment Change	Percent Change
City of Los Angeles	1,735,200	1,906,800	171,600	10
City of San Fernando	15,000	15,900	900	6

Source: Southern California Association of Governments. 2012. *Final Adopted Integrated Growth Forecast.* Available: http://www.scag.ca.gov/forecast/adoptedgrowth.htm.

Table 4.18-5 shows housing type for both the City of Los Angeles and City of San Fernando. As shown, approximately 19 percent of the total dwelling units located in the City of San Fernando are multi-dwelling units. Approximately 54 percent of the total dwelling units in the City of Los Angeles are multi-family units.

Table 4.18-5: Project Study Area – Cities of Los Angeles and San Fernando Housing Type (2011)

Project Area	Single-Family Dwelling Units[a]	Multi-Family Dwelling Units[b]	Other Dwelling Units[c]	Total
City of Los Angeles	640,605 (45% of total)	762,007 (54% of total)	10,029 (1% of total)	1,412,641
City of San Fernando	5,182 (80% of total)	1,206 (19% of total)	118 (1% of total)	6,506

[a] Includes both single-family detached and attached dwelling units.
[b] Includes structures with two units or more dwelling units.
[c] Includes mobile homes, boats, RVs, vans, etc.
Source: US Census Bureau 2014. American Community Survey, 2007–2011, 5-Year Estimates. Table DP04.

4.18.3 Environmental Consequences, Impacts, and Mitigation Measures

This section describes the construction, operational, and cumulative growth-inducement impacts and effects of the No-Build Alternative and the Locally Preferred Alternative (LPA). Any measures required to mitigate or minimize significant or adverse impacts and effects are also identified.

4.18.3.1 No-Build Alternative

Construction Impacts

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. Because the No-Build Alternative would not propose new construction, it would not be growth inducing.

Operational Impacts

Direct Impacts

Much of the project study area is characterized by urban streets and dense land uses. Under this alternative, past trends would likely continue and a substantial permanent change to the physical environment of the project study area would not occur. The No-Build Alternative would not result in new homes or businesses, and therefore, would not directly induce growth.

Indirect Impacts

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. No indirect growth inducing impacts would occur under this alternative.

Cumulative Impacts

The project study area for cumulative growth inducement effects consists of the Cities of Los Angeles and San Fernando. Since the No-Build Alternative would not directly or indirectly induce growth, it would not contribute to any growth inducement effects.

Mitigation Measures

Construction Mitigation Measures

No construction mitigation measures are required.

Operational Mitigation Measures

No operational mitigation measures are required.

Impacts Remaining After Mitigation

NEPA Finding

No effects would occur.

CEQA Determination

No impacts would occur under the No-Build Alternative.

4.18.3.2 Locally Preferred Alternative (Alternative 4 Modified: At-Grade LRT)

Construction Impacts

It is not expected that the increase in construction jobs under the LPA would result in substantial increases in project study area populations because of the fact that there is a large pool of skilled and unskilled construction workers in Los Angeles County within commuting distance of the project and because of the temporary nature of construction jobs. Consequently, it is unlikely, construction workers employed by the LPA would relocate to the project study area. Therefore, proposed construction activities would not result in a substantial increase in the project study area population.

Operational Impacts

Direct Impacts

The LPA would not include the development of new housing or businesses that would directly induce growth. The operation of the LPA would result in new permanent employment opportunities, which would include train operator and maintenance and maintenance and storage facility (MSF) jobs. However, this anticipated increase in long-term employment would be relatively minor and may be partially offset by the loss of any jobs due to the acquisition of right-of-way that would displace local businesses. Consequently, the LPA would not result in a significant increase in the project study area population. Therefore, the LPA would not directly induce substantial residential or employment population growth.

Indirect Impacts

The LPA would provide a new method of travel within the corridor and improve the efficiency of the existing transportation network, which may be a catalyst for economic growth that would benefit existing area businesses and encourage other businesses to relocate to the project study area. As described in the Existing Conditions section of the Growth-Inducing Impacts Report (see

Appendix Y), the relevant City of Los Angeles community plans encourage development near transit stations and promote housing and mixed-use projects in transit corridors. Implementation of the LPA would be consistent in supporting these goals and objectives. Therefore, the LPA may indirectly result in growth along the corridor and within the project study area. However, the LPA would not extend transit service to undeveloped areas and would be located in a developed urban area that contains a limited number of vacant or underutilized parcels. As a consequence, it would not indirectly induce growth that would substantially change existing land use and development patterns at the corridor level or induce substantial new growth or development beyond what is projected in regional or local plans.

Cumulative Impacts

The LPA would not include the development of new housing or businesses that would directly induce growth. Therefore, the LPA would not directly contribute to cumulative growth inducement effects in the project study area. However, as acknowledged in the impacts discussions above, the LPA's improvements to the transit system and increases in transportation network efficiency and connectivity could be a catalyst for new development in the project study area. The indirect growth inducement effects of the rail alternatives could contribute to the growth-inducement effects of other infrastructure projects and new residential and business development projects in the cumulative impacts project study area. This induced growth could be substantial and result in significant adverse impacts to the environment. However, it should be noted that in general, this cumulative induced growth is accounted for in local (i.e., City of Los Angeles community plans and City of San Fernando General Plan) and regional (i.e., SCAG RCP and RTP/SCS) plans (see Tables 4.18-2 through 4.18-4, above). Pursuant to Section 15130 of the State CEQA Guidelines, "no further cumulative impacts analysis is required when a project is consistent with a general, specific, master or comparable programmatic plan where the lead agency determines that the regional or area-wide cumulative impacts of the proposed project have already been adequately addressed, as defined in Section 15152(f), in a certified EIR for that plan."

Mitigation Measures

Construction Mitigation Measures

No construction mitigation measures are required.

Operational Mitigation Measures

No operational mitigation measures are required.

Impacts Remaining After Mitigation

NEPA Finding

Effects would not be adverse.

CEQA Determination

Impacts would be less than significant.

4.18.3.3 Initial Operating Segment

If the proposed project is phased, an Initial Operating Segment (IOS) would be constructed as part of the first phase and would run along the same alignment and have the same design features and operating characteristics as those described above for the LPA; however, the IOS would extend to the Van Nuys/San Fernando Station on the north, rather than continuing 2.5 miles within the existing railroad right-of-way to the Sylmar/San Fernando Metrolink station, as would occur under the LPA. Therefore, it would have a smaller project footprint than the LPA. Impacts associated with the IOS are discussed below.

Construction Impacts

IOS construction activities would result in similar growth-inducement impacts to those described above for the LPA. It is not expected that the increase in construction jobs would result in substantial increases in project study area populations because of the fact that there is a large pool of skilled and unskilled workers within commuting distance of the project and because of the temporary nature of construction jobs. Therefore, proposed construction activities would not result in a substantial increase in the project study area population.

Operational Impacts

Direct Impacts

As was stated above for the LPA, the IOS would not include the development of new housing or businesses that would directly induce growth. The IOS would not directly induce substantial residential or employment population growth.

Indirect Impacts

The IOS would have similar indirect impacts to those stated above for the LPA. The IOS would improve the efficiency of the existing transportation network within the project area. With increased and more efficient transit options, beneficial economic growth may occur within the project study area. Implementation of the IOS would be consistent in supporting the goals and objectives of the City of Los Angeles' community plans that encourage development near transit stations and promote housing and mixed-use projects in transit corridors. Like the LPA, the IOS may indirectly result in growth along the corridor and within the project study area. The IOS is located within a developed urban area that contains a limited number of vacant or underutilized parcels, so the potential for growth is limited. As a consequence, it would not indirectly induce growth that would substantially change existing land use and development patterns at the corridor level or induce substantial new growth or development beyond what is projected in regional or local plans.

Cumulative Impacts

The IOS would have the same cumulative impacts as those stated for the LPA. The IOS would not include the construction or development of new housing or businesses, and therefore would not directly induce growth and would not directly contribute to cumulative growth inducement effects in the project study area.

For the IOS, the indirect growth inducement effects of the IOS could contribute to the growth-inducement effects of other projects in the cumulative impacts project study area. This cumulative induced growth could be substantial and result in significant adverse impacts to the environment. As stated for the LPA, the cumulative induced growth is generally accounted for in local and regional plans. Pursuant to Section 15130 of the State CEQA Guidelines, "no further cumulative impacts analysis is required when a project is consistent with a general, specific, master or comparable programmatic plan where the lead agency determines that the regional or areawide cumulative impacts of the proposed project have already been adequately addressed, as defined in section 15152(f), in a certified EIR for that plan."

Compliance Requirements and Design Features

Construction and design of the IOS would follow Metro's Design Criteria, as well as latest federal and state seismic and environmental requirements, and state and local building codes.

Mitigation Measures

Construction Mitigation Measures

No construction mitigation measures are proposed.

Operational Mitigation Measures

No operational mitigation measures are proposed.

Impacts Remaining After Mitigation

NEPA Finding

Effects would not be adverse under NEPA.

CEQA Determination

Impacts would be less than significant under CEQA.

4.19 Irreversible and Irretrievable Commitments of Resources

State CEQA Guidelines Section 15126.2(d) requires a discussion of any significant irreversible environmental changes that would be caused by a proposed project should it be implemented. Generally, a project would result in significant irreversible environmental changes if any of the following would occur:

- The project would involve a large commitment of nonrenewable resources.
- The proposed consumption of resources is not justified (e.g., the project involves wasteful energy use).
- The primary and secondary impacts would generally commit future generations to similar uses.
- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project, including risks during construction of utilities, the storm drain relocation, and irreversible damage from potential environmental impacts and construction accidents.

Under the No Build Alternative, no new infrastructure would be built within the study area, aside from projects currently under construction or projects funded for construction, environmentally cleared, planned to be in operation by 2040, as identified in the Metro Long Range Transportation Plan (LRTP).

Construction of the Locally Preferred Alternative (LPA) (Alternative 4 LRT: Modified) would entail the one-time irreversible and irretrievable commitment of nonrenewable resources, such as energy (fossil fuels used for construction equipment) and construction materials (such as lumber, sand, gravel, metals, and water). Additionally, labor and natural resources are used to produce construction materials. These materials are generally not retrievable. However, they are not in short supply and their use would not have an adverse effect upon continued availability of these resources. Land used to construct the proposed facilities is considered an irreversible commitment during the period the land is used. After construction is completed, land used for construction staging would be available for other uses. The project would commit land at stations and the maintenance facility to transit use. Station maintenance facilities, and various project elements would be located on sites with existing commercial, retail, and industrial uses and would not require a substantial land commitment. This commitment of long-term land resources is consistent with the policies of the County of Los Angeles and the Cities of Los Angeles and San Fernando to promote transit-oriented uses.

Accidents could occur during construction as a result of safety hazards posed by construction activities and equipment including construction site accidents that could affect construction workers or the environment and potential conflicts with or accidents involving pedestrians, bicyclists, and motorists in close proximity to construction activities. 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.

The consumption of nonrenewable resources related to the LPA includes water, petroleum products, and electricity. While much of this water can be recycled and reused, these processes would also create wastewater that would require disposal. In addition, fossil fuels would be used for transporting workers and materials during construction, and electricity and fuel would be used for trains, stations, and worker vehicles for maintenance and operation during the life of the project. The consumption amount and rate of these resources would not result in significant environmental impacts or the unnecessary, inefficient, or wasteful use of such resources, because they would increase transit use (which increases energy efficiency) and decrease automobile dependence (which uses fossil fuels).

Benefits from the LPA would include improved mobility, transit accessibility, and energy and time savings. The resources commitment and consumption for the LPA are considered appropriate because regional and local area residents and visitors would benefit from improved transit services, which, in turn, would result in an overall decrease in the irreversible and irretrievable commitment of nonrenewable resources. For example, transportation sources account for over 40 percent of the energy consumed in California. The LPA is expected to remove passenger cars from the regional roadway network, easing the increase in VMT and the usage of fossil fuels. The LPA would reduce regional VMT, which would reduce fuel consumption by an estimated 351,478 MMBTU annually. The total annual operational energy consumption under the 2040 scenario would be an estimated 281,621 MMBTU less than the 2040 baseline conditions, much of which would be attributable to energy savings associated with the reduction of fuel use by private vehicles. Therefore, the LPA could substantially decrease the irreversible and irretrievable commitment of resources.

The LPA consists of an LRT transit system that would include transit stations, a maintenance facility, and a rail operations center. These components of the project would primarily use household-type cleaning materials, such as detergents and cleansers. Oil, solvents, and other materials would be used for train maintenance in relatively small volumes and are not considered acutely hazardous materials according to the National Institute of Health. There is the potential for hazardous materials/waste spills to occur; however, the storage and disposal of hazardous materials/waste will be conducted in accordance with all Federal and State requirements in order to prevent or manage hazards. In the unlikely event that a spill does occur, remediation would be conducted accordingly. Therefore, there would be minimal risk of irreversible damage caused by an environmental accident associated with hazardous or acutely hazardous materials.

If the project is phased, an Initial Operating Segment (IOS) would be constructed and would run along the same alignment and have the same design features and operating characteristics as those described above for the LPA; however, the IOS, would extend to the Van Nuys/San Fernando Station on the north, rather than continuing 2.5 miles within the existing railroad right-of-way to the Sylmar/San Fernando Metrolink station, as would occur under the LPA. Therefore, it would have a smaller project footprint than the LPA. Under the IOS, irreversible and irretrievable commitments would be similar to or slightly less than those stated above for the LPA because the IOS has a shorter project length and consequently a smaller footprint than the LPA.

Chapter 5
Section 4(f) Evaluation

5.1 Regulatory Framework and Methodology

Section 4(f) is a section of the USDOT Act of 1966, and aims to minimize the effects of federally sponsored transportation projects on historic resources and publicly owned recreation facilities and wildlife/waterfowl refuges. Section 4(f) applies to the proposed project because the project requires federal approval by the FTA.

5.1.1 Regulatory Framework

5.1.1.1 Federal

Section 4(f) of the USDOT Act of 1966, codified at 49 United States Code (USC) Section 303, declares that "[i]t is the policy of the United States government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

Section 4(f) specifies that "[t]he Secretary [of Transportation] may approve a transportation program or project . . . requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance or land of a historic site of national, state, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if:

- There is no prudent and feasible alternative to using that land, and
- The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use."

Section 4(f) further requires consultation with the Department of Interior and, as appropriate, the involved offices of the Department of Agriculture and the Department of Housing and Urban Development, as well as relevant state and local officials, in developing transportation projects and programs that use lands that are protected under Section 4(f).

Section 6009(a) of the Safe, Accountable, Flexible, Efficient Transportation Equity Act of 2003: A Legacy for Users (SAFETEA-LU) amended the existing Section 4(f) legislation to simplify the processing and approval of projects that have only *de minimis* impacts on resources protected by Section 4(f). The simplified process was carried forward in the Moving Ahead for Progress in the 21st Century (MAP-21) Act, the most recent surface transportation funding legislation signed into law in July 2012. Under the simplified process introduced under SAFETEA-LU, a *de minimis* finding refers to a project with little or no influence on the activities, features, and/or attributes of the Section 4(f) resource. This revision states that once USDOT determines that a transportation use of a Section 4(f) property would result in a *de minimis* impact on that property, after consideration of any impact avoidance, minimization, or mitigation or enhancement measures, an analysis of avoidance alternatives is not required, and the Section 4(f) evaluation process is complete for that resource.

The proposed project (and alternatives) under the statute refers to any transportation project that may receive federal funding and/or discretionary approvals through USDOT (i.e., entities such as the Federal Transit Administration [FTA]); therefore, documentation of compliance with Section 4(f) is required.

This Section 4(f) evaluation has been prepared in accordance with the FHWA regulations for Section 4(f) compliance codified at 23 Code of Federal Regulations (CFR) Part 774. Additional guidance has been obtained from FHWA Technical Advisory T 6640.8A (1987) and the revised FHWA Section 4(f) Policy Paper (2012).

Section 4(f) "Use"

As defined in 23 CFR Section 774.17, the use of a protected Section 4(f) resource occurs when any of the following conditions are met:

- Land is permanently incorporated into a transportation facility through partial or full acquisition (i.e., "direct use");
- There is a temporary occupancy of land that is adverse in terms of the preservationist purposes of Section 4(f) (i.e., "temporary occupancy"); or
- There is no permanent incorporation of land, but the proximity of a transportation facility results in impacts so severe that the protected activities, features, or attributes that qualify the resource for protection under Section 4(f) are substantially impaired (i.e., "constructive use").

Direct Use

A direct use of a Section 4(f) resource takes place when property is permanently incorporated into a proposed transportation project (23 CFR Section 774.17). This may occur as a result of partial or full acquisition of a fee simple interest, permanent easements, or temporary easements that exceed the regulatory limits noted below (23 CFR Section 774.13[d]).

Temporary Occupancy

Under FHWA regulations (23 CFR Section 774.13[d]), temporary occupancy of a property does not constitute use of a Section 4(f) resource when the following conditions are satisfied:

- The occupancy must be temporary (i.e., shorter than the period of construction) and not involve a change in ownership of the property;
- The scope of work must be minor, with only minimal changes to the protected resource;
- There must be no permanent adverse physical effects on the protected resource, and there must be no temporary or permanent interference with the activities or purposes of the resource;
- The property to be used must be fully restored to a condition that is at least as good as the condition that existed prior to the proposed project; and
- There must be documented agreement among the appropriate officials having jurisdiction over the resource regarding the foregoing requirements.

Constructive Use

A constructive use of a Section 4(f) resource happens when a transportation project does not permanently incorporate land from the resource, but the proximity of the project results in impacts (e.g., noise, vibration, visual, access, and/or ecological impacts) that are so severe that the protected activities, features, or attributes that qualify the resource for protection under Section 4(f) are substantially impaired (23 CFR Section 774.15). Substantial impairment occurs only if the protected activities, features, or attributes of the resource are substantially diminished. This determination is made through the following practices:

- Identification of the current activities, features, or attributes of the resource that may be sensitive to proximity impacts;
- Analysis of the potential proximity impacts on the resource; and
- Consultation with the appropriate officials having jurisdiction over the resource (23 CFR Section 774.15[d]).

De Minimis Finding

A *de minimis* finding is a finding that a project will have little or no influence on the activities, features, and/or attributes of a Section 4(f) resource. As stated above, Section 6009(a) of SAFETEA-LU amended the existing Section 4(f) legislation to simplify the processing and approval of projects that have only *de minimis* impacts on resources protected by Section 4(f). This was the first substantive revision of Section 4(f) legislation since passage of the Department of Transportation Act of 1966. Under this revision, once USDOT determines that a transportation use of a Section 4(f) property would result in a *de minimis* impact on that property, an analysis of avoidance alternatives is not required, and the Section 4(f) evaluation process is complete for that resource.

A finding of *de minimis* impact on a historic site may be made when the following occur:

- The process required by Section 106 of the National Historic Preservation Act of 1966 results in a determination of “no adverse effect” or “no historic properties affected,” with concurrence from the State Historic Preservation Officer (SHPO), if participating in the Section 106 consultation;
- The SHPO is informed of the intent of the Federal Transit Administration’s (FTA’s) to make a *de minimis* impact finding, based on the agency’s written concurrence in the Section 106 determination; and
- FTA has considered the view of consulting parties participating in the Section 106 consultation.

A transportation project’s use of a park, recreational lands, or a wildlife and waterfowl refuge that qualifies for Section 4(f) protection may be determined to be *de minimis* if the following criteria are met:

- The transportation use of the Section 4(f) resource, together with any avoidance, minimization, or mitigation or enhancement measures incorporated into the project, does not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f);

- The official(s) with jurisdiction over the property is/are informed of the intent of FTA's for the project to make a *de minimis* finding, based on the agency's written concurrence, stating that the project will not adversely affect the activities, features, and attributes that qualify the property for protection under Section 4(f); and
- The public has been afforded an opportunity to review and comment on the impacts of the project on the protected activities, features, and attributes of the Section 4(f) resource.

5.1.1.2 State

Section 4(f) is federal law. Public parks, recreation areas, wildlife and waterfowl refuges, and historic sites are subject to additional regulations at the state level. See Appendix T, Parklands and Community Facilities Report, and Appendix S, Cultural Resources Impacts Report.

5.1.1.3 Local

Section 4(f) is federal law. Public parks, recreation areas, wildlife and waterfowl refuges, and historic sites are subject to additional regulations at the local level. See Appendix T, Parklands and Community Facilities Report, and Appendix S, Cultural Resources Impacts Report.

5.1.2 Methodology

This section identifies Section 4(f) resources in the project area and evaluates the potential effect of the proposed project on:

- Public parks, recreation areas, and refuges for wildlife and waterfowl; and
- Sites of historical significance.

These categories of Section 4(f) properties are considered separately due to differing evaluation methodologies. Evaluation criteria are also based on the July 2012 FHWA Section 4(f) Policy Paper.

5.1.2.1 Parks, Recreation Areas, and Wildlife and Waterfowl Areas

Parklands, recreational resources, and refuges were identified using land use maps, aerial imagery, as well as consulting with the websites of Los Angeles Department of Recreation and Parks and the Los Angeles Unified School District (LAUSD). A distance of 1,000 feet from the alignment was established as the project study area for the purposes of determining the project's effect on parks, recreation areas, and wildlife and waterfowl refuges. For the purposes of Section 4(f), the 1,000-foot project study area allows for identification of any potential Section 4(f) resources that may be permanently or temporarily incorporated into the project and those resources that may experience proximity impacts such as increased noise or access limitations. Any resources located beyond the 1,000-foot radius would be distant enough from the project that any potential for Section 4(f) use can be ruled out. This distance is also consistent with environmental documents from previous Metro transit projects.

Parks, recreation areas, and refuges are protected under Section 4(f) only if they are publicly owned. In addition to being public, these sites must be publicly accessible on a regular basis. For recreational resources identified on public school campuses, phone calls to the schools were made to verify the availability of such resources for use by the public outside of normal school hours. Privately owned parks, recreation areas, and refuges that are open to the public are not considered in this section, as they are not protected properties under the statute.

Impact analysis was determined on the basis on how the proposed project would use a Section 4(f) property, if at all.

5.1.2.2 Historic Properties

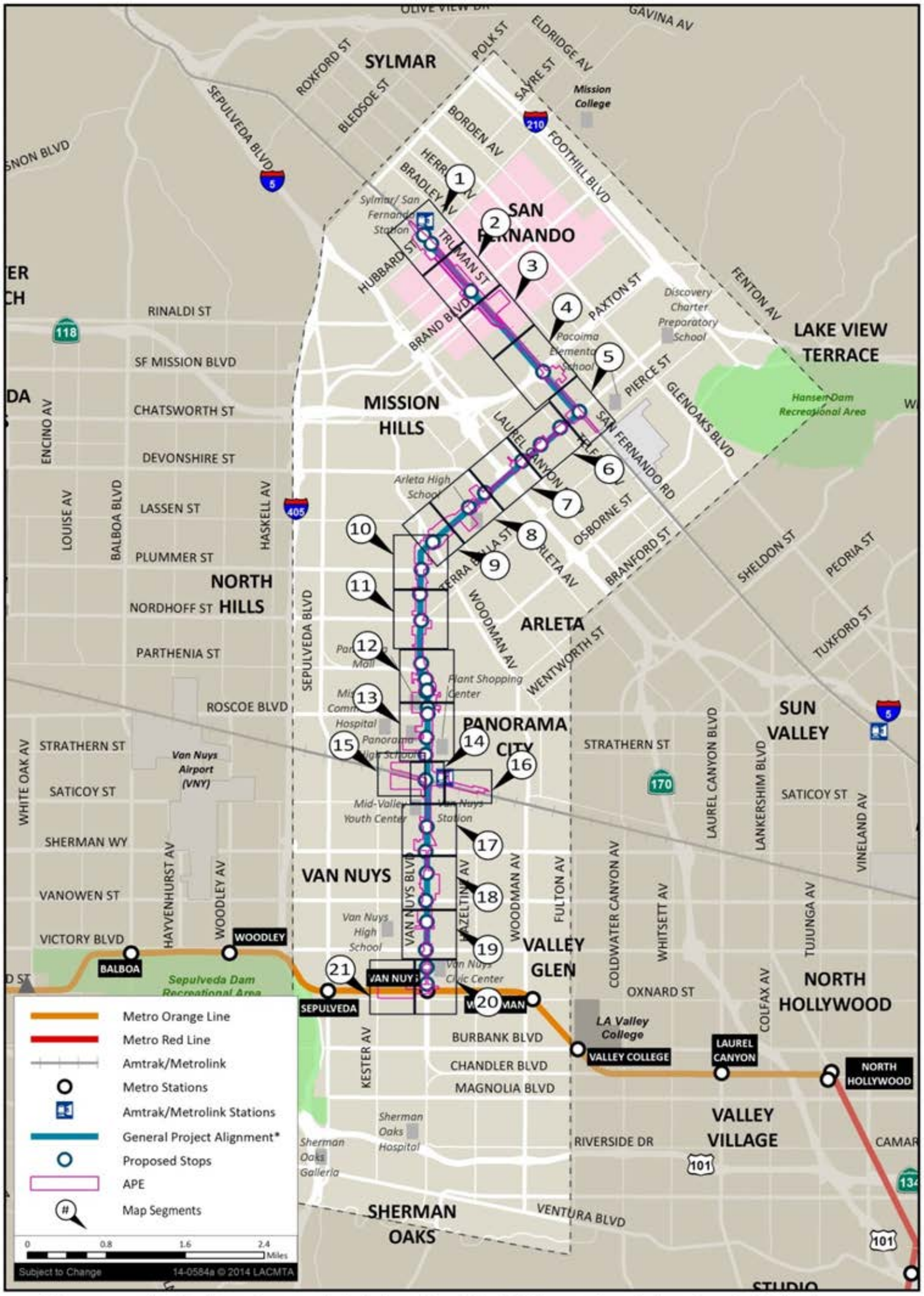
As described in the August 2015 Historical Resources Impacts Report, both an Area of Potential Effects (APE) and a larger project study area were identified for the purposes of the project. For this project, because of its size and linear nature, as well as the minimal potential for effects on historical resources adjacent to or near the project alignment, the FTA and Metro proposed a streamlined approach for evaluating potential historical resources within approximately 10 miles of the project area and determined that the APE would include the roadway only, with the exception of an area where new a stop or station would be located, in which case the APE would be drawn to include one parcel on each corner of the affected intersection. Of the more than 400 parcels within the APE that were more than 45 years of age, 181 met the established criteria for historic evaluation, either as a property requiring individual evaluation or as a property located with a potential district area. An overview of the APE is shown in Figure 5-1. Please refer to Section 4.16 Cultural Resources and Section 5.2.2 below for more information regarding these properties.

5.2 Affected Environment/Existing Conditions

5.2.1 Parks, Recreation Areas, and Wildlife and Waterfowl Refuges

As shown in Table 5-1 and Figure 5-2, there are seven public recreational facilities within a 1,000-foot distance of the project alignment that are Section 4(f) resources, all of which are under the jurisdiction of either the City of Los Angeles or the City of San Fernando. The aerial photographs 5-1 through 5-3 show the location of those facilities located directly adjacent to the project alignment. The park facilities are outlined in red and the approximate limits of the alignment for the Locally Preferred Alternative (LPA) is shown in the dashed gold lines in Photos 5-1 through 5-3. While there are additional recreational resources in the larger area surrounding the project alignment, they are outside of the 4(f) project study area for the project. These additional recreational resources are listed below.

Figure 5-1: Area of Potential Effect Overview Map



*Alignment generalized for this overview map only for clarity at this scale. Detailed alignments for each alternative are included on the map segments.

Source: GPA Consulting; ICF, 2015.

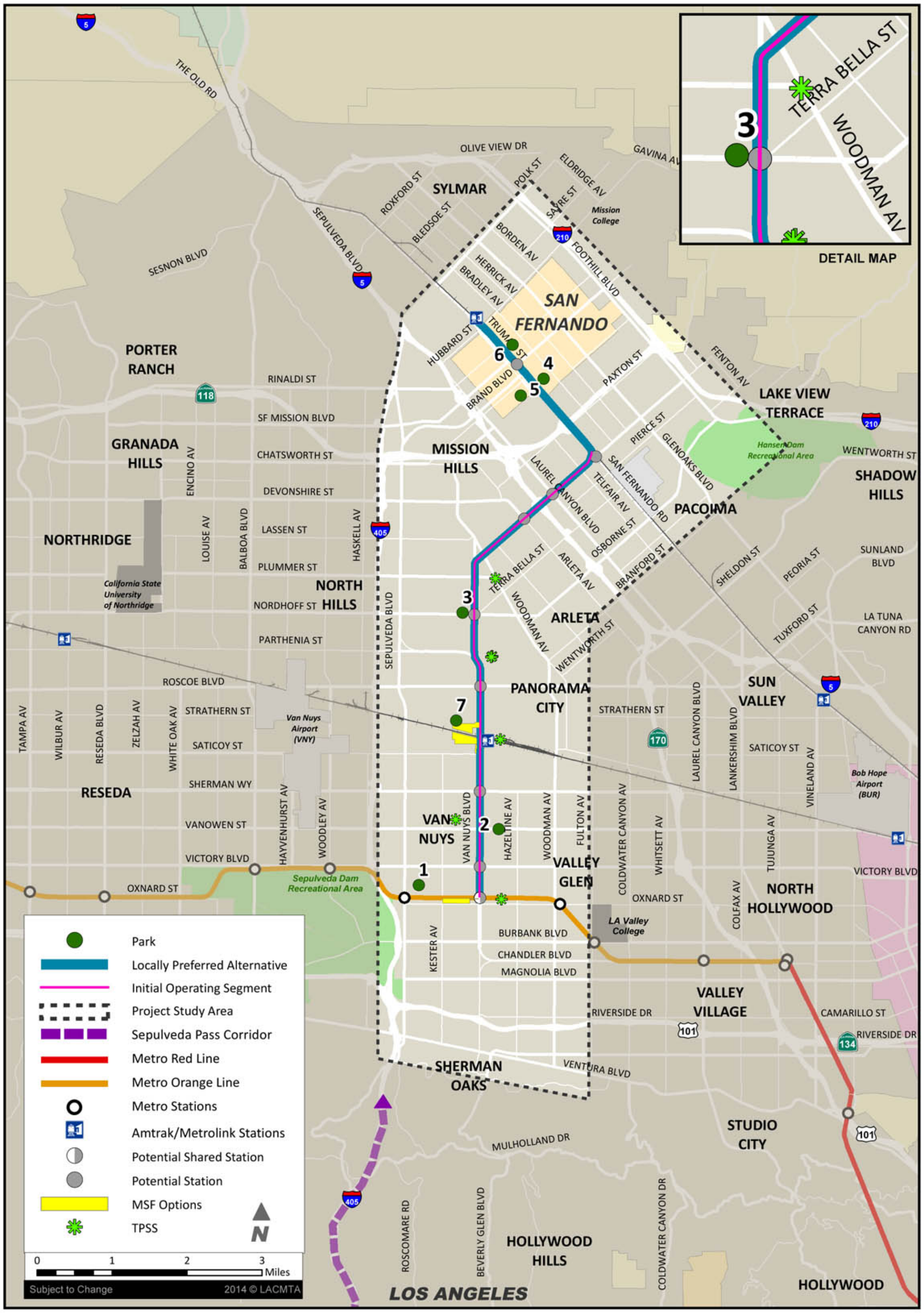
Table 5-1: Parks, Recreation Areas, and Wildlife Refuges

Map ID	Property Name	Address	Type	Description	Distance from Alignment
1	Delano Recreation Center	15100 Erwin Street, Van Nuys	Public park	The center features outdoor athletic fields, an indoor gymnasium, an auditorium and indoor table games.	990 feet
2	Van Nuys Recreation Center	14301 Vanowen Avenue, Van Nuys	Public park	This recreation center features an auditorium/gymnasium, barbecue pits, baseball diamonds, basketball courts, a children's play area, a community room, handball courts, an indoor gym, picnic tables, a soccer field, and tennis courts.	970 feet
3	Tobias Avenue Park	9122 Tobias Avenue, Panorama City	Public park	Tobias Avenue Park features basketball courts, a children's play area, and picnic tables.	Adjacent
4	Recreation Park	208 Park Avenue, San Fernando	Public park	The park is comprised of 11 acres of multi-activity sports facilities, including a baseball field, basketball courts, soccer field, and gymnasium. The park provides numerous recreational amenities, including a senior center, meeting rooms, a children's play area, and picnic area. The aquatics facility is a 3-acre venue housing a year-round, regionally oriented facility that includes a competition pool with three diving boards, an instruction pool with a recreational slide, and a splash area. The aquatics facility also includes a 15,000 square-foot, two-story support building providing offices, dressing rooms, classrooms, locker rooms, and a multipurpose room.	Adjacent
5	Cesar E. Chavez Memorial	30 Wolfskill Street, San Fernando	Public park	This memorial, honoring the legacy and work of the late farm worker leader, is located at the corner of Wolfskill and Truman Street. The memorial consists of four separate art pieces placed in a park setting. A life-size statue of Cesar Chavez is poised in front of a series of ten figures representing the farm workers' plight and eventual empowerment. Other features include a fountain, seating areas, and a mural.	Adjacent

Map ID	Property Name	Address	Type	Description	Distance from Alignment
6	Layne Park	120 North Huntington Street, San Fernando	Public park	Layne Park is 0.80 acre and houses a basketball court, picnic area, and a children's play area.	860 feet
7	Blythe Street Park	14740 Blythe Street, Van Nuys	Public park	Also known as Andres and Maria Cardenas Recreation Center, Blythe Street Park includes a children's play area, picnic tables, a small grass area, and a 4,500 sq. ft. skate park.	Approximately 180 feet north of MSF Option C

Source: Google, Inc. & Parklands and Community Facilities Impacts Report, 2015.

Figure 5-2: Map of Parks, Recreation Areas, and Wildlife Refuges



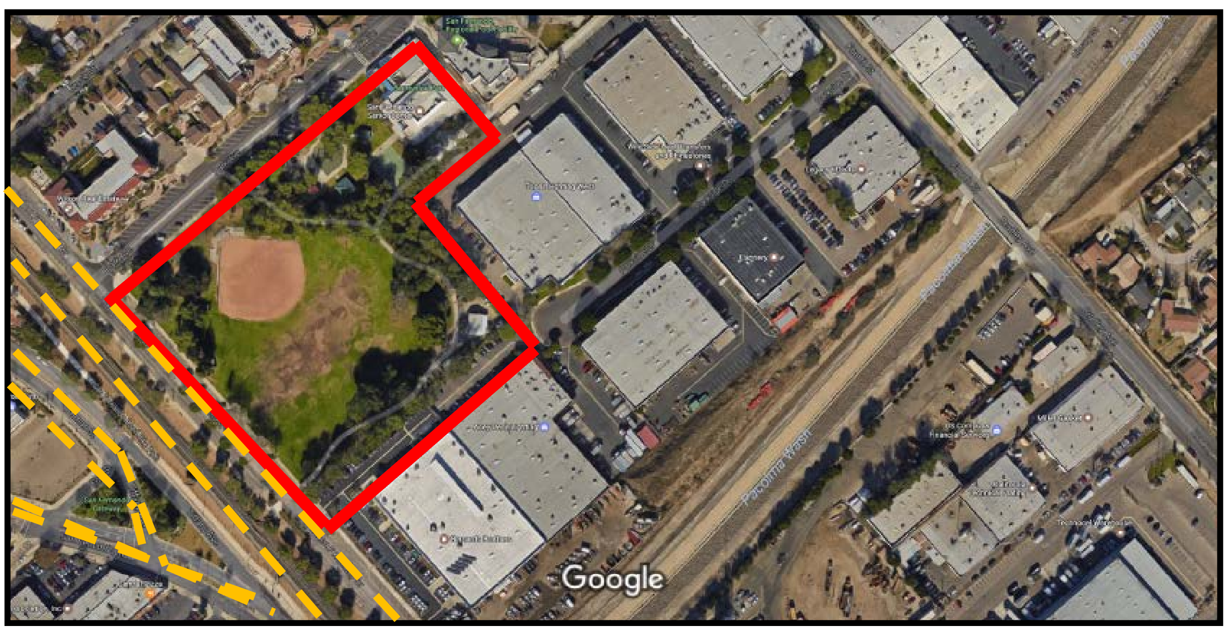
Source: ICF, 2015.

Metro

Photo 5-1: Tobias Avenue Park

Source: Google, 2017.

Photo 5-2: Recreation Park



Source: Google, 2017.

Photo 5-3: Cesar E. Chavez Memorial

Source: Google, 2017.

5.2.1.1 Facilities Not Considered for Section 4(f) Evaluation

There are additional resources in the vicinity surrounding the project study area that have a recreational function but are not considered eligible for Section 4(f) protection. The following facilities were not included in the evaluation for the reasons specified below.

Recreational Facilities within the Project Study Area

Within the project study area there are a number public schools whose campuses include outdoor recreational areas. According to the FHWA's 2012 Section 4(f) Policy Paper, recreational facilities, such as school play areas, are only considered protected under Section 4(f) if they are open to the general public and serve either organized or a substantial walk-on recreational purpose determined to be significant. Based on this criteria, the following seven public schools and their associated play areas, while they serve a physical education and recreational purpose, were determined not to be protected by Section 4(f) because they are not open to the public outside of school hours and therefore, are not recreational facilities for public use.

- Van Nuys Middle School (500 feet);
- Van Nuys Elementary School (650 feet);
- Panorama High School (adjacent);
- Arleta High School (adjacent);
- San Fernando Valley Middle School (adjacent);
- Liggett Street Elementary (800 feet); and
- Pacoima Middle School (800 feet).

Metro Orange Line Bike Path

The Metro Orange Line Bike Path crosses Van Nuys Boulevard at a signal-controlled, at-grade intersection. According to the FHWA Section 4(f) Policy Paper, shared use paths (including bike paths) that primarily serve a recreational purpose are protected under Section 4(f), while those whose primary purpose is transportation are not considered Section 4(f) resources. The bike path follows the Metro Orange Line corridor, which indicates that it was developed and functions primarily as a non-motorized transportation facility. As stated in the City of Los Angeles 2010 Bicycle Plan, Class I bikeways are popular for both utilitarian and recreational riding and further states that the Metro Orange Line Bike Path provides valuable connections to mass transit and facilitates commutes for all types of riders (City of Los Angeles, 2011). Given that the Metro Orange Line Bike Path follows a route parallel to the Metro Orange Line Busway, and recreation is not identified as a primary purpose of the bike path, the Metro Orange Line Bike Path is not considered to be protected under Section 4(f). Furthermore, no incorporation of land from the bike path into the project would result from any the LPA and the existing function and use of the bike path would be maintained throughout construction and operation of the project.

San Fernando Road Bike Path

The San Fernando Road Bike Path, also known as the Mission City Trail, is located adjacent to San Fernando Road and the railroad tracks and extends from Roxford Street in the community of Sylmar, south through the City of San Fernando, through the community of Sun Valley and up to the Burbank city limits. Similar to the Metro Orange Line Bike Path, the San Fernando Road Bike Path runs alongside Metrolink's Antelope Valley Line, including the Sylmar/San Fernando Metrolink Station and the Sun Valley Metrolink Station. Based on its proximity to existing transit facilities the bike path functions primarily as a non-motorized transportation pathway. Similar to the Metro Orange Line Bike Path, the San Fernando Road Bike Path provides valuable connections to mass transit and facilitates commutes for all types of riders, and even runs similarly to the Interstate 5 corridor, connecting the community of Sylmar, City of San Fernando, the communities of Pacoima and Sun Valley, and the City of Burbank. Accordingly, the San Fernando Road Bike Path is considered primarily as a transportation facility and was not considered in the Section 4(f) analysis as a result. Furthermore, no incorporation of land from the bike path into the project would result from the LPA and the existing function and use of the bike path would be maintained throughout construction and operation of the project.

5.2.2 Historic Sites

As mentioned, a total of 181 properties were identified within the APE that met the project team's potential historic property evaluation criteria. Of these, the 10 individual properties listed and described below have either been previously evaluated or evaluated for this project and given a status code of 3S or 2S2. A 3S status code indicates that a property appears eligible for the National Register of Historic Places (NRHP) as an individual property through a survey evaluation. A 2S2 status code indicates that it is an individual property determined eligible for the NRHP by a consensus through the Section 106 process. As a result, these properties are protected under Section 4(f). As determined in the Finding of Effect (FOE) report, the proposed project would not result in adverse effects on any of the built environment historic properties. The State Historic Preservation Officer (SHPO) concurred with this determination on August 29, 2019. Please refer to Section 4.16 of this FEIS/FEIR for further information regarding these properties.

5.2.2.1 14601-3 Aetna Street – 3S

The property at 14601-3 Aetna Street was identified for further study as an example of PWA Moderne architecture and early infrastructure in the San Fernando Valley. It is listed in the California Historic Resources Information System (CHRIS) with a 2S2 status code from March 20, 2002. The South Central Coastal Information Center (SCCIC) was contacted on July 24, 2015 for additional documentation and information regarding this previous evaluation. Michelle Galaz, Assistant Coordinator at the SCCIC responded on July 27, 2015 to say that there was no documentation for this address in their office, or for its alternative address, 14603 Aetna Street. SCCIC made a request to the State Office of Historic Preservation (OHP) for additional documentation and information. The property was individually re-evaluated for listing on the NRHP and California Register of Historic Resources (CRHR) as part of this study, but on August 13, 2015, the information from the prior evaluation was received from SCCIC. The evaluation determined that the property appears to be significant at the national and state level as a rare example of a prewar DWP facility in the San Fernando Valley, and as an excellent example of the PWA Moderne style; the property retains sufficient integrity to convey its association with that trend and architectural style. As a result of this evaluation, the property was assigned a 3S status code, "Appears eligible for NRHP as an individual property through survey evaluation."

5.2.2.2 130 N. Brand Boulevard – 2S2

The property at 130 N. Brand Boulevard was identified for further study due to its Classical Revival architecture on the junior high campus. It was previously evaluated in 1995 as part of a Section 106 survey of earthquake-damaged properties. It was given a status code of 2S2, "Individual property determined eligible for NRHP by a consensus through Section 106 process." Listed in CRHR as an excellent example of Classical Revival architecture. Therefore, it was subsequently listed on the CRHR. The project team reviewed the previous evaluation and after field inspection determined that the existing 2S2 status code is still valid.

5.2.2.3 1140 San Fernando Road – 3S

The property at 1140 San Fernando Road was identified for further study as a unique example of a J.C. Penney department store in a commercial strip, as opposed to a shopping mall. The property was individually evaluated for listing on the NRHP and CRHR. The evaluation determined that the property appears to be eligible for the NRHP and CRHR at the local level of significance for its association with the commercial development of the City of San Fernando and for its architectural style; it retains sufficient integrity to convey those associations. As a result of this evaluation, the property was assigned a 3S status code, "Appears eligible for NRHP as an individual property through survey evaluation."

5.2.2.4 1601 San Fernando Road – 3S

The property at 1601 San Fernando Road was identified for further study as an example of a Googie-style car wash on San Fernando Road. The property was individually evaluated for listing on the NRHP and CRHR. The evaluation determined that the property is significant under Criterion C as exemplifying a Googie car wash and that it retains sufficient integrity for listing. As a result of this evaluation, the property was assigned a 3S status code, "Appears eligible for NRHP as an individual property through survey evaluation."

5.2.2.5 6353 Van Nuys Boulevard – 3S

The property at 6353 Van Nuys Boulevard was identified for further study as an example of Streamline Moderne architecture that represents an early period of commercial development in the San Fernando Valley. The property was individually evaluated for listing on the NRHP and CRHR. The evaluation determined that the property appears to meet the NRHP and CRHR Criteria at the local level of significance as a rare example of pre-World War II commercial development in the San Fernando Valley, as well as exemplifying the Streamline Moderne style; the property retains sufficient integrity to convey this significance. As a result of this evaluation, the property was assigned a 3S status code, "Appears eligible for NRHP as an individual property through survey evaluation."

5.2.2.6 6551 Van Nuys Boulevard – 3S

The property at 6551 Van Nuys Boulevard was identified for further study as an example of New Formalist architecture and the work of Millard Sheets. The property was individually evaluated for listing on the NRHP and CRHR. The evaluation determined that the property appears to be eligible for the NRHP and CRHR as a good example of New Formalism in the San Fernando Valley. As a result of this evaluation, the property was assigned a 3S status code, "Appears eligible for NRHP as an individual property through survey evaluation."

5.2.2.7 8201 Van Nuys Boulevard – 3S

The property at 8201 Van Nuys Boulevard was identified for further study as a rare example of Expressionist architecture. The property was individually evaluated for listing on the NRHP and CRHR. The evaluation determined that the property appears to meet the NRHP and CRHR Criteria for its architecture and as the work of W.A. Sarmiento, who was pivotal to the shift in bank design during the twentieth century, and that it retains sufficient integrity to convey that significance. As a result of this evaluation, the property was assigned a 3S status code, "Appears eligible for NRHP as an individual property through survey evaluation."

5.2.2.8 8324 Van Nuys Boulevard – 3S

The property at 8324 Van Nuys Boulevard was identified for further study as part of a planned commercial strip for the successful post-war suburb of Panorama City. The property was individually evaluated for listing on the NRHP and CRHR. The evaluation determined that the property appears to be eligible for the NRHP and CRHR at the local level for its association with the planned development of Panorama City, and it retains sufficient integrity to convey that significance. As a result of this evaluation, the property was assigned a 3S status code, "Appears eligible for NRHP as an individual property through survey evaluation."

5.2.2.9 9110 Van Nuys Boulevard – 3S

The property at 9110 Van Nuys Boulevard was identified for further study as part of a planned commercial strip for the successful post-war suburb of Panorama City and as the work of master architect William Pereira. It was individually evaluated for listing on the NRHP and CRHR. The evaluation determined that the property was not an important example of Pereira's work but appears to meet the NRHP and CRHR criteria at the local level for its association with Panorama City and retains sufficient integrity to convey that significance. As a result of this evaluation, the property was assigned a 3S status code, "Appears eligible for NRHP as an individual property through survey evaluation."

5.2.2.10 San Fernando Road – 3S

A portion of San Fernando Road was identified for further study due to its historic alignment, dating from as early as 1871. It was previously evaluated in 2013 as part of a CEQA review process. Segments of the road were given a status code of 3S, "Appears eligible for NRHP as an individual property through survey evaluation." One of the segments is included within the APE. The project team reviewed the previous evaluation and after field inspection determined that the existing 3S status code appears to still be valid.

5.3 Environmental Consequences

5.3.1 No-Build Alternative

5.3.1.1 Public Parks, Recreation Areas, and Refuges for Wildlife and Waterfowl

Direct Use

Since no new transportation infrastructure would be built as part of the proposed project, the No-Build Alternative would not require any permanent displacement or acquisition of public parks, recreation areas, or refuges for wildlife and waterfowl. Therefore, there would be no direct use of Section 4(f) resources.

Temporary Occupancy

Since no new transportation infrastructure would be built, the No-Build Alternative would not require the temporary occupancy of public parks, recreation areas, or refuges for wildlife and waterfowl that are protected property under Section 4(f).

Constructive Use

The No Build Alternative includes no new project facilities that would increase noise levels in the project study area or result in any visual changes to the project corridor. The No-Build Alternative would not cause new impacts to the ecosystem and local and regional connectivity and access to parklands and community facilities in the project study area would remain unchanged. Thus, the No-Build Alternative would not result in impacts so severe that the protected activities, features, or attributes that qualify the resources for protection under 4(f), listed in Table 5-1, would be substantially diminished or impaired and no constructive use would occur.

5.3.1.2 Historic Sites

Direct Use

Since no new construction is proposed under the No-Build Alternative, no historic sites would be affected. Therefore, there would be no direct use of Section 4(f) resources.

Temporary Occupancy

Since no new construction is proposed under the No-Build Alternative, it would not require the temporary occupancy of any historic sites that are protected property under Section 4(f).

Constructive Use

The No-Build Alternative would not result in impacts so severe that the protected activities, features, or attributes that qualify the resources for protection under 4(f) previously mentioned, are substantially diminished or impaired. Thus, no constructive use or other indirect impacts would occur.

5.3.2 Locally Preferred Alternative (Alternative 4 Modified: At-Grade LRT) and Initial Operating Segment

5.3.2.1 Public Parks, Recreation Areas, and Refuges for Wildlife and Waterfowl

Direct Use

Neither the LPA nor the Initial Operating Segment (IOS) would require full or partial acquisition of any of the Section 4(f) properties listed in Table 5-1, including those adjacent to the project alignment, or require a permanent easement; therefore, the proposed project would not result in a direct use.

Temporary Occupancy

Construction of facilities associated with the LPA or IOS is not anticipated to require temporary occupancy, including temporary easements, of any Section 4(f)-protected properties. All construction staging, equipment movement, and other activities associated with construction would take place outside the property limits of Section 4(f)-protected properties along existing transportation rights-of-way or within the non-Section 4(f)-protected property that would be acquired to accommodate proposed stations, traction power substations (TPSS), or the maintenance and storage facility (MSF). Therefore, there is no potential for use to result from any temporary occupancy of Section 4(f) property. Additionally, mitigation measures listed within Table 5-2 would be implemented, including those required during construction, and they would minimize any impacts during construction.

Constructive Use

Project elements such as LRT vehicles, station structures, and associated ancillary facilities located in the vicinity of Section 4(f) resources would result in minor proximity impacts such as minimal increases in noise and visual changes. In the vicinity of station platforms or shelters, proximity impacts would be limited to visual changes due to the presence of station entrances and associated signage or other station related infrastructure. Although changes to the existing noise environment would result from operation of either the LPA or IOS as new rail vehicles are introduced and traffic operations are altered, such changes would not affect existing activities, features, or attributes of any of the Section 4(f) resources identified in Table 5-1 because none of these resources have been identified as noise sensitive or resources that require tranquil or quiet surroundings (i.e., features or attributes that qualify the resources for protection under Section 4[f]). In terms of access, the LPA and the IOS would increase local and regional connectivity as well as access to parklands and community facilities in the project study area during project operations. No adverse effects on access to individual Section 4(f) properties are anticipated.

The reader is referred to Table 5-2 below and the following sections in this FEIS/FEIR for mitigation measures to reduce or avoid potential construction and operational impacts on parklands and community facilities: Chapter 3-Transportation, Transit, Circulation, and Parking; Section 4.5-Visual Quality and Aesthetics; Section 4.6-Air Quality; Section 4.8-Noise and Vibration; and Section 4.14-Safety and Security. These measures include measures to maintain access to parklands and community facilities; detours, design, and location of project elements to avoid obstructing views to and from parklands; requirements for use of equipment and methods to reduce air quality emissions; attenuation of noise and vibration impacts to the extent feasible by use of alternate equipment or methods, or use of noise and vibration reducing track; and coordination with public safety and transit providers to ensure access to parklands and community facilities. During project operation and construction, these measures would minimize direct impacts that could adversely affect the quality of the human environment with respect to parklands and community facilities.

The parklands and community facilities that are located within the project area are in an urbanized area that includes a variety of land uses, including residential, commercial, industrial, recreation, schools, community centers, office and government, and other urban land use. The operation of the LPA would not result in a substantial change in the surrounding character of these facilities and they have not been identified as sensitive noise receptors. Additionally, the mitigation measures listed below in Table 5-1 will be in place. Thus, neither the LPA nor the IOS would result in impacts so severe that the protected activities, features, or attributes that qualify the resources listed in Table 5-1 for protection under Section 4(f) are substantially diminished or impaired. As a result, no constructive use of Section 4(f) resources would occur under the LPA or IOS. For more detailed analysis on how the LPA and IOS would affect parks and recreational facilities, please refer to Section 4.15 Parklands of this FEIS/FEIR.

Table 5-2: Mitigation Measures

Mitigation Measure	Description
Traffic, Transportation, and Parking	
MM-TRA-1	The Traffic Management Plan shall require Metro to communicate closures and information on any changes to bus service to local transit agencies in advance and develop detours as appropriate. Bus stops within work areas shall be relocated, with warning signs posted in advance of the closure, and warnings and alternate stop notifications posted during the extent of the closure.
MM-TRA-2	The Traffic Management Plan shall include the following typical measures, and others as appropriate: • Schedule a majority of construction-related travel (i.e., deliveries, hauling, and worker trips) during the off-peak hours. • Develop detour routes to facilitate traffic movement through construction zones without significantly increasing cut-through traffic in adjacent residential areas. • Where feasible, temporarily restripe roadways including turning lanes, through lanes, and parking lanes at the affected intersections to maximize the vehicular capacity at those locations affected by construction closures.

Mitigation Measure	Description
	• Where feasible, temporarily remove on-street parking to maximize the vehicular capacity at those locations affected by construction closures. In these areas where street parking is temporarily removed in front of businesses, the contractor shall provide wayfinding to other nearby parking lots or temporary lots, with any temporary parking secured well in advance of parking being removed in the affected area. • Place station traffic control officers at major intersections during peak hours to minimize delays related to construction activities. • Assign a Construction Relations team inclusive of a manager, senior officers, and social media strategist to develop and implement the Metro Board's adopted Construction Relations model. The team will conduct the outreach program to inform the general public about the construction process, planned roadway closures, and anticipated mitigations through community briefings in public meeting spaces and use of signage (banners, etc.). • Develop and implement a program with business owners to minimize effects to businesses during construction activities, including but not limited to signage, Eat, Shop, Play, and promotional programs. • Consult and seek input on the designation and identification of haul routes and hours of operation for trucks with the local jurisdictions, school districts, and Caltrans. The selected routes should minimize noise, vibration, and other effects. • To the extent practical, maintain traffic lanes in both directions, particularly during the morning and afternoon peak hours. • Maintain access to adjacent businesses and schools (including passenger loading areas for parents dropping off students) via existing or temporary driveways or loading zones throughout the construction period. • Coordinate potential road closures and detour routes and other construction activities that could adversely affect vehicle routes in the immediate vicinity of local schools with local school districts. • Install and maintain appropriate traffic controls (signs and signals) to ensure vehicular safety.
MM-TRA-3	To ensure potential impacts on pedestrian and bicycle facilities are minimized to the extent feasible, the Traffic Management Plan and Traffic Control Plan shall include the following: • Bicycle detour signs shall be provided, as appropriate, to route bicyclists away from detour areas with minimal-width travel lanes and onto parallel roadways. • Sidewalk closure and pedestrian route detour signs shall be provided, as appropriate, that safely route pedestrians around work areas where sidewalks are closed for safety reasons or for specific construction work within the sidewalk area. In addition, the project contractor shall ensure appropriate "Open during Construction," wayfinding, and promotional signage for businesses affected by sidewalk closures is provided and access to these businesses is maintained.
MM-TRA-4	During the Preliminary Engineering phase of the project, Metro will work with the Cities of Los Angeles and San Fernando to synchronize and coordinate signal timing and to optimize changes in roadway striping to minimize potential operational traffic impacts and hazards to the extent feasible.
MM-TRA-5	Additional visual enhancements, such as high-visibility crosswalks that meet current LADOT design standards, to the existing crosswalks at each proposed station location shall be implemented to further improve pedestrian circulation.

Mitigation Measure	Description
MM-TRA-6	To further reduce potential adverse and less-than-significant pedestrian impacts, Metro shall prepare a First/Last Mile study that documents preferred pedestrian access to each station, general pedestrian circulation in the immediate vicinity of the station, and potential sites for connections to nearby bus services. The purpose of this study shall include ensuring sufficient circulation, access, and information important to users of the transit system. The results of the study shall be implemented through coordination between Metro and the local jurisdictions of the City of Los Angeles and the City of San Fernando.
MM-TRA-7	To reduce the potential impacts due to removal of the existing bike lanes extending approximately 2 miles north on Van Nuys Boulevard from Parthenia Street to Beachy Avenue and from Laurel Canyon Boulevard to San Fernando Road, two parallel corridors have been identified for consideration and approval by the Los Angeles Department of Transportation as bike friendly corridors. These include Filmore Street to the west and Pierce Street to the east, which can be developed as Class III Bike Friendly streets by striping sharrows and providing signage. Metro shall also continue to work with LADOT to identify, to the extent feasible, replacement locations for Class II bike lanes that meet the goals and policies in the City of Los Angeles Bicycle Plan.
Visual and Aesthetics	
MM-VIS-1	Construction staging shall be located away from residential and recreational areas and shall be screened to minimize visual intrusion into the surrounding landscape. The screening shall be a height and type of material that is appropriate for the context of the surrounding land uses. There shall be Metro-branded community-relevant messaging on the perimeter of the construction staging walls. Lighting within construction areas shall face downward and shall be designed to minimize spillover lighting into adjacent properties.
MM-VIS-2	Vegetation removal shall be minimized and shall be replaced following construction either in-kind or following the landscaping design palette for the project, which would be prepared in consultation with the Cities, including the City Tree Removal Policy and replacement ratio.
MM-VIS-3	Scenic resources, including landscape elements such as rows of palm trees (along Van Nuys Boulevard) or mature trees (along San Fernando Road) and uniform lighting, shall be preserved, where feasible.
MM-VIS-4	Lighting associated with the project shall be designed to face downward and minimize spillover lighting into adjacent properties, in particular residential and recreational properties.
MM-VIS-5	Infrastructure elements shall be designed with materials that minimize glare.
Air Quality	
MM-AQ-1	Construction vehicle and equipment trips and use shall be minimized to the extent feasible and unnecessary idling of heavy equipment shall be avoided.
MM-AQ-2	Solar powered, instead of diesel powered, changeable message signs shall be used.
MM-AQ-3	Electricity from power poles, rather than from generators, shall be used where feasible.
MM-AQ-4	Engines shall be maintained and tuned per manufacturer's specifications to perform at EPA certification levels and to perform at verified standards applicable to retrofit technologies. Periodic, unscheduled inspections shall be conducted to limit unnecessary idling and to ensure that construction equipment is properly maintained, tuned, and modified consistent with established specifications.
MM-AQ-5	Any tampering with engines shall be prohibited and continuing adherence to manufacturer's recommendations shall be required.

Mitigation Measure	Description
MM-AQ-6	New, clean (diesel or retrofitted diesel) equipment meeting the most stringent applicable federal or state standards shall be used and the best available emissions control technology shall be employed. Tier 4 engines shall be used for all construction equipment. If non-road construction equipment that meets Tier 4 engine standards is not available, the Construction Contractor shall be required to use the best available emissions control technologies on all equipment.
MM-AQ-7	EPA-registered particulate traps and other appropriate controls shall be used where suitable to reduce emissions of diesel particulate matter (PM) and other pollutants at the construction site.
MM-AQ-8	Consistent with South Coast Air Quality Management District Rule 1113, all architectural coatings for building envelope associated with the project shall use coatings with a Volatile Organic Compound content of 50 grams per liter or less.
MM-AQ-9	The Design-Builder shall implement feasible means and methods that would minimize cumulative air quality impacts during the construction period, including, but not limited to, the following: 1. Timing project-related construction activities associated with the maintenance facility, stations, and track installation such that overlapping schedules are minimized. 2. Timing project-related construction activities so that overlapping schedules with other projects in the area are avoided. 3. Reducing the number of pieces of diesel-fueled equipment used at a given time when construction activities occur in the vicinity of sensitive receptors, including, but not limited to, residences, schools, parks, hospitals, and nursing homes.
Noise and Vibration	
MM-NOI-1a	Specific measures to be employed to mitigate construction noise impacts shall be developed by the contractor and presented in the form of a Noise Control Plan. The Noise Control Plan shall be submitted for review and approval before the beginning of construction noise activities.
MM-NOI-1b	The contractor shall adequately notify the public of construction operations and schedules no less than 72 hours in advance of construction through a construction notice with confirmed details and a look-ahead briefing several weeks in advance.
MM-NOI-1c	If a noise variance from Section 41.40(a) of the Los Angeles Municipal Code is sought for nighttime construction work, a noise limit shall be specified. The contractor shall employ a combination of the noise-reducing approaches listed in MM-NOI-1d to meet the noise limit.
MM-NOI-1d	Where feasible, the contractor shall use the following noise-reducing approaches: • The contractor shall use specialty equipment with enclosed engines and/or high-performance mufflers. • The contractor shall locate equipment and staging areas as far from noise-sensitive receivers as possible. • The contractor shall limit unnecessary idling of equipment. • The contractor shall install temporary noise barriers to enclose stationary noise sources, such as compressors, generators, laydown and staging areas, and other noisy equipment. • The contractor shall reroute construction-related truck traffic away from residential buildings to the extent practicable. • The contractor shall sequence the use of equipment so that simultaneous use of the loudest pieces of equipment is avoided as much as practicable. • The contractor shall avoid the use of impact equipment and, where practicable, use non-impact equipment. Non-impact equipment could include electric or hydraulic-powered equipment rather than diesel and gasoline-powered equipment where feasible.

Mitigation Measure	Description
	• The contractor shall use portable noise control enclosures for welding in the construction staging area. • The contractor shall use lined or covered storage bins, conveyors, and chutes with noise-deadening material for truck loading and operations. • Contractor shall use strobe lights or other OSHA-accepted methods rather than back-up alarms during nighttime construction.
MM-NOI-2a	A sound wall shall be constructed at the northern edge of the alignment where the LRT curves to transition between Van Nuys Boulevard and San Fernando Road, in the area bounded by Pinney Street, El Dorado Avenue, Van Nuys Boulevard, and San Fernando Road. The sound wall shall be constructed to mitigate the increase in traffic noise levels that would result from removing the row of buildings in this area. Sound walls shall be constructed in such a fashion as to not impair the train operator vision triangle –sightlines.
MM-NOI-2b	Friction control shall be incorporated into the design for the curves at Van Nuys Boulevard/San Fernando Road, Van Nuys Boulevard/El Dorado Boulevard, and Van Nuys Boulevard/Vesper Avenue. Friction control may consist of installing lubricators on the rail or using an onboard lubrication system that applies lubrication directly to the wheel.
MM-NOI-3a	The following noise limit shall be included in the purchase specifications for the TPSS units: TPSS noise shall not exceed 50 dBA at a distance of 50 feet from any part of a TPSS unit.
MM-NOI-3b	The TPSS units shall be located within the parcel as far from sensitive receivers as feasible. If possible, the cooling fans shall be oriented away from sensitive receivers.
MM-NOI-3c	If necessary, a sound enclosure shall be built around the TPSS unit to further reduce noise levels at sensitive receivers to below the applicable impact threshold.
MM-VIB-1	Where equipment, such as a vibratory roller, that produces high levels of vibration is used near buildings, the Construction Vibration Control Plan shall also include mitigation measures to minimize vibration impact during construction. Recommended construction vibration mitigation measures that shall be considered and implemented where feasible include: • The contractor shall minimize the use of tracked vehicles. • The contractor shall avoid vibratory compaction. • The contractor shall monitor vibration levels near sensitive receivers during activities that generate high vibration levels to ensure thresholds are not exceeded.
MM-VIB-2a	Metro shall complete additional vibration analysis to confirm locations where vibration levels would exceed NEPA and CEQA significance thresholds. Where exceedances will occur, the contractor shall employ methods to reduce vibration levels below applicable thresholds. Methods such as floating-slab track, a continuous-mat floating slab, or a vibration-isolated embedded track system, such as QTrack, can be considered.
MM-VIB-2b	The contractor shall install moveable point frogs at the crossovers on Van Nuys Boulevard/Osborne Street and at Van Nuys Boulevard/Canterbury Avenue. If further investigation confirms that an alternative low-impact frog would reduce vibration levels below the applicable thresholds, the alternative may be installed.
MM-VIB-2c	Low-impact frogs such as conformal frogs or spring frogs shall be used at all crossovers and turnouts not covered under MM-VIB-2b. Traditional crossovers may be used in locations where analysis shows vibration levels will not exceed the applicable thresholds at nearby sensitive receivers.

Mitigation Measure	Description
Safety and Security	
MM-SS-1	Alternate walkways for pedestrians shall be provided around construction staging sites in accordance with ADA requirements.
MM-SS-2	Safe and convenient pedestrian routes to local schools shall be maintained during construction.
MM-SS-3	Ongoing communication with school administrators shall be maintained to ensure sufficient notice of construction activities that could affect pedestrian routes to schools is provided.
MM-SS-4	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.
MM-SS-5	Appropriate traffic controls (signs and signals) shall be installed and maintained to ensure pedestrian and vehicular safety.
MM-SS-6	To the extent feasible, construction haul trucks shall not use haul routes that pass any school, except when the school is not in session.
MM-SS-7	Staging or parking of construction-related vehicles, including worker-transport vehicles, shall not occur on or adjacent to a school property when school is in session.
MM-SS-8	Crossing guards or flaggers shall be provided at affected school crossings when the safety of children may be compromised by construction-related activities.
MM-SS-9	Barriers or fencing shall be installed to secure construction equipment and minimize trespassing, vandalism, short-cut attractions, and attractive nuisances.
MM-SS-10	Security patrols shall be provided to minimize trespassing, vandalism, and short-cut attractions where construction activities occur in the vicinity of local schools.
MM-SS-11	Project plans, work plans, and traffic control measures shall be coordinated with emergency responders during preliminary engineering, final design, and construction to limit effects to emergency response times.
MM-SS-12	All stations shall be illuminated 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.
MM-SS-13	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.
MM-SS-14	The following measures shall be implemented to reduce pedestrian circulation impacts and hazards: • Sidewalk widths shall be designed to be the widest dimension feasible, in conformance with Los Angeles'/Metro's adopted Land Use/Transportation Policy. • Minimum widths shall not be less than those allowed by State of California Title 24 access requirements or the ADA 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. • Accommodating pedestrian movements and flows shall take priority over other transportation improvements, including automobile access. • Physical improvements shall ensure that all stations are fully accessible as defined in the ADA.

Mitigation Measure	Description
MM-SS-15	Wide crosswalks shall be provided in areas immediately surrounding proposed stations to facilitate pedestrian mobility.
MM-SS-16	Metro shall coordinate and consult with the Los Angeles Fire Department, Los Angeles Police Department, Los Angeles Sheriff's Department, and the City of San Fernando Police Department to develop safety and security plans for the proposed alignment, parking facilities, and station areas.
MM-SS-17	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.
MM-SS-18	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. Crossings shall require approval from the CPUC and shall meet applicable CPUC standards for grade crossings.
MM-SS-19	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.
MM-SS-20	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.
MM-SS-21	Metro is continuing to investigate light rail vehicle modifications to increase light rail vehicle safety and minimize or prevent train and pedestrian conflicts. Metro's design criteria also identifies multiple efforts to increase light rail vehicle safety and minimize or prevent the potential for pedestrians and vehicle conflicts. Measures identified shall be included during the final design of the LPA.
MM-SS-22	To reduce potential risk of collisions between LRTs and automobiles on the street portion of the LPA, Metro shall coordinate with the CPUC, City and County of Los Angeles 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.
MM-SS-23	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.

5.3.2.2 Historic Sites

Direct Use

The LPA and IOS have been designed to avoid acquisitions of historic properties, including those protected under Section 4(f). No land from a Section 4(f)-protected historic site would be acquired or otherwise incorporated into the project. Therefore, there is no potential for a direct use of Section 4(f)-protected historic sites to occur.

Temporary Occupancy

As mentioned, construction of facilities associated with the LPA or IOS is not anticipated to require temporary occupancy of any Section 4(f)-protected properties, including historic sites. All construction staging, equipment movement, and other activities associated with construction would take place outside the property limits of Section 4(f)-protected properties. Therefore, there is no potential for use to result from any temporary occupancy of Section 4(f) property.

Constructive Use

As discussed above, 10 historic sites within the APE are protected under Section 4(f). Based on the evaluations in the Cultural Resources Impacts Report (see Appendix S), the LPA and IOS would not result in atmospheric or audible elements that would diminish significant historic features, nor would they cause an adverse effect on any historic properties. Therefore, proximity impacts associated with the LPA and IOS have no potential to result in a constructive use. As was determined in the FOE (see Appendix HH), the proposed project would not result in adverse effects on any built environment historic properties. The SHPO concurred with this determination on August 29, 2019. Please refer to Section 4.16 of this FEIS/FEIR for further information regarding these properties.

5.3.3 MSF Site

The preferred MSF site (described in the DEIS/DEIR as MSF Option B) would be required for both the LPA and the IOS. The MSF would have the same design and operating characteristics under both alternatives. Its impacts on Section 4(f) resources are discussed below.

5.3.3.1 Public Parks, Recreation Areas, and Refuges for Wildlife and Waterfowl

Direct Use

The MSF site would not require the full or partial acquisition of any of the Section 4(f) properties listed in Table 5-1, or require a permanent easement; therefore, the proposed project would not result in a direct use.,

Temporary Occupancy

The MSF site would not require temporary occupancy, including temporary easements, of any Section 4(f)-protected properties. Therefore, there is no potential for use to result from any temporary occupancy of Section 4(f) property.

Constructive Use

In general, proximity impacts associated with the operation of the MSF would be related to changes in noise levels associated with operation of MSF collision/body repair areas, paint booths, and wheel truing machines and changes to the visual character of a Section 4(f) resource. There are no parks in close proximity to the MSF site that would be affected by its operation. Thus, operation of the MSF would not result in impacts so severe that the protected activities, features, or attributes that qualify the resources for protection under Section 4(f) listed in Table 5-1 are substantially diminished or impaired. No constructive use of Section 4(f) parkland, recreation areas, or wildlife or waterfowl refuges would occur.

5.3.3.2 Historic Sites

Direct Use

The MSF site has been designed to avoid acquisition of historic properties including those protected under Section 4(f). No land from a Section 4(f)-protected historic site would be acquired or otherwise incorporated into the project. Therefore, there is no potential for a direct use of Section 4(f)-protected historic sites to occur.

Temporary Occupancy

As mentioned above, construction would not require temporary occupancy, including temporary easements, of any Section 4(f)-protected properties. Therefore, there is no potential for use to result from any temporary occupancy of Section 4(f) property.

Constructive Use

The MSF site is not located in close proximity to any historic sites, and therefore would not result in atmospheric or audible elements that could diminish significant historic features, nor would it cause an adverse effect on any historic properties. Accordingly, proximity impacts associated with the MSF site would have no potential to result in a constructive use.

5.4 Agency Coordination and Consultation

Officials with jurisdiction over public parks, recreation areas, or refuges for wildlife and waterfowl at the Cities of Los Angeles and San Fernando were consulted to ensure that all 4(f) resources within 1,000 feet of the proposed project alignment were evaluated for the applicability of the requirements of Section 4(f). The correspondence is shown in Appendix U. Because the LPA and IOS would not result in impacts on Section 4(f) resources, no further coordination or consultation is required.

Chapter 6
Cost and Financial Analysis

6.1 Introduction

This chapter has been updated from the DEIS/DEIR to focus on the Locally Preferred Alternative (LPA), Alternative 4 Modified: At-Grade LRT and an Initial Operating Segment (IOS), which are described in detail in Chapter 2 of this FEIS/FEIR. The IOS was developed in the event that gaps in funding exist. The IOS would run along the same alignment and have the same design features and operating characteristics as those described for the LPA; however, the IOS, would extend from the Metro Orange Line on the south to the Van Nuys/San Fernando station on the north rather than continuing 2.5 miles within the existing railroad right-of-way to the Sylmar/San Fernando Metrolink station, as would occur under the LPA.

This chapter summarizes the capital costs and planned sources of funding for the LPA and IOS. Also presented are the methodology that was used for evaluating the LPA and IOS.

This analysis will help the Federal Transit Administration (FTA), Metro, the Cities of Los Angeles and San Fernando, stakeholders, and the general public understand and evaluate Metro's financial capacity with respect to constructing the East San Fernando Valley Transit Corridor (ESFVTC) Project as well as operating and maintaining the existing transit system. The costs and funding presented in the DEIS/DEIR were represented in 2014 base-year dollars, which have been inflated to 2018 base-year dollars for a more accurate estimation within this FEIS/FEIR. In addition, the costs and revenues presented in the DEIS/DEIR were consistent with Metro's fiscal year, which begins July 1 and runs through June 30. The LPA and IOS have been analyzed in 2014 dollars to be consistent with the analysis that was done for the DEIS/DEIR.

6.2 Capital Costs and Funding

This section presents the capital cost of the project as well as the federal, state, and local revenue sources proposed for funding.

6.2.1 Capital Costs

Capital cost estimates for the alternatives are based on conceptual engineering drawings. The capital costs for the LPA is presented in 2014 base-year dollars and 2018 dollars for comparative purposes in Table 6-1. Costs for the No-Build Alternative are not included because no new transit projects, beyond those that are already planned, approved, and funded, would be constructed in the project area. The capital costs of the LPA range from $1.3 to $1.5 billion in 2014 dollars to $1.9 to $2.2 billion in 2018 construction dollars. Capital costs for the LPA includes construction of the maintenance and storage facility (MSF), which is described in Chapter 2, Project Description, of this FEIS/FEIR as MSF Option B. Therefore, it would have a smaller project footprint than the LPA as well as a reduction in cost. The cost of the IOS is estimated to be $1.7–$1.9 billion in 2018 dollars and would cost approximately $50.2 million annually to operate and maintain. Please refer to Table 6-1 for the cost in 2014 and 2018 dollars as well as Table 6-2 for a breakdown of the cost associated with the construction of the IOS.

Table 6-1: Capital Cost Estimates

	2014 Dollars	2018 Dollars
LPA with MSF	$1.3–$1.5 billion	$1.9–$2.2 billion
IOS with MSF	1.2–$1.3 billion	$1.7–$1.9 billion

Source: KOA 2019.

Table 6-2: Capital Cost Estimate

Cost Category	LPA with MSF	IOS with MSF
Construction	$683,285,763–$788,386,872	$618,553,937–$713,669,016
ROW, Land, Maintenance Yards, and Existing Improvements	$130,928,800–$151,013,228	$130,928,800–$151,139,573
Vehicles	$264,480,000–$305,235,251	$214,320,000–$247,244,627
Professional Services	$245,982,875–$283,837,616	$222,679,417–$256,964,654
Total	$1,324,677,438 – $1,528,472,967	$1,186,482,154–$1,369,017,870

Source: LA Metro, KOA 2019. *Costs are in 2014 dollars.*

The capital costs for the LPA and IOS presented in Table 6-2 were developed with use of the Federal Transit Administration's (FTA's) Standard Cost Categories (SCC). FTA requires submission of capital costs in SCC format at key milestones in the project development process. These costs represent gross capital expenditures relative to the No-Build Alternative. Total capital costs are divided into five major categories:

- General Construction: Guideway elements, stations, maintenance yards, site work, systems, and contingencies;
- Vehicles: Vehicle manufacturing and assembly;s
- Right-of-Way (ROW): All rights-of-way, land, maintenance yards, and existing improvements;
- Soft Costs: Professional engineering and related services. Generally, soft costs are capital expenditures that are required to complete an operational transit project; the funds are not spent directly on activities related to brick-and-mortar construction, vehicle and equipment procurement, or land acquisition. Instead, these expenses are for the professional services necessary to complete the project; and
- Unallocated Contingency: Additional costs included in the estimate that may be used to cover unforeseen costs, inflation, and/or mitigation measures.

It should be noted that the capital costs presented in this chapter are not inclusive of Metro's Project Development Costs. As the East San Fernando Valley Transit Corridor Project moves through FTA's major capital project development process, the costs and implementation schedule will be further refined.

6.2.2 Operating and Maintenance Costs

Based on information from the O&M Costs Report included in Appendix FF, the LPA is projected to cost $64.7 million annually to operate and maintain; the cost may have future variations related to the operational headway. The IOS would cost approximately $50.2 million annually to operate and maintain. The No-Build Alternative was not included because it includes projects that are already planned, approved, and funded within the project area.

6.2.3 Capital Funding Sources

Metro's approved 2009 LRTP reserves $170.1 million for the project, which is the present worth in 2014 dollars, escalated to 2018 dollars. The following state and local revenue sources are eligible sources of funding for the East San Fernando Valley Transit Corridor Project:

- Federal Sources:
  - Congestion Management and Air Quality (CMAQ) Program;
  - Regional Surface Transportation Program (RSTP); and
  - Other future FTA funding;
- State Sources:
  - Regional Improvement Program (RIP);
  - Traffic Congestion Relief Program (TCRP); and
  - Cap-and-Trade Program;
- Local Sources:
  - Measure R Sales Tax;
  - Local Agency Funds;
  - Proposition A Sales Tax;
  - Proposition C Sales Tax; and
  - Measure M Sales Tax.

While working on the DEIS/DEIR, Metro found that all the build alternatives would cost more than what had been reserved for the project in the 2009 LRTP, with the LRT alternatives projected to cost significantly more than $170.1 million in reserved funds. FTA, as lead agency for the DEIS/DEIR, declined to advance the joint environmental document because a reasonable and achievable funding package was not identified. Subsequently in November 2016, Measure M was passed by Los Angeles County voters, which estimated $1.3 billion in funding for the proposed project. The projects will receive $205 million in Transit and Intercity Rail Capital Program (TIRCP) funds and $202 million in State Transportation Improvement Program (STIP) funds. Additional revenue sources may need to be identified to fund the full cost of the LPA. These costs would be subject to change when more detailed advanced conceptual and preliminary engineering studies are conducted during the later phases of project development.

6.2.3.1 Federal Sources

Congestion Management and Air Quality Program

The Congestion Management and Air Quality (CMAQ) program is a federal formula grant program for projects that contribute to attainment of national ambient air quality standards. The CMAQ program is also programmed for rail and bus operations and can be used for the first three years of operation of individual new rail and bus projects.

Regional Surface Transportation Program

Established by California statute, the RSTP program funds projects through use of the Surface Transportation Program, in accordance with Section 133(f) of Title 23 of the United States Code. Of the $470 million apportioned annually, 76 percent is directed to California's eleven urbanized areas with a population greater than 200,000.

6.2.3.2 State Sources

Regional Improvement Program Funds

Regional Improvement Program (RIP) funding is derived from the State Highway Account and programmed in the State Transportation Improvement Program (STIP). Funds in the State Highway Account are comprised of state fuel excise taxes, truck weight fees, and other state transportation revenues as well as California's allocation of federal highway trust funds. Within the STIP, 75 percent of the funding is allocated and programmed by regional transportation planning agencies such as Metro under the RIP. The remaining 25 percent is programmed by the state under the Interregional Improvement Program.

Using a fund estimate prepared by the California Department of Transportation (Caltrans), the California Transportation Commission develops the annual RIP programming targets for each agency. Metro selects and programs the projects to be funded. Metro has programmed and reprogrammed its STIP projects to conform to the targets, which are subject to changes related to the level of funds available and the extent of borrowing of transit revenues by the state for use in balancing the state budget.

Cap-and-Trade Program

The Cap-and-Trade Program provides for the quarterly auction of emissions allowances, which are purchased by greenhouse gas emitters. The program deposits the proceeds into the state's Greenhouse Gas Reduction Fund. These auction proceeds are then reinvested though 12 programs that further the objectives of the Global Warming Solutions Act of 2006 (Assembly Bill 32) by reducing greenhouse gas emissions while also delivering benefits to disadvantaged communities. One of the 12 programs, the Transit and Intercity Capital Rail Program, is a competitive, multi-year grant program to fund a broad range of capital improvements for bus, rail, and ferry systems that reduce greenhouse gas emissions by decreasing vehicle miles traveled.

6.2.3.3 Local Sources

Measure R Sales Tax

A significant portion of the project would be funded with Measure R funds, which are collected through a sales tax for the purpose of making transportation investments in the county. Measure R, a half-cent transportation sales tax approved in November 2008 by Los Angeles County voters, is intended to meet the transportation needs of the county. This is the third half-cent transportation sales tax implemented in Los Angeles County; the others were Proposition A and Proposition C. Collection of the Measure R tax began on July 1, 2009, for public transit purposes (rail expansion, local street improvements, traffic reduction, improved public transportation, and quality of life) for a period of 30 years.

Metro is responsible for administering the Measure R revenues. The revenues are allocated in accordance with legally binding allocation rules delineated in Los Angeles County Ordinance #08-01, the Metro Formula Allocation Procedure, and Metro Board of Directors actions. Ordinance #08-01 mandates that 65 percent of Measure R revenues be allocated to rail or bus transit. Twelve transit projects were identified in the Measure R ordinance, one of which is the East San Fernando Valley North–South Rapidway (later renamed the East San Fernando Valley Transit Corridor). Funds reserved in Measure R for this project were adequate for funding BRT; however, in June 2018, the Metro Board of Directors selected Alternative 4 Modified: At-Grade LRT as the LPA, requiring additional funds.

Proposition A Sales Tax

Proposition A is a half-cent sales tax, which is designated for transportation projects throughout Los Angeles County. Proposition A was approved in 1980 by county voters and was instrumental in the advancement of several projects, including the Metro Blue Line to Long Beach and Metro Red Line to North Hollywood.

Proposition C Sales Tax

Proposition C was also approved by county voters in 1990 as a half-cent sales tax for transportation improvements throughout the county. Revenues from the sales tax are distributed to five different categories, including 5 percent to rail and bus security; 10 percent to commuter rail facilities, transit centers, and park-and-ride lots; 25 percent to transit-related improvements to streets and highways; 20 percent as local return; and 40 percent as discretionary revenue for capital and operations improvement projects.

Measure M Sales Tax

In 2016, Los Angeles voters passed the Measure M Sales Tax. This measure included projects that were identified by staff members as necessary to improve and enhance system connectivity; promote bicycling and walking; support Americans with Disabilities Act/paratransit services for the disabled; provide discounts for students and seniors; invest in bus and rail operations; implement ongoing system maintenance and repair, including repair of bridges and tunnels; and fund repairs and enhancements for local streets and roads. To fund these projects and programs, the Metro Board of Directors agreed, at its June 2016 meeting, to place a measure on the ballot in November 2016 that would augment Measure R with a new half-cent sales tax and extend the current Measure R tax rate to 2057.

In March 2016, the Metro Board of Directors released the draft Potential Ballot Measure Expenditure Plan for public review. The draft plan anticipates expenditures of more than $120 billion over a period of 40 or more years. It relies on the following funding assumptions: a half-cent sales tax augmentation to begin in fiscal year 2018 and an extension of an existing half-cent sales tax rate beyond the current expiration of Measure R in 2039, with a combined one-cent sales tax sunset in 2057 and a partial extension for ongoing repairs, operations, and debt service. The draft plan currently identifies the East San Fernando Valley Transit Corridor Project for a total of $1.33 billion in funding, including $810 million from potential ballot measure revenues and $520 million from other LRTP revenues. The project, as defined in the draft plan, would be a high-capacity transit project, with mode to be determined, that would connect the Metro Orange Line Van Nuys station to the Sylmar/San Fernando Metrolink station and consist of at least 14 stations over 9.2 miles.

Local Agency Funds

The Measure M Expenditure Plan calls for local jurisdictions to provide 3 percent of total project costs for Measure M transit projects. Approximately 3 percent of the total cost of the ESFVTC Project will be provided from local agency funds.

Chapter 7
Public and Agency Outreach

7.1 Introduction and Summary of Outreach Efforts

The Los Angeles County Metropolitan Transportation Authority (Metro) initiated a comprehensive outreach program for the East San Fernando Valley Transit Corridor (ESFVTC) Project in 2011, at the outset of the Alternatives Analysis (AA) phase. Metro has continued to keep elected officials, community leaders and the general public informed of the status of the technical analysis and schedule for completion of the environmental documents throughout the preparation of the DEIS/DEIR and this FEIS/FEIR. The outreach program is focused on increasing project awareness and education, disseminating project information, garnering public input, and supporting the technical and legal environmental processes. Through the use of traditional and innovative outreach methods, the outreach activities conducted during the AA, DEIS/DEIR, and post-scoping phases have yielded comments from approximately 900 members of the public, organizations, and public agencies; Metro has hosted and presented at more than 100 meetings, sharing project information with more than 2,900 participants. As the DEIS/DEIR and this FEIS/FEIR were being prepared, Metro continued to provide project updates and answer questions at public meetings throughout the San Fernando Valley. These efforts have included an array of project stakeholders, including elected officials, the San Fernando Valley Council of Governments, resource agencies, the residential and business community (including the chambers of commerce and neighborhood councils), civic and professional organizations, and many others. A complete listing of stakeholders and meetings is included in Appendix DD, Agency Coordination and Public Involvement, to this FEIS/FEIR. A summary of public comments on the DEIS/DEIR is provided in Appendix JJ, and the public comments are included in their entirety in Appendix A1. Responses to those public comments are included in Appendix A2.

Through the use of public open houses, focus groups, workshops, tours, participation in community events, social media outlets, and webinars, project stakeholders have been involved in each of the major technical milestones of the project development process that has occurred to date. The outreach effort has also been guided by the Metro Equity Platform Framework adopted by the Metro Board in February 2018, ensuring outreach includes meaningful engagement with historically underserved communities.

This chapter to the FEIS/FEIR, together with the supporting information included in Appendix CC, Final Scoping Report, and Appendix DD, Agency Coordination and Public Involvement, documents the outreach efforts completed from the AA phase through release of the DEIS/DEIR as well as the outreach conducted to gather public input and support preparation of the FEIS/FEIR.

As the ESFVTC Project nears completion of the planning process and prepares to transition to construction in 2022, Metro will continue a robust public engagement program, comprising traditional and innovative outreach methods to ensure the community is informed and engaged with the project. Metro will continue to provide project developments to the community and to provide meaningful ways for local residents and stakeholders to give their feedback, ask questions and express concerns as construction approaches.

7.2 Background

In 2011, Metro initiated a comprehensive public participation program for the ESFVTC Project. This program used various communication tools to reach out to the large project study area, which encompasses the length of the 10.25-mile project corridor. Stakeholders and interested parties were informed and educated about various project development phases, including the AA phase, DEIS/DEIR phase, and future project development phases, including the FEIS/FEIR and preliminary engineering.

7.3 Public Participation Plan

To inform the public and provide opportunities for comment at key milestones throughout the study, a detailed Public Participation Plan (PPP) was developed at the commencement of the AA phase (included in Appendix CC, Final Scoping Report, to this FEIS/FEIR). The PPP includes community profiles illustrating the unique characteristics of each community within the project area, detailed stakeholder database categories, collateral material recommendations, AA and DEIS/DEIR notification strategies, communication protocols, proposed schedules for interfacing with the public and elected officials, and recommendations for meeting formats throughout both the AA and DEIS/DEIR phases. The PPP served as a blueprint for outreach activities and has been integrated into the technical project schedule.

In order to adapt to the communities' needs and allow appropriate modifications and refinements to the project alternatives, the PPP strategies were flexible, allowing modifications to meet the project demands and political climate when and where necessary. As detailed below, the PPP for the ESFVTC Project is consistent with the outreach requirements outlined in the Moving Ahead for Progress in the 21st Century (MAP-21) and incorporates the public participation requirements of the National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and Federal Transit Administration (FTA) New Starts Program.

7.4 Government and Other Agency Consultation

7.4.1 Section 6002 of SAFETEA-LU

Section 6002 of SAFETEA-LU promotes efficient project management by lead agencies and enhanced opportunities for coordination with the public and other federal, state, local, and tribal government agencies during project development. In accordance with these requirements, Metro, in coordination with FTA, prepared and mailed Participating Agency invitation letters to the following agencies on March 8, 2013:

- California Air Resources Board;
- California Department of Conservation Division of Land Resource Protection;
- California Department of Fish and Wildlife;
- California High Speed Rail Authority;
- California Highway Patrol;
- California Native American Heritage Commission;
- California Office of Historic Preservation;

- California Public Utilities Commission;
- California Transportation Commission;
- California Wildlife Conservation Board;
- California Department of Transportation (Caltrans);
- California Department of Toxic Substances Control;
- California State Clearinghouse;
- Federal Aviation Administration;
- Federal Highway Administration;
- Federal Transit Administration;
- Los Angeles Police Department;
- State Water Resources Control Board;
- Transportation Security Administration;
- US Army Corps of Engineers;
- US Department of Energy;
- US Department of Energy Western Area Power Administration;
- US Department of Housing and Urban Development;
- US Department of the Interior;
- US Environmental Protection Agency; and
- US Fish and Wildlife Service.

Agencies were given until May 6, 2013 (8 weeks from the date of the letter) to respond. None of the agencies invited to be Participating Agencies accepted the invitation to become a Participating Agency.

Considering the role and responsibility of Participating Agencies it was determined that no federal, state, or local agency was to be a cooperating agency, therefore no agencies were invited to be cooperating agencies.

Outreach efforts to agencies affiliated with the project included agency scoping meetings, participation in the Technical Advisory Committee (TAC), and one interagency scoping meeting attended by representatives of Caltrans District 7 and the US Army Corps of Engineers. Additionally, SAFETEA-LU requires that the planning processes "be developed in consultation with all interested parties and provide that all interested parties have reasonable opportunities to comment on the contents of the transportation plan." As part of the outreach program during the AA and DEIS/DEIR phases, Metro has held over 100 meetings with a wide array of stakeholder groups, including:

- 18 community meetings;
- 85 small group meetings, including neighborhood groups, chambers, interested groups, business associations, schools, universities, churches, foundations, and hospitals;
- Six elected official briefings with federal, state, regional, and local officials;
- Five meetings with City of San Fernando and/or City of Los Angeles staff;

- Two meetings with the Board and Transportation Committee of the San Fernando Valley Council of Governments;
- Three meetings with the Metro Board of Directors staff and committees;
- One meeting with regulatory and other agencies, at which only representatives from Caltrans and the Army Corps of Engineers attended, with comments on impacts to freeway ramps, and coordination for Section 408 permits, respectively; and
- 10 TAC meetings.

A complete list of meetings and briefings is included in Appendix DD, Agency Coordination and Public Involvement, to this FEIS/FEIR.

7.4.2 Section 106 Consultation

In accordance with the Section 106 requirements and as a formal initiation, FTA sent a letter to the California SHPO on April 17, 2015 (resubmitted April 28, 2015). FTA and Metro had also consulted informally with SHPO via conference call on April 14, 2013, to discuss the appropriate level of effort for the identification and evaluation of built environment historical resources and determine the appropriate APE. The additional dates of submittals, receipts of response, and details related to Section 106 consultation are listed below:

- FTA submitted the Finding of Effect (FOE), Draft Programmatic Agreement (PA), and Draft Cultural Resources Treatment and Monitoring (CRTMP) to SHPO for review and concurrence on July 30, 2019.
- SHPO responded on August 29, 2019, via letter (FTA_2013_0311_001) and concurred with the Finding of No Adverse Effect for built-environment resources and the No Adverse Effect finding for archaeological site CA-LAN-1124. The letter requested more information for site CA-LAN-2681 in order to provide comments and concurrence on the Finding of Adverse Effect for site CA-LAN-2681.
- Additional information requested by SHPO was provided by FTA to SHPO on September 17, 2019 (FTA_2013_0311_001). SHPO responded via two letters dated February 14, 2020 (FTA_2013_0311_001), and February 20, 2020 (FTA_2013_0311_001), both of which provided additional comment on the Finding of No Adverse Effect for site CA-LAN-2681 and the previously submitted CRTMP. SHPO reviewed the site deposits of CA-LAN-2681 and determined that the site did not represent a “multi-component” site, had disturbed deposits, and was not considered a “historic property” pursuant to 36 CFR 800.4(c). SHPO also indicated that the vicinity of site CA-LAN-2681 had increased sensitivity for intact deposits and that a revised Finding of No Adverse Effect with conditions was recommended for the site and FOE document.
- The February 20, 2020, letter from SHPO requested revisions to the CRTMP, and as part of the revised Finding of No Adverse Effect with conditions, the CRTMP could be revised as a Cultural Resources Monitoring and Data Recovery Plan (CRMDRP) to meet the conditions.
- FTA incorporated SHPO comments, revised, and resubmitted the FOE and the new CRMDRP on June 23, 2020 (FTA_20130311_001). The PA was no longer required due to the revised FOE and was not revised or resubmitted.
- The SHPO has informally concurred with a Finding of No Adverse Effect with Conditions for site CA-LAN-2681. Formal concurrence is pending from SHPO.

- During preparation of the DEIS/DEIR, Metro contacted local historic groups and stakeholders who potentially have an interest in the project. The following local historic groups and stakeholders were contacted as part of the Section 106 consultation:
- Agencies;
    - State Office of Historic Preservation;
    - Native American Heritage Commission;
    - Federal Transit Administration;
    - Los Angeles County Metropolitan Transportation Authority;
- Native American Tribes;
    - Rosemary Morillo, Chairperson, Soboba Band of Luiseño Indians;
    - Sandonne Goad, Chairperson, Gabrielino/Tongva Nation;
    - Rudy Ortega, Jr. President, Fernandeno Tataviam Band of Mission Indians;
    - Robert F. Dorame, Tribal Chair, Gabrielino Tongva;
    - Julie Lynn Tumamait-Stenslie, Chair, Barbareno/Ventureno Band of Mission Indians;
    - Linda Candelaria, Co-Chairperson, Gabrielino-Tongva Tribe;
    - John Valenzuela, Chairperson, San Fernando Band of Mission Indians;
    - Andrew Salas, Chairperson, Gabrieleno Band of Mission Indians—Kizh Nation;
    - Anthony Morales, Chairperson, Gabrieleno/Tongva San Gabriel Band of Mission Indians;
- Interested Parties;
    - Ken Bernstein, Planning Manager, City of Los Angeles Office of Historic Resources, (200 N. Spring Street, Los Angeles, CA 90012, ken.bernstein@lacity.org);
    - Richard Bruckner, Director of Planning, County of Los Angeles Regional Planning (320 W. Temple Street, 13th Floor, Los Angeles, CA 90012, rbruckner@planning.lacounty.gov);
    - Michelle De Santiago, City of San Fernando (117 Macneil Street, San Fernando, CA 91340, mdesantiago@ci.san-fernando.ca.us);
    - Kenneth Marcus, President, Historical Society of Southern California (Post Office Box 93487, Pasadena, CA 91109, hssc@socalhistory.org.); and
    - Adrian Scott Fine, Director of Advocacy, Los Angeles Conservancy (523 W. 6th Street, Ste. 826, Los Angeles, CA 90014, afine@laconservancy.org).

Metro also contacted and consulted with Native American groups, as identified in the Native American Heritage Commission's scoping comment letter submitted on March 17, 2016. An inventory of properties within the APE are listed in the National Register of Historic Places, as well as those properties potentially eligible for listing, has been conducted. SHPO's concurrence on the determinations of effects for federal historic resources occurred on April 5, 2017, with a follow-up letter from the SHPO on June 21, 2017. (Refer to Section 4.16, Historical, Archaeological, and Paleontological Resources, and Appendix S, Cultural Resources Technical Report, for more information.)

As part of preparation of this FEIS/FEIR, it was determined that the two identified archaeological sites in the immediate vicinity of the project alignment are considered sensitive for containing previously undiscovered archaeological resources, but neither has been determined, based on consultation with the SHPO, to be an eligible historic property (pursuant to 36 CFR 800.4(c)). However, because of the sensitivity of the sites, archaeological monitoring is recommended within a 50-foot buffer of areas within the project footprint. With implementation of appropriate mitigation and avoidance measures, the LPA has low potential with respect to encountering and adversely affecting archaeological resources and human remains (please refer to Section 4.16, Cultural Resources).

7.4.2.1 Tribal Coordination

During preparation of the DEIS/DEIR, the team conferred with the Native American Heritage Commission, local California Indian organizations, and interested public historical and cultural organizations. The Native American Heritage Commission conducted a search of the sacred lands file and provided the results on March 17, 2016. As recommended by the Native American Heritage Commission, individuals who may have further knowledge of sacred or prehistoric cultural resources within the project area were contacted. These included individuals from the San Fernando Band of Mission Indians, Gabrielino/Tongva San Gabriel Band of Mission Indians, Gabrieleno Band of Mission Indians-Kizh Nation, Gabrielino/Tongva Nation, Fernandeno Tataviam Band of Mission Indians, Soboba Band of Luiseno Indians, Gabrielino-Tongva Tribe, and the LA City/County Native American Heritage Commission. Coordination with SHPO, interested parties of the Native American Heritage Commission, and the Native American community is ongoing. A complete list of all parties consulted during preparation of the DEIS/DEIR is included in Appendix DD, Agency Coordination and Public Involvement, to this FEIS/FEIR.

As of July 1, 2015, Public Resources Code Sections 21080.3.1 and 21080.3.2 require public agencies to consult with Native American tribes identified by the Native American Heritage Commission for the purpose of mitigating impacts to tribal cultural resources. It should be noted that this proposed project's environmental analysis began with the Notice of Preparation and Public Scoping period in March 2013, and thus pre-dates the new requirements under Public Resources Code Sections 21080.3.1 and 21080.3.2. Therefore, tribal coordination as described in the preceding paragraph was carried out according to the protocol prior to passage of AB 52, which established Public Resources Code Sections 21080.3.1 and 21080.3.2. Also, please note that coordination was conducted with tribes that are not federally listed; therefore, formal consultation with the tribes in accordance with Section 106 requirements is not required.

7.4.3 US Army Corps of Engineers Coordination

Teleconference calls were conducted with the US Army Corps of Engineers on August 24, 2018 and October 12, 2018. The first teleconference call provided an update on the LPA to the US Army Corps of Engineers and discussed the potential for impacts on the Los Angeles River and Pacoima Wash and the possible need for a 408 permit or approval. In the second teleconference call, information on the 408 permit and approval process was provided by the US Army Corps of Engineers.

7.5 Community Outreach

A variety of notification tools were used during the AA, DEIS/DEIR, and FEIS/FEIR phases to reach out to targeted audiences. Outreach methods included:

- Direct mail notification;
- Email notifications;
- Metro press releases;

- Newspaper display ads and online ads;
- Meetings with cities, chambers of commerce, Councils of Governments, and educational institutions;
- Placement of pamphlets on Metro buses;
- Stakeholder briefings;
- Posters at key locations along the corridor;
- Project website;
- Project helpline;
- School district meeting flyers;
- Social media – Facebook and Twitter;
- Online blogs;
- City and chamber newsletters;
- City cable channels and electronic boards;
- Door-to-door canvassing efforts; and
- Information booths at various community events.

This set of notification tools was customized throughout the AA and DEIS/DEIR phases of the project, taking into account cost-effectiveness and trying to maximize stakeholder participation.

Throughout the AA and DEIS/DEIR phases, a variety of informational documents were made available to the public. These included project fact sheets, frequently asked questions, meeting notices, electronic newsletters/e-bulletins, and other collateral materials. In addition, a complete set of collateral pieces were developed and distributed at community meetings, stakeholder briefings, and public events, as well as electronically when requested. These collateral materials were updated throughout the project development process and were produced in English and Spanish. These materials are included in Appendix DD, Agency Coordination and Public Involvement, to this FEIS/FEIR.

7.5.1 Alternatives Analysis Phase

As discussed above, in 2011, Metro initiated the AA phase of the ESFVTC Project. The focus of the outreach program during the AA phase was to increase project awareness and initiate public participation in the multi-phased project development process. Public participation during this phase assisted in the refinement of alternatives. Ultimately, during the AA phase, 26 project alternatives were narrowed down to six.

At the outset of the AA phase, early scoping was conducted for the project. A total of 14 early scoping meetings, including 11 community meetings and three elected official briefings, were held between October 6, 2011 and October 9, 2012. Meeting locations were selected to maximize attendance and community input. Interpreters were available at the 11 community meetings to provide simultaneous Spanish translation as well as a court reporter to document the meeting. A detailed list of the early scoping meeting dates and times is included in Appendix DD, Agency Coordination and Public Involvement, to this FEIS/FEIR.

A total of 175 attendees, representing a cross section of the project area communities, participated in the early scoping meetings held in 2011 through 2012. Participants were well versed on the issues and opportunities associated with the proposed ESFVTC Project and commented on various topics, including LRT and BRT modes, their preferred alignment, and terminus points. The community ultimately voiced support for LRT as the preferred mode of transit. A comprehensive summary of information presented and comments received at these meetings is included in Appendix DD, Agency Coordination and Public Involvement, to this FEIS/FEIR.

7.5.2 DEIS/DEIR Phase

The scoping period began with the publication of the Notice of Preparation/Notice of Intent on March 1, 2013 and continued through May 6, 2013. During the 65-day scoping period, Metro hosted a total of six scoping meetings, including four public meetings, an elected officials briefing, and one agency scoping meeting. The meetings were attended by approximately 150 people. These meetings included:

Public Scoping Meetings

- Saturday, March 16, 2013, 10:00 a.m.–12:00 p.m., Panorama High School, Panorama City;
- Tuesday, March 19, 2013, 6:00–8:00 p.m., City of San Fernando Regional Pool Facility, City of San Fernando;
- Thursday, March 21, 2013, 6:00–8:00 p.m., Arleta High School, Arleta; and
- Wednesday, March 27, 2013, 4:00–6:00 p.m., Marvin Braude Constituent Service Center, Van Nuys.

Public Agency Scoping Meetings

- Wednesday, March 20, 2013, Metro Headquarters, Los Angeles.

Elected Officials Briefing

- Friday, March 8, 2013, Van Nuys Civic Center, Van Nuys.

In addition to the official scoping meetings, Metro also participated in various City and stakeholder events, as requested by the respective groups, to enhance the outreach effort and increase awareness during the scoping period.

During the 65-day scoping period, Metro accepted oral comments at meetings and via the project helpline, written comments on meeting comment card, via letters, e-mailed comments to the Metro project manager, social media comments via Facebook and Twitter and electronic comments via the Metro project website. A total of over 400 oral and/or written public comments were received from agencies and the public, including elected officials, residents, grassroots organizations, chambers of commerce, developers, hospitals, agencies, educational institutions, and businesses.

The comments received demonstrated substantial support for LRT as the preferred transit mode. Other common themes included strong support of bike lanes and bicycle facilities, improvements to existing bus operations, and ensuring the proposed project connects with any future transit line along the Sepulveda Transit Corridor in order to maintain the connection between the eastern San Fernando Valley and Westwood provided previously by Metro Rapid Line 761, which, since publishing the DEIR/DEIS, has been changed to Metro Rapid Line 734, providing similar service.

Appendix CC, Final Scoping Report, to this FEIS/FEIR, includes the scoping comment log, which lists all comments received during the scoping period.

7.5.3 Post-Scoping

Outside of the scoping period and during preparation of the technical reports and DEIS/DEIR, Metro hosted additional community meetings. These meetings included:

- Thursday, November 6, 2014, 6:00–7:30 p.m., San Fernando Regional Pool Facility, City of San Fernando;
- Wednesday, November 12, 2014, 4:30–6:00 p.m.,- Marvin Braude Constituent Service Center, Van Nuys; and
- Thursday, November 13, 2014, 6:00–7:30 p.m., Pacoima Neighborhood City Hall, Pacoima.

Focus group meetings were also hosted by Metro to elicit feedback from the various business owners and employees along the Van Nuys Boulevard corridor. Nine meetings were held on:

- Friday, March 6, 2015, 9:00–10:00 a.m., Van Nuys Recreation Center, Van Nuys;
- Monday, March 9, 2015, 8:30–9:30 a.m., Los Tres Hermanos Restaurant, Van Nuys;
- Tuesday, March 10, 2015, 8:30–9:30 a.m., Plaza del Valle Community Room, Panorama City;
- Thursday, March 12, 2015, 10:00–11:00 a.m., Marvin Braude Constituent Center, Van Nuys;
- Friday, March 13, 2015, 8:30–9:30 a.m., San Fernando City Hall Community Room, San Fernando;
- Monday, March 16, 2015, 10:00–11:00 a.m., Hometown Buffet, Panorama City;
- Tuesday, March 24, 2015, 8:30–9:30 a.m., La Sirenita Restaurant, Panorama City;
- Wednesday, March 25, 2015, 8:30–9:30 a.m., Pacoima Neighborhood City Hall, Pacoima; and
- Thursday, March 26, 2015, 9:00–10:00 a.m., Van Nuys Multipurpose Center, Van Nuys.

7.6 Public Hearings

Following the release of the DEIS/DEIR, a 60-day public comment period was held from September 1, 2017, to October 30, 2017. Five Public Hearings were held to receive oral and written comments on the DEIS/DEIR. The Public Hearings were held along the corridor in the Cities of Los Angeles and San Fernando. Metro provided notice of these Public Hearings in compliance with CEQA and NEPA and followed similar notification methods that proved effective during scoping. The public meetings were promoted using a variety of notification strategies including:

- E-mail notification;
- Metro press release to local and regional print, broadcast and online English and Spanish media outlets;
- Placement of notices in Metro buses;
- Project website;
- Project helpline;
- Los Angeles Council District offices;
- City of San Fernando City Hall;

- Local schools;
- Local libraries;
- Local churches;
- "Take-One" brochures with meeting and study information to federal and state legislative offices, schools, senior centers, recreation/community centers, and libraries;
- Flyers during Parent-Teacher night at Arleta High School;
- Flyers, as requested, to the Arleta Neighborhood Council for distribution among members;
- The Walking Man Inc. was hired to distribute take-One brochures door-to-door to targeted business locations along the entire project corridor;
- Metro's blogs, The Source and El Pasajero;
- Display advertisements in the Los Angeles Daily News and La Opinion newspapers;
- Facebook ads targeted to San Fernando Valley Residents;
- E-blasts in advance of each set of meetings with meeting and study information on multiple dates leading up to the meetings;
- Neighborhood Councils;
- Homeowners associations, chambers of commerce business advocacy organizations such as the Valley Industry & Commerce Association (VICA); and
- Eastern San Fernando Valley Transit Coalition.

During the formal comment period for the DEIS/DEIR, agencies and the public were able to submit comments in writing directly to Metro and FTA. Comments were also received at the Public Hearings through a court reporter. The DEIS/DEIR was also made available on Metro's website, at www.metro.net/projects/east-sfv. CDs and paper copies were available for public review at the Public Hearings and at the following depositories:

- Metro Records Management Center, Plaza Level, One Gateway Plaza, Los Angeles, CA 90012, rmc@metro.net;
- Metro Transportation Library, One Gateway Plaza, Los Angeles, CA 90012, 15th floor, (213) 922-4859, mailto:library@metro.net;
- Lake View Terrace Branch Library, 12002 Osborne Street, Lake View Terrace, CA 91342;
- Los Angeles Public Library, Central Library, 630 W. 5th Street, Los Angeles, CA 90071;
- Los Angeles Public Library, Van Nuys Branch, 6250 Sylmar Avenue, Van Nuys, CA 91401;
- Pacoima Branch Library, 13605 Van Nuys Boulevard, Pacoima, CA 91331;
- Panorama City Branch Library, 14345 Roscoe Boulevard, Panorama City, CA 91402;
- San Fernando Library, 217 North Maclay Avenue, San Fernando, CA 91340;
- Sherman Oaks Branch Library, 14245 Moorpark Street, Sherman Oaks, CA 91423; and
- Sylmar Branch Library, 14561 Polk Street, Sylmar, CA 91342.

The following churches were contacted by phone and a follow-up email was sent with information about the public hearings with an electronic copy of the fact sheet; hard copies were delivered when requested:

- Saint Elizabeth's Church;
- Victory House;
- Bible Baptist Church;
- St. Mark's Episcopal Church;
- Church on the Way;
- Church of the Valley;
- Mary Immaculate Catholic Church; and
- Our Lady of Peace Catholic Church.

At the release of the DEIS/DEIR, Metro held a briefing for elected officials and their staff who represent the project study area at the San Fernando City Hall. Metro presented a preview of the information to be shared at the Public Hearings and encouraged the elected officials' offices to help publicize the upcoming Public Hearings.

Five public hearings were held at different locations along the project's 9.2-mile corridor from September 14 to 23, 2017. Dates, times and locations were varied to maximize opportunities for people to attend during the day or evening and in traditional government buildings as well as welcoming settings like churches and schools. The first Public Hearing was U-streamed live and was available for viewing on the project website for those who could not attend in person. A Spanish interpreter was available at all meetings in addition to bilingual staff. The format of the meeting was an open house, which consisted of five information stations that attendees could visit and interact with the technical team. The public outreach team developed a "Road Map" and "Key Terms" handouts to guide the experience for meeting attendees. A presentation was given by Project Manager, Walt Davis, followed by the oral public comment period. Stakeholders were given 2 minutes to comment, and translation was available to record comments. Approximately 350+ persons attended the public hearings.

The Public Hearings held were as follows:

- Thursday, September 14, 2017, 6–8 p.m.
  City of San Fernando Regional Pool Facility
  208 Park Avenue, San Fernando, CA 91340
  www.ustream.tv/channel/eastsfv
- Monday, September 18, 2017, 8:30–11 a.m.
  Zev Yaroslavsky Family Support Center
  7555 Van Nuys Boulevard, Van Nuys, CA 91405
- Monday, September 18, 2017, 5–8 p.m.
  Valley Municipal Building, Council Chambers
  14410 Sylvan Street, 2nd Floor, Van Nuys, CA 91401
- Wednesday, September 20, 2017, 9–11:30 a.m.
  Pacoima Charter Elementary School Auditorium
  11016 Norris Avenue, Pacoima, CA 91331

- Saturday, September 23, 2017, 9 a.m.–noon
  St. Mark's Episcopal Church
  14646 Sherman Way, Van Nuys, CA 91405

In addition to the Public Hearings, on October 10, 2017, Metro hosted an informational meeting for businesses and property owners who had been notified that the property they own/lease is under consideration by the Federal Transit Administration and Metro for possible acquisition. Metro staff from Planning, Real Estate, and Community Relations were present to respond to questions. The meeting took place at the Van Nuys State Building auditorium. Approximately 120 people attended, including staff from local elected officials, business advocacy organizations, and the media. To allow for more public input, Metro extended the comment period from 45 to 60 days. The public outreach team conducted door-to-door visits to business and property owners located within right-of-way acquisition areas to provide flyers, explaining the project, and invite their attendance at the meeting.

7.6.1 Local Event Participation

The project outreach team continued to build and sustain ties with the community-at-large surrounding the corridor to make them aware of the project and latest developments. These events included tabling to provide more information about the project, project-specific poster boards, and informational brochures were made available for the public. The team participated in the following events subsequent to the DEIS/DEIR public review period:

- Saturday, March 31, 2018, San Fernando Street Fest;
- Thursday, May 3, 2018, Annual Resource Fair at Pacoima Charter School;
- Tuesday, June 19, 2018, ESFVTC + Metro Orange Line Van Nuys Open House;
- Sunday, June 24, 2018, CicLAvia the Valley;
- Saturday, August 4, 2018, First Annual Panorama Family Health and Resource Fair;
- Saturday, August 18, 2018 Government Day at Panorama Mall (sponsored by Assembly Member Nazarian);
- Saturday, October 27, 2018, 22nd Annual Latino Expo and Dia de Los Muertos; and
- December 18–23, 2018, Business Outreach: Door-to-door visits to MSF Options A, B, C survey administered.

7.6.2 First-Last Mile Outreach

During the preparation of the FEIS/FEIR, Metro launched the planning efforts for the First-Last Mile (FLM) Plan. The FLM Plan is an approach for identifying barriers and strengths in planning and implementing improvements for the first/last mile portions of an individual’s journey. It provides an adaptable vision for addressing FLM improvements in a systematic way, and results in data and information to justify taking those actions.

As with previous phases of the project, a robust community engagement program was a foundational element of the planning process. The relationships the Metro project team had built over the years with trusted community leaders, elected officials, non-profits and other organizations were critical to the success of the First/Last Mile Plan outreach strategy.

The outreach team contacted more than 40 community-based organizations, schools, churches, neighborhood councils, chambers of commerce, elected officials, and city staff members to participate in walk audits along the corridor and help plan for the future stations as part of the FLM planning process. The purpose of the walk audits were to collect and evaluate existing conditions using a web-based app to identify barriers, opportunities, and ideas for improving access to and from the future stations. Invitations issued for the walk audit noted that all were welcome to participate, and technical and language support would be provided.

To ensure equity in participation from the underserved communities along the alignment, Metro procured the services of the environmental justice organization Pacoima Beautiful and community-based organization Safe Moves to facilitate increased grass-roots participation from local residents. This partnership provided the project team with additional access to Spanish speaking transit users or "community planners" to participate in the FLM process. The collaboration with organizations that are greatly trusted by the community provided Metro with key insights from the transit-dependent community members who are likely to ride the ESFVTC Project.

Participants in the walk audits were provided with a brief presentation on the project and training on how to use a the web based app. At the walk audit in Panorama City, staff presented in Spanish to better familiarize Spanish-speaking participants with the FLM process and how to utilize the walk audit app in Spanish.

Teams were formed of two or three participants and assigned a specific area along the audit. The auditors and designated scribes entered data in real time as they walked along the corridor through a Metro web-based mobile app. Bilingual Metro and consultant staff accompanied the walk audit groups to scribe the comments and observations made by the Spanish-speaking participants. The teams reconvened at the end of the walk audits and were able to view the information they had recorded. The walk audits took place at the following dates, times and locations:

- San Fernando Station, Saturday February 9, 2019, 9:30 a.m.–12:30 p.m. Location: San Fernando City Hall, 117 Macneil Street. Walk audit: Maclay Avenue.
- Arleta/Pacoima Stations, Monday February 11, 2019 2–5 p.m. Location: Pacoima City Hall, Media Room, 13520 Van Nuys Boulevard. Walk audit: Laurel Canyon Boulevard and Van Nuys Boulevard/San Fernando Road.
- Panorama City Stations, Wednesday, February 11, 2019, 2–5 p.m. Monday, February 11, 2019, 2 p.m. – 5 p.m. Location: Plaza del Valle, Space 62, 8610 Van Nuys Boulevard. Walk audit: Roscoe Boulevard and Nordhoff Street.
- Van Nuys Stations, Friday February 15, 2019, 9:30 a.m.–12:30 p.m. Location: Marvin Braude Building, Room 1B, 6262 Van Nuys Boulevard. Walk audit: Oxnard Street, Vanowen Street, and Sherman Way.

Recognizing that many area residents would not be able to participate in the walk audits due to work or family constraints and other barriers, the FLM team developed a bilingual survey that the outreach team could take directly to the community to collect feedback. The survey included questions about what is important to the community in terms of improvements such as lighting, street crossings, bike paths, wayfinding, shade, etc. The team presented the project and survey at the following locations:

- Earth Day at Woodley Park, April 27, 2019;
- Environmental Fair and Expos at Zev Yaroslavsky Family Support Center, April 27, 2019;
- Panorama High School Coffee with the Principal, May 2, 2019;
- Annual Resource Fair at Pacoima Charter School, May 2, 2019;
- Arleta High School Coffee with the Principal, May 3, 2019;
- Van Nuys High School Coffee with the Principal, May 7, 2019;

- Sharp Elementary School Coffee with the Principal, May 9, 2019; and
- Friends of the Family – Family Day, Devonwood Park, June 27, 2019.

In June 2019, the team conducted community workshops and participated in Pacoima Beautiful's Prende El Sol (a solar-power community event), which was co-hosted by the office of Los Angeles City Councilmember Monica Rodriguez in Sun Valley. The project team presented the draft pedestrian pathways/bike networks identified by the technical team and walk audit participants to facilitate and encourage additional input from event participants. Stakeholders had the opportunity to visit different interactive stations and participate in the family-friendly bike rodeo, which was hosted by Safe Moves.

At the Prende El Sol event, each FLM station had visual displays of the draft pathways and the type of potential improvements for that particular area. Each person received six FLM stickers (three for the bike network and three for pedestrian) to identify the type of improvements they felt were most important for the area. More than 300 people attended the workshops which took place at the following dates, times, locations:

- FLM Pop-Up at the Pacoima Beautiful "Turn on the Sun" Resource Fair Event, June 8, 2019;
- FLM Workshop – Las Palmas Park, San Fernando, June 11, 2019;
- FLM Workshop – Van Nuys State Building, June 12, 2019;
- FLM Workshop – Plaza del Valle, Panorama City, June 15, 2019; and
- FLM Pop-Up – Pacoima Neighborhood Council, June 19, 2019.

7.7 Accommodations for Minority, Low-Income, and Persons with Disabilities

Metro has employed a wide range of innovative outreach strategies to include and solicit feedback from minority and low-income individuals as well as those who may speak Spanish and/or have limited English proficiency. Metro has long recognized there may be many barriers that make it difficult for local residents to attend Metro-hosted meetings, including mistrust of government, work responsibilities, family/caregiver responsibilities, dependence on public transit, and language barriers.

The communities along the ESFVTC are diverse, with approximately 71.7 percent Hispanic or Latino, 16 percent White (Non-Hispanic), 7.1 percent Asian, and 3.5 percent Black/African American (Non-Hispanic). In addition, of the 256 block groups in the project study area, 239 contain low-income populations; 100 percent of the block groups adjacent to the project area contain low-income populations and 93.4 percent of the project study area contains low-income populations. Low-income households are defined as below 80 percent of the Area Median Income (AMI).

Strategies to reach minority, low-income, and disabled populations included holding meetings in transit-accessible locations and at a variety of meeting times, including nights and weekends, in order to allow maximum participation. Metro has built relationships with trusted community leaders, organizations, and schools to disseminate project information and collect feedback through small-group presentations and tabling at "pop-up events" like community health fairs, art festivals, and school events. Bilingual (English/Spanish) announcements and briefings to neighborhood councils, local business groups, and non-governmental organizations were provided. These announcements and briefings were also posted in a widely distributed Spanish-language newspaper, *La Opinión*. All meeting brochures and collateral materials were produced bilingually (English/Spanish). In addition, Metro produced a bilingual document for the public so that meeting attendees could easily request project materials in Spanish or English. The bilingual request document were written in both Spanish and English to ensure stakeholders' full comprehension. All meeting venues were Americans with Disabilities Act (ADA) compliant and accessible.

Specific meeting materials included:

- Fact Sheet;
- Posters;
- Flyers;
- Contact card;
- Comment Sheet;
- Welcome Road Map;
- PowerPoint Presentation to provide an overview of the project;
- Frequently Asked Questions;
- Media Kits; and
- Display Boards.