# Canoga Transportation Corridor

## Draft Environmental Impact Report

SCH No.: 2007071056


Metro™

March 3, 2008

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SCH No. 2007071056

Los Angeles County Metropolitan Transportation Authority
One Gateway Plaza
Los Angeles, CA 90012

Contact Person:

Walter Davis

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# TABLE OF CONTENTS

## LIST OF TABLES

## LIST OF FIGURES

# 1.0 INTRODUCTION

## 1.1 PURPOSE OF THIS EIR

This Environmental Impact Report (EIR) has been prepared to meet the requirements of the California Environmental Quality Act (CEQA). The document describes the environmental setting and consequences of the construction and operation of the Canoga Transportation Project, Metro Orange Line Extension (North) to the public and involved agencies. The report also identifies and evaluates alternatives, and proposes mitigation measures to reduce potentially significant environmental impacts. The environmental review process also provides an opportunity for public participation to further inform the environmental analysis. The Los Angeles County Metropolitan Transportation Authority (Metro) is the Lead Agency for compliance with CEQA and will take action on the Final EIR and the Canoga Transportation Project. This EIR does not make recommendations regarding the approval or denial of the Project.

An EIR is an informational document, which informs public agency decision makers, and the public of the potentially significant environmental effect of a project, identifies possible ways to minimize the significant effects, and describes reasonable alternatives. Several agencies will evaluate this EIR and will be involved in the review process of the Final EIR. Metro will consider the information in the EIR along with other information, which may be presented to the agency, prior to the approval of the Project. Other agencies, several Departments of the City of Los Angeles will also be involved in reviewing and approving the Project.

## 1.2 AUTHORIZATION AND FOCUS

In accordance with *CEQA Guidelines* Section 15121(a), the purpose of an EIR is to serve as an informational document that will generally inform public agency decision makers and the public of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. *CEQA Guidelines* Section 15151 contains the following standards for EIR adequacy:

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

An EIR is an informational document for use by decision makers and the public in their review of the potential impacts of a proposed project, as well as in the evaluation of alternatives and mitigation measures which may minimize, avoid, or eliminate those impacts. As such, this document includes a full discussion of the project description, the existing environmental setting, environmental impacts, mitigation measures, and residual impacts that may exist after mitigation has been implemented.

To gain the most value from this report, certain key points recommended in the *CEQA Guidelines* should be kept in mind:

- This report should be used as a tool to give the reader an overview of the possible ramifications of the proposed project. It is designed as an "early warning system" with regard to potential environmental impacts and subsequent effects on the local community's natural resources.

- A specific environmental impact is not necessarily irreversible or permanent. Incorporating changes recommended in this report during the design and construction phases of project development can wholly or partially mitigate most impacts, particularly in more developed urban areas.

As the public agency with the authority to approve or deny the proposed project, Metro will consider the information in the EIR along with other information before taking any action on the proposed project. The conclusions of the EIR regarding environmental impacts do not control Metro's discretion to approve, deny, or modify the proposed project, but instead are presented as information intended to aid the decision-making process.

As described in Section 15143 of the *CEQA Guidelines*:

> *"The EIR shall focus on the significant effects on the environment. The significant effects should be discussed with emphasis in proportion to their severity and probability of occurrence. Effects dismissed in an Initial Study as clearly insignificant and unlikely to occur need not be discussed further in the EIR unless the Lead Agency subsequently receives information inconsistent with the finding in the Initial Study."*

In compliance with CEQA, the Metro completed a multi-step process to determine the appropriate scope of issues to be examined in the EIR. A Notice of Preparation (NOP) was circulated to responsible agencies and interested parties, including the State Clearinghouse (SCH# 2007071056), describing the proposed project and requesting comments, between July 13, 2007 and August 13, 2007 (see Appendix A). In accordance with *CEQA Guidelines*, an agency scoping meeting was held July 24, 2007 and two public scoping meetings were held on July 26, and July 30, 2007. Public and agency comments were obtained regarding the NOP for a period of 30 days (See Appendix A for a copy of the NOP, and comments received).

The content of this EIR was established based on the NOP and input received in response to the NOP.

## 1.3 PROJECT PROPONENT AND LEAD AGENCY

The Los Angeles County Metropolitan Transportation Authority (Metro) is both the Lead Agency and project proponent.

## 1.4 PUBLIC REVIEW AND COMMENTS

This EIR has been prepared to meet all of the substantive and procedural requirements of CEQA (California Public Resources Code Section 21000 et seq.), and the *CEQA Guidelines* (California Code of Regulations (CCR), Title 14, Section 15000 et seq.). Accordingly, Metro is the Lead Agency for this

proposed project, taking primary responsibility for conducting the environmental review and approving or denying the project.

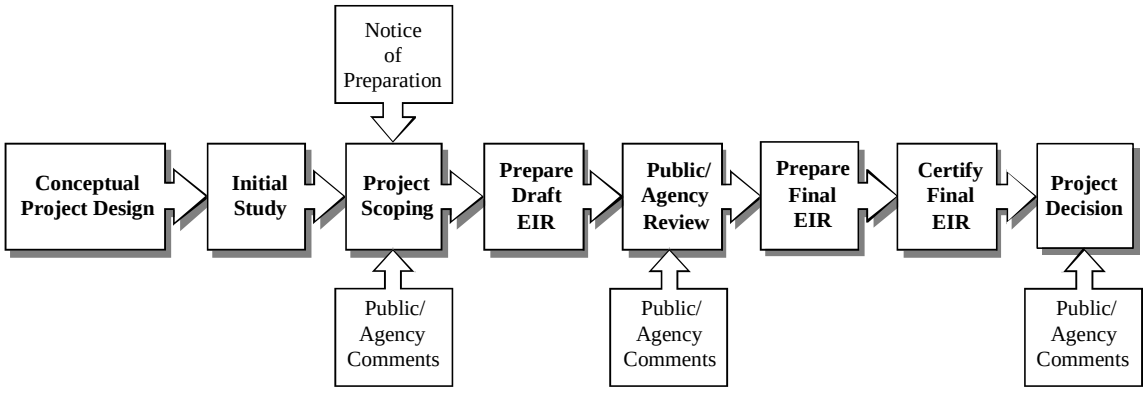
As a first step in complying with the procedural requirements of CEQA, Metro published a Notice of Preparation, and subsequently held two public scoping meetings to determine whether any aspect of the project, either individually or cumulatively, could cause a significant effect on the environment and, if so, to narrow the focus (or scope) of the environmental analysis (See Appendix A).

Metro filed the NOP with the State Clearinghouse in the Office of Planning and Research as an indication that an EIR would be prepared. The NOP was distributed to involved public agencies and interested parties for a 30-day public review period, which began on July 13, 2007 and ended on August 13, 2007. The purpose of the public review period was to solicit comments on the scope and content of the environmental analysis to be included in the EIR. Metro received public comments on the NOP, which are included in Appendix A of this EIR.

During the preparation of the EIR, agencies, organizations, and persons whom Metro believed might have an interest in this proposed project were specifically contacted. Information, data, and observations from these contacts are included in the EIR. Agencies or interested persons who did not respond during the public review period of the NOP will have an opportunity to comment during the public review period of the Draft EIR, as well as at subsequent hearings on the proposed project.

It should be noted that environmental impacts might not always be mitigated to a less than significant level. When this occurs, impacts are considered to be significant and unavoidable. If a public agency approves a project that has significant and unavoidable impacts, the agency shall state in writing the specific reasons for approving the project, based on the Final EIR and any other information in the public record for the project. This is termed a "statement of overriding considerations" and is used to explain the specific reasons why the benefits of a proposed project make its unavoidable environmental effects acceptable. The statement is prepared, if required, after the Final EIR has been completed, yet before action to approve the project has been taken.

A graphic description of the EIR preparation process is provided in the following flow chart:




This Draft EIR has been distributed to affected agencies, surrounding cities, counties, and interested parties for a 45-day review period in accordance with Section 15087 of the *CEQA Guidelines.* During the 45-day review period, which commences on **March 3, 2008** and ends on **April 16, 2008**, the EIR is available for general public review at the following locations:

Metro Library, 15th Floor, One Gateway Plaza
Los Angeles Central Library
Canoga Park Branch, 7260 Owenmouth Avenue, CA 91303
Chatsworth Branch, 21052 Devonshire, Chatsworth, CA 91311
Porter Ranch Branch, 11371 Tampa, Northridge, CA 91326
West Valley Regional Branch, 19036 Vanowen, Reseda, CA 91335
Woodland Hills Branch, 22200 Ventura Boulevard, Woodland Hills, CA 91364

Additionally, the Draft EIR can be downloaded or reviewed via the Internet at the following address:

www.metro.net/canoga

Interested parties may provide written comments on the Draft EIR. Written comments on the Draft EIR must be postmarked by April 16, 2008 and should be addressed to:

Walter Davis, Project Manager
Metro
One Gateway Plaza, 22nd Floor
Mail Stop 99-22-7
Los Angeles, CA 90012

Your comments may also be sent by email to Walt Davis at Daviswa@metro.net. and should include "Canoga Transportation Corridor Draft EIR" in the subject line.

Upon completion of the 45-day public review period, written responses to all comments on environmental issues discussed in the Draft EIR will be prepared and incorporated into the Final EIR. These comments, and their responses, will be included in the Final EIR for consideration by the Metro Board.

# 2.0 SUMMARY

## 2.1 INTRODUCTION

This Environmental Impact Report (EIR) evaluates the environmental effects that may result from the Canoga Transportation Corridor project, also known as the extension of the Metro Orange Line (MOL).

This EIR has been prepared in compliance with the California Environmental Quality Act of 1970 (CEQA) (Public Resources Code §21000, et seq.) and the State CEQA Guidelines (California Code of Regulations §15000, et seq.), as amended. An EIR is a full disclosure, public information document in which the potential significant environmental impacts of a proposed project are evaluated; measures to mitigate significant impacts are identified, and alternatives to the project that can reduce or avoid significant environmental effects are discussed.

An EIR is used in the planning and decision-making process by the lead agency and all responsible agencies. CEQA Guidelines define the "Lead Agency" as the public agency with principal responsibility for carrying out or approving a project. For this project, the Los Angeles County Metropolitan Transportation Authority (Metro) is the lead agency. The term "Responsible Agency" includes all public agencies, other than the lead agency, that have discretionary approval of the project or a component thereof. The purpose of an EIR is not to recommend either approval or denial of a project; its purpose is to disclose objective information so that informed decisions can be made. CEQA requires the decision makers to balance the benefits of a proposed project against its unavoidable environmental effects in deciding whether to carry out a project.

## 2.2 PROJECT BACKGROUND/HISTORY AND ALTERNATIVES SCREENING

The San Fernando Valley North-South Transit Corridor Regionally Significant Transportation Investment Study (RSTIS), completed in April, 2003 evaluated transit enhancements on five major corridors extending from Vineland Avenue in the East Valley to Topanga Canyon Boulevard in the West Valley. The RSTIS, which was approved by the Metro Board in May, 2003, recommended transit improvements on five north-south corridors; (1) Reseda Boulevard, (2) Van Nuys Boulevard, (3) Sepulveda Boulevard, (4) Lankershim Boulevard-San Fernando Road, and (5) Canoga Avenue. Metro Rapid Bus service has been implemented on the first three corridors and Metro is currently working with the City of Los Angeles Department of Transportation (LADOT) to identify additional bus speed enhancements on those four corridors, such as peak period bus lanes, queue jumps at signals and other physical and operational improvements to enhance transit service. Subsequently, Metro completed the Canoga Transportation Corridor Alternatives Screening Report (Screening Report), focusing only on alternatives in the Canoga Corridor which could serve to implement the remaining RSTIS recommendations for improved north-south transit improvements in the western San Fernando Valley. The Screening Report, which was the first step in this environmental clearance process, was submitted to the Metro Board as an information item in September 2007. Four alternatives were screened and are now being considered for the Canoga Corridor. They include a No Project Alternative, a Transportation Systems Management (TSM) Alternative, Canoga On-Street Dedicated Bus Lanes Alternative and a Canoga Busway Alternative.

### Optional SR-118 Connection

For each of the build alternatives, the alternatives screening analysis included the assessment of a potential connection to a park-and-ride lot at SR-118. This connection would allow automobile commuters coming from both directions on SR-118 to park close to the freeway off-ramp and connect via transit with destinations in the entire San Fernando Valley and beyond. Three options for extensions of bus service north from the Chatsworth Metrolink Station were examined: (1) via Topanga Canyon Boulevard to a potential park-and-ride lot in the vicinity of the SR-118 Topanga Canyon Boulevard ramps; (2) via De Soto Avenue to a potential park-and-ride lot in the vicinity of the SR-118 De Soto Avenue ramps; or (3) via De Soto Avenue, Rinaldi Street and Porter Ranch Road to an existing park-and-ride lot south of SR-118 along Porter Ranch Road. The feasibility of this extension was limited primarily by the availability of suitable sites for a park-and-ride lot in the vicinity of the freeway ramps (Topanga Canyon Boulevard or De Soto Avenue) and/or the feasibility of having buses access the existing park-and-ride lot at Porter Ranch Road. In the case of Topanga Canyon Boulevard, no suitable sites were available for the development of a park-and-ride lot. As for the existing Porter Ranch Road park-and-ride lot, even though the lot has capacity to accommodate new riders, it would take buses up to 8-10 minutes to travel the 3.2-mile stretch from the Chatsworth Metrolink Station, given the levels of congestion on De Soto Avenue, and this would have negative cost and operational implications that would make the extension infeasible. Finally, one potentially suitable site was identified at the northern terminus of De Soto Avenue near SR-118. However, this option was not carried forward as part of the project description for two reasons: 1) during the two public scoping sessions held for the project, general public opposition to running buses on De Soto Avenue was expressed and; 2) the travel demand at the potential SR-118 station was forecasted to be only approximately 30 peak-period trips. The cost of extending MOL service north to SR-118 with three minute headways would not be justified to capture 30 additional peak-period riders. If the level of service was less than the three minute headways proposed for the rest of the MOL, the level of ridership would likely decrease, making this extension of service not cost-effective.

## 2.3 AREAS OF CONTROVERSY

Areas of concern identified in public comments are as follows:

- Loss or relocation of businesses located within the Right-of-Way (ROW).
- Extension of the Metro Orange Line beyond Chatsworth to SR 118:
    - potential impacts to open space, including aesthetic impacts and diminished access to biking and hiking trails and/or loss of, open space;
    - incompatibility with current zoning or land use regulations;
    - potential damage to petroglyphs in the vicinity of SR 118.
- Possible increased noise levels at mobile home parks with predominantly senior residents that are located adjacent to the Right of Way
- Possible loss of safety and security due to potential increased trespassing.

## 2.4 SUMMARY OF PROJECT ALTERNATIVES

### Alternative 1 -- No Project

The No Project Alternative reflects the condition anticipated for the year 2030, based on SCAG's growth forecast, if no major transit improvement investments are made in the western SFV. This scenario would mean that the Metro-owned ROW or Canoga Avenue would not be used for a transit project. This alternative is used as a baseline for comparison to the TSM, On-Street Dedicated Bus Lanes, and Busway Alternatives.

### Alternative 2 -- Transportation Systems Management (TSM)

A Transportation Systems Management (TSM) Alternative is designed to identify low-cost, easily implementable improvements as an alternative to the construction of more-expensive alternatives. The TSM Alternative entails frequency improvements on existing Metro transit routes as well as providing a new local transit line for Canoga Avenue, though not including any transit priority measures (signal priority or dedicated lanes) for this corridor.

The implementation of the TSM Alternative would allow for a reduction in headways in comparison to the No Project Alternative. The TSM Alternative improvements would be applied for the full length of each route. If all suggested improvements were made, estimated increased fleet requirements would be up to 23 vehicles (excluding spares). These improvements would need to be prioritized and could be included with any selected alternative.

The TSM Alternative also includes the addition of a new Metro Local route along Canoga Avenue. The new local route (246) would extend from the Warner Center Transit Hub to the Chatsworth Metrolink Station, utilizing Owensmouth Street, Oxnard Street, Erwin Street, Canoga Avenue, Marilla Street, Owensmouth Street, and Lassen Street. The TSM Alternative's new local service on Canoga Avenue would include a terminal at Warner Center, a stop at the existing Canoga MOL station and stops on Canoga Avenue at Sherman Way, Saticoy, Roscoe Boulevard, Parthenia (Optional), Nordhoff, Plummer, and Lassen Streets in line with closer stop spacing provided by local service.

### Alternative 3 – Canoga On-Street Dedicated Bus Lanes

This alternative would operate similar to a Metro Rapid service, but with dedicated lanes. A southbound Bus-Only Lane along Canoga Avenue provided by prohibiting on-street parking; a northbound Bus-Only Lane would be provided by widening the street into the Metro-owned ROW that parallels Canoga Avenue. At intersections with east-west cross streets, Canoga Avenue will be further widened into the Metro ROW to provide right-turn-only lanes on Canoga Avenue, which would allow right-turning vehicles to merge across the bus-only lanes so that through buses are not blocked by right-turning vehicles at the intersections. The dedicated lanes would be paved in concrete at the stations and extend approximately 150 ft. north and south of the stations in each direction. On Canoga Avenue, north of the Canoga MOL Station, a landscaped median island would be provided as part of this alternative. This landscape median would not extend north of Plummer Street, where the roadway narrows to one lane in each direction.

The Canoga On-Street Dedicated Bus Lane Alternative would be a "modified" version of the MOL concept of a "multi-modal transportation facility within a greenway." Canoga Avenue would be widened between Vanowen and Nordhoff Streets to create dedicated lanes for the BRT adjacent to the curbs. Along Canoga Avenue, the Metro ROW varies from 40 ft to 275 ft with a typical width of 100 ft. The 100 ft ROW and larger ROW sections provide opportunities for landscaping, a bikeway/pedestrian path and the dedicated lanes. The 40-foot portion is at the north end of the corridor along the railroad tracks. The Canoga On-Street Dedicated Bus Lanes Alternative will utilize City of Los Angeles ROW in addition to the Metro ROW in this area. The 65-foot portion, a short segment directly north of Sherman Way, is directly behind a recently built strip shopping center with parking facing Canoga Avenue. The Canoga On-Street Dedicated Bus Lanes Alternative would displace this shopping center to accommodate the median, dedicated bus lanes, station platforms, and the bikeway/pedestrian path. The property would have to be purchased and the building torn down. This alternative also requires the termination of the Canoga Self-Storage lease between Saticoy Avenue and Roscoe Boulevard. Other Metro leases adjacent to Canoga Avenue would not be renewed. The 275 ft portion of the Metro ROW, located south of Sherman Way and north of Vanowen Street provides the opportunity for the typical sections of the Canoga On-street Dedicated Bus Lanes Alternative. The additional ROW width also provides opportunities for landscaping, the potential preservation of existing Metro leases, and the integration of the project with the Los Angeles River. At the northern end of the route, between Marilla Street and Lassen Avenue, this alternative may include dedicated bus lanes in an exclusive ROW. The ROW north of Marilla Street is only partially owned by Metro; therefore, some private property would have to be purchased.

Where feasible, a Class I bikeway and parallel pedestrian path would run from the Canoga MOL Station to the Chatsworth Metrolink Station and would occupy 10-17 ft of the ROW. Where ROW allows, the facility would include a 10-foot bikeway and adjacent 7-foot pedestrian pathway. In narrower areas, a 10-foot multi-use path is provided and will be shared by bicycles and pedestrians. Buses would be the only vehicles allowed within the dedicated lanes, except at intersections and driveways, where vehicles would be able to cross the dedicated lanes in order to turn right. Left turn pockets into driveways are not anticipated. Furthermore, a right-turn pocket would be provided at the approaches to all intersections along Canoga Avenue where the dedicated lanes are implemented, allowing buses to cross the intersections unimpeded by right-turning vehicles. Signage would be posted listing restrictions on autos, trucks, motorcycles, bicycles and pedestrians within the dedicated lanes.

North of Plummer Street, the Canoga Avenue ROW is limited and the Amtrak/Metrolink/UP tracks are still in operation. Canoga Avenue narrows from two lanes in each direction to one lane in each direction. Several sub-options are under consideration for this area and will be described below.
Three options are considered for the final northern segment to connect to the Chatsworth Metrolink Station:

*Option 1 Dedicated Bus Lanes end at Marilla Street* - The dedicated lanes would end at Marilla Street and buses would use Marilla Street, Owensmouth Avenue, Lassen Street and Old Depot Plaza Road. With this option, the intersection of Lassen Street and Old Depot Plaza Road would be signalized. The multi-use path for this option would either terminate at Plummer Street or continue up the railroad ROW to Lassen Street.

*Option 2 At-Grade "T" Intersection on Lassen Street Approx. 200 ft. West of Tracks* - The dedicated lanes would continue north of Marilla Street through two parcels (one is Metro-owned and the other

one is privately-owned) to connect to Lassen Street at a new signalized intersection approximately 200 ft west of the tracks; the buses would then turn right onto Lassen Street, cross the tracks, and left onto Old Depot Plaza Road (Lassen Street at Old Depot Plaza Road will be signalized). The multi-use path for this option would terminate at Lassen Street.

*Option 3 At-Grade Parallel Crossing of Lassen West of Tracks* - The dedicated lanes would continue north of Marilla Street through two parcels (one is Metro-owned and the other one is privately-owned) and then cross Lassen Street at a new signalized intersection to access a new terminus bus station located on the west side of the train tracks, on a property that is currently privately-owned. A grade-separated pedestrian access to the new bus station from the parking lot would be provided. The multi-use path for this option would terminate at Lassen Street.

Landscaping would be provided along each side of the busway and the multi-use path for all the options discussed above.

### Alternative 4 -- Canoga Busway

The Canoga Busway Alternative consists of a fixed busway extending BRT service north from the existing MOL Canoga Station along the Metro-owned railroad ROW paralleling Canoga Avenue, to the Chatsworth Metrolink Station. Some of the options for the northern portion of the alignment could potentially require some ROW purchases.

Along most of the alignment, the ROW would provide adequate room for landscaping and space for a bikeway/pedestrian path adjacent to the busway. Along Canoga Avenue, the Metro ROW varies from 40 ft to 275 ft with a typical width of 100 ft. The 100 ft ROW and larger ROW sections provide opportunities for landscaping, bikeway/pedestrian paths and the busway. The 40-ft portion is adjacent to the railroad tracks at the north end of the corridor. In this segment, the busway and multi-use path will be between the tracks and a narrowed Canoga Avenue, with room for only minimal landscaping. The 65-ft portion, a short segment directly north of Sherman Way, is directly behind a recently built strip shopping center with parking facing Canoga Avenue. The busway and a multi-use path would be located behind the shopping center, but the narrow 65 ft ROW in this segment reduces the potential for landscaping and a bio-swale (swaled drainage course with gently sloped sides and filled with vegetation and compost). The 275-ft portion of the Metro ROW, located south of Sherman Way and north of Vanowen Street provides the opportunity for the typical sections for the Canoga Busway Alternative. The additional ROW width (approximately 175 ft) also provides the opportunity for additional landscaping, the potential preservation of existing long-term leases, and the integration of the project with the Los Angeles River Revitalization Master Plan. The ROW narrows significantly north of Plummer Street, adjacent to the Metrolink tracks. At this point, Canoga Avenue would be 32 ft wide. Due to the curving nature of the railroad tracks and Canoga Avenue (moving away from each other), the narrow segment is limited in length and the roadway (Canoga Avenue) will widen back to 62 ft as quickly as possible. Several options are considered for the northern segment to connect to the Chatsworth Metrolink Station and they are discussed in detail below.

Where feasible, a Class I bikeway and pedestrian path would run from the Canoga MOL Station to the Chatsworth Metrolink Station and would occupy 10-17 ft of the ROW. Buses and Metro-authorized vehicles would be the only vehicles allowed within the busway. Signage would be posted listing restrictions on autos, trucks, motorcycles, bicycles and pedestrian within the busway lanes.

Metro-authorized emergency vehicles would only use the busway when responding to emergencies within or immediately adjacent to the ROW.

Several options are considered for the northern segment to connect to the Chatsworth Metrolink Station:

*Option 1 Busway Ends At Plummer* – Buses would exit the Busway at Plummer Street and travel on Plummer Street, Owensmouth Avenue, Lassen Street and Old Depot Plaza Road. With this option, the intersection of Canoga Avenue and Plummer Street and the intersection of Lassen Street and Old Depot Plaza Road will be signalized. The multi-use path for this option would terminate at Plummer Street.

*Option 2 At-Grade "T" Intersection on Lassen Approx. 200 Ft West of Tracks* – The busway and possibly the multi-use path would extend north to Lassen Street on the west side of the railroad tracks, intersecting Lassen Street at a new signalized intersection approximately 200 ft west of the tracks. Buses would travel in mixed flow on Lassen Street and cross the tracks to reach the Chatsworth Metrolink Station. This alternative requires property acquisition south of Lassen Street; it also requires converting the southbound approach of a private roadway intersecting Lassen Street west of the tracks into a right-turn only. An optional plan could be required where only northbound buses and the multi-use path would travel on the busway all the way north to Lassen Street. This would occur if the two-way busway and multi-use path could not be accommodated in the narrow ROW area adjacent to the Metrolink tracks. Southbound buses would return via Lassen Street, Owensmouth Avenue, and Plummer Street, re-entering the busway at a new signalized intersection at the intersection of Canoga Avenue and Plummer Street.

*Option 3 At-Grade Parallel Crossing of Lassen West of Tracks* - The busway and the multi-use path would extend north to Lassen Street directly to the west of the railroad tracks and cross Lassen Street at a signalized intersection to access the Busway terminus station on the west side of the tracks. A pedestrian grade-separation to cross the tracks would be provided. Sidewalks along the north side of Lassen Street would be widened between the railroad tracks and Old Depot Plaza Road to provide a connection of the multi-use path to the station. This option requires property acquisition or reconfiguration of one property south of Lassen Street, directly west of the railroad tracks, as well as several lots north of Lassen Street for the terminus station. An optional plan could be required where only northbound buses and the multi-use path would travel on the busway all the way north to Lassen Street. This would occur if the two-way busway could not be provided in the narrow ROW area adjacent to the Metrolink tracks. Southbound buses would return via Lassen Street, Owensmouth Avenue, and Plummer Street, re-entering the busway at a new signalized intersection at the intersection of Canoga Avenue and Plummer Street.

*Option 4 Underpass of Tracks with Crossing of Lassen East of Tracks* - The busway would pass under the railroad tracks in a grade separation and cross Lassen Street at-grade. Two potential intersections of the busway on Lassen Street are being considered in this EIR. One would be located at the existing Old Depot Plaza Road intersection on Lassen Street. This would require purchase of part of the mobile home park's property, south of Lassen Street, and reconfiguration of the parking and access road to the mobile home park. The mobile home park egress would likely be right-turn only. The second option would include an intersection adjacent to the east side of the railroad tracks, with buses crossing Lassen Street parallel to the tracks at a signalized intersection into a redesigned

Chatsworth Metrolink Station. The multi-use path would remain at-grade adjacent to the west side of the tracks and end at Lassen Street.

*Option 5 Elevated/Underground Grade Separation of Railroad Tracks and Lassen Street* - The busway extends along the west side of the railroad tracks and is either elevated over or depressed under the railroad tracks and Lassen Street on a grade separation, then descending or ascending into the parking lot of the Chatsworth Metrolink Station. The multi-use path would remain at-grade adjacent to the west side of the grade-separated busway and end at Lassen Street.

Bus Rapid Transit (BRT) signals and vehicle signals will be placed at each crossing to control the bus, vehicle, pedestrian, and bicycle traffic at the crossing, the same way they are currently being operated along the MOL. Typically, the BRT crossings will be multi-phased (BRT phase and multiple vehicle phases to control turns across the busway).

Landscaping would be provided along each side of the busway and the multi-use path for all the options discussed above.

### Bus Maintenance Facility

The Division 8 facility currently operates at almost full capacity. The Division's capacity is 229 buses and it is currently assigned 223 buses. The existing facility will need to be modified to accommodate the 7 to 23 buses, plus spares, required by the different project alternatives. In order to accommodate the added buses, Metro would have to provide an off-site overnight bus parking facility, and do the maintenance work at Division 8. The Metro-owned vacant lot at the northwest corner of Owensmouth Avenue and Marilla Street would be paved for bus parking.

## 2.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

This EIR analyzes four alternatives at equal level detail, including the No Project Alternative. An environmentally superior alternative other than the No Project must be identified in an EIR. The TSM Alternative would not have the construction impacts (noise and localized PM10 and PM2.5) of the Dedicated Bus Lanes and Busway Alternatives and is thus determined to have the least environmental impact. Since the TSM Alternative involves only changing bus routes it would be categorically exempt and could be implemented at any time without environmental review. However, the TSM alternative would not realize mobility improvements in the area to the same extent as the Dedicated Lanes and Busway Alternatives.

## 2.6 SUMMARY OF POTENTIAL ENVIRONMENTAL IMPACTS

CEQA identifies various types of EIRs. The most common type is the project EIR. A project EIR examines the environmental impacts of a specific development project. This type of EIR focuses primarily on the changes in the environment that would result from the development of a project's and examines all phases of the project, including planning, construction, and operation. This EIR is a project EIR.

To assist in the understanding of this report, the following descriptions, as found in Article 20 of the

State *CEQA Guidelines*, are provided:

"Project" means the whole of an action, which has the potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment directly or ultimately.

"Significant effect on the environment" means 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. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.

"Environment" means the physical conditions that exist within the area which will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. The area involved shall be the area in which significant effects would occur either directly or indirectly as a result of the project. The "environment" includes both natural and man-made conditions.

"Effects" and "impacts" as used in these Guidelines are synonymous. Effects include direct or primary effects that are caused by the project and occur at the same time and place, and indirect or secondary effects that are caused by the project and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect or secondary effects may include growth-inducing 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. Effects analyzed under CEQA must be related to a physical change.

"Mitigation" includes: 1) avoiding the impact altogether by not taking a certain action or parts of an action; 2) minimizing impacts by limiting the degree or magnitude of the action and its implementation; 3) rectifying the impact by repairing, rehabilitating, or restoring the impacted environment; 4) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and 5) compensating for the impact by replacing or providing substitute resources or environments.

"Cumulative impacts" refers to two or more individual effects that, when considered together, are considerable or which compound or increase other environmental impacts.

A "less-than-significant impact" is an impact that is adverse but that does not exceed the defined standards of significance. Less-than-significant impacts do not require mitigation.

A "potentially significant impact" is an impact for which there is not enough information to make a finding of less-than-significant impact; however, for the purpose of this Draft EIR, the impact is considered significant. A potentially significant impact is equivalent to a significant impact and requires the identification of feasible mitigation measures or alternatives.

A "significant impact" is an impact that exceeds the defined standards of significance and would or could cause a substantial adverse change in the environment. Mitigation measures are recommended to eliminate the impact or reduce it to a less-than-significant level.

A "significant and unavoidable impact" is an impact that exceeds the defined standards of significance and that cannot be eliminated or reduced to a less-than-significant level through the implementation of mitigation measures.

**Table 2-1** following summarizes the impacts of the project and presents the identified mitigation measures; the level of significance after mitigation is identified.

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| ***Land Use and Development*** | | |
| **Impact 4.1.1:** For Alternative 3, the Canoga On-Street Dedicated Bus Lanes and Alternative 4, the Canoga Busway adjacent sensitive land uses would be buffered with walls, fences, and landscaping as described in the Project Description. The Canoga On-Street Dedicated Bus Lanes and the Canoga Busway Alternatives would not renew business leases, including, Metro tenants along the ROW, and depending on the option selected for the northern portion of the alignment, the project could result in the acquisition and displacement of commercial/industrial property. The character of the surrounding area would not be substantially altered. Therefore, land use compatibility impacts for all alternatives would be less than significant. Depending on the Northern Segment Options, impacts would be less than significant with mitigation. | Alternatives 3 and 4:<br><br>**MM 4.1-1:** Walls and/or fences, and landscaping shall be included in the Metro ROW buffering mobile homes and other residential units from the project along the Metro ROW.<br><br>Alternatives 3 and 4 Option 2, 2a, 3, and 3a:<br><br>**MM 4.1-2:** Metro will work with property owners of industrial buildings to determine if full acquisition of the industrial buildings would be required or if a partial acquisition could be accomplished by reconfiguring the site and parking.<br><br>Alternative 4 Option 4:<br><br>**MM 4.1-3:** Metro to work with mobile home park property owners to coordinate the design of the Busway with the reconfiguration of the access and parking to the club house and the mobile home park. | Less than significant. |
| **Impact 4.1.2:** The alternatives generally would be consistent with planned land uses and policies contained in most of the relevant plans. Alternative 2, TSM would be inconsistent with the Canoga - Park - Winnetka Hills - West Hills Community Plan and the Chatsworth - Porter - Ranch Community Plan as policies in these plans include development of the ROW for public transportation improvements and recreational uses. For the other Canoga Alternatives, the General Plan Transportation Element Secondary Highway standard would require an exception to address unique conditions along Canoga Avenue. Impacts would be less than significant with mitigation. | Alternative 2:<br><br>**MM 4.1-4:** For the TSM Alternative, the Canoga Park- Winnetka Hills - West Hill Community Plan and the Chatsworth Porter - Rancho Community Plan policies would need to be amended to remove goals, objectives, and/or policies that call for transportation improvements in the ROW, when the City updates this plan.<br><br>Alternatives 3 and 4:<br><br>**MM 4.1-5:** Due to unique conditions along Canoga Avenue, a request from the City for relief from the Secondary Highway Standards shown in the cross-sections in the City of Los Angeles Transportation Element needs to be secured. The modification would include dedicated bus lanes, the elimination of parking on the street, and a substitution for a standard City sidewalk for a multi-purpose bikeway/pedestrian path to be developed to Metro standards | Less than significant. |

TABLE 2-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| | and landscaping adjacent to Canoga Avenue.<br><br>**MM 4.1-6:** A modification of the Chatsworth - Porter Ranch Community Plan shall be made to change the text to read a high capacity urban rail or "premium bus" system when the City updates this Plan | |
| **Impact 4.1.3:** The project build alternatives would increase the likelihood of redevelopment on adjacent land at higher intensities. Further study and approval from the City of Los Angeles would be required before specific development changes could be identified and analyzed. Mitigation measures would ensure that impacts remain below a level of significance. | Alternatives 3 and 4:<br><br>**MM 4.1-7:** Metro and the City of Los Angeles shall coordinate on any proposed transit-oriented projects or any change in land use designation or zoning change that are within ¼ mile of a station by reviewing projects and environmental assessments for potential transit linkages to the stations, the mix of uses, and other conditions that would increase transit usage and reduce potential land use impacts.<br><br>**MM 4.1-8:** Any future joint use proposal made on the Metro ROW shall provide measures to protect adjacent sensitive uses including such measures as landscaped setbacks, walls, fences, lighting that does not spill over into neighborhoods, parking management to avoid spill over parking in the neighborhoods, clearly defined pathways to the stations, varied building massing and height transition for compatibility with adjacent development, and special attention to enhance pedestrian environment. | Less than significant. |
| **Impact 4.1.4:** Construction of the build alternatives would result in temporary disruptions to the existing land use in the area, however the land use impacts of construction would not be significant and no additional mitigation measures are required other than traffic congestion, access, parking and air quality listed in Sections 4.7 through 4.9.. | None required. | Less than significant. |
| **Impact 4.1.5:** The proposed project would not result in a potentially significant cumulatively considerable impact to land uses within the project area and no mitigation is required. | None required. | Less than significant. |
| ***Land Acquisition, Relocation and Displacement*** | | |
| **Impact 4.2.1**: The proposed project could impact property owners and occupants of private property through land acquisition resulting in the | Alternatives 3 and 4, Northern Segment Options 2, 3, and 4:<br><br>**MM 4.2-1:** For those properties that would be acquired as a result of the | Less than significant. |

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| displacement of businesses along the corridor. The proposed project could have a significant land acquisition impact prior to mitigation. | Canoga Transportation Corridor Project, Metro shall provide relocation assistance and compensation per the Uniform Relocation Assistance and Real Property Acquisition Policies Act and the California Relocation Act. Purchases would be made at fair market value. | |
| **Impact 4.2.2:** The proposed project could impact businesses on property that is leased. Business displacements would also occur where the leased property is used for ancillary or support operations such as access, parking and/or storage. The proposed project could have a significant impact on business lease agreements along the Canoga Corridor prior to mitigation. | Alternatives 3 and 4:<br><br>**MM 4.2-2:** For leases without an acquisition waiver, Metro shall provide relocation assistance and compensation per the Uniform Relocation Assistance and Real Property Acquisition Policies Act and the California Relocation Act to those who are displaced as a result of the Canoga Transportation Corridor Project. | Less than significant. |
| **Impact 4.2.3:** The proposed project does not have the potential to significantly impact licenses and easements along the Metro ROW. | None required. | Less than significant. |
| **Impact 4.2.4:** The proposed project would not have any land acquisition, displacement or relocation impacts as a result of construction activities. | None required. | Less than significant. |
| **Impact 4.2.5:** The proposed project would not result in a significant cumulatively considerable impact. | None required. | Less than significant. |
| ***Population, Housing & Environmental Justice*** | | |
| **Impact 4.3.1**: The proposed project would not have the potential to cause the redistribution of population, or an influx or loss of population. The proposed project would not have any significant impact to population and housing without mitigation. | None required. | No impact. |
| **Impact 4.3.2:** The proposed project could have the potential to create inconsistencies with the growth management polices mentioned in the various applicable plans that govern the project area. The proposed project would have a less-than-significant impact on population and housing without mitigation. | None required. | Less than significant. |
| **Impact 4.3.3:** The proposed project would not have the potential to displace substantial numbers of | None required. | Less than significant. |

TABLE 2-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| existing housing and/or people, necessitating the construction of replacement housing elsewhere. The proposed project would have a less-than-significant impact on population and housing without mitigation. | | |
| **Impact 4.3.4:** The proposed project could have the potential to displace employment opportunities. The proposed project would have a significant impact on employment without mitigation. | Alternatives 3 and 4:<br><br>Mitigation Measure **MM 4.2-1** and **MM 4.2-2** included in Section 4.2 Land Acquisition, Relocation and Displacement would also be applicable to the Canoga On-Street Dedicated Lanes and the Canoga Busway Alternatives.<br>. | Less than significant. |
| **Impact 4.3.5:** The proposed project would disproportionately affect minority and/or low-income populations through the displacement of employment. The proposed project would have less than significant impact on minority and/or low-income population with mitigation. | Alternatives 3 and 4:<br><br>Mitigation Measure **MM 4.2-1** and **MM 4.2-2** included in Section 4.2 Land Acquisition, Relocation and Displacement would also be applicable to the Canoga On-Street Dedicated Lanes and the Canoga Busway Alternatives. | Less than significant. |
| **Impact 4.3.6:** The proposed project would not have potential to have significant construction impacts with mitigation. | Mitigation Measures **MM 4.7-15** through **MM 4.7-27** for Traffic, Mitigation Measures **MM 4.8-1** through **MM 4.8-11** for Air Quality, and Mitigation Measures **MM 4.9**-1 through **MM 4.9**-7 for Noise would mitigate construction impacts. | Significant unavoidable impact due to residual impacts for construction air quality and noise. |
| **Impact 4.3.7:** The proposed project would not result in a potentially significant cumulatively considerable impact to population, housing employment or environmental justice without mitigation. | None required. | Less than significant. |
| ***Parklands & Other Community Facilities*** | | |
| **Impact 4.4.1**: The proposed project would not displace any parks or park facilities and would not require the expansion or construction of a new park or park facilities. The project could facilitate the movement of people to local parks. The proposed project would have a less-than-significant impact on park displacement without mitigation. | None required. | Less than significant. |
| **Impact 4.4.2:** The proposed project would not acquire, displace or disrupt a community facility and/or create barriers and/or cause substantial | None required. | Less than significant. |

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| disruption to pedestrian and vehicular access to a facility. The project would have a less-than-significant impact on community facilities without mitigation. | | |
| **Impact 4.4.3:** The proposed project would not substantially affect emergency response times or substantially increase demand for fire and police services. The project would have a less-than-significant impact on police and fire protection services without mitigation. | None required. | Less than significant. |
| **Impact 4.4.4:** The proposed project would temporarily disrupt parks and community facilities during construction and could adversely affect emergency response times for police and fire protection services. The temporary and short-term disruption on parks during construction is a less-than-significant impact. The proposed project would not have potential significant construction impacts on emergency response times for police and fire protection services, as well as the Canoga Park Elementary School, Old Canoga Park Elementary School, Columbus Middle School, and Hart Elementary School with mitigation. | Alternatives 3 and 4:<br><br>Parklands and Recreational Facilities<br><br>Mitigation Measures **MM 4.8-1** through **MM 4.8-11** for Air Quality and Mitigation Measures **MM 4.9-1** through **MM 4.9-7** for Noise would mitigate construction impacts on parklands and recreation facilities.<br><br>Police and Fire Protection<br><br>**MM 4.4-1**: Coordination with City of Los Angeles Fire and Police Department personnel shall be conducted to provide adequate advance notice of construction activities and identify, as necessary, any special arrangements that may be needed to provide emergency services.<br><br>**MM 4.4-2:** To minimize the effect of street and lane closures, the construction contractor shall develop a staging/detour plan prior to construction activities. The construction contractor shall provide the staging/detour plans to the City of Los Angeles Fire and Police Department personnel for review. The plans shall be developed to the satisfaction of the City of Los Angeles Fire and Police Department personnel.<br><br>**MM 4.4-3:** Emergency vehicle access on Canoga Avenue shall be included in construction specifications.<br><br>**MM 4.4-4:** On Canoga Avenue, the construction contractor shall make one lane in each direction available at all times for emergency vehicle use. | Less than Significant |

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| | Mitigation Measures included in Section 4.7 Traffic, Circulation and Parking would also be applicable to the Canoga On-Street Dedicated Bus Lanes Alternative and the Canoga Busway Alternative.<br><br>Schools and Libraries<br><br>Mitigation Measures **MM 4.8-1** through **MM 4.8-11** for Air Quality and Mitigation Measures **MM 4.9-1** through **MM 4.9-7** for Noise would mitigate construction impacts on schools and libraries.<br><br>**MM 4.4-5**: School officials for the New Academy Canoga Park Elementary School and LAUSD shall be consulted regarding the construction process in order to develop the least intrusive construction process feasible.<br><br>**MM 4.4-6**: School officials for the New Academy Canoga Park Elementary School and the LAUSD schools with pedestrian routes on Canoga Avenue shall be consulted in order to ensure maintenance of safe student walk routes and access for passenger vehicles and school buses.<br><br>**MM 4.4-7**: Crossing guards or flag men shall be provided at active construction sites in proximity to schools and where school pedestrian routes cross construction areas. The construction contractor shall coordinate with the New Academy Canoga Park Elementary School and LAUSD to determine the location of crossing guards or flag men.<br><br>**MM 4.4-8**: The construction contractor shall coordinate with the New Academy Canoga Park Elementary School and LAUSD to determine haul routes and when haul truck travel shall be avoided. In coordination with the New Academy Canoga Park Elementary School and LAUSD, construction scheduling and haul routes shall be sequenced, to the extent practicable, to minimize conflicts with pedestrians, school buses and vehicular traffic during arrivals and dismissals of the school day.<br><br>**MM 4.4-9**: The construction contractor shall install fences and signage around the construction sites to prohibit unauthorized entry to the construction sites. | |

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| **Impact 4.4.5:** The proposed project does not have the potential to result in a significant cumulatively considerable impact on parklands and other community facilities without mitigation. | None required. | Less than significant. |
| ***Historic, Archeological & Paleontolological Resources*** | | |
| **Impact 4.5.1:** Construction activities have a low potential to damage or destroy significant or unique paleontological resources or sites. Impacts would be less than significant after mitigation. | **MM 4.5-1;** A qualified paleontologic monitor shall monitor excavation in areas identified as likely to contain paleontologic resources. These areas are defined as all areas within the proposed project area where current design plans require excavation to exceed depths of 5 ft.. The qualified paleontologic monitor shall retain the option to reduce monitoring if, in his or her professional opinion, sediments being monitored are previously disturbed. Monitoring may also be reduced if the potentially fossiliferous units, previously described, are not found to be present or, if present, are determined by qualified paleontologic personnel to have low potential to contain fossil resources.<br><br>The monitor shall be equipped to salvage fossils and samples of sediments as they are unearthed to avoid construction delays and shall be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Because the older Quaternary deposits yield small fossils specimens likely to go unnoticed during typical large scale paleontological monitoring, matrix samples shall be collected and processed to determine the potential for small fossils to be recovered prior to substantial excavations in those sediments. If this sampling indicates these units do possess small fossils, a matrix sample of up to 6,000 pounds shall be collected at various locations, to be specified by the paleontologist, within the construction area. These matrix samples shall also be processed for small fossils. This is standard mitigation practice that will meet the requirements of Public Resources Code Section 5097.5 which prohibits excavation or removal of any vertebrate paleontological site or any other archaeological, paleontological, or historical feature situated on public lands, except with the express permission of the public agency having jurisdiction over such lands, and Section 30244 which requires reasonable mitigation of adverse impacts on paleontological resources from development on public land. | Less than significant. |

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| | **MM 4.5-2:** Recovered specimens shall be prepared to a point of identification and permanent preservation, including washing of sediments, to recover small invertebrates and vertebrates. Unidentifiable specimens shall be discarded.<br><br>**MM 4.5-3:** Identified specimens shall be curated into a professional, accredited museum repository with permanent retrievable storage.<br><br>**MM 4.5-4:** A report of findings, with an appended itemized inventory of specimens, shall be prepared. The report and inventory, when submitted to the Lead Agency, will signify completion of the program to mitigate impacts to paleontologic resources. | |
| **Impact 4.5.2:** Construction activities have a low potential to damage or destroy significant archaeological resources. Impacts would be less than significant after mitigation. | **MM 4.5-5:** If buried cultural resources are uncovered during construction, all work shall be halted in the immediate vicinity of the archaeological discovery until a qualified archaeologist can visit the site of discovery and assess the significance of the archaeological resource. All unanticipated finds shall be documented, and a report of findings prepared, and discoveries further evaluated. In the event of an accidental discovery of any human remains in a location other than a dedicated cemetery, the steps and procedures specified in Health and Safety Code 7050.5, State CEQA Guidelines 15064.5(e), and Public Resources Code 5097.98 shall be implemented. | Less than significant. |
| **Impact 4.5.3:** The proposed project would result in the demolition of two buildings and a railroad bridge along the ROW that are 50 years of age or older. However, none of these structures are historic resources; therefore, any impacts would be less than significant, and no mitigation is required. | None required. | Less than significant. |
| **Impact 4.5.4:** The proposed project could contribute to cumulative impacts to paleontological resources. However, with implementation of mitigation, the proposed project's incremental effects would not be cumulatively considerable. | None required. | Less than significant**.** |
| **Impact 4.5.5:** The proposed project could contribute to cumulative impacts to archaeological resources. However, with implementation of mitigation, the proposed project's incremental effects would not be cumulatively considerable. | None required. | Less than significant**.** |

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| **Impact 4.5.6:** The proposed project would not result in impacts to historical resources; therefore, it would not contribute to any cumulative impacts to historical resources. | None required. | Less than significant**.** |
| ***Visual & Aesthetic Impacts*** | | |
| **Impact 4.6.1**: For Alternative 3, Canoga On-Street Dedicated Bus Lanes and Alternative 4, Canoga Busway most elements would be at-grade and would not adversely affect a scenic vista or degrade the existing visual quality of the area. Vertical elements such as trees, stations, artwork, walls, and signage, would not adversely affect views of the mountains or the visual quality of the area. In most cases, stations would be located in areas adjoining multi-family residential, commercial or industrial development, would be in scale with existing surrounding land uses and massing and would not obstruct the character of key views. With the conceptual design, no significant visual impacts are anticipated with mitigation Alternative 4, Option 5 in an elevated profile could result in a potentially significant impact without mitigation. | Alternatives 3 and 4:<br><br>**MM 4.6-1:** To reduce visual impacts, provide trees and landscaping as described in the Project Description and similar to the MOL. Relocation of overhead utility lines on the east side of Canoga Avenue shall be coordinated with Los Angeles Department of Water and Power's program for underground utilities. If utility poles and wires must be relocated above ground, these should be placed to not obstruct or prohibit new tree plantings**.**<br><br>**MM 4.6-2:** Soundwalls, walls/fences, and landscape screening shall be designed taking into consideration community input. Landscaping, where technically feasible, shall shield adjacent residencies to maintain privacy<br><br>**MM 4.6-3:** The following Metro Art policies will be applied to both build alternatives**:**<br><br>• **Public Art and the Design Process**: As part of the Design/Build process, artists will be hired to participate in the project. Metro Art staff will invite interested members of the communities (residential, business, and institutional) along the alignment to form a Metro Art Advisory Group. This process of community participation follows FTA policy (Circular 9400.1A), which states: "To create facilities that are integral components of communities, information about the character, makeup, and history of the neighborhood should be developed and local residents and businesses could be involved in generating ideas for the project." | Less than significant. |

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| | • A budget will be established for public art that will be based on a percentage of the hard costs (construction costs) for the project and will cover design fees and fabrication and installation of art elements. Again, as directed by the FTA (Circular 9400.1A), "Funds spent on the art component of the project should be appropriate to the overall costs of the transit project and adequate to have an impact."<br><br>• **Design Excellence**: Following policy established by the FTA for design and art in transit projects (Circular 9400.1A), MTA commits to the idea that: "Good design and art can improve the appearance and safety of a facility, give vibrancy to its public spaces, and make patrons feel welcome. Good design and art will also contribute to the goal that transit facilities help to create livable communities." To continue its commitment to these ideals, design excellence will be an important criterion for selection of design team members and for evaluation of design proposals.<br><br>• To ensure design excellence, the MTA will follow the award-winning model for "Excellence in Public Architecture" established by the General Services Administration of the U.S. Government. That process attracts large numbers of qualified design firms through a streamlined process and utilizes the insight of outside peer advisors.<br><br>• **Graphics and Wayfinding**: The quality of graphic signage and wayfinding within the system and within the adjacent neighborhoods greatly affects the ease and comfort with which patrons will use the system. Station names, station identification, directional signage, logos, maps, and informational signage shall adhere to the MTA Graphics Standards. The guiding principles for the standards are to simplify Metro signage systems in a way that makes sense for patrons, using uniformity in text styles, a rational hierarchy of sign sizes, clear directional arrows, etc. | |

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| | Alternative 4, Option 5:<br><br>**MM 4.6-4:** To reduce visual impacts for the Canoga Busway Alternative Option 5, provide landscaping adjacent to the mobile homes, and also visual barriers on the elevated viaduct or other measures that would reduce direct views from the elevated Busway onto adjacent mobile homes.<br><br>**MM 4.6-5:** Design guidelines for the elevated bridge structure for the Canoga Busway Alternative - Option 5 shall consider community input before the construction phase of the project. Design guidelines shall include techniques to reduce the massing and profile of the elevated structure, and to maintain views, where possible of the Santa Susana Mountains. | |
| **Impact 4.6.2:** Portions of Canoga Avenue and the Metro ROW contain trees that would be affected by the construction of the project. However, the conceptual plan includes considerably more trees to be planted than removed for Alternative 3, Canoga On-Street Dedicated Bus Lanes and Alternative 4, Canoga Busway. Therefore, impacts would not be significant with mitigation. | Alternatives 3 and 4:<br><br>**MM 4.6-6:** A landscape plan and guidelines shall be prepared during Preliminary Engineering stage establishing the number and pattern of tree species. Approximately, 1,200 to 1,350 new and relocated trees would be provided for Alternative 3 and 1,400 to 1,700 new and relocated trees for Alternative 4. Wherever feasible, specimen trees within the existing ROW or sidewalk shall be preserved or relocated and incorporated into the landscape plan where space permits. Specimen trees removed shall be replaced at a minimum of 1:1 ratio. During the Design/Build phase, the alignment of the dedicated lanes and Busway and placement of elements such as privacy walls, soundwalls for Options 4 and 4a, natural drainage, and fences as well as landscape guidelines developed during the Preliminary Engineering will be followed and the project will continue to take into account existing mature trees in the Metro ROW and avoid their removal where possible. | Less than significant. |
| **Impact 4.6.3:** The construction of the project would result in the installation of additional lighting at station areas and along the bikeway for Alternative 3, Canoga On-Street Dedicated Bus Lanes and Alternative, 4 Canoga Busway. For Alternative 3 street lighting and utility poles on the east side would be relocated closer to residents than the existing | Alternatives 3 and 4<br><br>**MM 4.6-7:** To reduce impacts from glare from bus headlights, stations, and park-and-ride lots, landscaping, fences, or walls or other measures shall be provided, designed and placed in such a way as to minimize glare and nighttime light intrusion on residences. A landscape plan, lighting plan and the design of screening features shall consider community input during final | Less than significant. |

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| condition. For Alternative 4, additional lighting would be limited to 12 ft to 20 ft high lighting poles along the bikeway and lighting of stations similar to the MOL. The impacts of bus headlights on residents along the corridor would be minimal due to planned landscape improvements, fences, walls and other measures. For Alternative 4, Options 4 and 4a, soundwalls located close to existing mobile homes and their outdoor spaces would reduce access to sunlight and air and impacts would be significant without mitigation. No other significant impacts are anticipated except the elevated component of Alternative 4, Option 5 has the potential to add significantly to ambient lighting adjacent to mobile homes if lighting is provided on the overpass. | design.<br><br>Alternative 4, Option 4 and 4a<br><br>**MM 4.6-8:** If a wall taller than six ft or a soundwall for Options 4 and 4a is adjacent to existing mobile homes or their usable open spaces which are located 10 ft or less from the wall or soundwall, architectural treatment, screening with vines and landscaping for visual relief, a variation in the wall plane, setbacks or other similar solutions shall be provided to provide access to sunlight and air for windows and usable space.<br><br>Alternative 4:<br><br>**MM 4.6-9:** In Northern Segment Option 5, the elevated viaduct shall be designed to minimize glare and night-time light intrusion on the mobile homes. | |
| **Impact 4.6.4:** Construction of the build alternatives would result in temporary disruptions to the visual character of the study area. Such disruptions would not include blockage of key views, but could result in visual intrusions, shade and shadow, increase in ambient light levels, and glare during the short period of construction. However, mitigation would reduce the impacts to less than significant. | Alternative 3 and Alternative 4:<br><br>**MM 4.6-10:** All construction lighting shall be hooded and shielded to minimize spillover effects and glare. Alternatively, screening and construction fences can be used to shield construction lighting. Lighting shall be directed towards the interior of the construction staging area and shielded so as to avoid or minimize spillover into adjacent residential areas. Construction activities directly adjacent to residential uses shall be limited to day time hours unless required by the City of Los Angeles. | Less than significant. |
| **Impact 4.6.5:** The proposed project would not result in a potentially significant cumulatively considerable visual impact. No significant impacts are anticipated and no mitigation is required. | None necessary. | Less than significant. |
| ***Traffic, Circulation & Parking*** | | |
| **Impact 4.7.1:** The proposed project would have a beneficial impact on Valley-wide mobility indicators. Bus boardings, daily transit trips and boardings, and the overall transit mode share would increase; vehicle miles traveled and daily vehicle trips would be | None required. | Beneficial. |

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| reduced. | | |
| **Impact 4.7.2:** The proposed project would have a beneficial impact on study area mobility indicators. Both vehicle miles traveled (VMT) and vehicle hours in travel (VHT) would decrease. | None required. | Beneficial. |
| **Impact 4.7.3:** Development of the proposed project would result in increased delays on local intersections. Some of the study intersections in the vicinity of the project site would experience a potentially significant increase in delay without mitigation. For Alternative 2, TSM one of the 41 study intersections would be significantly impacted before mitigation; five of the 41 study intersections would be significantly impacted before mitigations for Alternative 3 Canoga On-Street Dedicated Lanes; and nine intersections would be significantly impacted before mitigations for Alternative 4, Canoga Busway. All of these impacts would be considered less than significant after mitigation for all alternatives. | Alternative 2:<br><br>**MM 4.7-1:** Lassen Street & Owensmouth Avenue. Re-time the existing signal from a 50-second cycle during the peak periods to provide a 90-second cycle length during peak periods. In addition, change the existing permissive phasing on Lassen Street to provide protective phasing for left turns onto Owensmouth Avenue.<br><br>**MM 4.7-2:** Lassen Street & Old Depot Plaza Road. Install a three-phase traffic signal that would provide protective left-turn phasing for buses turning left into the Chatsworth Metrolink Station.<br><br>Alternative 3:<br><br>Northern Option 1<br><br>All the options include all the Alternative 2 mitigations plus the following:<br><br>**MM 4.7-3:** Devonshire Street & Old Depot Plaza Road. Install a two-phase traffic signal.<br><br>**MM 4.7-4:** Canoga Avenue & Vanowen Street. Widen the Canoga Avenue northbound approach to provide an additional through lane, from one left-turn lane, two through lanes and one right-turn lane to consist of one left-turn lane, three through lanes and one right-turn lane. Re-stripe the Vanowen Street eastbound approach from one left-turn lane, one through lane and one shared through-right-turn lane to consist of one left-turn lane, two through lanes and one right-turn lane. Re-striping the eastbound approach to accommodate this number of lanes would reduce the width of the Vanowen Street westbound curb-lane. Since Metro Bus 165 stops on the northwest corner of the intersection, this reduction in curb-lane width would produce a traffic blockage every time a bus arrives at the stop (buses arrive every 6-10 | Less than significant. |

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| | minutes during the peak period and every 20 minutes during the off-peak period), but this is not considered a significant impact.<br><br>**MM 4.7-5:** Canoga Avenue & Erwin Street. Change the existing permissive phasing to provide protective phasing for the northbound left turns and the eastbound left turns.<br><br>**MM 4.7-6:** Canoga Avenue & Oxnard Street. Re-stripe the Canoga Avenue southbound approach from one left-turn lane, two through lanes and one shared through-right-turn lane to consist of one left-turn lane, two trough lanes and one right-turn lane.<br><br>Alternative 4:<br><br>All Options have all of the Alternative 3 mitigations plus the following:<br><br>**MM 4.7-7:** Canoga Avenue & Nordhoff Street. Widen the Canoga Avenue southbound approach from one left-turn lane, one through lane and one shared through-right-turn lane to consist of one left-turn lane, two through lanes and a right-turn lane.<br><br>**MM 4.7-8:** Canoga Avenue & Roscoe Boulevard. Widen the Canoga Avenue southbound approach from one left-turn lane, one through lane and one shared through-right-turn lane to consist of one left-turn lane, two through lanes and a right-turn lane. Additionally, widen Roscoe Boulevard westbound approach from one left-turn lane, two through lanes and one shared through-right-turn lane to consist of one left-turn lane, three through lanes and one right-turn lane.<br><br>**MM 4.7-9:** Canoga Avenue & Saticoy Street. Widen the Canoga Avenue southbound approach from one left-turn lane, one through lane and one shared through-right-turn lane to consist of one left-turn lane, two through lanes and one through/right-turn lane.<br><br>**MM 4.7-10:** Canoga Avenue & Sherman Way. Widen the Canoga Avenue southbound approach from one left-turn lane, one through lane and one shared through-right-turn lane to consist of one left-turn lane, two through | |

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| | lanes and a right-turn lane. Widen the Sherman Way westbound approach to provide an additional through lane, from one left-turn lane, two through lanes and one right-turn lane to consist of one left-turn lane, three through lanes and one right-turn lane. To accomplish this, the bus stop for westbound Metro Route 163, located on the northwest corner of the intersection, must be moved further west to allow the third westbound departure lane to be dropped and traffic to merge into two lanes. | |
| **Impact 4.7-4:** Alternative 3, Canoga On-Street Dedicated Lanes and Alternative 4, Canoga Busway would have a significant impact on existing Park-and-Ride Lots. This impact would be considered less than significant after mitigation. | Alternatives 3 and 4:<br><br>**MM 4.7-11:** Off-street parking adjacent to the Sherman Way station shall be provided to accommodate future park-and-ride demand, including extra demand due to the loss of any existing spaces at the re-configured MOL Canoga Station.<br><br>Chatsworth Metrolink Station Turn-Around Options B and D:<br><br>**MM 4.7-12:** The northern parking lot at the Chatsworth Metrolink Station shall be expanded either vertically or horizontally to replace, at a minimum on a one-for-one basis, the spaces displaced by the bus turn-around on the south parking lot. | Less than significant. |
| **Impact 4.7-5:** Alternative 3, Canoga On-Street Dedicated Lanes and Alternative 4, Canoga Busway could have a significant impact before mitigation on the supply of on-street parking along Canoga Avenue. | Alternative 3:<br><br>**MM 4.7-13a:** At the Sherman Way station, a parking lot (2) shall be provided on the Metro right-of-way that contains at least 50 parking spaces beyond the anticipated park-and-ride demand for the station that shall be designated as public parking. At the Roscoe Boulevard station, a parking lot (s) shall be provided on the Metro right-of-way that contains at least 75 parking spaces beyond the anticipated park-and-ride demand for the station that shall be designated as public parking. Or,<br><br>**MM 4.7-13b:** Modify the design of the On-Street Dedicated Bus Lanes Alternative to leave the on-street parking along the western curb of Canoga Avenue in those blocks where on-street parking is heavily utilized. This would have a detrimental but less than significant impact on bus operations. | Less than significant. |

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| **Impact 4.7.6:** Alternative 3, Canoga On-Street Dedicated Lanes and Alternative 4, Canoga Busway have the potential to result in significant construction impacts on traffic circulation. | Alternatives 3 and 4:<br><br>**MM 4.7- 14:** Before the start of construction, Worksite Traffic Control Plans (WTCP) and Traffic Circulation Plans, including identification of detour requirements, will be formulated in cooperation with the City of Los Angeles and other affected jurisdictions (County, State). The WTCPs will be based on lane requirements and other special requirements defined by the Los Angeles City Department of Transportation (LADOT) for construction within the city and from other appropriate agencies for construction in those jurisdictions. LADOT will provide the contractor with the latest copy of the Requirements of the Contractor and Signs and Legends, to be incorporated into the WTCPs.<br><br>**MM 4.7-15:** No designated major or secondary highway will be closed to vehicular or pedestrian traffic except at night or on weekends, unless approval is granted by LADOT. No collector or local street or alley will be completely closed, allowing continued local vehicular or pedestrian access to residences, businesses and other establishments. Comprehensive bus rerouting and detour plans will be adopted, if necessary.<br><br>**MM 4.7-16:** Metro and the design/build contractor will develop preferred haul route plans for the removal of excavated material. The haul route plans shall prohibit the use of local residential streets, and avoid utilizing streets on which schools are located. If it is necessary for a potential haul route to pass a school, trucks shall be prohibited from hauling past the school during normal school hours. The truck haul route plan will distribute the trucks over more than one arterial street route to/from the freeways, but avoid the use of any local residential streets. Hauling operations may occur over more than one shift (not concentrated in an 8-hour period). Haul routes, which must be approved by the City of Los Angeles, will be developed in consultation with and must be approved by the LADOT and the Bureaus of Engineering and Street Services.<br><br>Example haul routes for carrying out excavated material are summarized below. | Less than significant. |

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| | • Canoga Avenue south to 101 Freeway<br>• Canoga Avenue north and east to De Soto Avenue and north to SR-118<br><br>**MM 4.7-17:** Metro will coordinate with other major construction projects within a 1-mile radius of the construction site to avoid, to the maximum extent practicable, overlapping haul routes with other public or private construction projects.<br><br>**MM 4.7-18:** Prior to initiating construction, Metro will develop and adopt a site-specific parking plan that identifies construction worker parking restrictions and replacement parking for any substantial quantity of on-street parking lost during construction, subject to consultation with LADOT.<br><br>**MM 4.7-19:** The City of Los Angeles will provide to the contractor the latest versions of Requirements of the Contractor and Signs and Legends, which will be incorporated into the construction contract and used in developing all WSTCPs.<br><br>**MM 4.7-20:** Contractors shall notify property owners, residences, and businesses of major construction activities (e.g., utility relocation/disruption and re-routing of delivery trucks).<br><br>**MM 4.7-21:** Contractors shall coordinate with local businesses and residents to provide advanced notification of traffic detours and delays, and potential utility disruptions associated with construction.<br><br>**MM 4.7-22:** Contractors shall use temporary special signage to inform customers that merchants and other businesses directly affected by construction are open. The signage shall include closure information in advance of any future temporary closure. Signage shall also provide special access directions, if warranted.<br><br>**MM 4.7-23:** Contractors shall be required to have all employees park off-street or on-street at Metro-approved locations to minimize the loss of commercial parking. | |

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| | **MM 4.7-24:** Unless required by WSTCPs, construction activities shall be sequenced to minimize the temporary removal of multiple blocks of on-street parking at one time, which would make various on-street parking spaces available in an area under construction for a period of time.<br><br>**MM 4.7-25:** Prior to initiating construction, staging/detour plans will be reviewed by emergency response personnel (i.e. Fire Department). | |
| **Impact 4.7.7:** Cumulative development in the region would significantly impact traffic in the region, including the study area. The proposed project does not have a cumulatively considerable contribution to a significant cumulative impact. | None required. | Less than significant. |
| ***Air Quality*** | | |
| **Impact 4.8.1:** Based on the construction emission estimates, the No Project Alternative would have no regional construction air quality impact. The TSM, Canoga On-Street Dedicated Bus Lanes, and Canoga Busway Alternatives would result in less-than-significant regional construction air quality impacts without mitigation. | None required. | Less than significant. |
| **Impact 4.8.2:** Based on localized emission calculations, the No Project Alternative would have no localized construction air quality impact. The TSM Alternative would result in a less-than-significant localized construction impact. The Canoga On-Street Dedicated Bus Lanes and the Canoga Busway Alternatives would result in significant and unavoidable localized air quality construction impacts even with mitigation. | Mitigation Measures **MM 4.8-1** through **MM 4.8-8** would reduce localized $PM_{2.5}$ and $PM_{10}$ fugitive dust emissions for the Canoga On-Street Dedicated Bus Lanes and the Canoga Busway Alternatives.<br><br>**MM 4.8-1:** Water or a stabilizing agent shall be applied to exposed surfaces in sufficient quantity to prevent generation of dust plumes.<br><br>**MM 4.8-2:** A wheel washing system shall be installed and used to remove bulk material from tires and vehicle undercarriages before vehicles exit the project site.<br><br>**MM 4.8-3:** All haul trucks hauling soil, sand, and other loose materials shall maintain at least six inches of freeboard in accordance with California Vehicle Code Section 23114.<br><br>**MM 4.8-4:** All haul trucks hauling soil, sand, and other loose materials shall be covered (e.g., with tarps or other enclosures that would reduce fugitive dust | No impact for the No Project Alternative.<br><br>Less than significant for the TSM Alternative.<br><br>Significant unavoidable impacts for the Canoga On-Street Dedicated Bus Lanes and Canoga Busway Alternatives. |

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| | emissions).<br><br>**MM 4.8-5:** Traffic speeds on unpaved roads shall be limited to 15 miles per hour.<br><br>**MM 4.8-6:** Operations on unpaved surfaces shall be suspended when winds exceed 25 miles per hour.<br><br>**MM 4.8-7:** Heavy equipment operations shall be suspended during first and second stage smog alerts.<br><br>**MM 4.8-8:** On-site stock piles of debris, dirt, or rusty materials shall be covered or watered at least twice per day. | |
| **Impact 4.8.3:** Based on the operational emission estimates, the No Project Alternative would have no regional operational impact. The TSM, Canoga On-Street Dedicated Bus Lanes, and Canoga Busway Alternatives would result in less-than-significant regional operational air quality impacts without mitigation. | None required. | Less than significant. |
| **Impact 4.8.4:** Based on the CO hotspot analysis, the No Project, TSM, Canoga On-Street Dedicated Bus Lanes, and Canoga Busway Alternatives would result in less-than-significant localized CO hotspot impacts without mitigation. | None required. | Less than significant. |
| **Impact 4.8.5:** The proposed project would not emit a substantial amount of toxic air contaminants (TACs). The No Project Alternative would have no TAC impact. The TSM Alternative would result in a less than significant TAC impact without mitigation. The Canoga On-Street Dedicated Bus Lanes, and Canoga Busway Alternatives would result in less-than-significant TAC impacts with mitigation. | **MM 4.8-9:** Construction contractors shall comply with SCAQMD Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities). The requirements for demolition activities include asbestos surveying, notification, asbestos-containing material (ACM) removal procedures and time schedules, ACM handling and clean-up procedures, and storage, disposal, and landfilling requirements for asbestos-containing waste materials.<br><br>**MM 4.8-10**: Construction contractors shall prepare a project-specific Lead Compliance Plan to prevent or minimize worker exposure to lead while handling material containing aerially deposited lead. The Lead Compliance | Less than significant. |

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| | Plan shall contain the elements listed in Title 8, California Code of Regulations, Section 1532.1(e)(2)(B). Before submission to the Engineer, the Lead Compliance Plan shall be approved by an Industrial Hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene. The plan shall be submitted to the Engineer for review and acceptance at least 15 days prior to beginning work in areas containing aerially deposited lead. | |
| **Impact 4.8.6:** The No Project Alternative would have no odor impact The TSM, Canoga On-Street Dedicated Bus Lanes, and Canoga Busway Alternatives would result in less-than-significant odor impacts without mitigation. | None required. | Less than significant. |
| **Impact 4.8.7:** The No Project, TSM, Canoga On-Street Dedicated Bus Lanes, and Canoga Busway Alternatives would be consistent with the 2007 AQMP without mitigation. | None required. | Less than significant. |
| **Impact 4.8.8:** The No Project Alternative would have no global warming impact. The TSM, Canoga On-Street Dedicated Bus Lanes, and Canoga Busway Alternatives would result in a beneficial global warming impact without mitigation. | None required. | Less than significant. |
| **Impact 4.8.9:** The No Project Alternative would have no cumulative air quality impact. The TSM, Canoga On-Street Dedicated Bus Lanes, and Canoga Busway Alternatives would result in less-than-significant cumulative air quality impacts without mitigation. | None required. | Less than significant. |
| ***Noise*** | | |
| **Impact 4.9.1:** Construction activity has the potential to significantly increase ambient noise levels through the use of heavy-duty construction equipment. The No Project Alternative would not result in any construction noise impact. The TSM Alternative would result in less-than-significant construction noise impacts without mitigation. However, the Canoga On-Street Dedicated Bus Lanes and the Canoga Busway Alternatives would result in significant and unavoidable construction noise | Alternatives 3 and 4:<br><br>**MM 4.9-1:** Metro will require construction contractors to equip construction equipment with the most effective locally available mufflers, along with any other suitable noise attenuation devices.<br><br>**MM 4.9-2:** In noise sensitive areas, the construction contractor shall work with Metro to select construction processes and techniques that create the lowest noise levels. These techniques include, but are not limited to, the mixing of concrete off-site instead of on-site, using hydraulic tools instead of | Significant and unavoidable impact for the Canoga On-Street Dedicated Bus Lanes and the Canoga Busway Alternatives. |

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| impacts. | pneumatic tools, and using quieter equipment as opposed to noisier equipment (such as rubber-tired equipment rather than track equipment).<br><br>**MM 4.9-3:** Metro will ensure that equipment staging areas and rock crushing operations for recycling concrete and asphalt rubble are located as far as possible from sensitive receptors along the project corridor.<br><br>**MM 4.9-4:** Metro will require that construction contractors limit construction activities that generate loud noise levels to daytime hours, including construction activities that generate loud noise levels for short periods of time. Example restrictions include limiting the use of jackhammers and other pneumatic impact devices and restricting construction in residential areas to daytime hours. Metro shall have the ability to require the construction contractor to enforce additional noise reduction measures to minimize construction noise levels during the evening and nighttime hours. Metro shall also have the ability to limit certain types of construction activities to the daytime hours.<br><br>**MM 4.9-5:** Metro will coordinate with the City of Los Angeles Department of Transportation to conduct sandblasting during the daytime hours rather than during the evening and nighttime hours.<br><br>**MM 4.9-6:** Metro shall develop specific noise limits at noise sensitive areas to be included in the construction specifications and require that construction contractors perform noise monitoring during construction to verify compliance with the limits. Metro shall have the ability to require construction contractors to enforce noise reduction measures to ensure that noise levels at noise sensitive areas are minimized.<br><br>**MM 4.9-7:** Metro will require that construction contractors minimize the use of backup alarms. Potential techniques that Metro can require construction contractors to enforce include designing construction sites to minimize the need for backup alarms (subject to approval by safety regulatory agencies); use strobe lights in place of backup alarms at night (subject to approval by safety regulatory agencies); use of flagmen to keep the area behind maneuvering vehicles clear; and use self-adjusting, ambient-controlled backup alarms to adjust the alarm loudness up and down depending on | |

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| | ambient noise levels.<br><br>**MM 4.9-8:** Metro will require the construction contractor to establish a "noise disturbance coordinator." The disturbance coordinator shall be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and would be required to implement reasonable measures such that the complaint is resolved. All signs posted at the construction site shall list the telephone number for the disturbance coordinator. Metro shall have the ability to require the construction contractor to enforce additional noise reduction measures to minimize construction noise levels.<br><br>**MM 4.9-9:** Metro will require the construction contractor to install temporary sound barriers (e.g., soundwall or sound blankets) between the construction site and sensitive receptors. Metro will determine the type, length, and height of the sound barriers that would be used. Metro will also require the construction contractor to place portable sound blankets around sandblasting and jackhammering operations, as well as construction activities that involve vibratory rollers. The sound barriers shall break the line-of-sight between the construction equipment on the construction site and the sensitive receptors. | |
| **Impact 4.9.2:** Construction of the proposed project has the potential to increase vibration levels through the use of heavy-duty construction equipment. The No Project Alternative would have no vibration impact. The TSM, Canoga On-Street Dedicated Bus Lanes, and Canoga Busway Alternatives would result in less-than-significant construction vibration impacts without mitigation. | None required. | Less than significant. |
| **Impact 4.9.3:** Operation of the proposed project would not significantly increase ambient noise levels with mitigation. The No Project Alternative would have no impact on operational noise. The TSM Alternative would have a less-than-significant impact. The Canoga On-Street Dedicated Bus Lanes and | Alternatives 3 and 4:<br><br>**MM 4.9-10:** New buses intended for use in the corridor under the Canoga On-Street Dedicated Bus Lanes and the Canoga Busway Alternatives shall be equipped with the most effective commercially available mufflers. | No impact for the No Project Alternative.<br><br>Less-than-significant impact for the TSM, Canoga On-Street Dedicated Bus Lanes, and Canoga Busway Alternatives. |

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| Canoga Busway Alternatives require mitigation. | **MM 4.9-11:** The sound path of the speakers for the passenger information systems shall be directed downward and away from sensitive receptors.<br><br>**MM 4.9-12:** Sound emitted from the speakers shall not exceed the ambient sound level at the proposed stations by more than ten dBA.<br><br>Option 2 under Alternative 3 and Options 2 through 3a under Alternative 4:<br><br>**MM 4.9-13:** For the multi-family residences north of Lassen Street, one of the following measures shall be implemented:<br><br>1) Metro shall reimburse property owners who retrofit the existing residential uses, or<br>2) Metro shall purchase noise easements from the affected property owners.<br><br>Options 4 and 4a under Alternative 4:<br><br>**MM4.9-14:** A soundwall with a minimum height of eight ft. shall be constructed along the western property line of the Sunburst Mobile Home Park. The soundwall shall be installed along the western perimeter of the property. The soundwall shall be tall and long enough to break the line-of-sight between the buses at the proposed bus lanes and the mobile homes at the Sunburst Mobile Home Park. To break the line-of-sight between the bus lanes on Canoga Avenue and the mobile homes at the Sunburst Mobile Home Park, the soundwall shall be extended by 260 ft to the north of the northernmost mobile home and up to the Browns Canyon Wash to the south. The installation of the soundwall shall be coordinated with the applicable public agencies. | |
| **Impact 4.9.4:** Operation of the proposed project has the potential to increases vibration levels. The No Project Alternative would have no vibration impact. The TSM, Canoga On-Street Dedicated Bus Lanes, and Canoga Busway Alternatives would result in less-than-significant operational vibration impacts without mitigation. | None required. | Less than significant |

TABLE 2-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| **Impact 4.9.5:** The proposed project has the potential to result in a significant cumulative noise impact. The No Project Alternative would have no cumulative impact. The TSM, Canoga On-Street Dedicated Bus Lanes, and Canoga Busway Alternatives would result in significant impact on ambient noise levels without mitigation. | See mitigation measures above. | No impact for the No Project Alternative.<br><br>Less-than-significant impact for the TSM, Canoga On-Street Dedicated Bus Lanes, and Canoga Busway Alternatives. |
| ***Geology, Soils and Seismicity*** | | |
| **Impact 4.10.1**: The project could expose people or structures to less than significant to potentially significant adverse effects from surface rupture of an earthquake fault prior to mitigation. | No mitigation required for Alternatives 1, 2, and 3. Alternative 4:<br><br>**MM 4.10-1:** A geological study shall be performed during the final design of any proposed grade separation structures located within the fault study area. The results of the geotechnical studies shall be incorporated in the final design of the structure. | Less than significant. |
| **Impact 4.10.2:** The project could expose people or structures to significant adverse effects from strong seismic ground shaking. | No mitigation is required for Alternative 1. Mitigation measures **MM 4.10-2** and **MM 4.10-3** identified below are required for Alternatives 2, 3, and 4.<br><br>**MM 4.10-2:** A geotechnical investigation shall be performed during final design. The investigation shall include collection of site specific soil samples, laboratory testing, engineering analyses, and recommendations for final design.<br><br>**MM4.10-3:** During the investigation noted in MM 4.10-2, the magnitude of the strong ground shaking shall be confirmed and acceleration response spectra recommended for design seismic events in accordance with the latest editions of Metro, American Railway Engineering and Maintenance-of-Way Association (AREMA), Caltrans code, and California Building codes. The structural design shall then incorporate these findings in accordance with the applicable codes to maintain structural integrity during seismic events. | Less than significant. |
| **Impact 4.10.3:** The project could expose people or structures to potentially significant adverse effects from liquefaction-induced ground failures prior to | No mitigation is required for Alternative 1. Alternative 2 would require **MM 4.10-2, MM 4.10-4**, and if needed **MM 4.10-5**. Alternatives 3 and 4 would require **MM 4.10-2, MM 4.10-4**, and if needed **MM 4.10-5** and **MM 4.10-6**. | Less than significant. |

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| mitigation. | **MM 4.10-4:** The geotechnical investigation noted in **MM 4.10-2** shall include evaluation of site specific liquefaction potential in accordance with California Geological Survey's (CGS) Special Publication 117 for all planned structures that lie within the liquefaction zone.<br><br>**MM 4.10-5:** For lightly loaded structures such as bus stops, canopies, and walls if **MM 4.10-4** indicates that the likely effect of liquefaction is increased settlement and not collapse then incorporate geotechnical and/or structural methods to mitigate the effects of liquefaction on the foundations during final design. The geotechnical mitigation methods may range from recompaction of the upper material to provision of a mechanically stabilized earth (MSE) foundation system. The structural mitigation methods may range from planning for repairs/ maintenance after a seismic event to supporting the improvements on mat foundation or interconnected beam foundations to tolerate the anticipated seismic settlement without collapse.<br><br>**MM 4.10-6:** For grade separation structures, if **MM 4.10-4** indicates liquefaction potential, then incorporate structural design to mitigate effects of liquefaction or perform geotechnical ground improvement to mitigate liquefaction potential. The structural design will likely include pile foundations that extend below the potentially liquefiable layers. The foundation design should incorporate the effects of liquefaction induced down drag on axial pile capacity and reduced lateral resistance from liquefied soils. The ground improvement methods may range from stone columns in non-contaminated areas to compaction grouting in contaminated areas. | |
| **Impact 4.10.4:** The project would expose people or structures to less than significant adverse effects from landslides; no mitigation is required, although mitigation is recommended. | No mitigation is required for Alternatives 1 and 2. For Alternatives 3 and 4, mitigation measures **MM 4.10-2** and **MM 4.10-7** are recommended to reduce instability of new slopes during seismic conditions.<br><br>**MM 4.10-7:** Perform slope stability analyses for the planned abutment slopes at the grade separation structures at Los Angeles River and Lassen Street considering seismic ground shaking and liquefaction potential. If analyses indicate a factor-of-safety (FS) less than 1.1 for pseudo-static conditions or FS less than 1.3 for post-earthquake conditions, deformation analyses should be performed and its effects on the foundations should be evaluated. If the | Less than significant. |

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| | foundations cannot tolerate the estimated deformations, the slope inclinations will have to be revised (to be shallower) such that the minimum FS values noted above are met. | |
| **Impact 4.10.5:** The proposed project is not expected to result in significant erosion or loss of top soil; no mitigation is required. | None required. | Less than significant. |
| **Impact 4.10.6:** The proposed project would have less than significant potential to result in on- or off-site landslide, lateral spreading, and collapse, no mitigation is required. | None required. | Less than significant. |
| **Impact 4.10.7:** The proposed project would have less than significant potential for adverse effects from expansive soils; no mitigation is required. | None required. | Less than significant. |
| **Impact 4.10.8**: The soils at the proposed project site can adequately support septic tanks and alternative waste water system, if needed; no mitigation is required. | None required. | Less than significant. |
| **Impact 4.10.9:** The proposed project would have less than significant impact from other subsurface conditions such as shallow subsurface gas; no mitigation is required | None required. | Less than significant. |
| **Impact 4.10.10:** The project would have less than significant impacts on geologic resources during construction; no mitigation is required, although measures are recommended. | No mitigation measures are required for Alternative 1. Mitigation measures, in accordance with general construction procedures, are recommended for Alternatives 2, 3, and 4. Mitigation measures **MM4.10-8** and **MM 4.10-9** are applicable for Alternative 2. For Alternatives 3 and 4 **MM 4.10-8** through **MM 4.10-10** are applicable. See Hazardous Materials below for mitigation measures if hazardous or contaminated materials are encountered during construction.<br><br>**MM 4.10-8**: Implementing industry standard storm water pollution control Best Management Practices would reduce soil erosion to a less than significant or adverse level. Erosion control measures that shall be implemented as part of Best Management Practices would include the placement of sandbags, use of proper grading techniques, appropriate sloping, and covering or stabilizing topsoil stockpiles. Construction industry standard storm water Best Management Practices are provided in the State of California Storm Water Best Management Practice Handbook, Construction | Less than significant. |

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| | Activity.<br><br>**MM 4.10-9:** Discoveries of undocumented wells or dry holes during construction activities must be reported to the City of Los Angeles and the California Division of Oil, Gas and Geothermal Resources (DOGGR). Any wells or dry holes uncovered must be plugged and abandoned in accordance with current DOGGR regulations.<br><br>**MM 4.10-10:** Any groundwater that is encountered during foundation installation (or during excavations for the underpass option near Lassen Street) should be contained and disposed of off-site appropriately. | |
| **Impact 4.10.11:** There is no potential for substantial cumulative geologic resource impacts because potential geologic impacts are mostly localized; no mitigation is required. | None required. | No impact. |
| ***Hazardous Materials*** | | |
| **Impact 4.11.1:** The proposed project is located on land that is known to contain hazardous materials and as a result could create a hazard to the public or environment if mitigation measures were not implemented. | Alternative 1 would not need any mitigation measures. For Alternative 2 mitigation measures **MM 4.11-1** through **MM 4.11-7** are recommended. Mitigation measures **MM 4.11-2** through **MM 4.11-13** shall be implemented for Alternatives 3 and 4.<br><br>**MM 4.11-1:** A Phase II investigation shall be performed at proposed bus stops along Canoga Avenue at Sherman Way, Nordoff, Roscoe, Parthenia (optional stop), and at the Chatsworth Metrolink station. Soil borings shall be performed at locations where earthwork is planned for construction of bus stops. Soil sampling shall include environmental screening for contamination by visual observations and field screening for volatile organic compounds with a photoionization detector (PID). The soils shall be tested for arsenic and lead. Based on field screening, soil samples shall be analyzed for the suspected chemicals by a laboratory certified by the State of California Department of Health Services.<br><br>**MM 4.11-2:** Railroad ties stored for reuse or removed during construction excavation are presumed treated with preservatives and thereby subject to Title 22 Alternative Management Standards for Treated Wood Waste (TWW). | Less than significant. |

**TABLE 2-1**
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| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| | **MM 4.11-3:** On the previous Metro Orange Line project from the North Hollywood Station to the Canoga Park and Ride Station, Metro and the California Department of Toxic Substance Control (DTSC) agreed on a plan for handling soils with elevated levels of arsenic. The DTSC calculated an action level for arsenic to be 50 ppm. Soils with arsenic levels above 50 ppm were removed and disposed of off-site according to State disposal guidelines. Soils with arsenic between 11 and 50 ppm were considered as having elevated levels of arsenic and were required to be managed to prevent migration of arsenic to water supplies as well as exposure to humans. A similar agreement between Metro and DTSC establishing thresholds for removal and management of soils with elevated levels of arsenic is anticipated for this project based on the soil condition in the Project area. To evaluate the presence and extent of arsenic in the near surface soils, a Phase II investigation shall be performed where earthwork is planned.<br><br>**MM 4.11-4:** Yellow thermoplastic paint markings on the pavement should be evaluated for lead and other heavy metals such as chromium before disposal.<br><br>**MM 4.11-5:** Excavated soils with lead above a total threshold limit concentration (TTLC) above 1,000 ppm and/or soluble threshold limit concentration (STLC) above 5 mg/l are considered hazardous. Metro plans to coordinate with DTSC to have a site specific background level for the project and a plan for handling soils with elevated levels of lead. To evaluate the presence and extent of lead in the near surface soils, a Phase II investigation shall be performed where earthwork is planned.<br><br>**MM 4.11-6:** Soils with petroleum hydrocarbons or hazardous constituents exceeding cleanup levels provided by California Regional Water Quality Control Board (RWQCB) and/or Department of Toxic Substances Control (DTSC) shall be remediated or disposed of offsite according to State guidelines.<br><br>**MM 4.11-7:** Metro must make allowances for future groundwater monitoring wells to be installed by Pratt & Whitney at the Canoga Park-and-Ride Station if required. | |

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| | **MM 4.11-8:** To evaluate evidence of hazardous substances, unlabeled drums, and petroleum hydrocarbons observed during the Phase I investigation, a Phase II investigation shall be performed where earthwork is planned between 7000 and 7900 Canoga Avenue. Sufficient borings shall be preformed to estimate the lateral extent and levels of contamination. Soil sampling shall include environmental screening for contamination by visual observations and field screening for volatile organic compounds with a photo ionization detector (PID). Based on field screening, soil samples shall be analyzed for the suspected chemicals by a laboratory certified by the State of California Department of Health Services.<br><br>**MM 4.11-9:** To evaluate for the presence of deeper soil contamination and volatile organic compounds (VOC) in groundwater at grade separation excavations, soils borings and groundwater monitoring wells shall be installed. Soil sampling shall include environmental screening for contamination by visual observations and field screening for volatile organic compounds with a PID. Based on field screening, soil samples shall be analyzed for the suspected chemicals by a certified laboratory. Groundwater samples should be analyzed for VOC.<br><br>**MM 4.11-10:** Groundwater removed for construction purposes with VOC above State and Federal Maximum Contaminant Levels for drinking water shall be treated or disposed according to applicable state guidelines.<br><br>**MM 4.11-11:** Buildings that will be demolished shall have a comprehensive asbestos containing materials (ACM) inspection prior to demolition. ACM that may be identified as present in any building to be demolished, including the building material debris observed at the waste transfer facility between Vanowen Street and Sherman Way shall be tested and properly disposed.<br><br>**MM 4.11-12:** At 6969 Deering Avenue, 7001 Deering Avenue, and 7101/7119 Deering Avenue, a Phase II investigation shall be performed consisting of surveying the lots to assess for potentially unknown remaining underground storage tanks.<br><br>**MM 4.11-13:** At 21350 Sherman Way groundwater monitoring shall continue until the case is closed by RWQCB. | |

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| **Impact 4.11.2:** There are no potential cumulative hazardous materials impacts. | None required. | Less than significant. |
| ***Water Resources*** | | |
| **Impact 4.12.1:** With mitigation neither project construction nor operation would result in violations of any water quality standards or waste discharge requirements. | **MM 4.12-1:** Runoff from parking lots (MOL Canoga Station, Sherman Way Station, and Chatsworth Metrolink Station) shall be treated, as required by Standard Urban Storm Water Mitigation Plan (SUSMP), prior to discharging into existing storm drain systems. Stormceptor® units have been installed as post-construction treatment control Best Management Practices (BMPs) at the existing MOL Canoga Station. These units shall continue to be used for the modified parking area and additional units added at the new Sherman Way Station and existing Chatsworth Metrolink Station. At the Canoga Station, the design must make accommodations for installation of groundwater monitoring wells, if wells are required to address contamination from the Pratt & Whitney site. See Section 4.11 Hazardous Material for additional Mitigation Measures.<br><br>**MM 4.12-2**: Where sufficient area is available, runoff shall be collected in roadside vegetated swales and directed to existing curb and gutter or storm drains in Canoga Avenue. In other areas, runoff shall be collected in gutters and directed to the storm drain systems in Canoga Avenue. Swale design shall be coordinated with mitigations for potential arsenic and lead in soils described in Section 4.11 Hazardous Materials.<br>.<br><br>**MM 4.12-3**: Prepare SUSMP in accordance with the Los Angeles Municipal Storm Water permit to address construction and operational impacts. The SUSMP shall identify post-development peak runoff, conserve natural areas, minimize storm water pollutants, protect slopes and channels, and post-construction BMPs and other items as required by the permit. Air Quality mitigations may also provide mitigation to water resources impacts and are addressed in Section 4.8 by measures 1 through 7 and 9.<br><br>**MM 4.12-4:** Develop Storm Water Pollution Prevention Plan (SWPPP) that complies with National Pollutant Discharge Elimination System (NPDES) requirements from California State Water Resources Control Board (SWQCB). Construction shall be in compliance with this permit. | None or beneficial. |

TABLE 2-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| **Impact 4.12.2:** The project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge; no mitigation is required. | None required. | None or less than significant. |
| **Impact 4.12.3:** With mitigation the project would not 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 substantial erosion or siltation on- or off-site or result in flooding on- or off-site. | **MM 4.12-5:** Small detention/infiltration basins shall be provided as-needed within the ROW, including in park-and-ride lots at Canoga, Sherman Way, Roscoe, (Alternative 3 only) and Chatsworth Metrolink Stations, to reduce peak flow and runoff volumes to pre-project conditions. | None or less than significant. |
| **Impact 4.12.4:** With mitigation the project would not create or contribute runoff water, which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. | **MM 4.12-1** through **MM 4.12-4** would address this impact. | None or less than significant. |
| **Impact 4.12.5:** With mitigation the project would not substantially degrade water quality. | **MM 4.12-1** through **MM 4.12-4** would address this impact. | None or Beneficial. |
| **Impact 4.12.6:** The project would not 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; no mitigation is required. | None required. | No impact. |
| **Impact 4.12.7:** The project would not place structures that would impede or redirect flood flows, nor 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, or inundation from seiche, tsunami or mudflow; no mitigation is required. | None required. | No impact. |
| ***Biological Resources & Ecosystems*** | | |
| **Impact 4.13.1:** Construction activities would not result in temporary harassment or mortality to special-status species and/or temporary loss of occupied habitat for those species. Since special-status species and their occupied habitat are not expected to | None required. | Less than significant. |

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| be present in the immediate project area, no significant impacts would occur; no mitigation is required. | | |
| **Impact 4.13.2:** Permanent or ongoing project operations would not result in harassment or mortality to special-status species and/or loss of occupied habitat for those species, should such species or habitats be present. Since special-status species (as defined) and their occupied habitat do not have reasonable potential to be present in the immediate project area, there is no potential for significant impacts to these species. No mitigation is required. See Impact 4.13.5 regarding the Migratory Bird Treaty Act. | None required. | Less than significant. |
| **Impact 4.13.3:** Project changes to existing conditions, either temporarily or permanently, would not interrupt or remove functional wildlife corridors or habitat linkages, and would not adversely affect large-scale, landscape level functioning of the project area for this purpose. The project would not affect common native species nor special-status species or populations. Because such corridors or linkages are not present in the immediate project area, no significant impacts to these resources are anticipated, and no mitigation measures are necessary. | None required. | Less than significant. |
| **Impact 4.13.4:** The project would not have a substantial adverse effect on protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. Although there are stormwater channels present, including the Los Angeles River, on and adjacent to the project site, they lack a prevalence of wetland vegetation and are not wetlands under current regulations. Because no wetlands exist on or adjacent to the project site, and because the project would not result in fill or | None required. | Less than significant. |

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| substantial alteration of flow elsewhere, no impacts to wetlands would occur, and no mitigation is required. | | |
| **Impact 4.13.5:** The project would require the removal of a small number of planted trees, a less than significant impact because these trees do not have special regulatory status as rare or sensitive. Removal of trees or other construction activities, however, could affect native birds and their nests and conflict with the Migratory Bird Treaty Act and similar laws in the California Fish and Game Code protecting native bird species, a potentially significant impact that would less than significant with mitigation. | **MM 4.13-1:** Any removal of native or nonnative vegetation for the project shall be conducted outside the core nesting season for native birds in the project area, which is 01 March through 31 August. If such activities cannot be so restricted, a qualified biologist shall conduct a pre-construction survey for nesting birds in relevant areas on and adjacent to the project within 7 days prior to any relevant project activities. Any active (or potentially active) nests shall be identified with information relevant to the statutes at hand, which proscribe the mortality, injury, or causing nest failure of protected bird species, including location (accurately mapped or recorded using GPS) and this information relayed within 72 hours to relevant project personnel and resource agency personnel. No project activities that may result in mortality or failure of an active nest of native birds shall be conducted within 100 ft. of an active (or potentially active) nest of a native bird. The distance of 100 ft. is based on anticipated tolerance for project activities for native birds in an existing, urban setting, but may be modified (up to 300 feet or down to 50 ft.) on a case-by-case basis, based on professional judgment and written recommendations of the qualified biologist.<br><br>**MM 4.13-2**: All trees removed must be replaced in accordance with applicable guidelines. | Less than significant. |
| **Impact 4.13.6:** Impact 4.13.6. The project would not have a cumulatively considerable effect on wetlands, special-status species, or disrupt functional wildlife corridors in the project area. However, the removal of trees and other construction activities as a result of the proposed project and other cumulative projects in the project area could result in cumulatively considerable impacts to native birds and their nests and conflict with the Migratory Bird Treaty Act and similar laws in the California Fish and Game Code protecting native bird species. Impacts would be less than significant after mitigation. | None required. | Less than significant |

**TABLE 2-1**
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Impact | Mitigation Measure(s) | Significance After Mitigation |
|---|---|---|
| ***Energy*** | | |
| **Impact 4.14.1:** The No Project Alternative would have no energy impact. The TSM, Canoga On-Street Dedicated Bus Lanes, and Canoga Busway Alternatives would result in beneficial energy impacts without mitigation. | None required. | Less than significant. |
| ***Safety & Security*** | | |
| **Impact 4.15.2:** The proposed project would not result in a significant impact on crime prevention. | None required. | Less than significant. |
| **Impact 4.15.3:** The proposed project would not result in a significant impact on emergency response. | None required. | Less than significant. |
| **Impact 4.15.4:** The proposed project has the potential to have significant construction impacts on safety and security. | Alternatives 3 and 4:<br><br>**MM 4.15-1:** To further minimize impacts to schools, students, and active pedestrian communities, the following will be implemented:<br><br>• Emergency services providers and school officials will be consulted regarding the construction process to reduce intrusiveness of the construction process and provide for continuing two-way communication throughout the construction period.<br><br>• School officials will be consulted in order to ensure maintenance of safe student walk routes and access for passenger vehicles and school buses.<br><br>• Flag men will be provided during intersection modifications in active pedestrian communities. Crossing guards or flag men will also be provided at construction sites in proximity to schools and where school pedestrian routes cross construction areas.<br><br>• Construction scheduling and haul routes will be sequenced to minimize conflicts with pedestrians, school buses and vehicular traffic during arrivals and dismissals on school days. | Less than significant. |
| **Impact 4.15.5:** The proposed project does not have the potential to result in a significant cumulatively considerable impact on safety and security. | None required. | Less than significant. |

# 3.0 PROJECT DESCRIPTION

## 3.1 INTRODUCTION

The Canoga Transportation Corridor will be an extension of the existing Metro Orange Line (MOL) between the Canoga Station in Woodland Hills and the Chatsworth Metrolink Station in the northwestern San Fernando Valley (SFV). The main goal of this extension is to capitalize on the success of the MOL and other transit services to improve mobility for residents and workers in the western San Fernando Valley.

The San Fernando Valley North-South Transit Corridor Regionally Significant Transportation Investment Study (RSTIS), completed in April, 2003 evaluated north-south transit improvements throughout the San Fernando Valley. It considered transit enhancements on five major corridors extending from Vineland Avenue in the East Valley to Topanga Canyon Boulevard in the West Valley. The RSTIS, which was approved by the Metro Board in May, 2003, recommended transit improvements on five north-south corridors; (1)Reseda Boulevard, (2) Van Nuys Boulevard, (3) Sepulveda Boulevard, (4) Lankershim Boulevard-San Fernando Road, and (5) Canoga Avenue. Metro Rapid Bus service has been implemented on the first three corridors and Metro is currently working with the City of Los Angeles Department of Transportation (LADOT) to identify additional bus speed enhancements on those four corridors, such as peak period bus lanes, queue jumps at signals and other operational and physical improvements to enhance transit service. Subsequently, Metro completed the Canoga Transportation Corridor Alternatives Screening Report, focusing only on alternatives in the Canoga Corridor which could serve to implement the remaining RSTIS recommendations for improved north-south service in the western San Fernando Valley. The Canoga Transportation Corridor Alternatives Screening Report, which was the first step in this environmental clearance process, was submitted to the Metro Board as an information item in September, 2007 and proposed retaining four of the initial seven alternatives for environmental evaluation:

- No Project
- Transportation System Management (TSM)
- Canoga On-street Dedicated Bus Lanes
- Canoga Busway

## 3.2 PROJECT OBJECTIVES

The goals and objectives for the project have been developed from the transportation and land use goals and objectives of the participating government agencies and are consistent with the other transit improvements currently planned for Los Angeles County. **Table 3-1** lists the goals and objectives for the Canoga Transportation Corridor.

**Table 3-1 Goals and Objectives**

| Goal | Objective |
|---|---|
| 1. Enhance regional transit connections to/from the western San Fernando Valley | a. Connect with other regional transportation facilities, including the MOL, Ventura Metro Rapid Bus and Metrolink<br>b. Capitalize on the success of the MOL by providing an operational and physical interface with a north-south transit service<br>c. Complete a "Transit Loop" in the San Fernando Valley, comprising Metrolink and the MOL, and covering both east-west and north-south corridors<br>d. Provide an alternative to the congested San Diego (I-405), Golden State (I-5), Ronald Reagan (SR-118) and Hollywood (SR- 170-US-101) freeways |

**Table 3-1 Goals and Objectives**

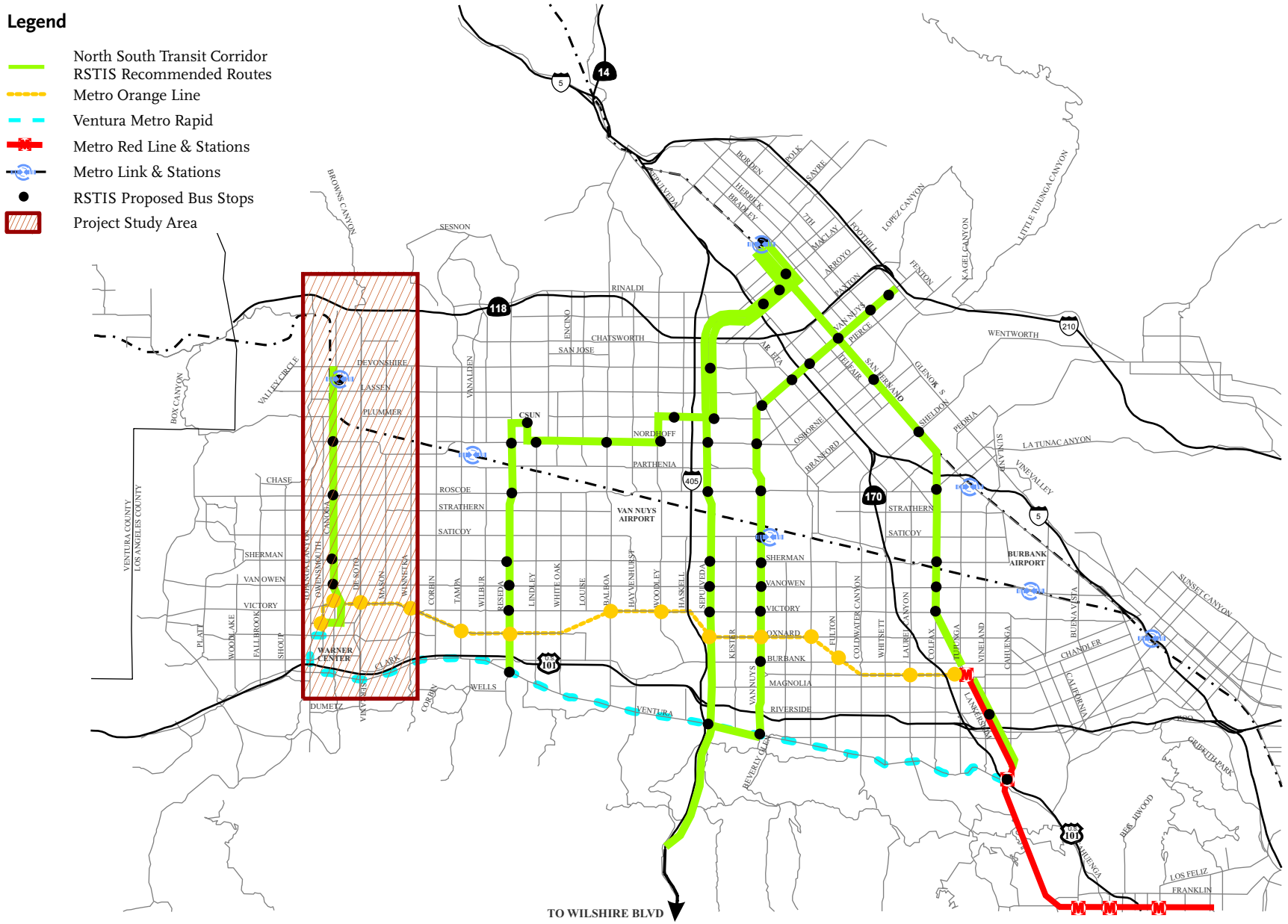
| Goal | Objective |
|---|---|
| | e. Promote intra-modal and inter-modal integration and connectivity to improve system-wide transportation efficiency<br>f. Relieve congestion through the Cahuenga (U.S. 101) and Sepulveda (I-405), and Santa Susana (SR-118) passes by providing connections to the Los Angeles Basin through the Metro Red Line and to the Wilshire Metro Rapid Bus. |
| 2. Improve north-south mobility in the western San Fernando Valley. | a. Connect important activity centers, including educational, medical, cultural, commercial and business<br>b. Enhance transit accessibility to residential land uses<br>c. Support sustainable transportation development by increasing transit ridership<br>d. Provide efficient, convenient and affordable transit alternatives to both choice riders and riders without easy access to other modes of transportation<br>e. Minimize north-south travel times<br>f. Provide enhanced bi-directional north-south transit service<br>g. Provide opportunities to intercept traffic passing through the Valley<br>h. Provide park-and-ride lots at transit stops where compatible with surrounding land uses<br>i. Relieve congestion on North-South arterials |
| 3. Support land use and development goals | a. Provide high-capacity transit linkages between major activity centers<br>b. Support the objectives/strategies of SCAG's Compass Growth Vision for focusing growth in existing and emerging centers and along major transportation corridors<br>c. Achieve City of Los Angeles General Plan Framework Plan goals for increased transit use and concentration of growth in designated Targeted Growth Areas<br>d. Coordinate with City of Los Angeles' Transportation Element policies for Transit Priority Arterial Streets<br>e. Enhance joint development opportunities<br>f. Support and be compatible with the goals of the Los Angeles River Revitalization Master Plan for ensuring safe access to and compatibility between the river and other activity centers<br>g. Support the objective of the Warner Center Specific Plan to coordinate future land use development in Warner Center with the public transit and transportation system<br>h. Support the Canoga Park- Winnetka – Woodland Hills – West Hills Community Plan policies for the development of a public transit system that improves mobility with convenient alternatives to automobile travel and the provision of safe, attractive and clearly identifiable transit stops with user friendly design amenities<br>i. Support the Chatsworth-Porter Ranch Community Plan policy for the increase in bus routes and bus frequency as the potential ridership increases in the Community with population growth |
| 4. Maximize community input, i.e., define the project in a manner that it is responsive to community and policy makers | a. Provide opportunities for community input to the planning and environmental review process<br>b. Seek new ways to share information and incorporate community views into planning (i.e. ensure a collaborative and interactive participation process)<br>c. Provide alternative and multi-lingual methods for community input, including in-person, telephone, and web-based opportunities for information and feedback |
| 5. Provide a transportation project that is compatible with and enhances the physical environment wherever possible | a. Identify cost-effective improvements that minimize adverse effects on the environment<br>b. Avoid impacts on parklands<br>c. Minimize noise impacts<br>d. Minimize impacts on cultural resources<br>e. Minimize air pollution |

| Table 3-1 Goals and Objectives | |
|---|---|
| **Goal** | **Objective** |
| | f. Reduce conflicts with trucks, autos and pedestrians to ensure safety<br>g. Incorporate streetscape improvements in the transit improvements<br>h. Incorporate improvements at transit stops that enhances the physical environment for waiting passengers<br>i. Incorporate improvements that enhance bicycle and pedestrian accessibility to transit stops<br>j. Incorporate improvements along the transit corridor that provide enhanced bicycle and pedestrian mobility to the surrounding neighborhoods<br>k. Provide connections to planned landscaping and trail improvements along the Los Angeles River |
| 6. Provide a transportation improvement project that minimizes impacts on the community | a. Minimize business and residential dislocations, community disruption, and property damage<br>b. Avoid creating physical barriers, destroying neighborhood cohesiveness, or in other ways lessening the quality of the human environment<br>c. Minimize traffic and parking impacts<br>d. Minimize impacts during construction |
| 7. Provide a transportation project that is cost-effective and within the ability of Metro to fund, including capital and operating costs | a. Identify cost-saving measures to reduce project costs<br>b. Leverage existing transportation resources and explore new innovative financing opportunities<br>c. Prioritize alternatives eligible for State Traffic Congestion Relief Program funding earmarked for the San Fernando Valley<br>d. Maximize the benefits associated with the use of existing public rights-of-way.<br>e. Ensure fiscal consistency with the Metro Long Range Transportation Plan<br>f. Ensure integration with Metro Local services<br>g. Identify, if appropriate, a phased implementation plan for alternatives to be implemented as funds are identified |

## 3.3 DESCRIPTION OF PROJECT AREA AND SURROUNDINGS

The Canoga Transportation Corridor (the Corridor) is located in the west San Fernando Valley area within the City of Los Angeles, generally 30 miles northwest of the Los Angeles Central Business District (CBD). **Figure 3-1** illustrates the corridor in the regional context. As shown in **Figure 3-1**, the corridor begins at the existing Warner Center Transit Hub located on Owensmouth Avenue between Erwin and Oxnard Streets. This is the western terminus of the existing MOL, completed in 2005, which connects Warner Center to the Metro Rail system at the North Hollywood Metro Red Line station. The Corridor extends to the north along Canoga Avenue and the parallel Metro-owned railroad ROW. The Corridor's northern terminus is the Chatsworth Metrolink Station with its regional rail connections to Amtrak and Metrolink as well as to several local bus lines. The Corridor is approximately four miles long and connects major activity areas in the western San Fernando Valley, including Warner Center, downtown Canoga Park, and the Chatsworth industrial area.

The Southern California Region is home to 18 million people. Each City or community in Southern California is inexorably linked to the rest of the region by economic ties (i.e. employment). According to Metro's 2004 Congestion Management Plan, over 45% of the San Fernando Valley's home-to-work trips are made to destinations outside of the San Fernando Valley. Therefore, transit connections to regional transit facilities are important in supplying the demand for regional travel in the Study Area, as well as in the San Fernando Valley.




Source: ITERIS

NOT TO SCALE

The western San Fernando Valley has experienced significant employment growth during the past 20 years, and levels of traffic congestion during the morning and evening commute periods have also increased significantly. Every north-south arterial street becomes very congested during peak periods, and transit service in mixed-flow travel lanes degrades as traffic congestion increases. Enhanced transit service would provide an alternative to vehicle travel on these congested roadways. The Corridor presents an opportunity to provide improved and reliable transit service as a viable alternative to congested north-south vehicular travel.

## 3.4 ALTERNATIVES EVALUATED IN THE EIR

This section provides detailed descriptions of the alternatives analyzed in this EIR. In addition to the two baseline comparative alternatives (No Project and TSM), this document includes two Bus Rapid Transit (BRT) alternatives, screened for further analysis by the Canoga Transportation Corridor Alternatives Screening Report (2007). BRT systems are found today in cities throughout the world. BRT can be defined as a flexible, rubber-tired rapid-transit mode that combines stations, vehicles, services, running ways and Intelligent Transportation Systems (ITS) elements into an integrated system with a strong positive identity that evokes a unique image[1]. The BRT is an integrated system of facilities, services, and amenities that collectively improves speed, reliability, and identity of bus transit. In Los Angeles, the MOL represents the best example of BRT service. Although BRT can be implemented on mixed-traffic lanes, one of the features of the most successful BRT systems is the use of exclusive right-of-way (ROW), either a bus-only lane or a busway. Both BRT alternatives considered in this EIR utilize an exclusive ROW. Conceptual engineering drawings of the two BRT alternatives are provided in **Appendix H**.

### 3.4.1 No Project

The No Project Alternative reflects the condition anticipated for the year 2030, based on SCAG's growth forecast, if no major transit improvement investments are made in the western SFV. This scenario would mean that the Metro-owned ROW or Canoga Avenue would not be used for a transit project. This alternative is used as a baseline for comparison to the TSM, On-Street Dedicated Bus Lanes, and Busway Alternatives.

The transit network would include the existing routes and rail-bus interfaces, as applicable. Services are improved on the most crowded bus lines. The urban rail network would include:

- The Exposition Line (Phase I only)
- The Eastside Gold Line Extension
- The current Metrolink system, plus
- Any funded improvements in local, regional, or state transportation plans

### 3.4.2 Transportation Systems Management (TSM)

A Transportation Systems Management (TSM) Alternative is designed to identify low-cost, easily implementable improvements as an alternative to the construction of more-expensive alternatives. The TSM Alternative entails frequency improvements on existing Metro transit routes as well as providing a new local transit line for Canoga Avenue, though not including any transit priority measures (signal priority or dedicated lanes) for this corridor.

1 Transportation Research Board (2003). TCRP Report 90 Bus Rapid Transit

## Headway Improvements

**Table 3-2** details the reductions in transit headways that would be implemented by the TSM Alternative in comparison to the No Project Alternative. It indicates the percentage reduction in headways and the absolute change in headways proposed. For example, a change in bus headway from 15 minutes to 10 minutes is a 33% reduction in headway. The TSM Alternative improvements would be applied for the full length of each route. If all suggested improvements were made, estimated increased fleet requirements would be up to 23 vehicles (excluding spares). These improvements would need to be prioritized and could be included with any selected alternative.

**Table 3-2 TSM Service Improvements**

| Metro Route | | AM Peak | | Midday | | PM Peak | |
|---|---|---|---|---|---|---|---|
| Local | | % Headway Reduction | Headways (Before/After) | % Headway Reduction | Headways (Before/After) | % Headway Reduction | Headways (Before/After) |
| 152 Fallbrook - Roscoe - Glenoaks - Vineland | WB | 0% | (9 to 9) | 25% | (20 to 15) | 0% | (15 to 15) |
| | EB | 0% | (15 to 15) | 25% | (20 to 15) | 0% | (9 to 9) |
| 158 Devonshire St. | WB | 23% | (26 to 20) | 49% | (59 to 30) | 35% | (46 to 30) |
| | EB | 20% | (25 to 20) | 48% | (58 to 30) | 23% | (39 to 30) |
| 163 Sherman Way | WB | 0% | (10 to 10) | 0% | (15 to 15) | 0% | (10 to 10) |
| | EB | 0% | (10 to 10) | 0% | (15 to 15) | 0% | (10 to 10) |
| 166 Devonshire/Nordhoff | WB | 17% | (12 to 10) | 38% | (24 to 15) | 17% | (12 to 10) |
| | EB | 17% | (12 to 10) | 25% | (20 to 15) | 0% | (10 to 10) |
| 167 Plummer St. | WB | 0% | (7.5 to 7.5) | 33% | (45 to 30) | 29% | (42 to 30) |
| | EB | 6% | (32 to 30) | 29% | (42 to 30) | 6% | (32 to 30) |
| 244 De Soto | SB | 17% | (12 to 10) | 27% | (41 to 30) | 0% | (20 to 20) |
| | NB | 0% | (7.5 to 7.5) | 29% | (42 to 30) | 38% | (32 to 20) |
| 245 Topanga Canyon | SB | 9% | (22 to 20) | 35% | (46 to 30) | 38% | (32 to 20) |
| | NB | 35% | (31 to 20) | 32% | (44 to 30) | 9% | (22 to 20) |
| Limited | | | | | | | |
| 353 Roscoe Bl. | WB | 50% | (30 to 15) | begin service | (-- to 15) | 50% | (30 to 15) |
| | EB | 53% | (32 to 15) | begin service | (-- to 15) | 52% | (31 to 15) |
| 363 Sherman Way | WB | 52% | (31 to 15) | begin service | (-- to 15) | 50% | (30 to 15) |
| | EB | 52% | (31 to 15) | begin service | (-- to 15) | 50% | (30 to 15) |
| 364 Nordhoff St. | WB | 0% | (10 to 10) | begin service | (-- to 15) | begin service | (-- to 15) |
| | EB | begin service | (-- to 15) | begin service | (-- to 15) | 0% | (10 to 10) |

Source: TMD, 2007

## New Local Bus Routing Plan

In addition to the headway improvements summarized in **Table 3-2**, the TSM Alternative includes the addition of a new Metro Local route along Canoga Avenue. The new Local route (246) would extend from the Warner Center Transit Hub to the Chatsworth Metrolink Station, utilizing Owensmouth Street, Oxnard Street, Erwin Street, Canoga Avenue, Marilla Street, Owensmouth Street, and Lassen Street. **Figure 3-2** illustrates the routes that would be improved and/or implemented with the TSM Alternative.

## Alternative 2
## Transportation System Management

New Local Route 246 Canoga: Warner Center to Chatsworth Transportation Center

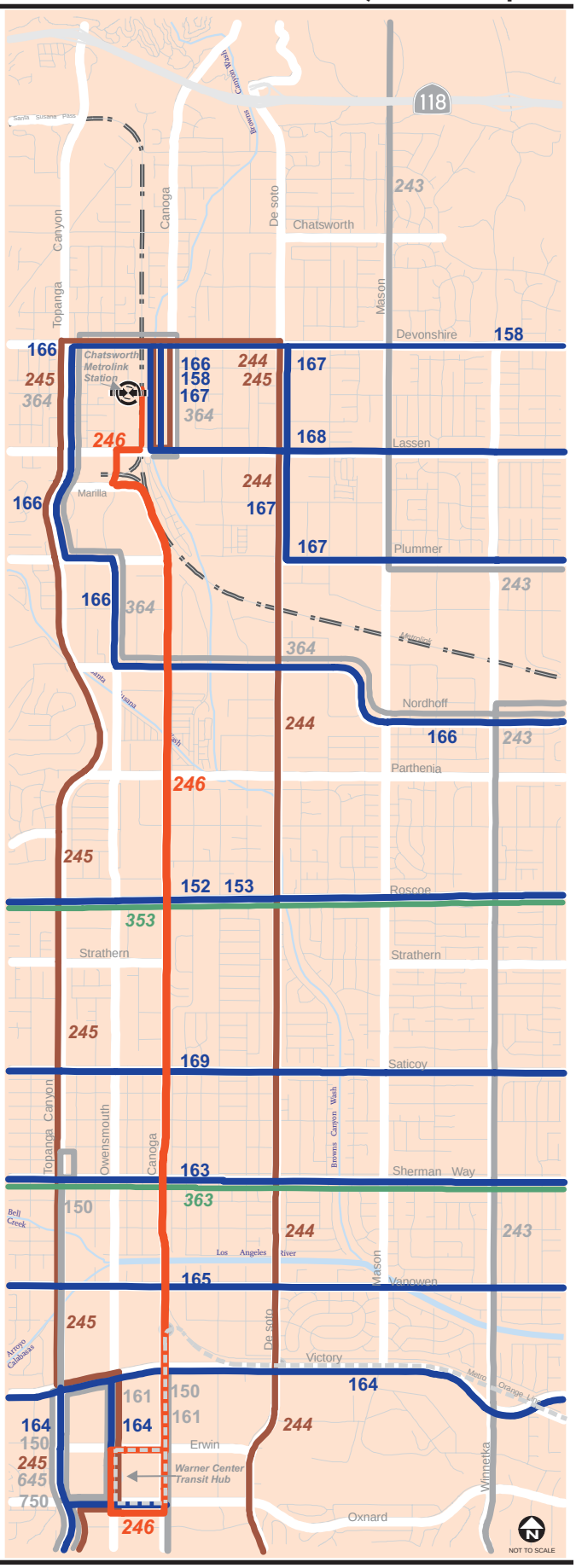
Existing Metro Routes Frequency Improvements of up to half the headway time during the peak hours for the following routes:

N/S Routes

De Soto Avenue: Local 244
Topanga Canyon Boulevard: Local 245

E/W Routes

Devonshire/Nordhoff: Locals 158/166
Lassen/Plummer: Local 167
Roscoe: Local 152/153 and Limited 353
Sherman Way: Local 163 and Limited 363




### Legend

- New Local Route 246 (Warner Center - Chatsworth Transportation Center)
- East/West Local Service
- North/South Local Service
- Limited Stop Service
- Metrolink & Metrolink Stations
- Existing Stations (Metro Orange Line)

Source: TMD

### 3.4.3 Canoga On-Street Dedicated Bus Lanes Alternative

This alternative would operate similar to a Metro Rapid service, but with dedicated lanes. A southbound Bus-Only Lane along Canoga Avenue provided by prohibiting on-street parking; a northbound Bus-Only Lane would be provided by widening the street into the Metro-owned ROW that parallels Canoga Avenue. At intersections with east-west cross streets, Canoga Avenue will be further widened into the Metro ROW to provide right-turn-only lanes on Canoga Avenue, which would allow right-turning vehicles to merge across the bus-only lanes so that through buses are not blocked by right-turning vehicles at the intersections. At the northern end of the route, between Marilla Street and Lassen Avenue, this alternative may include dedicated bus lanes in an exclusive ROW. The ROW north of Marilla Street is only partially owned by Metro; therefore, some private property would have to be purchased. On Canoga Avenue, between the Canoga MOL Station and Plummer Street, a landscaped median island would be provided as part of this alternative. **Figure 3-3** illustrates the Canoga On-Street Dedicated Bus Lanes Alternative.

#### Metro Right-of-Way

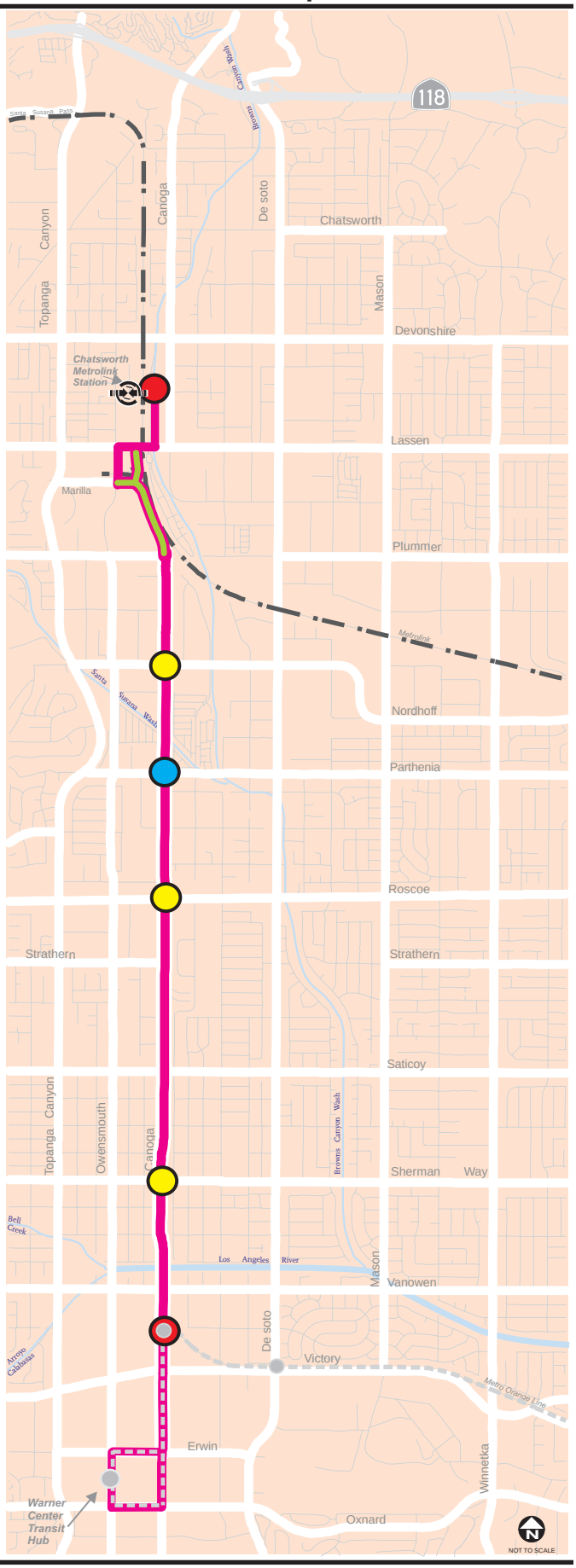
The proposed Canoga On-Street Dedicated Bus Lanes Alternative would be accommodated by widening Canoga Avenue into the Metro ROW. The ROW would provide adequate room for the widening of Canoga Avenue and the addition of landscaping and a bikeway and pedestrian walkway running adjacent to the street. Along Canoga Avenue, the Metro ROW varies from 40 ft to 275 ft with a typical width of 100 ft. The 100 ft ROW and larger ROW sections provide opportunities for landscaping, a bikeway/pedestrian path and the dedicated lanes.

The 40-foot portion is at the north end of the corridor along the railroad tracks. The Canoga On-Street Dedicated Bus Lanes Alternative will utilize City of Los Angeles ROW in addition to the Metro ROW in this area. The 65-foot portion, a short segment directly north of Sherman Way, is directly behind a recently built strip shopping center with parking facing Canoga Avenue. The Canoga On-Street Dedicated Bus Lanes Alternative would displace this shopping center to accommodate the median, dedicated bus lanes, station platforms, and the bikeway/pedestrian path. The property would have to be purchased and the building torn down. This alternative also requires the termination of the Canoga Self-Storage lease. Other Metro leases adjacent to Canoga Avenue would not be renewed.

The 275 ft portion of the Metro ROW, located south of Sherman Way and north of Vanowen Street provides the opportunity for the typical sections of the Canoga On-street Dedicated Bus Lanes Alternative. The additional ROW width also provides opportunities for landscaping, the potential preservation of existing Metro leases, and the integration of the project with the Los Angeles River.

North of Plummer Street, the Canoga Avenue ROW is limited and the Amtrak/Metrolink/UP tracks are still in operation. Canoga Avenue narrows from two lanes in each direction to one lane in each direction. Several sub-options are under consideration for this area and will be described below.

Where feasible, a Class I bikeway and parallel pedestrian path would run from the Canoga MOL Station to the Chatsworth Metrolink Station and would occupy 10-17 ft of the ROW. Where ROW allows, the facility would include a 10-foot bikeway and adjacent 7-foot pedestrian pathway. In narrower areas, a 10-foot multi-use path is provided and will be shared by bicycles and pedestrians.




**Legend**

- Main Route
- Metrolink Chatsworth Station Access Options
- Metrolink & Metrolink Stations
- Proposed Stations
- Optional Station
- Reconfigured Station
- Existing Stations (Metro Orange Line)

Source: ITERIS



**Figure 3-3**
**Alternative 3. Canoga On-Street Dedicated Bus Lanes**

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Buses would be the only vehicles allowed within the dedicated lanes, except at intersections and driveways, where vehicles would be able to cross the dedicated lanes in order to turn right. Left turn pockets into driveways are not anticipated. Furthermore, a right-turn pocket would be provided at the approaches to all intersections along Canoga Avenue where the dedicated lanes are implemented, allowing buses to cross the intersections unimpeded by right-turning vehicles.

Signage would be posted listing restrictions on autos, trucks, motorcycles, bicycles and pedestrians within the dedicated lanes. **Figure 3-4** illustrates typical cross-sections for the Canoga On-Street Dedicated Bus Lanes Alternative.

### Route Alignment

This route would be located primarily on Canoga Avenue, extending the existing MOL from the Canoga Station to the Chatsworth Metrolink Station. Departing the Warner Center Transit Hub, buses would utilize mixed-flow lanes on Owensmouth Avenue, Erwin Street, and the dedicated lanes on Canoga Avenue. The buses would cross all east-west streets between the MOL Canoga Station and the Chatsworth Metrolink Station (except for Lassen Street on Northern Segment Option 1 discussed below), as well as the Los Angeles River and the Santa Susana Wash. Three options are considered for the final northern segment to connect to the Chatsworth Metrolink Station:

*Option 1 Dedicated Bus Lanes End at Marilla Street* - The dedicated lanes would end at Marilla Street and buses would use Marilla Street, Owensmouth Avenue, Lassen Street and Old Depot Plaza Road. With this option, the intersection of Lassen Street and Old Depot Plaza Road would be signalized. The multi-use path for this option would either terminate at Plummer Street or continue up the railroad ROW to Lassen Street. This option is illustrated in **Figure 3-5**.

*Option 2 At-Grade "T" Intersection on Lassen Street Approx. 200 ft. West of Tracks* - The dedicated lanes would continue north of Marilla Street through two parcels (one is Metro-owned and the other one is privately-owned) to connect to Lassen Street at a new signalized intersection approximately 200 ft west of the tracks; the buses would then turn right onto Lassen Street, cross the tracks, and left onto Old Depot Plaza Road. Lassen Street at Old Depot Plaza Road will be signalized. The multi-use path for this option would terminate at Lassen Street. This option is illustrated in **Figure 3-6**.

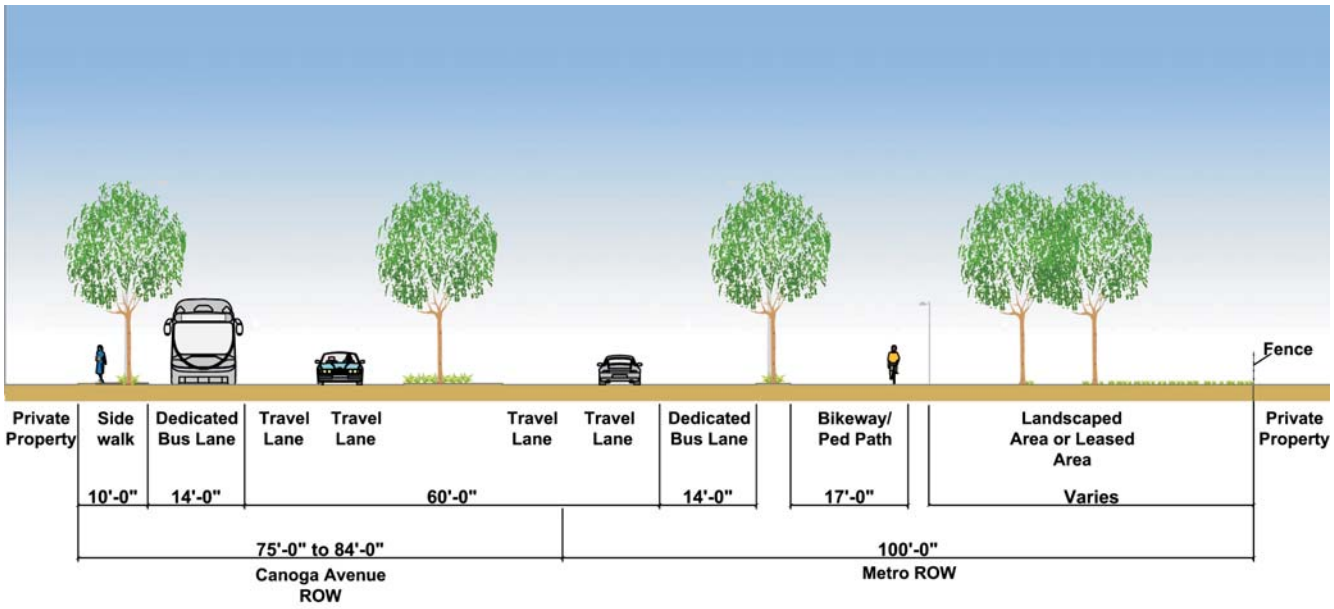
*Option 3 At-Grade Parallel Crossing of Lassen West of Tracks* - The dedicated lanes would continue north of Marilla Street through two parcels (one is Metro-owned and the other one is privately-owned) and then cross Lassen Street at a new signalized intersection to access a new terminus bus station located on the west side of the train tracks, on a property that is currently privately-owned. A grade-separated pedestrian access to the new bus station from the Chatsworth Metrolink Station parking lot would be provided. The multi-use path for this option would terminate at Lassen Street. This option is illustrated in **Figure 3-7**.

Although not shown on **Figures 3-5** through **3-7**, landscaping would be provided along the side of the bus lane and multi-use path for each option.

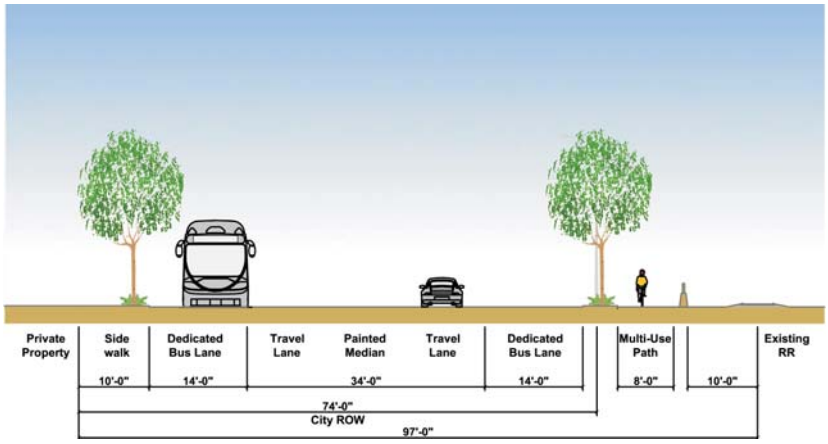
### Concept Design

*Dedicated Lanes*

The Canoga On-street Dedicated Bus Lanes Alternative would be a "modified" version of the MOL concept of a "multi-modal transportation facility within a greenway." Canoga Avenue would be widened to create dedicated lanes for the BRT adjacent to the curbs. The Metro ROW would include street trees




from Vanowen Street to Nordhoff Street




from Nordhoff Street to Marilla Street

Source: GRUENASSOCIATES

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Figure 3-4
Alternative 3 - Typical Cross-Sections

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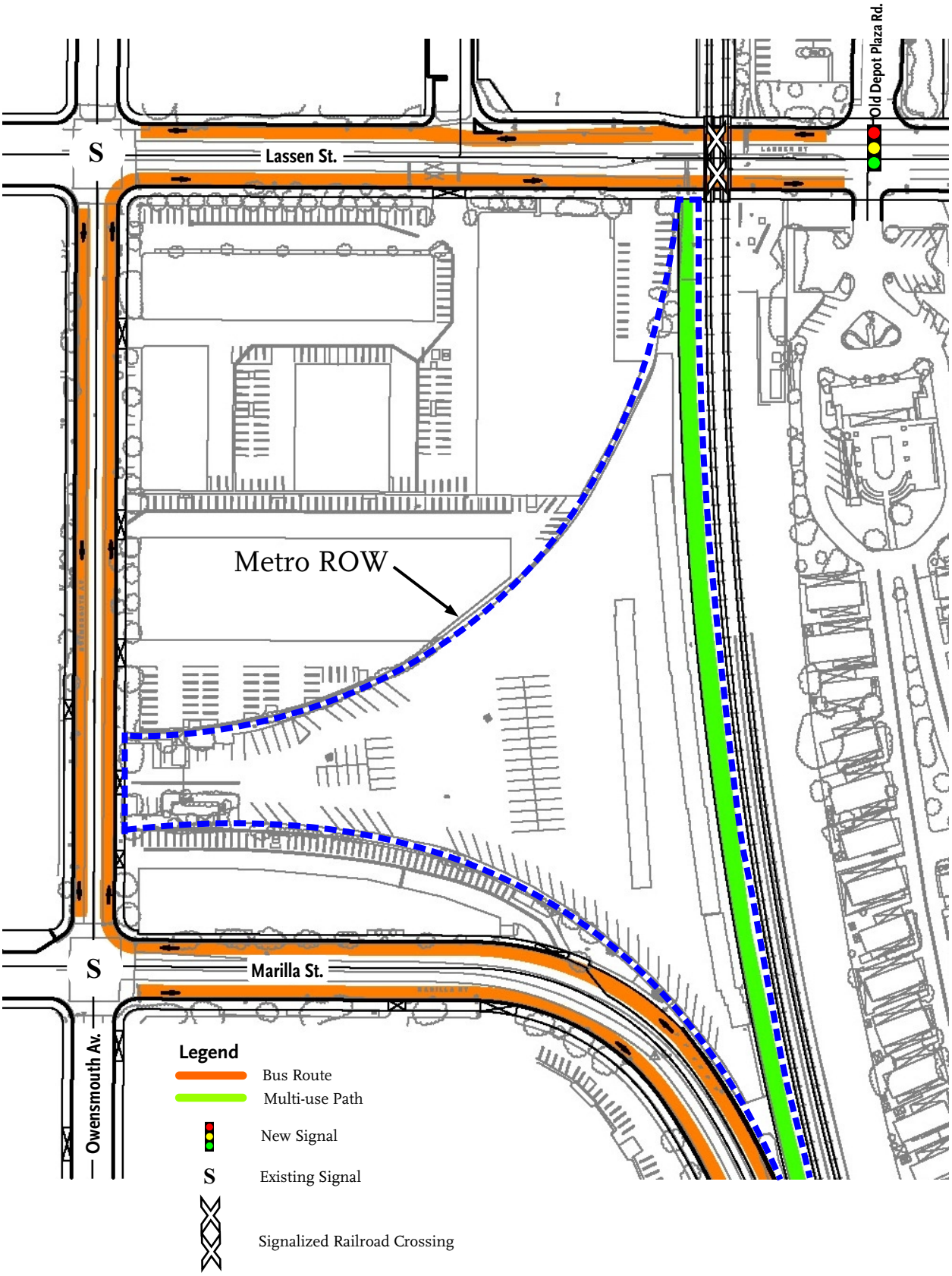


Source: ITERIS

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Figure 3-5
Alternative 3 - Northern Segment Option 1

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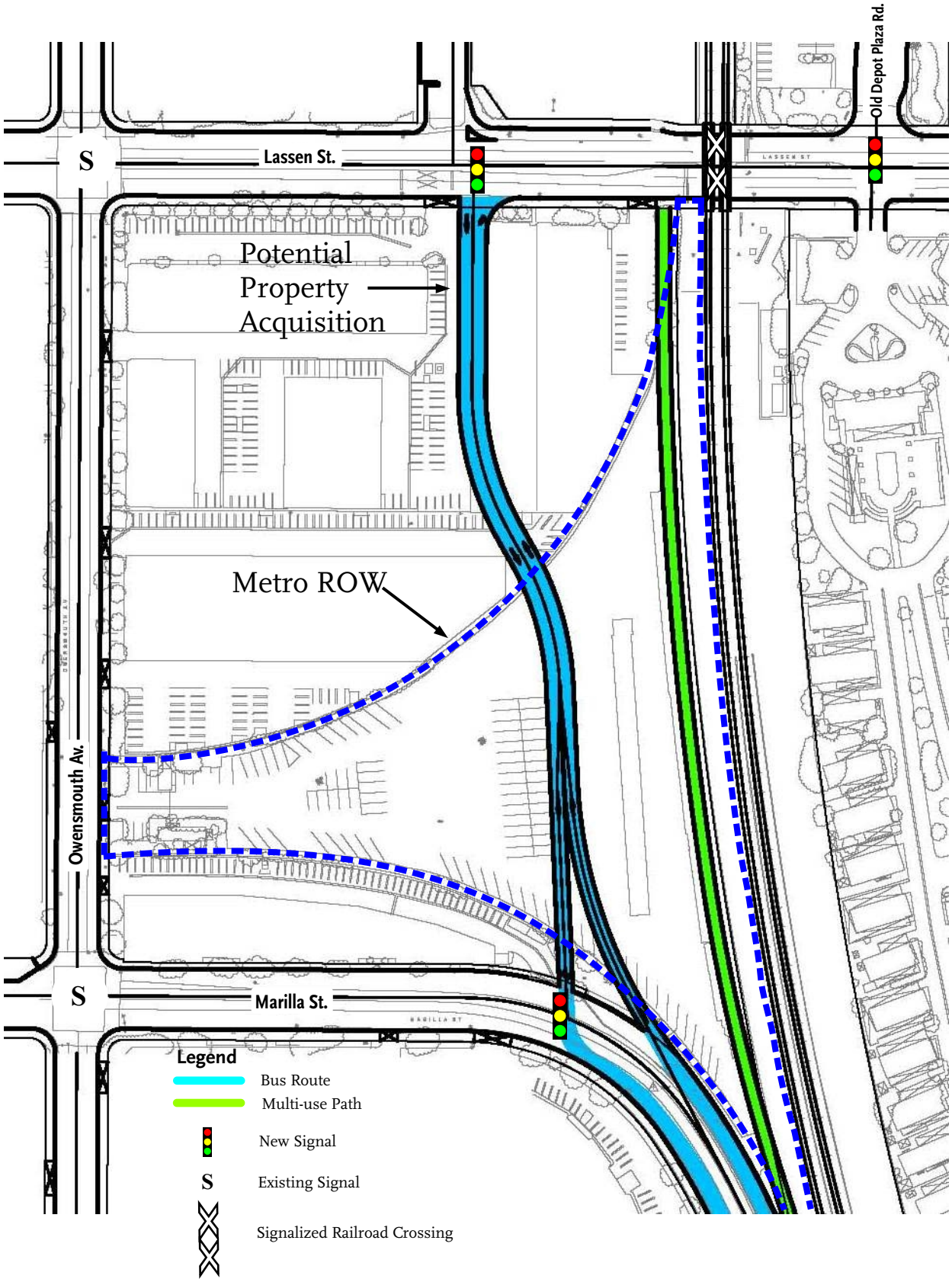


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Figure 3-6
Alternative 3 - Northern Segment Option 2

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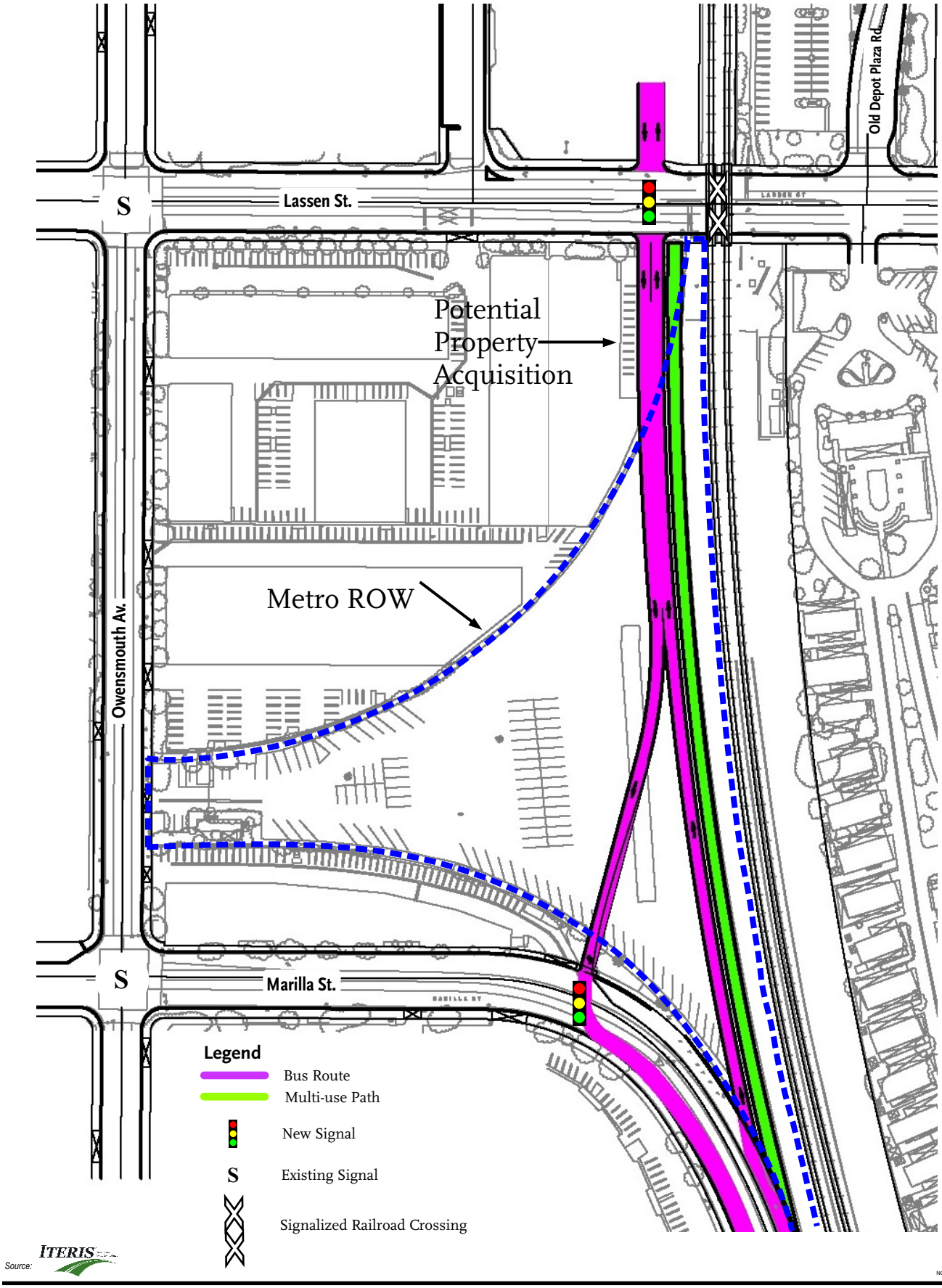

Lassen St.
Old Depot Plaza Rd.
Potential Property Acquisition
Metro ROW
Owensmouth Av.
Marilla St.
Legend
Bus Route
Multi-use Path
New Signal
S
Existing Signal
Signalized Railroad Crossing
Source: ITERIS
NOT TO SCALE

adjacent to the east curb, a bikeway/pedestrian path and landscaping in the Metro ROW, where leases are not preserved. A landscaped median island would also be provided on Canoga Avenue, between the Canoga MOL Station and Plummer Street, to enhance this corridor and provide additional landscaping. The median would also enhance transit service by eliminating most left turns across the bus lanes. The dedicated lanes would be paved in concrete at the stations and extend approximately 150 ft north and south of the stations in each direction.

A fiber optic cable line will be installed along the Metro-owned ROW that will connect to existing fiber optic lines running along the Metrolink tracks adjacent to the Chatsworth Metrolink Station and to the existing fiber optic line along the MOL. Connections to this north-south fiber optic line will also be provided to the Division 8 service facility and the SFV Sector office on Marilla Street, thereby facilitating communication between the two facilities and Metro's Headquarters at the Gateway Center.

*Bikeway/Pedestrian Path*

Where feasible, a 10-17 ft wide bikeway/pedestrian path would be located on the Metro ROW approximately 5 ft to 15 ft from the east side dedicated lane next to the curb. Street trees, the east side station, and relocated street lighting, would be located in this 5-15 ft parkway area adjacent to the curb. Pedestrian lighting of the bikeway/pedestrian path, bike lockers, bike racks, and other amenities along the ROW would be provided, similar to the MOL. The bikeway/pedestrian path would cross at street intersections in the reconfigured crosswalks.

### Transit Priority

The Canoga On-Street Dedicated Bus Lanes Alternative would operate similar to Metro Rapid service with Transit Priority Systems for the entire length. LADOT has made significant progress in developing the software to allow transit priority treatment at signalized intersections. The use of loop detectors embedded in the pavement in advance of traffic signals will now allow the traffic signal controllers to detect a bus as a distinct object separate from a car or truck. The following levels of transit priority are possible:

- Preemption - grants the right of way to a mass transit vehicle by interrupting the normal signal cycle sequence. (This strategy is not expected to be used in the Canoga On-Street Dedicated Bus Lanes Alternative)

- Full Priority - may extend or shorten the traffic signal green indication of the transit phase. The transit phase may be a parallel vehicle phase or an independent phase. Full priority also allows the skipping of a traffic phase, if needed, to advance the required transit and/or compatible vehicle phase. Typically, the phase skipped is a low volume phase during that period of time, which results in improved operations for the transit service with minimal impact to the traffic pattern. (This strategy may be considered for low volume smaller street crossings.)

- Partial Priority allows the traffic signal controller to advance the start (early green), or retard the yellow (extend green) of the transit phase and any compatible vehicle phase. Partial priority does not skip any vehicle phase to extend or bring up early transit phase. (This strategy would be used for most of the transit lane crossings.)

- Queue Jumps consist of an additional, transit-only, travel lane on the approach to a signalized intersection. The intent of the lane is to allow the higher-capacity vehicles to cut to the front of the queue, reducing the delay caused by the signal and improving the operational efficiency of the transit system. A queue jump lane is generally accompanied by a signal which provides a

phase specifically for vehicles within the queue jump lane. Such a signal reduces the need for a designated receiving lane, as vehicles in the queue jump lane get a "head-start" over other queued vehicles and can therefore merge into the regular travel lanes immediately beyond the signal. (A queue jump would be provided for this alternative on the southbound approach of the Canoga Avenue & Vanowen Street intersection).

The concept for the bus priority treatment along Canoga Avenue will be to locate the bus detectors far enough in advance of each signalized cross street so that the traffic signal system will have sufficient warning to adjust the signal phases on the cross street so that the bus will have the greatest chance to receive a green indication when it reaches the cross street. In some cases, this will occur by lengthening the green phase (green extend) for Canoga Avenue by borrowing time from the cross street signal phase, and in other cases, it may occur by shortening the green phase on the east-west cross street (early green). In subsequent phases, the cross street may be compensated with additional green time. The proper location of the advance loop detectors will avoid abrupt changes in a signal cycle (e.g., a green phase will not be truncated prior to a specified minimum amount of time) by placing the detectors far enough in advance of the cross street so that the bus traveling at the planned speed will arrive at the cross street and have a green signal indication.

It may not be feasible to provide this same level of priority treatment for buses traveling in both directions, if headways become too short. In that case, the peak direction of passenger demand would be given the higher level of priority treatment. LADOT will also have to consider the traffic demand on east-west streets in determining the level of priority for buses.

The transit stop locations help determine, to some extent, the type of priority that is most appropriate. A street crossing where the transit stop is on the far side would most likely utilize the extended feature to assure the bus makes it through the crossing and to the station. While a street crossing that has the station on the near side would utilize the early green feature to get the bus moving more readily. Far-side stations are planned on this alternative.

### Bus Operations Plan

The new MOL section between Canoga and Chatsworth is assumed to operate at an average 20 miles per hour, comparable to existing MOL speeds between Canoga and North Hollywood, with an estimated run time of about 14 minutes between the Canoga MOL station and the Chatsworth Metrolink Station. Two key service operating patterns are considered for the Canoga On-Street Dedicated Bus Lanes Alternative. Buses from Chatsworth in this alternative would alternate between continuing east to North Hollywood, joining the existing MOL at the Canoga station, or proceeding to the Warner Center Transit Hub via the existing MOL operating alignment. At the same time, the existing Warner Center – North Hollywood service pattern would also continue to operate.

### Station Locations and Site Plans

*Architectural Amenities, Artwork, and Amenities at Stations*

Branding of the BRT system is a critical component to identify the premium service in the community. The MOL has a unified contemporary design for the station and the Metro liner bus. The stations for this alternative would have a similar character and color to the MOL, but include:

- A redesigned and smaller MOL canopy or shelter in order to fit the canopy along the sidewalk and avoid draining the canopy into adjoining private property. The stations in the Warner Center Transit Hub may serve as a prototype.

- Instead of a platform with a paid and pre-paid area, passengers would wait on a widened sidewalk similar to the MOL Station at Warner Center and the general public could walk through the stations on a sidewalk.

- Due to driveways into adjoining businesses, the station waiting area may need to be interrupted in some locations and appropriate pedestrian safety devices would be installed.

Artwork could occur in the station environment at locations identified later. During preliminary engineering, the design of artwork would be explored in more detail. Paving patterns and materials as well as canopy details and lighting would be refined during the preliminary engineering stage of the project to reflect lessons learned on the MOL.

*Individual Stations Concepts*

Stations would be located at the Chatsworth Metrolink Station, Nordhoff Street, Roscoe Boulevard, Sherman Way, and the existing Canoga MOL station. An optional station may be developed in the future at Parthenia Street. Other than the terminus stations, the Chatsworth station and the MOL Canoga Station, stations would be located on the farside of each intersection, if feasible.

- **Canoga Station** - The existing Canoga MOL Station would be used as the station and park and ride for this alternative with only minor modifications including widening Canoga Avenue for the dedicated lanes, inclusion of a bikeway/pedestrian path in the Metro ROW and reconfiguring the parking to accommodate these improvements. Station platforms would also be added on the sidewalk on Canoga Avenue adjacent to the existing MOL entrance for buses on the Warner Center to Chatsworth route.

- **Nordhoff, Parthenia (Optional), Roscoe, and Sherman Way -** Stations at Nordhoff Street, Roscoe Boulevard, and Sherman Way would be on street at widened sidewalks. The Nordhoff and optional Parthenia Street Stations would be similar. During preliminary engineering, the canopy will be modified to adapt to the site. **Figure 3-8** illustrates the Sherman Way station and its park-and-ride spaces.

- **Chatsworth Metrolink Station** – The Chatsworth Metrolink Station would be the northern terminus of this alternative. There are two tracks and two platforms at the station. For 28 out of the 30 current trains per day, patrons board/alight via the eastern platform. For two trains per day, they cross the tracks via an at-grade pedestrian crossing to reach the western platform. This pattern is expected to continue with the MOL extension. Several options are under consideration for the reconfiguration of this station:

  *Option A Non-Revenue Turn-Around* - Buses would unload and pick-up passengers at new canopies or shelters and platforms adjacent to the Old Depot Plaza Road near the rail station north of the current local bus stops. A non-revenue turn-around, and additional landscaped park-and-ride spaces, if required, would be provided in the vacant area near Devonshire Street. This option is illustrated in **Figure 3-9** and would be combined with either Northern Segment Option 1 - dedicated lanes end at Marilla Street, or Option 2 – At-Grade "T" Intersection on Lassen Street approximately 200 ft. West of Tracks (shown in **Figure 3-5** and **Figure 3-6** respectively).

  *Option B Turn-Around south of Metrolink Station Platforms* - Similar to the North Hollywood terminus station of the MOL, a bus turn-around with layover bus spaces, and a combined boarding and drop-off platform would be provided. The turn-around would be located south of the Chatsworth

Metrolink Station and would displace some existing parking. Parking displaced as well as additional parking, if required, would be provided in the vacant area north of the Chatsworth Metrolink Station. This option is illustrated in **Figure 3-10** and would be combined with either Northern Segment Option 1 - Dedicated Bus Lanes End at Marilla Street or, Option 2 – At-Grade "T" Intersection on Lassen Street approx. 200 ft. West of Tracks (shown in **Figure 3-5** and **Figure 3-6** respectively).

*Option C Turn-Around on Vacant Lot West of Tracks* - A bus turn-around and layover space on vacant land west of the railroad tracks with a grade-separated pedestrian crossing of the tracks and tree-lined pedestrian linkages. This option requires purchase of the existing vacant private property. This option is illustrated in **Figure 3-11** and would be combined with Northern Segment Option 3 - At-Grade Parallel Crossing of Lassen West of Tracks, shown in **Figure 3-7**.

*Treatments Adjacent to Sensitive Land Uses*

In this alternative, the east side of the dedicated lane would be approximately 75 ft or more from the mobile homes and residential uses along the Metro ROW, so walls/fences may not be necessary for noise mitigation, but are likely to be provided for privacy. On the west side, the only nearby residential area along Canoga Avenue, is a mobile home park north of Parthenia Street. The design of the walls/fences would be similar to the MOL, however, these walls/fences may be modified to reflect community input.

*Los Angeles River Treatment and Connections to Bikeway*

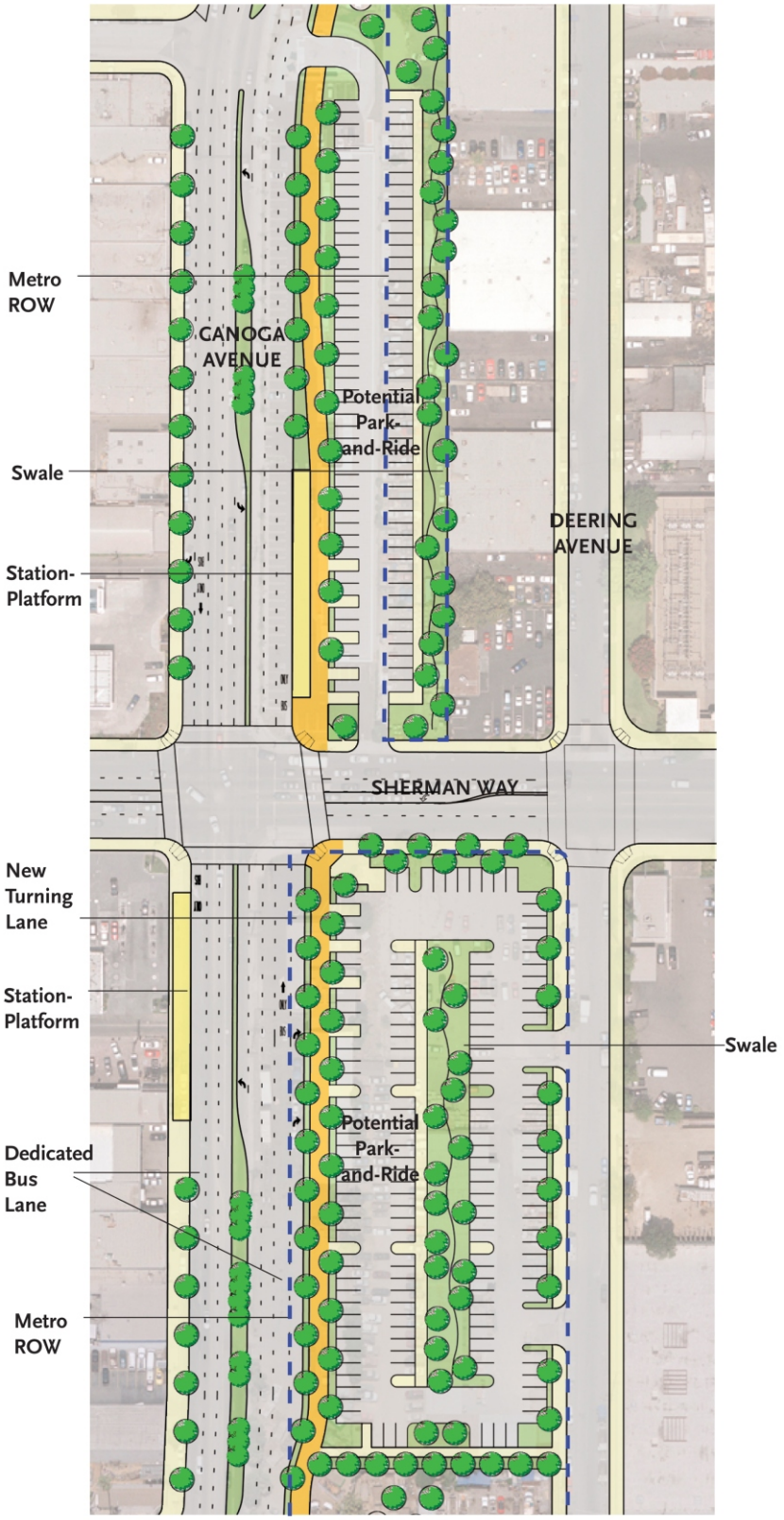
The Canoga Transportation Corridor and a bikeway/pedestrian path would pass the Los Angeles River over a widened Canoga Avenue Bridge in the Metro ROW. The County and the City have plans for a bikeway/pedestrian path on both sides of the Los Angeles River as well as green spaces for recreation and water recharge adjacent to the River. In the future, the Los Angeles River Bikeway could be connected to the Canoga Transportation Corridor bikeway.

*Landscaping*

For the Canoga On-Street Dedicated to Bus Lanes alternative, a row of street trees would be located along both sides of Canoga Avenue in the sidewalk or a landscaped parkway forming an urban edge, providing shade for the bikeway/pedestrian path and buffering pedestrians from the vehicular traffic on the street. Along Canoga Avenue a landscaped median with trees and groundcover would be provided to improve traffic flow and enhance aesthetics. Street trees, median species and patterns would be coordinated with the City of Los Angeles. The landscaping for the Metro ROW would have an informal naturalistic character, similar to the MOL and would include a mix of appropriate natural and adapted exotic plants throughout the project to insure visual continuity, respond to local design context conditions, and resource conservation/sustainability goals.

*Treatment of Edge Conditions on ROW*

Along portions of the ROW that are adjacent to commercial or industrial development, fence/walls or the visual buffer of landscaping are generally unnecessary. However, a fence would be required and landscaping would be desirable especially to screen views of existing long-term leases such as the concrete plant which contains unattractive outdoor storage of materials and equipment.




Source: GRUENASSOCIATES

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Figure 3-8
Alternative 3 -Sherman Way Station Plan

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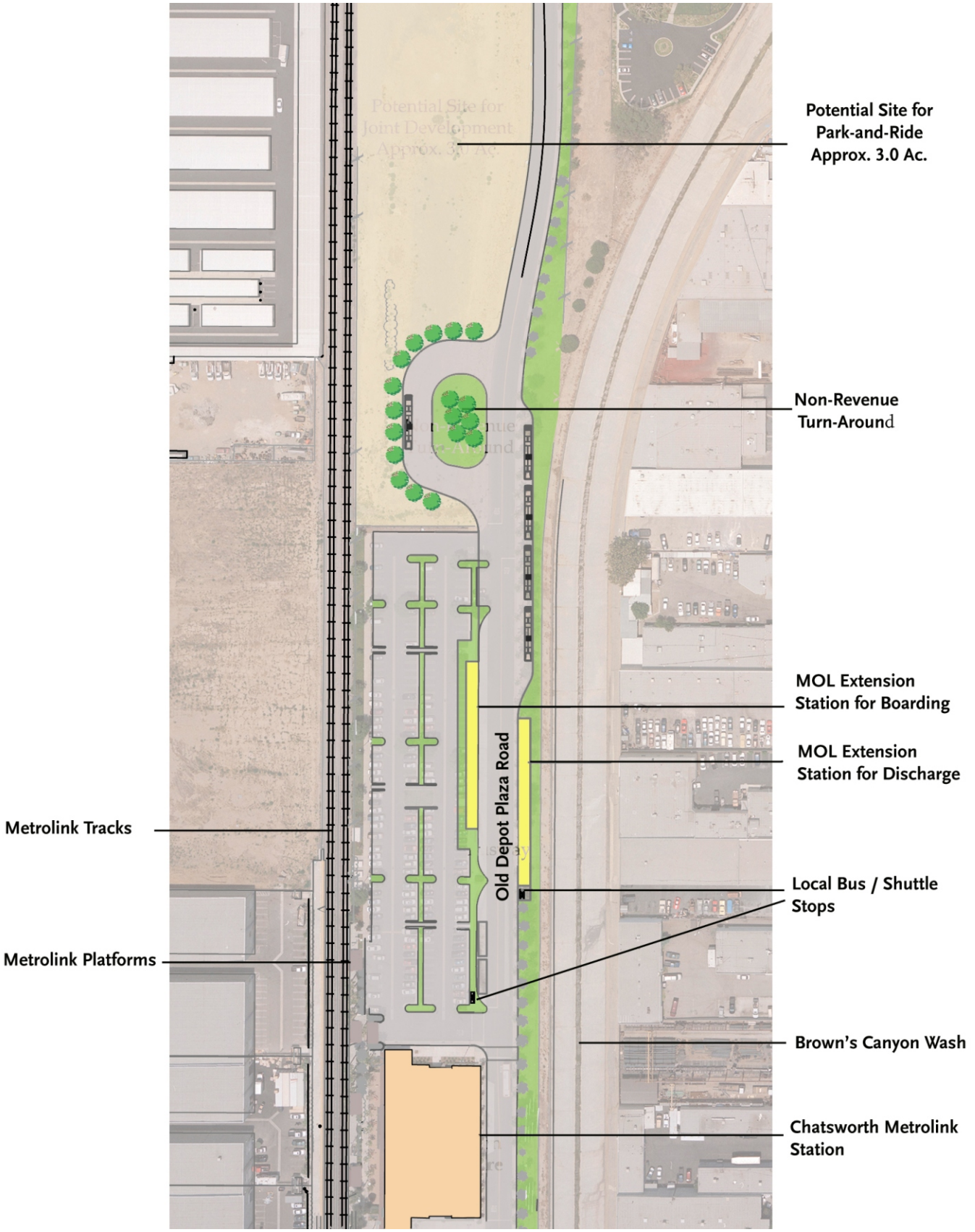


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Figure 3-9
Alternative 3 - Chatsworth Station Option A

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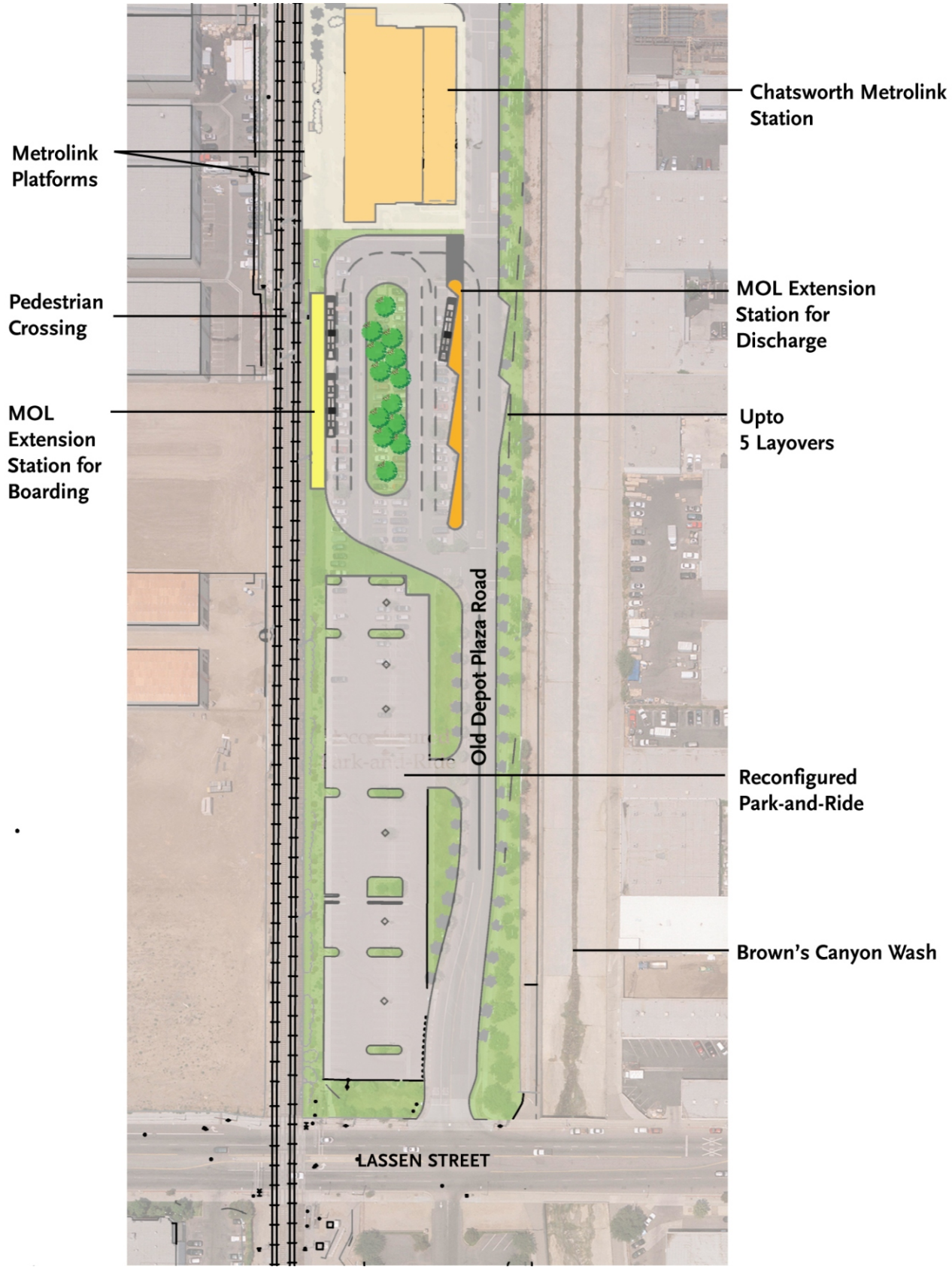


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Figure 3-10
Alternative 3 - Chatsworth Station Option B

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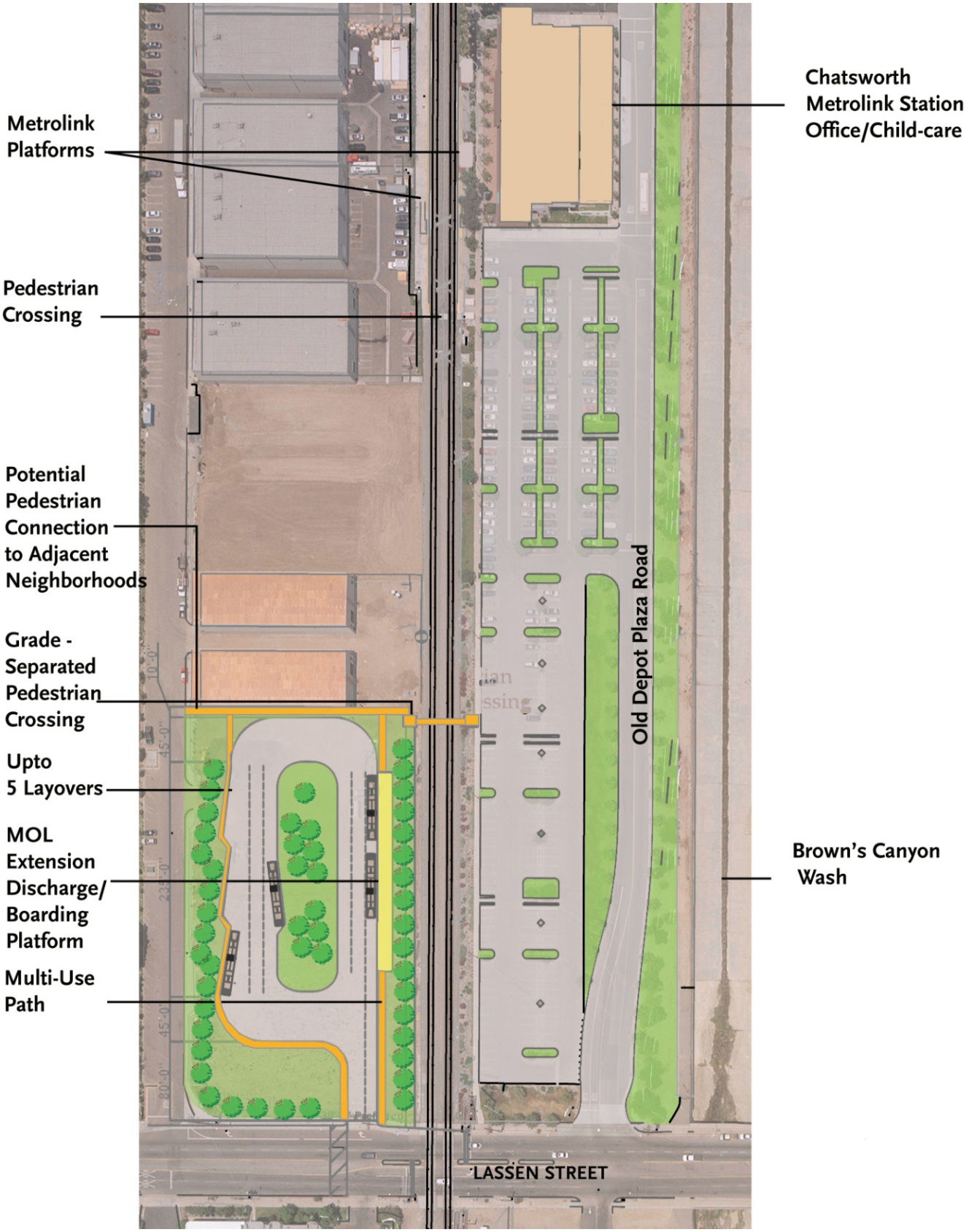


Source: GRUENASSOCIATES

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Figure 3-11
Alternative 3 - Chatsworth Station Option C

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### 3.4.4 Canoga Busway

The Canoga Busway Alternative consists of a fixed busway extending north from the existing MOL Canoga Station along the Metro-owned railroad ROW paralleling Canoga Avenue, to the Chatsworth Metrolink Station. **Figure 3-12** illustrates the Canoga Busway Alternative.

#### Metro Right-of-Way

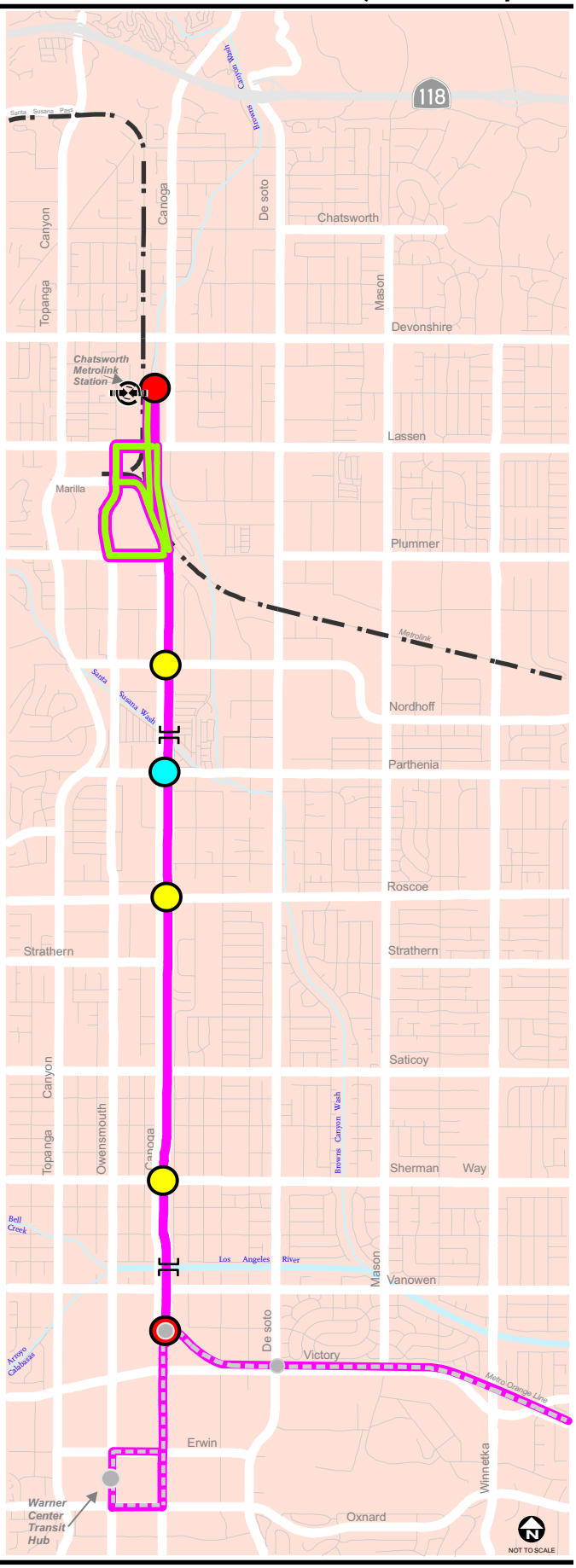
Along most of the alignment, the ROW would provide adequate room for landscaping and space for a bikeway/pedestrian path adjacent to the busway. Along Canoga Avenue, the Metro ROW varies from 40 ft to 275 ft with a typical width of 100 ft. The 100 ft ROW and larger ROW sections provide opportunities for landscaping, bikeway/pedestrian paths and the busway. The 40-ft portion is adjacent to the railroad tracks at the north end of the corridor. In this segment, the busway and multi-use path will be between the tracks and a narrowed Canoga Avenue, with room for only minimal landscaping. The 65-ft portion, a short segment directly north of Sherman Way, is directly behind a recently built strip shopping center with parking facing Canoga Avenue. The busway and a multi-use path will be located behind the shopping center, but the narrow 65 ft ROW in this segment reduces the potential for landscaping and a bio-swale (swaled drainage course with gently sloped sides and filled with vegetation and compost). The 275 ft portion of the Metro ROW, located south of Sherman Way and north of Vanowen Street provides the opportunity for the typical sections for the Canoga Busway Alternative. The additional ROW width (approximately 175 ft) also provides the opportunity for additional landscaping, the potential preservation of existing long-term leases, and the integration of the project with the Los Angeles River Revitalization Master Plan. The ROW narrows significantly north of Plummer Street, adjacent to the Metrolink tracks. At this point, Canoga Avenue would be 32 ft wide. Due to the curving nature of the railroad tracks and Canoga Avenue (moving away from each other), the narrow segment is limited in length and the roadway (Canoga Avenue) will widen back to 62 ft as quickly as possible. Several options are considered for the northern segment to connect to the Chatsworth Metrolink Station and they are discussed in detail below.

Where feasible, a Class I bikeway and pedestrian path would run from the Canoga MOL Station to the Chatsworth Metrolink Station and would occupy 10-17 ft of the ROW. Buses and Metro-authorized vehicles would be the only vehicles allowed within the busway. Signage would be posted listing restrictions on autos, trucks, motorcycles, bicycles and pedestrian within the busway lanes. Metro-authorized emergency vehicles would only use the busway when responding to emergencies within or immediately adjacent to the ROW.

#### Route Alignment

This new route would extend the existing MOL from the Canoga Station to the Chatsworth Metrolink Station. Departing the Warner Center Transit Hub, buses would utilize mixed-flow lanes on Owensmouth Avenue, Erwin Street, Canoga Avenue, and other streets if required, before entering the Canoga MOL Station. The buses would then enter the busway and travel north, crossing all east-west streets between the MOL Canoga Station and the Chatsworth Metrolink Station (except for Lassen Street on Northern Segment Option 1 discussed below), as well as the Los Angeles River and the Santa Susana Wash. Several options are considered for the northern segment to connect to the Chatsworth Metrolink Station:

*Option 1 Busway Ends At Plummer* – Buses would exit the Busway at Plummer Street and travel on Plummer Street, Owensmouth Avenue, Lassen Street and Old Depot Plaza Road. With this option, the intersection of Canoga Avenue and Plummer Street and the intersection of Lassen Street and Old Depot




**Legend**

- Main Route
- Metrolink Chatsworth Station Access Options
- Metrolink & Metrolink Stations
- Proposed Stations
- Optional Station
- Reconfigured Station
- Existing Stations (Metro Orange Line)
- New Bridge

Source: ITERIS

Plaza Road will be signalized. The multi-use path for this option would terminate at Plummer Street. This option is illustrated in **Figure 3-13**.

*Option 2 At-Grade "T" Intersection on Lassen Approx. 200 Ft West of Tracks* – The busway and the multi-use path would extend north to Lassen Street on the west side of the railroad tracks, intersecting Lassen Street at a new signalized intersection approximately 200 ft west of the tracks. Buses would travel in mixed flow on Lassen Street and cross the tracks to reach the Chatsworth Metrolink Station. This alternative requires property acquisition south of Lassen Street; it also requires converting the southbound approach of a private roadway intersecting Lassen Street west of the tracks into a right-turn only. This option is illustrated in **Figure 3-14**. An optional plan could be required where only northbound buses and the multi-use path would travel on the busway all the way north to Lassen Street. This would occur if the two-way busway and multi-use path could not be accommodated in the narrow ROW area adjacent to the Metrolink tracks. Southbound buses would return via Lassen Street, Owensmouth Avenue, and Plummer Street, re-entering the busway at a new signalized intersection at the intersection of Canoga Avenue and Plummer Street. This sub-option is illustrated in **Figure 3-15**.

*Option 3 At-Grade Parallel Crossing of Lassen West of Tracks* - The busway and the multi-use path would extend north to Lassen Street directly to the west of the railroad tracks and cross Lassen Street at a signalized intersection to access the Busway terminus station on the west side of the tracks. A pedestrian grade-separation to cross the tracks would be provided. Sidewalks along the north side of Lassen Street would be widened between the railroad tracks and Old Depot Plaza Road to provide a connection of the multi-use path to the station. This option requires property acquisition or reconfiguration of one property south of Lassen Street, directly west of the railroad tracks, as well as several lots north of Lassen Street for the terminus station. This option is illustrated in **Figure 3-16**. An optional plan could be required where only northbound buses and the multi-use path would travel on the busway all the way north to Lassen Street. This would occur if the two-way busway could not be provided in the narrow ROW area adjacent to the Metrolink tracks. Southbound buses would return via Lassen Street, Owensmouth Avenue, and Plummer Street, re-entering the busway at a new signalized intersection at the intersection of Canoga Avenue and Plummer Street. This option is illustrated in **Figure 3-17**.

*Option 4 Underpass of Tracks with Crossing of Lassen East of Tracks* - The busway would pass under the railroad tracks in a grade separation and cross Lassen Street at-grade. Two potential intersections of the busway on Lassen Street are being considered in this EIR. One would be located at the existing Old Depot Plaza Road intersection on Lassen Street. This would require purchase of part of the mobile home park's property, south of Lassen Street, and reconfiguration of the parking and access road to the mobile home park. The mobile home park egress would likely be right-turn only. This option is illustrated in **Figure 3-18**. The second option would include an intersection adjacent to the east side of the railroad tracks, with buses crossing Lassen Street parallel to the tracks at a signalized intersection into a redesigned Chatsworth Metrolink Station. The multi-use path would remain at-grade adjacent to the west side of the tracks and end at Lassen Street. This option is illustrated in **Figure 3-19**.

*Option 5 Elevated/Underground Grade Separation of Railroad Tracks and Lassen Street* - The busway extends along the west side of the railroad tracks and is either elevated over or depressed under the railroad tracks and Lassen Street on a grade separation, then descending or ascending into the parking lot of the Chatsworth Metrolink Station. The multi-use path would remain at-grade adjacent to the west side of the grade-separated busway and end at Lassen Street. This option is illustrated in **Figure 3-20** and **Figure 3-21**.

Landscaping would be provided along each side of the busway and the multi-use path for all the options discussed above.

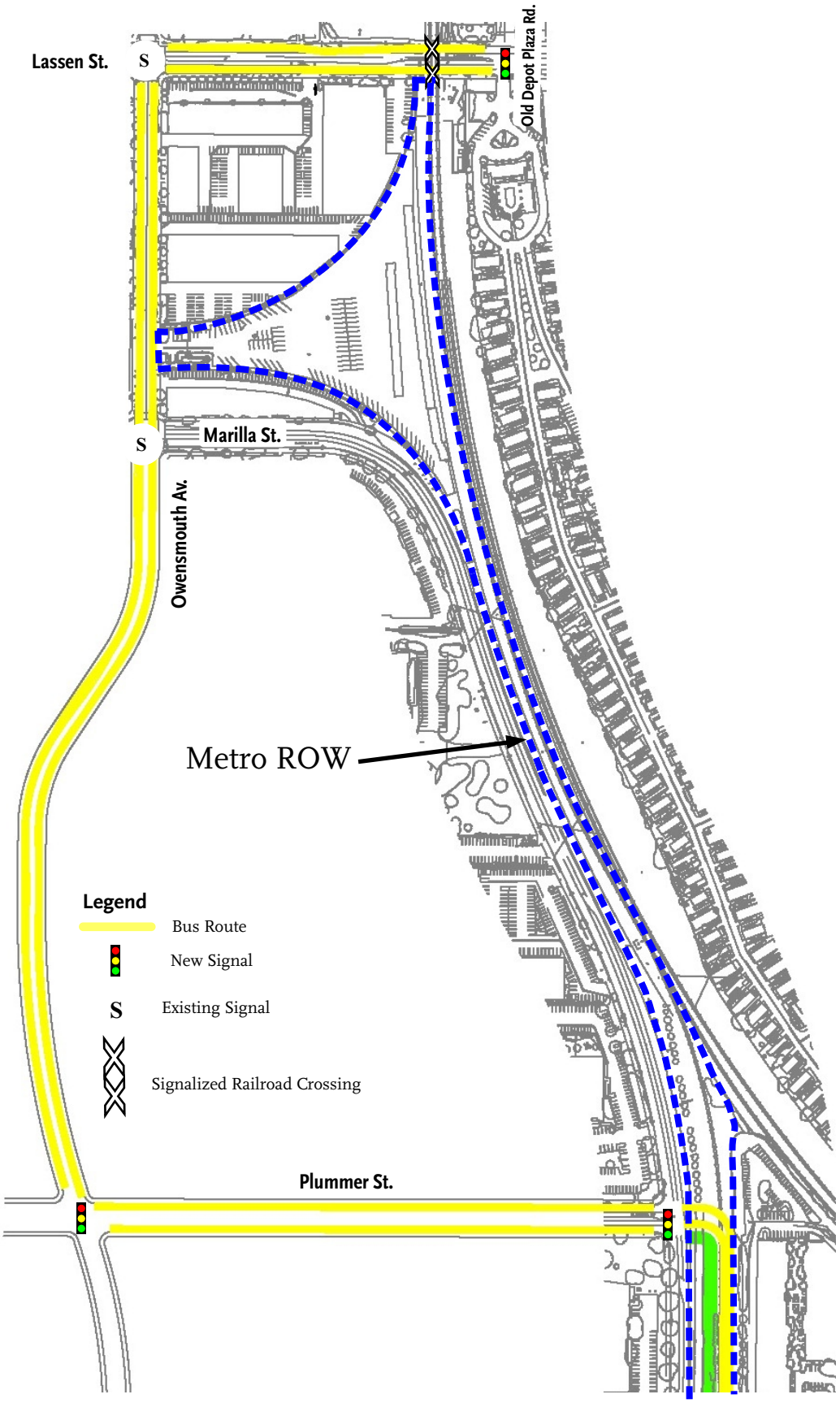



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Figure 3-13
Alternative 4 - Northern Segment Option 1

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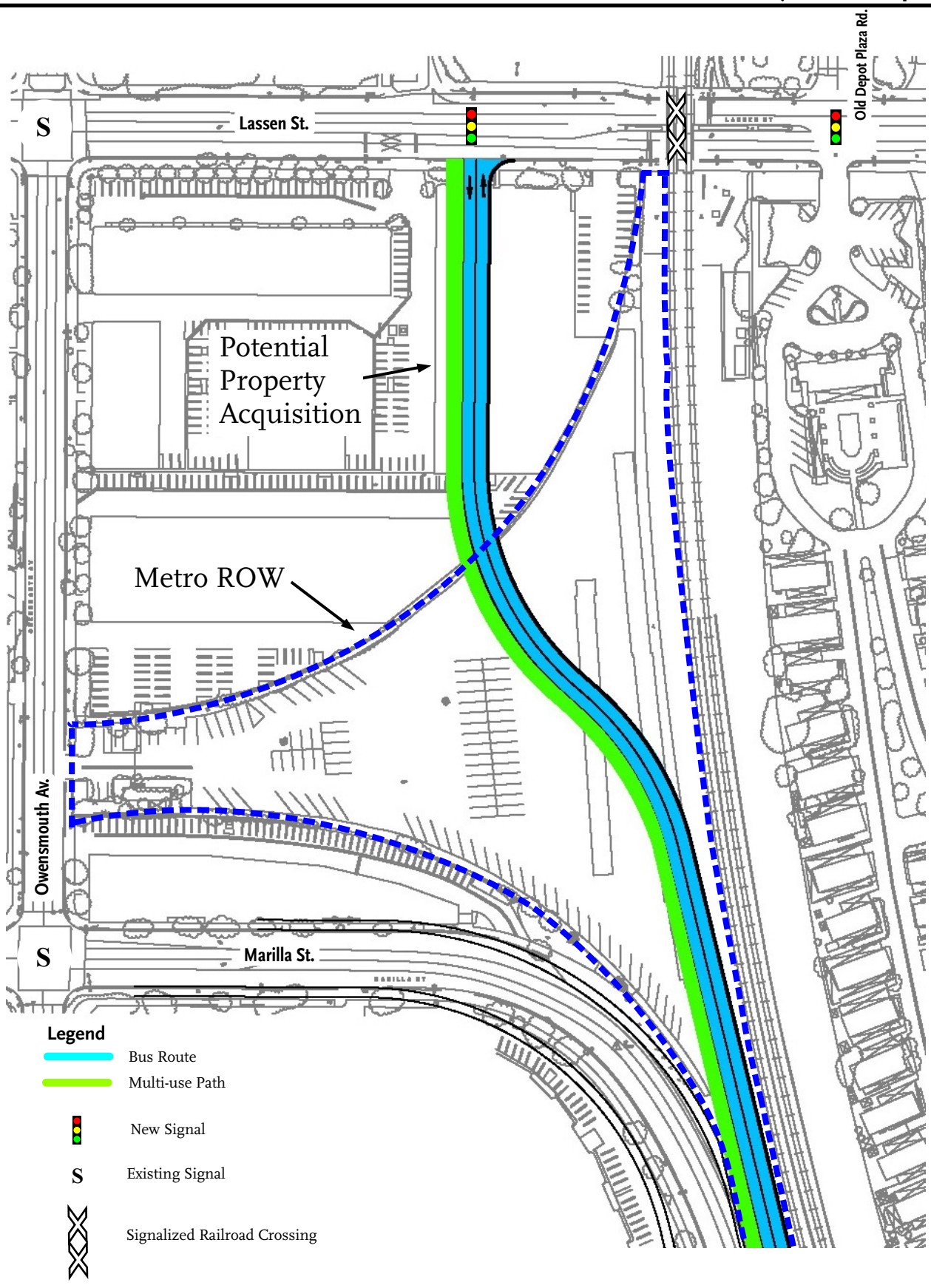


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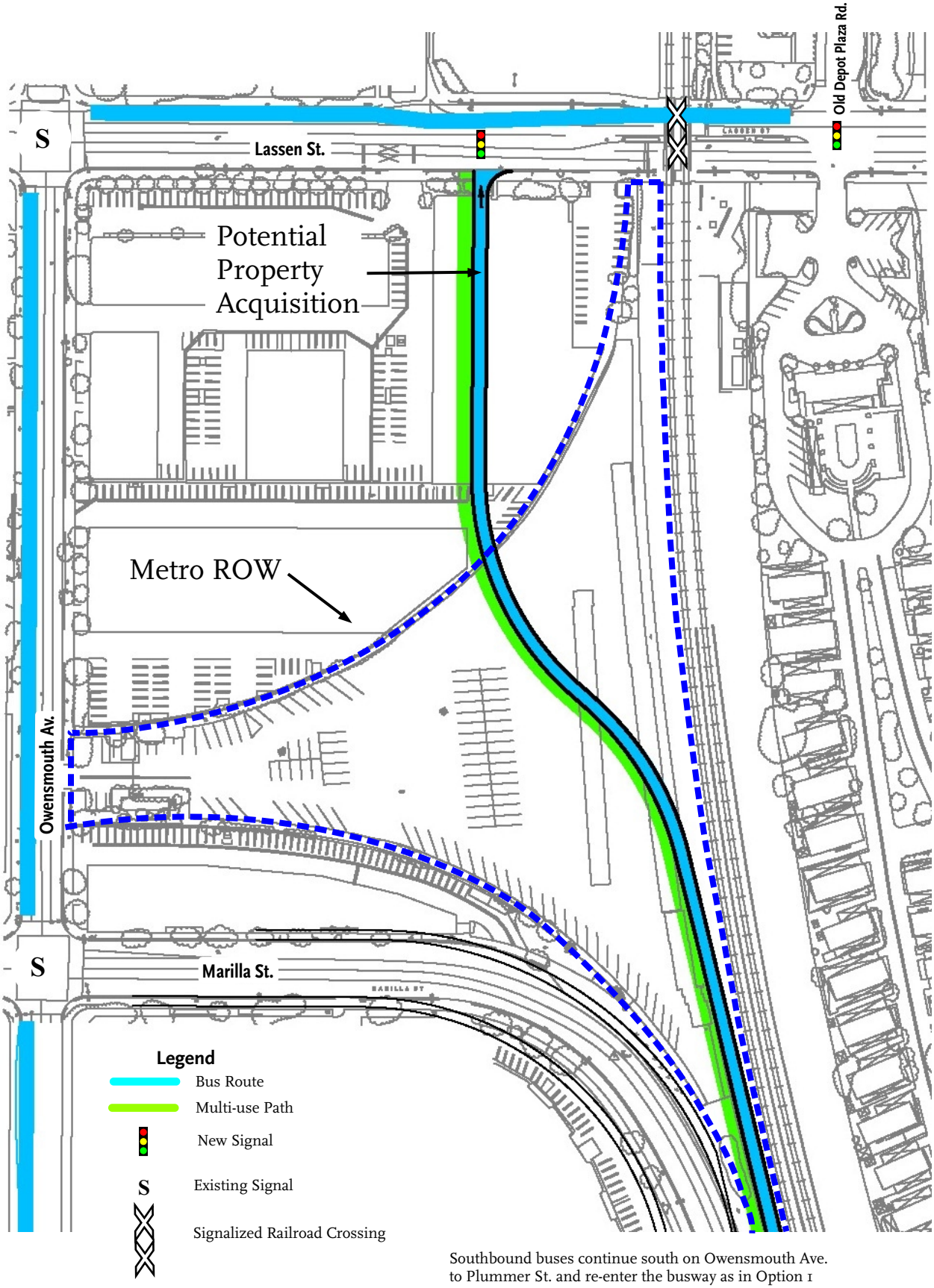


Southbound buses continue south on Owensmouth Ave. to Plummer St. and re-enter the busway as in Option 1

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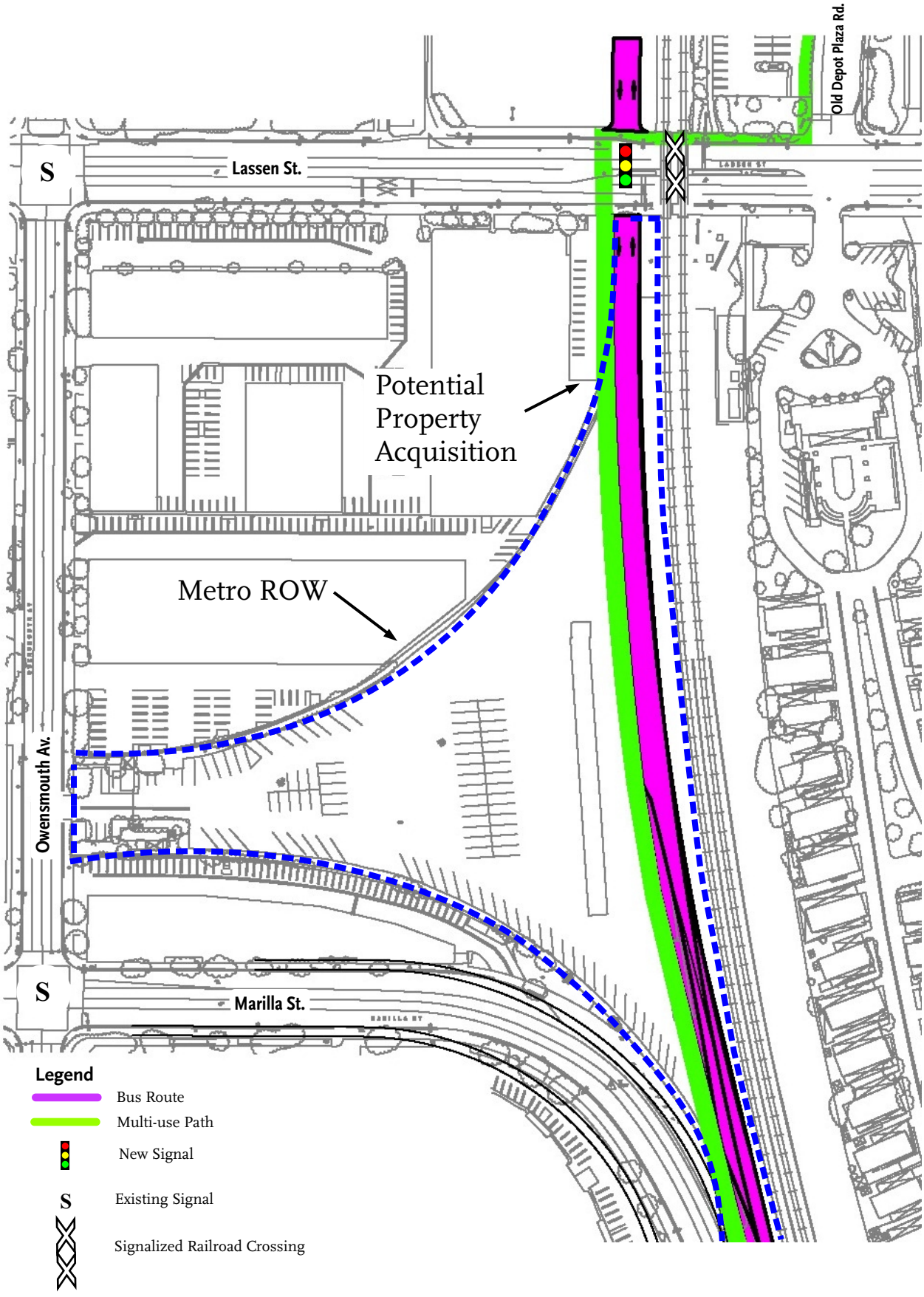


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Figure 3-16
Alternative 4 - Northern Segment Option 3

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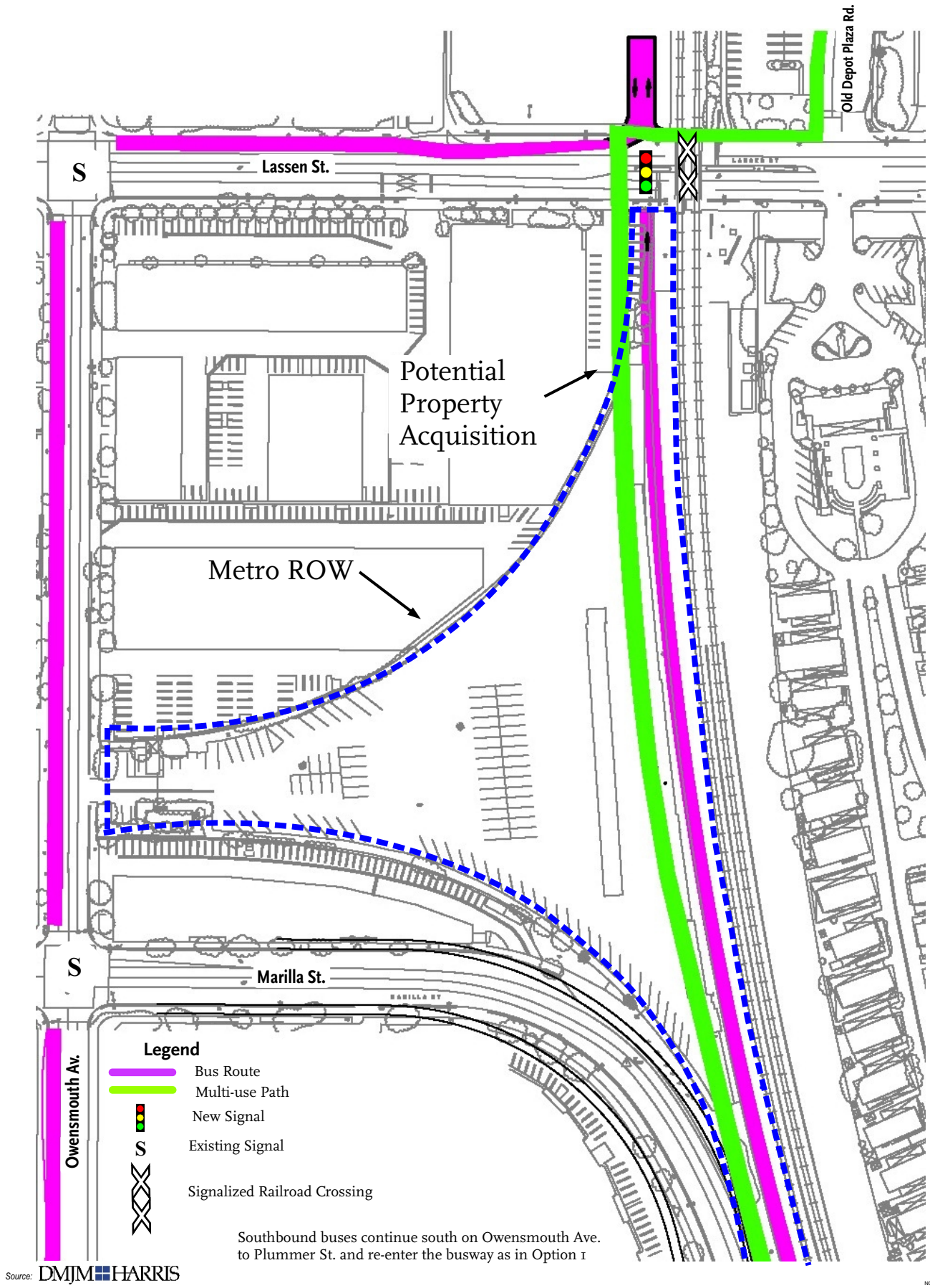




Figure 3-17
Alternative 4 - Northern Segment Option 3a

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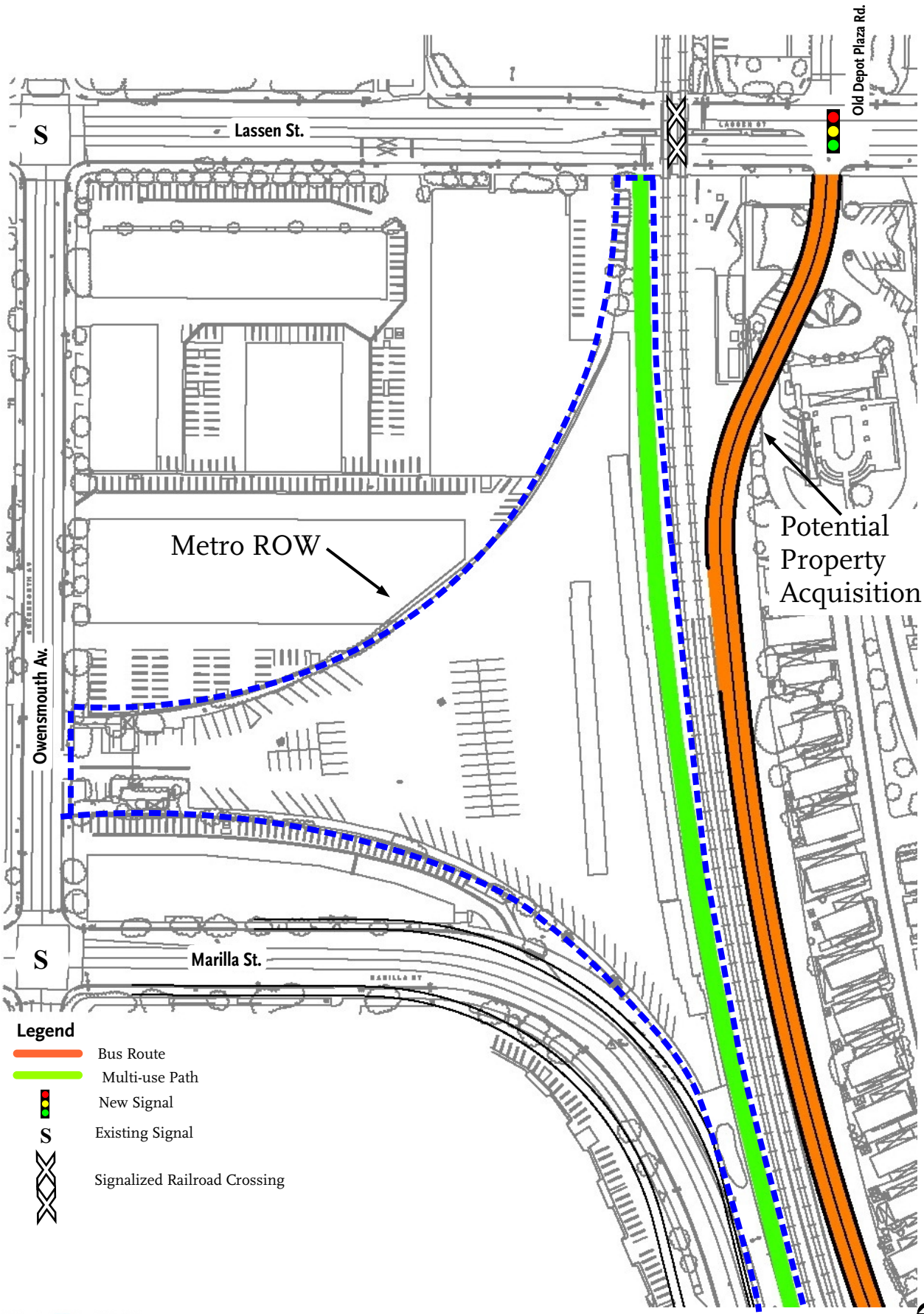


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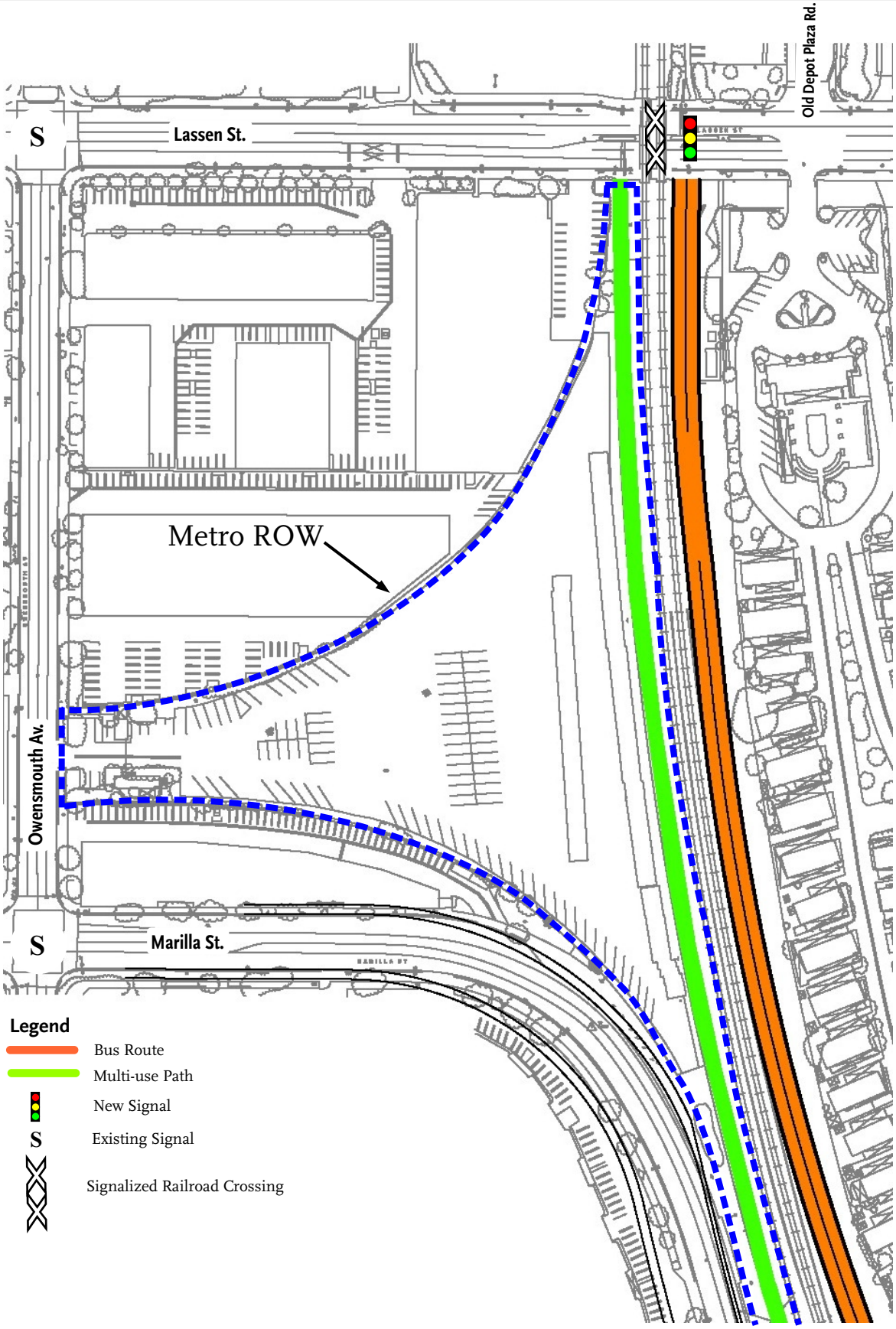


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Figure 3-19
Alternative 4 - Northern Segment Option 4a

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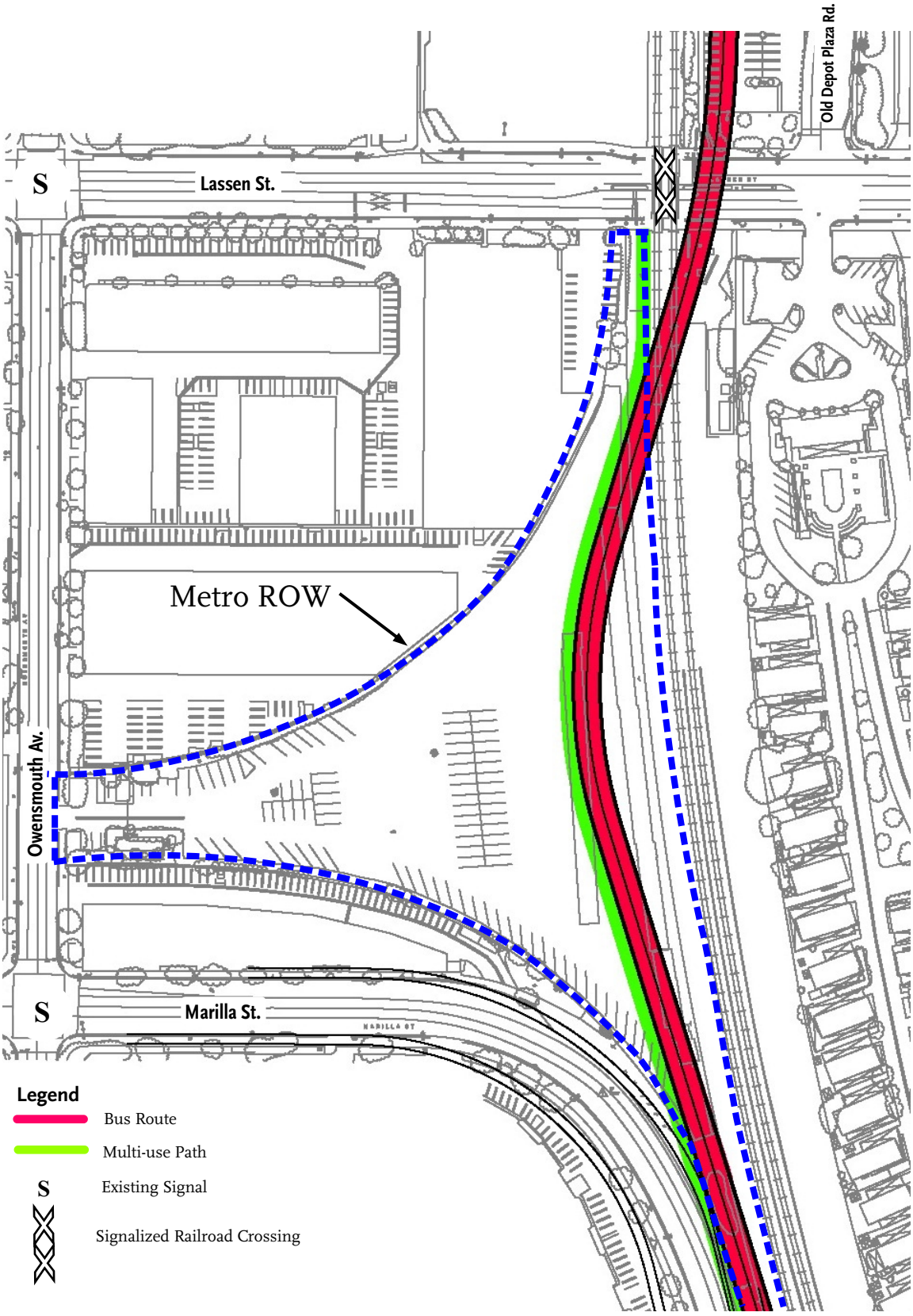


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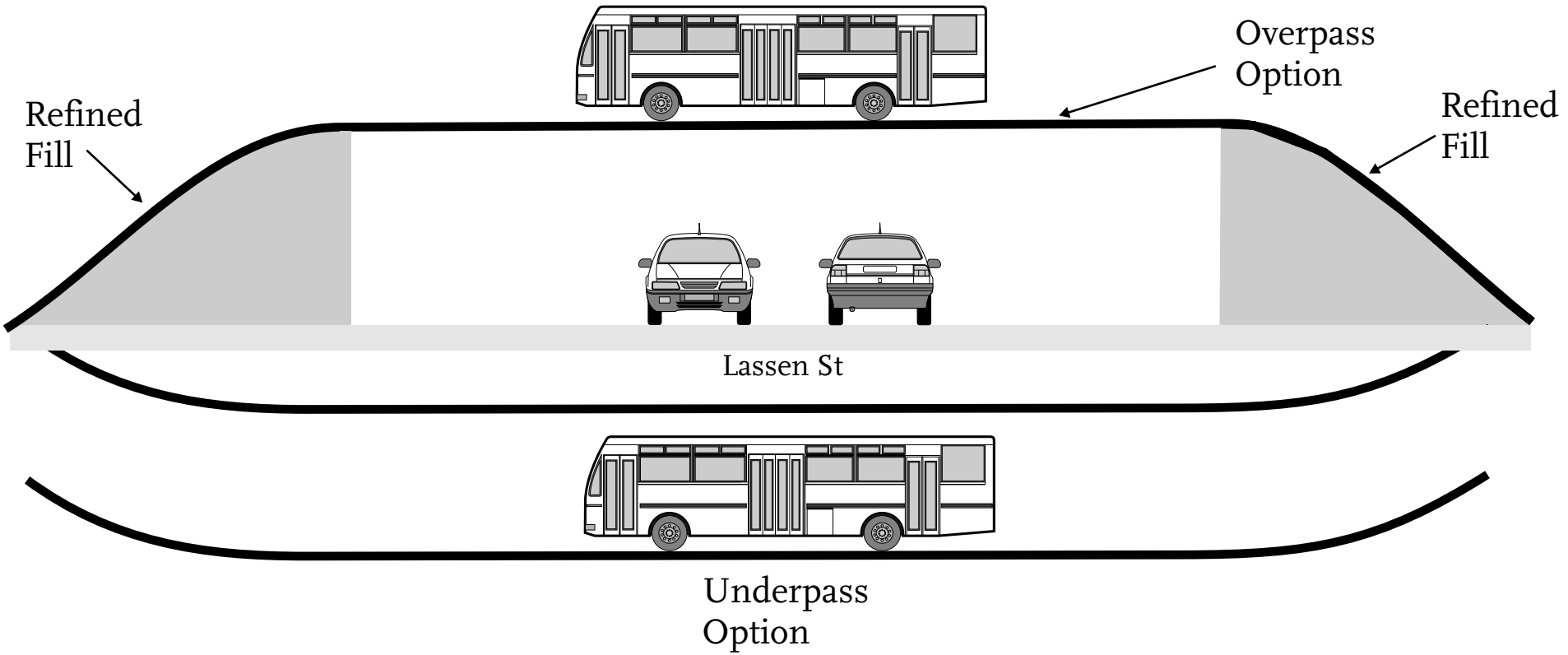


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## Concept Design

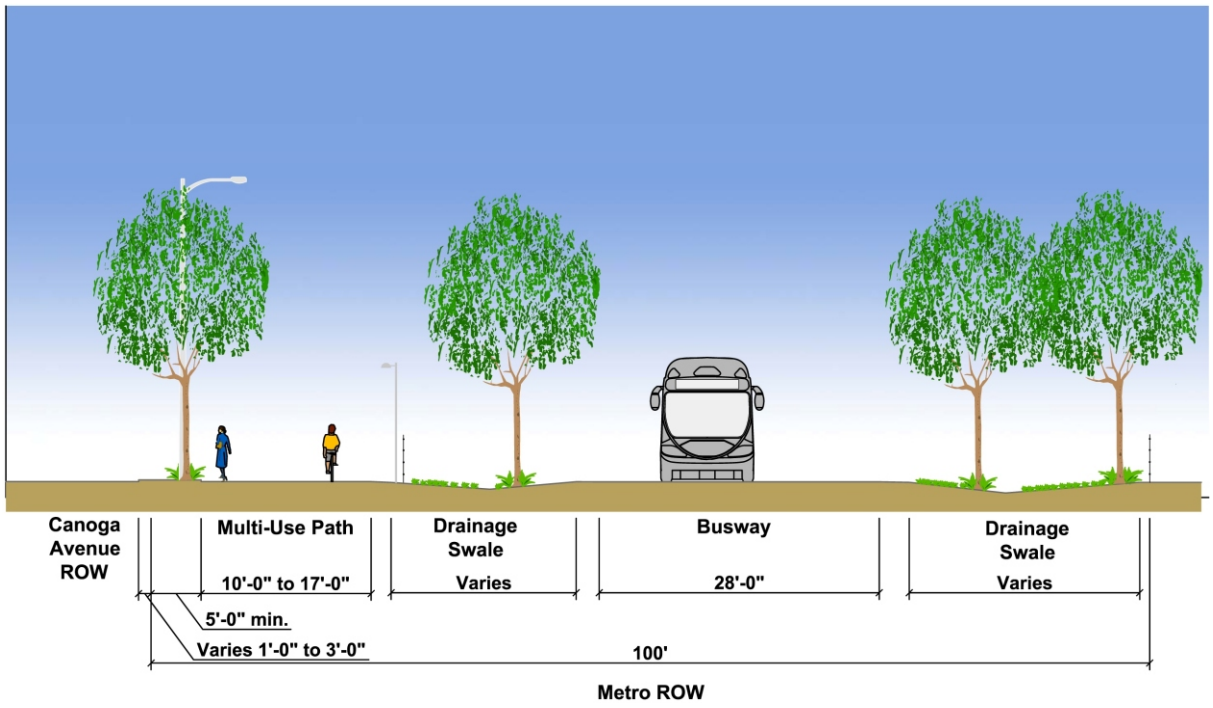
*Busway*

The urban design concept for the Canoga Transportation Corridor is a "multi-modal transportation facility within a greenway" similar to the concept of the MOL. The busway in the Metro ROW would have two exclusive lanes throughout the alignment, additional passing lanes at the stations and pullouts for maintenance vehicles. Where feasible, a Class I bikeway with a pedestrian path would be constructed along the length of the corridor in the Metro ROW, generally adjacent to Canoga Avenue. In lieu of a standard City sidewalk, street trees would be provided in a landscape parkway between the Canoga Avenue curb and the bikeway/pedestrian path. Portions of the route would be landscaped including trees to visually define the busway and a mix of appropriate native and adapted exotic plants similar to the MOL. A combination of curb and gutter and landscaped drainage swales would be used along the busway. Curb and gutter would be at the stations and approaches to the roadway intersections, and in other narrow areas of the ROW. Several types of fences and walls would be used along the corridor depending on adjacent uses and visibility from adjacent streets. Other than for the bikeway/pedestrian path, lighting would not be provided between cross streets. A fiber optic cable line will be installed along the bus lanes that will connect to existing fiber optic lines running along the Metrolink tracks adjacent to the Chatsworth Metrolink Station and to the existing fiber optic line along the MOL. Connections to this north-south fiber optic line will also be provided to the Division 8 service facility and the SFV Sector office on Marilla Street, thereby facilitating communication between the two facilities and Metro's Headquarters at the Gateway Center. In some locations, existing leases may be maintained, however, it is envisioned that all of the billboards, and much of the signs and auto-oriented uses would be removed. Existing overhead utilities along the east side of Canoga Avenue could potentially be under-grounded by the Los Angeles Department of Water and Power (DWP). However, this would not be a part of the project's budget. If DWP decides to underground these utilities, Metro would coordinate with the department so that the undergrounding would occur in conjunction with the construction of the busway. **Figure 3-22** illustrates the typical sections for 100 ft ROW between stations and the northern portion of the alignment, where the buses would run parallel to the Metrolink tracks.

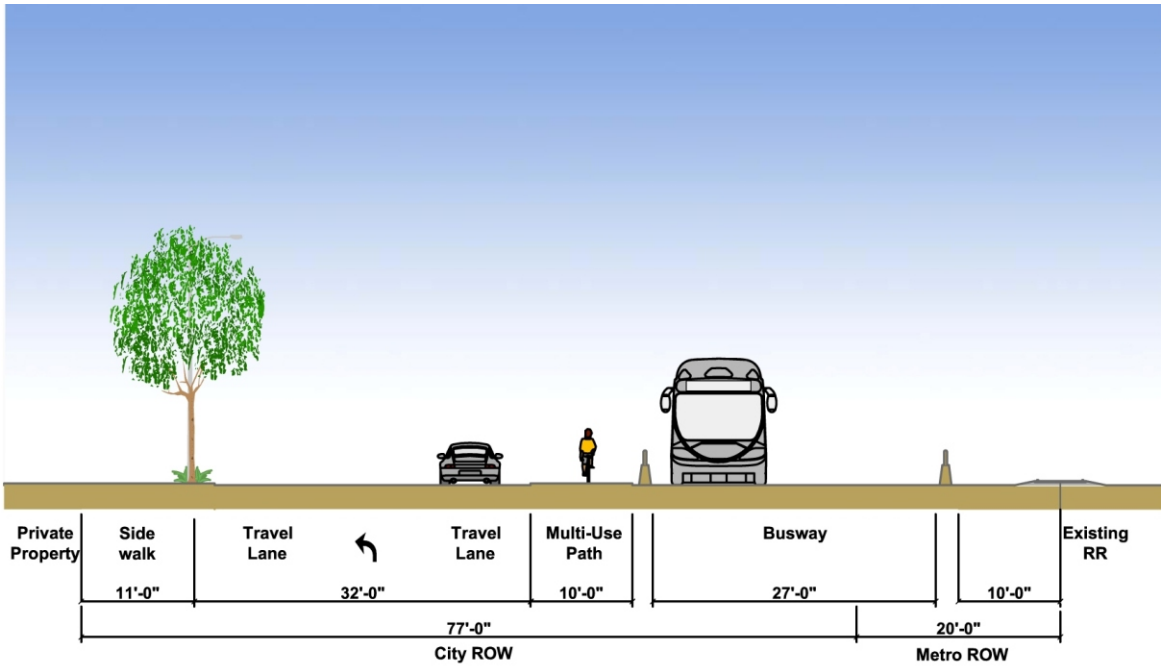
*Bikeway*

Where feasible, a 10-17 ft wide bikeway/pedestrian path would be located on the Metro ROW approximately 5-15 ft from the east side curb or pavement edge with street trees located between the street and pathway. Pedestrian lighting of the bikeway/pedestrian paths, bike lockers, bike racks, and other amenities along the ROW would be provided, similar to the MOL. The bikeway/pedestrian paths would cross at street intersections in the reconfigured crosswalks and would be lit with lower-scale pedestrian lighting.

The County and the City of Los Angeles have plans for a bikeway/pedestrian path on both sides of the Los Angeles River as well as green spaces for recreation and water recharge adjacent to the River. The urban design concept suggests the use of a portion of the concrete plant leased area near the Los Angeles River for an open space area. The Canoga Busway Alternative and a bikeway/ pedestrian path would pass over a new Los Angeles River bridge in the Metro ROW. In the future, ramps could be provided to connect the County bikeway to the Canoga Busway Alternative. The new bridge over the Los Angeles River would be visible from Canoga Avenue and the Metro ROW and would be consistent with the distinctive design of the MOL.




100 ft. ROW Between Stations




Parallel to Metrolink Tracks

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## Transit Priority/Traffic Signals, Control, Safety

*Transit Priority*

LADOT has made significant progress in developing the software that has been implemented to allow transit priority treatment at signalized intersections. The use of loop detectors embedded in the pavement in advance of traffic signals will now allow the traffic signal controllers to detect a bus as a distinct object separate from a car or truck. The following levels of transit priority are possible:

- Preemption - grants the right of way to a mass transit vehicle by interrupting the normal signal cycle sequence. (This strategy is not expected to be used in the Canoga Busway Alternative.)

- Full Priority - may extend or shorten the traffic signal green indication of the transit phase. The transit phase may be a parallel vehicle phase or an independent phase. Full priority also allows the skipping of a traffic phase if needed to advance the required transit and/or compatible vehicle phase. Typically the phase skipped is a low volume phase during that period of time, which results in improved operations for the transit service with minimal impact to the traffic pattern. (This strategy may be considered for low volume smaller street crossings.)

- Partial Priority allows the traffic signal controller to advance the start (early green), or retard the yellow (extend green) of the transit phase and any compatible vehicle phase. Partial priority does not skip any vehicle phase to extend or bring up early transit phase. (This strategy will be used for most of the transit lane crossings.)

The concept for the bus priority treatment in the transit lane will be to locate the bus detectors far enough in advance of each signalized cross street so that the traffic signal system will have sufficient warning to adjust the signal phases on the cross street so that the bus will have the greatest chance to receive a green indication when it reaches the cross street. In some cases, this will occur by lengthening the green phase (green extend) for the transit way and the parallel street (borrowing time from the cross street), and in other cases, it may occur by shortening the green phase on the east-west cross street, (early green). Subsequent signal cycles would compensate the cross streets for the shortened cycle. The proper location of the advance loop detectors will avoid abrupt changes in a signal cycle (e.g., a green phase will not be truncated prior to a specified minimum amount of time) by placing the detectors far enough in advance of the cross street so that the bus traveling at the planned speed will arrive at the cross street and have a green signal indication.

It may not be feasible to provide this same level of priority treatment for buses traveling in both directions, if headways become too short. In that case, the peak direction of passenger demand would be given the higher level of priority treatment. At each cross street where there are nearby traffic signals, the busway will also be signalized and the buses will have their own signal indications. LADOT will also have to consider the traffic demand on east-west streets in determining the level of priority for buses.

The transit stop locations help determine, to some extent, the type of priority that is most appropriate. A street crossing where the transit stop is on the far side would most likely utilize the extended feature to assure the bus makes it through the crossing and to the station. While a street crossing that has the station on the near side would utilize the early green feature to get the bus moving more readily. Far-side stops are anticipated at all stations, except at Sherman Way where a near-side stop in the north-bound direction will be used to avoid impacting the shopping center at the northeast corner of Canoga and Sherman Way.

*Traffic Signals, Control, and Safety*

Bus Rapid Transit (BRT) signals and vehicle signals will be placed at each crossing to control the bus, vehicle, pedestrian, and bicycle traffic at the crossing, the same way they are currently being operated along the MOL. Typically, the BRT crossings will be multi-phased (BRT phase and multiple vehicle phases to control turns across the busway).

Wherever possible, the bus signals and the adjacent existing intersection signals will be integrated to create one signalized intersection controlling both automobiles and buses. Since the busway is adjacent to and parallel to Canoga Avenue, the buses will typically receive a green signal concurrent with adjacent mixed-flow traffic. Because intersection crossings would be controlled with signals, warning devices would not be required. The stop bar for traffic approaching the transit crossing will be located before the transit crossing so that there will not be any traffic stopped between the adjacent traffic signal and the transit crossing. Pedestrian crossing protection will be provided at all locations permitting such crossings, via typical pedestrian signal heads. Pedestrians will be allocated crossing time according to LADOT standards.

A brief clearance interval will be required in the east-west signal phase to insure that no vehicles are stopped on the transit crossing or between the transit crossing and the adjacent Canoga Avenue. Turn movements from the adjacent Canoga Avenue will also require separate signal phases with red arrows when the transit vehicles are crossing the east-west street. In addition, separate northbound right turn lanes will be created to hold the vehicles in queue until the BRT vehicle passes and the right turn lane receives the green arrow. This will be necessary to prevent a left or right turn across the busway crossing when a transit vehicle is moving in conjunction with the through traffic on Canoga Avenue. The signal modifications will also include "active" No-Right-Turn indications and "Bus Coming" signs to prevent right turns across the BRT crossing from Canoga Avenue.

All signals with parallel busway crossings would need to be modified, typically to add the signal phase for the transit vehicles crossing the roadway or intersection (more signals will need to be modified in the northern portion of the alignment depending on which option is chosen). Some of the modifications also entail relocating the stop bars and providing pre-signals and clearance intervals for vehicles crossing the transit corridor. In addition, the signal modifications will include upgrades to signal controllers and software to accommodate the transit priority treatment at the crossings. Pre-signals and queue cutters will be used to prevent traffic from stopping or blocking the busway.

A total of 7-10 (depending on the northern segment option chosen) traffic signals will be installed and interconnected to the adjacent traffic signal. All minor street crossings will be signalized as part of this project. There will not be any non-signalized or stop sign controlled intersections for the busway. More precise signal operations plans and signal programming details at intersections will be developed as part of final design.

## Bus Operations Plan

The new MOL section between Canoga and Chatsworth is assumed to operate at an average 21 miles per hour, comparable to existing MOL speeds between Canoga and North Hollywood, with an estimated run time of about 13 minutes between Canoga MOL station and Chatsworth Metrolink Station. Two key service operating patterns are considered for the Busway.

*Option 1-Full Integration*: Integration with the existing MOL service, allowing both direct trips Chatsworth – North Hollywood and Chatsworth – Warner Center.

*Option 2*: Stand alone new service between Chatsworth and Warner Center, which would require a transfer at the Canoga Station to make the Chatsworth – North Hollywood trip.

*Option 3 - Partial Integration*: This would integrate with the existing MOL service, allowing direct trips Chatsworth – North Hollywood and Warner Center – North Hollywood, but would omit a direct link between Chatsworth and Warner Center (transfer at Canoga MOL station).

In each case the existing MOL operating pattern would also be retained, though with half the existing frequency in Options 1 and 3. For Option 1, buses from Chatsworth would alternate between continuing east to North Hollywood and exiting the busway at Canoga Station and connecting to the Warner Center Transit Hub via the existing MOL operating alignment. At the same time, existing Warner Center – North Hollywood service pattern would also continue to operate. For Option 2, a new route would operate from Chatsworth Metrolink Station along the new MOL extension to Canoga Station, with connections available there to the Warner Center Transit Hub via a transfer to the existing MOL. Option 3 is the same as for Option 1 with the omission of the direct Warner Center – Chatsworth link.

The above options assume at least an additional minute travel time saving over the Canoga On-Street Dedicated Bus Lanes Alternative due mostly to the direct link between the Canoga Station and the Chatsworth Metorlink Station and the avoidance of any peak intersection congestion.

## Station Locations and Conceptual Design

*Architectural Amenities, Artwork and Amenities at Stations*

The contemporary architectural character at stations would be almost identical to the MOL with some refinements. During preliminary and final engineering, the design and placement of the artwork would be investigated in more detail.

*Station Locations and Site Plans*

Each station area would be comprised of two separate side platforms along the busway, one for northbound travel, and the other for southbound travel. Each platform would have a pre-paid zone and a boarding zone. The pre-paid zone would typically be located adjacent to the cross-street. In this zone, patrons would purchase and validate tickets for the busway. Other amenities such as bicycle racks/lockers, and maybe public pay phones would be located in this zone. Stations would be able to accommodate three standard 40-foot buses or two 60-65 ft articulated buses. Canopies would provide shade and shelter over portions of the platform, including the pre-payment zone. The station design would be similar to that of the MOL in order to establish a unifying theme throughout the line, giving the busway a clear visual and functional impression.

Amenities such as seating, lighting (where needed), bicycle racks/lockers, ticket vending machines, and stand-alone validators would be included at each station. Artist-designed elements would also be included in the stations' design. Stations would be equipped with passenger information systems similar to that used on the MOL that would inform travelers of the wait time until the next bus arrival and provide other real-time and pre-recorded busway operating information. Information and identity features would include map cases, and ground pylon station signage.

Stations would be located along the Canoga Corridor at the following locations proceeding from north to south:

- **Chatsworth Metrolink Station** – The Chatsworth Metrolink station would be the northern terminus of this alternative. There are two tracks and two platforms at the station. For 28 out of the 30 current trains per day, patrons board/alight via the eastern platform. For two trains per day, they cross the tracks via an at-grade pedestrian crossing to reach the western platform. This pattern is expected to continue with the MOL extension. Several options are under consideration.

  *Option A Non-Revenue Turn-Around* - Buses would unload and pick up passengers at new canopies and platforms adjacent to the Old Depot Plaza Road near the rail station north of the current local bus stops. A non-revenue turn-around would be provided in the vacant area near Devonshire Street. Additional landscaped park-and-ride spaces would be provided in the vacant area near Devonshire Street. This option is illustrated in **Figure 3-23** and could be combined with all northern segment options terminating at-grade, on the east side of the tracks (Options 1, 2, 2a, 4, and 4a).

  *Option B Turn-Around south of Metrolink Station Platforms* - Similar to the North Hollywood terminus station of the MOL, a bus turn-around with layover bus spaces, and a combined boarding and pick – up platform would be provided. The turn-around would be located south of the Chatsworth Metrolink Station and would displace some existing parking. Parking displaced as well as additional parking would be provided in the vacant area north of the Chatsworth Metrolink Station. This option is illustrated in **Figure 3-24** and could be combined with all northern segment options terminating at-grade, on the east side of the tracks (Options 1, 2, 2a, 4, and 4a).

  *Option C Turn-Around on Vacant Lot West of Tracks* - A bus turn-around and layover spaces on vacant land west of the railroad tracks with a grade-separated pedestrian crossing of the tracks and tree-lined pedestrian linkages. This option requires purchase of the existing vacant private property. This option is illustrated in **Figure 3-25** and could be combined with all northern segment options terminating on the west side of the tracks (Options 3 and 3a).

  *Option D Elevated or Below-Grade Separation* - This option is illustrated in **Figure 3-26** and would be combined with the Grade Separation of Railroad Tracks and Lassen Street option for the northern segment (Option 5).

- **Nordhoff Street** – Platforms for the Nordhoff Street station would be located on the farside of the intersection. Canoga Avenue would be reconfigured to accommodate a right turn lane to Nordhoff Street. The conceptual design would be similar to that shown for Roscoe Boulevard (**Figure 3-27**).

- **Parthenia Street** – An optional station at Parthenia would be located on the farside of the intersection. Canoga Avenue would be reconfigured to accommodate a right turn lane to Parthenia Street. The conceptual design would be similar to that shown for Roscoe Boulevard below.

- **Roscoe Boulevard** – Platforms for Roscoe Boulevard would be located on the farside of the intersection. Canoga Avenue would be reconfigured to accommodate a right turn lane to Roscoe Boulevard. The conceptual design would be similar to that shown in **Figure 3-27.** Cross-sections for the Busway at the northbound and southbound stations are illustrated in **Figure 3-28**.

- **Sherman Way** – Both station platforms would be located in the wide (approximately 275 ft) ROW south of Sherman Way as the ROW north of Sherman Way is only 65 ft wide. The wide ROW would accommodate park-and-ride spaces near the intersection of Sherman Way and as well as a portion of the concrete plants that may be difficult to relocate. The concrete plant's access driveway on Canoga

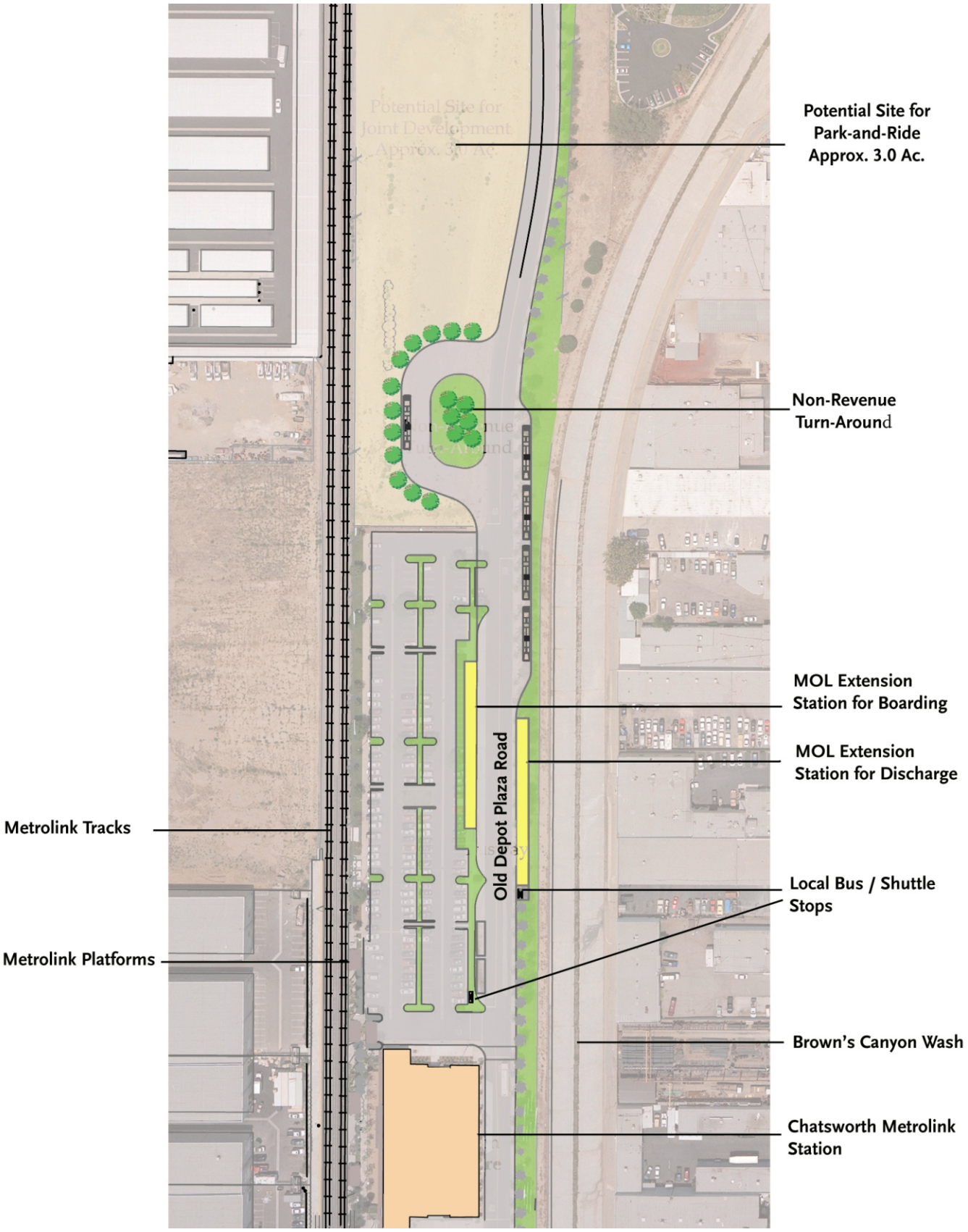


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Figure 3-23
Alternative 4- Chatsworth Station Option A

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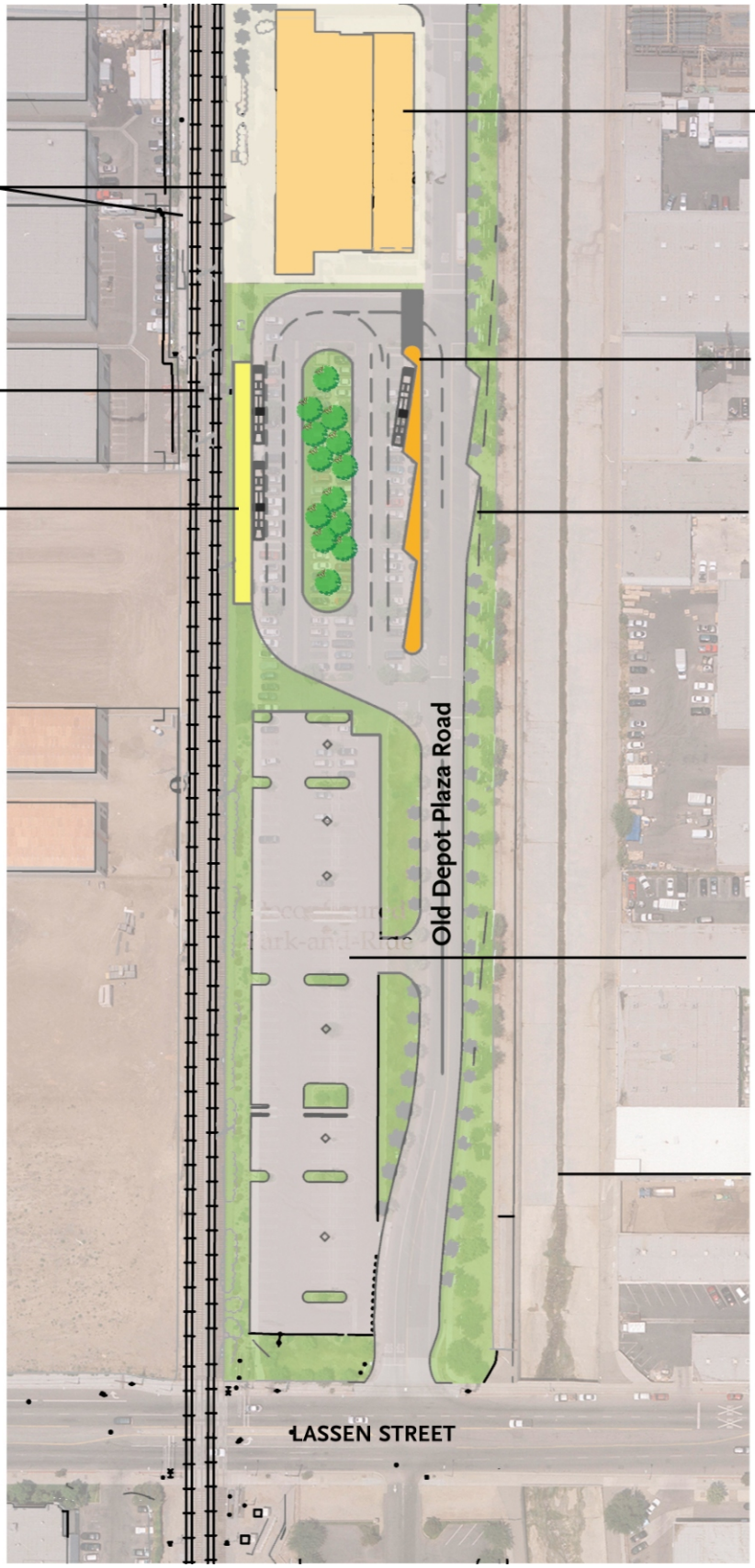


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Figure 3-24
Alternative 4- Chatsworth Station Option B

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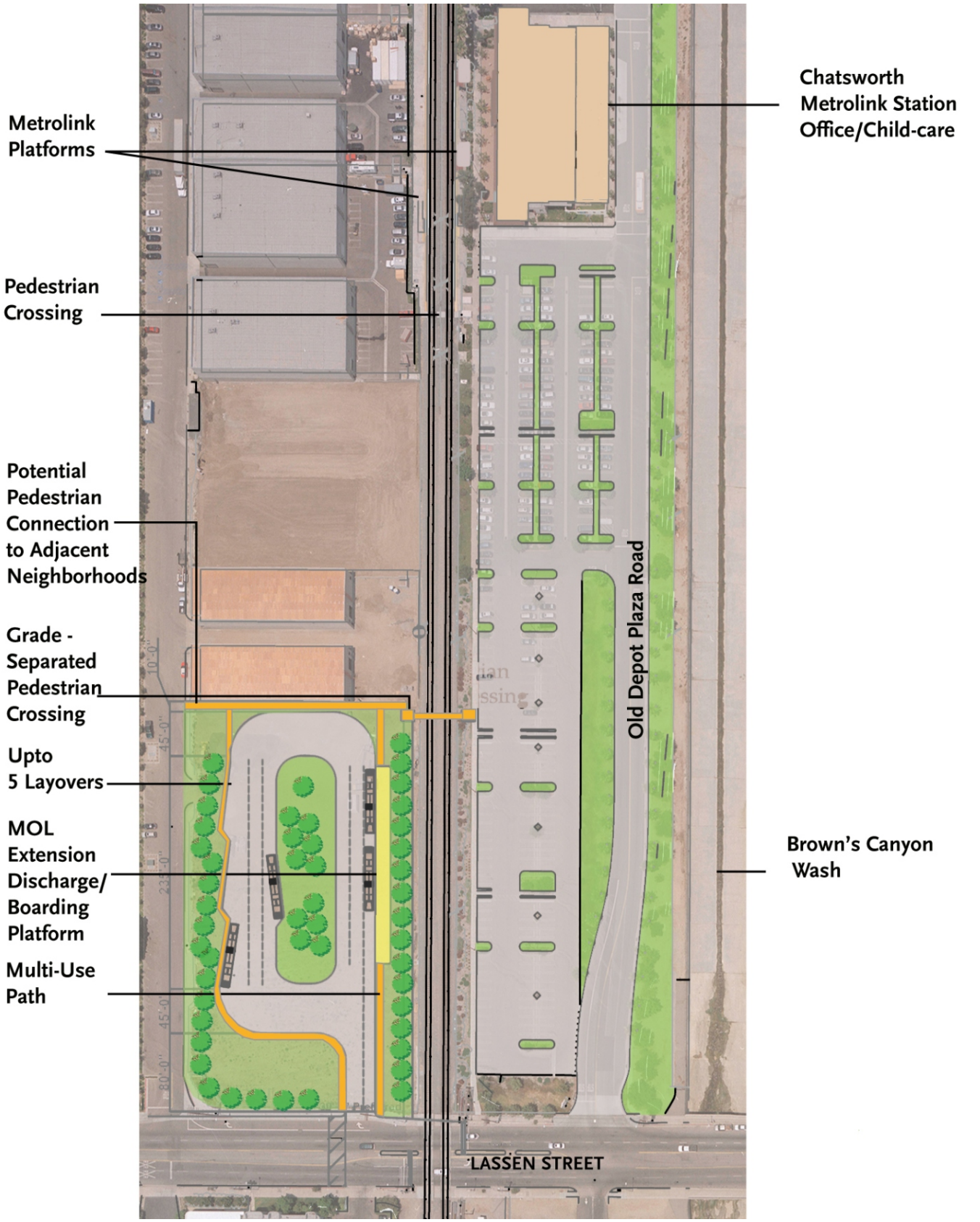


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Figure 3-25
Alternative 4- Chatsworth Station Option C

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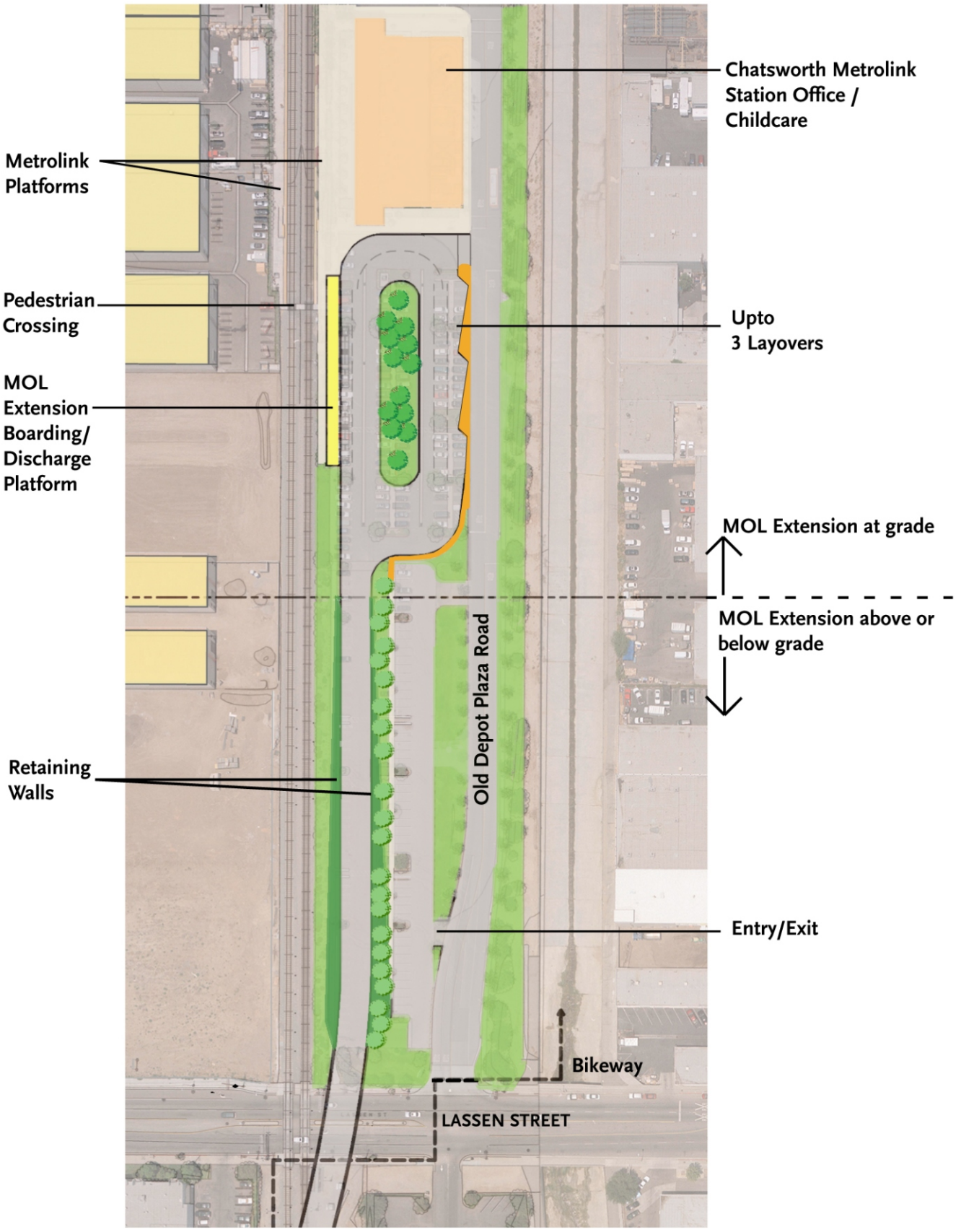


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Figure 3-26
Alternative 4- Chatsworth Station Option D

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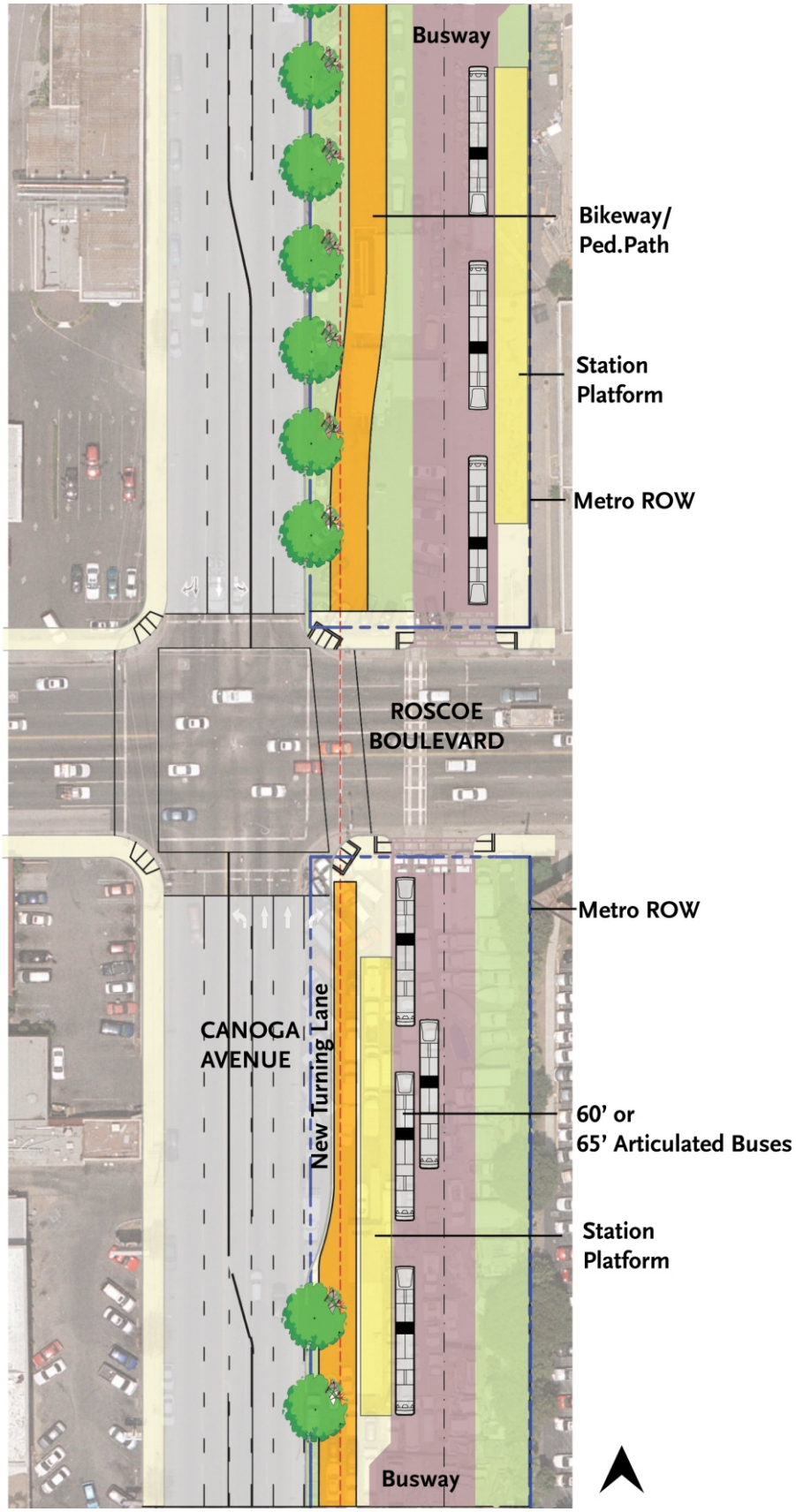


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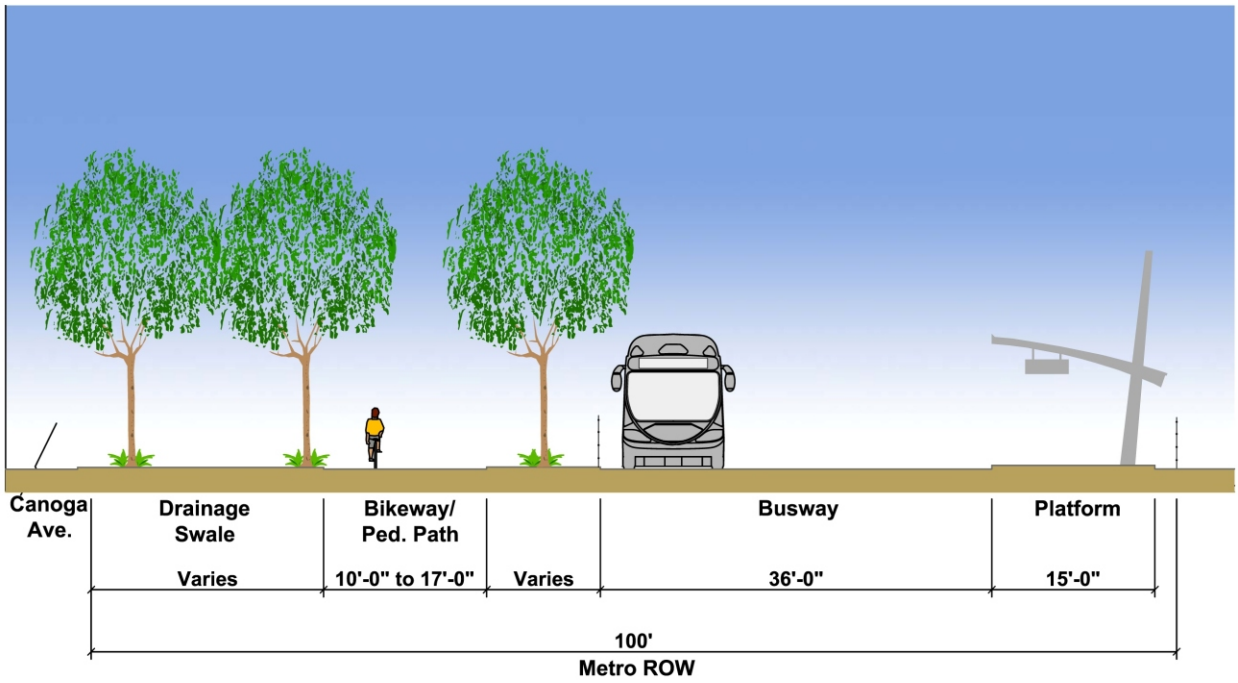
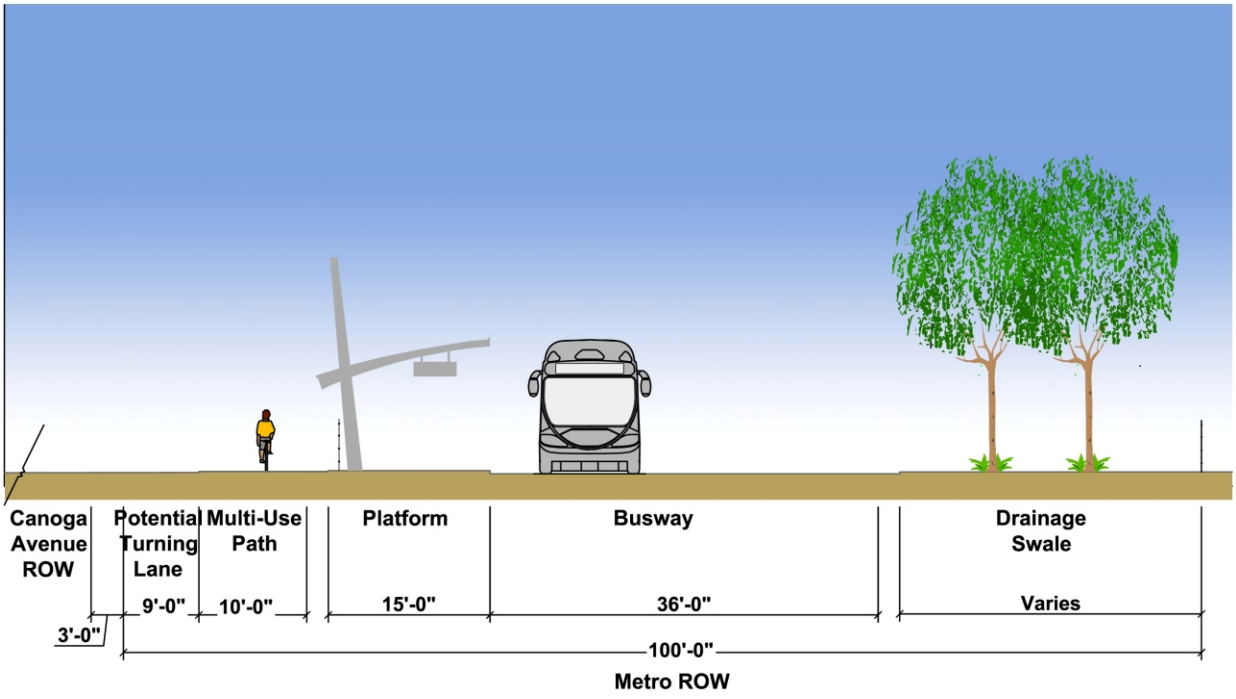



Northbound




Southbound

Source: GRUENASSOCIATES

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Figure 3-28
Alternative 4- Roscoe Blvd. Station Typical Cross-Sections

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Avenue would be closed. Canoga Avenue would be reconfigured to accommodate a right turn lane to Sherman Way. **Figure 3-29** illustrates the urban design concept for the Sherman Way station, potential park-and-ride spaces and potential retention of the concrete plant. **Figure 3-30** illustrates the cross section in the 65 ft narrow ROW north of Sherman Way.

- **Canoga Station** - The existing MOL Canoga Station and park-and-ride facility would be modified to accommodate the Canoga Busway. New platforms would be added to serve the new north-south busway alignment, with pedestrian crosswalks for those requiring transfers. Buses running from North Hollywood to Warner Center and Warner Center to North Hollywood would continue to use the existing station platforms. The number of park-and-ride spaces would be reduced to approximately 235-290 spaces from 600 spaces to accommodate the new station platforms, the busway and a continuous bikeway/pedestrian path along Canoga Avenue. This station concept is illustrated in **Figure 3-31**.

- **Warner Center Transit Hub** – The Warner Center Transit Hub is served by the MOL, the Ventura Metro Rapid, several LADOT Commuter Express bus routes, as well as Metro local bus routes. The Canoga Busway Alternative would serve this major transfer point as well. Additional improvements at the Warner Center Transit Hub are not anticipated as part of this project.

*Treatments Adjacent to Sensitive Land Uses*

Where needed in the vicinity of residential areas, walls/fences would be constructed either at the property line or setback from the property line in order that landscaping can screen the walls/fences from adjoining uses. **Figure 3-32** shows the Metro ROW adjacent to single-family residential along east Canoga Avenue south of Parthenia Street. Currently, a two lane roadway is located in the center of the 60 ft City ROW. As there is ample room for landscaping on City property to screen the view of the wall or fence, the wall/fence would be placed near the east Metro property line providing more space for a landscaped swale within the Metro ROW.

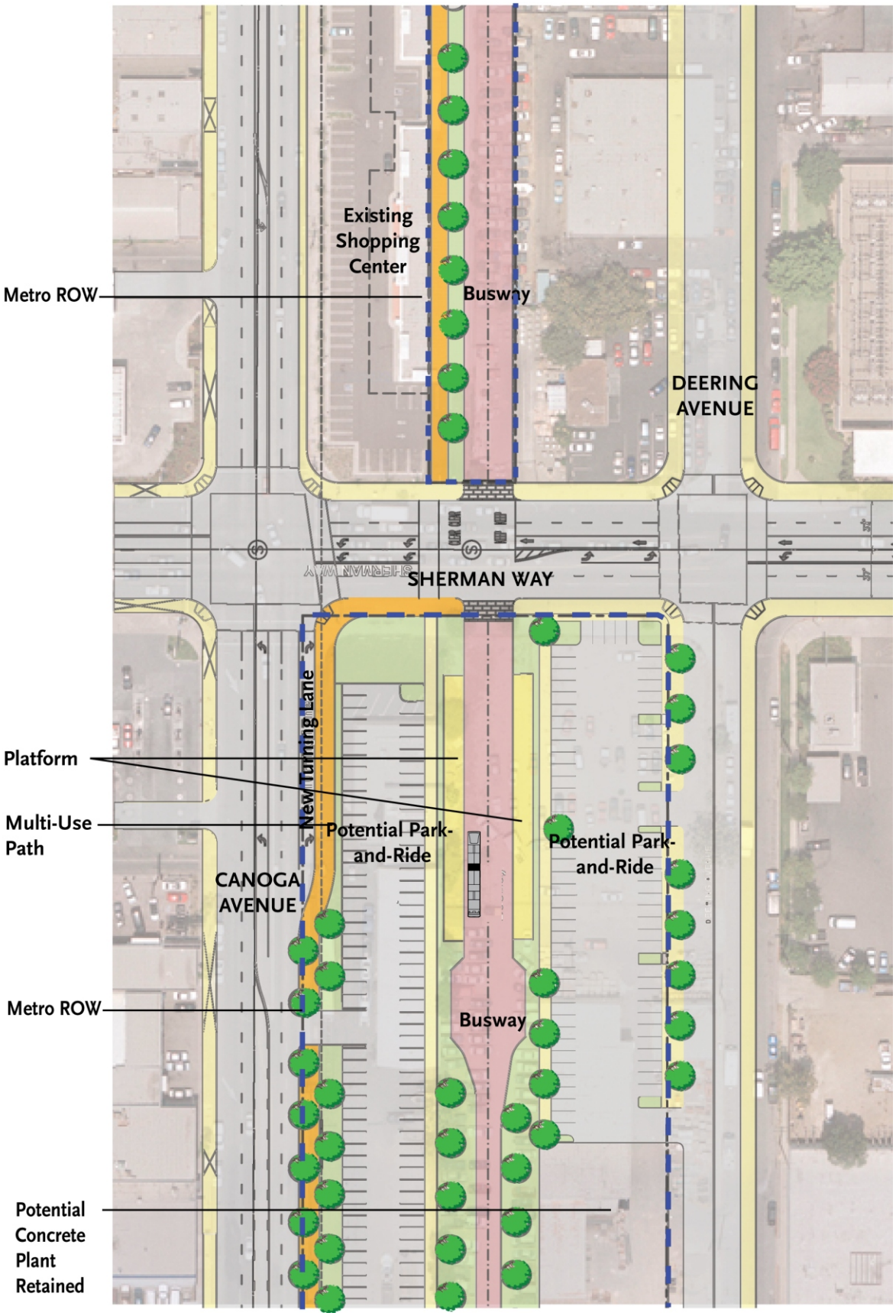
**Figure 3-32** shows the Metro ROW adjacent to a mobile home park adjacent to the ROW. As the mobile homes are very close to the Metro ROW, the wall/fence could be set back to provide a landscaped buffer, similar to the MOL. In some cases, the wall/fence may be located close to the edge of the Metro ROW to address drainage issues. Vines will likely be planted on the wall to help deter graffiti on Metro's side only.

*Treatments to Narrow ROW Segments Adjacent to Commercial/Industrial Uses*

Along narrow portions of the ROW, or where the busway/multi-use path is designed in a way that preserves existing long-term leases, the typical condition for the 100 ft ROW is not possible. **Figure 3-33** illustrates conditions in these areas.

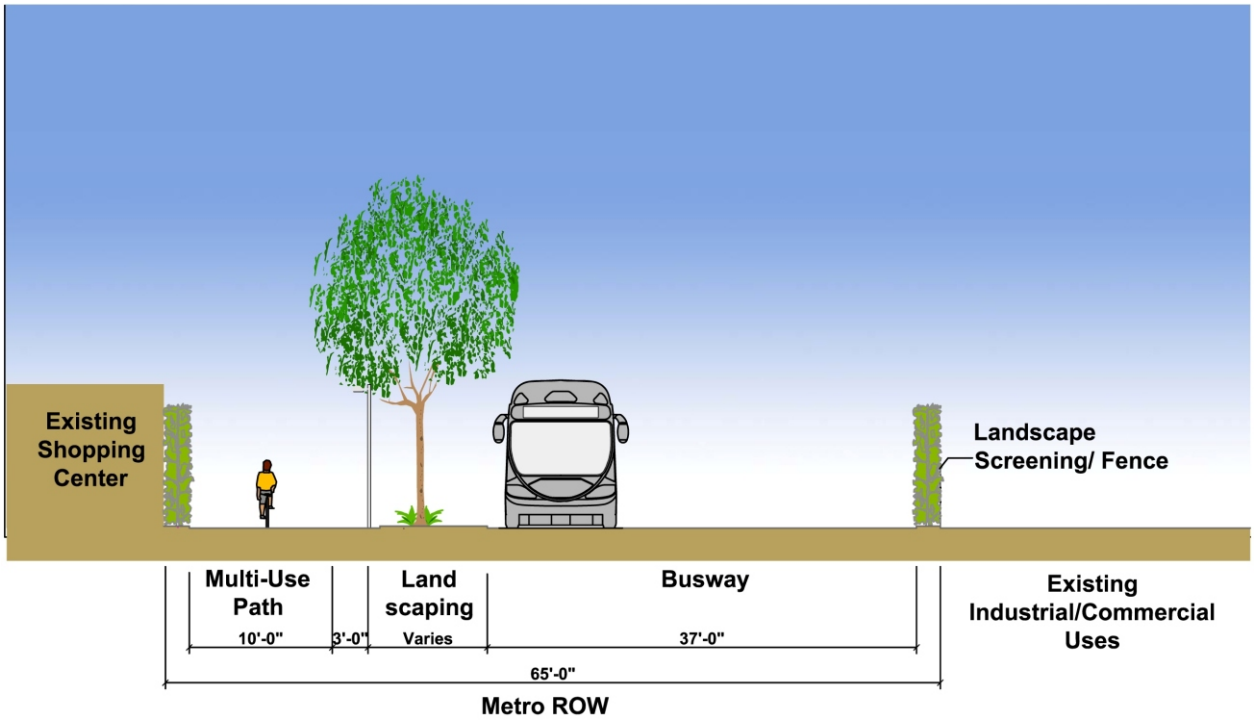
*Treatments to other Commercial/Industrial Uses*

Along portions of the ROW that are adjacent to commercial or industrial development a fence or a wall would be required and landscaping would be desirable especially to screen views of existing long-term leases such as the concrete plant which contains unattractive outdoor storage of materials and equipments.




Source: GRUENASSOCIATES

NOT TO SCALE




Source: GRUENASSOCIATES

NOT TO SCALE



Figure 3-30
Alternative 4 - Sherman Way Typical Cross-Section

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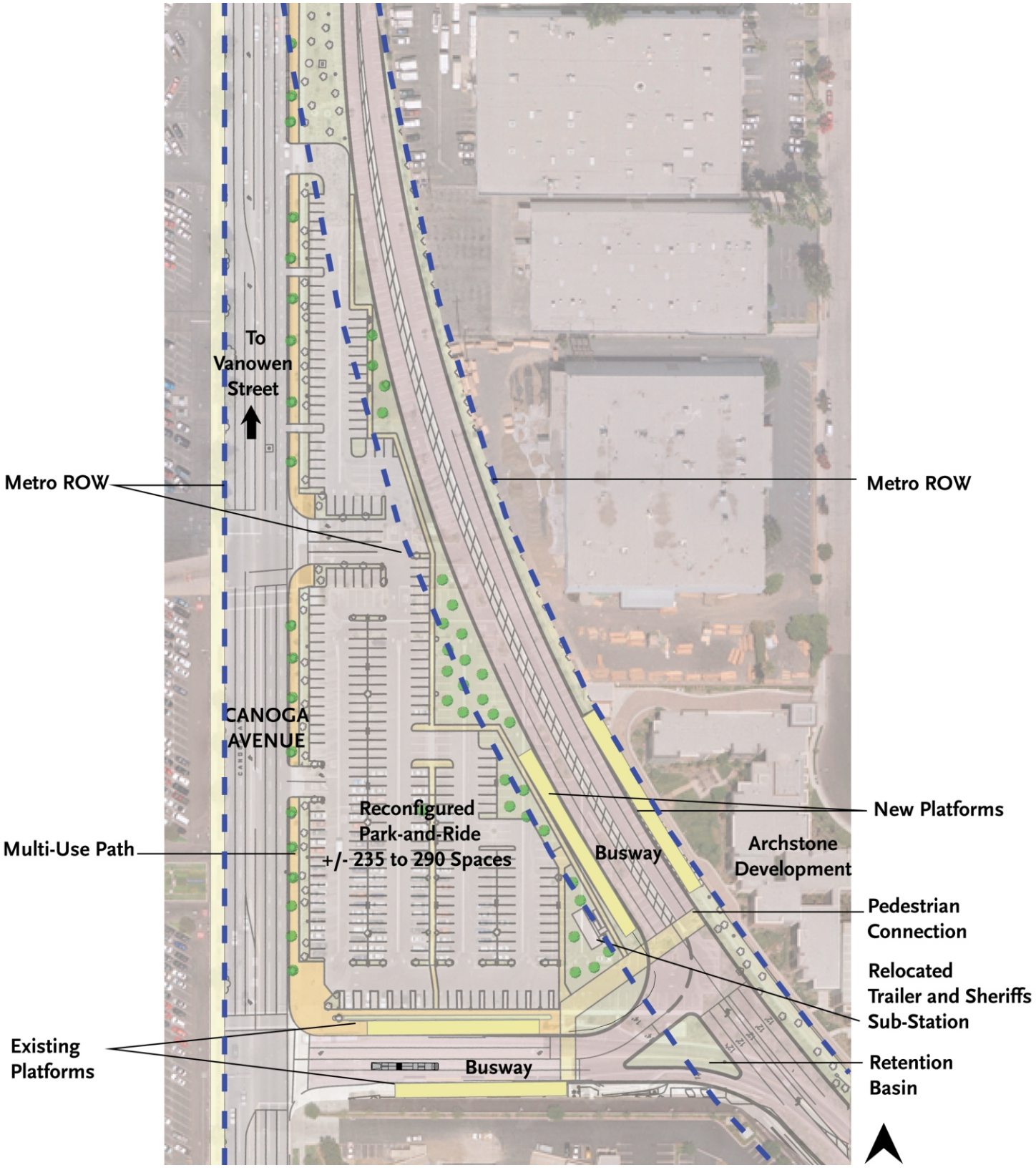


Source: GRUENASSOCIATES

NOT TO SCALE



Figure 3-31
Alternative 4 - Canoga Station Park-and-Ride

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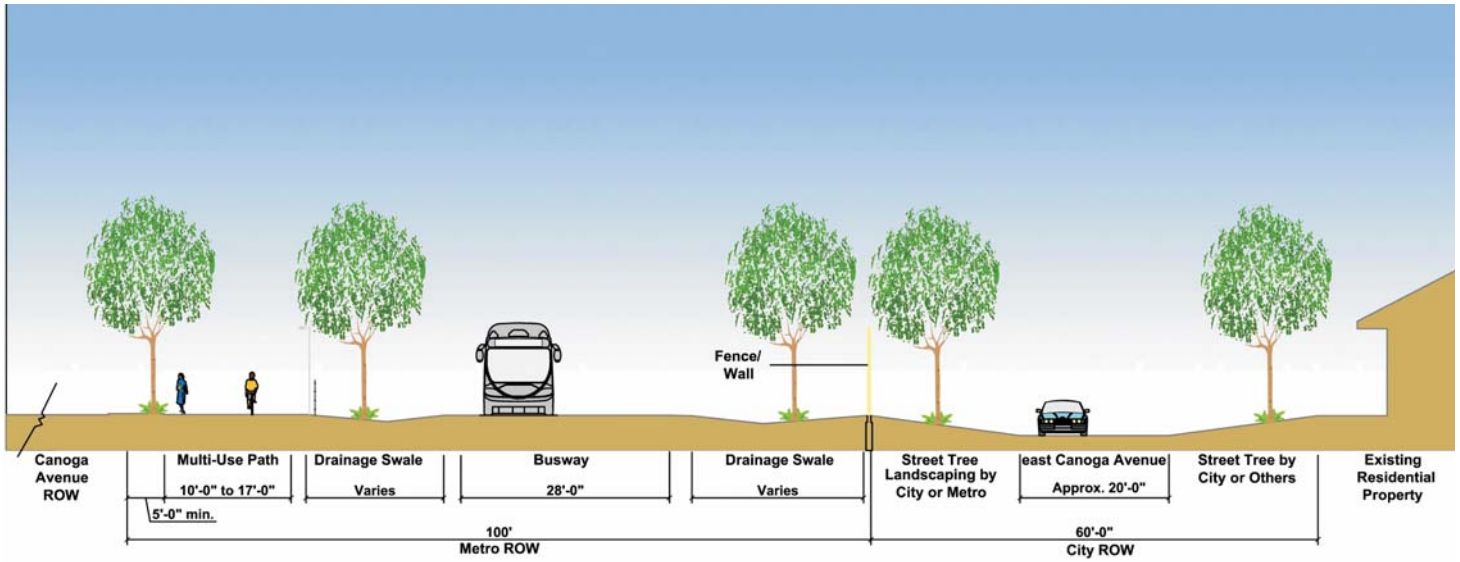
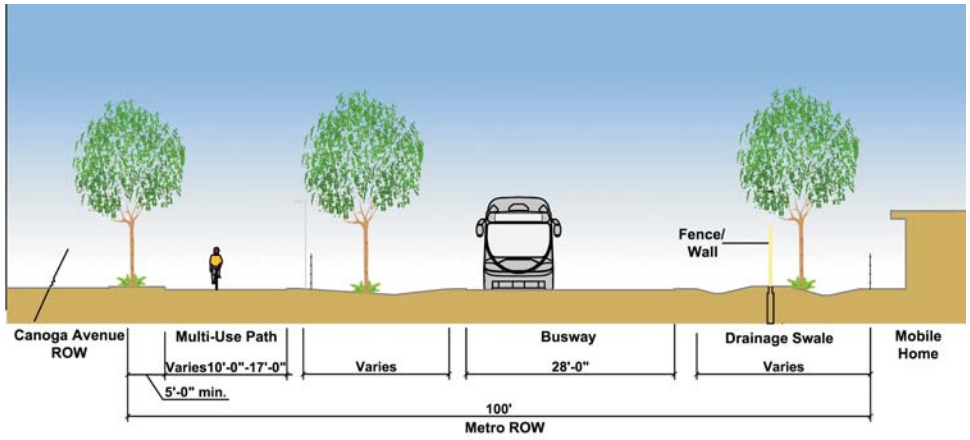
### Adjacent to Single Family Residential

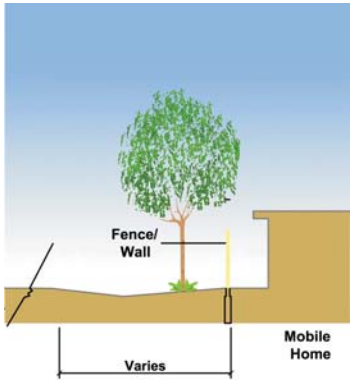



### Adjacent to Mobile Home Park

Alternative 1




Alternative 2




NOT TO SCALE



**Figure 3-32**
**Alternative 4 - Metro ROW Adjacent to Residential Uses**

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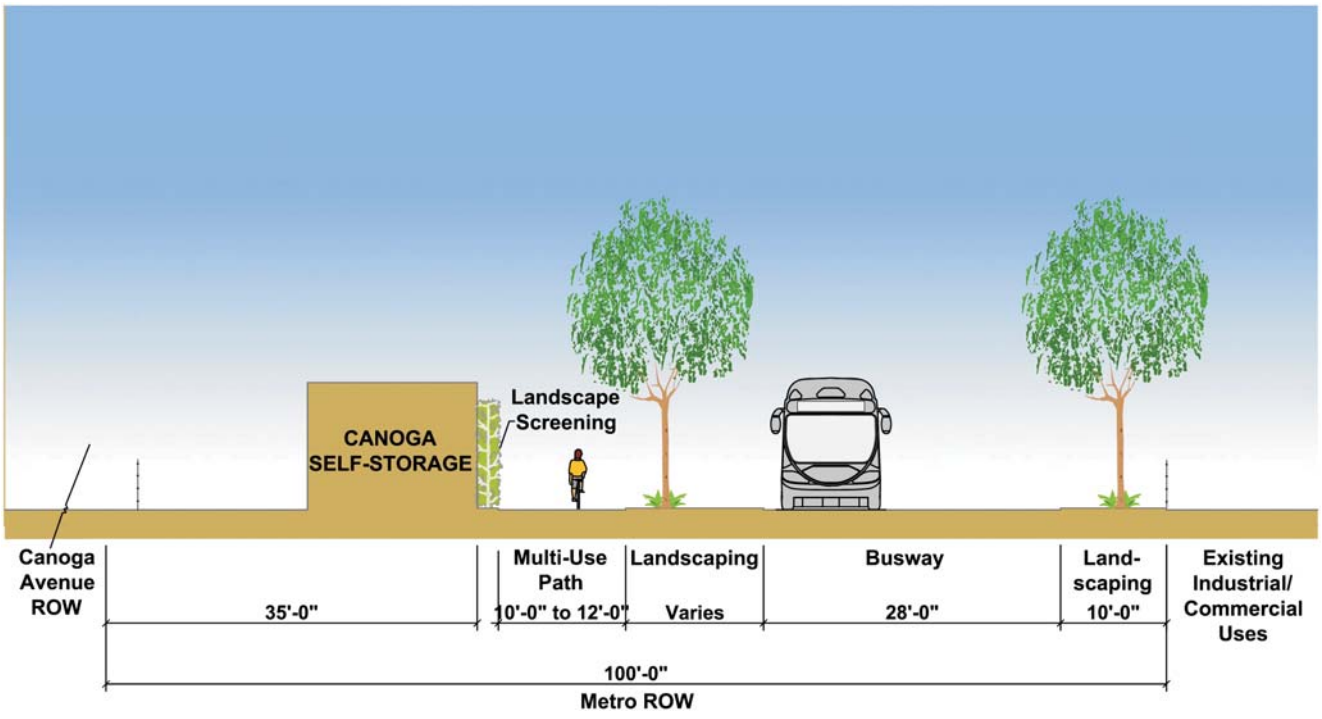


Source: GRUENASSOCIATES

NOT TO SCALE



Figure 3-33
Alternative 4 - Metro ROW Adjacent to Commerical/Industrial Uses

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*Los Angeles River Treatment and Connections to Bikeway/Pedestrian Path*

The County and the City of Los Angeles have plans for a bikeway/pedestrian path on both sides of the Los Angeles River as well as green spaces for recreation and water recharge adjacent to the River. The urban design concept suggests the use of a portion of the concrete plant leased area near the Los Angeles River for an open space area. The Canoga Busway Alternative and a bikeway/ pedestrian path would pass over a new bridge in the Metro ROW. In the future, ramps could be provided to connect the County bikeway to the Canoga Busway Alternative. The new bridge over the Los Angeles River should have a distinctive design visible from Canoga Avenue and the Metro ROW, in keeping with the distinctive design of the MOL.

### Landscaping

Landscaping along the busway would include a mix of appropriate native and adapted exotic plants throughout the project to insure visual continuity, respond to local design context condition, and resource conservation goals. Street tree species and pattern would be coordinated with the City of Los Angeles. Planting design for stations and park-and-ride lots would likely include a mix of deciduous and evergreen, shrubs, and groundcover.

## 3.4.5 Bus Operating Plan

This section describes the operating characteristics of the three alternatives, including maintenance facility requirements, specifications of buses to be used, and a preliminary operating plan including bus routing and headways.

### Bus Maintenance Facilities

Metro Bus Division 8 is the logical location for housing and maintaining the Corridor's buses. Division 8 is located in Chatsworth at the intersection of Nordhoff Street and Canoga Avenue. The need for expansion of bus maintenance facilities is based on the number and size of new buses required by an alternative. **Table 3-3** lists the number of new buses required for each alternative.

**Table 3-3 New Bus Fleet Requirements**

| **Alternatives** | No Project | TSM Local | On-Street Dedicated Bus Lanes<br>CH–NH<br>WC-NH<br>CH-WC | Busway Ops. Option 1<br>CH–NH<br>WC–NH<br>CH-WC | Busway Ops. Option 2<br>CH – WC stand alone | Busway Ops. Option 3<br>CH–NH<br>WC–NH | TSM – Existing Service Improvement |
|---|---|---|---|---|---|---|---|
| **Fleet Increase** | No Change | +8 | +21 | +21 | +7 | +14 | Up to +23 for options, all upgrades |

NH=North Hollywood
CH=Chatsworth
WC=Warner Center

It is assumed that the fleet would be standard 40-foot Metro buses for the TSM Alternative, and possibly for the Chatsworth to Warner Center route of both the Canoga Busway and On-Street Dedicated Bus Lanes Alternatives. Articulated buses would be used for all other routes of the Canoga Busway and On-Street Dedicated Bus Lanes Alternatives. The above increases also do not include 20% spares.

The Division 8 facility currently operates at almost full capacity. The Division's capacity is 229 buses and it is currently assigned 223 buses. The existing facility will need to be modified to accommodate the 7 to 23 buses, plus spares, required by the different project alternatives. In order to accommodate the added buses, Metro would have to provide an off-site overnight bus parking facility, and do the maintenance work at Division 8. The Metro-owned vacant lot at the northwest corner of Owensmouth Avenue and Marilla Street would be paved for bus parking.

### Bus Specifications

Sixty or sixty-five-foot articulated buses would likely be used for the Canoga On-Street Dedicated Bus Lanes and Busway Alternatives. These buses can be manufactured with two or three doors and have a seated capacity of 56- 65 passengers. For typical buses, maximum speed ranges between 55 and 65 mph. In calculating run times for the Canoga Busway Alternative, it was assumed that the average dwell at stations would be 20 seconds and average overall speed along the busway would be 21 mph. In calculating run times for the Canoga On-Street Dedicated Bus Lanes Alternative, it was assumed that the average dwell at stations would be 20 seconds and average overall speed along the dedicated bus lanes would be 20 mph.

### Operating Patterns

*TSM Alternative*

Buses for this alternative would have only one operating pattern. The new Local route (246) would travel from the Warner Center Transit Hub to the Chatsworth Metrolink Station, utilizing Owensmouth Street, Oxnard Street, Erwin Street, Canoga Avenue, Marilla Street, Owensmouth Street, and Lassen Street.

*Canoga On-Street Dedicated Bus Lanes Alternative*

Buses from Chatsworth in this alternative would alternate between continuing east to North Hollywood, joining the existing MOL at the Canoga Station, or proceeding to the Warner Center Transit Hub via the existing MOL operating alignment. At the same time, the existing Warner Center – North Hollywood service pattern would also continue to operate.

*Canoga Busway Alternative*

The new MOL section between the Canoga Station and Chatsworth Metrolink Station is assumed to operate at 21 miles per hour, comparable to existing MOL speeds between Canoga and North Hollywood, with an estimated run time of 13 minutes between the Canoga MOL station and Chatsworth Metrolink Station. Three service operating patterns are considered for the Busway:

- Busway Operation Option 1: Integration with the existing MOL service, allowing both direct trips Chatsworth – North Hollywood and Chatsworth and Chatsworth – Warner Center.

- Busway Operation Option 2: Stand alone new service between Chatsworth and Warner Center. Transfers at the MOL Canoga Station would be required to make the Chatsworth – North Hollywood trip.

- Busway Operation Option 3: Integration with the existing MOL service, allowing direct trips Chatsworth – North Hollywood and Warner Center – North Hollywood, but omitting a direct link between Chatsworth and Warner Center (transfer at Canoga MOL station).

In each case, the existing MOL operating pattern would also be retained, though with half the existing frequency in Options 1 and 3. For Option 1, buses from Chatsworth would alternate between continuing east to North Hollywood and exiting the busway at the Canoga Station and connecting to the Warner Center Transit Hub via the existing MOL operating alignment. At the same time, existing Warner Center – North Hollywood service pattern would also continue to operate. For Option 2, a new route would operate from the Chatsworth Metrolink Station along the new MOL extension to the Canoga Station, with connections available there to the Warner Center Transit Hub via the existing MOL operating pattern. Option 3 is the same as for Option 1 with the omission of the direct Warner Center – Chatsworth link. The above options assume at least an additional minute travel time saving over the Canoga On-Street Dedicated Bus Lanes Alternative due mostly to the direct link between Canoga Avenue and Chatsworth terminus in this alternative, and avoidance of any peak intersection congestion.

### Stopping Patterns

*TSM Alternative*

The TSM Alternative's new local service on Canoga Avenue would include a stop at the Warner Center Transit Hub, a stop at the existing Canoga MOL station and stops on Canoga Avenue at Sherman Way, Saticoy, Roscoe Boulevard, Parthenia, Nordhoff, Plummer, and Lassen Streets in line with closer stop spacing provided by Local service.

*Canoga On-Street Dedicated Bus Lanes Alternative*

Utilizing the Metro Rapid service format on Canoga Avenue, stations are proposed at the Canoga MOL Station, Sherman Way, Roscoe Boulevard, Parthenia Street (Optionally), Nordhoff Street and terminating at the Chatsworth Metrolink Station.

*Canoga Busway Alternative*

The Canoga Busway Alternative would include stops at the existing MOL terminal at Warner Center and a reconfigured Canoga station as well as new MOL stations adjacent to Sherman Way, Roscoe Boulevard, Nordhoff Street, terminating at the existing Chatsworth Metrolink Station.

### Service Frequencies

The TSM Alternative and the Canoga Busway Alternative Operating Option 2 would each provide 6 minute peak, 12 minute midday and weekend day base and 20 minute evening service between Chatsworth and Warner Center or the Canoga MOL station. These two alternatives would retain existing MOL service between Warner Center and North Hollywood.

The Canoga On-Street Dedicated Bus Lanes Alterative and the Canoga Busway Alternative (Operating Options 1 and 3) would share MOL service between a new Chatsworth – North Hollywood pattern and the existing MOL service pattern between Warner Center and North Hollywood. Frequencies on the

existing MOL and along the extension to Chatsworth would be 3 minute peak, 6 minute midday/weekend day and 10 minute early/late service. These improved frequencies allow for growth in ridership from both the new extension and further growth on the existing MOL. Direct service between Chatsworth and Warner Center would be included as proposed in the Canoga On-Street Dedicated Bus Lanes Alterative and Canoga Busway Alternative (Operation Options 1 and 2).

Service frequencies for each of the alternatives are summarized in **Table 3-4**. **Table 3-5** sets out assumptions of running times and fleet requirements for these alternatives.

**Table 3-4 Service Frequencies for New-Service Alternatives**

| Alternative | Early AM | AM Peak | Midday | PM Peak | Early Eve | Late Eve | Sat./Sun. Day | Sat./Sun. Early Late |
|---|---|---|---|---|---|---|---|---|
| No Project Existing MOL Westbound | 15 from 4.30 am<br>10 from 5.30 am<br>5 from 6.00 am | 4 from 6.30 am<br>4 from 8.00 am | 6 from 9.30 am<br>10 from 10.00 am<br>7 from 2.30 pm | 4 from 3.30 pm<br>4 from 4.00 pm | 7 from 7.00 pm<br>10 from 7.30 pm<br>15 from 800 pm | 20 from 9.00 pm | 12 from 7.00 am<br>10 from 11.30 am<br>12 min from 6.00 pm | 15 from 4.30 a.m.<br>15 from 8.00 p.m.<br>20 from 9.00 pm |
| No Project Existing MOL Eastbound | 15 from 3.45 am<br>6 from 4.45 am | 4 from 5.15 am<br>5 from 8.30 | 10 from 9.00 am<br>6 from 1.45 pm | 4 from 3.00 pm<br>4 from 4.00 pm<br>10 from 6.00 pm<br>12 from 6.30 pm | 7 from 7.00 pm<br>10 from 7.30 pm<br>15 from 8.00 pm | 15 from 7.00 pm<br>20 from 7.30 pm | 12 from 5.30 am<br>10 from 10.00 am | 15 from 3.45 am<br>15 from 6.30 pm<br>20 from 8.00 pm |
| TSM New Local Line (246)- see Table 3-3 for suggested existing line improvements | 12 from 4.30 am | 6 from 6.30 am to 9.30 am | 12 from 9.00 am to 3.00 pm | 6 from 3.00 pm to 7.00 pm | 12 from 7.00 pm | 20 from 9.00 pm | 12 from 7.00 am to 6.00 pm | 20 from 5.30 am<br>20 from 6.00 pm |
| Canoga On-Street Dedicated Lanes<br><br>Alternate Westbound<br>3 Patterns<br>NH – WC<br>NH – CH<br>CH – WC | 12 from 4.30 am (NH – WC)<br>6 from 5.30 am (12 each pattern) | 3 from 6.00 am (6 each pattern) | 6 from 9.00 am (12 each pattern) | 3 from 3.00 pm (6 each pattern) | 6 from 7.00 pm (12 each pattern) | 10 from 9.00 pm (20 each pattern) | 6 from 7.00 am to 6.00 pm (12 each pattern) | 12 from 4.30 a.m. (NH – WC)<br>10 from 5.30 am (20 each pattern)<br>10 from 6.00 p.m. (20 each pattern)<br>pattern) |
| Canoga On-Street Dedicated Lanes<br><br>Alternate Eastbound<br>3 Patterns:<br>WC – NH<br>CH – NH<br>CH – WC | 12 from 3.45 am (WC – NH only)<br>6 from 4.30 am (12 each pattern) | 3 from 5.30 am (6 each pattern) | 6 from 9.00 am (12 min. each pattern) | 3 from 3.00 pm to 7.00 pm (6 min. each pattern) | 6 from 7.00 pm (12 min. each pattern) pm | 10 from 9.00 pm (20 each pattern) | 8 from 7.00 am to 6.00 pm (16 each pattern) | 12 from 3.45 am (WC – NH)<br>10 from 5.30 am (20 each pattern)<br>10 from 6.00 pm (20 each pattern) |

## Table 3-4 Service Frequencies for New-Service Alternatives

| Alternative | Early AM | AM Peak | Midday | PM Peak | Early Eve | Late Eve | Sat./Sun. Day | Sat./Sun. Early Late |
|---|---|---|---|---|---|---|---|---|
| Canoga Busway Ops. Option 1<br><br>Alternate Westbound 3 Patterns<br>NH – WC<br>NH – CH<br>CH – WC | 12 from 4.30 am (NH – WC)<br>6 from 5.30 am (12 each pattern) | 3 from 6.00 am (6 each pattern) | 6 from 9.00 am (12 each pattern) | 3 from 3.00 pm (6 each pattern) | 6 from 7.00 pm (12 each pattern) | 10 from 9.00 pm (20 each pattern) | 6 from 7.00 am to 6.00 pm (12 each pattern) | 12 from 4.30 a.m. (NH – WC)<br>10 from 5.30 am (20 each pattern)<br>10 from 6.00 p.m. (20 each pattern) |
| Canoga Busway Ops. Option 1 Alternate Eastbound 3 Patterns:<br>WC – NH<br>CH – NH<br>CH – WC | 12 from 3.45 am (WC – NH only)<br>6 from 4.30 am (12 each pattern) | 3 from 5.30 am (6 each pattern) | 6 from 9.00 am (12 min. each pattern) | 3 from 3.00 pm to 7.00 pm (6 min. each pattern) | 6 from 7.00 pm (12 min. each pattern) pm | 10 from 9.00 pm (20 each pattern) | 6 from 7.00 am to 6.00 pm (12 each pattern) | 12 from 3.45 am (WC – NH)<br>10 from 5.30 am (20 each pattern)<br>10 from 6.00 pm (20 each pattern) |
| Canoga Busway Ops. Option 2<br>Chatsworth – WC | 12 from 4.30 am<br>6 from 5.30 am | 6 from 6.30 am to 9.00 am | 12 from 9.00 am to 3.00 pm | 6 from 3.00 pm to 7.00 pm | 10 from 7.00 pm | 20 from 9.00 pm | 12 from 7.00 am to 6.00 pm | 20 from 5.30 am<br>20 from 6.00 pm |
| Canoga Busway Ops. Option 3<br><br>Chatsworth – WC<br><br>Alternate Eastbound 2 Patterns:<br>WC – NH<br>CH – NH | 12 from 3.45 am (WC – NH only)<br>6 from 4.30 am (12 each pattern) | 3 from 5.30 am (6 each pattern) | 6 from 9.00 am (12 min. each pattern) | 3 from 3.00 pm to 7.00 pm (6 min. each pattern) | 6 from 7.00 pm (12 min. each pattern) pm | 10 from 9.00 pm (20 each pattern) | 6 from 7.00 am to 6.00 pm (12 each pattern) | 12 from 3.45 am (WC – NH)<br>10 from 5.30 am (20 each pattern)<br>10 from 6.00 pm (20 each pattern) |
| Canoga Busway Ops. Option 3<br><br>Alternate Westbound 2 Patterns:<br>WC – NH<br>CH – NH | 12 from 4.30 am (NH-WC only)<br>6 from 5.30 am (12 each pattern) | 3 from 6.30 am to 9.00 am (6 each pattern) | 6 from 9.00 am to 3.00 pm (12 each pattern) | 3 from 3.00 pm to 7.00 pm (12 each pattern) | 6 from 7.00 pm (12 each pattern) | 10 from 9.00 pm (20 each pattern) | 6 from 7.00 am to 6.00 pm (12 each pattern) | 12 from 4.30 am (NH – WC only)<br>10 from 5.30 am (20 each pattern)<br>10 from 6.00 pm (20 each pattern) |

** - all alternatives might include some or all of the suggested improvements to existing transit services in the western San Fernando Valley.*

NH=North Hollywood
CH=Chatsworth
WC=Warner Center

**Table 3-5 Service Running Times and Extra Fleet Requirements (in parenthesis)**

| Alternative | Early AM | AM Peak | Midday | PM Peak | Early Eve | Late Eve | Sat/Sun Day | Sat/Sun Early Late |
|---|---|---|---|---|---|---|---|---|
| No Project<br>NH - WC Existing Westbound | 42 | 47 (27) | 46 (12) | 50 (27) | 46 | 40 | 42 (11) | 40 |
| No Project<br>WC – NH Existing Eastbound | 38 | 43 | 44 | 45 | 43 | 40 | 42 | 40 |
| TSM Local<br>CH – CAN & CAN – CH | 15/15 | 17/17 (8) | 15/15 (4) | 17/17 (8) | 15/15 | 15/15 | 15/15 (4) | 15/15 |
| Canoga On-Street Dedicated Lanes<br>Alternate Westbound<br>3 patterns | | | | | | | | |
| NH – WC | 42 | 47 (18) | 46 (9) | 50 (19) | 46 | 40 | 42 (9) | 40 |
| NH – CH | 51 | 56 (21) | 55 (11) | 59 (22) | 55 | 49 | 51 (10) | 49 |
| CH - WC | 15 | 15 (7) | 15 (4) | 15 (7) | 15 | 15 | 15 (4) | 15 |
| Canoga On-Street Dedicated Lanes<br>Alternate<br>Eastbound<br>3 Patterns | | | | | | | | |
| WC – NH | 38 | 43 | 44 | 45 | 43 | 40 | 42 | 40 |
| CH – NH | 47 | 52 | 53 | 54 | 52 | 49 | 51 | 49 |
| CH – WC | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Canoga Busway Ops. Option 1<br>Westbound<br>3 patterns | | | | | | | | |
| NH – WC | 42 | 47 (18) | 46 (9) | 50 (19) | 46 | 40 | 42 (9) | 40 |
| NH – CH | 51 | 56 (21) | 55 (11) | 59 (22) | 55 | 49 | 51 (10) | 49 |
| WC - CH | 15 | 15 (7) | 15 (4) | 15 (7) | 15 | 15 | 15 (4) | 15 |
| Canoga Busway Ops. Option 1<br>Eastbound<br>3 Patterns | | | | | | | | |
| WC – NH | 38 | 43 | 44 | 45 | 43 | 40 | 42 | 40 |
| CH – NH | 47 | 52 | 53 | 54 | 52 | 49 | 51 | 49 |
| CH - WC | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Canoga Busway Ops. Option 2<br>CH – WC | 15/15 | 15/15 (7) | 15/15 (4) | 15/15 (7) | 15/15 | 15/15 | 15/15(4) | 15/15 |
| Canoga Busway Ops. Option 3<br>Alternate Westbound<br>2 patterns | | | | | | | | |
| NH – WC | 42 | 47 (18) | 46 (9) | 50 (19) | 46 | 40 | 42 (9) | 40 |
| NH – CH | 51 | 56 (21) | 55 (11) | 59 (22) | 55 | 49 | 51 (10) | 49 |
| Canoga Busway Ops. Option 3<br>Alternate<br>Eastbound<br>2 Patterns | | | | | | | | |
| WC – NH | 38 | 43 | 44 | 45 | 43 | 40 | 42 | 40 |
| CH – NH | 47 | 52 | 53 | 54 | 52 | 49 | 51 | 49 |

Notes:
NH=North Hollywood
CH=Chatsworth
WC=Warner Center

## 3.5 RIDERSHIP

Ridership describes the amount of people using the project alternative, as estimated through Metro's transportation demand model. Transit ridership is affected by both internal (e.g. pricing, service quality and quantity) and external (e.g. area's employment and population) factors. Since all project alternatives would operate in the same area, internal factors would determine the differences in ridership between them. For both BRT alternatives, service quantity (headways) would be equal; therefore, service quality (speed) would be the differentiator. The difference in average speed between the two BRT alternatives is driven by the difference in free-flow speed, number of signals each alternative would have to cross, and the level of transit priority that each alternative can assume. As described in Section 3.4.5, the Canoga Busway Alternative would travel at approximately 21 mph, one mph faster than the Canoga On-Street Dedicated Bus Lanes Alternative. This difference in average speed is the result of a faster free-flow speed on the Busway itself, one less signal to cross and less average signal delay. Ridership has been estimated for all project alternatives based on forecast year 2030.

**Table 3-6 2030 Ridership Estimates**

| Station | Daily Transit Boardings for the MOL (fixed guideway stations only) | New Daily Transit Trips | |
|---|---|---|---|
| | | Compared to No Project Alternative | Compared to TSM Alternative |
| Alternative 2. TSM | | | |
| | | 1,245 | - |
| Alternative 3. Canoga On-Street Dedicated Bus Lanes Alternative | | | |
| Sherman Way | 2,378 | | |
| Roscoe | 2,883 | | |
| Nordhoff | 595 | | |
| Chatsworth | 2,129 | | |
| Canoga Extension Total | 7,985 | | |
| **Metro Orange Line** | **45,371** | **8,943** | **7,698** |
| Alternative 4. Busway | | | |
| Sherman Way | 2,407 | | |
| Roscoe | 2,933 | | |
| Nordhoff | 613 | | |
| Chatsworth | 2,247 | | |
| Canoga Extension Total | 8,200 | | |
| **Metro Orange Line** | **45,537** | **9,023** | **7,778** |

Source: Iteris, 2007

The projected ridership for each alternative is shown in **Table 3-6**. The "boardings" column represents the number of passengers expected to use the system by boarding at a fixed guideway station, that is, board and alight at stations constructed as part of either of the two project alternatives. While boardings give an indication of transit activity, these numbers should not be used in trying to assess how many more riders are attracted to transit since a single rider may need to transfer one or more times, accounting for more than one boarding to complete a single trip. The "new transit riders" column is the appropriate measure for determining the number of additional riders, since this measure deals with linked (end-to-end) trips. New transit riders are reported for each alternative as increments over the No Project and TSM Alternatives.

The results demonstrate that the difference in transit ridership between the Canoga Busway Alternative and the Canoga On-Street Dedicated Lanes Alternative are minimal. The lower ridership of the Canoga On-Street Dedicated Lanes Alternative is related to the slightly slower average speed.

## 3.6 ESTIMATED CONSTRUCTION SCHEDULE

### 3.6.1 The Construction Process

A number of activities must occur before construction activities can begin. Once Preliminary Engineering has been completed, a Final Design will occur in which the final details of the corridor improvements will be developed. Depending upon the alternative selected as the Locally Preferred Alternative, the design may happen in one of two ways; (1) it could happen as part of a Design/Build contract, similar to the MOL, where the construction contractor's team prepares the final design as well as builds the project, or (2) the final plans, specifications and estimates (PS&E) could be prepared by a consultant or City of Los Angeles staff and then a construction contract awarded. Once the design details are available in the form of design drawings, precise right-of-way limits will be known and right-of-way acquisition can begin. This will include both the acquisition of privately owned parcels of real property and also the non-renewal of lease agreements with a variety of tenants along the corridor. Section 4-2 provides a detailed description of both types of property affected by the corridor. For the acquisition of privately owned property, appraisals will be conducted and the results communicated to the property owners, followed by negotiations and completion of purchase agreements. For the leasehold properties, tenants will be given sufficient advance notice by Metro of its intent to occupy the corridor for its own use, and any needed agreements will be completed with the affected tenants. Completion of this step will secure the corridor and make it available for construction. The construction contractor(s) will be selected through either a standard procurement process involving the issuing of bid packages, receipt and evaluation of bids, selection of the contractor(s) to perform the work, and award of the contract(s) or Design-Build process, which combines a number of standard steps typically involving design, specifications, bidding, and construction into one.

### 3.6.2 Construction Scenario

No construction would be associated with the No Project Alternative other than that connected with typical capital improvements projects planned as part of normal municipal program planning. No construction is envisioned in the TSM Alternative either. It involves additional bus operations, but if any physical improvements should be implemented along with the bus operations improvements, they would consist of typical street construction activities (such as site-specific intersection improvements) and upgrades to the traffic signal system (such as integrated signal operation). These activities would be similar to those described in the following subsections, at Steps 6 and 8, and they would occur at a variety of currently undetermined locations.

For the Canoga Busway Alternative, conversion of the existing Metro-owned railroad right-of-way into an at-grade busway is proposed. An overall construction schedule of 20 to 24 months is estimated to complete the busway, with several major construction steps involved. The estimated schedule may be longer for Option 5 of the Canoga Busway Alternative, with railroad grade separation structures due to railroad and street operations. For the Canoga On-Street Dedicated Bus Lanes Alternative, an overall construction period of 24-36 months is anticipated. The Canoga On-Street Dedicated Bus Lanes Alternative has a longer overall construction time period because of the need to maintain traffic flow on Canoga Avenue while it is being reconstructed. It should be understood that the construction scenario described in the following pages is an illustration; the actual construction process will be governed by the provisions and procedures of the construction contract. It is not known at this time if the construction contract will identify construction stages or leave those decisions to the contractor. If it is a Design/Build contract, the contract is likely to include more flexibility in terms of the scheduling of construction activities. For these reasons, it is not possible to know at this time if construction will proceed from north to south on the corridor or occur along the entire length of the corridor at the same time. The Contractor will require temporary laydown and staging area(s) for field trailers, storage of equipment and

construction related activities within Metro ROW and/or in the vicinity of the project. The Contractor may set up temporary rock crushing equipment within Metro ROW and/or in the vicinity of the project in order to recycle concrete and asphalt rubble for use as crushed miscellaneous base to be placed under busway pavement.

### Step 1: Utility Relocation and Site Clearing

This first step in the construction process would require an estimated 6-9 months and would clear the corridor and prepare it for construction of the busway. Four steps would be involved, as described below.

Site Clearing: Once the right-of-way acquisition process has been completed, the corridor would be cleared of above ground structures and improvements. In the case of right-of-way that was formerly private property, the construction contractor would remove the improvements. In the case of former lease property, the tenants would be required in most instances to remove their improvements, with some remainder to be removed by the construction contractor. Hazardous Materials within any structures would be removed prior to demolition. Where necessary, construction sites would be fenced at this point for public safety.

Track and Ballast Removal: The remaining vestiges of the railroad would first be removed. Some portions of the removed material would be recycled. Track sections, railroad ties and fasteners, and the underlying ballast material would all be removed and the corridor would be rough-graded.

Bridge Demolition: The Los Angeles River Canoga Avenue bridge would be widened for the Canoga On-Street Dedicated Bus Lanes Alternative. The Los Angeles River railroad bridge would require demolition and reconstruction for the Canoga Busway Alternative. Since the corridor does not currently carry railroad traffic, the bridge can be completely demolished, leaving open construction sites for their later replacement. It is estimated that approximately 6 months would be needed for this step in the construction process, and work would be restricted to the dry season (mid-April to mid-October). Depending upon information to be developed in final design, it may or may not be necessary to construct new foundations for the piers in the Los Angeles River channel. Should this be required, the bridge construction in this vicinity could be extended into a second dry season. For the remaining water crossing at the Santa Susana Wash, the bridge would completely span the crossing, and therefore seasonal construction issues should not be a constraint. Activities included in this step would consist of removing rail and track structures, followed by removal of bridge supports and foundations. Again, where possible, reusable materials would be recycled.

Utility Relocation: Existing utilities that would interfere with construction of the corridor improvements would be removed and relocated for continuing service. Also, utilities crossing the corridor may need to be removed and relocated to either temporary (requiring final relocation at an appropriate point later in the construction process) or permanent locations at the outset, the latter being more desirable. Based upon investigations conducted to date, it is not expected that any major utilities will require relocation. Relocation or reconstruction of existing utilities will need to take into account service required at the station locations and parking lots (i.e. electricity for platform and parking lot lighting, telephone for communications, water for landscape maintenance) and also any additional feeds to reconstructed traffic signals. For the Canoga On-Street Dedicated Bus Lanes Alternative, the above-ground utility poles along the east side of Canoga Avenue will have to be relocated into the Metro right-of-way to make room for the roadway widening. Some minor utility relocation may extend throughout the construction period with final utility relocation near the end of the period.

### Step 2: Surface Grading and Structural Section Installation

This second step in the construction process would require an estimated 12-18 months and would prepare the corridor for the busway or roadway paving and subsequent elements. Two activities would be involved, as described below.

Excavation: Shallow excavation (estimated for purposes of this EIS/EIR to a depth of approximately 1.75 ft [0.53 meters]) is anticipated since the busway or roadway widening would be an essentially at-grade facility. In some cases deeper excavation may be required to place and compact subgrade materials under the busway roadbed. In addition, minor amounts of shallow excavation would occur where the busway crosses city streets. It is estimated that over the length of the entire corridor (21,500 ft) an estimated 100,000 cubic yards of excavated material would be required. Excavated material would be collected in haul trucks and carried away from the construction area to either become fill material for berms on this project or for some other project or, if either is not desired, or the soil contains high levels of contaminants, it would be hauled for disposal at an approved disposal site. Haul routes have not been specified at the present time; these will be determined in consultation with the City of Los Angeles Department of Transportation, Bureau of Engineering, and Bureau of Street Services. A minimum of contamination is expected (although some hazardous materials deposited during the period of railroad use may still be present); however, the actual amount will not be determined until pre-testing is conducted prior to the initiation of excavation activities. If contaminated materials are found, then characterization, treatment and disposal will be conducted in accordance with applicable regulations. Some of the non-contaminated excavation may be used to build berms along parts of the route. All of the crossings of the existing street system along the corridor will require reconstruction, as well. This will be timed to coincide with traffic control improvements (see step 8).

Drainage Facilities: It will be necessary to install subsurface drainage facilities, including catch basins, drainage pipe and connections to the local storm drain system, in conjunction with the Canoga On-Street Dedicated Bus Lanes Alternative and some such facilities may be needed in the Canoga Busway Alternative in station areas. There may be sections of the corridor requiring substantial lengths of longitudinal drainage pipe, depending upon the amount of runoff to be expected, the capacity of the local storm drain system and the location of appropriate connection points. The extent of this necessity and such specifications as size, length and connection points, will be determined in preliminary and final design. It will also be necessary to manage drainage during the construction period such that project-related drainage does not overflow onto adjacent properties or public streets. In order to comply with Los Angeles Regional Water Quality Control Board and the United States Environmental Protection Agency for Clean Water Act, the use of biofiltration swales, retention areas, and other natural drainage to encourage runoff percolation will be included.

Compaction of Subgrade: Once the excavation process has been completed, then the corridor can be compacted to appropriate geotechnical standards, thereby providing the subgrade needed for installation of the structural roadway section. It may be necessary to over-excavate and recompact the subgrade to ensure a sufficient base for the Busway or widened roadway facility.

### Step 3: Soundwall Construction (Busway Options 4 and 4a)

Only the Canoga Busway Alternative Options 4 and 4a would require soundwalls. Other options would require walls of a lesser magnitude. This step in the construction process would require an estimated 3-5 months and would provide noise attenuation where appropriate along the corridor. It is desirable to install walls/fences as early in the construction process as practicable, thereby providing attenuation for construction noise as well as project operational noise, although in some locations this may not be possible in order to allow for the movement of construction vehicle and equipment within the

construction zone. For purposes of illustration, standard concrete block wall construction is described below. Other methods that could also be used would include poured-in-place walls and fixed panel walls. For standard block walls, activities occurring during this step would be as described below.

Install Footings: Continuous footings would be excavated (either at grade or in conjunction with berm sections), to an appropriate structural depth, along the lengths where soundwalls are proposed. Reinforcing steel would be placed and concrete would be poured to complete the footing.

Construct Walls: Once the foundation is in place, walls would be constructed using masonry blocks, poured-in-place concrete, or some other suitable material.

Depending upon the area in which the soundwall is located, its proximity to residential land uses, and its visual prominence, it may be necessary or desirable to also provide some form of aesthetic treatment. The aesthetic treatment should be in keeping with the distinctive design of the MOL. Landscaping would be used to soften the appearance. Surface treatment of the wall may be used to create visual interest. Whatever approach is used, it will also be necessary to construct the soundwalls such that graffiti is prevented or easily removed (the latter can be done using special anti-graffiti protective coatings on the wall surface).

### Step 4 Station and Park and Ride Lot Construction

A total of 3 to 5 new stations are to be constructed along the corridor (depending upon the northern terminus location and the optional Parthenia station), at an approximate spacing of one mile. There would also be modifications to the two existing stations at the Canoga Station and the Chatsworth Metrolink Station. It is estimated that 9-12 months would be required for this construction step. Each of these stations would be constructed in the following steps:

Clearing and Grubbing: Each station location would be cleared of obstructions and rough-graded to permit subsequent activities to occur.

Platform Construction: Once the station areas are cleared, footings would be excavated to a depth necessary for the canopies, lighting, and other above ground elements. It will be necessary at this point to install utility feeds for power, water, ticket vending machines, telephones, etc. as part of the footing and platform construction. The footings would receive reinforcing steel and concrete would be poured. With the footings in place, at-grade platforms would be formed and the concrete platforms poured and finished.

Install Canopy and Other Platform Amenities: With the platforms in place, the above-platform features can be installed. Included among these features would be canopies, stairs and railings.

Parking Lots and Park-and-Ride Areas: These areas would be graded and subsequently paved and striped for a prescribed number of parking spaces. Entrance and exit driveways would be constructed. During the construction period, the parking lot areas could be used as the lay down sites for construction materials and equipment, so the final paving of the parking lots could occur near the end of the construction period.

### Step 5: Structures Installation

This fifth step in the construction process would require an estimated 8-12 months and would result in finished above-grade structures, including bridges, to accompany the at-grade portions of the corridor. Construction of the Los Angeles River Bridge could occur over two dry seasons. Several activities would

occur during this step, as described below. The estimated schedule for a railroad grade separation structure in various options in the Canoga Busway Alternative may take longer to construct and Metro and/or its contractor will coordinate with the railroad operators as well as LADOT during design and construction.

Foundation Excavation: If necessary, below-grade foundations would be constructed at bridge locations. Excavation would be conducted to establish the appropriate width, length and depth for each foundation. Excavated material would be used for backfill, which is described below. Any remaining excavated material would be removed and hauled away using the same procedures as for the main excavation.
Pile Setting: Where additional structural support is needed at the LA River bridge or for a potential grade separation at the railroad tracks south of Lassen, piles would be placed. They would either be driven by means of a pile driver or placed in pre-drilled holes using a crane, depending upon the condition of the soils in the immediate vicinity and other factors. Proximity to noise sensitive areas will be a major factor in selecting the method of pile setting.

Pile Cap Installation: With the foundations and piles in place, pile caps would then be constructed to support the remainder of the above-grade structure. Reinforcing steel would be placed in the excavated area, the perimeter would be formed, and concrete would be poured to form the pile cap.

Column Installation: Once the pile caps are in place, vertical columns, to support the bridge superstructures, would be constructed. Cages of reinforcing steel would be brought to the site on trucks, erected using cranes, and connected to the pile caps. Then, the exterior surfaces of the columns would be established with forming, and concrete would be poured to form the columns.

Abutment and Retaining Wall Installation: At this stage in the structures construction process, the balance of the structural support would be installed. In particular, abutment structures, constructed of reinforced concrete, would be built, using reinforcing steel and forming.

Bridge Superstructures: With all the foundations, pile caps, columns and structural retaining walls in place, it would then be possible to construct the superstructures upon which the above-grade roadway surfaces would reside. Falsework would be constructed using steel I-beam girders, which would be brought in on trucks and lifted onto the vertical falsework supports, where they would be attached. With all of the I-beam girders spanning the vertical supports in place, the falsework installation would be completed by installing formwork on top of the girders, forming the entire volume contained between vertical supports, the reinforcement would be placed and concrete poured, thereby completing the superstructure. The formed superstructures would be supported from below with wooden falsework, similar in appearance to above-grade freeway construction.

Bridge Decking: Once the entire bridge superstructure is in place, the decking can then be placed. This would involve another pour of concrete over a shallow formed area with reinforcing steel between the sides of the structures, to become the roadway decking portion of the structure. A space in the deck would be provided for the installation of lighting and communications equipment. All of the work would be done from above at this point.

Backfill: With all of the above-grade structures in place, the open excavated areas would then be backfilled and compacted. With this step completed, falsework would be removed.

### Step 6: Paving and Surfacing

This sixth step in the construction process would require an estimated 8-12 months for the Canoga On-Street Dedicated Lanes Alternative or 12-18 months for the Canoga Busway Alternative, and would result

in a finished roadway surface over the entire length of the corridor, including locations where the busway would cross city streets. Activities occurring during this step would be as described below.

Install Base Material: At the completion of Step 2, the at-grade portions of the corridor were made ready for the installation of base material. Following the installation of utilities, including conduits, for communications and lighting, the sub-grade was compacted to a sufficient density and graded appropriately for drainage. At this new step, base material, consisting of aggregate, would be brought to the site in trucks and placed on top of the sub-grade. The material would then be graded and compacted to a prescribed density.

Construct Curbs and Gutters: One of the next steps needed to complete the roadway work would consist of forming and pouring curbs and gutters where needed along the entire length of the corridor. Runoff from the curbs and gutters would be channeled into drainage facilities leading to the existing storm drain system.

Place Portland Cement Concrete or Asphalt: The entire corridor would be paved with Portland cement concrete or asphalt. The process is similar to that used on the freeways. It would likely occur in intermittent paving for several days in a row in various sections of the corridor and would likely occur several times in each segment as multiple layers of pavement are applied.

### Step 7: Landscaping and Finish Work

This construction step would require an estimated 6-8 months. The following steps would occur.

Install Irrigation System and Landscaping: Prior to installing planting material, irrigation systems would be installed where required. Planting materials, including ground cover, shrubs and trees, would be brought to each planting location by truck, and planted.

Complete Finish Work: A variety of finish work tasks would need to be completed. At each station, final platform features would be installed, including benches, ticket vending machines, stand-alone validators, map cases, pylons, trash receptacles, artwork, lighting and signage, as determined in preliminary engineering. Also to be completed would be parking lot paving, striping, and landscaping. Along the corridor, installation of electrical equipment, signage (as determined in preliminary engineering) and final clean-up would occur.

### Step 8: Traffic Control Systems Installation

This construction step would require an estimated 8-12 months. Construction traffic management would occur throughout the entire project construction period, with a greater level of traffic management required for the Canoga On-Street Dedicated Bus Lanes Alternative than the Canoga Busway Alternative, due to the need to maintain traffic flow and access on Canoga Avenue. The following steps would occur.

Install/Upgrade Traffic Signals: It may be necessary to upgrade the local arterial traffic control system throughout the corridor, to permit the interaction between local traffic and busway movements. New signal controllers will need to be installed at a variety of locations along the corridor. It may also be necessary to upgrade intersection street lighting along the corridor. Reconstruction of street intersections crossing the Busway corridor would be accomplished along with the traffic signalization work. For the Canoga Busway Alternative, nine street crossings would be reconstructed or resurfaced. For the Canoga On-Street Dedicated Bus Lanes Alternative, 10-11 signalized intersections would be reconstructed or modified. It may be necessary, depending upon traffic conditions, to stage the reconstruction of some individual street crossings, and also preclude the simultaneous reconstruction of

adjacent crossings in some areas.

Striping: Where necessary, intersection approaches may require restriping to allow for additional turning lanes, alterations in street lane geometry, and pedestrian crosswalks. The Canoga On-Street Dedicated Bus Lanes Alternative will require the restriping of the entire Canoga Corridor when the expanded roadway is complete.

Signs: New signage will be needed along the corridor, for busway users, motorists, pedestrians and bicyclists.

### Step 9: Systems Installation and Testing

Once the entire corridor has been completed, its operation would be tested, including the interactive traffic signal system, communications equipment, and station and park-and-ride facilities and equipment. Completion of this testing would then permit the corridor to be opened for service.

### Step 10: Operations and Maintenance Facilities

The existing maintenance facility at Divisions 8 (on Canoga Avenue in Chatsworth) would be used to service buses operating on the corridor. It may be necessary to make some improvements internal to this facility to handle longer 65-foot articulated buses, but the existing service capacity would be sufficient for the number of buses added to the system. The service bays and maintenance buildings may need to be lengthened to accommodate the longer buses.

In addition, additional parking will be required to store the buses at night when not in service. The potential locations for bus parking are on the Metro-owned lots on Marilla Street, at the northwest corner of Owensmouth Street or on the triangular property adjacent to the railroad tracks. The bus parking facilities on these sites would be constructed similar to the station parking facilities described above.

## 3.7 APPROVALS

The proposed project would need certification of this EIR by Metro's Board of Directors. Final design plans for the Locally Preferred Alternative would require approval by the following agencies:

Metro Construction - Approval of all engineering drawings.

City of Los Angeles Bureau of Engineering – Approval of utility relocation plans, drainage control plans.

City of Los Angeles Department of Transportation – Approval of intersection signal timing, signing and striping plans, and construction traffic management plans.

Los Angeles County Flood Control District – Approval of engineering drawings for any proposed bridge structures over the Santa Susana Wash or the Los Angeles River.

Regional Water Quality Control Board – Approval of Drainage Plans

California Public Utilities Commission – Depending on northern segment option chosen as part of the LPA, a General Order 88B for the Lassen Street rail crossing would be required. Northern segment option 5 of the Canoga Busway Alternative will not necessitate this approval.

California Department of Toxic Substances Control – Approval of plans for handling contaminated soils.

Union Pacific Railroad
Concurrence with the General Order 88B will be required because the railroad is a co-owner of the railroad ROW.

Los Angeles City Council
If the Locally Preferred Alternative for the project is the Canoga On-Street Dedicated Bus Lanes or Canoga Busway, a City of Los Angeles Council resolution would be required to relieve the project from the Secondary Highway street improvement requirements set by the Bureau of Engineering for Canoga Avenue.

Other ancillary approvals and permits as may be required

# 4.1 LAND USE AND DEVELOPMENT

The purpose of the section is to provide baseline data on the existing land use characteristics of the Canoga Transportation Corridor project area; to assess whether the proposed project is consistent with applicable land use plans and policies; to identify any potentially significant land use changes resulting from implementation of the proposed project, and to determine any necessary project mitigation measures for land use/neighborhood impacts.

This section analyzes the land use impacts associated with the No Project Alternative, the Transportation System Management (TSM) Alternative, the Canoga On-Street Dedicated Bus Lanes Alternative, and the Canoga Busway Alternative. The Canoga Busway Alternative would travel along the Metro right-of-way (ROW), historically owned by the Southern Pacific Railroad Company. Land use impacts could occur due to conflicts of the location of stations, parking facilities, and bikeways.

## 4.1.1 REGIONAL SETTING

The proposed Canoga Transportation Corridor is located in the western San Fernando Valley region of the City of Los Angeles, approximately 30 miles northwest of the Los Angeles Central Business District. (Refer to **Figure 3-1** in Section 3.0). The San Fernando Valley is suburban in character with a concentration of commercial and multi-family residential development, particularly in the southern sections. The northern portion is primarily single family residential with equestrian neighborhoods and a network of trails north of the study area. According to the Southern California Association of Governments (SCAG), approximately 68 percent of the land in San Fernando Valley is residential in use. The residential character of the Valley varies depending on location.

The project study area has a mixture of single-family homes, apartments, and mobile homes. Commercial development consists of a mix of strip retail development and office buildings located along major arterials and major retail complexes such as the Westfield Shoppingtown Topanga Plaza, the Westfield Promenade Mall, and office buildings concentrated in Warner Center. Industrial uses are present south of Chatsworth, particularly along Canoga Avenue.

## 4.1.2 EXISTING LAND USE SETTING

This section provides a more detailed discussion of the existing land uses along the Corridor. The discussion of the existing land uses are based on 2005 SCAG land use data with refinement based on review of aerial photographs and field windshield survey conducted by the consultant team during the month of May 2007.

The project study area is bounded by Topanga Canyon Boulevard on the west, SR 118 on the north, Winnetka Avenue on the east, and Victory Boulevard on the south. Land uses throughout this study area vary substantially, including a broad mix of residential, commercial, industrial, and retail uses, and certain portions of the proposed Corridor could be described as having their own specific character. **Figure 4.1-1** illustrates the existing land uses and land use patterns of the Canoga Transportation Corridor study area. The analysis of land uses adjacent to the alternative alignments focuses on the area along the proposed alignment and within a quarter mile radius of the station sites. Sensitive land uses (e.g. residential, schools, recreational areas, religious buildings) along the proposed alignment are also identified.

North of Plummer Street, the Metro ROW has active Amtrak/Metrolink/Freight tracks. South of Plummer Street, the Metro ROW, which is located on the eastside of Canoga Avenue, has been used previously for rail service. This vacant portion of the ROW is leased by Metro for industrial and commercial uses. The southern most portion of the ROW contains the existing MOL Canoga Station and park-and-ride.

### Land Uses along the Alternative Alignments

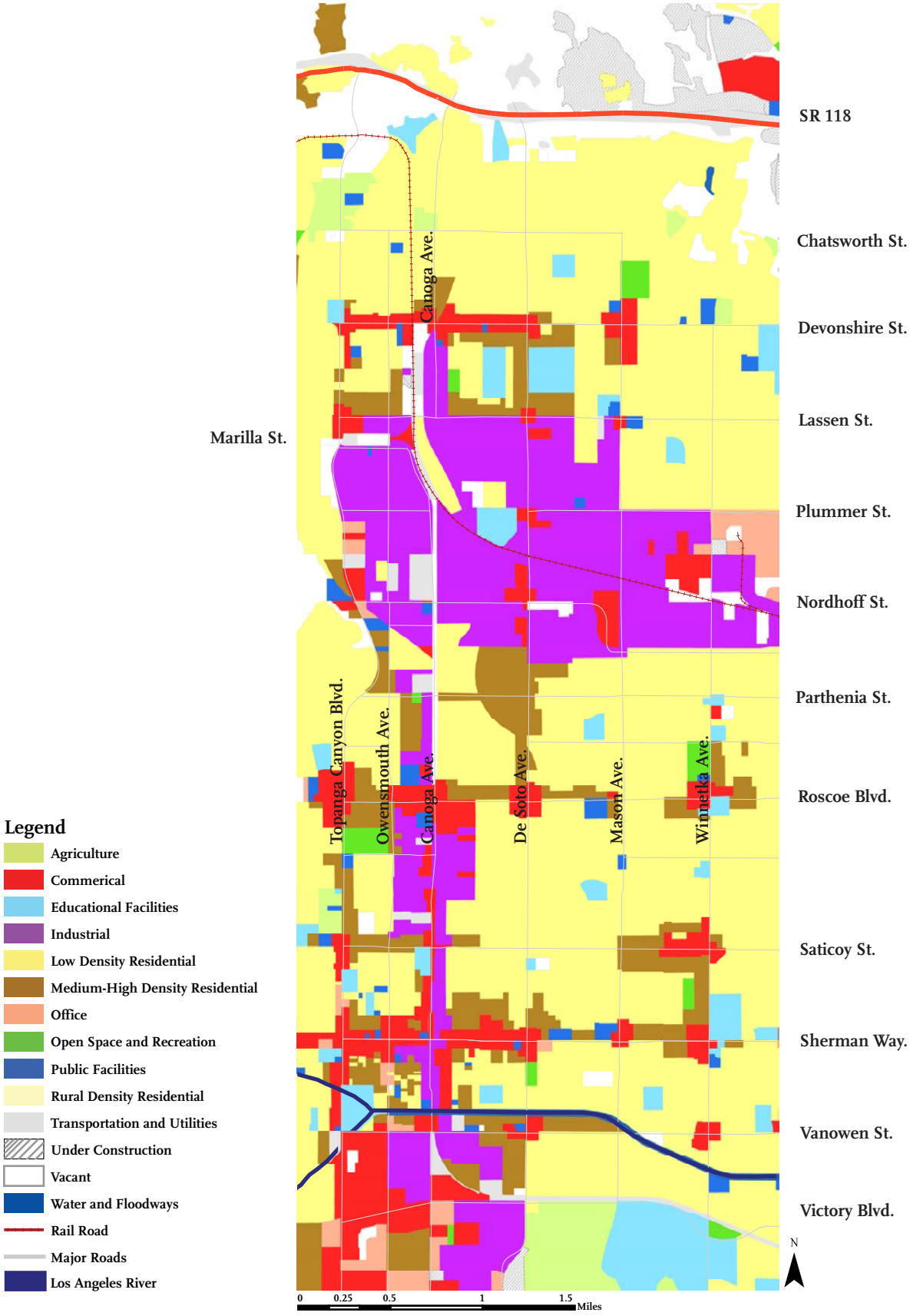
The land uses along Canoga Avenue consist of a mix of residential, commercial, and industrial uses. Land uses along Canoga Avenue are described from north to south. For description purposes, the proposed alignment has been divided into seven segments which are discussed below:

- **Devonshire Street to Lassen Street** – Devonshire Street has primarily commercial uses. The Chatsworth Metrolink Station, its park-and-ride, and Transit Tots West child care facility are located on the Metro ROW. A number of existing bus lines serves the station with bus stops located on the north-south station access road. Directly east of the access road is the Browns Canyon Wash. The Browns Canyon Wash crosses Canoga Avenue at Devonshire Street. The area along Canoga Avenue between Devonshire Street and Lassen Street contains primarily industrial uses, dominated by auto repair/maintenance shops. A religious institution is located east of Canoga Avenue. To the east of Canoga Avenue is a mix of industrial and commercial uses surrounded by single and multi-family residential neighborhoods. To the west of the Chatsworth Metrolink station are industrial uses under construction.

- **Lassen Street to Nordhoff Street –** South of Lassen Street, Canoga Avenue is discontinuous with Canoga Avenue to north of Lassen Street. This segment is bisected north-south by the Union Pacific ROW and the Metro ROW bordering the east side of Canoga Avenue. Land uses are primarily industrial with a mobile home park north of Plummer Street adjacent to the Amtrak/Metrolink/Freight tracks. The Chatsworth Metro maintenance yard is located on the west side of Canoga Avenue north of Nordhoff Street. To the south of Lassen Street adjacent to the Amtrak/Metrolink tracks, a triangular piece of Metro owned property has been leased for public storage uses. A vacant Metro owned parcel extends from Owensmouth Avenue to the Metro's service sector office located at the northeast corner of Topanga Canyon Boulevard and Marilla Street.

- **Nordhoff Street to Roscoe Boulevard -** This segment has a diverse mix of uses with industrial uses concentrated along Nordhoff Street and the west side of Canoga Avenue near Parthenia and Schoenborn Streets. Mobile homes border the Canoga Metro ROW between Osborne Street and Parthenia Street. The Santa Susana Wash crosses Canoga Avenue south of Osborne Street. Directly east of the Metro ROW is a single-family neighborhood from south of Parthenia Street to near Schoenborn Street. Uses along Roscoe Boulevard are primarily auto-oriented strip commercial developments. In this segment, the vacant portions of the ROW are unimproved, without ground cover, and typically 100 ft wide.

- **Roscoe Boulevard to Saticoy Street -** Primarily industrial and commercial land uses occur along Canoga Avenue between Roscoe Boulevard and Saticoy Street. Commercial uses consist of a mix of large warehouses, big box retail, and few small-scale retail developments. Costco and Home Depot are located on Saticoy Street near the Canoga Avenue and Roscoe Boulevard intersection. Medical tech facilities are on the west side of Canoga Avenue near Roscoe Boulevard. Presently, this portion of the Metro ROW has been leased to businesses.




*Source: SCAG, Land Use Data, 2005; updated by Gruen Associates (Windshield Survey),May 15th, 2007*

Many of the parcels along the ROW are developed with auto sales and vehicle repair shops, wholesale metal storage yards, truck and equipment storage yards, and parking facilities.

- **Saticoy Street to Sherman Way -** The east side of Canoga Avenue has primarily industrial uses with commercial development on the west side. Other commercial development in the area includes antique furniture stores, repair shops, and printing press related businesses. The surrounding neighborhood consists of single and multi-family residential uses. Public uses on Canoga Avenue include the New Academy Canoga Park Elementary School. In this segment, the Metro ROW is leased to businesses which are further discussed in Section 4.2. The Metro ROW is 100 ft from Saticoy Street to Wyandotte Street and 65 ft from Wyandotte Street to Sherman Way. In general, much of the ROW has been leased for commercial uses such as auto sales, storage of trucks and cars, and storage/construction equipment and building materials. An approximately 100 ft wide privately-owned parcel fronting Canoga Avenue, between Wyandotte Street and Sherman Way, west of the Metro ROW, has been developed into a new strip shopping center with spaces available for lease.

- **Sherman Way to Vanowen Street -** Most of the parcels along Canoga Avenue are developed with industrial uses such as auto sales and repair shops, building material shops, and storage yards. To the west of the industrial uses is a mix of single family and multi-family residential uses. Single family homes are generally located east of Eton Avenue between Gault and Bassett Streets. The Los Angeles River crosses Canoga Avenue south of Bassett Street. In this segment, the Metro ROW varies in width from 200 ft to 275 ft. The ROW is leased to businesses which are further discussed in Section 4.2. The ROW parcels are developed with two concrete plants and related businesses. Other businesses on the Metro ROW include landscape and building materials, a lumber yard, and truck/auto storage facilities.

- **Vanowen Street to Victory Boulevard -** Land uses along Canoga Avenue includes industrial uses on the west and a mix of commercial and industrial uses on the east. Densities and intensity of land uses increase immediately south of Vanowen Street. The existing MOL Canoga station and its park-and-ride are located on the east side of Canoga Avenue within the Metro ROW. Adjacent to the Metro ROW on the east, Archstone Warner Center Apartments are located south of Kittridge Street and are generally surrounded by industrial uses. Another apartment complex is under construction at the southeast intersection of Vanowen Street and Independence Avenue.

### Station Areas

The land uses around the TSM Alternative bus stops are shown on Figure 4.1-1. For the Canoga On-Street Dedicated Bus Lanes and the Canoga Busway Alternatives, land use information around station sites is provided for areas within a quarter mile radius. Stations would be located at the Chatsworth Metrolink Station, Nordhoff Street, Roscoe Boulevard, Sherman Way, and the existing Canoga MOL Station. An optional station may be developed at Parthenia Street. On the existing land use maps included (see **Figure 4.1-2** to **4.1-7**), intersections with potential stations are noted, but the precise locations of potential stations along Canoga Avenue for each alternative option are not included. Other than the terminus stations and Sherman Way, stations would be located on the farside of each intersection. The land use character of each station area is as follows:

- **Chatsworth Metrolink Station**- The proposed station for each alternative would be located within the existing Chatsworth Metrolink Station site (see **Figure 4.1-2**). The Chatsworth Metrolink Station includes a passenger waiting area, a small railroad museum, child care center

(Transit Tots West), bike lockers, and a park-and-ride facility with approximately 375 parking spaces. The station is surrounded by industrial uses abutting Canoga Avenue on the east and industrial uses under construction and low to medium-density residential uses on the west. Along Devonshire Street are commercial uses. A number of bus lines currently serve the Chatsworth Metrolink station including Metro, LADOT Commuter Express, Simi Valley Transit, and Santa Clarita Transit.

- **Nordhoff Station-** The proposed Nordhoff station for each alternative would lie in a primarily industrial area. A Metro bus maintenance yard is located at the northwest intersection of Canoga Avenue and Nordhoff Street. Mobile homes are located south of the industrial development (see **Figure 4.1-3**).

- **Parthenia Station** – An optional station may be developed at Parthenia Street. The station would be located within a residential area. Two mobile home parks are located east of the Metro ROW. South of the station there are single and multi-family residential uses (see **Figure 4.1-4**). An electrical substation is located at the northwest corner of the intersection surrounded by industrial use. Another mobile home park lies north of the industrial uses abutting Canoga Avenue. A flooring warehouse and its parking lot are located at the southwest corner of the intersection.

- **Roscoe Station-** The proposed station for each alternative would be at or near the intersection of Canoga Avenue and Roscoe Boulevard surrounded by commercial uses, including large scale retail developments such as Costco and Home Depot at the southeast corner of the intersection. To the south of this commercial area are industrial uses. A used car lot is located at the northeast corner of the intersection. Single family and multi-family residential uses are located to the north and east of the used car lot. A new police station is under construction north of Schoenborn Street within the ¼ mile radius of the station (see **Figure 4.1-5**).

- **Sherman Way Station-** The proposed Sherman Way station for each alternative would be at or near the intersection of Sherman Way and Canoga Avenue within a commercial and industrial area. A new shopping center is located at the northeast corner of the intersection, with "for lease" signs. Industrial uses are located to the southeast of the intersection including a building supplies store. Along Sherman Way, the Main Street Program[1] has created a pedestrian friendly commercial district with a diverse assortment of entertainment and shopping options. Most of the commercial buildings on Sherman Way are located along the street with parking behind the buildings, as shown in **Figure 4.1-6**. Away from the commercial and industrial area is a mix of single family and multi-family residential uses.

- **Canoga Station-** The Canoga On-Street Dedicated Lanes Alternative would utilize the existing Canoga MOL Station and park-and-ride lot. The Canoga Busway Alternative station would be located adjacent to the existing MOL Station and reconfigure the park-and-ride lot. Newly constructed Archstone Warner Center Apartments are located east of the existing park-and-ride lot, south of Kittridge Street. The quarter mile station area has primarily industrial development west of Canoga Avenue. South of the MOL Station is big box commercial development. Big box commercial uses are also located at the southwest corner of the Victory Boulevard/Canoga Avenue intersection. The Warner Corporation Center is located at the southeast corner of the intersection. **Figure 4.1-7** illustrates the land uses within a quarter-mile of the study area.

[1] Created by National Trust of Historic Preservation in 1980

## 4.1.3 REGULATORY FRAMEWORK

This section includes relevant goals, objectives, and policies from land use planning documents applicable to the project area. The planning documents that apply to the Canoga Transportation Corridor include the following (see **Figure 4.1-8**):

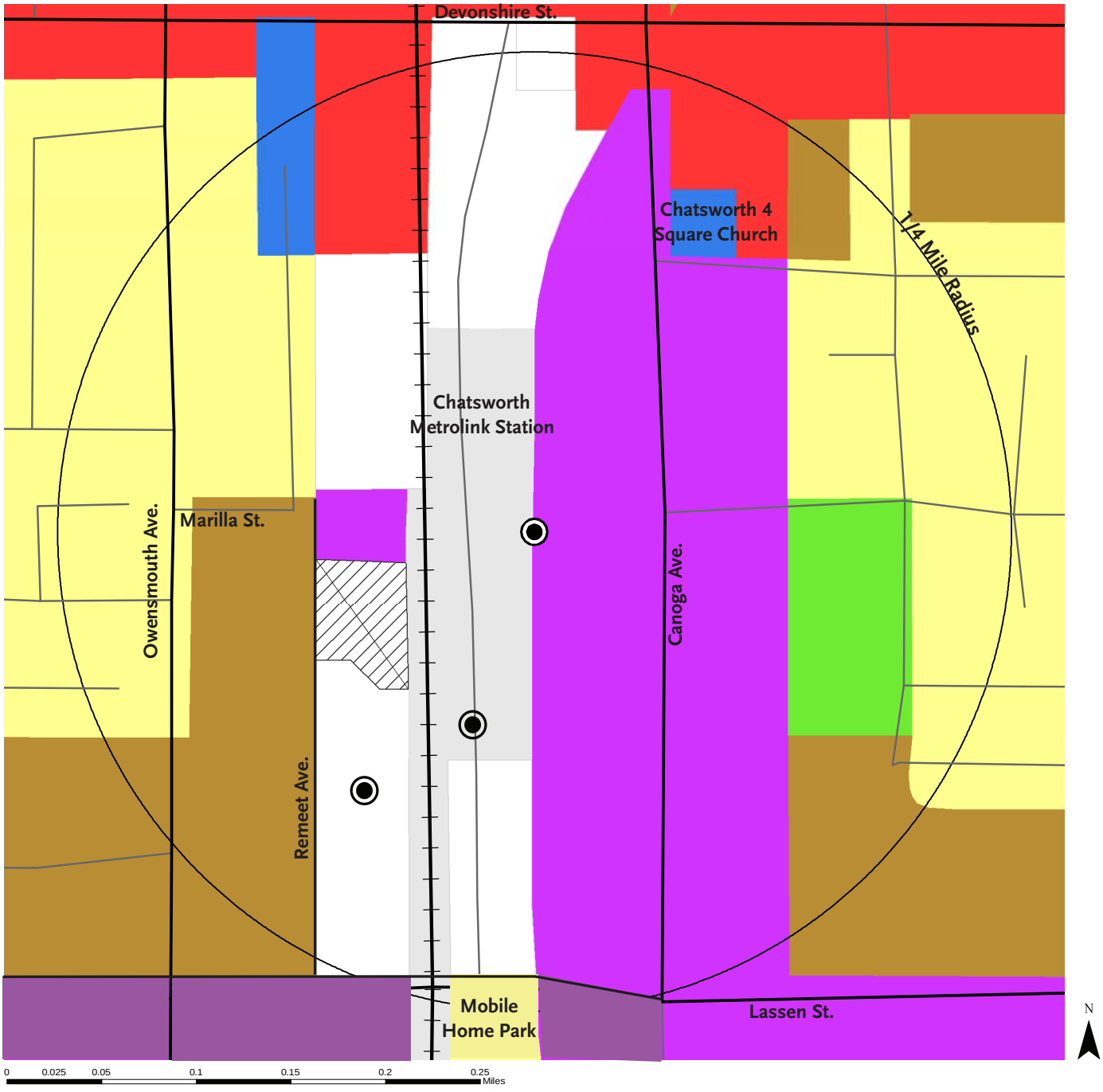
- SCAG Regional Comprehensive Plan and Guide
- SCAG Regional Transportation Plan
- SCAG Compass Blueprint 2% Strategy
- Los Angeles General Plan Framework
- General Plan Transportation Element
  - Land use/ Transportation Policy
  - Street and Bicycle Plans
- Community Plans
  - Canoga Park- Winnetka – Woodland Hills – West Hills Community Plan
  - Chatsworth-Porter Ranch Community Plan
- Specific Plan
  - Warner Center
  - Devonshire/Topanga Corridor
- Other Plans/ Guidelines
  - Community Design Overlay District
  - Streetscape Plan
- Los Angeles Municipal Zoning Code
- Los Angeles River Revitalization Master Plan
- Reseda/Canoga Park Redevelopment Plan

### Regional Plans

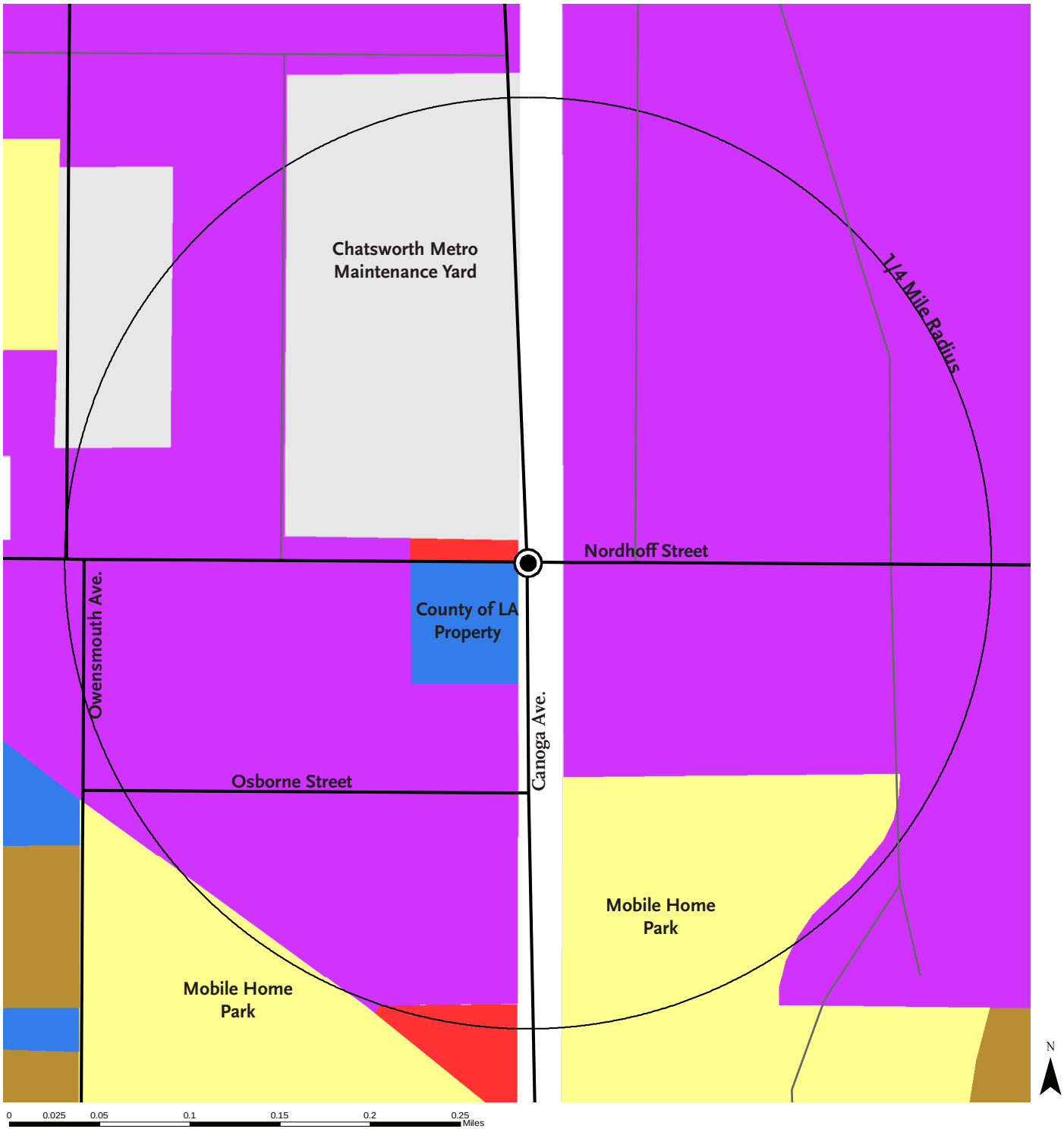
#### *SCAG Regional Comprehensive Plan and Guide*

SCAG is designated by the federal government as the region's Metropolitan Planning Organization (MPO). SCAG's Regional Comprehensive Plan and Guide (RCPG) provides a 20 year framework for local and regional development. The Plan suggests that the region's transportation and planning agencies in cooperation and coordination with local jurisdictions should promote policies and strategies that further integrate land use and transportation. The following land use goals are from the Growth Management chapter of the RCPG:

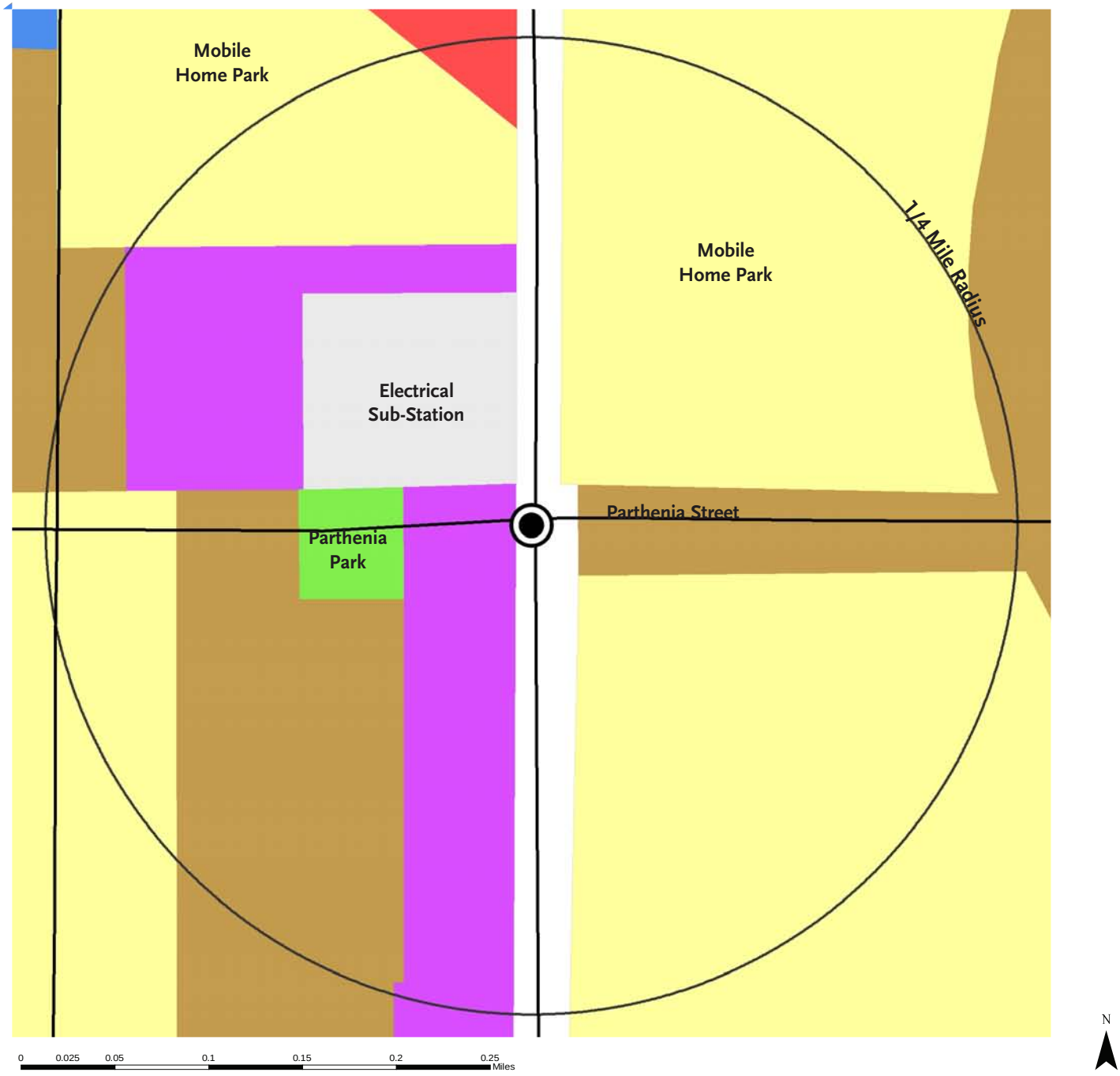
- Encourage existing or proposed local jurisdictions programs aimed at designing land uses which encourage the use of transit and thus reduce the need for roadway expansion, reduce the number of auto trips and vehicle miles traveled, and create opportunities for residents to walk and bike.
- Encourage local jurisdiction's plans that maximize the use of existing urbanized areas accessible to transit through infill and redevelopment.
- Support local plans to increase density of future development located at strategic points along regional commuter rail, transit systems, and activity centers.
- Support local jurisdictions strategies to establish mixed-use clusters and other transit oriented developments around transit stations and along transit corridors.
- Encourage developments in and around activity centers, transportation corridors, underutilized infrastructure systems, and areas needing recycling and redevelopment.
- Support and encourage settlement patterns that contain a range of urban densities.



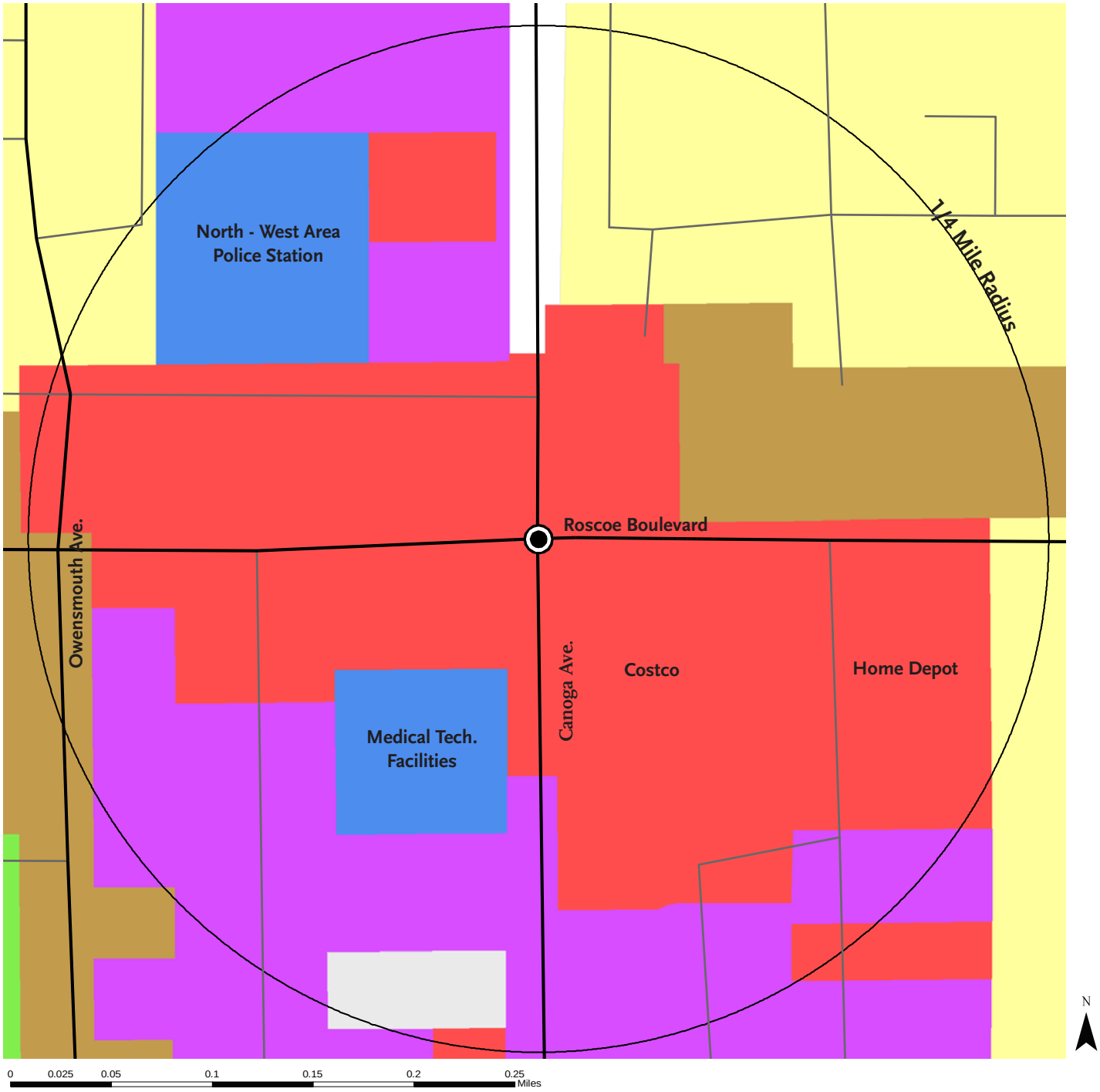

*Source:* **SCAG, Land Use Data, 2005; updated by Gruen Associates (Windshield Survey),May 15th, 2007**




*Source:* **SCAG, Land Use Data, 2005; updated by Gruen Associates (Windshield Survey),May 15th, 2007**



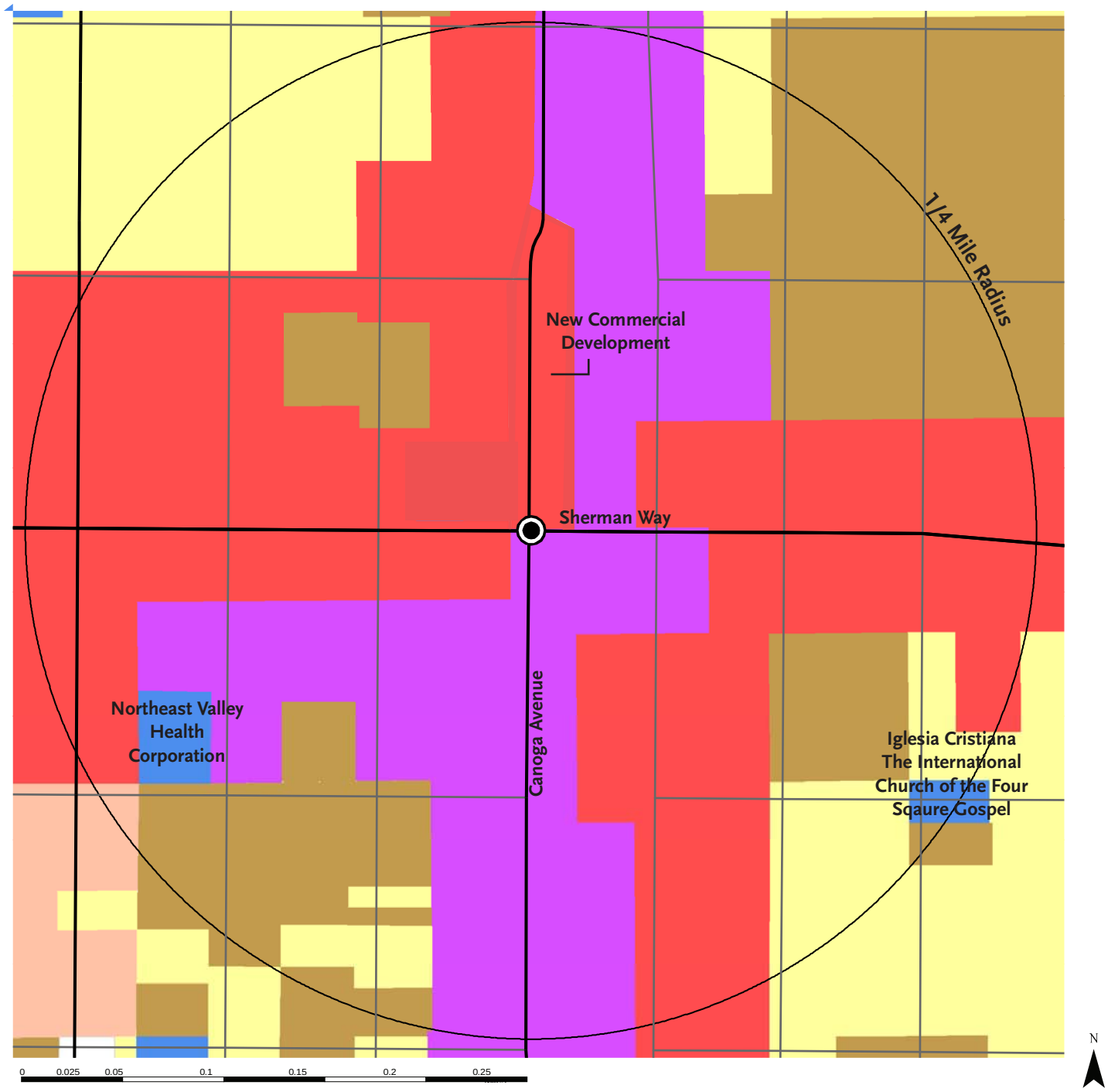

*Source:* **SCAG, Land Use Data, 2005; updated by Gruen Associates (Windshield Survey),May 15th, 2007**



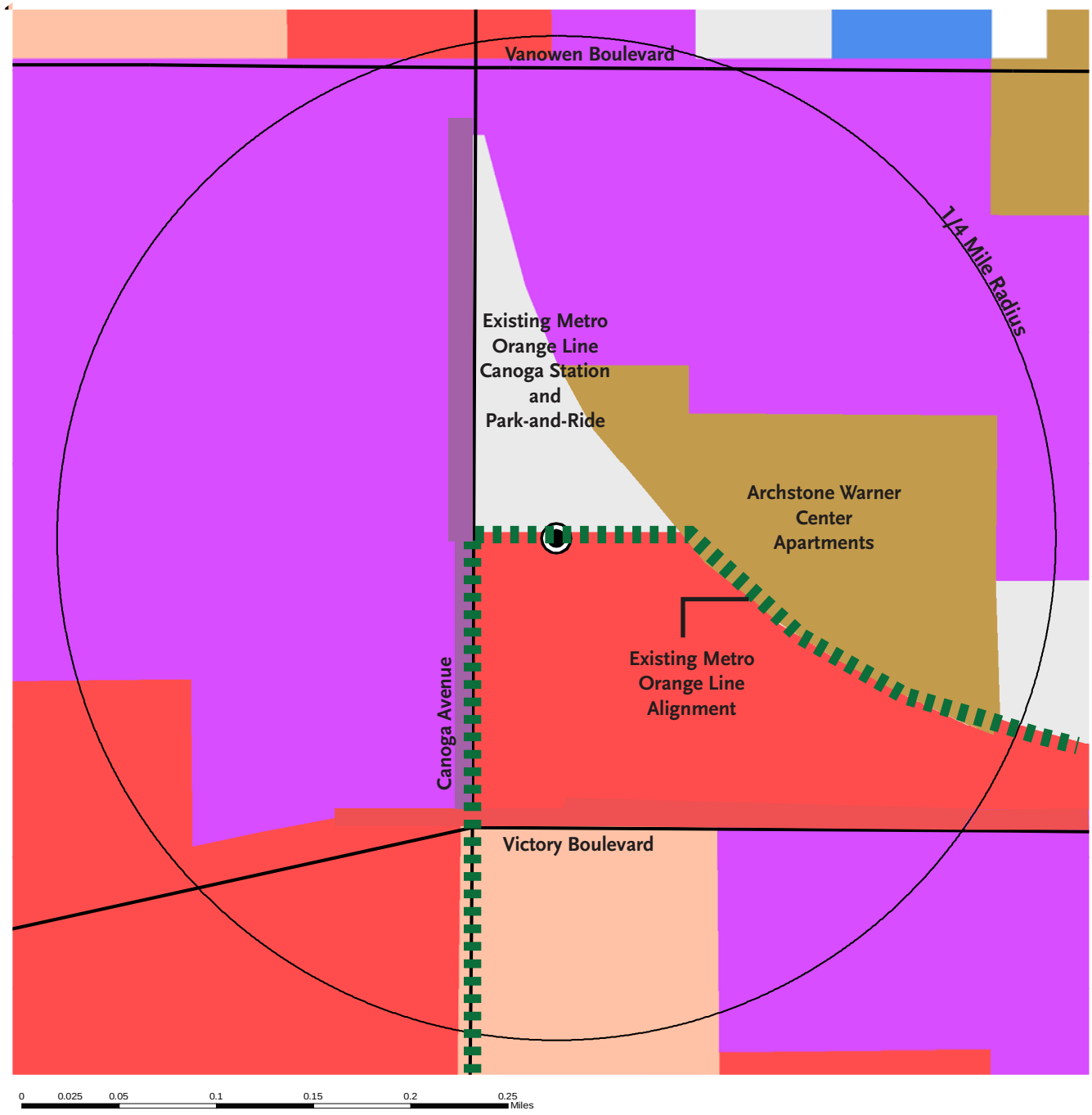

**Legend**

- Commerical
- Industrial
- Low Density Residential
- Medium-High Density Residential
- Open Space and Recreation
- Public Facilities
- Transportation and Utilities
- Under Construction
- Vacant
- Rail Road
- Major Streets
- Proposed Station

*Source:* **SCAG, Land Use Data, 2005; updated by Gruen Associates (Windshield Survey),May 15th, 2007**




*Source:* **SCAG, Land Use Data, 2005; updated by Gruen Associates (Windshield Survey),May 15th, 2007**




*Source:* **SCAG, Land Use Data, 2005; updated by Gruen Associates (Windshield Survey),May 15th, 2007**

### *SCAG Regional Transportation Plan*

SCAG Regional Transportation Plan (RTP), adopted in April 2004 is being updated. The Draft 2008 RTP released November 2007 is scheduled for adoption in April of 2008. The 2004 RTP focuses on improving the balance between land use and the current as well as future transportation systems. The following goals of the 2004 Plan reflect the Region's focus on a balanced approach to transportation planning and decision-making. These goals have been carried forward in the Draft 2008 plan:

- Maximize mobility and accessibility for all people and goods in the Region
- Ensure travel safety and reliability for all people and goods in the Region
- Preserve and ensure a sustainable regional transportation system
- Maximize the productivity of our transportation system
- Protect the environment, improve air quality and promote energy efficiency
- Encourage land use and growth patterns that complement our transportation investments

The 2004 RTP recommends strategic investment in transit projects, including the northern extension of the Bus Rapid Transit (BRT) services in the San Fernando Valley. The 2008 Draft RTP also includes Canoga Transitway as a Los Angeles County RTP project.

### *SCAG Compass Blueprint 2% Strategy*

SCAG Compass Blueprint 2% Strategy is a guideline to implement the Growth Vision for Southern California. It recommends "modest changes to current land uses and transportation trends on only 2% of the land area of the region – the 2% Strategy Opportunity Areas." The goals of the Growth Vision are mobility, livability, prosperity, and sustainability. To achieve these goals, the Growth Vision encourages:

- Focusing growth in existing and emerging centers and along major transportation corridors
- Creating significant areas of mixed-use development and walkable communities
- Targeting growth around existing and planned transit stations
- Preserving existing open space and stable residential areas

The identified 2% Opportunity Areas are key areas in the region for targeting growth, where projects, plans and policies are consistent with Compass Blueprint principles. The 2% Opportunity Areas are primarily composed of Metro Centers, City Centers, Rail Transit Stops, BRT Corridors, Airport, Ports and Industrial Centers, and Priority Residential In-fill Areas. The Canoga Transportation Corridor has been designated as part of the 2% Opportunity Area (as shown on **Figure 4.1-9**).

## City of Los Angeles Plans

### *General Plan Framework*

The Los Angeles General Plan Framework (Framework), adopted in December 1996 and readopted in 2001, is a special purpose element of the General Plan that establishes the vision for the future of the City by establishing development policy at a citywide level and within a citywide context. The Framework provides for a generalized representation of the City's long-range land use, defines citywide policies related to growth, and sets forth an estimate of population and employment growth to the year 2010.

The Framework sets forth "a conceptual relationship between land use and transportation on a citywide basis and defines new land use categories." These categories include Neighborhood District, Community Center, Regional Center, Downtown Center, and Mixed Use Boulevards.

The Framework's land use policies encourage the retention of stable neighborhoods and provide incentives for growth in commercial and mixed-use centers, along boulevards, industrial districts, and in proximity to transportation corridors and transit stations. The Framework designates categories of activity centers, according to the range of intensity/density, heights and list of typical uses. The categories of centers, in order of increasing size, are neighborhood districts, community centers, and regional centers. The highest development intensities are targeted generally within one quarter mile of transit stations. One of the goals of the General Plan Framework is that "transit stations function as a primary focal point of the City's development." The Framework sets out the following policies for implementation around transit stations:

- Prepare detailed plans for land use and development of transit-oriented districts.
- Work with developers and Metro to incorporate public and neighborhood serving uses and services in structures located in proximity to transit stations, as appropriate.
- Increase the density generally within one-quarter mile of transit stations determining appropriate locations based on consideration of the surrounding land use characteristics to improve their viability as new transit routes and stations.
- Design and site new development to promote pedestrian activity and provide adequate transitions with residential uses.
- Provide for the development of public streetscape improvements, where appropriate.
- Establish standards for the inclusion of bicycle and vehicular parking at and in the vicinity of transit stations, differentiating these to reflect that intended uses and character of the area in which they are located (e.g. stations in some urban areas may have limited parking, while those in suburban locations may contain extensive parking).

**Figure 4.1-10** illustrates the location of activity centers within the corridor, and the following is a list of different types of major activity centers in the corridor study area:

*Medical Facilities* - Kaiser Foundation Hospital, Woodland Hills
*Colleges and Universities* – Pierce College
*Regional Shopping Centers* – Westfield Shoppingtown Topanga Plaza and Westfield Promenade Mall
*Major Employment Centers* - Warner Center and Chatsworth Industrial Center
*Major Transit Hubs* – Warner Center Transit hub and Chatsworth Metrolink Station
*Four high schools* - Canoga Park, Chatsworth, New Academy, and William Tell Aggeler are also located within the corridor study area.

### *General Plan Transportation Element*

The Transportation Element of the General Plan, adopted by City Council on September 8, 1999 sets forth goals, policies and objectives to further develop a citywide transportation system. Street designation and related design standards are also contained in the Transportation Element. The Transportation Element's policies seek to promote the development of transportation facilities and services that encourage transit ridership and improve pedestrian and bicycle access. The Transportation Element of the General Plan establishes the following policies applicable to the proposed project:

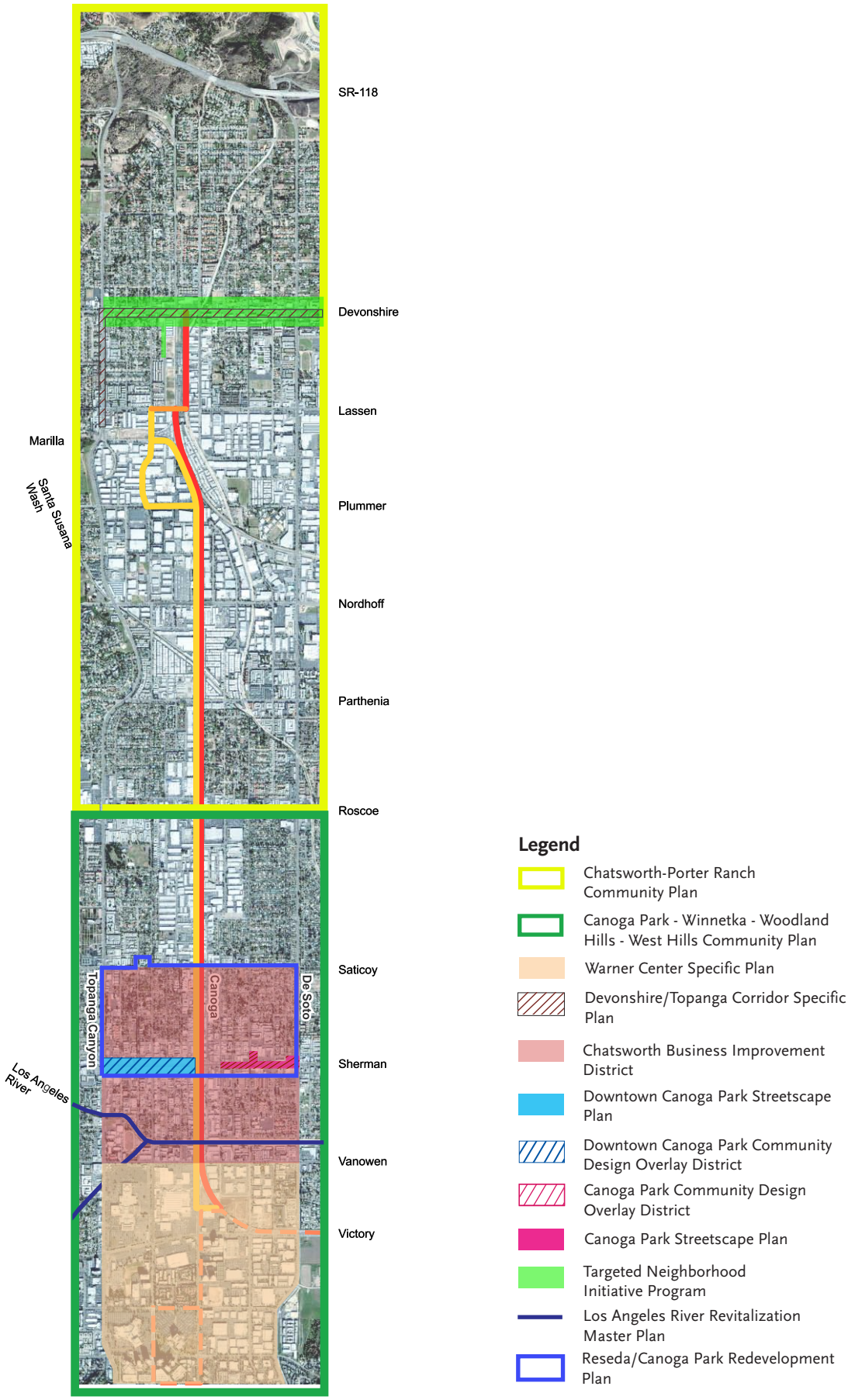
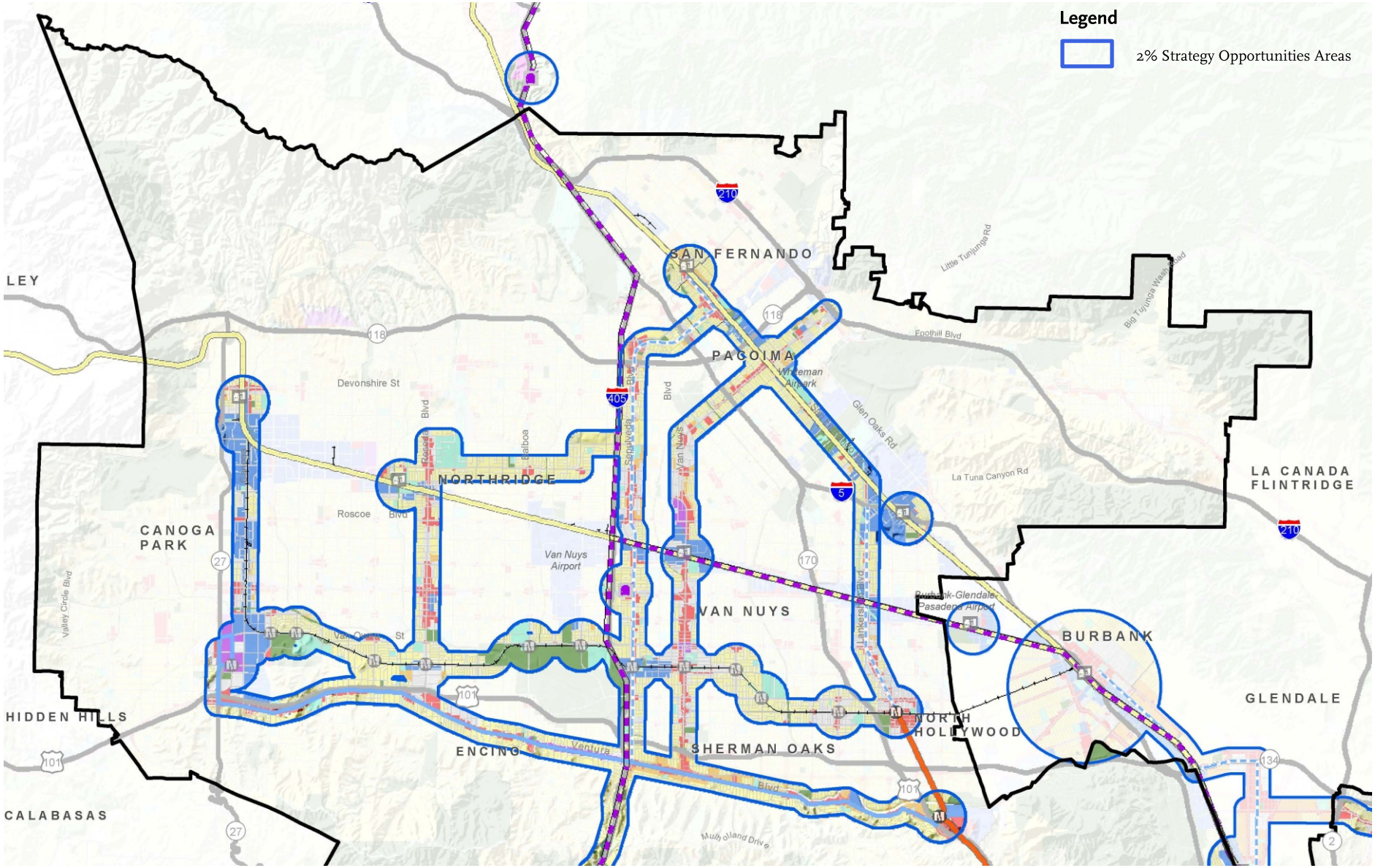





Figure 4.1-8
Applicable Plans - Project Study Area




Source: SCAG

NOT TO SCALE

- Promote the expansion of express and local bus service in priority corridors not served by the funded rail systems, so as to increase transit ridership and prepare for future rail service.
- Identify and develop transit priority streets which serve regional centers, major economic activity areas, and rail stations to enhance the speed, quality, and safety of transit service.
- 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.
- Promote the enhancement of transit access to neighborhood districts, community and regional centers, and mixed-use boulevards.
- Enhance pedestrian circulation in neighborhood districts, community centers, and appropriate locations in regional centers and along mixed-use boulevard; promote direct pedestrian linkages between transit portals/platforms and adjacent commercial development through facilities orientation and design.

The Transportation Element's transportation policies seek to develop transit alignments and station locations that maximize transit services in activity centers.

## Land Use/ Transportation Policy

The Land Use Transportation Policy, prepared by the City of Los Angeles and Metro, has policies to integrate land use and transportation. The Policy was adopted by the City Council in November 1993. This Policy fosters higher-density mixed-use projects within one-quarter mile of rail and major bus transit facilities. The Policy recognizes a variety of station area types, ranging from a Neighborhood Center to a Major Urban Center. It intends to "concentrate mixed-use high density development around transit centers while protecting and preserving surrounding low-density neighborhoods by adopting zoning to create a transition in scale, height, and density between a quarter and half mile of transit stations." The Policy recognizes that not all stations are planned for intense growth.

The Land Use Transportation Policy is "a long-term strategy for integrating land use, housing, transportation, and environmental policies into the development of a city form that complements and maximizes the utilization of the region's transit system." Among the objectives of the Land Use Transportation Policy are to:

- Focus future growth of the City around transit stations.
- Increase land use intensity in transit station areas, where appropriate.
- Accommodate mixed commercial/residential use development.
- Reduce reliance on the automobile.
- Protect and preserve existing single family neighborhoods.

## Street and Bicycle Plans

The Transportation Element differentiates between corridors in terms of their relative priority for transit provision in the City. Designations of the alignment relative to transit services within the study area include:

- Transit Priority Arterial Streets
  - Topanga Canyon Boulevard between Ventura Boulevard and Devonshire Street
  - Victory Boulevard between Topanga Canyon Boulevard and Lankershim Boulevard
- Future Transit Priority Arterial Streets

- Devonshire Street between Topanga Canyon Boulevard and Van Nuys Boulevard
- Roscoe Boulevard between Topanga Canyon Boulevard and Glenoaks Boulevard

The Transportation Element designates Canoga Avenue as a Secondary Highway with four travel lanes, curb parking, and with a future right-of-way of 90 ft.

In addition, the Bicycle Plan (see **Figure 4.7-12,** Section 4.7), a portion of the Transportation Element, designates the following bikeways within the study area:

- Class II Bikeway:
- Topanga Canyon Boulevard between Santa Susana Pass Road and Mulholland Drive
- Winnetka Avenue between Devonshire Street and Ventura Boulevard
- Devonshire Street between Topanga Canyon Boulevard and Woodman Avenue

- Commuter Bikeway
- De Soto Avenue between Rinaldi Street and Victory Boulevard
- Roscoe Boulevard between Topanga Canyon Boulevard and Balboa Boulevard

### *Major Equestrian and Hiking Trails and Guide to Existing and Proposed Equestrian Trails*

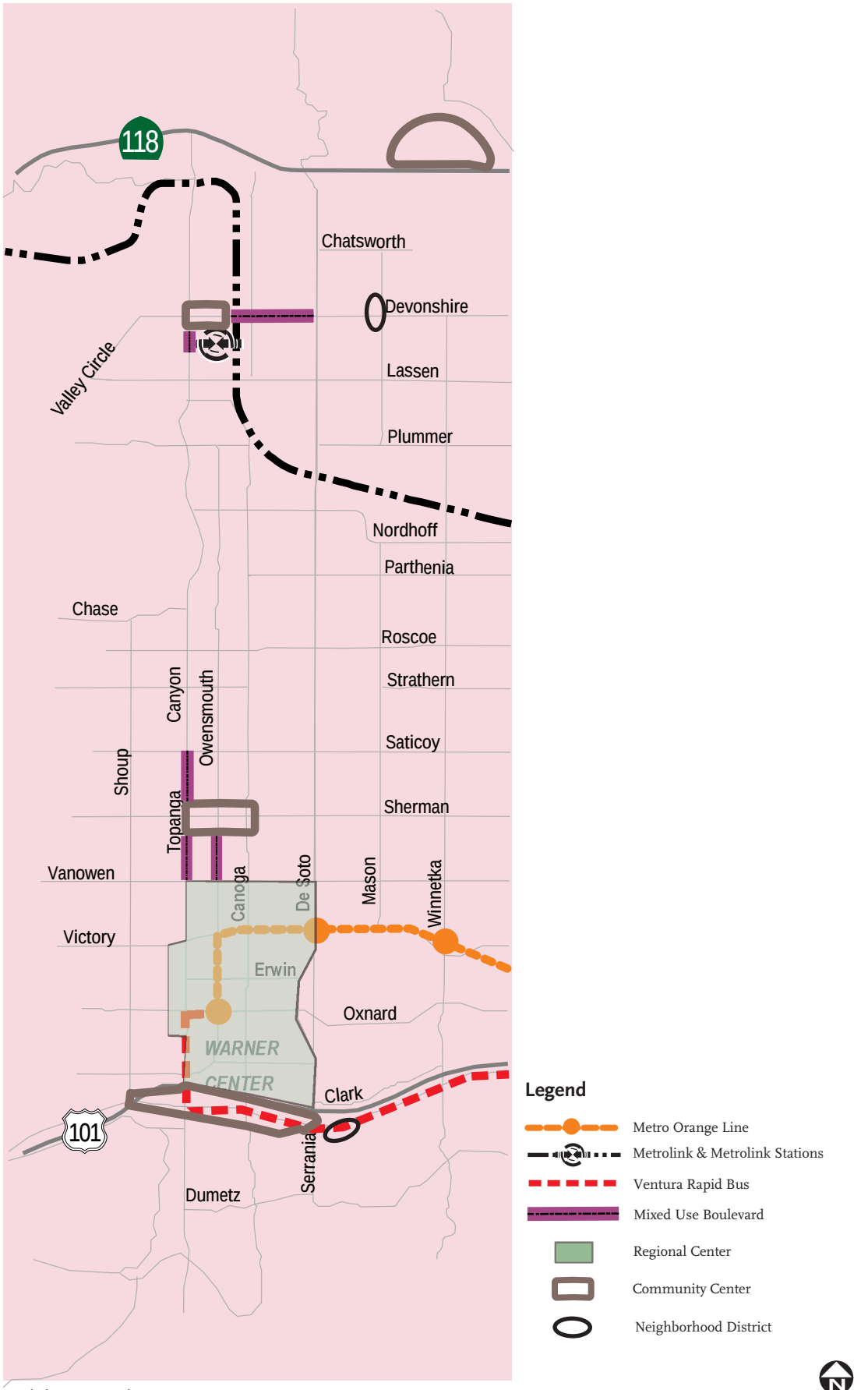
The Major Equestrian and Hiking Trails Plan (adopted December 1968) and the Equestrian Trails Guide (adopted June 1977; revised June 2002), are incorporated by reference into the Los Angeles General Plan through the General Plan Framework Open Space and Conservation policies (see **Figure 4.1-11**), which states:

- Preserve, where feasible, the "Horsekeeping Supplemental Use District" ("K" District), with links to major open areas.
- Support the policies and objectives of the Rim of the Valley Trail Corridor Master Plan, the Urban Greenways Plan, and the Major Equestrian and Hiking Trails Plan (and all amendments) as a foundation for promoting and maintaining a trail system within the City.

These planning documents set forth a system of existing and proposed bridle trails and delineate horsekeeping areas in the northwest San Fernando Valley. Under the 2002 existing and potential Equestrian Trail Plan, the Chatsworth area, between De Soto Avenue and Topanga Canyon Boulevard (from east to west) and SR 118 and Chatsworth (from north to south) is shown as an area with a concentration of horses. These trails are within the study area, but north of the proposed alternative alignments.

### *City of Los Angeles Community Plans*

For land use planning purposes, the City of Los Angeles is divided into 35 community planning districts (see **Figure 4.1-12**). The land use policies and standards of the General Plan are implemented at a local level through the community planning process. Community plans are oriented toward specific geographic areas of the City, defining locally the General Plan's more general citywide policies and programs.




Source: City of Los Angeles - General Plan Framework/ ITERIS



Figure 4.1-10
Designated Districts, Centers and Mixed Used Boulevards in the City of Los Angeles


Notes

1 For a more detailed description of this map, and to determine the status of the trails system of the northwest San Fernando Valley, see Guide to Existing and Potential Equestrian Trails, Twelfth Council District, Februray 1991.

2 Location of equestrian trails are general and may be varied as required. The Plan does not intend that such property be purchased by the City.

3 Horsekeeping areas should feature large lots intended primarily for the creation of "K" Equinekeeping Districts. Housing in these areas is specially intended for horsekeeping on 20,000 square feet and larger lots with few sidewalks and where riding is possible along the street or on grade separated trails. Street improvements and subdivision design should be compatible with the semi-rural character of these neighborhoods.

Prepared by City of Los Angeles Planning Department • Graphic Services Section • June, 2002

*Source:* **Chatsworth-Porter Ranch Community Plan**

The Canoga Transportation Corridor lies within two Community Plan areas in the City of Los Angeles:

- Chatsworth-Porter Ranch
- Canoga-Park-Winnetka- Woodland Hills-West Hills

**Figure 4.1-13** illustrates the General Plan land use designations for the entire Canoga Transportation Corridor. These Community Plans contain numerous land use and transportation policies that are mixed-use and transit supportive. The Community Plans for the area proposes specific circulation improvements including a series of public transit improvements which include bus service improvements, Amtrak/Metrolink improvements, and the creation of a community transit center.

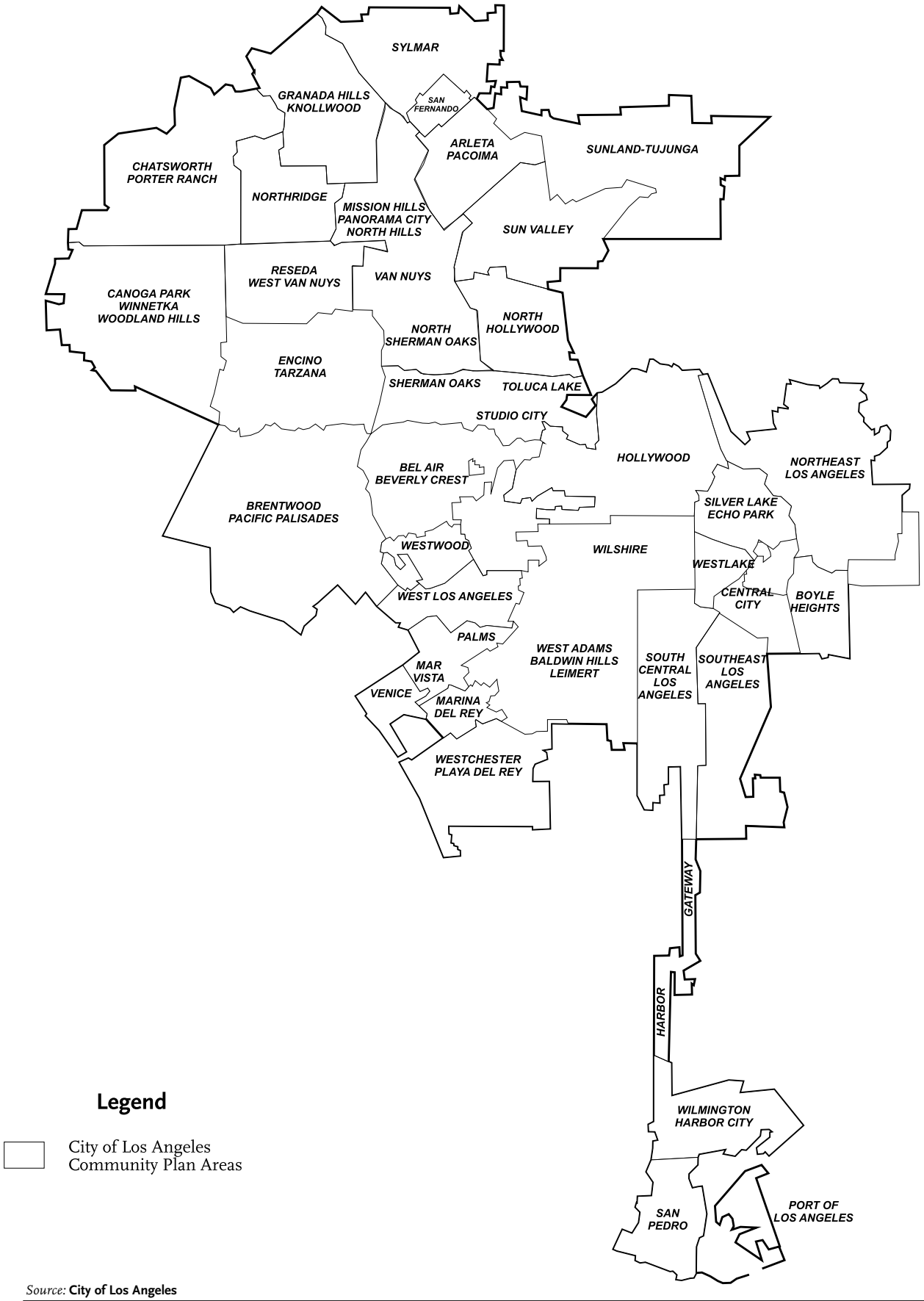
## Chatsworth-Porter Ranch Community Plan

The Chatsworth-Porter Ranch Community Plan, adopted in September 1993 with the map revised in June 2000, addresses the general land use guidelines that affect the project area and the surrounding Chatsworth and Porter Ranch communities. The purpose of the Community Plan is to provide an official guide to the future development within the Plan area. The Community Plan promotes an arrangement of land use, circulation, and services that encourage and contribute to economic, social and physical health, safety, welfare, and convenience of the community.

The Chatsworth-Porter Ranch Community Plan encompasses the area between SR 118 and Roscoe Boulevard including the Metro ROW. The purpose of this Plan includes guiding "the development, betterment, and change of the Community to meet existing and anticipated needs and conditions." One of the objectives of this Plan is to "make provisions for circulation system coordination with land uses and densities, to accommodate traffic, and to encourage the expansion and improvement of public transportation service." The Public Transportation Policies intend to increase bus routes and frequency as potential ridership increases in the Community with population growth.

The Community Plan recognizes the importance of the Metro ROW from Roscoe Boulevard to its connection with the Metrolink Ventura Line for rail transit purposes by:

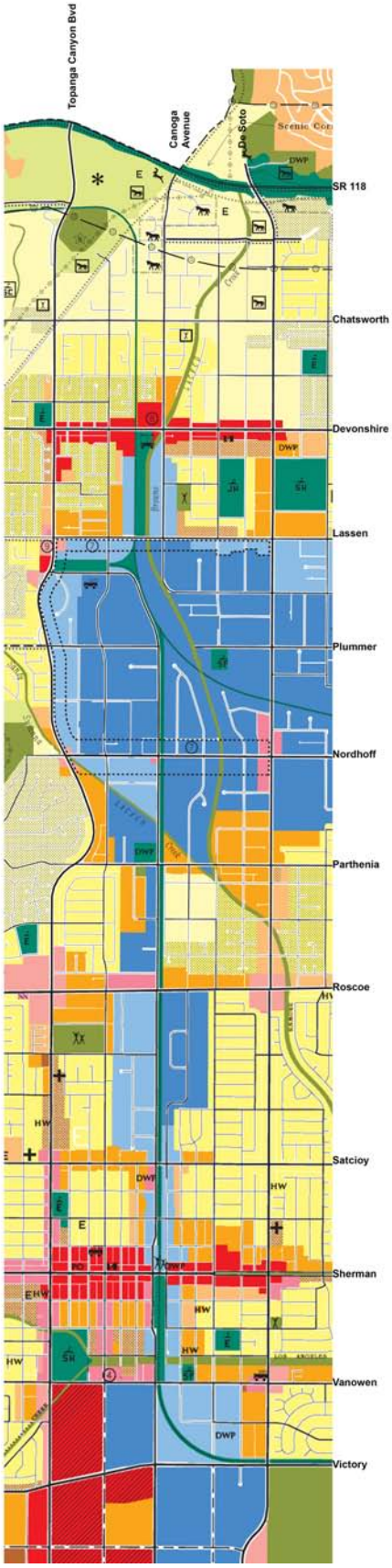
- Identifying the right-of-way for rail transit purposes.
- Identifying community transit centers that include commuter train station, mixed use commercial, day care center, and secured parking including park and ride.
- Encouraging the preparation of a program in which the City and the owners(s) of the railroad collaborate in order to establish the uses of the right-of-way for mass transit facilities, transit links between major centers and open spaces.
- Encouraging new legislation amending the Municipal Code to result in discretionary review of any change in use that occurs on established transit right-of-way.
- Encouraging landscaping of the right-of-way to provide both aesthetic and noise buffers to protect adjacent residential uses.
- Requiring sound buffers (e.g. walls, landscape) adjacent to residential areas.




*Source:* **City of Los Angeles**



Figure 4.1-12
City of Los Angeles Community Plan Area




## LAND USE

RESIDENTIAL

| LOW DENSITY | CORRESPONDING ZONES[9] | MULTIPLE FAMILY | CORRESPONDING ZONES[9] |
|---|---|---|---|
| MINIMUM | OS,A1,A2, RE40 | LOW MEDIUM I | R2,RD3,RD4,RZ3, RZ4,RU,RW1 |
| VERY LOW | RE20,RA, RE15,RE11 | LOW MEDIUM II | RD1.5,RD2,RW2, RZ2.5 |
| VERY LOW II | RE15, RE11 | MEDIUM | R3 |
| LOW | RE9,RS,R1, RU,RD6,RD5 | HIGH MEDIUM | R4 |

| COMMERCIAL | | INDUSTRIAL | |
|---|---|---|---|
| NEIGHBORHOOD | C1,C1.5,C2,C4, RAS3,RAS4 | LIMITED | CM,MR1,M1 |
| LIMITED | CR,C1,C1.5, RAS3,RAS4,P | LIGHT | MR2,M2 |
| GENERAL | C1.5,C2,C4, RAS3,RAS4 | | |
| COMMUNITY | CR,C2,C4, RAS3,RAS4 | | |
| REGIONAL | CR,C1.5,C2,C4,RAS3, RAS4,R3,R4,R5 | | |

OPEN SPACE, PUBLIC FACILITIES

| | |
|---|---|
| OPEN SPACE | OS,A1 |
| PUBLIC FACILITIES[5] | PF |

### CIRCULATION

- Scenic Freeway[6]
- Freeway[6]
- Scenic Major Highway II
- Scenic Parkway
- Parkway
- Major Highway II
- Secondary Highway
- Special Collector Street
- Collector Street
- Local Street[6]
- MTA RR R/W
- Equestrian Trail
- Private Street

### SPECIAL BOUNDARY

- Residential Planned Development
- Endangered Ridgeline
- Horsekeeping Area

### ADMINISTRATIVE BOUNDARY

- City/County Boundary
- Community Boundary

NOTES:

- Proposed[7]

### SERVICE SYSTEMS[7]

SCHOOL SITES

- E — Elementary School
- JH — Junior High School
- SH — Senior High School
- JC — Community College
- SF — Special School Facility
- SH — Private Senior High School
- E — Private Elementary School

RECREATIONAL SITES

- Neighborhood Park
- Community Park
- Golf Course - Private

OTHER FACILITIES

- Fire Station
- Community Library
- PO — Post Office
- Cultural or Historical Site
- Scenic View Site
- Horticultural Center
- Health Center
- DWP — Water & Power Property
- Convalescent Hospital
- HW — House Of Worship
- Power Distribution Center

*Source:* **Chatsworth-Porter Ranch Community Plan and Canoga Park - Winnetka Woodland Hills Community Plan**



**Figure 4.13**
**City of Los Angeles General Plan Land Use Designation**

## Canoga Park- Winnetka - Woodland Hills - West Hills Community Plan

The Canoga Park – Winnetka Hills – West Hills Community Plan, was updated in August 1999, encompasses the Metro ROW along Canoga Avenue extending from Roscoe to Victory Boulevards. The Community Plan consists of four community subareas. A portion of the alignment is located in the Canoga Park and Winnetka subarea. The intent of the Community Plan is "promotion of an arrangement of land uses, streets, and services which will encourage and contribute to the economic, social and physical health, safety, welfare, and convenience of the people who live and work in the community." The Plan recognizes the Metro ROW as an important development opportunity for a variety of public transportation improvements including "light rail or Busways, recreational uses in the form of bike/walking/equestrian trails, or opportunity for industrial development where it runs contiguous to existing industrial area." This Plan contains goals, objectives, and policies relative to the development of the area and the integration of transit, including:

- Locate higher residential densities near commercial centers and major bus routes where public service facilities, utilities, and topography will accommodate this development.
- Encourage the City to develop a public transit system that would improve mobility with convenient alternatives to automobile travel.
- Coordinate with Metro to improve local bus service to and within the Community Plan Area.
- Encourage the provision of safe, attractive, and clearly identifiable transit stops with user friendly design amenities.
- Preserve and enhance the character and integrity of existing single and multi-family neighborhoods.

### *City Of Los Angeles Specific Plans*

## Warner Center Specific Plan

The Warner Center Specific Plan was amended and approved in October, 2002. The Plan is currently being updated. The Specific Plan is bounded by Vanowen Street on the north, the Ventura Freeway on the south, De Soto Avenue on the east, and the lots fronting along the west side of Topanga Canyon Boulevard. Warner Center is planned for a mixture of retail, offices, light industrial space, and multi-family residential development. The Specific Plan allows for phased development within the Warner Center contingent on transit improvements. The Specific Plan sets out the following policies to guide the land use development around the transportation system:

- Establish a hierarchy of land use intensity which decreases with distance away from the Core of Warner Center in order to promote development that provides a focus of urban activity, encourages mass transit and minimizes adverse environmental impacts upon adjacent residential neighborhoods.
- Coordinate future land use development in Warner Center with public transit and transportation system improvements necessary to ensure that mobility within the area is maintained and traffic congestion is minimized.
- Mitigate the transportation impacts of future land use development and insure that transportation system improvements necessary to ensure that mobility within the area is maintained and traffic congestion is minimized.

The Plan area is divided into five subareas according to land use categories each with its own Floor Area Ratio (FAR) and height limits. The area within the Canoga Transportation Corridor study area

from Victory Boulevard to Vanowen Street has the following land use categories, FAR, and height limits:

- (WC)C Limited Commercial Land Use Category, FAR -1 to 1.25 and height limit - 75 ft to 145 ft.
- (WC)C4 Commercial Land Use Category, FAR – 1 to 1.25 and height limit – 75 ft.

The Warner Center Specific Plan also contains urban design and streetscape regulations for the area between the Ventura Freeway (US 101 and SR 134) and Vanowen Street and from Topanga Canyon Boulevard to De Soto Avenue, including Canoga Avenue.

To provide for a unified theme within this Specific Plan area, the Plan requires varied landscape setbacks with a total setback depth of 40 ft on Canoga Avenue and it permits public sidewalks, driveways, surface parking entrances and exits, and signage to encroach in the setback area. For the Warner Center Transit hub, the Plan provides a provision for setback relief for properties providing dedication for its establishment. Under these conditions, the Plan permits a project in the Warner Center Transit hub to have a landscape setback of no less than 20 ft.

### Devonshire/Topanga Corridor Specific Plan

The Devonshire/Topanga Corridor Specific Plan became effective in September 1993. The Plan extends along Devonshire Street between Mason Avenue and Topanga Canyon Boulevard and along Topanga Canyon Boulevard between Devonshire and Lassen Streets. Devonshire/Topanga Corridor is primarily a commercial area. The purpose of this Plan is to ensure that future commercial development in the area "occurs in a manner which is compatible with the surrounding residential community and with the capacity of the circulation system as defined in the Chatsworth-Porter Ranch Community Plan." In addition, the area along Devonshire Street between Topanga Canyon Boulevard and Jovita Avenue is under the Chatsworth Business Improvement District. The District was initiated by property owners and merchants of programs "to increase off- street parking facilities serving adjacent shopping areas, promoting street tree planting program, and sponsoring street cleanup and beautification program."

## *Other Plans/ Guidelines*

The Canoga Park area, which generally runs along Sherman Way in the vicinity of Canoga Avenue, has several Community Design and Streetscape Plans. These plans are generally divided into two areas, Downtown Canoga Park (bounded by Topanga Canyon Boulevard on the west, Canoga Avenue on the west, Wyandotte Street on the north, and Gault Street on the South; and the Canoga Park Commercial Corridor (extending from Eton Avenue to De Soto Avenue along Sherman Way). These Plans do not include Canoga Avenue public ROW and the Metro ROW. In addition, the area bounded by Saticoy Street on the north, Vanowen Street on the South, Topanga Canyon Boulevard on the west, and De Soto Avenue on the east is under a Targeted Neighborhood Initiative Program.

### Community Design Overlay Districts

These Plans do not include the Metro ROW along Canoga Avenue and Canoga Avenue public right-of-way. However, the Plans do include the area within 500 ft of Canoga Avenue.

- **Downtown Canoga Park -** The Downtown Canoga Park Community Design Overlay District, adopted November 2000, intends to improve the character of buildings in the area and retain the viability of the area as a pedestrian-oriented shopping district.

- **Canoga Park Commercial Corridor -** The Community Design Overlay District established by the City in October 2001, became effective in June 2002. The Community Design Overlay District is intended to improve the appearance and enhance the identity of the Canoga Park Commercial Corridor through application of design guidelines and standards.

Streetscape Plans

The intent of the Streetscape Plan is "to provide standards and direction for improvements to the public right-of-way that create a pedestrian-friendly environment and enhance the identity of the area."

- **Downtown Canoga Park**
  The Streetscape Plan (adopted May 2000) provides recommendations for landscaping and new street furniture. Along Sherman Way, the Plan recommends planting of Queen Palm and Pink Trumpet trees.

- **Canoga Park Commercial Corridor**
  The Streetscape Plan became effective in October 2001. The principle objective of the Streetscape Plan is to promote a long-term coordinated program of public and private investment in the pedestrian environment that will enhance the area's role as the focus of community activity. This Plan includes "the public right-of-way of Sherman Way and Eton Avenue, Milwood Avenue, Variel Avenue, Independence Avenue, Loma Verde Avenue, and De Soto Avenue." The Streetscape Element provides guidelines and standards for landscape, infrastructure, street furniture, street lighting, and signage. The Streetscape Plan is complemented by the Canoga Park Commercial Corridor (CDO) which "establishes design guidelines and standards that focus on improving the visual quality of development by addressing building features such as façade and wall treatments, parking areas, landscape buffers, pedestrian walkways, and building materials."

The following **Table 4.1-1** summarizes the goals, policies and objectives relevant to the proposed alternatives for each Community and Specific Plan. The table also indicates which alternatives pass through or border each plan.

**Table 4.1-1 City of Los Angeles Community and Specific Plan Policies**

| Plan Name | Policies |
|---|---|
| Chatsworth-Porter Ranch Community Plan (adopted September 1993; map revised June 2000) | • Identifying the right-of-way for rail transit purposes<br>• Identifying community transit centers that include commuter train stations, mixed use commercial, day care center, and secured parking including park and ride<br>• Encouraging the preparation of a program in which the City and the owner(s) of the railroad collaborate in order to establish the uses of the right-of-way for mass transit facilities, transit links between major centers and open spaces<br>• Encouraging new legislation amending the Municipal Code to result in |

| Table 4.1-1 City of Los Angeles Community and Specific Plan Policies | |
|---|---|
| **Plan Name** | **Policies** |
| | discretionary review of any change in use that occurs on established transit right-of-way<br>• Encouraging landscaping of the right-of-way to provide both aesthetic and noise buffers to protect adjacent residential uses<br>• Requiring sound buffers (e.g. walls, landscape) adjacent to residential areas |
| Canoga Park -Winnetka - Woodland Hills - West Hills Community Plans (updated August 1999) | • Identify the Metro ROW as an "important development opportunity for the community."<br>• Locate higher residential densities near commercial centers and major bus routes where public service facilities, utilities, and topography will accommodate this development<br>• Encourage the City to develop a public transit system that would improve mobility with convenient alternatives to automobile travel<br>• Coordinate with Metro to improve local bus service to and within the Community Plan Area<br>• Encourage the provision of safe, attractive, and clearly identifiable transit stops with user friendly design amenities<br>• Preserve and enhance the character and integrity of existing single and multi-family neighborhoods |
| Warner Center Specific Plan (amended and approved October 2002) | • Establish a hierarchy of land use intensity which decreases with distance away from the core of Warner Center in order to promote development that provides a focus of urban activity, encourage mass transit and minimizes adverse environmental impacts upon adjacent residential neighborhoods<br>• Coordinate future land use development in Warner Center with public transit and transportation system improvements necessary to ensure that mobility within the area is maintained and traffic congestion is minimized<br>• Mitigate the transportation impacts of future land use development and insure that transportation system improvements necessary to ensure that mobility within the area is maintained and traffic congestion is minimized |
| Devonshire/Topanga Corridor Specific Plan (adopted September 1993) | • The purpose of the plan is to ensure that future commercial development in the area occurs in a manner which is compatible with the surrounding residential community and with the capacity of the circulation system as defined in the Chatsworth-Porter Ranch Community Plan |
| Downtown Canoga Park Community Design Overlay District (adopted November 2000) | • Intends to improve the character of buildings in the area and retain the viability of the area as a pedestrian-oriented shopping district |
| Canoga Park Commercial Corridor Community Design Overlay District | • The Community Design Overlay District is intended to improve the appearance and enhance the identity of the Canoga Park Commercial Corridor through application of design guidelines and standards. This area is more distant from the Metro ROW than the downtown Canoga |

| Table 4.1-1 City of Los Angeles Community and Specific Plan Policies | |
|---|---|
| **Plan Name** | **Policies** |
| (adopted October 2001) | area |
| Downtown Canoga Park Streetscape Plan (adopted May 2000) | • Provides recommendations for landscaping and new street furniture. Along Sherman Way, the Plan recommends planting of Queen Palm and Pink Trumpet trees |
| Canoga Park Commercial Corridor Streetscape Plan (adopted October 2001) | • The Streetscape Element provides guidelines and standards for landscape, infrastructure, street furniture, street lighting, and signage<br>• The Streetscape Plan is complemented by the Canoga Park Commercial Corridor (CDO) which "establishes design guidelines and standards that focus on improving the visual quality of development by addressing building features such as façade and wall treatments, parking areas, landscape buffers, pedestrian walkways, and building materials" |

### City of Los Angeles Municipal Zoning Code (LAMC)

The Los Angeles Municipal Code regulates land use and development throughout the City. The Code identifies the uses that are allowed on the parcels within the City. The zoning along the Corridor is consistent with the planned use designation described in the City's Community Plans for this area. According to the Code, the entire length of the Metro ROW is zoned "PF", for Public Facilities. This zoning is compatible with the proposed project. Zoning for adjacent uses are generally consistent with the previously mentioned City of Los Angeles Plans.

### Los Angeles River Revitalization Master Plan

The Los Angeles River Revitalization Master Plan, adopted May 2007, demonstrates "opportunities to address the renewal of the River's environmental qualities that can catalyze change in diverse communities throughout its 32-mile corridor." To illustrate the feasibility of the various River improvement scenarios, "20 Opportunity Areas were identified along the River corridor." The area extending from Canoga Avenue to Owensmouth Avenue is one of the five Opportunity Areas selected for more detailed development of revitalization concepts. At Canoga Park, the Plan recommends creation of a community park and restoration of the River's ecological function, including naturalization of the concrete channel, and a ponded area.

The Plan recognizes the Canoga Transportation Corridor as an opportunity to partner with Metro to create an open space amenity along Canoga Avenue. At the River crossing with Canoga Avenue, the Plan proposes "a swath of green space running north, fronting Canoga Avenue, in the Metro ROW". The Plan also recommends "that the extension of the proposed MOL should consider locating a bus stop at the River crossing with Canoga Avenue to improve open space access for many households in the region that lack cars". It also proposes enhanced pedestrian and bicycle facilities on the arterial streets to connect with regional amenities including the MOL and its associated bike path.

On both sides of the River, the Plan proposes pedestrian-oriented paseos, some of which may include commercial promenades. The Plan also proposes a continuous multiuse pathway with underpasses beneath crossing streets, connecting with the Los Angeles River Bike Path and recreational trail

systems, completing multiple recreational loops. Mid-block bicycle and pedestrian bridges are proposed for access across the River to serve as iconic elements in the park system. The proposed arterial green streets (as shown in **Figure 4.1-14**) would have pedestrian and bicycle facilities to connect the area with regional amenities, including Pierce College, the MOL, and its associated bike path.

### Reseda/ Canoga Park Redevelopment Plan

The Redevelopment Plan prepared by the Community Redevelopment Agency of the City of Los Angeles (adopted December 1994) intends to "revitalize and redevelop land within the project area in order to eliminate blight and remedy the conditions which caused it." The Redevelopment Plan Project Area is located in the West San Fernando Valley communities of Canoga Park, Reseda, and Winnetka. The Project Area generally includes the Sherman Way Commercial Corridor from Topanga Canyon Boulevard on the west to Louise Avenue on the east. It also includes Saticoy Street from Mason Street on the west to Oakdale Avenue on the east. The southern portion of the Canoga Transportation Corridor, between Saticoy Street and Sherman Way, lies within the Redevelopment Project Area. Among the objectives of the Plan, the following are applicable to the Canoga Transportation Corridor:

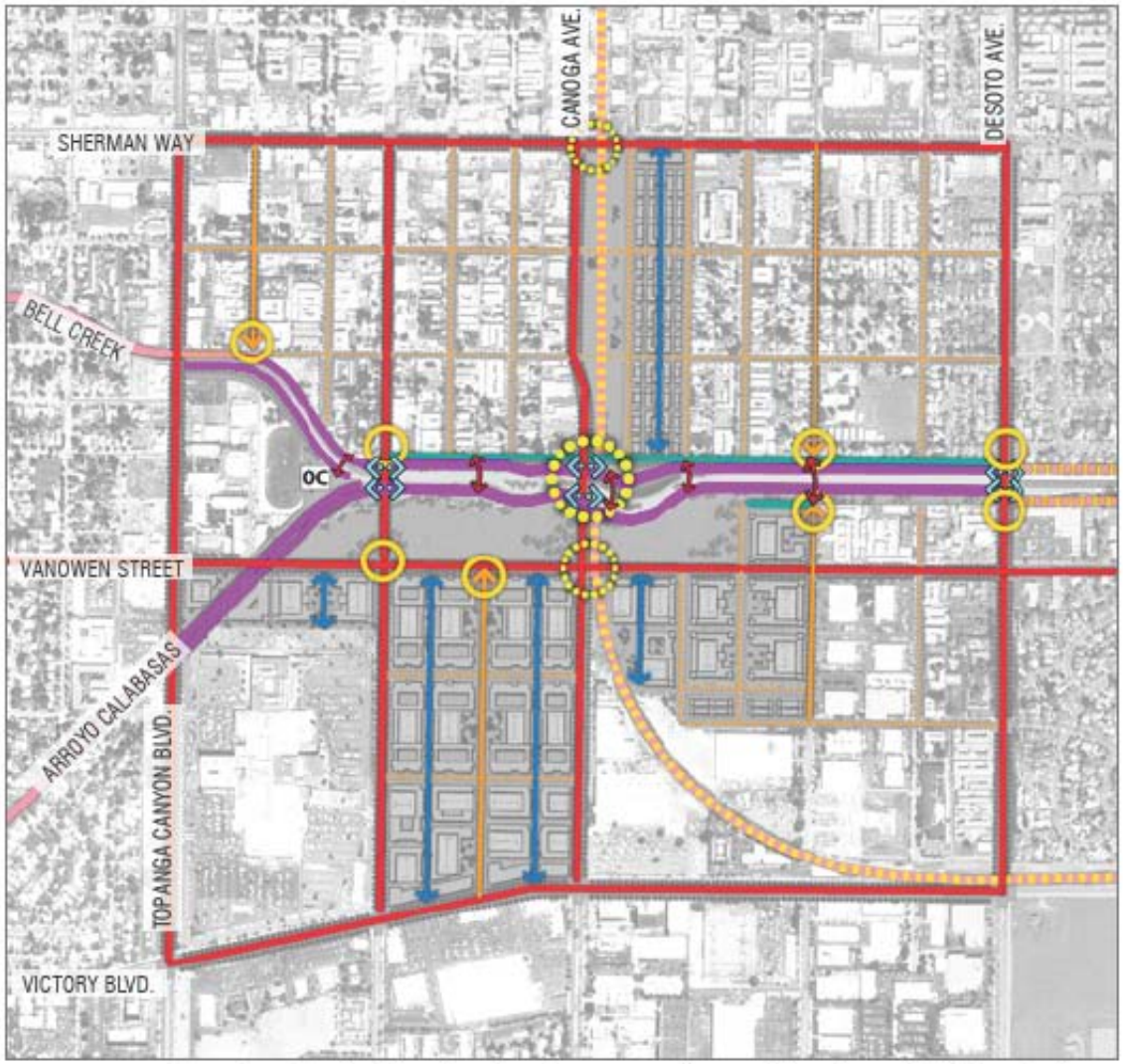
- Promote and encourage the establishment and development of businesses which serve the identified needs of the community, enhance the commercial environment, and maximize the creation of jobs and economic opportunities for area residents.
- The improvement of the quality of life and the environment, and the promotion and preservation of a positive image and safe environment for the community.
- The replacement and improvement of the community's supply of housing (inside or outside the Project Area), including opportunities for very low, low- and moderate-income households, multi -family housing and areas with concentrated damage. Restore housing choices and rehabilitate and reconstruct housing for all income and age groups, including opportunities for home ownership.

## 4.1.3 IMPACTS AND MITIGATION MEASURES

### Significance Criteria

From the standpoint of transit accessibility, the project is expected to improve transit accessibility within the project area. Determination of any short-and long-term conflicts with surrounding land uses resulting from project implementation and identification of inconsistencies with applicable land use plans, polices, and regulations would constitute a significant adverse impact.

- **Compatibility with surrounding land uses** - The assessment of impacts on land use focuses on the potential for land use incompatibility, degradation, or disturbance. Transit service provides citizens with a heightened quality of life while on the other hand it could alter the character of a particular area resulting in a change in land use pattern, thereby affecting the quality of life. Land uses such as residential uses, schools, religious institutions, and open spaces are sensitive uses that could potentially be disturbed by changes in adjacent land uses. Where feasible, the project would be buffered (through the use of landscaping) to be compatible with adjacent sensitive land uses. Although the potential is limited, adjacent commercial and industrial uses could potentially be disrupted by a transportation facility, primarily consisting of localized effects such as change in access, loss of parking, or noise effects that would affect the function of these uses.




Open-Space Typology Map - A system of green connections provides safe ways to the River from home.

*Source:* **Los Angeles River Revitalization Master Plan,**

A significant existing land use impact would occur if:

1) Sensitive adjacent land uses are not adequately buffered from or integrated with the proposed project, creating incompatibility with surrounding land uses.
2) The alternatives or stations would result in the loss of a major portion of a particular land use within a specific area, thus substantially altering the character of the area (in other words, altering surrounding land uses).
3) Functions of or access to adjacent land uses would be adversely affected.

- **Consistency with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project** - Evaluation of project consistency is based on whether, or not, the proposed project is consistent with the intent of the jurisdiction's applicable planning documents. If the proposed project would result in land uses that are not consistent with adopted plans or policies, a significant impact would occur.

- **Potential for Station Area Growth** – The potential for the area proximate to station areas to reach higher concentrations of development than their surroundings is dependent primarily upon the planned land use and zoning designations around stations. City of Los Angeles Community Plans (the Land Use element of the General Plan), Specific Plans, as well as existing land use for each station area were consulted to determine the development potential within a quarter mile radius of the proposed transit stations. Stations located in areas that are not currently developed to the extent possible under existing designation, but yet are designated for commercial, industrial, or multi-family residential development, would have the greatest potential to accept increased growth.

Impacts associated with proximity to sensitive land uses are also discussed in other sections of the EIR:

- Land Acquisition, Relocation, & Displacement of Existing Uses
- Historic, Archaeological, & Paleontological Impacts
- Visual & Aesthetic Impacts
- Traffic, Circulation, & Parking
- Noise
- Safety & Security

## Methodology

This section provides a discussion of impacts on existing land uses along the proposed alignments and highlights the pertinent land use regulations in place. Sensitive land uses (e.g. residential uses, schools, recreational areas, and religious buildings) along both sides of the proposed corridor are also identified. The discussion of existing land uses is based on evaluation of the SCAG land use data, aerial photographs, and field windshield survey. Impacts to existing land uses of the alternatives were identified through an analysis of sensitive land uses on each route, a windshield survey to identify station locations and adjacent land uses to the proposed stations. Impacts to planned land uses are identified by comparing all alternatives with the planned use as designated in applicable planning documents.

**Impacts 4.1.1. For Alternative 3, Canoga On-Street Dedicated Bus Lanes and Alternative 4, Canoga Busway adjacent sensitive land uses would be buffered with walls, fences, and landscaping as described in the Project Description. Alternatives 3 and 4 would not renew business leases, including, Metro tenants along the ROW, and depending on the option selected for the northern portion of the alignment, the project could result in acquisition and displacement of commercial/industrial property. The character of the surrounding area would not be substantially altered. Therefore, land use compatibility impacts for all alternatives would be less than significant. Depending on the northern segment options, impacts would be less than significant with mitigation.**

For purposes of determining land use compatibility, it is assumed that some land uses including residential uses, schools, religious institutions, and open space are sensitive uses that could potentially be disrupted by changes in adjacent land uses. Potential impacts to existing land uses of the build alternatives were identified through an analysis of total sensitive land uses adjacent to the alignment (**Table 4.1-2**).

**Table 4.1-2 Sensitive Land Uses Adjacent to the Alternatives**

| Adjacent Sensitive Land uses | TSM | Canoga Busway | Canoga Dedicated Bus Lanes |
|---|---|---|---|
| Single Family Residential (linear ft) | 18,000 | 2,300 | |
| Multi-Family Residential (linear ft) | 17,940 | 410 - 640 | |
| Mobile Homes on Canoga Avenue (linear ft) | 5,250 | 5,250 | |
| Schools | Canyon Vista Preschool and Kindergarden, Chatsworth Park Elementary School, Canoga Park Preschool and Kindergarden, Our Lady of the Valley Elementary School, Canoga Park Senior High School, New Academy Canoga Park Elementary School, Chatsworth High School, Canoga Park Elementary School | New Academy Canoga Park Elementary School | |
| Public/Religious Institutions | Chatsworth Adult Development Center, San Fernando Valley Interfaith Council, Iglesia Christiana Adonai, Walk Jimmy Minisries Church, Westhill Health and Rehab, Tree of Life Christina Church, Institute of Religion – The Church of Jesus Christ of Latter Day Saints, Chatsworth Four Square Church, County Park Medical | Chatsworth 4 Square Church, County Park Medical Regional Office, North-West Area Police Station (under construction), | |

| Table 4.1-2 Sensitive Land Uses Adjacent to the Alternatives | | | |
|---|---|---|---|
| **Adjacent Sensitive Land uses** | **TSM** | **Canoga Busway** | **Canoga Dedicated Bus Lanes** |
| | Regional Office | | |
| Open Space | Stoney Point Park, John Quimby Park, Lanark Park | Chatsworth Junior Baseball League, Parthenia Park | |

Notes:
1. Linear ft of sensitive land uses are counted along both sides directly adjacent to the alignments.
2. Linear ft of sensitive land uses which have predominantly single-family residential and some multi-family residential are counted as single-family residential, and vice-versa.
3. Linear ft of sensitive uses along alignments varies due to alignment options north of Plummer Street

Source: SCAG, Land Use Data, 2005; updated by Gruen Associates (Windshield Survey), May 15, 2007

## Alternative 1. No Project

No adverse impacts are associated with the No Project Alternative.

## Alternative 2. TSM

Potential impacts along existing streets were analyzed by tabulating the amount of potential sensitive land uses as shown in **Table 4.1-2** and a review of land uses near potential stations. Approximately, 30,780 linear ft of sensitive uses adjoin the TSM Alternative. This system would include improvements to the transportation systems within the existing street right-of-way. The expanded bus service would run on existing streets, many of which currently have bus services and some have parking restrictions. Canoga Avenue between Sherman Way and Chatsworth Metrolink Station does not have existing bus service and a portion of it is adjacent to mobile homes. However, on-street bus service is not inherently incompatible with residential land uses. An increase in frequency of the on-street operation of buses along Metro transit routes and a new local bus service on Canoga Avenue without dedicated lane space would have no affect on the land use patterns, and therefore land use impacts would be less than significant for the TSM Alternative.

Most bus stops along Canoga Avenue for the TSM Alternative would be located adjacent to existing commercial/industrial uses. The TSM Alternative bus stops along Canoga Avenue would be located within the public right-of-way, and these bus stop improvements would be minimal and have no or minimal impact on adjoining uses. The TSM Alternative would not result in a partial or full loss of land use in a specific area. The TSM Alternative is entirely on-street, except for minimal stations in the public right-of-way and would not alter the function of adjacent land uses. As such, less than significant land use impacts would occur.

## Alternative 3. Canoga On-Street Dedicated Bus Lanes

Impacts were identified to existing uses through a review of conceptual engineering drawings for the stations, a review of typical cross sections at sensitive uses, information regarding land acquisition, and the tabulation of sensitive uses. Along Canoga Avenue adjacent land uses are primarily industrial with commercial uses concentrated near the major street intersections and 7780 to 8190 linear ft of sensitive uses adjacent to this alternative depending on the option selected north of Plummer Street (See **Table 4.1-2**).

A segment of Canoga Avenue between south of Nordhoff Street and just north of Roscoe Boulevard contains sensitive land uses (i.e. mobile homes and single and multi-family residences) adjacent to Canoga Avenue and the Metro ROW. However, the project includes landscaping, a bikeway/pedestrian path, fences, walls in the Metro ROW to buffer sensitive land uses and to integrate and connect the transportation facilities with the adjacent uses. Sensitive land uses on the west side of Canoga Avenue (mobile homes north of Parthenia Street) would have bus lanes closer than existing parking/travel lanes, however, as the buses are running on the street adjoining uses would be buffered with street trees along the sidewalk, this alternative would not be considered incompatible with adjacent land uses. The Metro ROW historically was a transportation corridor and the introduction of a new transportation facility adjacent to existing uses with buffering, which is part of the Project, would be an improvement and would be considered a beneficial effect.

This alternative would not require the acquisition of residential property; however partial or full acquisition of some commercial and industrial properties along the Metro ROW would occur at station areas and for the options north of Plummer Street (see Section 4.2 **Table 4.2-1**). The widening of Canoga Avenue for the exclusive lanes and stations would require acquisition of the new shopping center at the northeast corner of Sherman Way and Canoga Avenue. In other areas at stations, access driveways on the west side of Canoga Avenue would be closed near station areas which could affect access to adjacent land uses such as gas stations at Sherman Way.

In addition, the Canoga On-Street Dedicated Bus Lanes Alternative would not renew some businesses which are on leased land within the Metro ROW. Implementation of mitigation measures specifically related to non-renewal of the leases (Section 4.2) would result in a less-than-significant impact on land uses for the Canoga On-Street Dedicated Bus Lanes Alternative and associated design options. This alternative would displace parking on the west side of Canoga Avenue to accommodate the dedicated lanes which would impact the businesses along Canoga Avenue. Displaced parking as well as additional parking would be provided in the proposed park-and-ride lots, at or adjacent to the stations, as discussed in Section 4.7. As such, less than significant impacts are anticipated.

Impacts associated with the three options for station location at Chatsworth Metrolink Station are discussed below. Uses adjacent to Nordhoff Station, Roscoe Station and Sherman Way Station are mostly commercial and industrial. These proposed stations would change the character of the area from vacant land and industrial uses to a landscaped multi-modal transportation facility, however this new use would be consistent with its historic use as a transportation corridor and not be incompatible with the surrounding area. These stations would not renew existing businesses and leases within the Metro ROW. However, non-renewal of these businesses would not create any new land use incompatibilities. Impacts specifically related to displacement are discussed in Section 4.7.

The optional Parthenia Station would be located adjacent to a flooring warehouse and the vacant Metro ROW and two mobile home parks which are sensitive land uses around this station. These sensitive uses are located 50 to 55 ft east of the travel/parking lane and the project includes landscaping, a bikeway/pedestrian path, fences, and walls in the Metro ROW to buffer these sensitive land uses.

The Canoga Station would be located adjacent to the existing MOL Station and park-and-ride lot. The parking area adjacent to the east side of Canoga Avenue would be reconfigured to accommodate the widening of Canoga Avenue. Considering the existing transit use and commercially oriented nature of Canoga Avenue, land use impacts would not be significant.

In most cases, park-and-ride lots would be located, at or adjacent to the stations to replace the parking spaces displaced along Canoga Avenue to accommodate the dedicated bus lanes, stations, and a bikeway/pedestrian path. As such, impacts of these facilities would be similar to impacts of transit stations described above.

North of Plummer Street, Canoga Avenue has only one traffic lane in each direction. Three options are under consideration for the final northern segment to connect to the Chatsworth Metrolink Station (described in Section 3.0). The following discussion focuses on any potential land use impact that could occur for each option.

### *Northern Segment Option 1: Dedicated Bus Lanes and Bikeway ends at Marilla Street*

The dedicated bus lanes and bike path would terminate at Marilla Street and the buses would operate in a mixed flow and use Marilla Street, Owensmouth Avenue and Lassen Street to reach the Chatsworth Metrolink Station. There are no sensitive land uses directly adjacent to the alignment and property acquisition would not be required. This Option would not affect the function of adjacent industrial and commercial uses. On-Street operation of buses would have no effect on land use patterns, and therefore impacts would be less than significant for this Option. For description of traffic, air quality, and noise impacts on sensitive receptors within affected neighborhoods resulting from this alternative, refer to Sections 4.7, 4.8, and 4.9.

Option 1 includes two options for stations:

- Option A - A non-revenue turnaround would be located north of the Chatsworth Metrolink Station on the Metro-owned property, currently a vacant lot. The station would be located north of the Chatsworth Metrolink Station adjacent to the existing local bus stops in mixed-flow traffic. To accommodate the new MOL Extension station, along Old Depot Plaza Road, approximately 24 parking bays would be removed on the east side and approximately 30 palm trees would be relocated or removed on the west side. Parking removed would be replaced on the vacant Metro owned land. Loss of parking along Old Depot Plaza Road is discussed in Section 4.7 and impacts specifically related to removal of trees are discussed in Section 4.6. The station, the non-revenue turnaround, and park-and-ride would be located within a transit facility and adjacent to existing industrial uses, which are not affected. Therefore, no land use incompatibilities are anticipated.

- Option B - The parking lot south of the Chatsworth Metrolink Station would be reconfigured to accommodate the turnaround, station, Busway, and layovers. Commercial and industrial uses surround the proposed station. Displaced parking as well as additional parking would be provided north of the Chatsworth Metrolink Station, on the vacant lot as discussed in Section 4.7. This Option relocates the Metrolink parking further from the Chatsworth Metrolink Station than existing spaces and places the MOL Extension station to facilitate transfers to and from Metrolink. However, the replacement parking would not be further away than the existing parking near Lassen Street. With the replacement parking designed to accommodate all users, no significant land use impacts are anticipated

### *Northern Segment Option 2: At-Grade "T" Intersection on Lassen Street 200 Ft West of Tracks*

Option 2 would require partial or full acquisition of an industrial property including the building south of Lassen Street and non-renewal of a lease in the triangular property on the Metro-owned parcel. The bike path would run on the Metro owned land west of the railroad tracks to connect to

Lassen Street. The parking lot and the access for the industrial complex would need to be reconfigured. Impacts specifically related to displacement, acquisition and relocation are discussed in Section 4.2 and traffic and parking impacts in Section 4.7. The removal of an industrial building would not create any new land use incompatibilities. It is possible that only a portion of the acquired parcel would be required and parking removed could be reconfigured on the Metro owned land which is currently leased. This Option would have less than significant land use impacts with mitigation.

Option 2 would have the same station options as Option 1, described above. Impacts would be less than significant.

***Northern Segment Option 3: At-Grade Parallel Crossing of Lassen Street West of Tracks***

This Option would result in a partial or full acquisition of a privately owned parcel west of the Metrolink tracks and termination of a lease in the Metro owned triangular property, south of Lassen Street. This Option would result in a new bus terminus, west of the Metrolink tracks, which is currently a vacant lot and planned for industrial use, to accommodate the Busway, turnaround, station, and bus layovers. A grade separated pedestrian crossing would be provided to link the new terminus station with the Metrolink station as well as landscaping to buffer the multi-family residential uses to the east. Impacts specifically related to displacement are discussed in Section 4.2. The loss of the business south of Lassen Street and termination of the lease would not change the function or access driveways to the remainder of the industrial area. This Option would have less than significant impacts with mitigation.

Option 3 would include the Option C station. This Option would result in a new bus terminus west of the Metrolink tracks, currently a vacant lot and planned for industrial use. Acquisition of the existing parcel would not create any new land use incompatibilities (Impacts related to this acquisition are discussed in Section 4.2). Sensitive land uses west of the new terminus include multi-family residences. However, the project includes landscaping, fences, and walls to buffer these sensitive land uses and to integrate the project with adjacent land uses. Therefore, no significant land use impacts are anticipated. Noise impacts on sensitive receptors resulting from MOL operations and stations are discussed in other applicable Sections (i.e. Section 4.7 through 4.9).

**Alternative 4. Canoga Busway**

Impacts to existing land uses were identified through a review of the conceptual engineering drawings prepared for the Canoga Busway Alternative, conceptual station area plans, existing land use inventory, information regarding land acquisition, and a tabulation of adjacent sensitive uses shown in **Table 4.1-2.** Along Canoga Avenue uses are primarily industrial with commercial uses concentrated near the major street intersections and 7,780 to 8,190 linear ft of sensitive land uses depending on the Option selected north of Plummer Street.

Sensitive receptors, such as residences and schools (described in **Table 4.1-2**) adjacent to the Busway and the stations, would experience increased noise, and bus traffic as a result of transit operations. Segments of Canoga Avenue between Parthenia Street and Nordhoff Street contain sensitive uses (i.e., mobile homes) immediately adjacent to the Metro ROW. However, the project includes landscaping, a bikeway/pedestrian path, fences, walls in the Metro ROW to buffer sensitive land uses from noise impacts and to integrate the project with adjacent land uses.

The alternative would not require land acquisition south of Plummer Street. Land acquisition would be required for some of the options north of Plummer Street discussed below and summarized in **Table 4.1-3**. The alternative would run along the Metro ROW displacing some commercial/industrial businesses, which have leases in the Metro ROW. Impacts specifically related to displacement are discussed in Section 4.2.

The loss of the businesses would change the character of the ROW located south of Roscoe Boulevard from an industrial area of building materials and automobiles, to a landscaped multi-modal transportation facility similar to the MOL and the ROW's previous use. However, removal of these leased businesses would not alter, degrade or substantially change the functioning of the existing surrounding land uses. The Busway and a multiuse path would be located behind the existing shopping center at Sherman Way and the Canoga Self-Storage, thus preserving these businesses. A partial acquisition of the two concrete plants north of the Los Angeles River would occur to accommodate the Busway, a bikeway/pedestrian path, and to integrate the project with the Los Angeles River Plan. Some businesses encroach on the Metro ROW primarily between Saticoy and Keswick Streets and reconfiguration of their buildings or entry/exit would be required at the expense of the encroaching business.

Impacts associated with five options for stations at Chatsworth Metrolink Station are discussed below under the alignment options. Uses adjacent to Nordhoff, Roscoe, and Sherman Way Stations are mostly commercial and industrial. Some of these stations would not renew existing business and leases within the Metro ROW. (Impacts specifically related to displacement are discussed in Section 4.7). These proposed stations would change the character of the Metro ROW from vacant land and industrial area to a landscaped multi-modal transportation facility, which would not be incompatible with the uses in the surrounding area.

The optional Parthenia Station would be located within the Metro ROW, adjacent to two mobile home parks and single-family homes, sensitive uses in the area. The planned landscape, fences, and walls within the Metro ROW would buffer these sensitive land uses from noise impacts, as discussed in Section 4.7 through 4.9.

The new Canoga Station platforms would be located within the existing MOL Station site area by reconfiguring the existing park-and-ride lot. A wall currently buffers the existing park-and-ride lot from adjacent residential development. Considering the existing transit use, commercially oriented nature of the area, and existing buffer, land use compatibility impacts would not be significant.

A park-and-ride lot would be located adjacent to the Sherman Way Station to accommodate the parking spaces displaced at the Canoga Station as well as the Busway, station, and a bikeway/pedestrian path. This station and park-and-ride lot would not be adjacent to sensitive uses and would not adversely affect the function of adjacent industrial and commercial uses. As such, land use compatibility impacts of these facilities would not be significant.

North of Plummer Street, adjacent to the railroad tracks, there is insufficient ROW to accommodate the Busway, bike way/pedestrian path on the Metro ROW. In this segment, Canoga Avenue has only one traffic lane in each direction. Therefore, five options are considered for the northern segment to connect to the Chatsworth Metrolink Station (described in Section 3.0). The following discussion focuses on potential land use impacts associated with these options.

***Northern Segment Option 1: Busway and Bikeway ends at Plummer Street***

With this design Option, the buses would exit the Busway at Plummer Street and operate on-street in mixed flow and travel on Plummer Street, Owensmouth Avenue, and Lassen Street to reach the Chatsworth Metrolink Station. The bikeway/pedestrian path would end just north of Plummer Street. Primarily industrial and commercial uses exist along Plummer Street and Owensmouth Avenue, which would be compatible with on-street bus operations along this portion of the alignment. No sensitive uses occur, no acquisition would be required and there would be no adverse change in the function or access to adjacent uses. The on-street operation would have no significant land use impacts.

Option 1 for the Canoga Busway Alternative would include two station options for the Chatsworth Metrolink Station:

- Option A **-** A non-revenue turnaround would be located north of the Chatsworth Metrolink Station on the Metro-owned property currently a vacant lot. The station would be located north of the Chatsworth Metrolink Station adjacent to the existing local bus stops in mixed-flow traffic. To accommodate the new MOL Extension station, along Old Depot Plaza Road, approximately 24 parking bays would be removed on the east side and approximately 30 palm trees would be relocated or removed on the west side. Parking removed would be replaced on the vacant Metro land. Loss of parking along Old Depot Plaza Road is discussed in Section 4.7 and impacts specifically related to removal of trees are discussed in Section 4.6. The stations, the non-revenue turnaround, and park-and-ride would be located within a transit facility and adjacent to existing industrial uses, which are not affected, and therefore, no land use incompatibilities are anticipated.

- Option B - The parking lot south of the Chatsworth Metrolink Station would be reconfigured to accommodate the turnaround, stations, Busway, and layovers. Commercial and industrial uses surround the proposed station. Displaced parking as well as additional parking would be provided north of the Chatsworth Metrolink Station, on the vacant lot as discussed in Section 4.7. This Option relocates the Metrolink parking further from the Chatsworth Metrolink Station than the existing parking and places the MOL Extension station to facilitate transfers to and from Metrolink. However, the replacement parking would not be further away than the existing parking near Lassen Street. With the replacement parking designed to accommodate all users, no significant land use impacts are anticipated.

***Northern Segment Option 2: At-Grade "T" Intersection on Lassen Street 200 Ft West of Tracks***

The busway would be on the west side of the railroad tracks intersecting Lassen Street at a new signalized intersection. The buses would then travel in mixed flow on Lassen Street to reach the Chatsworth Metrolink Station. In this alternative, buses would run along the Metro ROW, between Canoga Avenue and the Metrolink tracks, terminating the leased business located in the triangular piece of Metro owned property,. This Option would require a full or partial acquisition of the industrial property west of the Metro ROW and south of Lassen Street to accommodate the Busway and the multiuse path. Impacts specifically related to displacement are discussed in Section 4.2 and traffic impacts in Section 4.7.

Along Canoga Avenue, adjacent land uses are primarily industrial with a mobile home park located east of the Metro ROW. Sensitive receptors, such as mobile home residents adjacent to the Metro

ROW, would experience increased noise and bus traffic. The mobile home park is next to the active Metrolink tracks and the residents are already exposed to noise levels. However, the project includes landscaping, fences, and privacy walls in the Metro ROW to buffer the mobile home residents from the transportation facility.

Option 2 would include two station Options (A and B) and would have similar impacts to alignment Option 1. Although the functions of the Metrolink station park-and-ride would change, significant impacts are not anticipated.

### *Northern Segment Option 2a: Option 2 with Limited ROW*

An optional plan for Option 2 would accommodate the Busway for the northbound buses and a multiuse path all the way north to Lassen Street due to the limited ROW adjacent to the Metrolink tracks. Southbound buses would operate in mixed flow to re-enter the Busways at a new signalized intersection at Plummer Street. Similar to Option 2, this Option would require a partial or full acquisition of the industrial property west of the Metrolink tracks and would not renew the leased business located in the triangular property. Impacts related to displacement are discussed in Section 4.2 and traffic impacts in Section 4.9. It is possible that only a portion of the acquired parcel would be required if the industrial complex parking area is reconfigured using portions of Metro property. No significant land use impacts are anticipated with mitigation.

Option 2a would include the two station Options (A and B) and would have similar, but less impacts to alignment Option 1 and 2. Although the function of the Metrolink Station park-and-ride would change, significant impacts are not anticipated.

### *Northern Segment Option 3: At-Grade Parallel Crossing of Lassen West of Tracks*

The Option would require a full or partial acquisition of a building south of Lassen Street, west of the railroad tracks. For the partial acquisition, the access road and parking of the industrial property, south of Lassen Street, could be relocated south of the building to the triangular piece of property, owned by Metro. Modification to the industrial buildings and their entrances may be necessary. Impacts specifically related to displacement are discussed in Section 4.2. Reconfiguration and relocation of the access road and parking could alter the function or access to the other existing industrial land uses in the area.

Along Canoga Avenue, adjacent land uses are primarily industrial with a mobile home park located east of the Metro ROW. Sensitive receptors, such as mobile home residents adjacent to the Metro ROW, would experience increased noise, and bus traffic. The mobile home park is next to the active Metrolink tracks and the residents are already exposed to noise levels. However, the project includes landscaping, fences, and privacy walls in the Metro ROW to buffer the mobile home residents. This Option would not have significant impacts with mitigation.

Option 3 would include station Option C. This Option would result in a new bus terminus west of the Metrolink tracks, currently on a vacant lot which is planned for industrial use, to accommodate the Busway, turnaround, stations, and bus layovers with a grade separated pedestrian crossing of the tracks and tree-lined pedestrian linkages. Acquisition of the existing parcel would not create any new land use incompatibilities (Impacts related to this acquisition are discussed in Section 4.2). Sensitive land uses west of the new terminus include multi-family residential uses. However, the project includes landscaping, fences, and walls to buffer sensitive land uses to integrate the project with

adjacent land uses. Impacts on sensitive receptors resulting from MOL operation and stations are discussed in other applicable Sections (i.e. Section 4.7 through 4.9). Therefore, no significant land use impacts are anticipated for Option 3.

### *Northern Segment Option 3a: One Way Bus Operations; Northbound via At-Grade Parallel Crossing of Lassen West of Tracks and Southbound Via Owensmouth Avenue and Plummer Street*

Option 3a would occur if the two-way Busway could not be provided in the narrow ROW adjacent to the Metrolink tracks. This Option would accommodate the Busway for northbound buses and a multiuse path on west side of the tracks and southbound buses would travel in mixed flow to enter the Busway at a new signalized intersection at Plummer Street. The existing access road and parking would need to be relocated to the south of the building or the site for the industrial building would need to be acquired. Implementation of mitigation measures discussed in Section 4.2 would result in a less-than-significant impact related to acquisition and displacement. As such, no significant land use impacts are anticipated with mitigation.

Option 3a would include station Option C and would have similar, but less impact than alignment Option 1. No significant impacts are anticipated.

### *Northern Segment Option 4: Underpass of Tracks with Crossing of Lassen Street East of Tracks at the Old Depot Plaza Road*

The Busway and a multiuse path would pass under the railroad tracks in an underpass and cross Lassen Street at grade to connect to the Chatsworth Metrolink Station. According to the joint agreement signed in October 1999, the property east of the Metrolink tracks and north of Plummer Street is jointly owned and operated by the Union Pacific Railroad Company and Metro. Therefore, under this agreement Metro would be able to utilize the property for extending the Busway north of Plummer Street. However, to align the Busway with the Old Depot Plaza Road and its signalization, this would require a partial take of the parking area for the mobile home park property, south of Lassen Street, and reconfiguration of the parkway and access road to the mobile home park. This alternative would reduce the amount of parking for the mobile home park and either remove or reconfigure the club house. To replace the parking several mobile homes may need to be relocated or removed. Impacts specifically related to displacement are discussed in Section 4.2. Land use impacts associated with the underpass itself would be minimal due to the negligible disruption to at-grade land uses. Even though some mobile homes may need to be removed, only a small portion of the mobile home park would be impacted and this could be mitigated with replacement parking. Impacts associated with the alignment of the Busway and bikeway along Old Depot Plaza Road is described in Section 4.2. Sensitive receptors, such as mobile home residents, adjacent to the Metro ROW, would experience increased noise, and bus traffic. However, the project includes landscaping, fences, and soundwalls in the Metro ROW to buffer the mobile home residents. As such, the Canoga Busway Northern Segment Option 4 would result in a significant land use impact without mitigation.

Option 4 would include two station Options (A and B). Impacts of these station Options are the same as alignment Option 1, 2, and 2a. No significant impacts are anticipated.

***Northern Segment Option 4a: Underpass of Tracks with Parallel Crossing of Lassen Street***

Option 4a would consist of an underpass design Option as described in Option 4. However, it would include an intersection adjacent to the eastside of the railroad tracks and would not require the acquisition or reconfiguration of the mobile home park. Sensitive receptors, such as mobile home residents, adjacent to the Metro ROW, would experience increased noise, and bus traffic. However, the project includes landscaping, fences, and soundwalls in the Metro ROW to buffer the mobile home residents from noise impacts. No acquisition or lease termination would be acquired and the land use function of adjacent uses would not change. Traffic effects of the new signal are discussed in Section 4.9. The Canoga Busway Alternative Option 4a would not result in significant land use impacts and is not expected to be incompatible with surrounding land uses.

Option 4a would include two station Options (A and B) for the Chatsworth Metrolink Station area. Impacts of these station Options are the same as described in the Canoga Busway Alternative Option 1, 2, 2a, and 4. No significant impacts are anticipated.

***Northern Segment Option 5: Elevated or Below Grade Separation of Railroad Tracks and Lassen Street***

The elevated or below Busway Option over or under the railroad tracks and Lassen Street along the west side of the railroad tracks would start climbing approximately 1200 ft south of Lassen Street and descend into the park-and-ride lot at the Chatsworth Metrolink Station. The elevated structure would be located on the Metro ROW. The multiuse path would remain at-grade adjacent to the west side of the elevated Busway and intersect Lassen Street at-grade and then travel along the south side of Lassen Street to a crosswalk at the entrance to the Metrolink Station. The elevated structure would screen the views of the mountains and could affect the privacy of the mobile home park residents unless mitigation is provided. Impacts associated with the visual changes and mitigation measures are discussed in Section 4.6. The Canoga Busway Northern Segment Option 5 would result in no significant land use impacts.

Option 5 includes station Option D. The elevated structure and turnaround would be located south of the Chatsworth Metrolink Station and would reconfigure the parking lot south of the Chatsworth Metrolink Station. Approximately 140 parking spaces out of 280 spaces would be displaced to accommodate the elevated structure, turnaround, stations, and bus layovers. Displaced parking as well as additional parking would be provided on the vacant lot north of the Chatsworth Metrolink Station as discussed and mitigated in Section 4.7. The elevated turnaround would be located within an existing transit facility, and no land use incompatibilities are anticipated related to sensitive uses or function of surrounding uses. The Metrolink parking would be located further from the station than the existing parking. However, bus transfers are closer. The elevated structure would however, screen the views of the mountains unless mitigation measures are provided as discussed and mitigated in Section 4.6. Although the functions of the Metrolink station park-and-ride would change, significant impacts are not anticipated.

**Table 4.1-3** summarizes the potential land use impacts that could occur for each alternative and their Options, north of Plummer Street.

| Table 4.1-3 Summary of Compatibility With Surrounding Land Uses | |
|---|---|
| • TSM | - Adjacent to sensitive uses, however as on-street in mixed flow no adverse land use impacts anticipated<br>- No acquisition anticipated |
| • Canoga On-Street Dedicated Bus Lanes | - Adjacent sensitive land uses would be buffered by walls, landscaping, and fences<br>- No residential acquisition<br>- Canoga Self Storage, a long term lease, and other leases along Canoga Avenue would not be renewed<br>- Existing shopping center at Sherman Way would be acquired<br>- Impacts less than significant |
| o Northern Segment Option 1: Dedicated lane ends at Marilla Street (Option A - Non-Revenue Turn-Around or Option B - Turn-Around south of Metrolink Station Platforms) | - Not adjacent to sensitive uses<br>- No additional acquisition<br>- On-Street operation of buses would have no effect on the land use patterns, therefore no significant impacts relative to compatibility are anticipated |
| o Northern Segment Option 2: Dedicated lanes continue to at-grade "T" intersection on Lassen Street 200 west of tracks (Same as Option1) | - Lease in triangular property owned by Metro would not be renewed<br>- Industrial property near Lassen Street would be acquired. This could affect the function of the industrial complex. No significant impacts anticipated with mitigation |
| o Northern Segment Option 3: Dedicated lane continues to an at-grade parallel crossing of Lassen west of tracks (Option C - Turn-Around on Vacant Lot West of Tracks) | - The full or partial acquisition of the industrial property south Lassen Street and a vacant parcel west of the Metrolink tracks and north of Lassen Street would be acquired and a lease on the triangular parcel would not be renewed<br>- Removal or reconfiguration of these uses would not alter the function of the existing surrounding land uses in the area although reconfiguring private parking would be required<br>- Conversion of the vacant lot (Option C) and parking to a transit station would change the character of the acquired site from industrial to a landscaped multi-modal transportation facility which would be compatible with surrounding uses. No significant impacts anticipated with mitigation |
| • Canoga Busway | - Adjacent sensitive land uses would be buffered by sound walls, landscaping, and fences<br>- No residential acquisition<br>- Existing Shopping Center at Sherman Way and Canoga-Self Storage would not be required for the project |

| Table 4.1-3 Summary of Compatibility With Surrounding Land Uses | |
|---|---|
| | - Reconfiguration of the lease or a termination of the lease on the property containing two concrete plants and a building material business near the Los Angeles River would occur<br>- Other leases south of Plummer Street would not be renewed<br>- Impacts less than significant |
| o Northern Segment Option 1: Busway and bikeway end at Plummer (Option A - Non-Revenue Turn-Around or Option B - Turn-Around south of Metrolink Station Platforms ) | - No sensitive receptors in the area and on street operation would have no adverse effect<br>- No additional acquisition<br>- Impacts less than significant |
| o Northern Segment Option 2: At-grade "T" Intersection on Lassen 200 ft west of tracks (Same as Option 1) | - Sensitive uses east of railroad tracks would be buffered<br>- Lease for triangular property owned by Metro would not be renewed<br>- Industrial property near Lassen Street would be acquired and existing parking lot reconfigured. This would not substantially alter the character or function of land uses in the area<br>- Impacts would be less than significant with mitigation |
| o Northern Segment Option 2a: One-way bus operations; northbound via at-grade "T" intersection on Lassen 200 ft west of tracks and southbound via Owensmouth and Plummer (Same as Option 1) | - Sensitive uses east of railroad tracks would be buffered<br>- Lease for triangular property owned by Metro would not be renewed<br>- Industrial property near Lassen Street would be acquired and existing parking lot reconfigured. This would not substantially alter the character or function of surrounding land uses in the area<br>- Impacts would be less than significant with mitigation |
| o Northern Segment Option 3: At-grade parallel crossing of Lassen west of tracks (Option C - Turn-Around on Vacant Lot West of Tracks) | - Sensitive uses east of railroad tracks would be buffered<br>- Lease for triangular property owned by Metro would not be renewed<br>- The access road and parking of the industrial property south of Lassen Street would be relocated and reconfigured on the triangular property or the entire property would be acquired. This would not affect the function of surrounding land uses in the area<br>- Impacts would be less than significant with mitigation |
| o Northern Segment Option 3a: One-way bus operations; northbound via | - Sensitive uses east of railroad tracks would be buffered |

| Table 4.1-3 Summary of Compatibility With Surrounding Land Uses | |
|---|---|
| at-grade parallel crossing of Lassen west of tracks and southbound via Owensmouth and Plummer (Same as Option 3) | - The access road and parking of an industrial property south of Lassen Street would be reconfigured, however this would not affect the function of the surrounding land uses in the area<br>- Impacts would be less than significant with mitigation |
| o Northern Segment Option 4: Underpass of tracks with parallel crossing of Lassen east of tracks at Old Depot Plaza Road (Same as Option 1) | - Adjacent sensitive land uses would be buffered by soundwalls, landscaping, and fences<br>- A portion of the mobile home park's property, south of Lassen Street would be acquired and the parkway and access road to the mobile home park would be reconfigured. Several mobile homes may need to be relocated for replacement parking; however this land use vacancy would not be substantially incompatible with the adjacent use.<br>- Impacts associated with the underpass would be minimal due to the negligible disruption to at-grade land uses<br>- Impacts related to partial acquisition of mobile home park property described in Section 4.2<br>- Impacts less than significant with mitigation |
| o Northern Segment Option 4a: Underpass of tracks with parallel crossing of Lassen (Same as Option 1) | - Adjacent sensitive land uses would be buffered by soundwalls, landscaping, and fences<br>- The mobile home park's property, south of Lassen Street would be acquired and the parkway and access road to the mobile home park would be reconfigured. This would not substantially alter the character of the area<br>- Impacts associated with the underpass would be minimal due to the negligible disruption to at-grade land uses<br>- Impacts related to partial acquisition of mobile home park property described in Section 4.2<br>- Impacts less than significant |
| o Northern Segment Option 5: Elevated or below grade separation of railroad tracks and Lassen (Option D - Elevated Grade Separation Option – turnaround south of Metrolink Station) | - Adjacent sensitive land uses would be buffered by walls, landscaping, and fences<br>- The parking lot south of the Chatsworth Metrolink Station would be reconfigured and parking spaces would be replaced on the vacant lot north of the Chatsworth Metrolink Station<br>- Land use impacts less than significant |

### Bus Maintenance Facility

The existing Metro Division 8 site located on the west side of Canoga Avenue north of Nordhoff Street would be reconfigured to accommodate 7 to 23 buses required by the build alternatives.

Currently, the existing Metro Division 8 operates at full capacity and in order to accommodate the additional bus maintenance, Division 8 will be modified and bus parking facilities would be located on the Metro-owned vacant lot at the northwest corner of Marilla Street and Owensmouth Avenue. This 5 acre vacant lot, adjacent to the Metro San Fernando Valley office, is located within an industrial/commercial area and fence and landscaping would screen the parking area from the street. The closest residential use to the site would be approximately 500 ft away. Considering the existing transit use and industrial nature of the area, land use impacts would not be significant.

*Mitigation Measures:*

Alternatives 3. Canoga On-Street Dedicated Bus Lanes and Alternative 4. Canoga Busway:

***MM 4.1-1***: Walls and/or fences, and landscaping shall be included in the Metro ROW buffering mobile homes and other residential units from the project along the Metro ROW.

Alternatives 3. Canoga On-Street Dedicated Bus Lanes and Alternative 4. Canoga Busway, Option 2, 2a, 3, and 3a:

***MM 4.1-2***: Metro to work with property owners of industrial buildings to determine if full acquisition of the industrial buildings would be required or if a partial acquisition could be accomplished by reconfiguring the site and parking.

Alternative 4. Canoga Busway, Option 4:

***MM 4.1-3***: Metro to work with mobile home park property owners to coordinate the design of the Busway with the reconfiguration of the access and parking to the club house and the mobile home park.

*Level of Impact After Mitigation*: Alternatives 3, Canoga On-Street Dedicated Bus Lanes and Alternative 4, Canoga Busway, Option 1 would be compatible with surrounding land uses with Mitigation Measure **MM 4.1-1**. Alternative 3 and Alternative 4 Option 2, 2a, 3 and 3a would be compatible with surrounding land uses with Mitigation **Measures 4.1-1** and **4.1-2**. Alternative 4 Option 4 would be compatible with surrounding land uses with Mitigation Measure **4.1-1** and **4.1-3**.Therefore, Mitigation Measures would reduce the impacts to less than significant for Alternatives 3 and 4.

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**Impact 4.1.2. The alternatives generally would be consistent with planned land uses and policies contained in most of the relevant plans. Alternative 2, TSM would not address policies in the Canoga - Park - Winnetka Hills - West Hills Community Plan and the Chatsworth - Porter - Ranch Community Plan related to development of the ROW for public transportation improvements and recreational uses. For the other Canoga Alternatives, the General Plan Transportation Element Secondary Highway standard would require an exception to address unique conditions along Canoga Avenue. Impacts would be less than significant with mitigation.**

The following section discusses the consistency of the alternatives described in this chapter with stated policies of each of the applicable land use planning documents. Each subsection describes how the alternatives are consistent with the relevant planning documents and consistency of the

Alternatives with Community and Specific Plan policies as applicable is further summarized in **Table 4.1-5**.

### *SCAG Regional Comprehensive Plan and Guide*

The TSM, Canoga On-Street Dedicated Bus Lanes, and Canoga Busway Alternatives are consistent with the plans and policies of the SCAG Regional Comprehensive Plan and Guide, such as its policies to link transit with higher-intensity land uses. A summary of the manner in which the alternatives are consistent is provided in **Table 4.1-4** below:

**Table 4.1-4 Consistency of the Alternatives with SCAG Regional Comprehensive Plan and Guide**

| POLICY | CONSISTENCY |
|---|---|
| Support existing or proposed local jurisdictions program aimed at designing land uses which encourage the use of transit and thus reduce the need for roadway expansion, reduce the number of auto trips and vehicle miles traveled (VMT), and create opportunities for residents to walk and bike. | All alternatives would improve transit service and support land use and transportation integration policies in existing and local plans. The TSM Alternative would expand transit service in and around the study area, but would not provide new opportunities for residents to walk and bike. The proposed north-south Canoga On-Street Dedicated Bus Lanes Alternative and Canoga Busway Alternative would be very supportive of local transportation and land use integration policies. Transit use would increase with the expansion of the MOL service, both along the Busway or on-street. The Canoga On-Street Dedicated Bus Lanes and Canoga Busway Alternative proposes a multiuse path (bikeway/pedestrian path), which would encourage residents within the study area to walk and bike. |
| Encourage local jurisdiction plans that maximize the use of existing urbanized areas accessible to transit through infill and redevelopment. | All alternatives would provide increased transit service through the northern portion of the San Fernando Valley, including areas with potential infill development and redevelopment. The improved transit services could provide opportunities for potential transit-supportive uses in the area. |
| Support local plans to increase density of future development located at strategic points along regional commuter rail, transit systems, and activity centers. | This project does not include an increase of density at stations. The TSM alternative would spread transit service across multiple corridors, reducing the intensity of activity at any one station. This in turn would be relatively less supportive of future increased density development at stops. This alternative would not address this policy.<br><br>The Canoga On-Street Dedicated Bus Lanes Alternative and Canoga Busway Alternative were developed to take advantage of local land use patterns. Several of the stations would be located in areas that could accommodate increased density, including |

| Table 4.1-4 Consistency of the Alternatives with SCAG Regional Comprehensive Plan and Guide | |
|---|---|
| **POLICY** | **CONSISTENCY** |
| | Roscoe, Sherman Way, and Chatsworth Station. |
| Support local jurisdiction strategies to establish mixed-use clusters and other transit-oriented developments around transit stations and along transit corridors. | The TSM alternative would spread transit service across multiple corridors, reducing the intensity of activity at any one station. This in turn would be relatively less supportive of mixed-use development at stops.<br>The Canoga On-Street Dedicated Bus Lanes Alternative and Canoga Busway Alternative would provide enhanced transit service which would support the growth & management and land use strategies. |
| Encourage developments in and around activity centers, transportation corridors, underutilized infrastructure systems, and areas needing recycling and redevelopment. | The TSM Alternative would provide only minor support for this policy.<br>The Canoga On-Street Dedicated Bus Lanes Alternative and Canoga Busway Alternative would be consistent with these land use policy by using the currently underutilized Metro ROW for transportation purposes and locating stations in activity centers or in areas which have the potential to be redeveloped or "recycled" as described above. |
| Support and encourage settlement patterns that contain a range of urban densities. | All alternatives would increase accessibility to commercial and activity centers. However, the Canoga On-Street Dedicated Bus Lanes Alternative and Canoga Busway Alternative may provide more opportunities to include a range of urban densities around the transit corridor, where appropriate, as described above. |

### *SCAG Regional Transportation Plan*

The Plan focuses on improving mobility and accessibility for all people in the region. All build alternatives i.e. TSM, Canoga On-Street Dedicated Bus Lanes and Canoga Busway Alternatives would help expand transit ridership in and around the proposed alignments. All build alternatives would help improve the mobility and accessibility for people in the area and would be consistent with the SCAG Regional Transportation Plan. The Canoga On-Street Dedicated Bus Lanes Alternative and Canoga Busway Alternative would be consistent with the Plan's policy to build on the success of existing BRT lines and to connect major activity centers.

### *SCAG Compass Blueprint 2% Strategy*

The Canoga Transportation Corridor ROW has been identified by SCAG as part of the 2% Opportunity Area, and on area in which modest changes to land use and transportation is recommended**.** All build alternatives i.e. TSM, Canoga On-Street Dedicated Bus Lanes, and Canoga Busway are consistent with SCAG's 2% Strategy as a new transportation facility planned for the corridor. The Metro ROW would be available for change in land uses, if the current City of Los Angeles Plans and PF zoning are modified later by others as part of another project.

### *City of Los Angeles General Plan Framework*

The General Plan Framework identifies, and provides incentives for growth in commercial and mixed-use centers, along boulevards, industrial districts, and in proximity to transportation corridors and transit stations. The Framework identifies Warner Center as a "Regional Center"; Downtown Canoga Park as a "Community Center"; and Topanga Canyon Boulevard, between Vanowen Street and Saticoy Street as a "Mixed Use Boulevard"; and Devonshire Street between Topanga Canyon Boulevard and De Soto Avenue as a "Community Center" and "Mixed-Use Boulevard".

The TSM, Canoga On-Street Dedicated Bus Lanes, and Canoga Busway Alternative would be consistent with the plan's policies of providing access to Warner Center, Downtown Canoga Park, and Devonshire Street.

### *City of Los Angeles General Plan Transportation Element*

Canoga Avenue or the Corridor is not shown as a Transit Priority arterial or designated as a bikeway. However, the Community Plans do recognize the corridor for a transportation facility. The City of Los Angeles General Plan Transportation Element designates Canoga Avenue as a Secondary Highway which requires a right-of-way of 90 ft and includes four travel lanes, curb parking, and sidewalk/parkway areas. Currently, Canoga Avenue is widened to full right-of-way on the west side. However, along most of the corridor on the east side, adjacent to the Metro ROW the street is widened to accommodate the travel lane, but not the parking lane and sidewalk. An exception to the design standards contained within the Transportation Element to address unique conditions on Canoga Avenue and transit stations is being coordinated with several departments of the City of Los Angeles.

The TSM Alternative, with a new local bus service on Canoga Avenue within the existing street pavement would not require a change to Canoga Avenue, and it would not preclude widening to Secondary Highway Standards in the future. This Alternative would be consistent with the General Plan Transportation Element.

The Canoga On-Street Dedicated Bus Lanes Alternative would require widening the pavement into the Metro ROW for a dedicated bus lane and a bikeway/pedestrian path. Parking would not be provided on both sides of Canoga Avenue as it would conflict with bus traffic in the dedicated lane. A sidewalk on the east side would be redundant to a parallel bikeway/pedestrian path along the Metro ROW and north of Plummer Street adjacent to the Metrolink tracks, there is insufficient ROW to provide a Secondary Highway cross section for the dedicated lanes and the bikeway. For these reasons, this alternative currently does not fully address the Secondary Highway Standard requiring a relief from or a modification of the standard for this unique condition on Canoga Avenue.

The Canoga Busway Alternative would not widen the west or east side of Canoga Avenue for a curb parking or a sidewalk. Instead it would place the Busway and bikeway/pedestrian path within the Metro ROW and Canoga Avenue would generally remain as existing. At stations, the full 100 ft Metro ROW is necessary to implement the MOL Station concept leaving no space for curb parking on the west side of Canoga Avenue. Even though, the bikeway/pedestrian path near the curb would function similar to the Secondary Highway sidewalk, this alternative currently does not fully address the Secondary Highway Standard in the Transportation Element. Also, north of Plummer Street the available width of Canoga Avenue ROW plus the Metro ROW is constrained by the Metrolink/Amtrak/Freight tracks. To accommodate two travel lanes on Canoga Avenue, the Busway, and bikeway a relief from the standard is required or a modification of the standard for this unique location.

### *City of Los Angeles Community and Specific Plans*

The Canoga Park - Winnetka Hills - West Hills Community Plan recognizes the Metro ROW as an important development opportunity for a variety of public transportation improvements including light-rail or Busway, and recreational uses in the form of bike/walking/equestrian trails. The Chatsworth-Porter Ranch Community Plan recognizes the Metro ROW for rail transit purposes. The TSM Alternative would be inconsistent with the Canoga-Park - Winnetka Hills - West Hills Community Plan and the Chatsworth Porter Ranch Community Plan as by definition it would preclude development of rail or Busway in the Metro ROW. This would result in a significant impact for the TSM Alternative.

The Canoga On-Street Dedicated Bus Lanes Alternative would be consistent with the Canoga Park - Winnetka Hills - West Hills Community Plan and the Chatsworth-Porter Ranch Community Plan as the initial alternative would contain the Busway, bikeway/pedestrian path, and landscaping and in the future a high capacity urban rail could run on the landscaped Metro ROW.

The Canoga Busway Alternative would be consistent with the Canoga Park - Winnetka Hills - West Hills Community Plan and Chatsworth-Porter Ranch Community Plan for the Metro ROW. It would not preclude the establishment of a high capacity urban rail system in the future as the Busway would be designed with horizontal and vertical curves to support rail.

The TSM Alternative would be consistent with the Warner Center Specific Plan as it would not introduce any major changes to the area. The existing Canoga park-and-ride was constructed under the Warner Center Specific Plan. It has a setback of 20 ft which includes a 10 ft sidewalk and 10 ft landscaping instead of the 40 ft setback in the Plan. The Canoga On-Street Dedicated Lane and Canoga Busway Alternative would require a setback relief to accommodate the bikeway/pedestrian path and retain the maximum number of park and ride spaces.

All Alternatives are consistent with the Devonshire/Topanga Canyon Corridor Specific Plan.

### *Community Design Overlay Districts and Streetscape Plans*

None of these Plans primarily along Sherman Way include the Metro ROW along Canoga Avenue or the public right-of-way of Canoga Avenue. However, these Plans do include the area within 500 ft of Canoga Avenue. The TSM Alternative runs along Sherman Way in mixed flow and includes no

physical improvements. Nevertheless, the TSM Alternative would be consistent with the various plan's overall goal of improving the appearance of the public realm.

None of the Plans are relevant to the Canoga On-Street Dedicated Bus Lanes Alternative and Canoga Busway Alternative. However, these alternatives would be consistent with the overall goal of these plans of improving the appearance of the area.

Consistency of the Alternatives with Community and Specific Plan policies as applicable is summarized in **Table 4.1-5** below:

**Table 4.1-5 City of Los Angeles Community and Specific Plan Policy Impact Analysis**

| Plan Name | TSM Alternative | Canoga On-Street Dedicated Bus Lanes Alternative | Canoga Busway Alternative |
|---|---|---|---|
| Chatsworth-Porter Ranch Community Plan (Adopted September 1993; map revised June 2000) | The Alternatives would be inconsistent as it would preclude the construction of Busway or rail along the Metro ROW. | The Alternative would be consistent with the plan's policies of establishing a high capacity urban rail system in the future, as rail could run on the remaining Metro ROW. | Similar to MOL the Alternative would run on an exclusive ROW and could be converted to a rail system in the future as the Busway is primarily designed with horizontal and vertical curves to support light rail. |
| Canoga Park - Winnetka - Woodland Hills - West Hills Community Plan (Updated August 1999) | The Alternatives by its intent would preclude the construction of Busway or rail along the Metro ROW. This would result in a significant impact for the TSM Alternative. | The Alternative would generally be consistent with the plan's policies of increasing transit service and protecting existing communities in the area. | The Alternative would generally be consistent with the plan's policies of increasing transit service and protecting existing communities in the area. |
| Warner Center Specific Plan (last updated October 2002) | The TSM Alternative would be consistent with the Warner Center Specific Plan as it would not introduce any major changes to the area. | This Alternative would require a reduced setback requirement for parking to accommodate the bikeway/pedestrian path and retain existing park and ride spaces. Similar to the Setback relief provided for the existing MOL | This Alternative would require a Setback relief to accommodate the bikeway/pedestrian path and retain existing park and ride spaces. |
| Devonshire/ Topanga Corridor Specific Plan (adopted September 1993) | The Alternative would be consistent with the plan's goals regarding commercial development patterns in the plan area. | The Alternative would be consistent with the plan's goals regarding commercial development patterns in the plan area. | The Alternative would be consistent with the plan's goals regarding commercial development patterns in the plan area. |

| Table 4.1-5 City of Los Angeles Community and Specific Plan Policy Impact Analysis | | | |
|---|---|---|---|
| **Plan Name** | **TSM Alternative** | **Canoga On-Street Dedicated Bus Lanes Alternative** | **Canoga Busway Alternative** |
| Community Design Overlay Districts and Streetscape Plans | The Alternative would include no physical improvements along Sherman Way, but would not be considered inconsistent with these plans. | None of the Plans include the Metro ROW or Canoga Avenue, so Plans are not applicable. | None of the Plans include the Metro ROW or Canoga Avenue, so Plans are not applicable. |

### *City of Los Angeles Municipal Zoning Code*

The City of Los Angeles Municipal Zoning Code designates the existing Metro ROW as Public Facility (PF). As a transportation facility, the Canoga On - Street Dedicated Bus Lanes Alternative and the Canoga Busway Alternative are consistent with the designation.

### *Los Angeles River Revitalization Master Plan*

All build alternatives are consistent with the Los Angeles River Revitalization Master Plan. For the Canoga On-Street Dedicated Bus Lanes Alternative and Canoga Busway Alternative, portions of the Metro ROW near the river could be used in the future to develop open spaces for recreation and water recharge adjacent to the Los Angeles River, as recommended by Los Angeles River Revitalization Master Plan. However, portions of the current leased areas near the Los Angeles River would not be renewed. The Canoga On-Street Dedicated Bus Lanes Alternative and Canoga Busway Alternative would not preclude future connections with the proposed bikeways along the Los Angeles River, assuming that it is technically feasible to locate bikeways below the existing and new Canoga bridges.

### *Reseda Canoga Park Redevelopment Plan*

All build alternatives are consistent with the Reseda Canoga Park Redevelopment Plan. All alternatives would provide for new or additional transit service in a redevelopment area, this can help address some of the concerns underlying redevelopment effort. This could include economic development (job creation), or improving mobility of the citizens living in the area. The Canoga On-Street Dedicated Bus Lanes and Canoga Busway Alternative would remove some commercial and industrial businesses plus some businesses in the ROW (See Figure 3.4 and Figure 3.21) however, both alternatives would improve the quality of life and environment and create a positive image in the area with the new transit facilities and landscaping.

### Bus Maintenance Facility

The bus maintenance facility would be located on land zoned for Public Facilities i.e. PF. A transportation facility would be consistent with the designation and various applicable plans in the area.

*Mitigation Measures:*

Alternative 2. TSM Alternative:

***MM 4.1-4:*** For the TSM Alternative, the Canoga Park- Winnetka Hills - West Hill Community Plan and the Chatsworth Porter - Rancho Community Plan policies would need to be amended to remove goals, objectives, and/or policies that call for transportation improvements in the ROW, when the City updates this plan.

Alternatives 3. Canoga On-Street Dedicated Bus Lanes and Alternative 4. Canoga Busway:

***MM 4.1-5***: Due to unique conditions along Canoga Avenue, a request from the City for relief from the Secondary Highway Standards shown in the cross-sections in the City of Los Angeles Transportation Element needs to be secured. The modification would include dedicated bus lanes, the elimination of parking on the street, and a substitution for a standard City sidewalk for a multi-purpose bikeway/pedestrian path to be developed to Metro standards and landscaping adjacent to Canoga Avenue.

***MM 4.1-6***: A modification of the Chatsworth - Porter Ranch Community Plan shall be made to change the text to read a high capacity urban rail or "premium bus" system when the City updates this Plan.

*Level of Impact After Mitigation:* Implementation of Mitigation Measures **MM4.1-4** and **MM 4.1-5** would result in less than significant impacts under Alternatives 3 and 4.

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**Impact 4.1.3. The project build alternatives would increase the likelihood of redevelopment on adjacent land at higher intensities. Further study and approval from the City of Los Angeles would be required before specific development changes could be identified and analyzed. Mitigation measures would ensure that impacts remain below a level of significance.**

For this analysis, the existing Community Plans land use designations were analyzed to determine the potential for intensification of existing land uses in the project area. The 2030 SCAG land use data used in the traffic demand model projects for the study area indicates a 16.7% increase in population, a 26.3% increase in housing units and a 24% increase in employment. This intensification of uses would likely occur near stations on private properties within current local land use plans and zoning, especially in the Warner Center area and on large commercial and industrial parcels in the study area.

The Community Plans currently indicate the mobile home park near Lassen Street as industrial use and anticipate some intensification of residential between Parthenia Street and Nordhoff Street and near Roscoe Boulevard.
Depending on the Alternative, the Metro ROW would include park-and-ride lots, landscaped areas, and areas which would remain leased for storage and industrial uses. In the future, land use of these surface parking lots, landscaped areas, and leased land could change in response to specific proposals. It would be speculative and not reasonably foreseeable to identify any change in land use or intensity beyond current plans at this time. The project site including the new station sites currently are zoned PF, which does not allow for development other than public facilities.

The City of Los Angeles, SCAG in its Compass Blueprint 2% Strategy, and Metro have policies to encourage transit-oriented development within ¼ mile of transit corridor stations. In addition, the Los Angeles River Revitalization Master Plan recognizes the area extending from Canoga Avenue to Owensmouth Avenue as one of the five opportunity areas selected for more detailed development of an opportunity concept. No development was shown on Metro ROW by the Los Angeles River Revitalization Plan. Some rezoning of parcels has recently occurred in the study area converting industrial properties to multi-family residential near the Canoga Station and in the Warner Center area. However, the City has not yet begun to implement any land use and intensity changes in this area to reflect transit-oriented concepts and it would be speculative to attempt to predict if and the amount of additional intensification of land use or changes of land use from City Community Plans that may be made in the future along this corridor. The City makes land use changes to its plans through a lengthy process considering factors such as market conditions, existing land uses conditions, community input, and separate environmental assessments for each plan or developer proposal. Growth in the 2030 SCAG projections considered Community Plans. Nevertheless, mitigation measures are included to address unforeseen intensification of land uses around the stations.

The following analysis identifies the potential for additional growth in the areas around proposed stations.

## Alternative 2. TSM

No bus stations are associated with the TSM Alternative other than the existing stops and local stops on Canoga Avenue. The local bus stops, as would be constructed for the TSM would not stimulate development to a level inconsistent with applicable planned local land use designations nor would they focus development around transit facilities as called for in the General Plan Framework and Transportation Element. For the TSM Alternative, private property would not be acquired for stations or park-and-ride lots and Metro owned land would not be used for potential future joint development, limiting the potential for new development other than development already permitted in City Plans.

## Alternative 3. Canoga On-Street Dedicated Bus Lanes and Alternative 4 Canoga Busway

Station area development potential related to Canoga On-Street Dedicated Bus Lanes Alternative and Canoga Busway Alternative area discussed below:

- **Chatsworth Metrolink Station** – Existing land uses in the ¼ mile radius of the station include existing industrial uses and industrial uses currently under construction along Remmet Avenue. Existing multi-family residential west of Remmet Avenue is developed close to the City plan's intensity. The existing single-family neighborhoods are typically built out to the level permitted by the prevailing R-1 zoning and only minimal future development would be expected in these areas. Due to current City policies regarding preservation of single-family, it is not likely that existing single family neighborhoods would be redeveloped as more intensive uses. Land use intensification and redevelopment could occur on industrial properties along Lassen Street and on commercially designated properties near Devonshire Street. A review of the aerial photographs indicates these properties appear to be underutilized relative to the zoning. Intensification of these properties would not be out of character with the surrounding area as long as landscaped buffers and a transition in height occur adjacent to residential development. The vacant Metro property adjacent to the Chatsworth Metrolink Station could be developed,

however it is currently zoned for public facilities and would require a General Plan amendment and zone change for development which would be subject to project specific environmental analysis. Impacts to this station area would not be significant.

- **Nordhoff Station Area –** The station area contains the Metro Bus Division 8 which would remain and have only minor modifications as discussed under Bus Maintenance Facility. The predominant existing development within a quarter mile area is industrial. According to the current Community Plans designation, selected portions of this developed area have potential to be redeveloped at higher intensities. The mobile home park, zoned in the Community Plan at an intensity of R3, could intensify to Community Plans intensities, but this would not be inconsistent within the existing character of the area. No significant impacts are anticipated.

- **Parthenia Station Area (Optional) –** The predominant land uses in this station area are mobile home parks, single and multi-family residential. The Community Plan indicates some intensification of residential along Parthenia Street and in the mobile home park. Intensification of these uses along the street and adjacent to the open area of the Metro ROW would not be out of character with the multi-family development in the area. Due to the consistency of the potential development with the existing character, no significant impacts are anticipated.

- **Roscoe Station Area –** Development within a quarter mile of the Roscoe Station includes a wide range of land uses including single and multi-family residential, auto sales lots, light industrial uses, and several larger big box uses with surface parking. Single and multi-family residential north of the station are built out and are not expected to experience a substantial change in the intensity of development as a result of the proposed project. Intensification of the big box retail or other commercial uses, north of Roscoe, could occur.

- **Sherman Way –** Existing land uses within a quarter mile of the station are a mix of commercial, limited industrial, and single and multi-family residential. Commercial and industrial uses are predominant with also a considerable amount of land devoted to multi-family residential. The commercial/ industrial uses are generally developed to the potential permitted by the current plan considering the surface parking. The overall land use character of this commercial/industrial area is not likely to change with construction of the station. The proposed park-and-ride lot within the Metro ROW may represent an opportunity for development in the future, if a Community Plan and zone change from Public Facilities was obtained in the future. A number of Plans guide the development of this area and future development would likely be consistent with these Plans.

- **Canoga Station –** This area is dominated by large scale industrial properties. A few have recently been converted to large scale multi-family development. The Warner Center Specific Plan is now being updated by the City of Los Angeles and conversion of these uses and impacts will be addressed as a part of this planning process including environmental analysis. No significant land use impacts are anticipated due to the consistency of the potential development with existing land use and the applicable Plans in the area.

*Mitigation Measures*

Alternatives 3. Canoga On-Street Dedicated Bus Lanes and Alternative 4. Canoga Busway:

***MM 4.1-7***: Metro and the City of Los Angeles shall coordinate on any proposed transit-oriented projects or any change in land use designation or zoning change that are within ¼ mile of a station by reviewing projects and environmental assessments for potential transit linkages to the stations, the mix of uses, and other conditions that would increase transit usage and reduce potential land use impacts.

***MM 4.1-8***: Any future joint use proposal made on the Metro ROW shall provide measures to protect adjacent sensitive uses including such measures as landscaped setbacks, walls, fences, lighting that does not spill over into neighborhoods, parking management to avoid spill over parking in the neighborhoods, clearly defined pathways to the stations, varied building massing and height transition for compatibility with adjacent development, and special attention to enhance pedestrian environment.

***Level of Impact After Mitigation***: Impacts of potential station area growth would be less than significant under build Alternatives. However, additional Mitigation Measures **MM 4.1-6** and **4.1-7** have been provided for coordination with the City of Los Angeles for any future planning of the area.

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**Impact 4.1.4. Construction of the build alternatives would result in temporary disruptions to the existing land use in the area, however the land use impacts of construction would not be significant and no additional mitigation measures for land use are required other than traffic congestion, access, parking, and air quality listed in Sections 4.7 through 4.9.**

Alternative 1. No Project

The No Project Alternative would not include construction activity. Therefore, surrounding land uses would not be affected, and construction impacts would not occur.

Alternative 2. TSM

The TSM Alternative would only involve minor fixed facility construction. No significant land use impacts of construction are anticipated.

Alternative 3. Canoga On-Street Dedicated Bus Lanes

This Alternative features an on-street profile and would require reconstruction of Canoga Avenue to accommodate additional bus lanes, bikeway/pedestrian path, stations and other transit amenities. Station construction would involve installing the station furnishings, such as canopies, railings, lighting, signage and ticket vending machines which would require some altering of sidewalk pavement width, as described in the Section 3.4. Stations could be constructed simultaneously with the various segments of the alignment. However, the contractor may elect to construct them sequentially. The existing ROW would be cleared of tracks, billboards, and most leases/businesses. A bikeway/pedestrian path and landscaping would be installed on the Metro ROW.

During construction, access to retained leases, businesses, neighborhoods, visitors, and emergency services personnel could be affected by street or driveway closures or detour. Access to the neighborhoods, businesses or retained leases may be detoured for short period of time during construction, but access would continue to be available. Construction would be in phases to allow the maximum room for traffic movement and detour. Curb parking will be eliminated when traffic lanes are closed due to the construction activities. This would affect accessibility to the businesses in the area. Construction impacts specifically related to parking are discussed in Section 4.9.

No significant land use impacts of construction for this alternative are anticipated.

Alternative 4. Canoga Busway

The alternative features an at-grade profile, except for Northern Segment Options 4 and 5. The existing Metro ROW would be cleared of existing tracks, most leases/businesses, and billboards. New paving, walls, station structures, bridges, traffic control equipment, curbs and gutters, and landscaping would be installed along the entire length of the ROW.

Construction for this alternative would occur within Metro ROW and intersecting streets, where it would be compatible with surrounding industrial/commercial nature of the area, typically south of Roscoe Boulevard. Along some portions of the alignment, construction would occur near residential neighborhoods. Although construction activities would be located within Metro ROW, construction activities would be incompatible with these residential uses due to increased traffic congestion, noise and vibration, and decreased visual quality. However, these impacts would be mitigated as discussed in Sections 4.6 through 4.9. Access to the neighborhoods or retained leases may be detoured for short period of time during construction, but access would continue to be available. Impacts related to construction of the proposed Project would be temporary and have no significant land use impacts from construction with mitigation required in other Sections of the DEIR. Construction impacts of Northern Segment Options would affect mobile home residents on the east side of the Metrolink tracks and industrial park uses due to disruption from reconfiguring parking and access.

### *Mitigation Measures*

None required

***Level of Impact After Mitigation***: Construction impacts would be less than significant for each alternative.

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### Impact 4.1.5. The proposed project would not result in a potentially significant cumulatively considerable impact to land uses within the project area and no mitigation is required.

The SCAG RTP contains growth management policies to maximize mobility and accessibility in the region to encourage land-use and growth patterns that complement the regional transportation system. Based on SCAG's review of this project during the scoping process for this EIR, the proposed project is consistent with the SCAG RTP. The travel demand model includes land use assumptions to 2030.

The Canoga Transportation Corridor would be compatible with surrounding land uses and would serve to link regional activity centers within the area. The Canoga Corridor is designated as a growth area in the SCAG Compass Plan. The transit project would potentially support the intensification of community plan designated land uses. Any proposals for intensification are beyond the scope of the Metro proposed transit project and would require separate environmental review on a case-by-case basis. The cumulative effects are speculative and have only been addressed in general terms in the Community Plan EIRs and in the environmental review of SCAG's Regional Comprehensive Plan (RCP) and related plans.

### *Mitigation Measures*

None required

***Level of Impact After Mitigation***: Less than significant.

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# 4.2 LAND ACQUISITION, DISPLACEMENT AND RELOCATION

This section addresses the land ownership and leasing agreements that would change due to the Canoga Transportation Corridor Project. Although the proposed project would primarily be located within the Metro-owned right-of-way (ROW), this analysis discusses the proposed project's impacts to persons and businesses with leases of Metro-owned property and to privately-owned properties outside of the Metro ROW.

## 4.2.1 EXISTING SETTING

The Canoga Transportation Corridor would primarily be located within the former railroad ROW, which Metro acquired from the Southern Pacific Transportation Company in 1991. As part of this process, Metro inherited lease agreements entered into by the railroad. Since acquiring the ROW, Metro has entered into additional land leases and has granted additional temporary easements. A number of commercial and industrial businesses along the Metro ROW entered into lease agreements to expand their sites for parking, storage, and/or building improvements.

The property leases that were entered into by Metro since acquiring the ROW have generally been short-term (i.e., month-to-month). As shown in **Table 4.2-1**, there are a total of 93 leases within the Metro ROW. All of the 41 lease agreements Metro inherited from the Southern Pacific Transportation Company are month-to-month except for one, and all but two of the 52 lease agreements Metro has entered into since acquiring the ROW are month-to-month.[1] Therefore, approximately 97 percent of the leases within the Metro ROW are on a month-to-month basis, while only three percent are annual or longer-term leases.

**Table 4.2-1: Metro ROW Lease Summary**

| Type of ROW Use | Total | Pre-Acquisition of ROW (Before 1991) | Post-Acquisition of ROW (After 1991) | Lease Terms | |
|---|---|---|---|---|---|
| | | | | Month-to-Month | Annual or Longer-term |
| Signs & Billboards | 25 | 23 | 2 | 25 | 0 |
| Ground Leases | 60 | 18 | 42 | 57 | 3 |
| Licenses & Easements | 8 | 0 | 8 | 8 | 0 |
| **TOTAL** | **93** | **41** | **52** | **90** | **3** |
| **PERCENT** | **100.0%** | **44.1%** | **55.9%** | **96.8%** | **3.3%** |

**SOURCE:** Metro Real Estate Department and TAHA, 2007

Along Canoga Avenue, the Metro ROW varies from 65 to 275 ft. with a typical width of 100 ft. The 65-foot portion, a short segment north of Sherman Way, is directly behind a recently built strip shopping center with parking facing Canoga Avenue. The 275-foot portion of the Metro ROW is located south of Sherman Way and north of Vanowen Street. North of Plummer Street, the Metro ROW is limited and the Amtrak/Metrolink/Freight tracks are still in operation. Canoga Avenue narrows from two lanes in each direction to one lane in each direction. Generally, south of Roscoe Boulevard, the Metro ROW is used for industrial and commercial leases or vehicle storage, and tracks have been removed in certain areas. **Table 4.2-2** identifies the tenant, location, current land use, and lease terms of the existing outdoor advertising sign and ground lease agreements and the licenses and easements along the Metro ROW.

[1]The long-term lease with Canoga Self Storage was inherited and expires on September 10, 2025. Metro entered into long-term leases with three tenants (Chatsworth Storage, LLC, Dale Plaine, Inc., and Steve Port & Miranda Properties, LLC). The long-term lease with Chatsworth Storage, LLC expired in 1995. This lease is now month-to-month and it can be terminated with 180 days notice. The leases with Dale Plaine, Inc. and Steve Port & Miranda Properties, LLC expire on December 31, 2009 and August 31, 2009, respectively. These two leases can be terminated with 180 days notice.

Although the proposed project would primarily be located within the Metro ROW, both the Canoga On-Street Dedicated Bus Lanes Alternative and the Canoga Busway Alternative would require acquisition of privately owned properties outside of the Metro ROW.

**Table 4.2-2: Lease Agreements along the Metro ROW**

| Tenant | Approximate Location/Cross Streets | Current Land Use | Lease Terms |
|---|---|---|---|
| **SIGNS AND BILLBOARDS** | | | |
| 1. Vista Media | Canoga Avenue & Hart Street | Advertising Sign Board | Month-to-Month |
| 2. Clear Channel Outdoor, Inc. | Canoga Avenue & Hart Street | Advertising Sign Board | Month-to-Month |
| 3. Clear Channel Outdoor, Inc. | Canoga Avenue & Hart Street | Advertising Sign Board | Month-to-Month |
| 4. Clear Channel Outdoor, Inc. | Canoga Avenue & Vanowen Street | Advertising Sign Board | Month-to-Month |
| 5. CBS Outdoor Group, Inc. | Canoga Avenue & Deering Avenue | Advertising Sign Board | Month-to-Month |
| 6. Clear Channel Outdoor, Inc. | Canoga Avenue & Basset Street | Advertising Sign Board | Month-to-Month |
| 7. CBS Outdoor Group, Inc. | Canoga Avenue & Cohasset Street | Advertising Sign Board | Month-to-Month |
| 8. Clear Channel Outdoor, Inc. | Lassen Avenue & Right-of-Way | Advertising Sign Board | Month-to-Month |
| 9. CBS Outdoor Group, Inc. | Canoga Avenue & Saticoy Street | Advertising Sign Board | Month-to-Month |
| 10. Clear Channel Outdoor, Inc. | Canoga Avenue & Strathern Street | Advertising Sign Board | Month-to-Month |
| 11. Clear Channel Outdoor, Inc. | Canoga Avenue & Saticoy Street | Advertising Sign Board | Month-to-Month |
| 12. CBS Outdoor Group, Inc. | Canoga Avenue & Strathern Street | Advertising Sign Board | Month-to-Month |
| 13. CBS Outdoor Group, Inc. | Canoga Avenue & Wyandotte Street | Advertising Sign Board | Month-to-Month |
| 14. Clear Channel Outdoor, Inc. | Canoga Avenue & Owensmouth Street | Advertising Sign Board | Month-to-Month |
| 15. Clear Channel Outdoor, Inc. | Canoga Avenue & Roscoe Boulevard | Advertising Sign Board | Month-to-Month |
| 16. Clear Channel Outdoor, Inc. | Canoga Avenue & Stathern Street | Advertising Sign Board | Month-to-Month |
| 17. CBS Outdoor Group, Inc. | Canoga Avenue & Santa Susana | Advertising Sign Board | Month-to-Month |
| 18. CBS Outdoor Group, Inc. | Canoga Avenue & Santa Susana | Advertising Sign Board | Month-to-Month |
| 19. CBS Outdoor Group, Inc. | Canoga Avenue & Roscoe Boulevard | Advertising Sign Board | Month-to-Month |
| 20. CBS Outdoor Group, Inc. | Canoga Avenue & Saticoy Street | Advertising Sign Board | Month-to-Month |
| 21. Vista Media | Canoga Avenue & Parthenia Street | Advertising Sign Board | Month-to-Month |
| 22. CBS Outdoor Group, Inc. | Canoga Avenue & Right-of-Way in Chatsworh Avenue | Advertising Sign Board | Month-to-Month |
| 23. Clear Channel Outdoor, Inc. | Lassen Avenue & Right-of-Way | Advertising Sign Board | Month-to-Month |
| 24. CBS Outdoor Group, Inc. | Canoga Avenue & Vanowen Street | Advertising Sign Board | Month-to-Month |
| 25 Clear Channel Outdoor, Inc. | Canoga Avenue & Hart Street | Advertising Sign Board | Month-to-Month |
| **GROUND LEASES** | | | |
| 1. Green Scene Inc. | Canoga Avenue & Vanowen Street | Landscape Business | Month-to-Month |
| 2. Jacobi Building Materials | Vanowen Street & Canoga Avenue | Building Materials & Stones | Month-to-Month |
| 3. National Ready Mixed Services Company | Canoga Avenue & Hart Street | Concrete Processing Plant | Month-to-Month |
| 4. National Ready Mixed Services Company | Canoga Avenue & Basset Street | Private Driveway | Month-to-Month |
| 5. Auto Lenders Group, Inc. | Canoga Avenue & Basset Street | Truck Parking | Month-to-Month |
| 6. Masonry Club | Canoga Avenue & Basset Street | Retail/Wholesale Building Materials & Stone | Month-to-Month |
| 7. California Portland Cement Company | Deering Avenue & Hart Street | Cement Processing Plant | Month-to-Month |

| Table 4.2-2: Lease Agreements along the Metro ROW | | | |
|---|---|---|---|
| 8. Cruz, Jose | Deering Avenue & Gault Street | Vehicle & Equipment Storage | Month-to-Month |
| 9. Dale Plaine Inc. | Sherman Way & Deering Avenue | Storage/Rental/Wholesale of Building Materials | 36 months/a/ Expires 12/31/09 |
| 10. Steve Port & Miranda Properties, LLC | Canoga Avenue & Sherman Way | Various Commercial, Retail & Storage Uses | 36 Months/a/ Expires 8/31/09 |
| 11. Auto Lenders Group Inc. | Sherman Way & Deering Avenue | Vehicle Storage | Month-to-Month |
| 12. Steve's Jaguar Service & Repair | Deering Avenue & Sherman Way | Vehicle Storage | Month-to-Month |
| 13. O.K. Wholesale | Sherman Way & Deering Avenue | Vehicle Storage | Month-to-Month |
| 14. Allied Masonry & Construction, Inc. | Sherman Way & Deering Avenue | Parking & Vehicle Storage | Month-to-Month |
| 15. Allied Masonry & Construction, Inc. | Canoga Avenue & Valerio Street | Materials Storage | Month-to-Month |
| 16. A & J Automotive | Sherman Way & Deering Avenue | Parking & Vehicle Storage | Month-to-Month |
| 17. Valley Pacific Frame & Suspension | Sherman Way & Deering Avenue | Parking & Vehicle Storage | Month-to-Month |
| 18. Shirley, Howard E. | Canoga Avenue & Deering Avenue | Parking & Storage | Month-to-Month |
| 19. Advance Landscape 2000, Inc. | Canoga Avenue & Wyandotte Street | Vehicle & Equipment Storage | Month-to-Month |
| 20. Grand National Auto Body | Deering Avenue & Sherman Way | Auto Storage & Parking | Month-to-Month |
| 21. Thermo Mechanical Systems | Deering Avenue & Sherman Way | Storage | Month-to-Month |
| 22. 699 Rent-A-Car | Canoga Avenue & Wyandotte Street | Vehicle Storage | Month-to-Month |
| 23. Star Landscape | Canoga Avenue & Valerio Street | Vehicle & Equipment Storage | Month-to-Month |
| 23. EH Excavation, Inc. | Canoga Avenue & Valerio Street | Vehicle & Equipment Storage | Month-to-Month |
| 25. Sunny Landscape | Canoga Avenue & Valerio Street | Equipment Storage | Month-to-Month |
| 26. Harold R. Brazee Company | Canoga Avenue & Valerio Street | Equipment Storage | Month-to-Month |
| 27. Edward Estey | Canoga Avenue & Valerio Street | Truck Rental & Parking | Month-to-Month |
| 28. Ambert Industries, Inc./BG's Big Box | Deering Avenue & Saticoy Street | Bin Storage & Parking | Month-to-Month |
| 29. Pyramid Pipe & Supply Company | Deering Avenue & Valerio Street | Plumbing Supply Company | Month-to-Month |
| 30. Canoga Sheet Metal Products, Inc | Deering Avenue & Cohasset Street | Parking & Storage | Month-to-Month |
| 31. William Galvin Custom Painting | Deering Avenue & Valerio Street | Parking & Storage | Month-to-Month |
| 32. Estey, Edward | Canoga Avenue & Cohasset Street | Truck Rental & Parking | Month-to-Month |
| 33. Pet Adoption Fund | Deering Avenue & Cohasset Street | Animal Exercising & Storage | Month-to-Month |
| 34. Green Light Enterprises, Inc. | Valerio Street & Saticoy Street | Vehicle Storage | Month-to-Month |
| 35. Canoga Imports | Canoga Avenue & Saticoy Street | Used Car Sales | Month-to-Month |
| 36. Edward Estey | Canoga Avenue & Saticoy Street | Truck Rental & Storage | Month-to-Month |
| 37. Estey, Edward | Canoga Avenue & Saticoy Street | Truck Rental & Parking | Month-to-Month |
| 38. Grand American Tire | Deering Avenue & Saticoy Street | Parking & Maintenance | Month-to-Month |
| 39. Canoga Self Storage | Canoga Avenue & Saticoy Street | Public Storage and Parking | Long Term Lease Expires 9/20/25 |
| 40. Valley Industrial Electric Company | Deering Avenue & Saticoy Street | Parking & Storage | Month-to-Month |
| 41. Trugreen Landcare | Deering Avenue & Saticoy Street | Storage of Trucks Bins & Materials | Month-to-Month |
| 42. Feinberg Irrev. Marital Trust | Canoga Avenue & Ingomar Street | Used Car Sales & Auto Repair | Month-to-Month |

| Table 4.2-2: Lease Agreements along the Metro ROW | | | |
|---|---|---|---|
| 43. Hernandez, Ovidio | Canoga Avenue & Keswick Street | Parking & Auto Storage | Month-to-Month |
| 44. Clark Swanson | Canoga Avenue & Keswick Street | Auto Sales & Parking | Month-to-Month |
| 45. Merkow Wholesale Distributors | Canoga Avenue & Ingomar Street | Truck Repair & Auto Storage | Month-to-Month |
| 46. Merkow Wholesale Distributors | Canoga Avenue & Ingomar Street | Truck Repair & Auto Storage | Month-to-Month |
| 47. Apex Int'l Development Corp. | Canoga Avenue & Strathern Street | Truck & Equipment Storage | Month-to-Month |
| 48. Huynh, Tri | Canoga Avenue & Strathern Street | Metal Fabrication & Storage | Month-to-Month |
| 49. Caples, Harry | Canoga Avenue & Strathern Street | Equipment Storage | Month-to-Month |
| 50. Mellado, Luis | Canoga Avenue & Strathern Street | Truck & Equipment Storage | Month-to-Month |
| 51. Hollywood Motors Corp. | Canoga Avenue & Roscoe Boulevard | Vehicle Storage | Month-to-Month |
| 52. Mini-Haulers, Inc. | Canoga Avenue & Roscoe Boulevard | Bin Storage & Parking | Month-to-Month |
| 53. Franks Hauling & Clean Up Company | Canoga Avenue & Roscoe Boulevard | Container Storage & Parking | Month-to-Month |
| 54. Dan Dupont, Inc. | Saticoy Street & Roscoe Boulevard | Parking & Storage | Month-to-Month |
| 55. Car Corner, Inc. | Canoga Avenue & Roscoe Boulevard | Used Car Lot & Parking | Month-to-Month |
| 56. Salvation Army | Canoga Avenue & Roscoe Boulevard | Parking & Storage | Month-to-Month |
| 57. Green Light Auto Sales | Valerio Street & Saticoy Street | Used Car Sales & Parking | Month-to-Month |
| 58. JDK Materials, LLC | Canoga Avenue & Nordhoff Street | Truck & Equipment Storage | Month-to-Month |
| 59. Northpark Industrial, LP | Nordhoff Street & Deering Avenue | Parking | Month-to-Month |
| 60. Chatsworth Storage, LLC | Owensmouth Street & Marillo Street | RV, Boat & Vehicle Storage | Month-to-Month/a/ |
| **LICENSES AND EASEMENTS** | | | |
| 1. Valley Cable TV, Inc. | Canoga Avenue & Lassen Street | Overhead Cable Crossing | Month-to-Month |
| 2. Veterans of Foreign Wars | Canoga Avenue & Lassen Street | Flagpole & Memorial Plaque | Month-to-Month |
| 3. Chatsworth Chamber of Commerce, Inc | Canoga Avenue & Lassen Street | Parking | Month-to-Month |
| 4. Crimson Calif, Pipeline, LP | Canoga Avenue & Lassen Street | 6 ft. 5/8 in. Outer Dia. Gasoline Pipe | Month-to-Month |
| 5. LA City DWP | Canoga Avenue & Lassen Street | 1-OH Fiber Optic Cable | Month-to-Month |
| 6. LA City Department of Public Works | Canoga Avenue & Lassen Street | Public Street Easement | Month-to-Month |
| 7. LA City Department of Public Works | Canoga Avenue & Right-of-Way | 1 ft. 39-in. Storm Drain in a 48-in. Steel Casing | Month-to-Month |
| 8. Balboa & Victory Partenrship | Canoga Avenue & Lassen Street | Storm Drain Pipeline not to exceed 48 in. Diameter | Month-to-Month |

/a/ Lease can be terminated with 180 days notice.
/b/ A longer-term lease with Chatsworth Storage, LLC expired in 1995. The terms of the lease are now month-to-month, and the lease can be terminated with a 180-day notice.
**SOURCE:** Metro Real Estate Department and TAHA, 2007

## 4.2.2 REGULATORY FRAMEWORK

The state of California's revised Government Code Section 7260, et seq., brings the *California Relocation Act* (California Act) into conformity with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970*, as amended (Uniform Act). The California Act applies if a public entity undertakes a project. The Canoga Transportation Corridor Project is not being undertaken by a federal agency or using federal funds. The California Act, which is consistent with the intent and guidelines of the Uniform Act, seeks to (1) ensure the consistent and fair treatment of owners of real property, (2) encourage and expedite acquisition by agreement to avoid litigation and relieve congestion in the courts, and (3) promote confidence in the public land acquisitions. Owners of private property have federal and state constitutional guarantees that their property will not be taken or damaged for public use unless they first receive just compensation. Just compensation is measured by the "fair market value" of the property taken. "Market value" is considered to be the following:

> "highest price on the date of valuation that would be agreed to by a seller, being willing to sell, but under no particular or urgent necessity for so doing, nor obliged to sell; and a buyer, being ready, willing and able to buy, but under no particular necessity for so doing, each dealing with the other with the full knowledge of all the uses and purpose for which the property is reasonably adaptable and available." (Code of Civil Procedure Section 1263.320a)

Where acquisition and relocation are unavoidable, Metro would follow the provisions of the California Act, as amended, and implemented pursuant to the California Relocation Regulations. Metro acquisition and relocation policies would comply with the California Act. All real property acquired by Metro would be appraised to determine its fair market value. Just compensation shall not be less than the approved appraisal to each property owner. Each homeowner, renter, business, or nonprofit organization displaced as a result of the proposed project would be given advanced written notice and would be informed of the eligibility requirements for relocation assistance and payments.

## 4.2.3 IMPACTS AND MITIGATION MEASURES

### Significance Criteria

According to CEQA, a significant land acquisition and displacement impact may occur when:

- Real property is acquired and business, residential owners or tenants are required to relocate;
- Long-term leases are terminated prior to their original expiration date for the purpose of constructing a transit service improvement and supporting infrastructure (the expiration of month-to-month leases or leases where relocation waivers have been executed would not be considered significant); or
- A business operation is disrupted due to the loss of needed parking, access or storage areas.

### Methodology

To assess the potential acquisition of private property, conceptual engineering drawings identifying the alignment of the Corridor and location of the proposed stations were reviewed to identify properties not located on public ROWs that would be needed for the proposed project and the alternative design options. To estimate the effect of non-renewal of Metro leases within the ROW, the lease database maintained by the Metro Real Estate Department was reviewed.

The termination or non-renewal of an existing lease within the Metro ROW for the purposes of implementing the proposed project is not considered property acquisition. However, business

displacements may result at those locations where all or a majority of business operations occur on the leased property. Business displacements may also occur at those locations where the leased property is used for ancillary or support operations, such as access, parking and/or storage, and the loss of such property would have a substantial impact on the associated business operation. In addition, the termination or non-renewal of all commercial outdoor advertising leases may result in displacements and require removal or relocation of the advertising structure.

For properties located outside the Metro ROW, partial property acquisitions would occur if the proposed project requires a limited portion of the property. The business, residence, or other land use may not be affected by the acquisition. Such acquisitions typically affect only unimproved or landscaped areas or areas used for limited parking. Full property acquisitions would occur for those properties on which the proposed project would physically encroach on existing structures or remove a substantial portion of the available customer or employee parking such that business operations would be substantially affected. In addition, full acquisitions would result when the majority of a vacant parcel would be acquired, leaving the remaining property an uneconomical remnant. Full acquisitions or partial acquisitions involving a substantial portion of the property may result in the displacement of either businesses or residences.

**Impact 4.2.1. The proposed project could impact property owners and occupants of private property through land acquisition resulting in the displacement of businesses along the corridor. The proposed project could have a significant land acquisition impact prior to mitigation.**

Alternative 1. No Project

The No Project Alternative would not include any physical changes, and the Metro ROW would not be used for a transit project. This alternative would not require full or partial acquisitions of properties, and no displacement and/or relocation of existing uses would be required. Therefore, the No Project Alternative would not result in any land acquisition impacts.

Alternative 2. TSM

The TSM Alternative would include improvements to the transportation system within existing street ROWs. This alternative would not require full or partial acquisition of properties, and no displacement and/or relocation of existing uses would be required. Therefore, the TSM Alternative would not result in any land acquisition impacts.

Alternative 3. Canoga On-Street Dedicated Bus Lanes

The Canoga On-Street Dedicated Bus Lanes Alternative requires widening Canoga Avenue into the Metro ROW on the east side of Canoga Avenue. This alternative would also require acquisition of private property outside of and adjacent to the Metro ROW. There are three alignment options for the northern segment of the Canoga On-Street Dedicated Bus Lanes Alternative to connect to the Chatsworth Metrolink Station. **Table 4.2-3** identifies the properties that may need to be acquired under each of the three northern alignment options. All of the alignment options would require the full acquisition of the two private properties located at 7204-7258 Canoga Avenue/21355 Sherman Way and a triangular shaped property owned by the Community Redevelopment Agency of the City of Los Angeles (CRA). The property located at 7204-7258 Canoga Avenue/21355 Sherman Way is improved with a 15,540-square-foot retail commercial strip center that contains 14 individual commercial spaces and a freestanding commercial building. The individual commercial spaces are not currently occupied; however, tenant improvements have been completed and approximately 94 percent of the in-line space has been leased. The triangular shaped property owned by the CRA is located directly north of the freestanding commercial building. This 5,000-square-foot property is currently improved with a surface parking lot.

**Table 4.2-3: Properties that may be Acquired Outside the Metro ROW – Canoga On-Street Dedicated Bus Lanes Alternative**

| Northern Segment Alignment | Address/Location | Land Use | APN | Parcel Size (sf. ft.) | Type of Acquisition Anticipated |
|---|---|---|---|---|---|
| Option 1<br>Option 2 | 7204-7258 Canoga Avenue/21355 Sherman Way | Retail Commercial Strip Center/Commercial Building | 2111-029-001 | 69,260 | Full Take |
| Option 3 | Triangular shaped CRA property | Parking Lot | 2111-029-903 | 5,000 | |
| Option 2 | 9810-9860 Owensmouth Avenue | Industrial Building | 2746-005-007 | 87,120 | Partial Take |
| Option 2 | 21610-21638 Lassen Street | Industrial Building | 2746-005-007 | 134,383 | Partial Take |
| Option 3 | 21600 Lassen Street | Industrial Building | 2746-005-003 | 37,562 | Partial Take |
| Option 3 | Northeast corner of Lassen Street & Remmet Avenue | Vacant | 2747-025-017<br>2747-025-018<br>2747-025-019<br>2747-025-020 | 30,864<br>20,919<br>22,156<br>20,921 | Full Take |

**SOURCE:** Metro Real Estate Department and TAHA, 2007

The three alignment options and the potential land acquisition impacts are identified as follows:

## Northern Segment Option 1 – Dedicated Lanes end at Marilla Street

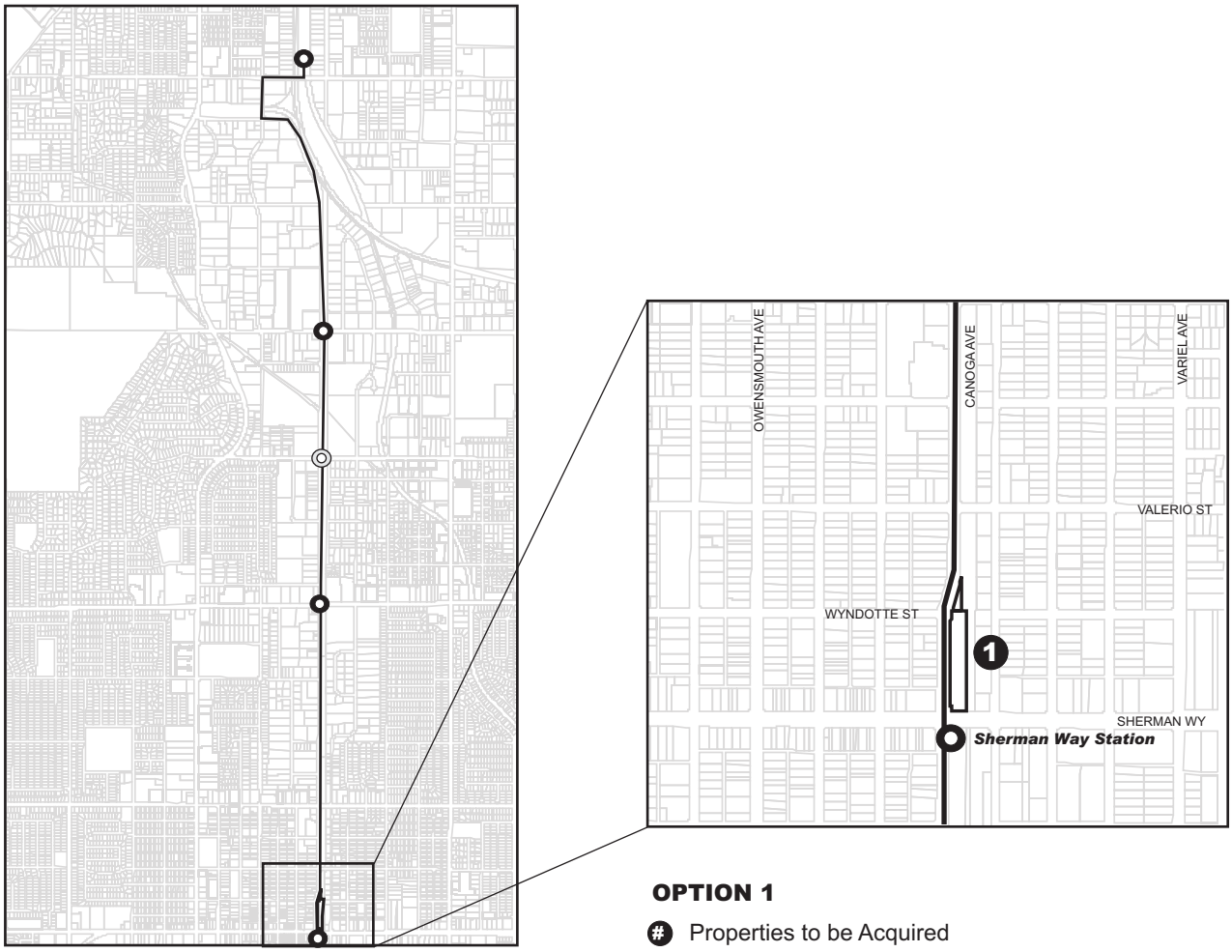
Under Option 1, the dedicated lanes would end at Marilla Street and buses would use Marilla Street, Owensmouth Avenue, Lassen Street and Old Depot Plaza Road. This option does not require the acquisition of any additional properties for the northern segment. However, the acquisition of two private properties (7204-7258 Canoga Avenue/21355 Sherman Way and the triangular shaped property owned by the CRA) would still be required. **Figure 4.2-1** identifies the location of the properties that may be acquired under Option 1. Therefore, the Canoga On-Street Dedicated Bus Lanes Alternative Northern Segment Option 1 would result in a significant land acquisition impact without mitigation.

## Northern Segment Option 2 – At-Grade "T" Intersection on Lassen 200 ft. West of Tracks

Under Option 2, the dedicated lanes would continue north of Marilla Street through two parcels to connect to Lassen Street at a new signalized intersection 200 ft. west of the tracks; the buses would then turn right onto Lassen Street and left onto Old Depot Plaza Road.

The Canoga On-Street Dedicated Bus Lanes Northern Segment Option 2 requires the acquisition of the properties located at 9810-9860 Owensmouth Avenue and 21610-21638 Lassen Street. **Figure 4.2-2** identifies the location of the properties that may be acquired under Option 2. The property at 9810-9860 Owensmouth Avenue is located on the east side of Owensmouth Avenue just south of Lassen Street. This property is developed with a one-story, 38,568-square-foot, concrete block industrial building with approximately 26 tenants. Northern Segment Option 2 would require purchase of 2,117 sq. ft. of improvements and 8,015 sq. ft. of the easterly portion of the property and would necessitate relocating and repairing the eastern wall of the building. The property at 21610-21638 Lassen Street is improved with a multi-tenant industrial park consisting of four, one-story concrete block, industrial buildings. The improvements are estimated to be approximately 58,730 sq. ft. in size. Northern Segment Option 2 would require purchase of 12,120 sq. ft. of the improvements.

Therefore, the Canoga On-Street Dedicated Bus Lanes Alternative Northern Segment Option 2 would result in a significant land acquisition impact without mitigation.




**OPTION 1**

(#) Properties to be Acquired

**1.** 7204-7258 Canoga Avenue/21355 Sherman Way and the Triangular CRA Parcel

**Legend**

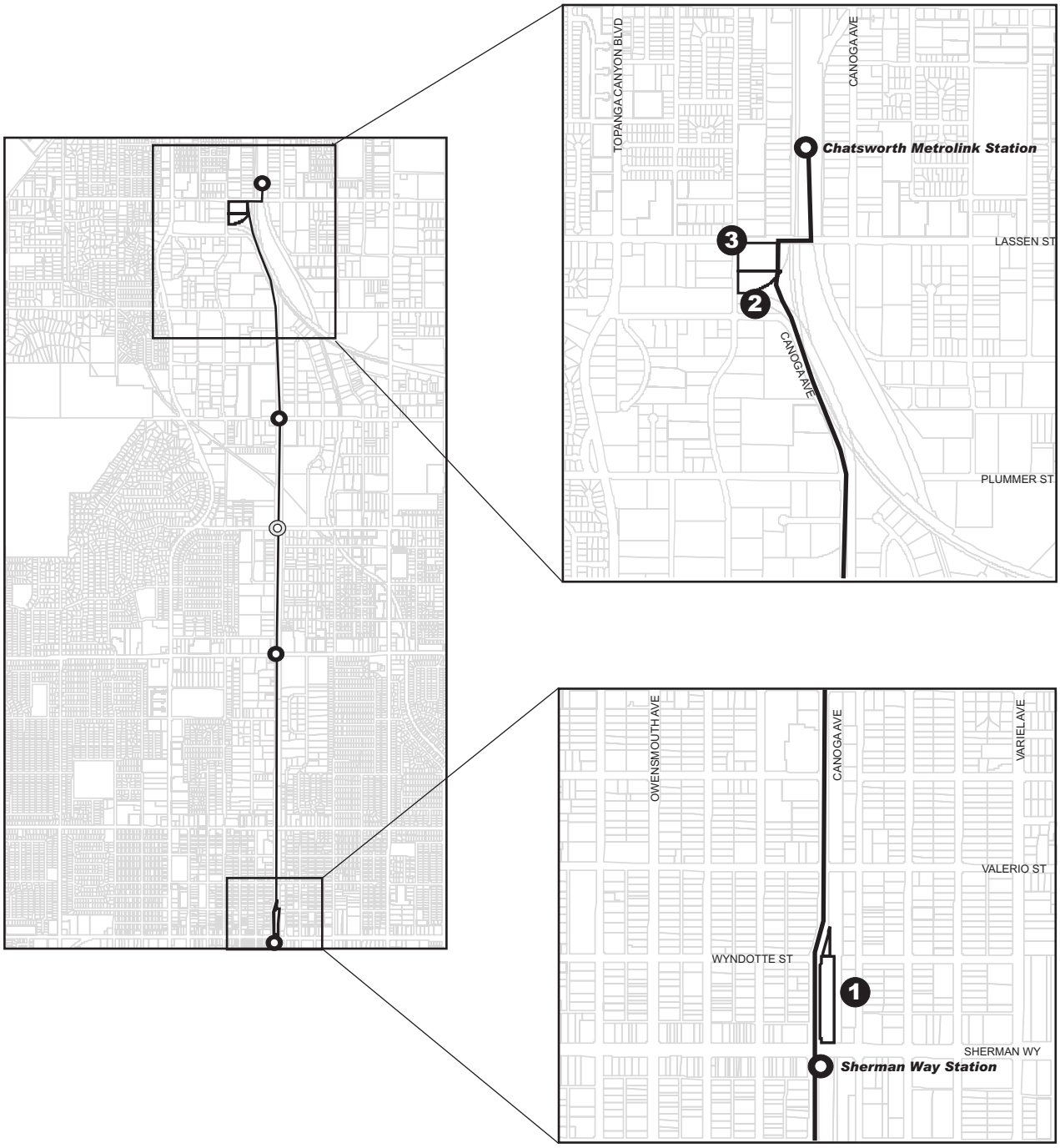
- Los Angeles County Parcels
- Properties to be Acquired Outside Metro ROW
- Proposed Alignment
- Proposed Station
- Optional Station

NOT TO SCALE

*Source: ESRI & TAHA, 2008*



**Figure 4.2-1**
**Properties to be Acquired Outside Metro ROW for On-Street Dedicated Lane Alternative - Option 1**




**Legend**

- Los Angeles County Parcels
- Properties to be Acquired Outside Metro ROW
- Proposed Alignment
- Proposed Station
- Optional Station

**OPTION 2**

(#) Properties to be Acquired

1. 7204-7258 Canoga Avenue/21355 Sherman Way and the Triangular CRA Parcel
2. 9810-9860 Owensmouth Avenue
3. 21610-21638 Lassen Street

NOT TO SCALE

*Source: ESRI & TAHA, 2008*



**Figure 4.2-2**
**Properties to be Acquired Outside Metro ROW for On-Street Dedicated Lane Alternative - Option 2**

### Northern Segment Option 3 – At-Grade Parallel Crossing of Lassen West of Tracks

Under Option 3, the dedicated lanes would continue north of Marilla Street through two parcels and then cross Lassen Street at a new signalized intersection to access the Chatsworth Metrolink Station on the west side of the train tracks. The Canoga On-Street Dedicated Bus Lanes Northern Segment Option 3 requires the acquisition of the property located at the northeast corner of Lassen Street and Remmet Avenue and the property located at 21600 Lassen Street. **Figure 4.2-3** identifies the location of the properties that may be acquired under Option 3. The property located on the northeast corner of Lassen Street and Remmet Avenue consists of four vacant lots that are a part of a larger industrial project, known as the Chatsworth Depot Business Park, consisting of 18 lots. All of the lots are finished lots with all necessary utilities in place to permit the immediate development of the lots. Six of the 18 lots are developed with concrete block industrial buildings. The property located at 21600 Lassen Street is developed with a 23,617-square-foot, one- and two-story, single tenant, concrete block industrial building.

Therefore, the Canoga On-Street Dedicated Bus Lanes Alternative Northern Segment Option 3 would result in a significant land acquisition impact without mitigation.

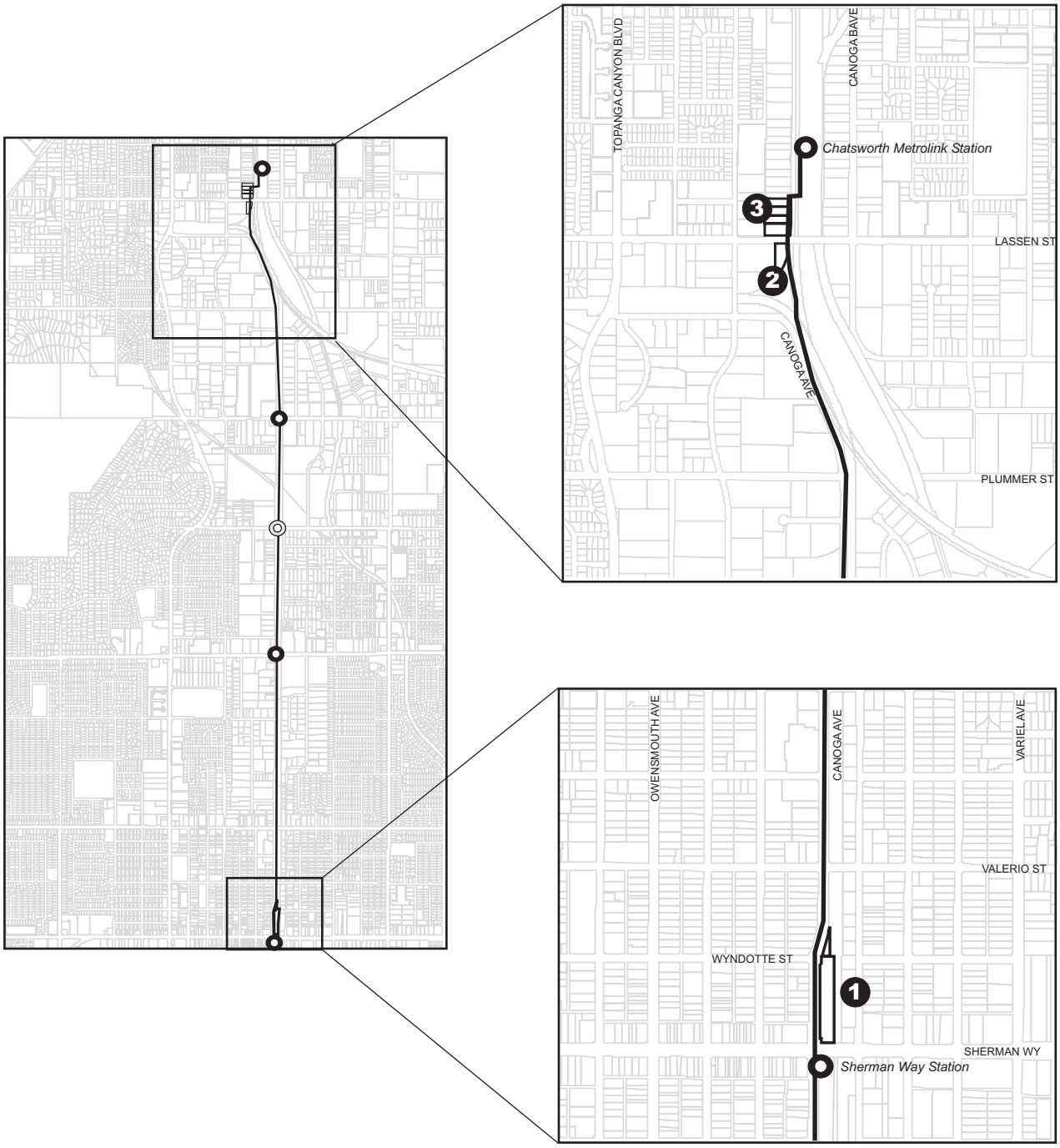
### Alternative 4. Canoga Busway

The Canoga Busway Alternative could require acquisition of private property outside of and adjacent to the Metro ROW. There are five alignment options for the northern segment of the Canoga Busway Alternative to connect to the Chatsworth Metrolink Station. **Table 4.2-4** identifies the properties that may need to be acquired under each of the five northern alignment options. All of the properties that may require acquisition under the Canoga Busway Alternative are located north of Plummer Street. Option 1 and Option 5 would not require the acquisition of any property outside of the Metro ROW. **Figure 4.2-4** identifies the location of the properties that may be acquired under Options 2, 3 and 4.

**Table 4.2-4: Properties that may be Acquired Outside the Metro ROW – Canoga Busway Alternative**

| Northern Segment Alignment | Address/Location | Land Use | APN | Parcel Size (sq. ft.) | Type of Acquisition Anticipated |
|---|---|---|---|---|---|
| Option 2 | 9810-9860 Owensmouth Avenue | Industrial Building | 2746-005-007 | 87,120 | Partial Take |
| Option 2 | 21610-21638 Lassen Street | Industrial Building | 2746-005-007 | 134,383 | Partial Take |
| Option 3 | 21600 Lassen Street | Industrial Building | 2746-005-003 | 37,562 | Partial Take |
| Option 3 | Northeast corner of Lassen Street & Remmet Avenue | Vacant | 2747-025-017 | 30,864 | Full Take |
| | | | 2747-025-018 | 20,919 | |
| | | | 2747-025-019 | 22,156 | |
| | | | 2747-025-020 | 20,921 | |
| Option 4 | 21500 Lassen Street | Mobile Home Park | 2746-005-006 | 954,760 | Partial Take |

**SOURCE:** Metro Real Estate Department and TAHA, 2007




**Legend**

- Los Angeles County Parcels
- Properties to be Acquired Outside Metro ROW
- Proposed Alignment
- Proposed Station
- Optional Station

*Source: ESRI & TAHA, 2008*

**OPTION 3**

(#) Properties to be Acquired

1. 7204-7258 Canoga Avenue/21355 Sherman Way and the Triangular CRA Parcel
2. 21600 Lassen Street
3. NE corner of Lassen Street and Remmet Avenue

NOT TO SCALE

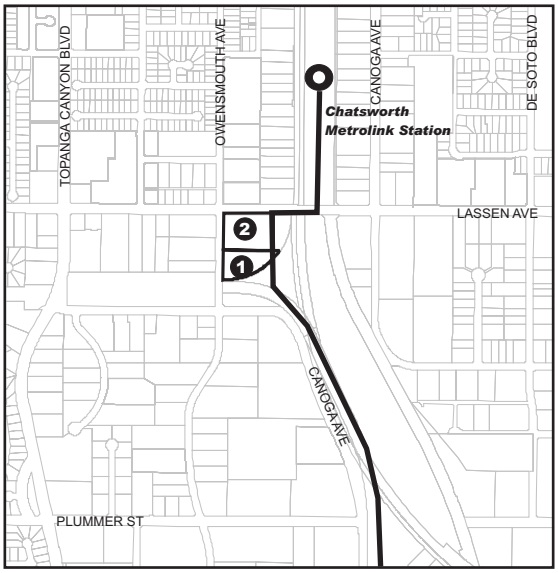


**Figure 4.2-3**
**Properties to be Acquired Outside Metro ROW for On-Street Dedicated Lane Alternative - Option 3**

**OPTION 2**

# Properties to be Acquired

**1.** 9810-9860 Owensmouth Avenue
**2.** 21610-21368 Lassen Street




**OPTION 3**

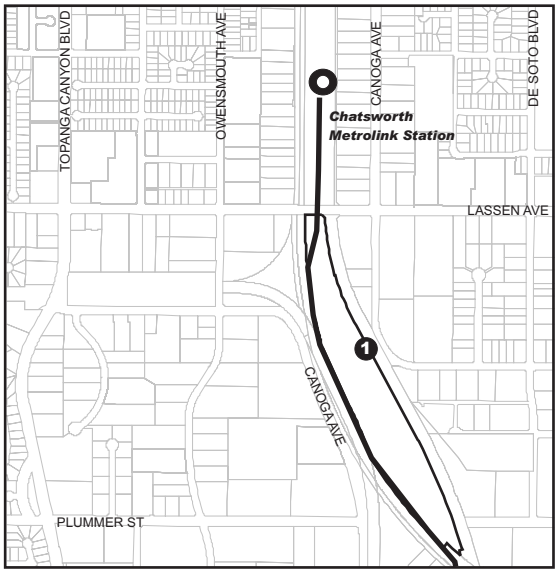
# Properties to be Acquired

**1.** 21600 Lassen Street
**2.** NE corner of Lassen Street and Remmet Avenue


**OPTION 4**

# Properties to be Acquired

**1.** 21500 Lassen Street




**Legend**

- Los Angeles County Parcels
- Properties to be Acquired Outside Metro ROW
- Proposed Aligment
- Proposed Station

NOT TO SCALE

*Source: ESRI & TAHA, 2008*



**Figure 4.2-4**
**Properties to be Acquired Outside Metro ROW for Busway Alternative - Options 2, 3, and 4**

The five alignment options and the potential land acquisition impacts are identified as follows:

### Northern Segment Option 1 – Busway Ends at Plummer

Under Option 1, buses would exit the Busway at Plummer Street and travel on Plummer Street, Owensmouth Avenue, Lassen Street and Old Depot Plaza Road. This Option would not require full or partial acquisitions of properties, and no displacement and/or relocation of existing uses would be required. Therefore, the Canoga Busway Northern Segment Option 1 would not result in any land acquisition impacts.

### Northern Segment Option 2 – At Grade "T" Intersection on Lassen 200 ft. West of Tracts

Under Option 2, the busway and parallel multi-use path extend north to Lassen Street on the west side of the railroad tracks, intersecting Lassen Street at a new signalized intersection 200 ft. west of the tracks. Buses would travel in mixed flow on Lassen Street to the Chatsworth Metrolink Station. An optional plan (Option 2a) may be required to allow only northbound buses to travel on the busway all the way north to Lassen Street. This would occur if a two-way busway could not be provided in the narrow ROW area adjacent to the Metrolink tracks. Southbound buses would return via Lassen Street, Owensmouth Avenue, and Plummer Street, re-entering the busway at a new signalized intersection of Canoga Avenue and Plummer Street.

Northern Segment Option 2 requires the acquisition of the properties located at 9810-9860 Owensmouth Avenue and 21610-21638 Lassen Street. The property at 9810-9860 Owensmouth Avenue is located on the east side of Owensmouth Avenue just south of Lassen Street. This property is developed with a one-story, 38,568-square-foot, concrete block, and industrial building with approximately 26 tenants. Northern Segment Option 2 would require purchase of 2,117 sq. ft. of improvements and 8,015 sq. ft. of the easterly portion of the property and would necessitate relocating and repairing the eastern wall of the building. The property at 21610-21638 Lassen Street is improved with a multi-tenant industrial park consisting of four, one-story concrete block, industrial buildings. The improvements are estimated to be approximately 58,730 sq. ft. in size. Northern Segment Option 2 would require purchase of 12,120 sq. ft. of the improvements.

As such, the Canoga Busway Northern Segment Option 2 would result in a significant land acquisition impact without mitigation.

### Northern Segment Option 3 – At-Grade Parallel Crossing of Lassen West of Tracks

Under Option 3, the busway and multi-use path would extend north to Lassen Street directly to the west of the railroad tracks and cross Lassen Street at a signalized intersection to access the Busway terminus station on the west side of the tracks. An optional plan (Option 3a) may be required to allow only northbound buses to travel on the busway all the way north to Lassen Street. This would occur if a two-way busway could not be provided in the narrow ROW area adjacent to the Metrolink tracks. Southbound buses would return via Lassen Street, Owensmouth Avenue, and Plummer Street, re-entering the busways at a new signalized intersection at Canoga Avenue and Plummer Street.

The Canoga Busway Northern Segment Option 3 requires the acquisition of the property located at the northeast corner of Lassen Street and Remmet Avenue. This Option also requires the acquisition of the property located on the south side of Lassen Street adjacent to the west side of the railroad tracks, just east of Owensmouth Avenue. This property, located at 21600 Lassen Street, is developed with a 23,617-square-foot, one- and two-story, single tenant, concrete block industrial building. The property located on the northeast corner of Lassen Street and Remmet Avenue consists of four vacant lots that are a part of a larger industrial project, known as the Chatsworth Depot Business Park, consisting of 18 lots. All of the lots are finished lots with all necessary utilities and off-sites in place to permit the immediate development of the lots. Six of the 18 lots are developed with concrete block industrial buildings.

Therefore, the Canoga Busway Northern Segment Option 3 would result in a significant land acquisition impact without mitigation.

### Northern Segment Option 4 – Underpass of Tracks with Parallel Crossing of Lassen East of Tracks

Under Option 4, the busway and multi-use path would pass under the railroad tracks in a grade separation and cross Lassen Street at grade. Two potential intersections of the busway on Lassen Street are being evaluated. One option would be located at the existing Old Depot Plaza Road intersection on Lassen Street. An optional plan (Option 4a) would include an intersection adjacent to the east side of the railroad tracks, with buses crossing Lassen Street parallel to the tracks at a signalized intersection into a redesigned Chatsworth Metrolink Station. The Canoga Busway Northern Segment Option 4 would require acquisition of part of the Sunburst Mobile Home Park located at 21500 Lassen Street and reconfiguration of the parking and access road to the mobile home park. No mobile homes would be displaced by this acquisition.

Therefore, the Canoga Busway Northern Segment Option 4 would result in a significant land acquisition impact without mitigation.

### Northern Segment Option 5 – Elevated Grade Separation of Railroad Tracks and Lassen Street

Under Option 5, the busway would extend along the west side of the railroad tracks and would be elevated over or depressed under the railroad tracks and Lassen Street on a grade separation, then transition back to into the parking lot of the Chatsworth Metrolink Station. The multi-use path would remain at-grade adjacent to the west side of the grade-separated busway and intersect Lassen Street at grade and then travel along the south side of Lassen Street to a crosswalk at the entrance to the Metrolink station.

Therefore, since no businesses or properties would be affected, the Canoga Busway Northern Option 5 would not result in any land acquisition impacts.

### *Mitigation Measures:*

The following mitigation measure is applicable to the Canoga On-Street Dedicated Bus Lanes Alternative and the Canoga Busway Alternative. In regards to the Canoga Busway Alternative, the mitigation measure is applicable to the Northern Segment Options 2, 3, and 4.

> ***MM 4.2-1***: For those properties that would be acquired as a result of the Canoga Transportation Corridor Project, Metro shall provide relocation assistance and compensation per the Uniform Relocation Assistance and Real Property Acquisition Policies Act and the California Relocation Act. Purchases would be made at fair market value.

***Level of Impact After Mitigation***: Implementation by Metro of state acquisition and relocation programs, policies, and procedures, as stipulated in Mitigation Measure **MM 4.2-1** would result in less-than-significant impacts after mitigation.

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**Impact 4.2.2. The proposed project could impact businesses on property that is leased. Business displacements would also occur where the leased property is used for ancillary or support operations, such as access, parking, and/or storage. The proposed project could have a significant impact on business lease agreements along the Canoga Corridor prior to mitigation.**

Alternative 1. No Project

The No Project Alternative would not include any physical changes, and the Metro ROW would not be used for a transit project. This alternative would not require the displacement and/or relocation of existing uses. Therefore, the No Project Alternative would not result in any displacement and/or relocation impacts.

Alternative 2. TSM

The TSM Alternative would include improvements to the transportation system within existing street ROWs. The existing lease agreements along the Metro ROW would not be affected. Therefore, no displacement and/or relocation impacts would occur.

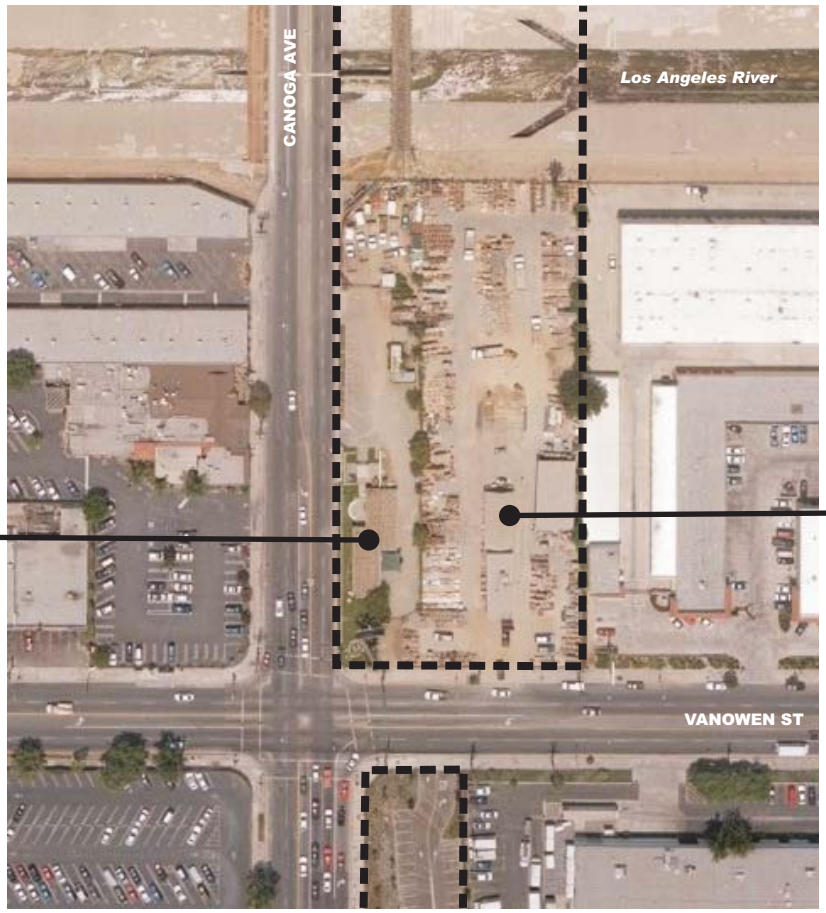
Alternative 3. Canoga On-Street Dedicated Bus Lanes

Implementation of the Canoga On-street Dedicated Bus Lanes Alternative would result in the non-renewal of all 25 sign lease agreements identified in **Table 4.2-2** above. All 25 of the outdoor advertising sign and billboard lease agreements are month-to-month, which allow Metro to terminate the lease with 90 days notice or less.

**Figures 4.2-5** through **4.2-16** identify the locations of 60 businesses with ground leases along the Metro ROW. Implementation of the Canoga On-Street Dedicated Bus Lanes Alternative would result in the non-renewal of at least 56 of the 60 ground leases. However, the four leases that may be renewed, would be reconfigured, if possible. The leases that may be reconfigured include the leases with the two concrete processing plants (National Ready Mixed Services Company and California Portland Cement Company), Jacobi Building Materials, and Canoga Self Storage. Canoga Self Storage has a long-term lease that expires in September 2025, while the other three leases are month-to-month.

All of the remaining 56 ground leases allow Metro to terminate the lease with 180 days notice, or less.[2] The tenants that would be displaced by the Canoga On-Street Dedicated Bus Lanes Alternative may be entitled to relocation assistance under the California Act due to the termination or non-renewal of their lease agreements with Metro. However, the qualification is dependent upon the specific lease agreement. In many instances, the lease agreement with Metro contains a provision wherein the tenant acknowledged that they are not entitled to relocation benefits if the lease is not renewed for a public transit project. Nonetheless, the Canoga On-Street Dedicated Bus Lanes Alternative would result in a significant displacement impact without mitigation.

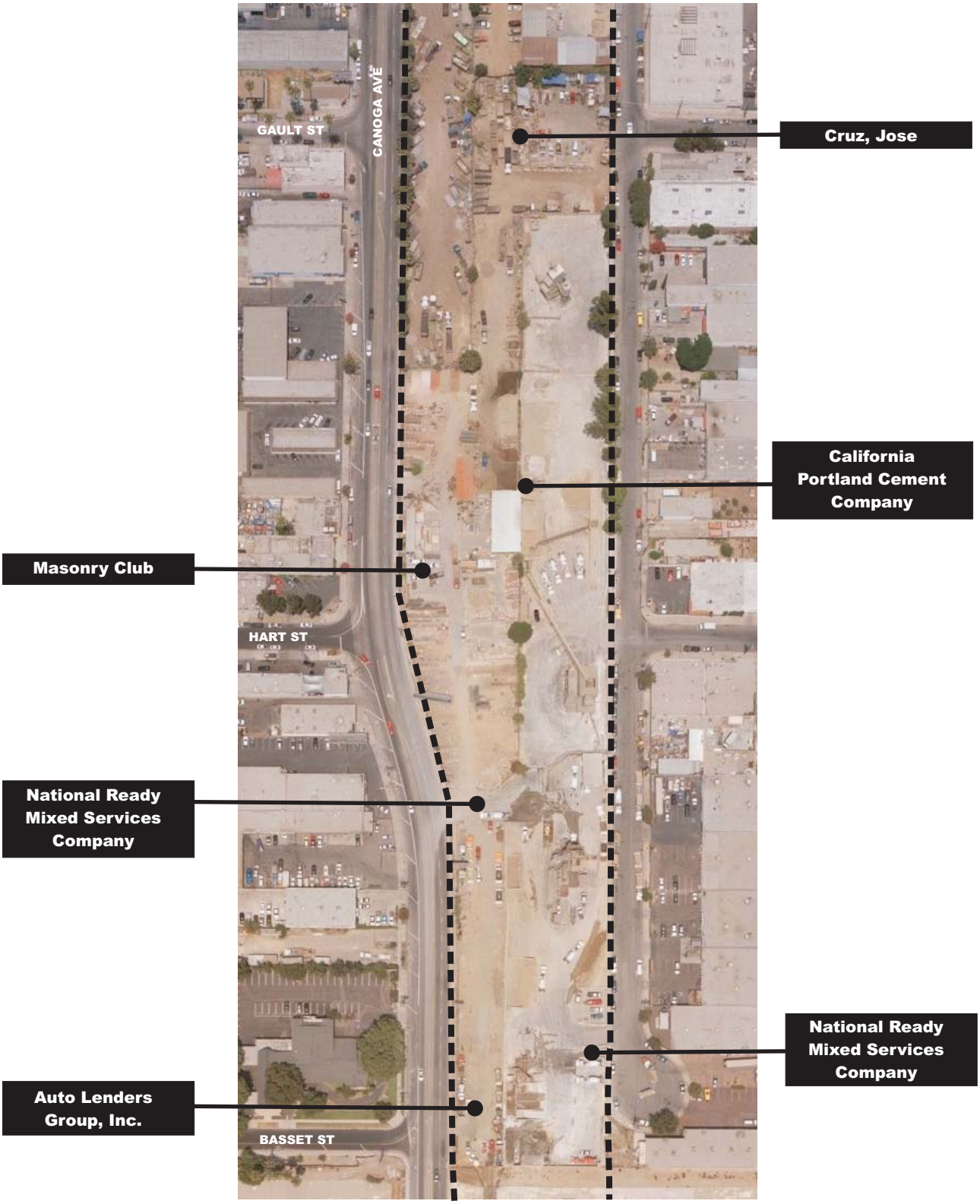
[2]The long-term lease with Chatsworth Storage, LLC expired in 1995. This lease is now month-to-month, and the lease can be terminated with 180 days notice. The leases with Dale Plaine, Inc. and Steve Port & Miranda Properties, LLC expire on December 31, 2009 and August 31, 2009, respectively. These leases can be terminated with 180 days notice.




Source: Metro Real Estate & TAHA, 2008



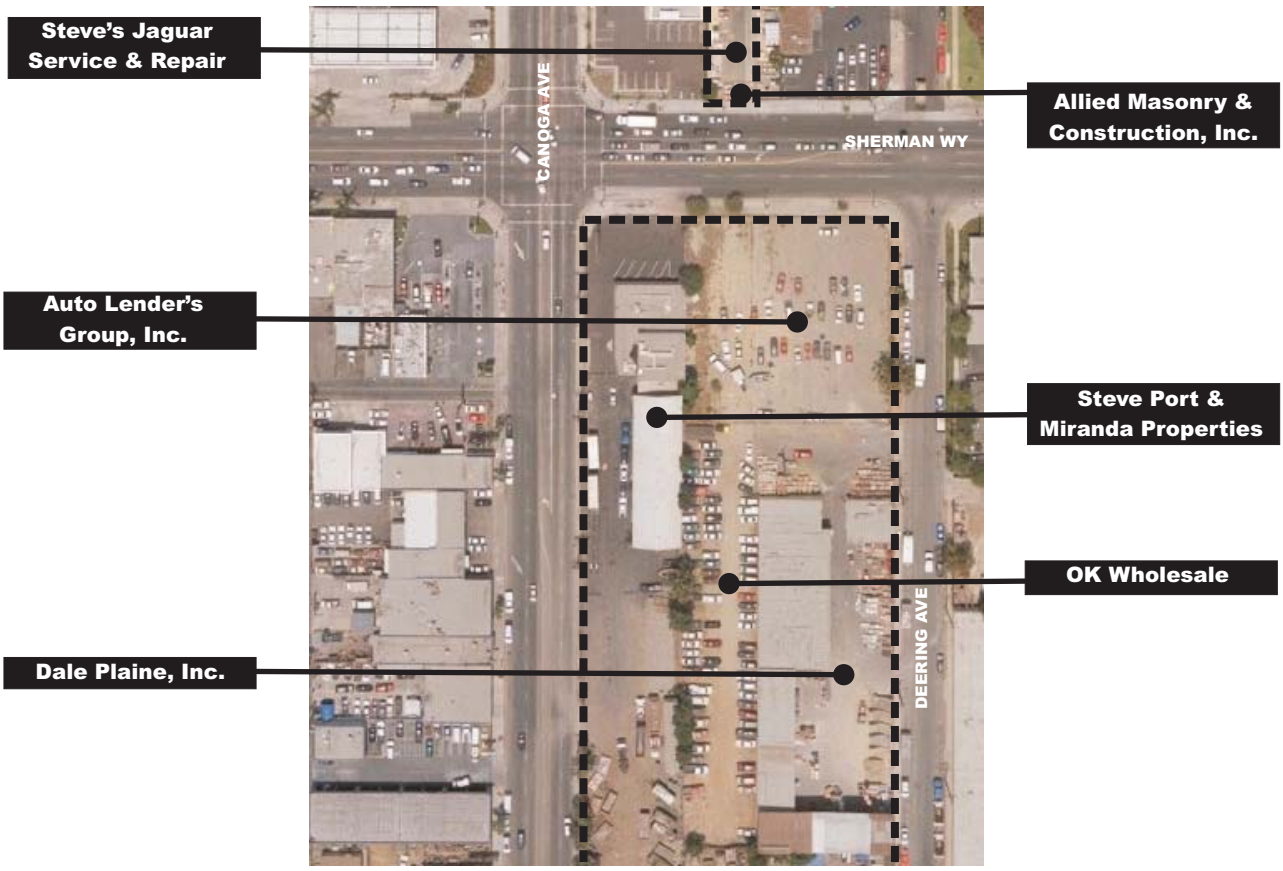
Figure 4.2-5
Metro ROW Leaseholders from Vanowen Street to the Los Angeles River




Source: Metro Real Estate & TAHA, 2008



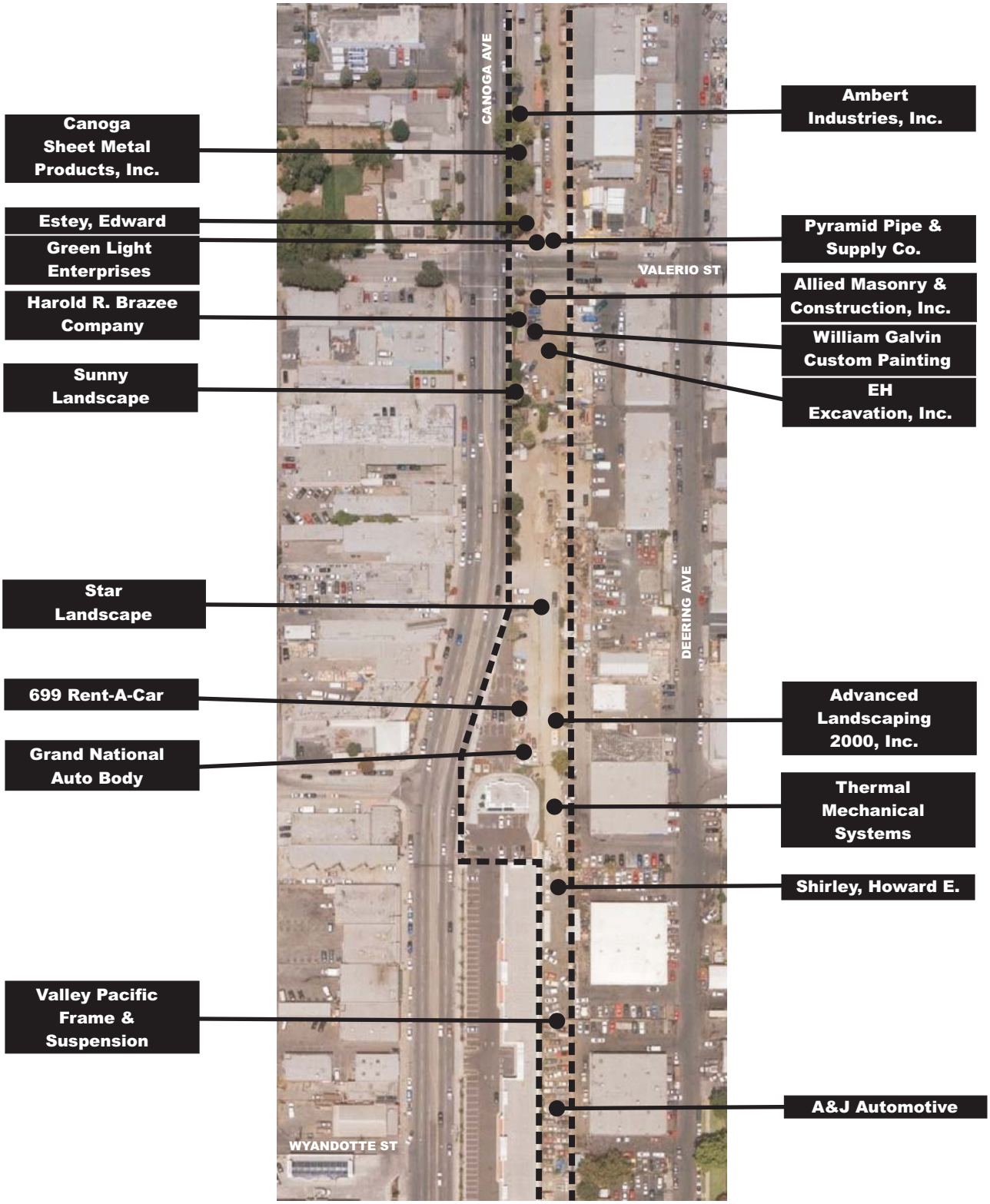
Figure 4.2-6
Metro ROW Leaseholders from Basset Street to Gault Street




Source: Metro Real Estate & TAHA, 2008



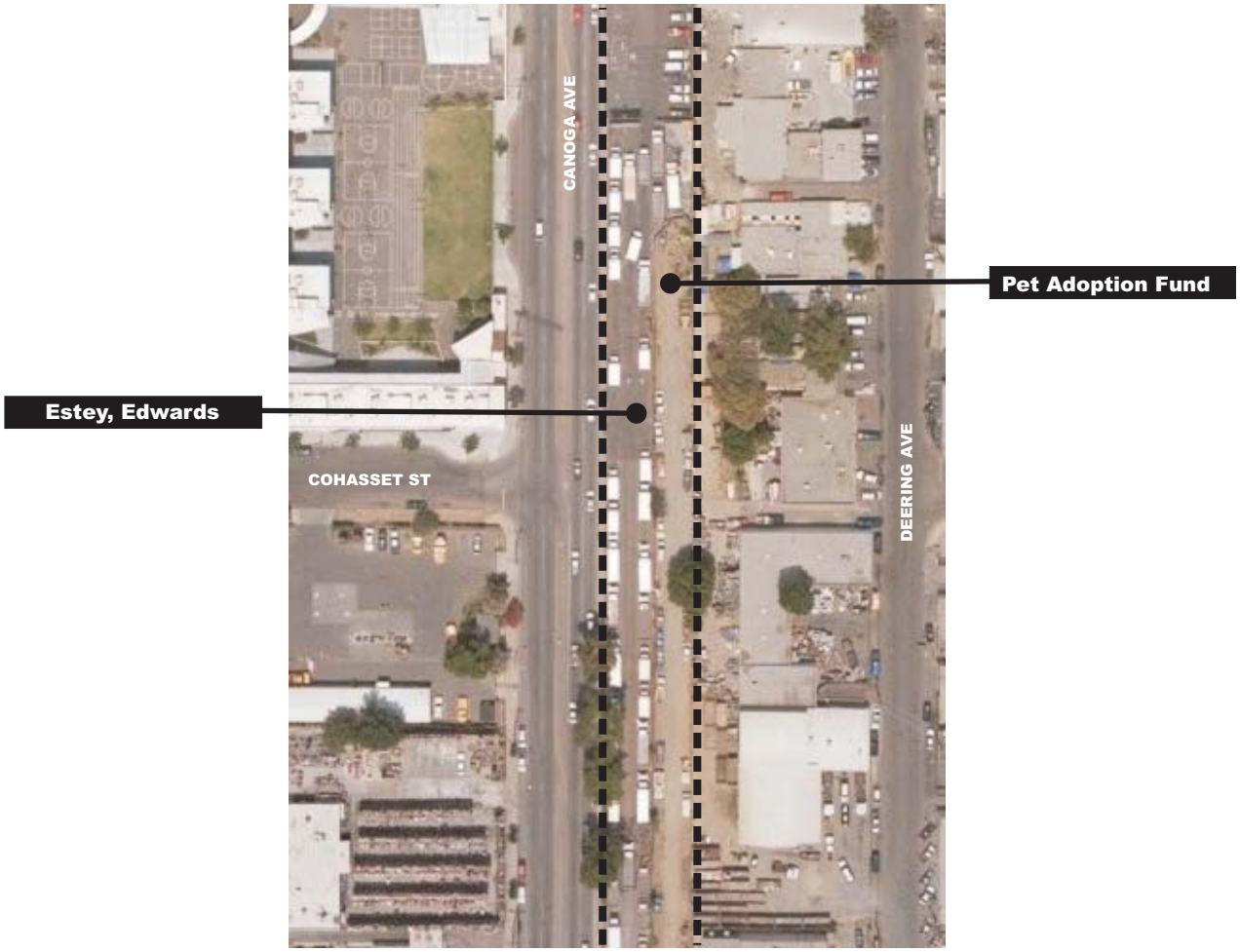
Figure 4.2-7
Metro ROW Leaseholders at the Sherman Way and Canoga Avenue Intersection




Source: Metro Real Estate & TAHA, 2008



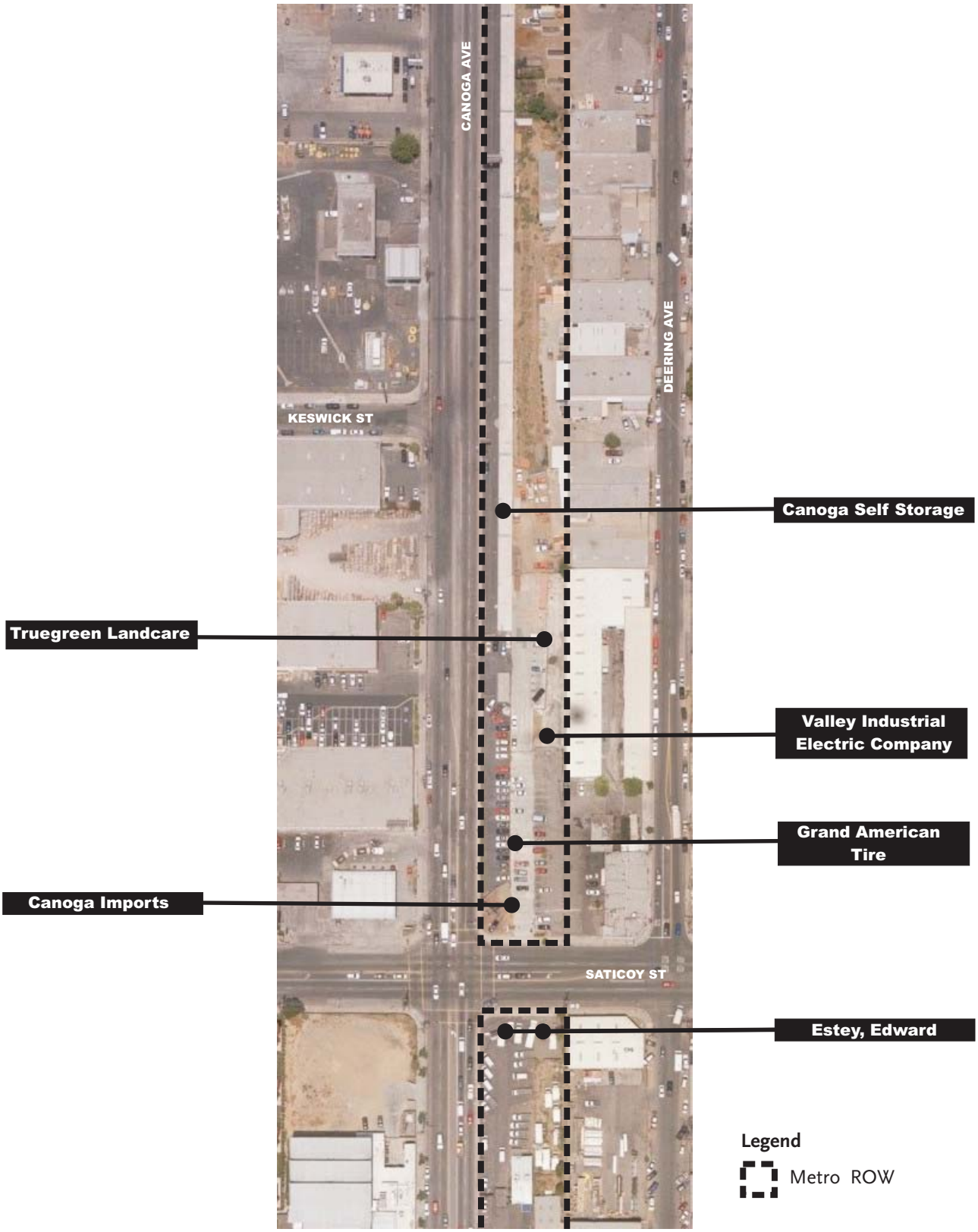
Figure 4.2-8
Metro ROW Leaseholders from Wyandotte Street to Valerio Street




Source: Metro Real Estate & TAHA, 2008



Figure 4.2-9
Metro ROW Leaseholders at the
Cohasset Street and Canoga Avenue Intersection




Source: Metro Real Estate & TAHA, 2008



Figure 4.2-10
Metro ROW Leaseholders from Saticoy Street to Keswick Street

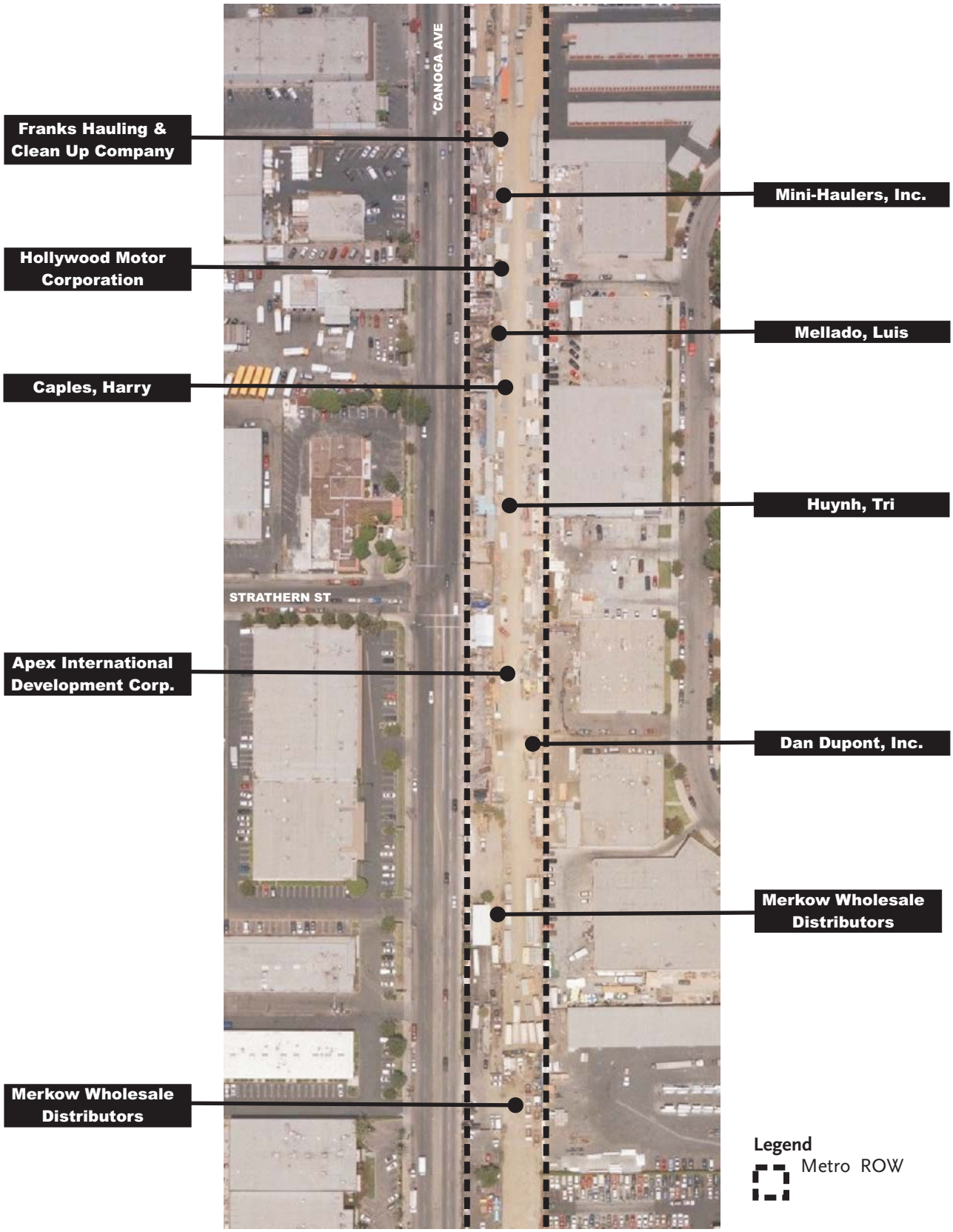

Legend

Metro ROW

Source: Metro Real Estate & TAHA, 2008



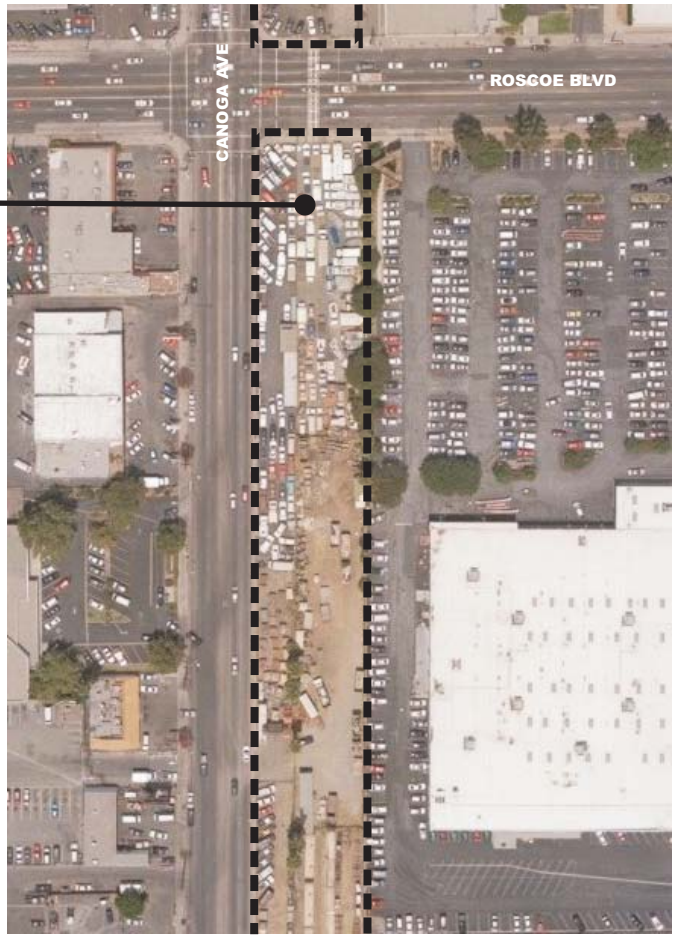
Figure 4.2-11
Metro ROW Leaseholders at the
Ingomar Street and Canoga Avenue Intersection




Source: Metro Real Estate & TAHA, 2008



Figure 4.2-12
Metro ROW Leaseholders at the Strathern Street and Canoga Avenue Intersection




**Legend**

Metro ROW

Source: Metro Real Estate & TAHA, 2008

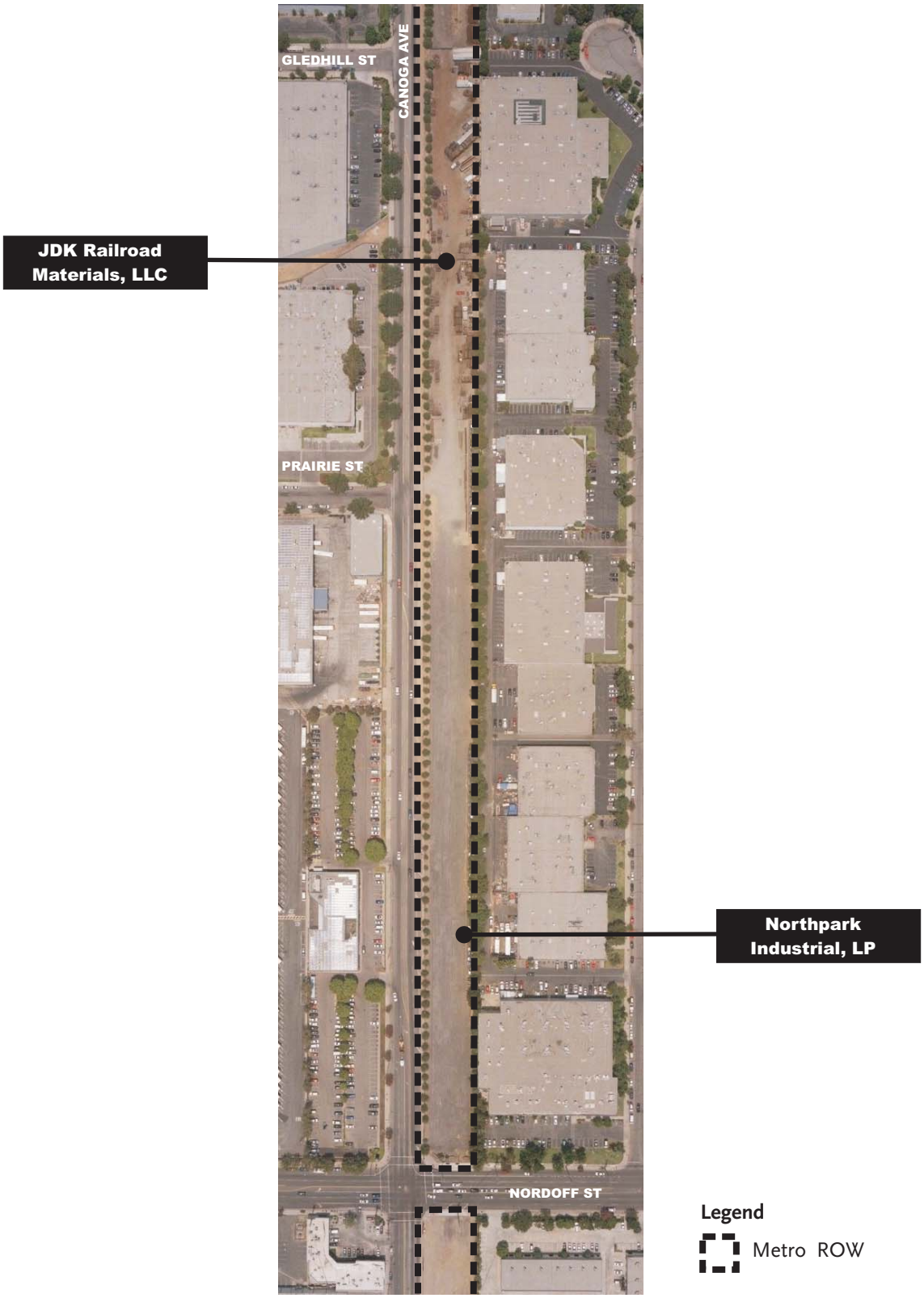


**Figure 4.2-13**
**Metro ROW Leaseholders at the Roscoe Boulevard and Canoga Avenue Intersection**


Source: Metro Real Estate & TAHA, 2008



Figure 4.2-14
Metro ROW Leaseholders at the Schoenborn Street and Canoga Avenue Intersection




Source: Metro Real Estate & TAHA, 2008



Figure 4.2-15
Metro ROW Leaseholders from Nordoff Street to Gledhill Street


**Legend**

Metro ROW

Source: Metro Real Estate & TAHA, 2008



**Figure 4.2-16**
**Metro ROW Leaseholders from Marilla Street to Lassen Street**

Installation of the station platforms on the western sidewalk of Canoga Avenue and the park-and-ride spaces under the Canoga On-Street Dedicated Bus Lanes Alternative would also impact circulation and access to several private properties. For instance, the concrete plant's access driveway on Canoga Avenue south of Sherman Way would need to be closed as a result of the Canoga On-Street Dedicated Bus Lanes Alternative. Circulation and access impacts are discussed in more detail in Section 4.7 Traffic, Circulation & Parking.

Alternative 4. Canoga Busway

The implementation of the Canoga Busway Alternative would result in the non-renewal of all 25 sign lease agreements identified in **Table 4.2-2** above. All 25 of the outdoor advertising sign and billboard lease agreements are month-to-month, which allow Metro to terminate the lease with 90 days notice or less. These leases would not be renewed in order to accommodate the Canoga Busway Alternative.

**Figures 4.2-5** through **4.2-16** identify the locations of the 60 businesses with ground leases along the Metro ROW. Implementation of the Canoga Busway Alternative would result in the non-renewal of 56 of the 60 ground leases. However, the four leases that may be renewed, would be reconfigured, if possible. The leases that would be reconfigured include the leases with the two concrete processing plants (National Ready Mixed Services Company and California Portland Cement Company), Jacobi Building Materials, and Canoga Self Storage. Canoga Self Storage has a long-term lease that expires in September 2025, while the other three leases are month-to-month.

All of the remaining 56 ground leases allow Metro to terminate the lease with 180 days notice, or less.[3] The tenants that would be displaced by the Canoga Busway Alternative may be entitled to relocation assistance under the California Act due to the termination or non-renewal of their lease agreements with Metro. However, the qualification is dependent upon the specific lease agreement. In many instances, the lease agreement with Metro contains a provision wherein the tenant acknowledged that they are not entitled to relocation benefits if the lease is not renewed for a public transit project. Nonetheless, the Canoga Busway Alternative would result in a significant displacement impact without mitigation.

*Mitigation Measures:*

The following mitigation measure is applicable to the Canoga On-Street Dedicated Bus Lanes Alternative and the Canoga Busway Alternative.

> ***MM 4.2-2***: For leases without an acquisition waiver, Metro shall provide relocation assistance and compensation per the Uniform Relocation Assistance and Real Property Acquisition Policies Act and the California Relocation Act to those who are displaced as a result of the Canoga Transportation Corridor Project.

*Level of Impact After Mitigation*: Implementation by Metro of state acquisition and relocation programs, policies, and procedures, as stipulated in Mitigation Measure **MM 4.2-2** would result in less-than-significant impacts.

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[3]Ibid.

**Impact 4.2.3. The proposed project does not have the potential to significantly impact licenses and easements along the Metro ROW.**

Alternative 1. No Project

The No Project Alternative would not include any physical changes, and the Metro ROW would not be used for a transit project. The existing licenses and easements along the Metro ROW would not be affected. Therefore, the No Project Alternative would not result in any displacement and/or relocation impacts.

Alternative 2. TSM

The TSM Alternative would include improvements to the transportation system within existing street ROWs. The existing licenses and easements along the Metro ROW would not be affected. Therefore, no displacement and/or relocation impacts would occur.

Alternative 3. Canoga On-Street Dedicated Lanes

Implementation of the Canoga On-Street Dedicated Bus Lanes Alternative would result in the non-renewal of all eight licenses and easements identified in **Table 4.2-2** above. All of the eight licenses and easements are month-to-month, which allow Metro to terminate the licenses or easements with 90 days notice or less. Therefore, no displacement and/or relocation impacts would occur.

Alternative 4. Canoga Busway

The implementation of the Canoga Busway Alternative would result in the non-renewal of all eight licenses and easements identified in **Table 4.2-2** above. All eight licenses and easements are month-to-month, which allow for Metro to terminate the licenses or easements with 90 days notice or less. Therefore, no displacement and/or relocation impacts would occur.

*Mitigation Measures:*

The proposed project would result in a less-than-significant impact to licenses and easements for each Alternative, and no mitigation measures are necessary.

*Level of Impact After Mitigation*: Impacts to licenses and easements would be less than significant under each Alternative.

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**Impact 4.2.4. The proposed project would not have any land acquisition, displacement or relocation impacts as a result of construction activities.**

Alternative 1. No Project

The No Project Alternative would not include any construction activity. Therefore, no land acquisition, displacement, or relocation impacts from construction would occur.

Alternative 2. TSM

The TSM Alternative would not require any construction activity that would require acquisition and or displacement. Therefore, no land acquisition, displacement, or relocation impacts from construction would occur.

Alternative 3. Canoga On-Street Dedicated Lanes

Land acquisition and termination of Metro leases would occur prior to construction. Although temporary easements within the Canoga Avenue ROW would likely be required for construction staging, including equipment and materials storage, construction offices, employee parking, and other related construction uses, no acquisitions or displacements would occur. As such, the Canoga On-Street Dedicated Lanes Alternative would not result in any significant land acquisition, displacement, or relocation impacts from construction.

Alternative 4. Canoga Busway

Land acquisition and termination of Metro leases would occur prior to construction. Although temporary easements within the cross street ROWs would likely be required for construction activities, no acquisitions or displacements would occur. As such, the Canoga Busway Alternative would not result in any significant land acquisition, displacement, or relocation impacts from construction.

*Mitigation Measures:*

The proposed project would not result in any land acquisition, displacement, or relocation impacts from construction, and no mitigation measures are necessary.

*Level of Impact After Mitigation*: No impacts associated with land acquisition, displacement, or relocation impacts from construction would occur under each alternative.

**Impact 4.2.5. The proposed project would not result in a significant cumulatively considerable impact.**

The development of transit improvements would entail the termination or non-renewal of current leases along the Metro ROW. These changes could have a direct adverse effect on businesses that are entirely located within the Metro ROW or those that rely substantially on land in the Metro ROW for their operations. The property acquisitions and displacements and/or relocations associated with the proposed project could occur in areas where other projects also are acquiring property. However, a significant cumulative effect is unlikely since the acquisitions necessary for the proposed project would not induce any additional acquisitions and displacements and/or relocations beyond those that might otherwise occur as a result of the other individual related projects. Furthermore, all acquisitions associated with the proposed project would be mitigated through applicable relocation assistance programs.

*Mitigation Measures:*

The proposed project would not result in a significant cumulatively considerable land acquisition, displacement, or relocation impact for each Alternative, and no mitigation measures are necessary.

*Level of Impact After Mitigation*: Cumulative land acquisition, displacement, and relocation impacts would be less than significant under each Alternative.

# 4.3 POPULATION, HOUSING AND ENVIRONMENTAL JUSTICE

This section describes potential project-related impacts to population, housing and employment associated with the Canoga Transportation Corridor Project. Potential environmental justice effects are also addressed in this section to evaluate whether implementation of the proposed project could result in adverse human health or environmental effects that would disproportionately affect minority or low-income populations.

## 4.3.1 EXISTING SETTING

### Population

Los Angeles County covers approximately 4,000 square miles of land that includes more than 2,600 square miles of unincorporated areas and 88 incorporated cities. Los Angeles County is the most populous county in California and in the United States. In the year 2000, Los Angeles County's population was approximately 9.5 million persons (**Table 4.3-1**). By the year 2030, Los Angeles County's population is anticipated to increase by approximately 27.6 percent (12.2 million persons). The City of Los Angeles is the largest city within Los Angeles County. The City of Los Angeles had a population of approximately 3.7 million persons in the year 2000. The population is anticipated to increase by 16.1 percent (4.3 million persons) by the year 2030. The Canoga Transportation Corridor is located in the western portion of the San Fernando Valley. The San Fernando Valley, which includes many communities of the City of Los Angeles, as well as the incorporated cities of San Fernando, Burbank, Glendale, Hidden Hills, and Calabasas and some unincorporated areas of the County of Los Angeles, had a population of approximately 1.4 million in the year 2001. The population of the San Fernando Valley is anticipated to increase by 14 percent to approximately 1.6 million persons in the year 2030.

**Table 4.3-1: Population and Housing Trends**

| Area | Year 2000 | Year 2030 | Change |
|---|---|---|---|
| **County of Los Angeles** | | | |
| Population | 9,580,028 | 12,221,799 | 27.6% |
| Housing Units | 3,137,047 | 4,120,270 | 31.3% |
| **City of Los Angeles** | | | |
| Population | 3,711,969 | 4,309,625 | 16.1% |
| Housing Units | 1,276,578 | 1,637,475 | 28.3% |
| **Canoga Transportation Corridor /a, b/** | | | |
| Population | 83,070 | 96,943 | 16.7% |
| Housing Units | 29,618 | 37,408 | 26.3% |

/a/ Data derived from 2000 U.S. Census Tract Block Groups within a one-half mile of the proposed stations.
/b/ Growth projections based upon 30-year Population and Housing growth within the Canoga Park-Winnetka and Chatsworth-Porter Ranch Communities.
**SOURCE**: SCAG, 2004 Regional Transportation Plan (RTP) Growth Projections; TAHA, 2007

The Corridor is approximately six miles long and spans the City of Los Angeles communities of Chatsworth-Porter Ranch, Canoga Park, West Hills, Winnetka, and Woodland Hills. In the year

2000, the Corridor had a population of approximately 83,070 persons. The population in the Corridor is anticipated to increase by 16.7 percent (96,943 persons) by the year 2030. The proposed project does not include any housing units that would increase the population of the Corridor, and the Canoga Transportation Corridor has been designated as part of the 2% Opportunity Area in the SCAG Compass Blueprint 2% Strategy (see Section 4.1 for a discussion of this plan).

## Housing

The County of Los Angeles' housing stock is a mixture of single-family, multi-family and mobile housing units. Slightly over half of the housing stock in the County is single-family units.[1] In 2000, there were approximately 3.1 million housing units in the County (**Table 4.3-1**). The number of housing units in Los Angeles County is anticipated to increase by 31.3 percent (to 4.1 million housing units) by 2030.

The composition of the City of Los Angeles' housing stock is slightly different from that of Los Angeles County. The City of Los Angeles' housing stock is composed of approximately 40 percent single-family housing units and approximately 60 percent multi-family housing units.[2] In the year 2000, the City of Los Angeles had approximately 1.3 million housing units (**Table 4.3-1**). The number of housing units is expected to increase by approximately 28.3 percent (to 1.6 million housing units) by the year 2030.

Housing stock within the Corridor is predominantly composed of single-family housing units. In the year 2000, there were approximately 29,618 housing units in the Corridor (**Table 4.3-1**). The number of housing units in the Corridor is anticipated to increase by 26.3 percent (to 37,048 housing units) by the year 2030. The proposed project does not include any housing units, and as discussed in Section 4.2 Land Acquisition, Displacement and Relocation, no housing units would be displaced by the proposed project. Section 4.1 Land Use and Planning further addresses residential land uses within the Corridor.

## Employment

In 2001, there were 573,002 jobs within the San Fernando Valley. By 2030, the number of jobs within the San Fernando Valley is expected to increase to 723,501, a 26-percent increase. For the study area, which generally extends from Ventura Boulevard on the south to the SR-118 Freeway on the north, and from Winnetka Avenue on the east to Topanga Canyon on the west, employment is predicted to increase by 24 percent from 140,533 in 2000 to 174,533 by 2030.

Major employment centers within the Corridor include the Warner Center and Chatsworth Industrial Center. The Kaiser Foundation Hospital, a large medical center located in Woodland Hills adjacent to De Soto Avenue and Burbank Boulevard, also represents a concentration of employment. The highest employment densities are in the Warner Center area through to Ventura Boulevard and the mid-section of Chatsworth between Nordhoff and Lassen Streets. In addition, a narrow band of employment surrounds Canoga Avenue through Canoga Park.

[1] Los Angeles County General Plan, Housing Element at the County of Los Angeles Regional Planning Department website: http://planning.lacounty.gov/doc/gp/gpHousing/gpd_housing.pdf, accessed October 23, 2007.

[2] City of Los Angeles, http://planning.lacity.org/DRU/Locl/LocPfl.cfm?geo=Cw&loc=LA_&yrx=06, accessed October 17, 2007.

As discussed in Section 4.2 Land Acquisition, Displacement and Relocation, there are a number of commercial and industrial businesses with lease agreements to expand their sites for parking, storage, and/or building improvements into the Metro Right-of-Way (ROW) that would be terminated as part of the project. In addition, acquisition of a few properties occupied by commercial and/or industrial businesses outside the Metro ROW may also be required. Although Metro may provide relocation assistance and compensation per the California Relocation Act to those who are displaced or whose property is acquired, it is assumed that commercial and industrial jobs would be displaced by the project. Additionally, the qualification for the relocation assistance and compensation is dependent on the specific lease agreement. Based on the size of the developed lease area and SCAG employment data for the project area, it is estimated that the leased area could account for approximately 143 jobs. Similarly, the properties to be acquired are estimated to contribute up to approximately 91 jobs.[3]

## Environmental Justice

As defined by the Environmental Protection Agency (EPA), environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or policies. Meaningful involvement means that: (1) potentially affected community residents have an appropriate opportunity to participate in decisions about a proposed activity that will affect their environment and/or health, (2) the public's contribution can influence the regulatory agency's decision, (3) the concerns of all participants will be considered in the decision making process, and (4) the decision makers shall seek out and facilitate the involvement of those potentially affected.

### *Public Participation and Alternative Screening*

To ensure opportunities for public participation during the project development process, Metro held two public project scoping meetings, after sending 44,400 notices. The first was held on July 26, 2007 at the Chatsworth High School and the second on July 30, 2007 at the New Academy Canoga Park Elementary School in Canoga Park. A total of 168 people attended the two meetings to provide comments on the alignment alternatives for the proposed project.

Following the public project scoping meetings, an Alternative Screening Report was prepared to evaluate the alternative alignments for the northern extension of the existing Metro Orange Line (MOL). Based on community input, as well as qualitative and quantitative evaluations, the Canoga On-Street Dedicated Lanes Alternative and the Canoga Busway Alternative were chosen to be further evaluated in this Draft EIR in addition to the No Project Alternative and Transportation System Management Alternative (TSM).

Environmental justice concerns would be the same under each of the alternatives since the alternatives are located adjacent to one another and would affect the same local population. The Corridor's demographic data, which were derived from the 2000 U.S. Census, are presented in **Table 4.3-2**. As shown, the Corridor's population is predominantly Hispanic and White, approximately 80.1 percent of the Corridor's entire population. In 2000, approximately 16.3 percent of the

[3]Employment estimates are based on the SCAG *Employment Density Study* (2001).

Corridor's population was below the poverty threshold. The poverty thresholds in 2000 are as follows:[4]

- One person household: $8,794
- Two person household: $11,239
- Three person household: $13,738
- Four person household: $17,603
- Five person household: $20,819
- Six person household: $23,528
- Seven person household: $26,754
- Eight person household: $29,701
- Nine person or more household: $35,060

The demographic data were derived from the census tract block groups within one-half mile of the five proposed stations (**Figure 4.3-1**).[5]

## 4.3.2 REGULATORY FRAMEWORK

Following the lead of the environmental justice movement at the federal level, a series of laws beginning in 1999 have been enacted in California to implement environmental justice. Environmental justice in California means the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.[6] The Governor's Office of Planning and Research (OPR) has been designated the "coordinating agency in state government for environmental justice programs." As part of its new environmental justice coordinator role, OPR must now incorporate environmental justice considerations into local government planning decisions.

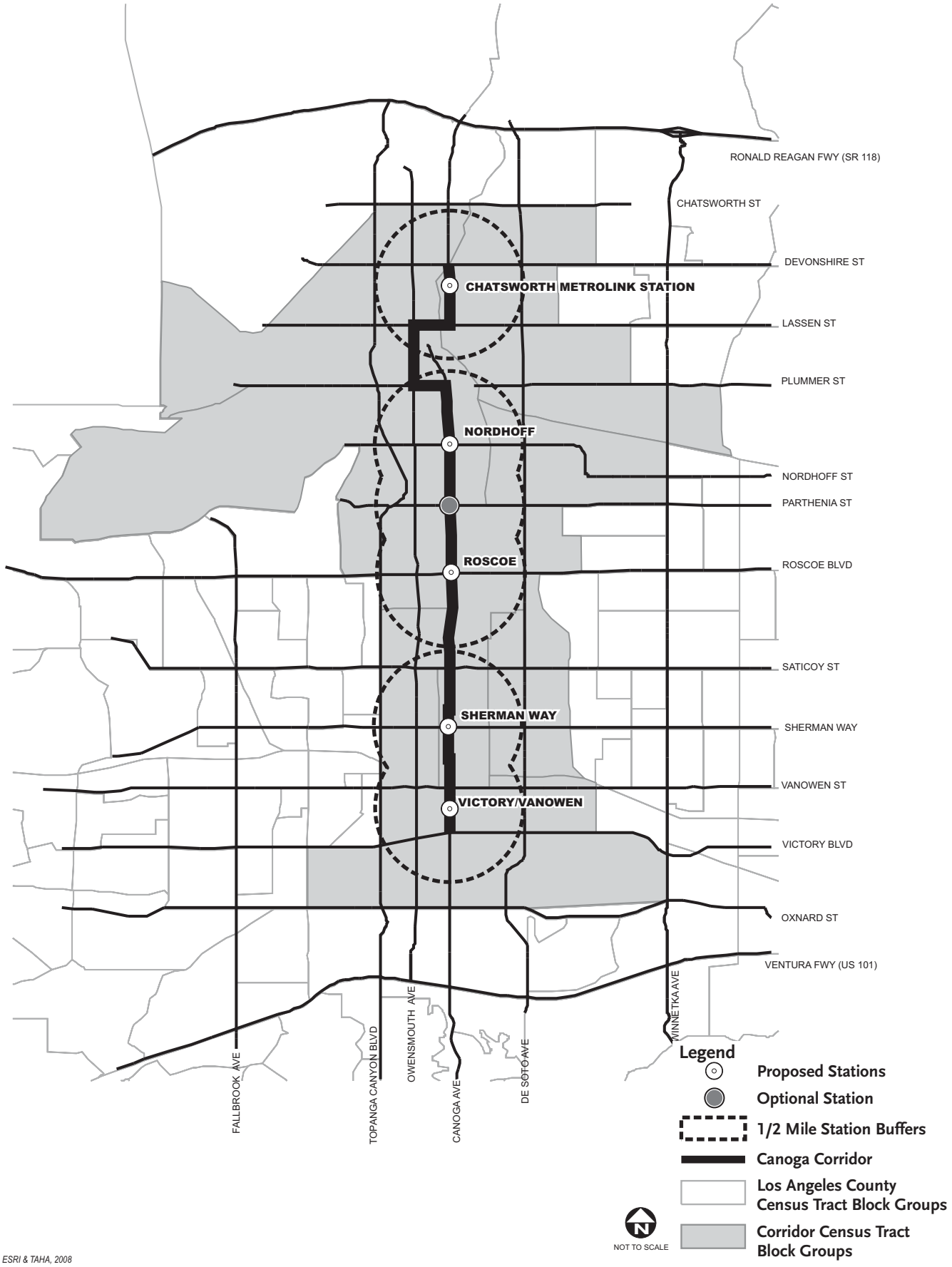
Recognizing the federal government's lead in the area of environmental justice, the California laws require OPR to coordinate with federal agencies regarding environmental justice. At the federal level, an "Executive Order on Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" was issued on February 4, 1994. This order is designed to focus federal attention on environmental and human health conditions in minority communities and low-income communities and states that "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." This Order is intended to guard against discrimination in Federal Programs substantially affecting human health and the environment and to provide for access to information and public participation relating to such matters.

[4]The listed thresholds are the weighted average thresholds (U.S. Census Bureau, Housing and Household Economic Statistics Division). The poverty threshold is updated each year by the U.S. Census Bureau.

[5]Census tract block group are a cluster of census blocks having the same first digit of their four-digit identifying numbers within a census tract. For example, block group 3 within a census tract includes all blocks numbered from 3000 to 3999.

[6]Government Code Section 65040.12 and Public Resources Code Section 72000.

| Table 4.3-2: Canoga Transportation Corridor Demographic Data (2000) | | |
|---|---|---|
| Total Persons in Corridor | | 83,070 |
| Total Households in Corridor | | 29,618 |
| **Race** | **Persons** | **% of Total Population** |
| White | 31,753 | 38.2% |
| Black or African American | 3,555 | 4.3% |
| American Indian and Alaska Native | 209 | 0.3% |
| Asian | 9,919 | 11.9% |
| Native Hawaiian and Other Pacific Islander | 104 | 0.1% |
| Other race | 111 | 0.1% |
| Two or more races | 2,642 | 3.2% |
| Hispanic or Latino | 34,777 | 41.9% |
| Total Minority Population | 51,317 | 61.8% |
| **Annual Household Income** | **Households** | **% of Total Households** |
| Less than $10,000 | 2,562 | 8.7% |
| Between $10,000 and $14,999 | 1,945 | 6.6% |
| Between $15,000 and $19,999 | 2,080 | 7.0% |
| Between $20,000 and $24,999 | 2,013 | 6.8% |
| Between $25,000 and $29,999 | 1,998 | 6.7% |
| Between $30,000 and $39,999 | 3,823 | 12.9% |
| Between $40,000 and $59,999 | 6,029 | 20.4% |
| Between $60,000 and $99,999 | 5,827 | 19.7% |
| Over $100,000 | 3,341 | 11.3% |
| **Poverty Levels** | **Persons** | **% of Total Population** |
| Income in 1999 below poverty level | 13,350 | 16.3% |
| Income in 1999 at or above poverty level | 68,788 | 83.7% |
| **SOURCE:** 2000 U.S. Census; TAHA, 2007. | | |




*Source: ESRI & TAHA, 2008*



**Figure 4.3-1**
**Environmental Justice Concerns Census Tract Block Groups**

In response to the Executive Order, the U.S. Department of Transportation (USDOT) issued an Order to Address Environmental Justice in Minority Populations and Low-Income Populations. This order, issued in April 1995, sets guidelines to ensure that all federally funded transportation-related programs, policies, or activities having the potential to adversely affect human health or the environment involve a planning and programming process that explicitly considers the effects on minority populations and low-income populations.

The proposed project is not being undertaken by a federal agency or using federal funds and, therefore, is not subject to the USDOT Order to Address Environmental Justice in Minority Populations and Low-Income Populations. However, California Government Code Section 11135 expressly prohibits disparate impact discrimination and provides a private right of action to enforce any state anti-discrimination regulation created under Section 11135. Thus, private parties in California can rely on the judicial system to address environmental justice concerns. Government Code Section 11135 is not an express environmental justice statute but rather a general prohibition on discrimination in government programs and benefits. In addition, CEQA requires a finding as to whether or not specific social considerations, among others, make infeasible the mitigation measures or alternatives to the project identified in the environmental review process. Therefore, agencies should evaluate whether measures or alternative projects that minimize significant environmental effects on low-income and minority communities truly are infeasible.

## 4.3.3 IMPACTS AND MITIGATION MEASURES

### Significance Criteria

#### *Population and Housing*

According to CEQA, a significant impact to population and housing may occur when:

- The proposed project causes the redistribution of the population, or an influx or loss of population (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure);
- Creates inconsistencies with the growth management polices mentioned in the various applicable plans that govern the project area; or
- Displaces substantial numbers of existing housing and/or people, necessitating the construction of replacement housing elsewhere.

#### *Employment*

According to CEQA, a significant impact to employment may occur when:

- Employment opportunities are displaced.

#### *Environmental Justice*

The State of California defines environmental justice as the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies. CEQA does not have thresholds of significance for issues related to environmental justice. Therefore, environmental justice issues associated with the proposed project were evaluated in accordance with *Federal Actions to Address Environmental*

*Justice in Minority Populations and Low Income Populations (Environmental Justice)*, Executive Order 12898. Accordingly, a significant impact associated with environmental justice would occur when:

- The proposed project disproportionately affects minority and/or low-income populations.

## Methodology

### *Population, Housing and Employment*

2000 U.S. Census data were used to describe the existing population, housing and employment characteristics of the study area, and SCAG population projections were used to describe expected growth in the area. A qualitative discussion was provided to examine the potential impacts of the proposed project on these population, housing and employment patterns.

### *Environmental Justice*

The methodology in this section incorporates the socioeconomic and environmental justice analysis guidelines set by the USDOT and the United States Environmental Protection Agency's (EPA) *Final Guidance For Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses.* Data used in this section were gathered from the 2000 U.S. Census. For this analysis, all census tract block groups within a half-mile of the Corridor were analyzed for race and income composition. A "high concentration" of minority or low-income residents was defined as an area that contains a higher percentage of minority or low-income populations than that found in the City of Los Angeles. The USDOT uses the following definition given in Title IV of the Civil Rights Act to define "minority":

| | |
|---|---|
| **Black** | a person having origins in any of the black racial groups of Africa |
| **Hispanic** | a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race |
| **Asian** | a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent |
| **American Indian** | a person having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition |
| **Native Hawaiian or other Pacific Islander** | a person having origins in any of the original peoples of Hawaii, Guam Samoa, or other Pacific Islands |

The USDOT uses the following definition given in Title IV of the Civil Rights Act to define "low-income":

| | |
|---|---|
| **Low-income** | a person whose household income (or in the case of a community or group, whose median household income) is at or below the U.S. Department of Health and Human Services (HHS) poverty guidelines. |

The 2007 HHS poverty guidelines are shown in **Table 4.3-3**.

**Table 4.3-3: 2007 HHS Poverty Guidelines For Los Angeles County**

| Size of Family Unit | Poverty Guideline |
|---|---|
| 1 | $10,210 |
| 2 | $13,690 |
| 3 | $17,170 |
| 4 | $17,170 |
| 5 | $24,130 |
| 6 | $27,610 |
| 7 | $31,090 |
| 8 | $34,570 |
| For each additional person | $3,480 |

**SOURCE:** http://aspe.hhs.gov/poverty/07poverty.shtml, November 25, 2007.

**Impact 4.3.1. The proposed project would not have the potential to cause the redistribution of population, or an influx or loss of population. The proposed project would not have any significant impact to population and housing without mitigation.**

Section 4.1 Land Use and Development indicates that there are adopted policies that would support increased intensification of land uses in the Corridor, especially in the vicinity of transit stations. The probability of this intensification at transit stations, however, is not directly reflected in local land use controls, such as zoning and the applicable community plan. Intensification of land uses would have to undergo additional environmental review and a public decision/approval process through the City of Los Angeles. The guidelines to CEQA expressly prohibit the inclusion of speculative information. Thus, without the appropriate land use zoning allowing intensification of areas adjacent to Metro station areas, any further discussion of the effects is entirely speculative and is beyond the scope of this Draft EIR. For further information, see the discussion in Section 5.1 Growth Inducing Impacts. As none of the project alternatives would displace housing or include a housing component, none of the alternatives under consideration would have an affect on housing or population, and no significant impacts are anticipated.

## Alternative 1. No Project

The No Project Alternative would not include any physical changes, and the Metro ROW would not be used for a transit project. This alternative would not cause the redistribution of the population, or an influx or loss of population. Therefore, the No Project Alternative would not result in any impacts to population and housing.

## Alternative 2. TSM

The TSM Alternative would include improvements to the transportation system within existing street ROWs. The local bus stops that would be constructed for this alternative would not cause the

redistribution of the population, or an influx or loss of population. No significant impacts to population and housing are anticipated.

Alternative 3. Canoga On-Street Dedicated Lanes

The Canoga On-Street Dedicated Lanes Alternative requires widening Canoga Avenue into the Metro ROW on the east side of Canoga Avenue. This alternative would also require acquisition of private property outside of and adjacent to the Metro ROW and the termination and reconfiguration of lease agreements between commercial and industrial businesses operating within the Metro ROW. No housing units would be displaced or introduced as part of the proposed project. Therefore, no redistribution, or influx or loss of the population is anticipated as a result of this alternative. The Canoga On-Street Dedicated Lanes Alternative would not result in any significant impact to population and housing.

Alternative 4. Canoga Busway

The Canoga Busway Alternative would require acquisition of private property outside of and adjacent to the Metro ROW and the termination and reconfiguration of lease agreements between commercial and industrial businesses operating within the Metro ROW. Similar to the other alternatives, no housing units would be displaced or introduced as part of the proposed project. Therefore, no redistribution, or influx or loss of the population is anticipated as a result of this alternative. The Canoga Busway Alternative would not result in any significant impact to population and housing.

*Mitigation Measures:*

The proposed project would not result in any significant impacts to population and housing for each alternative, and no mitigation measures are necessary.

*Level of Impact After Mitigation*: No impact.

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**Impact 4.3.2. The proposed project could have the potential to create inconsistencies with the growth management polices mentioned in the various applicable plans that govern the project area. The proposed project would have a less-than-significant impact on population and housing without mitigation.**

Relevant growth management policies applicable to the proposed project are discussed in Section 4.1 Land Use and Development, and growth-inducing impacts are discussed in Subsection 5.1 Growth-Inducing Impacts.

Alternative 1. No Project

The No Project Alternative would not include any physical changes, and the Metro ROW would not be used for a transit project. This alternative would not create inconsistencies with the growth management polices in the plans that govern the project area. Therefore, the No Project Alternative would not have any impacts on population and housing.

## Alternative 2. TSM

The TSM Alternative would include improvements to the transportation system within existing street ROWs. As discussed in response to Impact 4.3.1, it would be speculative to attempt to predict the additional intensification of land use or changes of land use from community plans that may be made in the future along this Corridor. No housing units are proposed as part of the project, and this alternative is not anticipated to stimulate development to a level inconsistent with applicable planned local land use designations. Therefore, the TSM Alternative would result in a less-than-significant impact on population and housing.

## Alternative 3. Canoga On-Street Dedicated Lanes

The Canoga On-Street Dedicated Lanes Alternative would improve the mobility and accessibility for people in the area by widening Canoga Avenue into the Metro ROW. As discussed in response to Impact 4.3.1, it would be speculative to attempt to predict the additional intensification of land use or changes of land use from community plans that may be made in the future along this Corridor. No housing units are proposed as part of the project, and this alternative would not create inconsistencies with the growth management polices applicable to the project, including the SCAG Compass Blueprint 2% Strategy (see Section 4.1 Land Use and Planning). On the contrary, the Canoga On-Street Dedicated Lanes Alternative would be consistent with the SCAG Regional Transportation Plan (RTP) policy to build on the success of existing Bus Rapid Transit (BRT) lines and to connect major activity centers. Therefore, the Canoga On-street Dedicated Lanes Alternative would result in a less-than-significant impact on population and housing.

## Alternative 4. Canoga Busway

The Canoga Busway Alternative would improve the mobility and accessibility for people in the area. As discussed in response to Impact 4.3.1, it would be speculative to attempt to predict the additional intensification of land use or changes of land use from community plans that may be made in the future along this Corridor. No housing units are proposed as part of the project, and this alternative would not create inconsistencies with the growth management polices applicable to the project, including the SCAG Compass Blueprint 2% Strategy (see Section 4.1 Land Use and Planning). On the contrary, the Canoga Busway Alternative would be consistent with the SCAG Regional Transportation Plan policy to build on the success of existing BRT lines and to connect major activity centers. Therefore, the Canoga Busway Alternative would result in a less-than-significant impact on population and housing.

***Mitigation Measures:*** The proposed project would result in a less-than-significant impact to population and housing for each alternative, and no mitigation measures are necessary.

***Level of Impact After Mitigation*:** Less than significant.

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**Impact 4.3.3. The proposed project would not have the potential to displace substantial numbers of existing housing and/or people, necessitating the construction of replacement housing elsewhere. The proposed project would have a less-than-significant impact on population and housing without mitigation.**

Alternative 1. No Project

The No Project Alternative would not include any physical changes, and the Metro ROW would not be used for a transit project. This alternative would not displace existing housing and/or people, necessitating the construction of replacement housing elsewhere. Therefore, the No Project Alternative would not result in any impacts to population and housing.

Alternative 2. TSM

The TSM Alternative would include improvements to the transportation system within existing street ROWs. The local bus stops that would be constructed for this alternative would not displace existing housing and/or people, necessitating the construction of replacement housing elsewhere. Therefore, the TSM Alternative would not result in any impacts to population and housing.

Alternative 3. Canoga On-Street Dedicated Lanes

Implementation of the Canoga On-Street Dedicated Lanes Alternative may require the acquisition of a couple commercial and/or industrial properties outside the Metro ROW and the termination and reconfiguration of lease agreements between commercial and industrial businesses operating within the Metro ROW. Compliance with State relocation assistance policies would assist displaced business owners and compensate property owners. However, qualifications are dependent on the specific lease agreement. It is assumed that a number of jobs would be displaced, as certain businesses would likely relocate out of the area and other business would choose to close. Specifically, it is estimated that implementation of the Canoga On-Street Dedicated Lanes Alternative would result in the loss of approximately 234 jobs (143 due to the termination of leases in the area and 91 due to land acquisitions).[7] However, because of the overall local and regional employment growth anticipated in the area, the loss of jobs resulting from the implementation of the Canoga On-Street Dedicated Lanes Alternative is not anticipated to displace a substantial number of people. Furthermore, no housing units would be displaced under this alternative. Therefore, the construction of replacement housing would not be necessary. The Canoga On-Street Dedicated Lanes Alternative would result in a less-than-significant impact on population and housing.

Alternative 4. Canoga Busway

Implementation of the Canoga Busway Alternative may require the acquisition of commercial and/or industrial properties outside the Metro ROW and the termination and reconfiguration of lease agreements between commercial and industrial businesses operating within the Metro ROW. Compliance with State relocation assistance policies would assist displaced business owners and compensate property owners. However, qualifications are dependent on the specific lease agreement. It is assumed that some jobs and employment opportunities would be displaced, as certain businesses would likely relocate out of the area and other business would choose to close. Specifically, it is estimated that implementation of the Canoga Busway Alternative would result in the loss of approximately 219 jobs (143 due to the termination of leases in the area and 76 due to land

[7]Employment estimates are based on the SCAG *Employment Density Study* (2001).

acquisitions).[8] However, because of the overall local and regional employment growth anticipated in the area, the loss of jobs as a result of the Canoga Busway Alternative is not anticipated to displace substantial numbers of people. Furthermore, no housing units would be displaced under this alternative. Therefore, the construction of replacement housing would not be necessary. The Canoga Busway Alternative would result in a less-than-significant impact on population and housing.

*Mitigation Measures:*

The proposed project would result in no impact or a less-than-significant impact to population and housing for each alternative, and no mitigation measures are necessary.

*Level of Impact After Mitigation*: Less than significant.

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**Impact 4.3.4. The proposed project could have the potential to displace employment opportunities. The proposed project would have a significant impact on employment without mitigation.**

Alternative 1. No Project

The No Project Alternative would not include any physical changes, and the Metro ROW would not be used for a transit project. This alternative would not displace any jobs or employment opportunities. Therefore, the No Project Alternative would not result in any employment impacts.

Alternative 2. TSM

The TSM Alternative would include improvements to the transportation system within existing street ROWs. This alternative would not displace any jobs or employment opportunities. Therefore, the TSM Alternative would not result in any employment impacts.

Alternative 3. Canoga On-Street Dedicated Lanes

The Canoga On-Street Dedicated Lanes Alternative requires widening Canoga Avenue into the Metro ROW. This alternative would require acquisition of private property outside the Metro ROW (see Section 4.2 Land Acquisition, Displacement and Relocation for a list of private properties that may be acquired outside of the Metro ROW) and the termination and reconfiguration of lease agreements between commercial and industrial businesses operating within the Metro ROW. Compliance with State relocation assistance policies would assist displaced business owners and compensate property owners. The relocation assistance is dependent on the specific lease agreement. However, it is assumed that a number of jobs and employment opportunities would be displaced, as certain businesses would likely relocate out of the area and other business would choose to close. Specifically, implementation of the Canoga On-Street Dedicated Lanes Alternative may require the acquisition of six properties (See Table 4.2-3 in Section 4.2 Land Acquisition and Displacement), the termination of 56 leases and the possible reconfiguration of the leases. It is estimated that implementation of Canoga On-Street Dedicated Lanes Alternative would result in the loss of approximately 234 jobs (143 due to the termination of leases in the area and 91 due to land acquisitions). However, because of the overall local and regional employment growth anticipated in

[8]Employment estimates are based on the SCAG *Employment Density Study* (2001).

the area, the number of jobs displaced would be relatively small in comparison to the total jobs in the region. Nonetheless, the Canoga On-street Dedicated Lanes Alternative would result in a significant impact on employment without mitigation.

Alternative 4. Canoga Busway

Implementation of the Canoga Busway Alternative would require acquisition of private property outside of the Metro ROW and result in the termination and reconfiguration of lease agreements between commercial and industrial businesses operating within the Metro ROW. Compliance with State relocation assistance policies would assist displaced business owners and compensate property owners. The relocation assistance is dependent on the specific lease agreement. However, it is assumed that some jobs and employment opportunities would be displaced, as certain businesses would likely relocate out of the area and other business would chose to close. Specifically, implementation of the Canoga Busway Alternative may require the acquisition of no more than five properties (see Table 4.2-4 in Section 4.2 Land Acquisition and Displacement), the termination of 56 leases and the possible reconfiguration of the leases. It is estimated that the implementation of the Canoga Busway would result in the loss of approximately 219 jobs (143 due to the termination of leases in the area and 76 due to land acquisitions). However, because of the overall local and regional employment growth anticipated in the area, the number of jobs displaced would be relatively small in comparison to the total jobs in the region. Nonetheless, the Canoga Busway Alternative would result in a significant impact on employment without mitigation.

*Mitigation Measures:*

Mitigation Measure **MM 4.2-1** and **MM 4.2-2** included in Section 4.2 Land Acquisition, Relocation and Displacement would also be applicable to the Canoga On-Street Dedicated Lanes and the Canoga Busway Alternatives.

*Level of Impact After Mitigation*: Less-than-significant. Implementation of Mitigation Measures **MM 4.2-1** and **MM 4.2-2** included in Section 4.2 Land Acquisition, Relocation and Displacement would result in employment impacts to be deemed less-than-significant after mitigation.

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**Impact 4.3.5. The proposed project would disproportionately affect minority and/or low-income populations through the displacement of employment. The proposed project would have a significant impact on minority and/or low-income population without mitigation.**

**Table 4.3-4** indicates that the Corridor has higher concentrations of minorities and low-income populations than the San Fernando Valley as a whole or compared to the City of Los Angeles. The Canoga Corridor is one of five corridors considered in the San Fernando Valley for further study and transit improvements.

Through the project alternative analysis and screening process, four basic alternatives are addressed in this EIR, (e.g., No Project Alternative, the TSM Alternative, the Canoga On-Street Dedicated Lanes Alternative, and the Canoga Busway Alternative). The No Project and TSM Alternatives would not have physical impacts to adjacent land uses, particularly housing and community facilities, or environmental justice implications. The Canoga On-Street and Canoga Busway alternatives would entail a substantial increase in transit service to the Corridor, and both options would include physical changes to Canoga Avenue and to the adjacent Metro ROW. As discussed in the Project

Description, stations have been located to provide convenient access for the adjacent community. Failure to provide service to transit dependent, low income, or minority populations would have environmental justice implications. As shown in **Table 4.3-4**, the proposed stations would provide adequate transit service to environmental justice sensitive communities surrounding the station areas. As such, there would be no adverse environmental justice implications of the proposed service or station locations.

The bulk of this EIR addresses potential adverse impacts on other topic areas. As discussed, there are no housing and associated housing displacements associated with the project alternatives. Thus, there would be no disproportionate impact on affordable housing or the general housing stock in adjacent communities, and there would be no adverse environmental justice implications.

The only area where the proposed project alternatives may have an adverse effect related to environmental justice is the displacement of employment, resulting from either the termination of leases in the Metro ROW or from the acquisition of commercial and industrial properties to create connections to the Chatsworth Metrolink Station. The environmental justice considerations in this case stem from the fact that most of the land uses displaced are industrial or warehouse in nature where the proportion of minorities is typically high. In addition, it is assumed that the affected jobs in the Corridor are reflective of the labor pool socioeconomic distribution of the adjacent community, which has a minority population proportion higher than the San Fernando Valley, the City of Los Angeles and the County of Los Angeles as a whole. Thus, as discussed below, of the 234 jobs displaced by the Canoga On-Street Dedicated Lanes Alternative and the 219 jobs displaced by the Canoga Busway Alternative, a disproportionate number of minority workers could be affected. Without specific mitigation to address the needs of displaced workers (which can only be addressed on a business-by-business basis), this displacement may have significant adverse environmental justice implications.

### Alternative 1. No Project

The No Project Alternative would not include any physical changes, and the Metro ROW would not be used for a transit project. This alternative would not result in any impacts on minority or low-income populations. Therefore, the No Project Alternative would not disproportionately affect minority and/or low-income populations, and no impacts would occur.

### Alternative 2. TSM

The TSM Alternative would include improvements to the transportation system within existing street ROWs. This alternative would not result in any impacts to minority and/or low-income populations. Therefore, the TSM Alternative would not disproportionately affect minority and/or low-income populations, and no impacts would occur

### Alternative 3. Canoga On-Street Dedicated Lanes

The Canoga On-Street Dedicated Lanes Alternative would be an improvement to the existing public transportation system serving the area. The extension of MOL to this area would result in beneficial impacts to the local population that is comprised primarily of a minority and low-income demographic. Although the Canoga On-Street Dedicated Lanes Alternative would result in the loss of 234 jobs (143 due to the termination of leases in the area and 91 due to land acquisitions) that may affect minority and low-income residents, these residents would benefit from increased access to employment opportunities and regional centers. Therefore, the Canoga On-Street Dedicated Lanes

Alternative would result in a beneficial overall effect to transportation for the communities affected. Nonetheless, as a disproportionate number of minority workers could be affected by the displacement of jobs as certain businesses would likely relocate out of the area and other business would choose to close, mitigation measures are included to reduce impacts to minority and/or low-income populations to less than significant.

Alternative 4. Canoga Busway

Similar to the Canoga On-Street Dedicated Lanes Alternative, the Canoga Busway Alternative would be an improvement to the existing public transportation system serving the area and would result in beneficial impacts to the local population that is comprised primarily of a minority and low-income demographic. Although the Canoga Busway Alternative would result in the loss of 219 jobs (143 due to the termination of leases in the area and 76 due to land acquisitions) that may affect minority and low-income residents, these residents would benefit from increased access to mass transit and, subsequently, increased access to employment opportunities and regional centers. Therefore, the Canoga Busway Alternative would result in a beneficial overall effect to transportation for the communities affected. Nonetheless, as a disproportionate number of minority workers could be affected by the displacement of jobs as certain businesses would likely relocate out of the area and other business would choose to close, mitigation measures are included to reduce impacts to minority and/or low-income populations to less than significant.

*Mitigation Measures:*

Mitigation Measure **MM 4.2-1** and **MM 4.2-2** included in Section 4.2 Land Acquisition, Relocation and Displacement would also be applicable to the Canoga On-Street Dedicated Lanes and the Canoga Busway Alternatives.

*Level of Impact After Mitigation*: Less than significant. Implementation of Mitigation Measures **MM 4.2-1** and **MM 4.2-2** included in Section 4.2 Land Acquisition, Relocation and Displacement would result in employment impacts to be deemed less-than-significant after mitigation.

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**Impact 4.3.6. The proposed project has the potential to have significant construction impacts without mitigation.**

Alternative 1. No Project

The No Project Alternative would not include any construction activity. Therefore, the local population would not be affected, and no construction impacts would occur.

Alternative 2. TSM

The TSM Alternative would not require any construction activity. Therefore, the local population would not be affected, and no construction impacts would occur.

**Table 4.3-4: Station Area Demographics**

| Location | Medium Income | Total population | Racial/Ethnic Group | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | White | % | Black | % | Hispanic | % | Asian | % | Native American | % | Other | % |
| County of Los Angeles | $42,189 | 9,519,338 | 2,959,614 | 31.1 | 901,472 | 9.5 | 4,242,213 | 44.7 | 1,124,569 | 11.8 | 25,609 | 0.3 | 265,861 | 2.8 |
| City of Los Angeles | $36,687 | 3,694,820 | 1,099,188 | 29.7 | 401,986 | 10.9 | 1,719,073 | 46.5 | 364,850 | 9.9 | 8,879 | 0.2 | 100,826 | 2.7 |
| North Valley | $47,791 | 651,944 | 205,797 | 31.6 | 27,490 | 4.2 | 335,692 | 51.5 | 64,917 | 10.0 | 1,761 | 0.3 | 16,280 | 2.5 |
| South Valley | $44,579 | 703,014 | 354,001 | 50.4 | 29,867 | 4.2 | 239,383 | 34.1 | 51,799 | 7.4 | 1,653 | 0.2 | 26,313 | 3.7 |
| **Proposed Stations** | | | | | | | | | | | | | | |
| Canoga MOL Station/a/ | $35,783 | 18,233 | 7,143 | 39.2 | 837 | 4.6 | 7,817 | 42.9 | 1,827 | 10.0 | 48 | 0.3 | 561 | 3.1 |
| Sherman Way/b/ | $40,256 | 18,762 | 2,891 | 15.4 | 623 | 3.3 | 13,153 | 70.1 | 1,678 | 8.9 | 70 | 0.4 | 347 | 1.8 |
| Roscoe Boulevard/c/ | $45,256 | 21,965 | 6,720 | 30.6 | 1,081 | 4.9 | 11,119 | 50.6 | 2,302 | 10.5 | 67 | 0.3 | 676 | 3.1 |
| Nordhoff Street/d/ | $43,759 | 22,393 | 9,730 | 43.5 | 1,162 | 5.2 | 8,117 | 36.2 | 2,476 | 11.1 | 61 | 0.3 | 847 | 3.8 |
| Chatsworth Metrolink Station/e/ | $62,263 | 18,259 | 10,819 | 59.3 | 608 | 3.3 | 3,172 | 17.4 | 2,952 | 16.2 | 75 | 0.4 | 633 | 3.5 |
| Optional Station at Parthenia Street/f/ | $42,068 | 21,508 | 7,919 | 36.8 | 1,321 | 6.1 | 8,762 | 40.7 | 2,596 | 12.1 | 55 | 0.3 | 855 | 4.0 |

/a/ Data gathered from Census Tract Block Groups: 1351.12-3, 1349.02-3, 1349.02-2, 1340.00-3, 1345.20-2 and 1345.20-1
/b/ Data gathered from Census Tract Block Groups: 1340.00-4, 1340.00-3, 1345.20-2, 1345.20-1, 1345.10-2, 1345.10-1, 1340.00-2 and 1340.00-1
/c/ Data gathered from Census Tract Block Groups: 1342.01-1, 1342.01-2, 1342.01-3, 1343.06-1, 1343.05-1, 1132.33-2 and 1132.34-1
/d/ Data gathered from Census Tract Block Groups: 1134.21-1, 1132.33-2, 1132.32-2, 1132.34-1, 1132.02-3, 1132.02-1, 1133.03-2 and 1134.21-2
/e/ Data gathered from Census Tract Block Groups: 1133.03-2, 1132.02-1, 1132.13-2, 1132.12-1, 1132.12-2, 1131.00-3 and 1133.21-3
/f/ Data gathered from Census Tract Block Groups: 1132.32-2, 1132.33-2, 1132.34-1, 1134.21-1, 1134.21-2 and 1134.22-5
**SOURCE**: TAHA 2007 and 2000 U.S. Census

**Alternative 3. Canoga On-Street Dedicated Lanes**

Land acquisition and the termination and reconfiguration of Metro leases associated with the Canoga On-Street Dedicated Lanes Alternative would occur prior to construction. A limited number of temporary construction easements within Canoga Avenue would most likely be required for construction staging, including equipment and materials storage, construction offices, employee parking, and other related construction uses. Implementation of mitigation measures included in Section 4.7 Traffic, Circulation and Parking would reduce temporary traffic construction impacts on the local population to a less-than-significant level. In addition, Section 4.8 Air Quality and Section 4.9 Noise and Vibration also include mitigation measures to reduce temporary, periodic noise, vibration, and air quality construction impacts that may affect the local population. Implementation of these mitigation measures would reduce construction impacts on the local population to a less-than significant level for land use and development. Significant localized air quality and noise construction impacts are anticipated.

**Alternative 4. Canoga Busway Lanes**

Land acquisition and the termination and reconfiguration of Metro leases associated with the Canoga Busway Alternative would occur prior to construction. A limited number of temporary construction easements within Canoga Avenue would most likely be required for construction staging, including equipment and materials storage, construction offices, employee parking, and other related construction uses. Implementation of mitigation measures included in Section 4.7 Traffic, Circulation and Parking would reduce temporary traffic construction impacts on the local population to a less-than significant level. In addition, Section 4.8 Air Quality and Section 4.9 Noise and Vibration also include mitigation measures to reduce temporary, periodic noise, vibration, and air quality construction impacts that may affect the local population. Implementation of these mitigation measures would reduce construction impacts on the local population to a less-than significant level for land use and development. Significant localized air quality and noise construction impacts are anticipated.

*Mitigation Measures:*

Mitigation Measures **MM 4.7-15** through **MM 4.7-27** included in Section 4.7 Traffic, Circulation and Parking, Mitigation Measures **MM 4.8-1** through **MM 4.8-11** in Section 4.8 Air Quality, and Mitigation Measures **MM 4.9-1** through **MM 4.9-7** in Section 4.9 Noise and Vibration would be applicable to the Canoga On-Street Dedicated Lanes Alternative and the Canoga Busway Alternative.

*Level of Impact After Mitigation*: Significant unavoidable impact. Implementation of Mitigation Measures **MM 4.7-15** through **MM 4.7-27** in Section 4.7 Traffic, Circulation and Parking, **MM 4.8-1** through **MM 4.8-11** in Section 4.8 Air Quality, and **MM 4.9-1** through **MM 4.9-7** included in Section 4.9 Noise and Vibration would reduce construction impacts to the local population. However, construction impacts are anticipated to be significant and unavoidable for localized air quality and noise.

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**Impact 4.3.7. The proposed project would not result in a potentially significant cumulatively considerable impact to population, housing employment or environmental justice without mitigation.**

SCAG anticipates that urbanization in the region will increase substantially by 2030. Regional transportation improvements identified within the Regional Transportation Plan (RTP), including the proposed project, are anticipated to result in cumulative effects by facilitating population growth in certain areas of the region that are currently vacant lands. The proposed project would not contribute to this cumulative effect due to the fact that the resulting project would occur in an already urbanized area. However, the Canoga Corridor is designated as a growth area in the SCAG Compass Plan (see Subsection 4.1 Land Use & Development) because of the proposed Metro Orange Line extension. Thus, it is anticipated that the project could result in densification of the project area. However, in order to do this, the City may have to change existing zoning designations to encourage increased density around transit stations.

SCAG also states that projects within the RTP would require the acquisition of rights-of-way that would displace a substantial number of existing homes and businesses. As detailed in Section 4.2 Land Acquisition and Displacement, the proposed project would contribute to a cumulative displacement effect, although all acquisitions would be mitigated through applicable relocation assistance programs. The project is not anticipated to result in any disproportionate impacts to minority or low-income businesses and would not cause any environmental justice impacts; therefore, it would not contribute to cumulative environmental justice impacts.

Projects included in the RTP are intended to increase the overall accessibility and mobility of persons within the SCAG region. These improvements could result in an increase in population to the area, making the area more desirable. However, this increase would be expected to be within the growth projected by SCAG in association with the RTP. No cumulative population growth would be expected beyond that projected by SCAG as a result of RTP projects including the proposed project.

*Mitigation Measures:*

The proposed project would not result in a potentially significant cumulatively considerable impact to population, housing employment or environmental justice, and no mitigation measures are necessary.

***Level of Impact After Mitigation***: Less than significant.

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# 4.4 PARKLANDS AND OTHER COMMUNITY FACILITIES

This section describes parklands and other community facilities (i.e., police and fire services, schools, and libraries within the Canoga Transportation Corridor (Corridor) and assesses the effects from the implementation of the proposed project. On the broad scale, transit improvements often enhance accessibility to parklands and other community facilities, particularly for the transit dependent. The specific alignment and physical features of right-of-way improvements can also have adverse effects on some of these same facilities through the acquisition of physical property or through the disruption of vehicular or pedestrian access to these facilities.

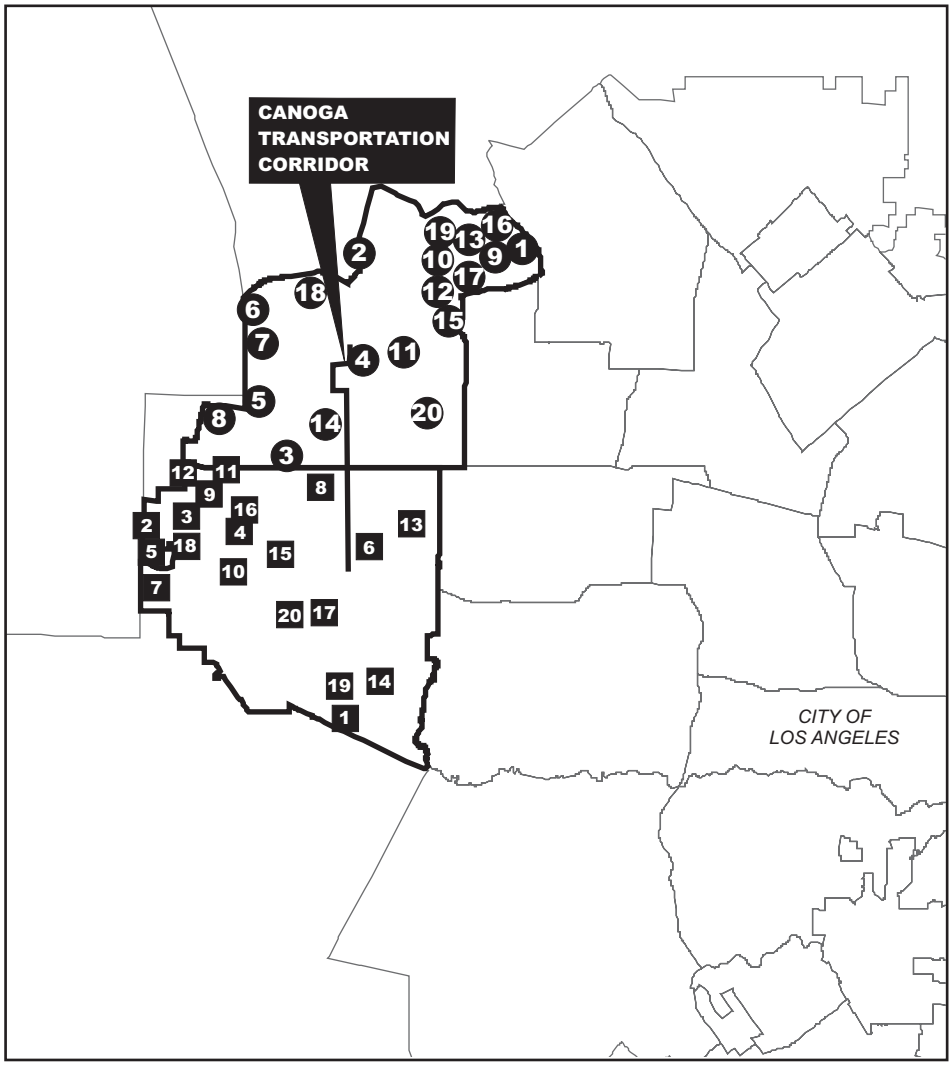
## 4.4.1 EXISTING SETTING

### Parklands and Recreation Facilities

The City of Los Angeles Recreation and Parks Department (LADRP) manages the public parks and the majority of recreational areas within the project area. Within the Canoga Park - Winnetka - Woodland Hills - West Hills Community Plan Area, there are ten neighborhood parks, seven community parks, and two regional parks that serve the community. Additionally, there is one private golf course in the Community Plan Area. According to the Community Plan the existing parks satisfy the needs of the current residents; however, the community is still deficient in the number of neighborhood parks.[1] Within the Chatsworth – Porter Ranch Community Plan Area, there are five neighborhood parks, five community parks, and eight regional parks that serve the community. One private golf course and one baseball facility are in the Community Plan Area. The Community Plan does not indicate whether the existing parks satisfy the needs of the current residents. **Figure 4.4-1** identifies the location of these recreation facilities.

Parks and recreational facilities within the Corridor are listed in **Table 4.4-1** and are identified in **Figure 4.4-2**. As shown, there are a total of four parks or recreational facilities within or adjacent to the Corridor. The LADRP operates John Quimby, Lanark, and Parthenia Parks. John Quimby Park is located at 7008 De Soto Avenue and features a children's play area and basketball and tennis courts. Lanark Park is located at 21816 Lanark Street and features a recreation center, which includes an auditorium, indoor and outdoor lighted athletic fields, a gymnasium and an outdoor seasonal, swimming pool. Parthenia Park, located at 21144 Parenthia Street, is a pocket park with a children's play area and picnic tables. The fourth recreational facility within the Corridor is the Chatsworth Junior Baseball League facility located east of Canoga Avenue between Devonshire and Lassen Streets at 21350 Mayall Street.

[1]City of Los Angeles, *Canoga Park – Winnetka – Woodland Hills – West Hills Community Plan*, 1999.




**Legend**

Canoga Transportation Corridor

(#) Chatsworth-Porter Ranch Community Plan Area

1. Aliso Canyon Park
2. Browns Creek Park
3. Chase Park
4. Chatsworth Jr League Baseball
5. Chatsworth Oaks Park
6. Chatsworth Park North
7. Chatsworth Park South
8. Chatsworth Reservoir Park
9. Eddleston Park
10. Limeklin Canyon Park
11. Mason Recreation Center
12. Moonshine Canyon
13. Palisades Park
14. Parthenia Park
15. Porter Ranch Park
16. Porter Ridge Park
17. Porter Valley Country Club
18. Stoney Point Park
19. Wilbur Tampa Park
20. Winnetka Rec Center

[#] Canoga Park-Winnetka-Woodland Hills-West Hills Community Plan Area

1. Alizondo Drive Park
2. Bell Canyon Park
3. Castle Peak Park
4. Cohasset Melba Park
5. El Escorpion Park
6. John Quimby Park
7. Knapp Ranch Park
8. Lanark Park
9. Lazy J Ranch Park
10. Mae Boyar Recreation Center
11. Orcutt Ranch Horticulture Ctr
12. Roscoe Valley Circle Park
13. Runnymede Recreation Center
14. Serrania Ave Park
15. Shadow Ranch Park
16. Taxco Trails Park
17. Warner Ranch Park
18. West Hills Recreation Center
19. Woodland Hills Golf Course
20. Woodland Hills Recreation Ctr

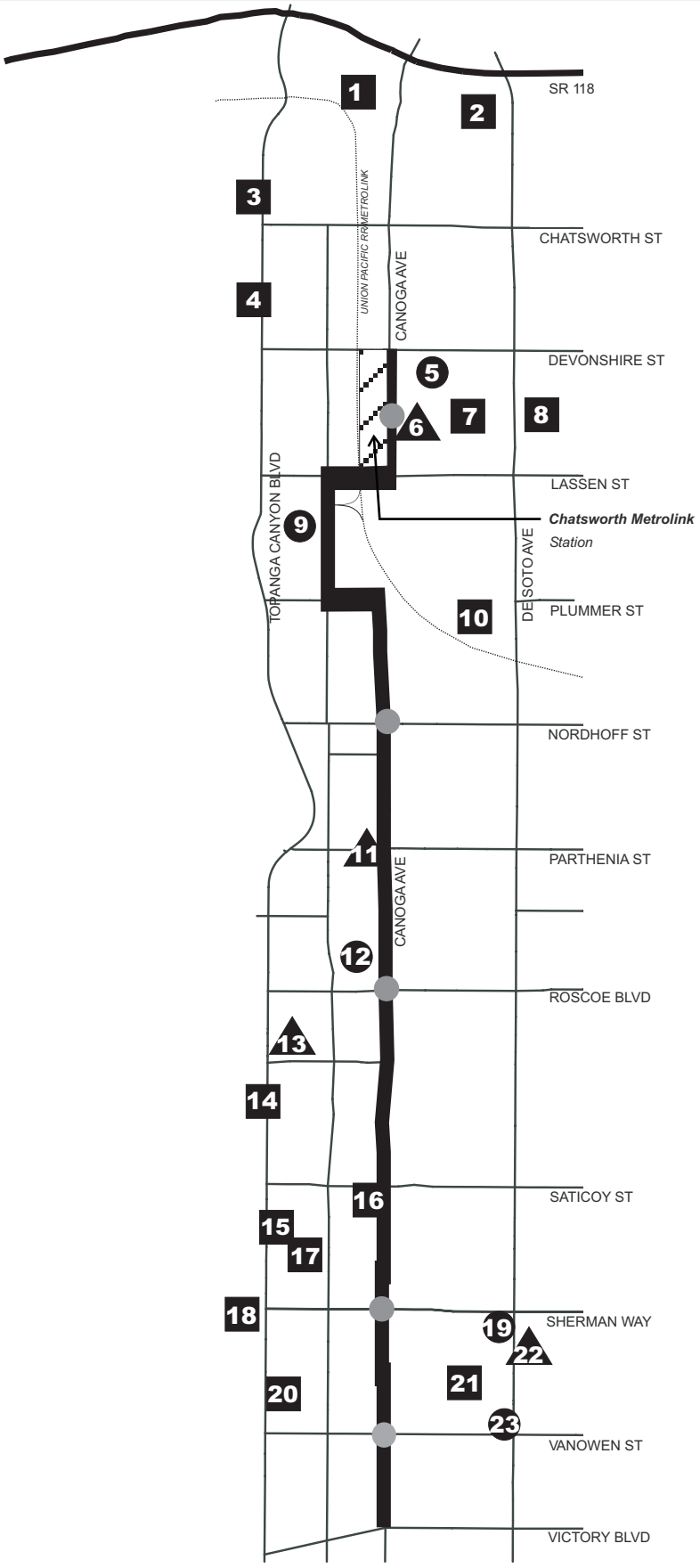
Source: ESRI and TAHA 2008

Not to Scale

**Table 4.4-1: Parklands and Community Facilities Within Canoga Transportation Corridor**

| Type of Facility | Name of Facility | Location |
|---|---|---|
| Parklands and Recreation Facilities | Chatsworth Junior Baseball League | 21350 Mayall Street |
| | Parthenia Park | 21444 Parthenia Street |
| | Lanark Park | 21816 Lanark Street |
| | John Quimby Park | 7008 De Soto Avenue |
| Fire Station | Fire Station 72 | 6811 De Soto Avenue |
| | Fire Station 96 | 21800 Marilla Street |
| Police Station | Northwest Area Police Station (Under Construction) | 21501 Schoenborn Street |
| Educational | Canoga Park Lutheran School | 7357 Jordan Avenue |
| | Canoga Park Elementary School | 7438 Topanga Canyon Boulevard |
| | Canoga Park Preschool and Kindergarten | 7839 Topanga Canyon Boulevard |
| | Canoga Park Senior High School | 6850 Topanga Canyon Boulevard |
| | Canyon Vista Preschool and Kindergarten | 10616 Andora Avenue |
| | Chatsworth Academy | 21523 Rinaldi Street |
| | Chatsworth High School | 10027 Lurline Avenue |
| | Chatsworth Park Elementary School | 22005 Devonshire Street |
| | Hart Elementary School For Advanced Studies | 21040 Hart Street |
| | Lawrence Middle School | 10100 Variel Avenue |
| | New Academy Canoga Park Elementary School | 21425 Cohasset Street |
| | Our Lady of the Valley Elementary School | 22041 Gault Street |
| | Sierra Canyon School | 11052 Independence Avenue |
| | William Tell Aggeler High School | 21050 Plummer Street |
| Library | Canoga Park Branch Library | 20939 Sherman Way |
| | Chatsworth Library | 21052 Devonshire Street |

**SOURCE:** SCAG, Land Use Data, 2005; updated by Gruen Associates (Windshield Survey), May 15, 2007.




**Legend**

- Canoga Corridor
- Proposed Canoga Orange Line Station
- # Educational Facilities
- # Open Space and Recreation Facilities
- # Public Facilities

**# EDUCATIONAL FACILITIES**

1. Chatsworth Academy
2. Sierra Canyon School
3. Canyon Vista Preschool & Kindergarden
4. Chatsworth Park Elementary School
7. Lawrence Middle School
8. Chatsworth High School
10. Wm. T. Aggeler High School
14. Canoga Park Preschool & Kindergarden
15. Canoga Park Elementary School
16. New Academy Canoga Park Elementary School
17. Canoga Park Lutheran School
18. Our Lady of the Valley Elementary School
20. Canoga Park Senior High School
21. Hart Street Elementary School for Advanced Studies

**# OPEN SPACE & RECREATION FACILITIES**

6. Chatsworth Junior Baseball League
11. Parthenia Park
13. Lanark Park
22. John Quimby Park

**# PUBLIC FACILITIES**

5. Chatsworth Library
9 Fire Station 96
12. Northwest Community Police Station (Under Construction)
19. Canoga Park Branch Library
23. Fire Station 72



*Source: Gruen Associates (Windshield Survey), May 15, 2007*



**Figure 4.4-2**
**Community Facilities in the Vicinity of the Corridor**

## Police and Fire Protection

The Los Angeles Police Department (LAPD) provides police protection services for the City of Los Angeles. The Corridor is located entirely within LAPD's Valley Bureau service area (**Figure 4.4-3)**. The Valley Bureau encompasses 221.8 square miles and is comprised of six service areas that serve approximately 1.27 million people.[2] More specifically, the Corridor falls within the service area of two community police stations – the West Valley Community Police Station and the Devonshire Community Police Station. The locations of these police stations are identified in **Figure 4.4-4** and **Table 4.4-2**. The Northwest Area Community Police Station, which is currently under construction at 21501 Schoenborn Street, is located within the Corridor (**Table 4.4-1** and **Figure 4.4-1**).

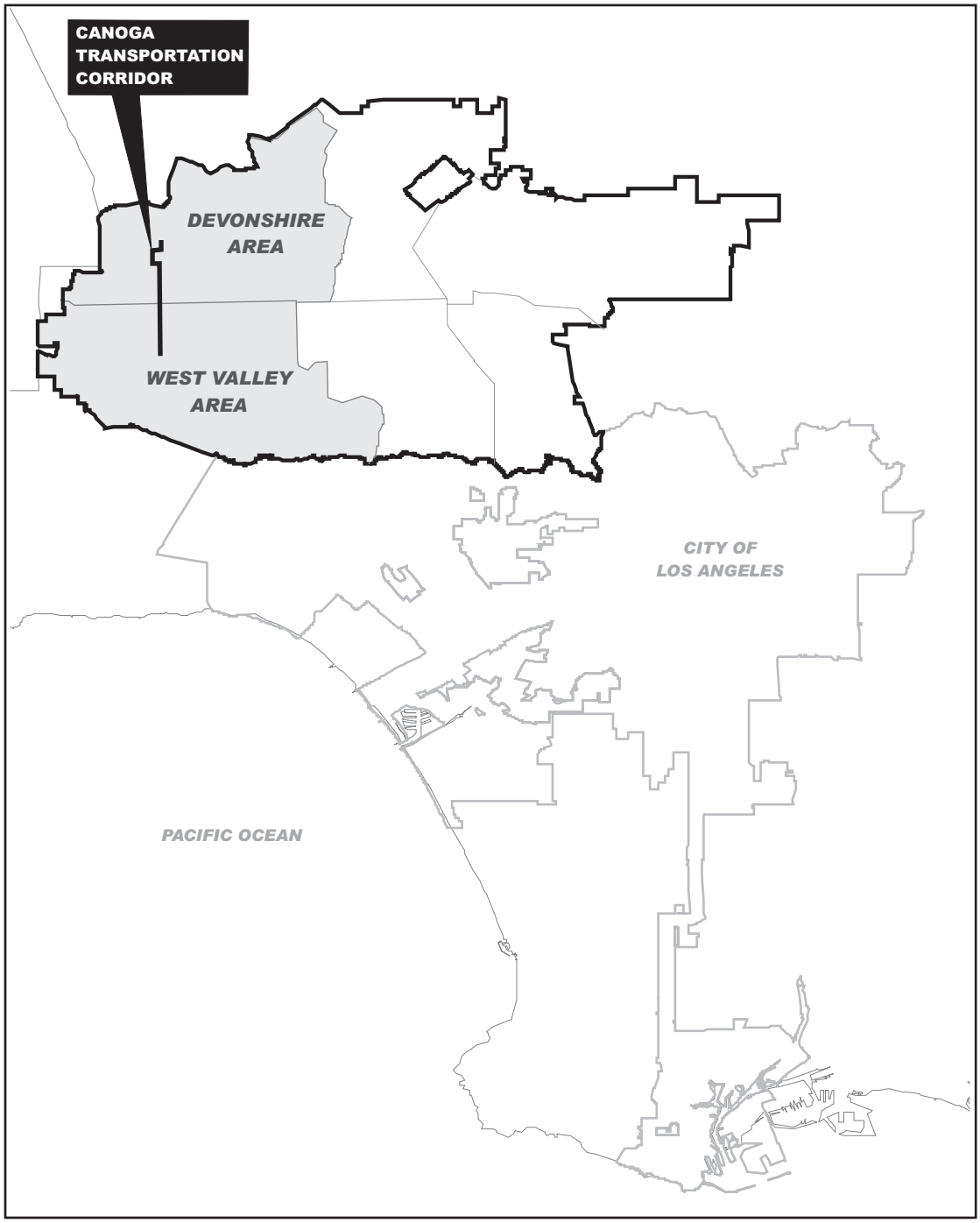
The West Valley service area comprises 52 square miles and is the LAPD's fourth largest geographic area. The West Valley is bounded by the Santa Monica Mountains on the south, Chatsworth and Roscoe Boulevards to the north, Van Nuys Boulevard to the east, and the city limit of Calabasas to the west. The West Valley Community Police Station has 350 sworn officers, who serve a residential and working population of approximately 300,000 and 160,000 persons, respectively. Police officers of the West Valley Area patrol over 750 miles within the areas of Reseda, West Hills, Woodland Hills, Encino, Tarzana, Northridge, Winnetka, Canoga Park, and portions of Sherman Oaks and Northridge.[3] The Devonshire service area encompasses 53.9 square miles and includes the neighborhoods of Chatsworth, Northridge, as well as parts of Canoga Park, Granada Hills and Winnetka.

Crime reporting statistics for the entire Valley Bureau service area, including the West Valley and the Devonshire service areas, are presented in **Table 4.4-3**. In 2006, the Valley Bureau received 5,244 reports of violent crimes and 28,077 reports of property crime. 20.7 percent (1,083 reports) and 10.1 percent (532 reports) of the Valley Bureau's violent crimes originated from the West Valley and Devonshire areas, respectively. In addition, the Valley Bureau received 28,500 reports of property crimes in 2006. Property crime reports originating from the West Valley and Devonshire areas comprise 21.8 percent (6,232 reports) and 14.4 percent (4,108 reports), respectively, of the Valley Bureau's total property crimes.

The Los Angeles Fire Department (LAFD) provides fire protection services for the City of Los Angeles. The LAFD is a highly regimented agency that is characterized by a structure that is similar to a professional military force and command principles. Groups of Neighborhood Fire Stations are clustered into Battalions, which are further organized into geographic groups, known as Divisions. The Corridor is located entirely within Division 3 of the LAFD, which is comprised of 37 neighborhood fire stations within five battalions. More specifically, the Corridor falls within the service area of two battalions – Battalion 15, which serves the Northwest San Fernando Valley, and Battalion 17, which serves the Southwest San Fernando Valley.

[2]Los Angeles Police Department, Valley Bureau Information, http://www.lapdonline.org/valley_bureau, accessed October 30, 2007.

[3]Los Angeles Police Department, West Valley Community Police Station Information, http://www.lapdonline.org/west_valley_community_police_station/content_basic_view/1616, accessed October 31, 2007.




**Legend**

Canoga Transportation Corridor

Valley Bureau

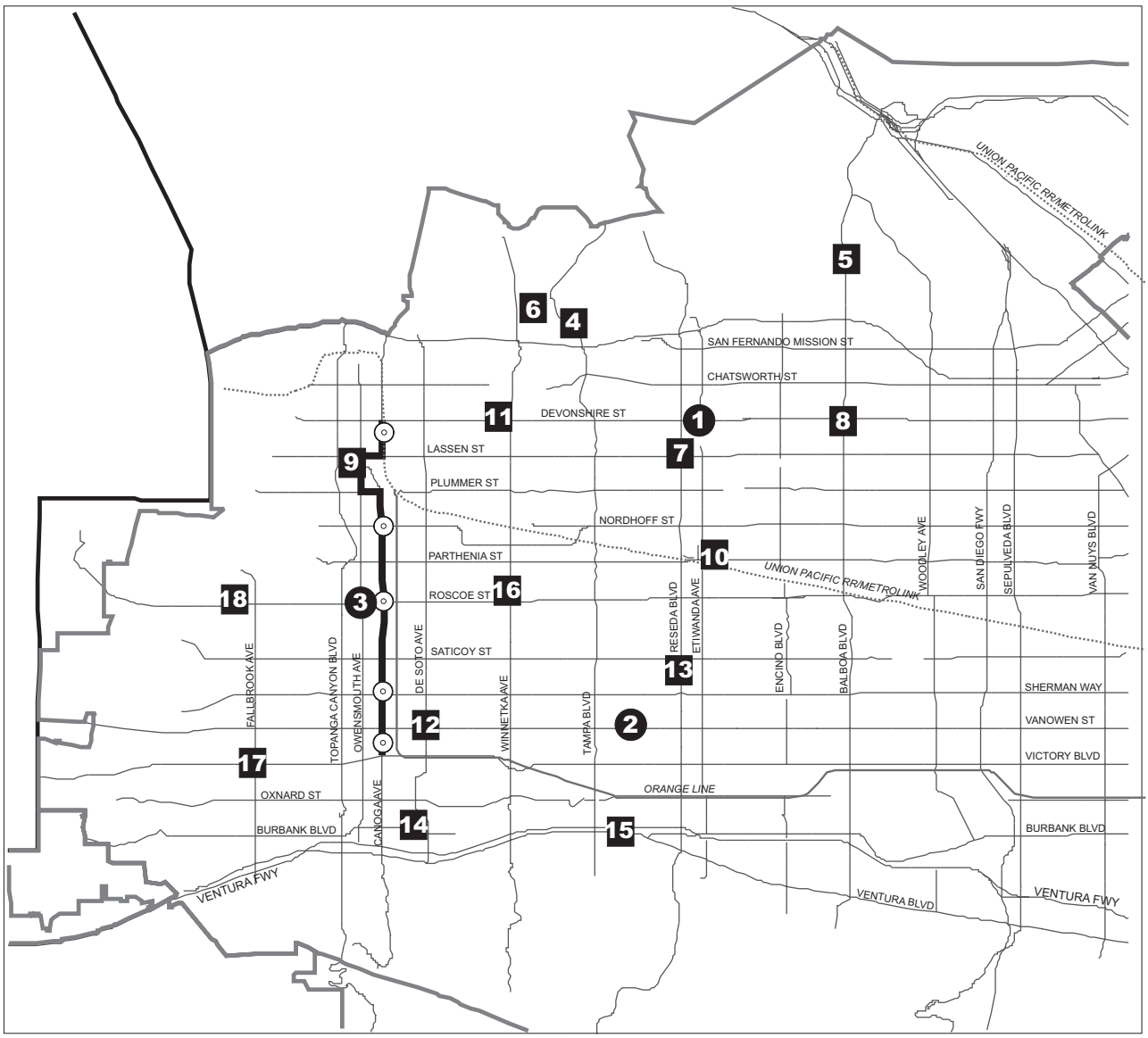
Devonshire Area

West Valley Area

N

Not to Scale

*Source: ESRI and TAHA 2008*




**Legend**

- Canoga Corridor
- Proposed Stations
- San Fernando Valley
- County Boundary

**# Police Services**

1. Devonshire Community Police Station
2. West Valley Community Police Station
3. Northwest Community Police Station

**# FIRE SERVICES**

BATTALION 15

4. Fire Station 8
5. Fire Station 18
6. Fire Station 28
7. Fire Station 70
8. Fire Station 87
9. Fire Station 96
10. Fire Station 103
11. Fire Station 107

BATTALION 17

12. Fire Station 72
13. Fire Station 73
14. Fire Station 84
15. Fire Station 93
16. Fire Station 104
17. Fire Station 105
18. Fire Station 106

*Source: ESRI & TAHA, 2007*

NOT TO SCALE

| Table 4.4-2: Regional Police and Fire Protection Facilities | | |
|---|---|---|
| **Valley Bureau Police Stations** | | |
| **Station Area** | **Station Name** | **Station Location** |
| Devonshire | Devonshire Community Police Station | 10250 Etiwanda Avenue Northridge |
| West Valley | West Valley Community Police Station | 19020 Vanowen Street Reseda |
| **Division 3 Fire Stations** | | |
| **Battalion** | **Fire Station Name** | **Station Location** |
| Battalion 15 | Fire Station 8 | 11351 Tampa Avenue, Porter Ranch |
| | Fire Station 18 | 12050 Balboa Boulevard, Granada Hills |
| | Fire Station 28 | 11641 Corbin Avenue, Porter Ranch |
| | Fire Station 70 | 9861 Reseda Boulevard, Northridge |
| | Fire Station 87 | 10241 Balboa Boulevard, Northridge |
| | Fire Station 96 | 21800 Marilla Street, Chatsworth |
| | Fire Station 103 | 18143 Parthenia Street, Northridge |
| | Fire Station 107 | 20225 Devonshire Street, Chatsworth |
| Battalion 17 | Fire Station 72 | 6811 De Soto Avenue,Canoga Park |
| | Fire Station 73 | 7419 Reseda Boulevard, Reseda |
| | Fire Station 84 | 21050 Burbank Boulevard, Woodland Hills |
| | Fire Station 93 | 19059 Ventura Boulevard, Tarzana |
| | Fire Station 104 | 8349 Winnetka Avenue, Winnetka |
| | Fire Station 105 | 6345 Fallbrook Avenue, Woodland Hills |
| | Fire Station 106 | 23004 Roscoe Boulevard, West Hills |
| **SOURCE**: Los Angeles Police and Fire Department websites, October 23, 2007 | | |

| Table 4.4-3: Crime Reporting Statistics (2006) | | | |
|---|---|---|---|
| **Type of Crime** | **Valley Bureau** | **West Valley Area** | **Devonshire Area** |
| **Violent Crimes** | | | |
| Homicide | 71 | 9 | 9 |
| Rape | 193 | 29 | 20 |
| Robbery | 2,292 | 506 | 252 |
| Aggravated Assault | 2,688 | 539 | 251 |
| **Total Violent Crimes** | **5,244** | **1,083** | **532** |
| **Property Crimes** | | | |
| Burglary | 6,059 | 1,492 | 896 |
| Grand Theft Auto | 6,100 | 1,052 | 660 |
| Burglary Theft From Auto | 9,103 | 1,959 | 1,419 |
| Personal/ Other Theft | 7,238 | 1,729 | 1,133 |
| **Total Property Crimes** | **28,500** | **6,232** | **4,108** |
| **SOURCE**: Los Angeles Police Department, Compstat Unit, October 23, 2007 | | | |

There are three battalion chiefs assigned to Battalion 15, which includes eight neighborhood fire stations, as identified in **Table 4.2-2** and **Figure 4.4-2**. Similarly, there are three battalion chiefs

assigned to Battalion 17, which includes seven neighborhood fire stations protecting a 47-square-mile district.[4] Fire Stations 72 and 96 are located within the Corridor (**Table 4.4-1** and **Figure 4.4-1**).

### Schools and Libraries

The Los Angeles Unified School District (LAUSD) serves the City of Los Angeles, all or portions of 16 other cities in the Los Angeles County and numerous unincorporated areas surrounding the City of Los Angeles. The LAUSD comprises an area of approximately 700 square miles organized into eight local districts. The Corridor is entirely located within LAUSD's District 1. As shown in **Table 4.4-1** and **Figure 4.4-1** above, there are 14 schools within the Corridor. Eight of the schools located within the Corridor are under the jurisdiction of LAUSD. The student enrollment of the 14 schools within the Corridor is summarized in **Table 4.4-4**.

**Table 4.4-4: Canoga Transportation Corridor Schools**

| School Name | Address | 2006-2007 Student Enrollment |
|---|---|---|
| Canoga Park Lutheran School | 7357 Jordan Avenue | 114 |
| Canoga Park Elementary School | 7438 Topanga Canyon Boulevard | 823 |
| Canoga Park Preschool and Kindergarten | 7839 Topanga Canyon Boulevard | 7 |
| Canoga Park Senior High School | 7839 Topanga Canyon Boulevard | 1,865 |
| Canyon Vista Preschool and Kindergarten | 10616 Andora Avenue | n/a |
| Chatsworth Academy | 21523 Rinaldi Street | 211 |
| Chatsworth Senior High School | 10027 Lurline Avenue | 3,271 |
| Chatsworth Park Elementary School | 22005 Devonshire Street | 410 |
| Hart Elementary School for Advanced Studies | 21040 Hart Street | 815 |
| Lawrence Middle School | 10100 Variel Avenue | 1,926 |
| New Academy Canoga Park Elementary School | 21425 Cohasset Street | 437 |
| Our Lady of the Valley Elementary School | 22041 Gault Street | 224 |
| Sierra Canyon School | 11052 Independence Avenue | 676 |
| William Tell Aggeler High School (Opportunity) | 21050 Plummer Street | 10 |

**SOURCE**: California Department of Education DataQuest, http://dq.cde.ca.gov/dataquest/, accessed on October 31, 2007; Great Schools searchable database, http://www.greatschools.net/, accessed November 1, 2007.

## 4.4.2 REGULATORY FRAMEWORK

### Parklands and Recreation Facilities

The Public Recreation Element of the General Plan of the City of Los Angeles (General Plan) provides the City's desired ratios for parks to population. It states that the ratios are intended to provide long-range standards in connection with new subdivisions, to provide a guide for orderly development of the City's public recreational facilities, and to provide a guide of priorities for the acquisition and development of public recreational facilities.[5] The City's long-range ratios are objectives to be pursued through various measures, such as funds, land or improvements dedicated to the City in connection with private development, and by the City's own expenditure of revenues from the General Fund or other sources for the acquisition and improvement of parkland to meet existing and future needs.

[4]Los Angeles Fire Department, Division 3 – Regional Command of the San Fernando Valley, http://lafd.org/div3.htm, accessed October 30, 2007.

[5]City of Los Angeles, Public Recreation Plan, pp. 1-2.

For neighborhood and community parks, the desired ratio of parks to population is two acres per 1,000 residents. The City's standard minimum ratio of regional parks to population is six acres per 1,000 residents.[6] The City's Public Recreation Element categorizes parks into three types: neighborhood, community, and regional. Ideally, neighborhood parks are five to ten acres in size, have a service radius of approximately one-half mile, and are pedestrian-accessible without crossing a major arterial street or highway/freeway. Community parks are ideally 15 to 20 acres, have a service radius of two miles, and are easily accessible to the area served. Regional parks in the City are ideally greater than 50 acres, provide specialized recreational facilities and/or attractions, and have a service radius encompassing the entire Los Angeles region.[7]

### Police and Fire Protection

Police protection service needs are related to the size of the population and geographic area served, the number and type of calls for service, and other community characteristics. Unlike fire protection services, police units are primarily in a mobile state; therefore, the actual distance between a headquarters facility and a particulate site is of little relevance. Instead, the number of officers out on the street is more directly related to the realized response time. Response time is defined as the total time from when a call requesting assistance is answered by operators until the time that a police unit responds to the scene. Calls for police assistance are prioritized based on the nature of the call. The LAPD has an existing preferred response time of seven minutes for emergency calls.

Fire protection services are governed by the Public Facilities and Services Element of the General Plan of the City of Los Angeles, as well as the Los Angeles Fire Code (Los Angeles Municipal Code [LAMC], Chapter V, Article 7). In general, the required fire flow for a project is closely related to land use because the quantity of water necessary for fire protection varies with the type of development, life hazard, type and level of occupancy, and degree of fire hazard (based on such factors as building age or type of construction). Fire flow requirements, which are established in Section 57.09.06 of the Fire Code, vary from 2,000 gallons per minute (gpm) in low-density residential areas to 12,000 gpm in high-density commercial or industrial areas. In any instance, a minimum residual water pressure of 20 pounds per square inch (psi) is to remain in the water system while the required gpm is flowing.

Response distance relates directly to the linear travel distance (i.e., miles between a station and a project site). The Los Angeles Fire Code specifies the maximum response distances allowed between specific sites and engine and truck companies based on land use and fire flow requirements. Pursuant to Section 57.09.07 of the LAMC, the maximum response distance between residential land uses and a LAFD fire station that houses an Engine or Truck Company is 1.5 miles. When response distances exceed these recommendations, all new structures must be equipped with automatic fire sprinkler systems and any other fire protection devices deemed necessary by the Fire Chief (e.g., fire signaling systems, fire extinguishers, smoke removal systems, etc.).

[6] *Ibid.*
[7] *Ibid.*

### Schools and Libraries

School service needs are related to the size of the residential population, the geographic area served, and community characteristics. California Education Code Section 17620(a)(1) states that the governing board of any school district is authorized to levy a fee, charge, dedication, or other requirement against any construction within the boundaries of the district, for the purpose of funding the construction or reconstruction of school facilities. The LAUSD School Facilities Fee Plan has been prepared to support the school district's levy of the fees authorized by Section 17620 of the California Education Code.[8] The Leroy F. Greene School Facilities Act of 1998 (SB50) sets a maximum level of fees a developer may be required to pay to mitigate a project's impacts on school facilities. The maximum fees authorized under SB 50 apply to zone changes, general plan amendments, zoning permits and subdivisions. The provisions of SB 50 are deemed to provide full and complete mitigation of school facilities impacts, notwithstanding any contrary provisions in CEQA or other State or local laws (Government Code Section 65996). Per section 65995 of the Government Code, Level 2 residential developer fees have been imposed at a rate of $3.60 per square foot of new residential construction, $0.34 per square foot of commercial construction, and $0.09 per square foot of parking structure construction within the boundaries of the LAUSD.[9]

The Public Facilities and Services Element of the City's General Plan includes service standards and goals for library facilities and operations. The plan recommends building 10,500-square-foot facilities for communities with less than 50,000 persons and 12,500-square-foot libraries for communities with more than 50,000 persons.

## 4.4.3 IMPACTS AND MITIGATION MEASURES

### Significance Criteria

#### *Parklands*

According to CEQA Guidelines, a significant impact to parklands may occur when:

- The proposed project would require the expansion or construction of a new park or park facilities.
- The proposed project would acquire, displace or disrupt a park facility and/or create barriers or cause substantial disruption to pedestrian and vehicular access to a park facility.

#### *Police and Fire Protection Services*

According to CEQA Guidelines, a significant impact to police and fire protection services may occur when:

- The proposed project would substantially affect emergency response time, and demand for additional fire and police services.

[8] LAUSD, School Facilities Fee Plan, March 2, 2002.
[9] *Ibid.*

### *Schools, Libraries and Other Community Facilities*

According to CEQA Guidelines, a significant impact to community facilities may occur when:

- The proposed project would acquire, displace or disrupt schools, libraries, or other community facilities and/or create barriers or cause substantial disruption to pedestrian and vehicular access to a school, library, or other community facilities.

### Methodology

Potential impacts to parklands and community facilities were determined by identifying and examining their locations within the Corridor relative to each alternative. Parklands or a community facility can either be directly affected (a physical acquisition as described in the Section 4.2 Land Acquisition, Displacement and Relocation of this EIR) or indirectly affected by the proposed transit improvements and facilities because of proposed changes to pedestrian or vehicular access. For discussions related to pedestrian safety, see Section 4.14 Safety and Security.

**Impact 4.4.1. The proposed project would not displace any parks or park facilities and would not require the expansion or construction of a new park or park facilities. The project could facilitate the movement of people to local parks. The proposed project would have a less-than-significant impact on park displacement without mitigation.**

#### Alternative 1. No Project

The No Project Alternative would not include any physical changes, and the Metro ROW would not be used for a transit project. This alternative would not require the expansion or construction of a new park or park facilities. Therefore, the No Project Alternative would not result in any impacts to parklands.

#### Alternative 2. TSM

The TSM Alternative would increase the number of buses on existing transit routes and provide a new local transit line for Canoga Avenue, thereby improving transit access to the four parks and recreational facilities within the Corridor. This would be considered a beneficial effect. Although this alternative would make these parks more accessible, this accessibility would not create such a demand on parks that they would need to be expanded or have new facilities constructed. As such, the TSM Alternative would result in a less-than-significant impact to parklands.

#### Alternative 3. Canoga On-Street Dedicated Bus Lanes

The Canoga On-Street Dedicated Bus Lanes Alternative would provide improved transit access to parks and recreational facilities within the Corridor, and this would be considered a beneficial effect. No parks or recreational facilities would need to be acquired to accommodate the Canoga On-Street Dedicated Bus Lanes. None of the parks or recreational facilities within the Corridor is located adjacent to Canoga Avenue. The closest park to the Canoga On-Street Dedicated Bus Lanes Alternative is Parthenia Park, approximately 250 ft. west of Canoga Avenue. The increased accessibility to parks and recreational facilities within the Corridor would not create such a demand on parks that they would need to be expanded or have new facilities constructed. Therefore, the Canoga On-Street Dedicated Bus Lanes Alternative is expected to result in a less-than-significant impact to parklands.

Alternative 4. Canoga Busway

The Canoga Busway Alternative, including the five alignment options for the northern segment, would provide improved transit access to parks and recreational facilities within the Corridor. This would be considered a beneficial effect. No parks or recreational facilities would need to be acquired to accommodate the Canoga Busway Alternative. The closest park to the Canoga On-Street Dedicated Bus Lanes Alternative is Parthenia Park, approximately 250 ft. west of Canoga Avenue. Although the parks within the Corridor would be more accessible, this accessibility would not create such a demand that these parks would need to be expanded or have new facilities constructed. Therefore, the Canoga Busway Alternative would result in a less-than-significant impact to parklands and recreational facilities.

*Mitigation Measures:*

Under all of the alternatives and alignments, no park displacement would occur and the project would not cause the expansion or construction of a new park or park facilities. No mitigation measures are required.

*Level of Impact After Mitigation*: Less than significant.

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**Impact 4.4.2. The proposed project would not acquire, displace or disrupt a community facility and/or create barriers and/or cause substantial disruption to pedestrian and vehicular access to a facility. The project would have a less-than-significant impact on community facilities without mitigation.**

Alternative 1. No Project

The No Project Alternative would not include any physical changes, and the Metro ROW would not be used for a transit project. This alternative would not acquire, displace or disrupt a facility and/or create barriers or cause substantial disruption to pedestrian and vehicular access to a facility. Therefore, the No Project Alternative would not result in any impacts to community facilities.

Alternative 2. TSM

The TSM Alternative would not acquire, displace, create barriers or cause substantial disruption to pedestrian and vehicular access to community facilities within the Corridor. On the contrary, the TSM Alternative would increase the number of buses on existing transit routes and provide a new local transit line for Canoga Avenue, thereby improving transit access to the schools, libraries, parks, and other community facilities within the Corridor. Therefore, the TSM Alternative would not result in any impacts to community facilities.

Alternative 3. Canoga On-Street Dedicated Bus Lanes

The Canoga On-Street Dedicated Bus Lanes Alternative would provide improved transit access to community facilities within the Corridor. This would be considered a beneficial effect to the people using the schools, libraries, parks and other community facilities within the Corridor. The loss of on-street parking resulting from widening Canoga Avenue into the Metro ROW and prohibiting on-street parking along Canoga Avenue to accommodate the Canoga On-Street Dedicated Bus Lanes Alternative would not affect the community facilities within the Corridor since the community facilities provide on-site parking. In addition, none of the parks or recreational facilities within the Corridor is located adjacent to Canoga Avenue. The closest park to the Canoga On-Street Dedicated

Bus Lanes Alternative is Parthenia Park, approximately 250 ft. west of Canoga Avenue. Pedestrian and vehicular access to these facilities would also not be affected by the Canoga On-Street Dedicated Bus Lanes Alternative. The bikeway/pedestrian path that would be provided as part of the Canoga On-Street Dedicated Bus Lanes Alternative would improve access to the community facilities within the Corridor and would also act as a recreational use. No direct or indirect physical disruption of community facilities are anticipated during operations of this alternative.

The National Ready Mixed Services Company, which is located along the Metro right-of-way (ROW), provides an informal pathway on its property to create a safe passageway between Canoga Avenue and Deering Avenue for school children walking to and from school. This informal pathway was created by the company to prevent pedestrians from walking past trucks on the property. This pathway would be closed under the Canoga On-Street Dedicated Bus Lanes Alternative. The closure of this informal pathway would improve pedestrian safety by forcing pedestrians to use the crosswalks at the Canoga Avenue/Sherman Way intersection. Therefore, less-than-significant impacts to community facilities are anticipated.

Alternative 4. Canoga Busway

The Canoga Busway Alternative, including the five alignment options for the northern segment, would provide improved transit access to community facilities within the Corridor. This would be considered a beneficial effect to the people using the schools, libraries, parks and other community facilities within the Corridor. Similar to the Canoga On-Street Dedicated Bus Lanes Alternative, pedestrian and vehicular access to these facilities would also not be affected by the Canoga Busway Alternative. On the contrary, the bikeway/pedestrian path that would be provided, as part of the Canoga Busway Alternative, would improve access to the community facilities within the Corridor and would also act as a recreational use. No direct or indirect physical disruption of community facilities are anticipated during operations of this alternative.

The National Ready Mixed Services Company, which is located along the Metro right-of-way (ROW), provides an informal pathway on its property to create a safe passageway between Canoga Avenue and Deering Avenue for school children walking to and from school. This informal pathway was created by the company to prevent pedestrians from walking past trucks on the property. This pathway would be closed under the Canoga Busway Alternative. The closure of this informal pathway would improve pedestrian safety by forcing pedestrians to use the crosswalks at the Canoga Avenue/Sherman Way intersection. Therefore, less-than-significant impacts to community facilities are anticipated.

*Mitigation Measures:*

Under all of the alternatives and alignments, proper signalization and signage would be maintained and installed at intersections and/or Corridor crossings to facilitate pedestrian and vehicle access to community facilities, as discussed in Section 3.0 Project Description. No mitigation measures are required.

*Level of Impact After Mitigation:* Less than significant.

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**Impact 4.4.3. The proposed project would not substantially affect emergency response times or substantially increase demand for fire and police services. The project would have a less-than-significant impact on police and fire protection services without mitigation.**

Alternative 1. No Project

The No Project Alternative would not include any physical changes, and the Metro ROW would not be used for a transit project. This alternative would not effect emergency response time, and demand for additional fire and police services. Therefore, the No Project Alternative would not result in any impacts to police and fire protection services.

Alternative 2. TSM

The response time for emergency services depends in part on the distance from police and fire stations to the areas served. Traffic congestion on local streets, particularly at intersections may affect emergency response times. The LAFD considers intersections that operate at levels of service (LOS) E or F as limiting factors on fire protection and emergency services. According to the traffic analysis, 24 of the 41 intersections studied would operate at LOS E or worse in 2030 under the TSM Alternative. However, as described in Section 4.7 Traffic, Circulation and Parking, the TSM Alternative would not result in any significant traffic impacts. Therefore, response times of emergency services would remain unaffected. Furthermore, the TSM Alternative would have no substantial effect on access to and from police and fire stations since the only change from existing conditions would be a slight increase in the number and frequency of buses in mixed-flow traffic. Existing and planned service levels for police and fire protection services are expected to be adequate. As such, the TSM Alternative would result in less-than-significant impacts to police and fire protection services.

Alternative 3. Canoga On-Street Dedicated Bus Lanes

As discussed above, the response time for emergency services depends in part on the distance from police and fire stations to the areas served and traffic congestion on local streets, particularly at intersections that may affect emergency response times. According to the traffic analysis, 24 of the 41 intersections studied would operate at LOS E or worse in 2030 under the Canoga On-Street Dedicated Bus Lanes Alternative. However, as described in Section 4.7 Traffic, Circulation and Parking, the Canoga On-Street Dedicated Bus Lanes Alternative would not result in any significant traffic impacts. Therefore, response times of emergency services would remain unaffected.

The Devonshire Community Police Station located at 10250 Etiwanda Avenue in Northridge and the West Valley Community Police Station located at 19020 Vanowen in Street Reseda currently serve the Corridor. In addition, the Northwest Area Community Police Station is currently under construction at 21501 Schoenborn Street. The nearest fire stations to the Corridor are Fire Station No. 96 located at 21800 Marilla Street, Fire Station No. 72 located at 6811 De Soto Avenue, Fire Station No. 104 located at 8349 Winnetka Avenue, and Fire Station No. 106 located at 23004 Roscoe Boulevard. No police or fire stations are located adjacent to the Canoga On-Street Dedicated Bus Lanes Alternative.

Under the Canoga On-Street Dedicated Bus Lanes Alternative, buses would travel in dedicated lanes and would be controlled by the same signalized intersections at cross streets, as is traffic on Canoga Avenue. The ability of emergency service vehicles to cross the dedicated lane should not be substantially different than at present. In addition, stations and park-and-ride lots would be designed to avoid conflicts between patrons and emergency services' access. Potential access disruptions would further be minimized through adequate planning and consultation with LAPD and LAFD. Metro contracts with the Los Angeles County Sheriff for police enforcement at existing Metro

stations. Metro would also be contracted with the Los Angeles County Sheriff for police enforcement at the proposed transit stations. The existing and planned service levels for police and fire protection services are expected to be adequate. Therefore, the Canoga On-Street Dedicated Bus Lanes Alternative would have no substantial effect on emergency response time, and demand for additional fire and police services. Impacts to police and fire protection services would be less than significant.

Alternative 4. Canoga Busway

Similar to the Canoga On-Street Dedicated Bus Lanes Alternative, no police or fire stations are located adjacent to the Canoga Busway Alternative. Therefore, no disruption of access in and out of these facilities would occur. According to the traffic analysis, 24 of the 41 intersections studied would operate at LOS E or worse in 2030 under the Canoga Busway Alternative. However, as described in Section 4.7 Traffic, Circulation and Parking, the Canoga Busway Alternative would not result in any significant traffic impacts. Therefore, response times of emergency services would remain unaffected.

Under the Canoga Busway Alternative, buses would travel in an exclusive ROW and would be subject to new signalized intersections at cross streets. Therefore, the ability of emergency service vehicles to cross the Canoga Busway should not be substantially different than at present. In addition, stations and park-and-ride lots would be designed to avoid conflicts between patrons and emergency services' access. Potential access disruptions would further be minimized through adequate planning and consultation with LAPD and LAFD. Metro contracts with the Los Angeles County Sheriff for police enforcement at existing Metro stations. Metro would also be contracted with the Los Angeles County Sheriff for police enforcement at the proposed transit stations. The existing and planned service levels for police and fire protection services are expected to be adequate. Therefore, the Canoga Busway Alternative, including the five alignment options for the northern segment, would have no substantial effect on emergency response time, and demand for additional fire and police services. Impacts to police and fire protection services would be less than significant.

*Mitigation Measures:*

Under all of the alternatives and alignments, impacts to police and fire protection services would not occur or would be less than significant, and no mitigation measures are necessary.

*Level of Impact After Mitigation*: Less than significant.

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**Impact 4.4.4. The proposed project would temporarily disrupt parks and community facilities during construction and could adversely affect emergency response times for police and fire protection services. The temporary and short-term disruption on parks during construction is a less-than-significant impact. The proposed project has the potential to have significant construction impacts on emergency response times for police and fire protection services, as well as the Canoga Park Elementary School, Old Canoga Park Elementary School, Columbus Middle School, and Hart Street Elementary School, without mitigation.**

Alternative 1. No Project

The No Project Alternative would not include construction activity and would not require any temporary construction easements. Therefore, parklands and other community facilities would not be affected, and construction impacts would not occur.

## Alternative 2. TSM

The TSM Alternative would not include construction activity and would not require any temporary construction easements. Therefore, parklands and other community facilities would not be affected, and construction impacts would not occur.

## Alternative 3. Canoga On-Street Dedicated Bus Lanes

### Parklands & Recreational Facilities

The closest park or recreation facility to the Canoga On-Street Dedicated Bus Lanes Alternative is Parthenia Park, approximately 250 ft. west of Canoga Avenue. The Chatsworth Junior Baseball League Facility, located east of Canoga Avenue between Devonshire and Lassen Streets, is approximately 750 ft. from the Chatsworth Metrolink Station. The remaining two parks within the Corridor (Lanark Park and John Quimby Park) are located over 1,000 ft. from the Canoga On-Street Dedicated Bus Lanes Alternative. During construction, implementation of the mitigation measures included in Section 4.8 Air Quality and Section 4.9 Noise and Vibration would reduce any temporary, periodic noise, vibration, and air quality impacts that may indirectly affect parks and recreational facilities. Although significant air quality impacts are anticipated at Parthenia Park even with implementation of air quality mitigation measures, the impact would be short term and would only occur when construction activities are within 750 feet of the park. Since the air quality impact would be temporary and short-term, a less-than-significant impact associated with the physical disruption of parks and recreational facilities is anticipated. No other parks and recreational facilities would be directly or indirectly affected during construction.

### Police and Fire Protection

Construction vehicles combined with traffic on local streets, particularly at intersections, could have a significant effect on emergency response times. Street and lane closures would likely increase traffic congestion. To minimize the effect of these closures, staging/detour plans during construction would be reviewed with emergency personnel prior to construction. Notification of road or lane closures would be distributed to ensure no disruption of service. Furthermore, emergency vehicle access shall be included in construction specifications. At all street closures, an attempt would be made for one lane in each direction for emergency vehicle use to be maintained at all times. Temporary easements would most likely be required for construction staging, including equipment and materials storage, construction offices, employee parking, and other related construction uses. As such, due to the potential for temporary street closures, the Canoga On-Street Dedicated Bus Lanes Alternative would result in a significant construction impact without mitigation.

### Schools and Libraries

All of the schools within the Corridor, except for the New Academy Canoga Park Elementary School, which is located adjacent to Canoga Avenue at 21425 Cohasset Street, are located over 1,000 ft. from the Canoga On-Street Dedicated Bus Lanes Alternative. Although LAUSD schools are over 1,000 ft. from this alternative, some of the LAUSD schools, such as the Canoga Park Elementary School, Old Canoga Park Elementary School, Columbus Middle School, and Hart Street Elementary School, may be potentially affected since these schools may have pedestrian routes on Canoga Avenue.

The two libraries within the Corridor are also located over 1,000 ft. from the Canoga On-Street Dedicated Bus Lanes Alternative. The Chatsworth Library located at 21052 Devonshire Street is the closest library to the Canoga On-Street Dedicated Bus Lanes Alternative. During construction, implementation of the mitigation measures included in Section 4.8 Air Quality and Section 4.9 Noise and Vibration would reduce temporary, periodic noise, vibration, and air quality impacts that may

indirectly affect school and libraries within the Corridor. However, a significant impact for air quality and noise and vibration would remain at the New Academy Canoga Park Elementary School even with implementation of air quality and noise mitigation measures. These air quality and noise impacts would be short term and temporary. As such, a less-than-significant impact associated with the physical disruption of schools is anticipated. No other schools and libraries would be directly or indirectly affected during construction.

Student safety during the construction period (see Section 4.14 Safety and Security) could be a concern for the New Academy Canoga Park Elementary School, if not mitigated. Construction specifications are written to reduce potential construction hazards. Construction crews are trained in safety requirements and procedures, and Cal/OSHA requirements must be met by the contractor. The contractor would also be required to secure unsafe construction sites (fences and signage) to avoid creating an "attractive nuisance" and to prohibit unauthorized entry. At some locations, crossing guards may be needed. Therefore, the Canoga On-Street Dedicated Bus Lanes Alternative could result in a significant construction impacts without mitigation.

## Alternative 4. Canoga Busway

### Parklands & Recreational Facilities

Similar to the Canoga On-Street Dedicated Bus Lanes Alternative, the closest park or recreation facility to the Canoga Busway Alternative is Parthenia Park, approximately 250 west of Canoga Avenue. The Chatsworth Junior Baseball League Facility, located located east of Canoga Avenue between Devonshire and Lassen Streets, is approximately 750 ft. from the Chatsworth Metrolink Station. The remaining two parks within the Corridor (Lanark Park and John Quimby Park) are located over 1,000 ft. from the Canoga Busway Alternative. During construction, implementation of the mitigation measures included in Section 4.8 Air Quality and Section 4.9 Noise and Vibration would reduce any temporary, periodic noise, vibration, and air quality impacts that may indirectly affect parks and recreational facilities. Although significant air quality impacts are anticipated at Parthenia Park even with implementation of air quality mitigation measures, the impact would be short term and would only occur when construction activities are within 750 feet of the park. Since the air quality impact would be temporary and short-term, a less-than-significant impact associated with the physical disruption of parks and recreational facilities is anticipated. No other parks and recreational facilities would be directly or indirectly affected during construction.

### Police and Fire Protection

Increased traffic on local streets, particularly at intersections, could have a significant effect on emergency response times. Street and lane closures would likely increase traffic congestion. To minimize the effect of these closures, staging/detour plans during construction would be reviewed with emergency personnel prior to construction. Notification of road or lane closures would be distributed to ensure no disruption of service. Furthermore, emergency vehicle access shall be included in construction specifications. At all street closures, an attempt would be made for one lane in each direction for emergency vehicle use to be maintained at all times. Therefore, the Canoga Busway Alternative would result in a significant construction impacts without mitigation.

### Schools and Libraries

All of the schools within the Corridor except for the New Academy Canoga Park Elementary School, which is located adjacent to Canoga Avenue at 21425 Cohasset Street, are located over 1,000 ft. from the Canoga Busway Alternative. Although LAUSD schools are over 1,000 ft. from this alternative, some of the LAUSD schools, such as the Canoga Park Elementary School, Old Canoga Park

Elementary School, Columbus Middle School, and Hart Street Elementary School, may be potentially affected since these schools may have pedestrian routes on Canoga Avenue.

The two libraries within the Corridor are located over 1,000 ft. from the Canoga Busway Alternative. The Chatsworth Library located at 21052 Devonshire Street is the closest library to the Canoga Busway Alternative. During construction, implementation of the mitigation measures included in Section 4.8 Air Quality and Section 4.9 Noise and Vibration would reduce any temporary, periodic noise, vibration, and air quality impacts that may indirectly affect school and libraries within the Corridor. However, a significant impact for air quality and noise and vibration would remain at the New Academy Canoga Park Elementary School even with implementation of air quality and noise mitigation measures. These air quality and noise impacts would be short term and temporary. As such, a less-than-significant impact associated with the physical disruption of schools is anticipated. No other schools and libraries would be directly or indirectly affected during construction.

Student safety during the construction period (see Section 4.14 Safety and Security) could be a concern for the New Academy Canoga Park Elementary School, if not mitigated. Construction specifications are written to reduce potential construction hazards. Construction crews are trained in safety requirements and procedures, and Cal/OSHA requirements must be met by the contractor. The contractor would also be required to secure unsafe construction sites (fences and signage) to avoid creating an "attractive nuisance" and to prohibit unauthorized entry. At some locations, crossing guards may be needed. Therefore, the Canoga Busway Alternative could result in a significant construction impacts without mitigation.

### *Mitigation Measures:*

The following mitigation measures are applicable to the Canoga On-Street Dedicated Bus Lanes Alternative and the Canoga Busway Alternative:

#### Parklands & Recreation Facilities

Mitigation Measures **MM 4.8-1** through **MM 4.8-11** in Section 4.8 Air Quality and Mitigation Measures **MM 4.9-1** through **MM 4.9-7** in Section 4.9 Noise and Vibration would be applicable to the Canoga On-Street Dedicated Bus Lanes Alternative and the Canoga Busway Alternative.

#### Police and Fire Protection

***MM 4.4-1***: Coordination with City of Los Angeles Fire and Police Department personnel shall be conducted to provide adequate advance notice of construction activities and identify, as necessary, any special arrangements that may be needed to accommodate emergency services.

***MM 4.4-2***: To minimize the effect of street and lane closures, the construction contractor shall develop a staging/detour plan prior to construction activities. The construction contractor shall provide the staging/detour plans to the City of Los Angeles Fire and Police Department personnel for review. The plans shall be developed to the satisfaction of the City of Los Angeles Fire and Police Department personnel.

***MM 4.4-3:*** Emergency vehicle access on Canoga Avenue shall be included in construction specifications.

***MM4.4-4:*** On Canoga Avenue, the construction contractor shall make one lane in each direction available at all times for emergency vehicle use.

Mitigation Measure **MM 4.7-27** included in Section 4.7 Traffic, Circulation and Parking would also be applicable to the Canoga On-Street Dedicated Bus Lanes Alternative and the Canoga Busway Alternative.

### Schools and Libraries

Mitigation Measures **MM 4.8-1** through **MM 4.8-11** in Section 4.8 Air Quality and Mitigation Measures **MM 4.9-1** through **MM 4.9-7** in Section 4.9 Noise and Vibration would be applicable to the Canoga On-Street Dedicated Bus Lanes Alternative and the Canoga Busway Alternative.

> ***MM 4.4-5***: School officials for the New Academy Canoga Park Elementary School and LAUSD shall be consulted regarding the construction process in order to develop the least intrusive construction process feasible.
>
> ***MM 4.4-6***: School officials for the New Academy Canoga Park Elementary Schools and the LAUSD schools with pedestrian routes on Canoga Avenue shall be consulted in order to ensure maintenance of safe student walk routes and access for passenger vehicles and school buses.
>
> ***MM 4.4-7***: Crossing guards or flag men shall be provided at active construction sites in proximity to schools and where school pedestrian routes cross construction areas. The construction contractor shall coordinate with the New Academy Canoga Park Elementary School and LAUSD to determine the location of crossing guards or flag men.
>
> ***MM 4.4-8***: The construction contractor shall coordinate with the New Academy Canoga Park Elementary School and LAUSD to determine haul routes and when haul truck travel shall be avoided. In coordination with the New Academy Canoga Park Elementary School and LAUSD, construction scheduling and haul routes shall be sequenced to minimize conflicts with pedestrians, school buses and vehicular traffic during arrivals and dismissals of the school day.
>
> ***MM 4.4-9***: The construction contractor shall install fences and signage around the construction sites to prohibit unauthorized entry to the construction sites.

*Level of Impact After Mitigation*: Less than significant. Implementation of Mitigation Measure **MM 4.8-1** through **MM 4.8-11** in Section 4.8 Air Quality and Mitigation Measures **MM 4.9-1** through **MM 4.9-7** in Section 4.9 Noise and Vibration would reduce temporary, periodic air quality, noise, and vibration impacts that may indirectly affect parks and recreational facilities, schools, and libraries. Implementation of Mitigation Measure **MM 4.4-5** through **MM 4.4-9** would also reduce construction impacts on schools and libraries. The disruption on Parthenia Park and the New Academy Canoga Park Elementary School during construction would be temporary and short-term, and, thus, a less-than-significant impact is anticipated.

Implementation of Mitigation Measures **MM 4.4-1** through **MM 4.4-9** above and Mitigation Measures **MM 4.7-27** included in Section 4.7 Traffic, Circulation and Parking would result in construction impacts on police and fire protection services to less-than-significant levels under the Canoga On-Street Dedicated Bus Lanes and the Canoga Busway Alternatives.

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**Impact 4.4.5. The proposed project does not have the potential to result in a significant cumulatively considerable impact on parklands and other community facilities without mitigation.**

The proposed project would not cause significant cumulative effects on parklands and other community facilities. Rather, the addition of new transit service would broaden the range of community accessibility at the system level, and this would be a beneficial cumulative effect of the proposed project. The increased accessibility to parks and recreational facilities within the Corridor would not create such a demand on parks that they would need to be expanded or have new facilities constructed. Increasing traffic resulting from cumulative development would worsen traffic congestion resulting in potential interference with emergency response; however, the project would not make a cumulative considerable contribution to traffic increases and would, therefore, not have a cumulative impact. The addition of new transit service would broaden the range of community accessibility at the system level, and this would be a beneficial cumulative effect of the proposed project.

*Mitigation Measures:*

Under all of the alternatives and alignments, significant cumulatively considerable impacts would not occur. Thus, no mitigation measures are required.

*Level of Impact After Mitigation*: Less than significant.

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# 4.5 HISTORIC, ARCHAEOLOGICAL, AND PALEONTOLOGICAL RESOURCES

This section describes the cultural background and setting of the project area and provides the results of cultural resources surveys and analysis conducted for the project. Potential impacts include damage or destruction of significant cultural or paleontological resources in the project area. If potentially significant cultural or paleontological resources are discovered, those resources shall be inventoried and evaluated; additional treatment may include data-recovery and curation. Potential impacts that could result from the project on cultural resources, including historic, prehistoric, historical archaeological sites, and paleontological discoveries, are discussed and mitigation measures offered.

## 4.5.1 EXISTING SETTING

The project area is located in the San Fernando Valley, a 345 square-mile urbanized lowland in the northwest section of Los Angeles County, California. The Valley is bordered by the Santa Susana Mountains on the north, the Verdugo Mountains on the East, The Santa Monica Mountains on the South, and Simi Hills on the west. The specific project area is approximately 950 ft above sea level. Greater than 50 percent of the project area is covered in modern development. The Los Angeles River crosses the project area 0.10 miles north of Vanowen Street. A second aqueduct crosses the project area north of Parthenia Street. The Chatsworth Reservoir is located 1.9 miles northwest, the Encino Reservoir is 4.5 miles southeast, and the Sepulveda Flood Control Basin is located 5.5 miles southwest of the project area.

The proposed corridor is approximately 6 miles long and located primarily on Canoga Avenue. It extends from the western terminus of the existing Metro Orange Line at Warner Center and ends at the Chatsworth Metrolink Station. Departing from the Warner Center Transit Hub on Owensmouth Avenue, the route runs on Owensmouth Avenue between Erwin Street and Oxnard Street (1/4 mile); Erwin Street between Owensmouth Avenue and Canoga Avenue (1/4 mile); and Oxnard Street between Owensmouth Avenue and Canoga Avenue (1/4 mile). From Oxnard Street, it extends north along Canoga Avenue, parallel to the Metro-owned railroad right-of-way, for approximately 4 miles.

### Paleontological Setting

The entire surface area of the project Area of Potential Effect (APE) has been heavily disturbed by urban development. The U.S. Department of Agriculture[1] lists the surface soils as San Emigdio and Cropley Urban Land Complex. Below the Urban Land Complex is Quaternary Alluvium (less than 10,000 years in age) composed of loams, clays, silts, and sands. This alluvium is underlain by older Quaternary sediments, Pleistocene in age (10,000 to 1.2 million years old), which are known to contain fossils. These older Quaternary sediments generally occur at depths greater than 5 ft. The older Quaternary alluvium sediments overlay bedrock.

Underlying bedrock consists of the fossiliferous Fernando Formation, and Late Cretaceous marine sedimentary rocks, locally termed the Chatsworth Formation. The Chatsworth Formation is a sand-rich alluvium fan deposit consisting of sandstones, mudstones, shales, and conglomerates. It often contains marine invertebrate fossils (marine shells). These bedrock formations have a high potential to produce unique and significant fossilized remains.

[1] U.S. Department of Agriculture. 2007. Web Soil Survey. Available: <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>.

### *Paleontology Methodology and Results*

The Vertebrate Paleontology section of the Natural History Museum of Los Angeles County conducted a search of its records for the proposed project vicinity on 30 October 2007. No known vertebrate fossil localities lie directly within the proposed project site. However, Pleistocene age fossils have been found nearby in sedimentary deposits similar to those of the project area. These significant fossilized deposits are generally found at depths greater than 5 ft. The closest vertebrate fossil locality is LACM 1406, 2 miles north-northwest of the proposed project route area at the base of a ravine in the Santa Susana Pass. Excavations at this site produced a fossil specimen of a mastodon. Other nearby localities from these older Quaternary deposits are LACM 5878, off Long Valley Road in Hidden Hills, 4 miles south of the proposed project area that produced a mastodon fossil and LACM 1213, 5 miles south of the proposed project area off of Mulholland Highway, that contained a fauna of fossil horse and ground sloth.

No paleontological field survey was conducted for this project.

## Archaeological Setting

### *Ethnography*

The project 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 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 arrived in the Los Angeles Basin around 2500 B.P. as part of what Kroeber[2] referred to as the "Shoshonean Wedge." By 1500 B.P., permanent villages were built in the foothills and lowlands along rivers and streams. Over 50 villages may have been occupied simultaneously with populations between 50 and 200 people per village.[3]

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.[4] 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.[5]

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[2] Kroeber, Alfred. 1925. *Handbook of the Indians of California*. Bulletin 78, American Bureau of Ethnology. Reprinted in 1976, Dover Publications, Inc., NY.
[3] Bean, L. J., and C. R. Smith. 1978. Gabrielino. In *Handbook of North American Indians,* Vol. 8, California, R. F. Heizer (ed.), pp. 538–549. Smithsonian Institution, Washington, DC.
[4] Ibid.
[5] Ibid.

### *Prehistory*

The prehistoric occupation of southern California is divided chronologically into four temporal phases or horizons.[6] Horizon I, or the Early Man Horizon, began at the first appearance of people in the region approximately 12,000 years ago, and continued until about 5000 B.C. Although little is known about these people, it is assumed that they were semi-nomadic and subsisted primarily on game.

Horizon II, also known as the Millingstone Horizon or Encinitas Tradition, began around 5000 B.C. and continued until about 1500 B.C. The Millingstone Horizon is characterized by widespread use of milling stones (manos and metates), core tools, and few projectile points or bone and shell artifacts. This horizon appears to represent a diversification of subsistence activities and a more sedentary settlement pattern. Archaeological evidence suggests that hunting became less important and that reliance on collecting shellfish and vegetal resources increased.[7]

Horizon III, the Intermediate Horizon or Campbell Tradition began around 1500 B.C. and continued until about A.D. 600-800. Horizon III is defined by a shift from the use of milling stones to increased use of mortar and pestle, indicating a greater reliance on acorns as a food source. Projectile points become more abundant and, together with faunal remains, indicate increased use of both land and sea mammals.[8]

Horizon IV, the Late Horizon, which began around A.D. 600-800 and terminated with the arrival of Europeans, is characterized by dense populations; diversified hunting and gathering subsistence strategies, including intensive fishing and sea mammal hunting; extensive trade networks; use of the bow and arrow; and a general cultural elaboration.[9]

### *Archaeological Survey Methodology and Results*

Prior to field investigations, Shelly Long, a Jones & Stokes archaeologist, conducted a literature search at the South Central Coastal Information Center, located at California State University, Fullerton. The record search included a review of all available cultural resource survey and excavation reports and site records for an area within a one-quarter mile radius of the project area. The results of this literature and records search indicate that no archaeological resources are located within the Transportation Systems Management (TSM) Alternative and one resource, the Owensmouth Southern Pacific Railroad Station, is located within a ¼ mile of it. This same resource is located within the Canoga On-Street Dedicated Bus Lanes Alternative and the Canoga Busway Alternative.

The Owensmouth Southern Pacific Railroad Station was built in 1912 and burnt down in 1993. It was located within the Metro ROW, at the intersection of Canoga Avenue and Sherman Way. As one of the few Spanish Revival Railroad Stations in the San Fernando Valley, this site is recorded as a significant resource on the National Register of Historic Places. The station no longer exists. A strip mall parking lot is currently located at the recorded site. No further archaeological resources are located within the project alternatives or within a one-quarter mile radius of the alternatives.

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[6] Moratto, Michael J. 1984. *California Archaeology*. Academic Press, Orlando, FL.
[7] Ibid.
[8] Ibid.
[9] Ibid.

In addition to the records search, Jones & Stokes consulted the Native American Heritage Commission (NAHC) on October 3, 2007 and requested that they consult their sacred lands file and provide a list of potentially interested Native American representatives for the project area. The NAHC responded on October 4, 2007 stating that a search of their sacred lands database did not yield any sacred lands or traditional cultural properties within the project area. The NAHC provided a list of Native American contacts in the San Fernando Valley. Letters describing the project area and indicating the project location were sent to these Native American representatives on October 17, 2007. No comments have yet been received.

Much of the project area is developed, and pedestrian survey was not feasible. Open areas were examined by a Jones & Stokes archeologist walking in 15 meter transects across those areas of the project where the ground surface was visible. No cultural resources were identified during the pedestrian survey.

## Historic Setting

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 area, was ceded to the United States.

### *Project Area*

Owensmouth, later named Canoga Park, was founded on March 30, 1912. It was named for its relation to the Los Angeles Aqueduct that brought water from Owens Valley. The Owensmouth community began in the 1860s when an immigrant and resident of San Francisco named Isaac Lankershim purchased approximately 15,000 acres in the southern half of the San Fernando Valley and began the area's tradition of wheat production. Lankershim's partner and son-in-law, Isaac Newton Van Nuys, continued the business, but after his death the vast land holdings were sold to a consortium of local businessmen under the rubric the Los Angeles Suburban Homes Company, led by *Los Angeles Times* publisher Harrison Gray Otis. Predicting the arrival of Owens River Valley water in Southern California, the Syndicate, as the group was known, platted several towns, and hired developers Janss Investment Company to subdivide lots. (This scenario was dramatized by Robert Towne in his film *Chinatown*.) The Southern Pacific Railroad's Burbank Branch first opened on March 20, 1904. Separate trains operated by developers, such as the Janss Train, brought potential buyers to the new tracts at Van Nuys, Marion (later Reseda), and Owensmouth. Passenger and freight stations were built at Owensmouth and Van Nuys between 1913 and 1916. Many buildings associated with the Burbank Branch were retired beginning in the 1950s, but some still remained as of recently, when they were destroyed by fire or torn down.

The Pacific Electric line extended from Hollywood to Van Nuys via Cahuenga Pass in 1911. Pacific Electric leased trackage from Southern Pacific's Burbank Branch between Lankershim and Kester, and had its own right-of-way from Kester to Van Nuys. Southern Pacific and the Pacific Electric crossed along Van Nuys Boulevard, after which the Pacific Electric headed west till where the line ended at Owensmouth, later Canoga Park.

The San Fernando Valley was annexed to Los Angeles County in 1917 and the town of Owensmouth was

renamed Canoga Park in 1930. The economy of Canoga Avenue slowly shifted from agricultural to light industrial and by the 1950s was an industrial zone. In 1955, Rocketdyne set up its headquarters in the area and became a major employer. Hughes Aircraft (now Boeing), Atomics International, and Teledyne soon followed. Today, the area within and directly surrounding the project location consists of warehouses, retail shops and residential structures (primarily mobile homes).

### *Site Survey Methodology and Results*

Qualified architectural historians[10] David Greenwood, and Meghan Potter, completed a site reconnaissance study consisting of several tasks. The first task was to complete background research for the vicinity of the proposed project area. This research consisted of reviewing the following sources: Historic Property Data file at the South Central Coastal Information Center, TRW/Experian data from American Real Estate Solutions, Zoning Information and Map Access System (ZIMAS) from the City of Los Angeles Planning Department, and building permits from the City of Los Angeles Building and Safety. In addition, an oral interview with Beth Shirley, a member of the Canoga-Owensmouth Historical Society, was conducted on October 11, 2007. The following persons were consulted for railroad history research: John R. Signor specializing in western railroad history, and John Heller specializing in Pacific Electric railway history.

A field investigation was conducted on October 11, 2007, to identify existing buildings within and adjacent to the ROW that meet the 50-year age criterion for evaluation. The team of architectural historians conducted the site analysis, applying the California Register of Historical Resources *Criteria for Evaluation*. For consideration of a potential historical resource, a property must be shown to be significant under one or more of the three criteria for evaluation. Criterion 1 consideration is for a property that may be eligible under an association with events that made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States. Criterion 2 consideration is for a property that may be eligible through its association with the lives of persons important to local, California, or national history. Criterion 3 consideration is for a property that may be eligible if it embodies distinctive characteristics of a type, period, region, or method of construction or represents the work of a master or possesses high artistic value.

For this field investigation and site analysis, architectural historians evaluated proprieties under Criterion 3, which is defined as a building having distinctive architectural design characteristics, a unique construction type, represents the work of a master, or possess high artistic value. For identifying resources under Criteria 1 or 2, which is defined as a building having significance because of its association with an important event (Criterion 1) or an important person (Criterion 2), an oral interview with Beth Shirley, a member of the Canoga-Owensmouth Historical Society, was conducted. Mrs. Shirley expressed that there are no existing buildings 50 years of age or older, within the proposed alternative route segments, that are associated with important events or persons. No other additional research was conducted to identify potential historical resources under Criteria 1 or 2.

The records search, field surveys, and subsequent research identified over 50 parcels in the project area (i.e., within the ROW, adjacent to the ROW, and along alternative route alignments) with architectural resources 50 years of age or older.

[10] Meets the Secretary of the Interior's Professional Qualifications Standards (36 CFR Part 61) in the discipline of architectural history.

There were no previously identified historical resources, within the project's alternative routes, eligible or listed in California Register of Historical Places.

## 4.5.2 REGULATORY FRAMEWORK

### Federal Regulations

The National Environmental Policy Act (NEPA) requires that federal agencies integrate the NEPA process with other environmental laws. Section 106 of the National Historic Preservation Act as amended (Section 106, 16 U.S.C. 470f) requires that impacts on significant cultural resources, hereafter called historic properties, be taken into consideration in any federal undertaking.

This project is not associated with any federal agencies or undertakings; therefore, it is not subject to the Section 106 process and review, or regulatory federal regulations. The lead local agency for this project is the Los Angeles County Metropolitan Transportation Authority (Metro). No other federal agencies, such as the Federal Transit Administration (FTA), have been identified to be involved with this project. In addition, there are no identified federal undertakings that will be associated with this project.

### State Regulations

The California Environmental Quality Act (CEQA) requires public or private projects financed or approved by public agencies to be assessed when determining the effects of projects on historical resources. CEQA uses the term "historical resources" to include buildings, sites, structures, objects, or districts, each of which may have historical, prehistorical, architectural, archaeological, cultural, or scientific importance.

CEQA states that if implementation of a project results in significant effects on historical resources, then alternative plans or mitigation measures must be considered; however, only significant historical resources need to be addressed (California Code of Regulations Sections 15064.5 and 15126.4). Therefore, before impacts and mitigation measures can be identified, the significance of historical resources must be determined.

CEQA statute and guidelines provide five basic definitions as to what may qualify as an historical resource. Specifically, Section 21048.1 of the CEQA statute (Division 13 of the California Public Resources Code), in relevant part, provides a description for the first three of these definitions, as follows:

> *...an historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources. Historical resources included in a local register of historical resources, as defined in subsection (k) of Section 5020.1,[11] are presumed to be historically or culturally significant for purposes of this section, unless the preponderance of the evidence demonstrates that the resource is not historically or culturally significant. The fact that a resource is not listed in, or determined to be eligible for listing in, the California*

[11] PRC 5020.1(k): "Local register of historic resources" means a list of properties officially designated or recognized as historically significant by a local government pursuant to a local ordinance or resolution.

*Register of Historical Resources, not included in a local register of historical resources, or not deemed significant pursuant to criteria set forth in subdivision (g) of*

*Section 5024.1*[12] *shall not preclude a lead agency from determining whether the resource may be an historical resource for purposes of this section.*

To simplify the first three definitions provided in the CEQA statute, an historical resource is a resource that is:

1. Listed in the California Register of Historical Resources (California Register);
2. Determined eligible for the California Register by the State Historical Resources Commission; or
3. Included in a local register of historical resources (see footnote No. 9).

Section 15064.5 of the CEQA Guidelines (California Code of Regulations, Title 14, Chapter 3, supplements the statute by providing two additional definitions of historical resources, which may be simplified in the following manner. An historical resource is a resource that is:

1. Identified as significant in an historical resource survey meeting the requirements of Public Resources Code §5024.1(g)
2. Determined by a Lead Agency to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. Generally, this category includes resources that meet the criteria for listing on the California Register (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4852).

Buildings and structures on the proposed project site and adjacent properties that could be considered historical resources were evaluated in light of each of the above five definitions under CEQA. Each CEQA definition is described in more detail below.

### *Definition 1—Listed in the California Register*

There are several ways in which a resource can be listed in the California Register, which are codified under Title 14 CCR, Section 4851.

- A resource can be listed in the California Register by the State Historical Resources Commission.
- If a resource is listed in or determined eligible for listing in the National Register of Historic Places (National Register), it is automatically listed in the California Register.
- If a resource is a California State Historical Landmark, from No. 770 onward, it is automatically

[12] PRC 5024.1(g): A resource identified as significant in an historical resource survey may be listed in the California Register if the survey meets all of the following criteria:
(1) The survey has been or will be included in the California Historic Resources Inventory.
(2) The survey and the survey documentation were prepared in accordance with office procedures and requirements.
(3) The resource is evaluated and determined by the office [of Historic Preservation] to have a significance rating of Category 1 to 5 on DPR Form 523.
(4) If the survey is five or more years old at the time of its nomination for inclusion in the California Register, the survey is updated to identify historical resources which have become eligible or ineligible due to changed circumstances or further documentation and those which have been demolished or altered in a manner that substantially diminishes the significance of the resource.

listed in the California Register.

### *Definition 2—Determined Eligible for the California Register*

Properties that have been formally determined eligible for listing in the California Register of Historical Resources are considered to be historical resources for the purposes of CEQA.

### *Definition 3—Listed in a Local Register of Historical Resources*

A property listed in a local register of historical resources is considered an historical resource for the purposes of CEQA.

### *Definition 4—Identified as Significant in an Historical Resources Survey*

According to Section 15064.5(a)(2) of the CEQA Guidelines, a resource "identified as significant in an historical resource survey meeting the requirements [set forth in] section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant." The requirements set forth in PRC 5024.1(g) for historical resources surveys are listed below.

A resource identified as significant in an historical resource survey may be listed in the California Register if the survey meets all of the following criteria:

1. The survey has been or will be included in the State Historic Resources Inventory, which is used in part with the California Register of Historical Resources, an authoritative guide to historical and archeological resources.

2. The survey and the survey documentation were prepared in accordance with office [of Historic Preservation] procedures and requirements.

3. The resource is evaluated and determined by the office [of Historic Preservation] to have a significance rating of Category 1 to 5 on DPR Form 523.

4. If the survey is five or more years old at the time of the building's nomination for inclusion in the California Register, the survey should be updated to identify any changes to historical resources that may cause it to be eligible or ineligible.

### *Definition 5—Determined Significant by the Lead Agency*

The fifth and final category of historical resources are those that are determined significant by a lead agency. This usually occurs during the CEQA compliance process, such as the preparation of this EIR. According to Section 15064.5(a)(3) of the CEQA Guidelines, "Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be 'historically significant' if the resource meets the criteria for listing on the California Register of Historical Resources (Pub.

Res. Code SS5024.1, Title 14 CCR, Section 4852)..."

The CEQA Guidelines quote only a small portion of the California Register criteria; therefore, Title 14 CCR, Section 4852 (b)-(d) is quoted below to include all of the California criteria:

**(b) Criteria for evaluating the significance of historical resources**

An historical resource must be significant at the local state, or national level under one or more of the following four criteria:

1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States,

2. It is associated with the lives of persons important to local, California, or national history;

3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or

4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

**(c) Integrity**

Integrity is the authenticity of an historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance. Historical resources eligible for listing in the California Register must meet one of the criteria of significance described in section 4852 (b) of this chapter and retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Historical resources that have been rehabilitated or restored may be evaluated for listing.

Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. It must also be judged with reference to the particular criteria under which a resource is proposed for eligibility. Alterations over time to a resource or historic changes in its use may themselves have historical, cultural, or architectural significance.

It is possible that historical resources may not retain sufficient integrity to meet the criteria for listing in the National Register, but they may still be eligible for listing in the California Register. A resource that has lost its historic character or appearance may still have sufficient integrity for the California Register if it maintains the potential to yield significant scientific or historical information or specific data.

**(d) Special considerations**

1. Moved buildings, structures, or objects. The Commission encourages the retention of historical resources on site and discourages the non-historic grouping of historic buildings into parks or districts. However, it is recognized that moving an historic building, structure, or object is sometimes necessary to prevent its destruction.

Therefore, a moved building, structure, or object that is otherwise eligible may be listed in the California Register if it was moved to prevent its demolition at its former location and if the new location is compatible with the original character and use of the historical resource. An historical resource should retain its historic features and compatibility in orientation, setting, and general environment.

2. Historical resources achieving significance within the last fifty (50) years. In order to understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource. A resource less than fifty (50) years old may be considered for listing in the California Register if it can be demonstrated that sufficient time has passed to understand its historical importance.

3. Reconstructed buildings. Reconstructed buildings are those buildings not listed in the California Register under the criteria in Section 4853(b)(1), (2), or (3) of this chapter. A reconstructed building less than fifty (50) years old may be eligible if it embodies traditional building methods and techniques that play an important role in a community's historically rooted beliefs, customs, and practices; e.g., a Native American roundhouse.

## 4.5.3 IMPACTS AND MITIGATION MEASURES

### Significance Criteria

#### *Paleontological Resources*

Paleontologically sensitive sedimentary units are those units with a high potential for containing significant paleontologic resources (i.e., rock units within which vertebrate fossils or significant invertebrate fossils have been determined by previous studies to be present or likely to be present). These units include, but are not limited to, sedimentary formations that contain significant paleontologic resources anywhere within their geographical extent, as well as sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Determinations of paleontologic sensitivity must therefore consider not only the potential to yield abundant vertebrate fossils but also the potential for production of a few significant fossils, large or small, vertebrate or invertebrate, which may provide new and significant data on fossils types, species changes over time, or geologic strata. Areas that may contain datable organic remains older than the Recent era (less than 10,000 years in age) and areas that may contain unique, new vertebrate deposits, traces, and/or trackways must also be considered paleontologically sensitive. Fossils can be considered to be of significant scientific interest if one or more of the following criteria apply:

- The fossils provide data on the evolutionary relationships and developmental trends among organisms, both living and extinct;

- 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;

- The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas;

- The fossils demonstrate unusual or spectacular circumstances in the history of life; or
- 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.

According to CEQA, a project that may cause a substantial adverse change in the significance of a paleontological resource is a project that may have a significant effect on the environment (CEQA rev. 1998, Section 15064.5(b)). CEQA further states that a substantial adverse change in the significance of a resource means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance would be materially impaired. Therefore, for purposes of the analyses in this Draft EIR and in accordance with Appendix G of the State CEQA Guidelines, the proposed project would have a potentially significant effect on the environment if it directly or indirectly destroys a unique paleontological resource or site.

### *Archaeological Resources*

For the purposes of this EIR, and in accordance with Section 21084.1 of CEQA, the proposed Project would have a significant adverse environmental impact if it causes a substantial or potentially substantial adverse change in the significance of an historical resource. A substantial change is explained in the following excerpt from the *State CEQA Guidelines*.

> *Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired (§15064.5[b]1).*

Cultural resources management work conducted as part of the proposed Project shall comply with the CEQA Statutes and the *State CEQA Guidelines*, which direct lead agencies to first determine whether an archaeological site is a "historically significant" cultural resource. Generally, a cultural resource shall be considered by the lead state agency to be "historically significant" if the resource meets any of the criteria for listing on the California Register of Historical Resources.

### *Historic Resources*

For the purposes of this environmental impact report, and in accordance with Section 21084.1 of CEQA, the proposed project would have a significant adverse environmental impact if it:

- causes a substantial or potentially substantial adverse change in the significance of an historical resource.
- a substantial change is explained in the following excerpt from the State CEQA Guidelines.

Section 15064.5 of the CEQA Guidelines, Determining the Significance of Impacts to Historical Resources and Unique Archaeological Resources, has been applied to this project to determine whether the proposed project would have any significant effect on historical resources. According to these criteria, the project would result in a significant impact if it causes a substantial adverse change in the significance of a historical resource based on the following criteria established by the CEQA Guidelines:

**(b) A project with an effect 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.**

1. Substantial adverse change in the significance of a historical resource means physical demolition, destruction, relocation, or alteration in the resource or its immediate surroundings such that the significance of an historic resource would be materially impaired.
2. The significance of a historical resource is materially impaired when a project:

   (A) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the California Register of Historical Resources; or

   (B) Demolishes or materially alters in an adverse manner those physical characteristics [of a historical resource] that account for its inclusion in a local register of historical resources (pursuant to section 5021.1(k) of the Public Resources Code), or its identification in a historical resources survey meeting the criteria in section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

   (C) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

3. Generally, a project that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings,[13] shall be considered as mitigated to a level of less than a significant impact on the historical resource.

## Methodology

### *Paleontological Resources*

Evaluation of paleontological resources was based on a review of paleontological discoveries adjacent to the project area and geological conditions within the project alternatives. The amount and depth of ground disturbance, as indicated on construction drawings, was used to estimate the potential for impacts.

### *Archaeological Resources*

Impacts were assessed based on the potential of the project alternatives to affect areas containing archaeological resources. The amount and depth of ground disturbance, as indicated on

[13] Kay D., Weeks and Anne E., Grimmer. 1992. *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings.*

construction drawings, was used to estimate the potential for impacts.

### *Historic Resources*

The engineering drawings for the project were reviewed to identify parcels that could be affected by the alternative alignments. Research was conducted to determine the historic significance of structures on those parcels and the significance of potential effects on any identified historic properties.

**Impact 4.5.1: Construction activities have a low potential to damage or destroy significant or unique paleontological resources or sites. Impacts would be less than significant after mitigation.**

#### Alternative 1. No Project

The No Project Alternative would not result in any construction within the proposed project area. As such, no potential impacts to paleontological resources would occur during the construction of the project.

#### Alternative 2. TSM

The TSM Alternative includes changes to existing Metro bus routes and the addition of a new local transit line for Canoga Avenue. There are no construction elements of the TSM Alternative that are likely to have a significant impact on paleontological resources in the project area. Therefore, no significant impacts are anticipated.

#### Alternative 3. Canoga On-Street Dedicated Bus Lanes

As discussed in Chapter 3.0, Project Description, the Canoga On-Street Dedicated Bus Lanes Alternative would operate as a typical Metro Rapid service on street. The alternative would require designating a southbound, Bus-Only Lane along the western edge of Canoga Avenue as well as the widening of Canoga Avenue into the Metro right-of-way (ROW).

Within the project area and along this alignment, surface sediments consist of younger Quaternary Alluvium. The uppermost few feet of this alluvium are unlikely to contain significant fossil remains, and have previously been disturbed by development associated with historic agricultural activities. However, at depth within the older Quaternary sediments, there is a high potential of encountering significant vertebrate fossils.
Construction activities that require surface grading or very shallow excavations into the younger Quaternary alluvial deposits are unlikely to expose significant fossilized vertebrate remains. However, excavations of 5 ft or more in depth, extending into the older Quaternary deposits, may expose significant fossilized vertebrate remains. The destruction of any unique fossil resources on the proposed project site would result in a significant impact under CEQA.

The northern segment options under this alternative would result in no or minor grading, perhaps including only excavations for streetlight footings; therefore, there would be a low potential for encountering paleontological resources under these options. However, even small excavations of 5 ft or more in depth extending into the older Quaternary deposits may expose significant fossilized vertebrate remains. The destruction of any unique fossil resources on the proposed project site would result in a significant impact under CEQA.

## Alternative 4. Canoga Busway

This alternative would consist of extending the existing Metro Orange Line north on the abandoned railroad right-of-way, paralleling Canoga Avenue. In addition, three of the six options considered for the final northern segment to connect to the Chatsworth Metrolink Station may require deep excavation. As described above, in Alternative 3, the uppermost few feet of this alluvium are unlikely to contain significant fossil remains and have previously been disturbed by development. However, at depth within the older Quaternary sediments, there is a high potential of encountering significant vertebrate fossils. Consequently, excavations of 5 ft or more in depth would extend into the older Quaternary deposits as a result of the proposed underpass and other components of the proposed alternative, may expose significant fossilized vertebrate remains. The destruction of any unique fossil resources on the proposed project site would result in a significant impact under CEQA.

### *Mitigation Measures:*

The following mitigation measures shall be implemented to reduce project-related adverse impacts to paleontological resources that may be encountered during construction of proposed project:

***MM 4.5-1:*** A qualified paleontologic monitor shall monitor excavation in areas identified as likely to contain paleontologic resources. These areas are defined as all areas within the proposed project area where current design plans require excavation to exceed depths of 5 ft. The qualified paleontologic monitor shall retain the option to reduce monitoring if, in his or her professional opinion, sediments being monitored are previously disturbed. Monitoring may also be reduced if the potentially fossiliferous units, previously described, are not found to be present or, if present, are determined by qualified paleontologic personnel to have low potential to contain fossil resources.The monitor shall be equipped to salvage fossils and samples of sediments as they are unearthed to avoid construction delays and shall be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Because the older Quaternary deposits yield small fossils specimens likely to go unnoticed during typical large scale paleontological monitoring, matrix samples shall be collected and processed to determine the potential for small fossils to be recovered prior to substantial excavations in those sediments. If this sampling indicates these units do possess small fossils, a matrix sample of up to 6,000 pounds shall be collected at various locations, to be specified by the paleontologist, within the construction area. These matrix samples shall also be processed for small fossils. This is standard mitigation practice that will meet the requirements of Public Resources Code Section 5097.5 which prohibits excavation or removal of any vertebrate paleontological site or any other archaeological, paleontological, or historical feature situated on public lands, except with the express permission of the public agency having jurisdiction over such lands, and Section 30244 which requires reasonable mitigation of adverse impacts on paleontological resources from development on public land.

***MM 4.5-2:*** Recovered specimens shall be prepared to a point of identification and permanent preservation, including washing of sediments, to recover small invertebrates and vertebrates. Unidentifiable specimens shall be discarded.

***MM 4.5-3:*** Identified specimens shall be curated into a professional, accredited museum repository with permanent retrievable storage.

***MM 4.5-4:*** A report of findings, with an appended itemized inventory of specimens, shall be prepared. The report and inventory, when submitted to the Lead Agency, will signify completion of the program to mitigate impacts to paleontologic resources.

*Level of Impact after Mitigation:* Less than significant.

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**Impact 4.5.2: Construction activities have a low potential to damage or destroy significant archaeological resources. Impacts would be less than significant after mitigation.**

Alternative 1. No Project

The No Project Alternative would not result in any construction within the proposed project area. As such, no potential impacts to archaeological resources would occur during the construction of the proposed No Project Alternative.

Alternative 2. TSM

The TSM Alternative includes changes to existing Metro bus routes and the addition of a new local transit line for Canoga Avenue. There are no construction elements of the TSM Alternative that are likely to have a significant impact on archeological resources in the project area. Therefore, no significant impacts are anticipated.

Alternative 3. Canoga On-Street Dedicated Bus Lanes

As discussed in Chapter 3.0, Project Description, the Canoga On-Street Dedicated Bus Lanes Alternative would operate as a typical Metro Rapid service on street. The alternative would require designating a southbound, Bus-Only Lane along the western edge of Canoga Avenue as well as the widening of Canoga Avenue into the Metro ROW, which varies from 65 ft to 275 ft with a typical width of 100 ft. The ROW has a low potential to contain intact or buried archaeological resources. No prehistoric cultural resources are recorded within the project area, and none were found during the pedestrian survey. One historic resource, the Owensmouth Southern Pacific Railroad Station, is recorded to be within the project ROW; however, this site was completely destroyed by fire and retail development. As a result, no known archaeological resources would be affected by this alternative.

The northern segment options, under this alternative, would result in no or minor grading and excavation; therefore, there would be a low potential for encountering archeological resources under these options.

The high degree of surface and subsurface disturbance resulting from previous construction and historic agricultural activities decreases the likelihood of encountering intact subsurface archaeological deposits. Should unanticipated archaeological resources be encountered during construction, the mitigation measures below shall be implemented to reduce project-related adverse impacts to archaeological resources to a less-than-significant level.

Alternative 4. Canoga Busway

This alternative would consist of extending the existing Metro Orange Line north on the abandoned railroad right-of-way, paralleling Canoga Avenue. In addition, three of the six options considered for the final northern segment to connect to the Chatsworth Metrolink Station may require deep excavation. Options 4, 4a would include an underpass while Option 5 would consist of an elevated or below grade separation of the proposed Busway over the existing Metrolink/Amtrak/freight railroad tracks. These options would require excavation between 5 to 15 ft below grade level. As described above in Alternative 3, the ROW has a low potential to contain intact or buried archaeological resources. No prehistoric cultural resources are recorded within the project area, and none were found during the pedestrian survey. Further, the high degree of surface and subsurface disturbance resulting from previous construction and historic agricultural activities decreases the likelihood of encountering intact subsurface archaeological deposits.

*Mitigation Measures:*

The following mitigation measures shall be implemented to reduce project-related adverse impacts to archaeological resources that may be encountered during construction of proposed project improvements:

> ***MM 4.5-5:*** If buried cultural resources are uncovered during construction, all work shall be halted in the immediate vicinity of the archaeological discovery until a qualified archaeologist can visit the site of discovery and assess the significance of the archaeological resource. All unanticipated finds shall be documented, and a report of findings prepared, and discoveries further evaluated. In the event of an accidental discovery of any human remains in a location other than a dedicated cemetery, the steps and procedures specified in Health and Safety Code 7050.5, State CEQA Guidelines 15064.5(e), and Public Resources Code 5097.98 shall be implemented.

*Level of Impact after Mitigation:* Less than significant.

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**Impact 4.5.3. The proposed project would result in the demolition of two buildings and a railroad bridge along the ROW that are 50 years of age or older. However, none of these structures are historic resources; therefore, any impacts would be less than significant.**

Alternative 1. No Project

The No Project Alternative would not result in any construction within the proposed project area. As such, no potential impacts to historic properties would occur under the No Project Alternative.

Alternative 2. TSM

The TSM Alternative includes changes to existing Metro bus routes and the addition of a new local transit line for Canoga Avenue to provide or improve connecting service to the Orange Line, the Chatsworth Metrolink Station, and other areas in the project vicinity. This alternative would use existing Metro transit routes, and implementation of the proposed bus route changes is not expected to include major construction or acquisition of property. The planned service improvements could

include upgraded or additional bus stops. Therefore, there are no construction elements of the TSM Alternative that are likely to have a significant impact on historic resources in the project area.

## Alternative 3. Canoga On-Street Dedicated Bus Lanes

The Canoga On-Street Dedicated Bus Lanes Alternative would operate as a typical Metro Rapid service on street, with a southbound Bus-Only Lane along Canoga Avenue provided by prohibiting on-street parking; a northbound Bus-Only Lane would be provided by widening the street into the Metro-owned right-of-way that parallels Canoga Avenue. Where feasible, a 10- to 17-foot-wide bikeway/pedestrian path would be located on the Metro ROW approximately 5 to 15 ft from the east side dedicated lane next to the curb.

To accommodate the Dedicated Lanes, Canoga Avenue would be widened into the ROW by about 34 ft, and a parallel bikeway/pedestrian path would be built on the Metro ROW. At the northern end of the route, between Marilla Street and Lassen Avenue, this alternative may include dedicated bus lanes in an exclusive right-of-way. The widening of Canoga Avenue in the ROW would require the demolition of two buildings and a railroad bridge that were found to be 50 years of age or older (listed in **Table 4.5-1** and **Table 4.5-2**). These structures were evaluated under the CRHR criteria by a professional architectural historian for potential eligibility under Criterion 3, which is defined as a building having distinctive architectural design characteristics, a unique construction type, represents the work of a master, or possess high artistic value. For evaluating potential resources under Criteria 1 or 2, which is defined as a building having significance because of its association with an important event (Criterion 1) or an important person (Criterion 2), an oral interview with Beth Shirley, a member of the Canoga-Owensmouth Historical Society, was conducted on October 11, 2007. These two buildings were found to be ineligible for CRHR consideration as historically significant resources, as discussed below.

The commercial building located at 7119 N. Deering Avenue, Central Valley Builders Supply, is a one-story stucco structure with two large, open-shed warehouses. The main commercial building has a T-shape plan, with a flat roof, stucco exterior wall surface, raised entry with storefront picture windows, and six-pane wood frame and sash windows on the north elevation. The primary east elevation along Deering Avenue appears to have been remodeled. This building appears to have been altered and does not rise to the level of historical significance by possessing a distinctive architectural design characteristic or unique construction type, representing the work of a master, or possessing high artistic value under Criterion 3.

**Table 4.5-1. Buildings 50 Years of Age or Older (eligible for CRHR) That Would Be Demolished under Alternative 3**

| Address | APN | Year Built | Recommendation |
|---|---|---|---|
| 7119 N. Deering Avenue<br>1-story Commercial | 2111-029-905 | 1930 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by local historical society. |
| 7000 block of Canoga Avenue<br>1-story Warehouse | 2111-029-904 | 1940s | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by local historical society. |

Source: Jones & Stokes, 2007.

**Table 4.5-2. Railroad Bridges 50 Years of Age or Older (eligible for CRHR) That Would Be Demolished under Alternative 3**

| Name | Structure No. | Year Built | Recommendation |
|---|---|---|---|
| Los Angeles River Bridge Maker: Kaiser Steel Co., Built by U.S. Engineers | U.S. Eng. No. 449.69. Caltrans Bridge No. 53C1244. | 1957 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2 based on research by railroad historian. |

Source: Jones & Stokes, 2007.

A one-story warehouse building located on the east side of Canoga Avenue between Gault Street and Sherman Way is a light industrial warehouse with a rectangular plan and gable roof. It appears to have been built using wood-frame construction; horizontal wood siding has been covered with corrugated metal sheeting. An aluminum sliding glass door, at the northwest corner of the structure, provides a side entry. According to Beth Shirley, a member of the Canoga-Owensmouth Historical Society, the warehouse was built sometime during the 1940s and, to her knowledge, is not associated with an important event (Criterion 1) or person (Criterion 2). This warehouse building appears to have been altered, and it does not rise to the level of historical significance by possessing a distinctive architectural design characteristic or unique construction type, representing the work of a master, or possessing high artistic value under Criterion 3.

A railroad bridge over 50 years of age would also be demolished under this alternative (listed in **Table 4.5-2**). The Los Angeles River Bridge is a steel girder railroad bridge with two 61'-8" steel deck girders, one concrete Pier, and two concrete abutments; it is 124 ft in length, and is located between Vanowen Street and Hart Street. It was designed and constructed in 1957 by U.S. Engineers and the Kaiser Steel Company. The steel girder construction is an example of a common post 1950s type of construction and there are many existing examples of steel girder bridges; as such, the bridge does not possess a unique method of construction. There are no construction details that show any type of stylized architectural design characteristics. Thus, although this bridge meets the 50-year age criteria for evaluation, it does not rise to the level-of-significance as a distinctive characteristic bridge type or unique method of construction and it is not be eligible for listing in the CRHR under Criterion 3. Further, the bridge has no known associations with persons or events important in local or state history; therefore, it is not eligible for listing in the CRHR under Criteria 1 or 2, respectively.[14]

There are no buildings 50 years of age or older identified within the proposed northern route segments. Therefore, the proposed alternative would result in no impacts to historical resources.

### Alternative 4. Canoga Busway

This alternative would consist of extending the existing Metro Orange Line north on the abandoned railroad right-of-way, paralleling Canoga Avenue. As further described in Chapter 3 (Project Description) five options are being considered for the northern segment, which would connect to the Chatsworth Metrolink station.

1. The busway would end at Plummer Street, with buses using Plummer Street, Owensmouth Avenue, Lassen Street, and Old Depot Plaza Road.
2. The busway and possibly the bikeway/pedestrian path would extend north to Lassen Street on

[14] Research performed by John R. Signor, specializing in Western Railroad History.

the west side of the railroad tracks and would intersect Lassen Street at a new signalized "T" intersection. approximately 200 ft west of the tracks. Buses would travel in mixed flow on Lassen Street and cross the tracks to reach the Chatsworth Metrolink Station.

3. The busway and possibly the bikeway/pedestrian path would extend north to Lassen Street directly to the west of the railroad tracks and cross Lassen Street at a signalized intersection to access the Busway terminus station on the west side of the tracks.
4. An underpass would be constructed under the tracks. The busway would pass under the tracks and Lassen Street and resurface east of the tracks in the Chatsworth Metrolink station parking lot.
5. The busway would extend along the west side of the railroad tracks and would either be elevated over or put under the railroad tracks and over Lassen Street, then descending or ascending into the parking lot of the Chatsworth Metrolink Station.

This alternative would require the demolition of two buildings within the ROW and a Los Angeles River railroad bridge, which are all 50 years of age or older as listed in **Table 4.5-3** and **Table 4.5-4** below.

**Table 4.5-3. Buildings 50 Years of Age or Older (eligible for CRHR) That Would Be Demolished under Alternative 4**

| Address | APN | Year Built | Recommendation |
|---|---|---|---|
| 7119 N. Deering Avenue | 2111-029-905 | 1930 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by local historical society. |
| 7000 block of Canoga Avenue 1-story Warehouse | 2111-029-904 | 1940's | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by local historical society. |

Source: Jones & Stokes, 2007.

**Table 4.5-4. Railroad Bridges 50 Years of Age or Older (eligible for CRHR) That Would Be Demolished under Alternative 4**

| Name | Structure No. | Year Built | Recommendation |
|---|---|---|---|
| Los Angeles River Bridge Maker: Kaiser Steel Co., Built by U.S. Engineers | U.S. Eng. No. 449.69. Caltrans Bridge No. 53C1244. | 1957 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2 based on research by railroad historian. |

Source: Jones & Stokes, 2007.

Buildings within the ROW are primarily light industrial commercial buildings. A field investigation was conducted on October 11 and November 8, 2007, to identify the existing buildings within the ROW that meet the 50-year age criteria for evaluation and for potential historical significance under Criterion 3. The commercial building located at 7119 N. Deering Avenue, Central Valley Builders Supply, is a one-story stucco structure with two large, open-shed warehouses. The one-story warehouse building located on the east side of Canoga Avenue between Gault Street and Sherman Way is a light industrial warehouse with a rectangular plan and gable roof. It appears to have been

built using wood-frame construction; horizontal wood siding has been covered with corrugated metal sheeting. From the field survey, it appears there are no buildings that rise to the level of historical significance by possessing a distinctive architectural design characteristic, unique construction type, represents the work of a master, or possess high artistic value. The table above identifies the two buildings that would be demolished as a result of this alternative. Descriptive information for the two buildings, located at 7119 N. Deering Avenue and in the 7000 block of Canoga Avenue, are discussed under Alternative 3 above. These two buildings were found to be ineligible for CRHR consideration as historically significant resources.

The Los Angeles River Bridge would be demolished under this alternative. Descriptive information for the bridge is discussed under Alternative 3 above. The steel girder construction of the bridge is an example of a common post 1950s type of construction and there are many existing examples of steel girder bridges; as such, the bridge does not possess a unique method of construction. Further the bridge has no construction details that show any type of stylized architectural design characteristics and has no known associations with persons or events important in local or state history. It has been determined that the bridge is not eligible for listing in the CRHR under Criterion 1, 2 or 3.

In addition to the two buildings and bridge identified above in **Table 4.5-3 and Table 4.5-4**, there is another building within the ROW that is 50 years of age or older. This building is listed in **Table 4.5-5** and would not be demolished as a result of this alternative. It is also not eligible for the CRHR and is not a historical resource.

**Table 4.5-5. Buildings 50 Years of Age or Older (eligible for CRHR) within ROW That Would Not Be Demolished under Alternative 4**

| Address | APN | Year Built | Recommendation |
|---|---|---|---|
| 7030 N. Canoga Avenue | 2138-014-906 | 1953 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |

Source: Jones & Stokes, 2007.

A site field investigation was conducted on October 11 and November 8, 2007, to identify existing buildings adjacent to the ROW that meet the 50-year age criteria for evaluation and for potential historical significance under Criterion 3. Because of their proximity to the ROW, these properties could be affected by the noise or visual effects of the proposed busway. Buildings adjacent to the ROW, along Canoga Avenue and Deering Avenue, are primarily light industrial commercial buildings, with the exception of some residential homes along Canoga Avenue between Community and Parthenia Streets. **Table 4.5-6** below identifies buildings adjacent to the ROW that are 50 years of age or older. From the field survey, it has been determined that there are no buildings that rise to the level of historical significance by possessing a distinctive architectural design characteristic or unique construction type, representing the work of a master, or possessing high artistic value under Criterion 3.

**Table 4.5-6. Buildings 50 Years of Age or Older (eligible for CRHR) adjacent to Alternative 4 ROW**

| Address | APN | Year Built | Recommendation |
|---|---|---|---|
| 21350 Bryant Street | 2779-015-028 | 1950/1957 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 7009 N. Canoga Avenue | 2138-013-014 | 1956 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 7011 N. Canoga Avenue | 2138-013-030 | 1946–1947 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 7057 N. Canoga Avenue | 2138-013-024 | 1925/1950 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 7101 N. Canoga Avenue | 2111-028-038 | 1939 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 7123 N. Canoga Avenue | 2111-028-033 | 1954 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 7129 N. Canoga Avenue | 2111-028-040 | 1923 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 7255 N. Canoga Avenue | 2111-017-037 | 1956 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 7239 N. Canoga Avenue | 2111-017-033 | 1957 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 7221 N. Canoga Avenue | 2111-017-031 | 1949 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 7349 N. Canoga Avenue | 2111-016-033 | 1952–1953 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 7349 N. Canoga Avenue | 2111-016-032 | 1955 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 7333 N. Canoga Avenue | 2111-016-018 | 1953 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 7353 N. Canoga Avenue | 2111-016-028 | 1946/1950 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 7303 N. Canoga Avenue | 2111-016-038 | 1941/1956 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 7441 N. Canoga Avenue | 2111-006-007 | 1956 | Not eligible for CRHR under Criterion 3, |

**Table 4.5-6. Buildings 50 Years of Age or Older (eligible for CRHR) adjacent to Alternative 4 ROW**

| Address | APN | Year Built | Recommendation |
|---|---|---|---|
| | | | and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 8440 N. Canoga Avenue | 2779-014-029 | 1947 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 8444 N. Canoga Avenue | 2779-014-028 | 1953 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 8424 N. Canoga Avenue | 2779-014-025 | 1940/1945 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 10108 N. Canoga Avenue | 2747-009-034 | 1948 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 10210 N. Canoga Avenue | 2747-011-039 | 1957 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 10216 N. Canoga Avenue | 2747-011-038 | 1925/1930 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 10049 N. Canoga Avenue | 2747-010-029 | 1955 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 10201 N. Canoga Avenue | 2747-010-027 | 1957 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 10155 N. Canoga Avenue | 2747-010-022 | 1957 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 10231 N. Canoga Avenue | 2747-010-019 | 1949 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 10115 N. Canoga Avenue | 2747-010-026 | 1954 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 21350 Chase Street | 2770-014-007 | 1957 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 21351 Chase Street | 2747-015-018 | 1950 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 21351 Community Street | 2779-014-026 | 1950 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 7331-7343 N. Deering Avenue | 2111-030-012 | 1954–1955 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as |

**Table 4.5-6. Buildings 50 Years of Age or Older (eligible for CRHR) adjacent to Alternative 4 ROW**

| Address | APN | Year Built | Recommendation |
|---|---|---|---|
| | | | identified by the local historical society. |
| 7347 N. Deering Avenue | 2111-030-011 | 1954–1955 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 7423 N. Deering Avenue | 2111-030-007 | 1947 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 7435 N. Deering Avenue | 2111-030-006 | 1947 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 7451 N. Deering Avenue | 2111-030-004 | 1955 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 7507 N. Deering Avenue | 2111-030-003 | 1954/1957 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 7521-7529 N. Deering Avenue | 2111-030-002 | 1954 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 21321 Gault Street | 2112-027-005 | 1955 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 21336 Lemarsh Street | 2747-009-014 | 1950 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 21389 Roscoe Boulevard | 2779-013-030 | 1955 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 21339 Saticoy Street | 2109-031-017 | 1935 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 21339 Sherman Way | 2111-030-018 | 1955 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 21324 Sherman Way | 2112-027-006 | 1956 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |
| 21420 Valerio Street | 2111-016-023 | 1950 | Not eligible for CRHR under Criterion 3, and not eligible for Criteria 1 or 2, as identified by the local historical society. |

Source: Jones & Stokes, 2007.

There are no buildings 50 years of age or older within the proposed northern route segments.

### *Mitigation Measures:*

There were no properties identified within the project area that are eligible for the CRHR and would

be affected by the proposed project alternatives; therefore no mitigation measures are required.

***Level of Impact after Mitigation:*** No historical resources were identified within or adjacent to the ROW. Therefore, no impacts and no unavoidable significant adverse impacts on historical resources would occur.

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**Impact 4.5.4: The proposed project could contribute to cumulative impacts to paleontological resources. However, with implementation of mitigation, the proposed project's incremental effects would not be cumulatively considerable.**

***Paleontological Resources***

Previous review of the proposed project by the Natural History Museum of Los Angeles County indicates that the proposed project is located on surface sediments mapped as younger Quaternary Alluvium, underlain by older Quaternary sediments. These older Quaternary sediments have a high paleontologic sensitivity throughout their extent, while the overlying younger Quaternary Alluvium has low paleontologic sensitivity. Accordingly, the geographic scope of the area affected by potential cumulative paleontological impacts would consist of other areas in the region that are geologically similar to the project area and contain similar fossil resources.

Construction activities associated with some related projects could contribute to the progressive loss of paleontological resources and result in significant cumulative impacts under CEQA. The proposed project could also disturb or destroy paleontological resources that may exist in the proposed project area, a significant impact. Thus, the combined effects of the proposed and related projects could result in significant cumulative impacts to paleontological resources. However, mitigation measures have been identified (see above) that would reduce potential project-related impacts to below a level of significance. These measures include monitoring, recovery, treatment, and deposition of fossil remains in a recognized repository. Similar measures may also be implemented for other related projects that have the potential to affect paleontological resources. Consequently, the incremental effects of the proposed project, after mitigation, would not contribute to a cumulatively considerable impact to paleontological resources under CEQA.

***Mitigation Measures:***

Mitigation measures have been prescribed that would reduce potential project-related impacts to below a level of significance. These measures include monitoring, recovery, treatment, and deposition of fossil remains in a recognized repository. Similar measures may also be implemented for other related projects that have the potential to affect paleontological resources.

***Level of Impact after Mitigation:*** The incremental effects of the proposed project, after mitigation, would not contribute to a cumulatively considerable impact to paleontological resources under CEQA.

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**Impact 4.5.5: The proposed project could contribute to cumulative impacts to archaeological resources. However, with implementation of mitigation, the proposed project's incremental effects would not be cumulatively considerable.**

*Archaeological Resources*

The geographic scope of the area affected by potential cumulative archaeological impacts is defined by the cultural setting and ethnographic territory of the prehistoric and historic peoples who have occupied this area of southern California. As discussed above, this region of Los Angeles County was part of the territory of the Fernandeno and Gabrielino peoples. Related projects in the project area and other development in the county could result in the progressive loss of as-yet-unrecorded archaeological resources. This loss, without proper mitigation, would be an adverse cumulative impact.

Construction activities associated with related projects could contribute to the progressive loss of archaeological resources and result in significant cumulative impacts under CEQA. The proposed project has a low potential to disturb or destroy archaeological resources that may exist in the proposed project area. Should unanticipated resources be encountered, the impacts could be significant, and the combined effects of the proposed and related projects could result in significant cumulative impacts to archaeological resources. The proposed project includes mitigation that would reduce potential impacts to a less-than-significant level. Similar measures may also be implemented for other related projects that have the potential to affect archaeological resources. Consequently, the incremental effects of the proposed project, after mitigation, would not contribute to cumulatively considerable impact to archaeological resources under CEQA.

*Mitigation Measures:*

The proposed project includes mitigation that would reduce potential impacts to a less-than-significant level. Similar measures may also be implemented for other related projects that have the potential to affect archaeological resources.

***Level of Impact after Mitigation:*** The incremental effects of the proposed project and related projects, after mitigation, would not contribute to an adverse or cumulatively considerable impact to archaeological resources under CEQA.

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**Impact 4.5.6: The proposed project would not result in impacts to historical resources; therefore, it would not contribute to any cumulative impacts to historical resources.**

The project area for the historical resource cumulative impacts analysis includes the ROW, and an area within approximately a 3-mile radius encompassing the communities of Canoga Park, West Hills, Hidden Hills, Calabasas, Woodlands Hills, Chatsworth, and Reseda. No historical resources were identified within or adjacent to the ROW that would be potentially affected by the proposed project. The proposed project would result in the demolition of two buildings and a railroad bridge along the ROW that are 50 years of age or older. However, none of these structures are historic resources. Therefore, the proposed project would not contribute to any cumulative impacts to historical resources in the project area.

***Mitigation Measures:***

There were no properties identified within the project area that are eligible for the CRHR and would be affected by the proposed project; therefore no mitigation measures are required.

***Level of Impact after Mitigation:*** The proposed project would not result in cumulative impacts to historical resources. Therefore, no impacts and no unavoidable significant adverse impacts on historical resources would occur.

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# 4.6 VISUAL AND AESTHETIC CONDITIONS

This section analyzes visual and aesthetic conditions along the Canoga Transportation Corridor. The objective of this analysis is to describe the existing visual character along Canoga Avenue, describe the potential changes in visual character that would result from the implementation of the alternatives, and determine whether those changes would result in significant adverse impacts to the visual environment.

## 4.6.1 REGIONAL SETTING

The San Fernando Valley (Valley) sits in a backdrop of mountains and hills. Santa Susana Mountains lie to the northwest and Simi Hills to the west. To the south, the San Fernando Valley is bounded by the Santa Monica Mountains. The Verdugo Hills lie to the east, and the San Gabriel Mountains to the Southeast. The Sierra Pelona Mountains (to the north) can be seen in parts of the San Fernando Valley between the Santa Susana and San Gabriel Mountains. The grid patterned arterial streets in the Valley also provide a partial view of these mountains.

The visual character of the Valley is varied, with a full range of industrial areas; single-family homes; apartment and condominium complexes; horsekeeping communities; shopping centers; office complexes; restaurants; and community facilities. The Chatsworth community, located in the northern portion of the Valley is characterized by older single-family neighborhoods with a network of equestrian trails and newer single-family subdivisions. Located at Topanga Canyon Boulevard between Chatsworth Street and the 118 Freeway is a famous cultural/scenic landmark called the Stoney Point Park. While much of the western section of the Valley has suburban communities with small industrial areas, some of the area is still rural with film production, equine, and feed businesses. In contrast, the Warner Center in the southern section of the study area has an urban character consisting of mid to high-rise offices, large shopping complexes and multi-family housing with a tree-lined grid of streets.

Along with two regional shopping centers in the Warner Center area, i.e., Westfield Shoppingtown Topanga Plaza and Westfield Promenade Mall, the commercial districts serving the study area include community commercial centers along Devonshire Street and Sherman Way in Canoga Park. These districts provide for a somewhat pedestrian friendly environment with a diverse assortment of shopping and entertainment options.

The Los Angeles River originates in the Valley. It flows eastward through the Valley, and then turns southeast to its mouth in Long Beach. The Los Angeles River crosses the study area north of Vanowen Street. Other waterways, such as the Santa Susana Wash and the Brown's Canyon Wash, flow down from the mountains and wind south into the eastern communities of the Valley before merging with the Los Angeles River. The Los Angeles River Revitalization Master Plan, discussed in the Land Use section, intends to revitalize the general environment of the Los Angeles River by providing improved natural habitat, economic values, and water quality, as well as recreation and open space amenities. The Master Plan area includes several locations where the potential exists for restoring a more natural riverine environment along the River, while maintaining and improving levels of flood protection.

## 4.6.2 EXISTING SETTING

The visual character of the proposed Canoga Transportation Corridor has been assessed according to seven generalized geographic segments. Each segment denotes an area of distinct visual character and provides a framework for analyzing the existing visual and aesthetic conditions of the Corridor. The discussion for built alternatives includes views in the immediate vicinity, both along the corridors and adjacent to the stations as well as distant views including mountains, hills and ridgelines.

Generally, there are two types of physical features that characterize the visual environment of an area:

- Built environment features including development patterns, buildings, structures, parking areas and roads, utilities, lighting, and signs; and,
- Natural features such as hills, vegetation, rock outcroppings, drainage, and soils.

The Metro ROW follows an old railroad right-of-way, formerly owned by the Southern Pacific Railroad Company. North of Plummer Street, the railroad tracks are used by Metrolink, Amtrak and the Union Pacific Railroad. South of Plummer Street, the tracks are no longer in use. Generally, south of Roscoe Boulevard, the ROW is used for industrial and commercial leases or vehicle storage, and tracks have been removed in certain areas. At some locations, the ROW is covered with exposed soil and some weedy groundcover. Canoga Avenue typically provides four vehicular travel lanes and a left turn lane near the intersections. However, the portion of Canoga Avenue north of Plummer Street has only two lanes. Along most of Canoga Avenue, parking is allowed in the curb lanes along the west side of the street.

None of the streets within the project area are designated scenic highways or roadways. Valued public views in the area are of the Santa Susana Mountains, located to the north, the Santa Monica Mountains located to the south, and the Los Angeles River. Both mountain ranges are visible from Canoga Avenue and the Metro ROW.

The Corridor is generally not pedestrian friendly, with narrow to no sidewalks on the east side of Canoga Avenue and with little landscaping and street trees. The quantities observed are documented in **Table 4.6-1**. The landscaping on Canoga Avenue has an inconsistent character consisting of trees of varying species, spacing and size. Some blocks have few trees and trees are not well maintained. A review of topo maps, aerial photographs, and a windshield survey of existing trees along Canoga Avenue and in the Metro ROW and Union Pacific ROW including the Chatsworth Metrolink Station, identified approximately 1,090 trees in the Metro ROW and approximately 230 trees along Canoga Avenue. Of these, approximately 240 are mature trees. A few specimen trees were identified on the Metro ROW. According to the Los Angeles Public Works Urban Forestry Division a mature tree is defined as having a well developed tree canopy and has reached its desired size or age for that species and/or intended use and a specimen tree is defined as being of a very large size for their species and/or being a rare variety. A specimen tree can also be a tree with exceptional aesthetic quality. Trees in leased areas of the ROW were identified from the adjacent streets. Therefore the precise number of trees could vary from **Table 4.6-1**. A tree inventory was not prepared for the TSM Alternative as no visual effects are expected for this Alternative. Land uses along the TSM Alternative are depicted in the Land Use Section, **Figure 4.1-1**.

**Table 4.6-1: Tree Inventory along the Metro ROW and Canoga Avenue**

| Visual Assessment Unit | Metro ROW | Canoga Avenue | | Lassen Street | | Owensmouth Avenue | |
|---|---|---|---|---|---|---|---|
| | | East | West | North | South | East | West |
| A: Devonshire Street to Lassen Street (Chatsworth Metrolink Station Property) | 320 | | | | | | |
| B: Lassen Street to Nordhoff Street | 213 | 10 | 34 | | 6 | 4 | 7 |
| C: Nordhoff Street to Roscoe Boulevard | 121 | | 42 | | | | |
| D. Roscoe Boulevard to Saticoy Street | 26 | 11 | 21 | | | | |
| E: Saticoy Street to Sherman Way | 52 | 24 | 25 | | | | |
| F: Sherman Way to Vanowen Street | 49 | 23 | 8 | | | | |
| G: Vanowen Street to Victory Boulevard | 308 | 13 | 20 | | | | |
| Total | 1,090 | 81 | 150 | | 6 | 4 | 7 |

Source: Topo Maps, Aerial Photographs; updated by Gruen Associates (Windshield Survey), 2007

## Visual and Aesthetic Conditions along the Corridor

The following describes visual and aesthetic conditions along Canoga Avenue and the Metro ROW. The discussion includes views in the immediate vicinity, both along the corridors and at the stations:

- **Devonshire Street to Lassen Street -** The visual character of this segment is defined by auto-oriented businesses, other small retail uses and the Chatsworth Metrolink Station (**Figure 4.6-1**). Small scale industrial uses, including auto repair/maintenance shops, define the visual character of Canoga Avenue. Behind the industrial uses lining Canoga Avenue on the west is the Chatsworth Metrolink Station, its park-and-ride lots, and Transit Tots West, a child care facility. This area is somewhat pedestrian-friendly with mature palm trees, sidewalks on the east side and existing bus stops along the north-south station access road, Old Depot Plaza Road (**Figure 4.6-1**). Key views of the Santa Susana Mountains and Simi Hills can be seen from the palm tree-lined Old Depot Plaza Road. These views are of high quality and can be seen by pedestrians and motorists traveling on this access road, as well as from the parking lot, located north of the child care facility and the railway platform. Directly east of the access road is the concrete lined Brown's Canyon Wash. Views of the industrial uses to the east of the Wash are partially screened by a high concrete wall.

- **Lassen Street to Nordhoff Street -** In this segment, the views along Canoga Avenue are defined by varied land uses. Between Lassen Street and Plummer Street, light industrial uses lie to the west of Canoga Avenue and Sunburst Mobile Home Park lies to the east of the Metro ROW, separated from the ROW by a chain-link fence.

View of the mountains looking north along Old Depot Plaza Road, in the Chatsworth Metrolink Station


View of the Chatsworth Metrolink Station looking east of the railroad tracks



Figure 4.6-1
Existing Character of the Segment
between Devonshire Street and Lassen Street

Residents of this mobile home park are considered sensitive viewers[1]. The Amtrak/Metrolink/Union Pacific railroad tracks and Metro ROW are visible from the western edge of the mobile home park. The eastern edge of the mobile home park has views of the Brown's Canyon Wash, a tributary to the Los Angeles River (**Figure 4.6-2**).South of Plummer Street, land uses are predominantly industrial with overhead power lines visible along Canoga Avenue. Street trees (California Pepper) located on the east side of Canoga Avenue screen the views of the Metro ROW from Canoga Avenue. There is no pedestrian sidewalk on the east side of two-lane Canoga Avenue, between Lassen Street and Nordhoff Street and trucks and cars park informally on portions of the unimproved Metro ROW. There are sidewalks and street trees on the west side. Views of the Santa Susana Mountains can be seen to the north from Canoga Avenue and the Metro ROW (**Figure 4.6-2**). The background views of the mountains are considered high quality. Views of the Santa Monica Mountains are also visible from Canoga Avenue. The Chatsworth Metro Division 8 maintenance yard is located on the northwest corner of the intersection of Canoga Avenue and Nordhoff Street. Crape Myrtle, Evergreen Pear and African Sumac trees were observed on the west side of Canoga Avenue during the inventory for the Draft EIR.

- **Nordhoff Street to Roscoe Boulevard –** Large industrial warehouses, retail uses, and mobile home parks characterize the visual environment of this segment. The majority of buildings, with views of Canoga Avenue, are commercial/industrial and are located on the west side of Canoga Avenue. Overhead wires and power poles span the entire segment, and there is uneven landscaping including no trees on the east side of Canoga Avenue. A few mature trees are located along Canoga Avenue in this area on the west side of Canoga and in the Metro ROW. Motorists and pedestrians traveling on Canoga Avenue have background views of the Santa Susana Mountains to the north and background views of the Santa Monica Mountains to the south. In this segment, there are no leases on the Metro ROW except for a used car sales lot on the northeast corner of the Canoga Avenue/Roscoe Boulevard intersection. However, a few billboards are visible in the ROW. The ROW is generally covered with exposed soil, some weedy groundcover and shrubs (**Figure 4.6-3**). Standard cobra head street lights are located on the western edge of the ROW and within the sidewalk on the west side of Canoga Avenue.

  Two mobile home parks (i.e. Eton and Riviera) are located adjacent to the east side of the Metro ROW between Osborne Street and Parthenia Street and are partially screened by existing landscaping (**Figure 4.6-3**). The concrete-lined Santa Susana Wash crosses Canoga Avenue south of Osborne Street. Residents of the mobile homes have partial views of the Santa Susana Wash and the Metro ROW. A recently paved narrow street, also named Canoga Avenue, parallels the Metro ROW and is located along its east side between Parthenia Street and Community Street. Adjacent to this street is a mix of single and multi-family homes. Residents of the mobile homes as well as these single-family and multi-family dwellings are considered sensitive viewers. Views of the Corridor and the ROW are partially screened from these residential uses by a few mature trees.

[1] Viewer groups and their sensitivity identify who is most likely to experience a view and what are the associated sensitivities of the viewer and land use. Motorists and pedestrians have sensitivity to views from the public right-of-way which in this project refers to the background mountain views and limited other visual resources in the area such as trees and the Los Angeles River. Residents are considered to have sensitivity to the visual quality of a project as viewed from their dwellings. Other sensitive uses are schools, religious institutions, and passive outdoor spaces including parks, playground, and recreational areas. Occupants of office, commercial or industrial buildings are considered to have less sensitivity to views as most of their time is spent focused on the work tasks inside the buildings.

View of the Sunburst Mobile Home Park along Brown's Canyon Wash, south of Lassen Street with Santa Susana Mountains in the background

View along Canoga Avenue and the vacant Metro ROW, north of Nordhoff Street


View of Canoga Avenue and the Metro ROW, north of Parthenia Street with the Santa Susana Mountains in the background

View of mobile homes east of the Metro ROW near Osborne Street with Canoga Avenue and the Metro ROW in the foreground

- **Roscoe Boulevard to Saticoy Street –** This segment is visually characterized by commercial and industrial uses that consist of convenience shops, auto repair shops, fast food restaurants, and a parking lot for big box retail in the immediate vicinity. Throughout most of this segment, the ROW is completely built-out with auto repair shops and other industrial/commercial uses.Auto-oriented uses, such as auto repair, used car sales and a car wash are present at the Canoga Avenue/Roscoe Boulevard intersection along with a maze of overhead wires and utility poles (**Figure 4.6-4**). The paved parking lot for Costco is located south of Roscoe Boulevard and east of the Metro ROW. There are narrow sidewalks in some portions on the east side of Canoga Avenue and adjacent to the ROW. The west side of Canoga is developed with industrial and commercial uses. Sidewalks are generally narrow with a few street trees, which include Crape Myrtle on the west side of Canoga Avenue and Avocado on the eastside. Background views of the Santa Susana Mountains and the Santa Monica Mountains can be seen along Canoga Avenue. No important visual resources are located in this segment.

- **Saticoy Street to Sherman Way –** Largely commercial development and a school dictate the visual character of this segment. The visual surroundings on the west side of Canoga Avenue are characterized by commercial uses. The Metro ROW, located on the east side of Canoga Avenue, is characterized primarily by auto sales, storage of trucks, cars and construction equipment. Mature Queen Palm, Tree-of-Heaven, California Fan Palm and Fig trees are located along some portions of the Metro ROW. Sensitive viewers in this segment include the students and visitors of the New Academy Canoga Park Elementary School, which is located at the southwest corner of the Canoga Avenue/Saticoy Street intersection. There are a few street trees (Crape Myrtles and Jacaranda) on the sidewalk on the west side of Canoga Avenue. Standard cobra head street lights are located within the sidewalks on both side of Canoga Avenue. Retail uses, including a new strip shopping center, and a gas station with some landscaping, located at the northeast corner define the character of visual environment of the Canoga Avenue/Sherman Way intersection (**Figure 4.6-5**). Approximately twenty Queen Palms are planted in the narrow sidewalk adjacent to the new strip shopping center, located on the east side of Canoga Avenue. In this area, the Metro ROW is 65 ft wide and is located behind the new shopping center and is therefore screened from view (**Figure 4.6-5**). The architectural character of the surrounding buildings varies, giving this area a disjointed look. No visual resources are located in this segment. Background views of the Santa Susana Mountains can be seen from northbound Canoga Avenue and the Santa Monica Mountains are visible to the south.

- **Sherman Way to Vanowen Street –** The visual environment in this segment is largely dominated by commercial and industrial uses. Small-scale single-story commercial uses are located along Sherman Way. Two concrete plants, located within the Metro ROW, are visible from Canoga Avenue north of Bassett Street (**Figure 4.6-6**). Overhead utility lines can be seen along Canoga Avenue. The concrete-lined Los Angeles River crosses Canoga Avenue south of Bassett Street. The River flows through a concrete channel with no recreational or open space amenities and it is considered a prominent topographic feature in the Conservation Element of the City of Los Angeles General Plan. The Los Angeles River Bridge over Canoga Avenue and an older railroad bridge can be seen from Canoga Avenue (**Figure 4.6-6**). Presently, the concrete lined River with little landscaping does not offer an attractive visual environment. The area between Hart Street and Vanowen Street has few street trees. A nursery is located at the northeast intersection of Canoga Avenue and Vanowen Street. There is no sidewalk adjacent to the nursery; however, flowering shrubs and trees as well as grassy groundcover adjacent to the pavement are attractive visual features.


The storage of used cars on the Metro ROW south of Roscoe Boulevard


The maze of overhead wires on Canoga Avenue at the Roscoe Boulevard intersection



Figure 4.6-4
Existing Character of the Segment between Roscoe Boulevard and Saticoy Street


View looking north on Canoga Avenue of commercial uses north of Sherman Way, with a new shopping center available for lease on the east side

Fence separating the Metro ROW and the new shopping center, north of Sherman Way



Figure 4.6-5
Existing Character of the Segment between Saticoy Street and Sherman Way


View of concrete plants south of Sherman Way and the Santa Monica Mountains in the background

View of the Los Angeles River Bridge over Canoga Avenue and the old railroad bridge to the right, and the concrete lined Los Angeles River with little or no vegetation

North of Gault Street, a few California Fan Palms and Trees-of-Heaven are located east of Canoga Avenue along the Metro ROW. Views of the Santa Susana Mountains to the north and the Santa Monica Mountains to the south can be seen along Canoga Avenue.

- **Vanowen Street to Victory Boulevard –** The visual character along Canoga Avenue is defined by commercial and industrial developments. Industrial uses lie to the west of this street. The MOL Canoga Station and its park-and-ride lot are located east of Canoga Avenue. South of the Canoga Station is a retail development. Views of the park-and-ride lot are screened from Canoga Avenue by a fence and landscaping, located behind the 10 foot sidewalk (**Figure 4.6-7**). Newly developed Archstone Warner Center Apartments located on the east side of the park-and-ride lot have views of the MOL Busway and the park-and-ride lot. Young street trees (Southern Magnolia) are located along the east side of Canoga Avenue. The sidewalks on the west side of Canoga Avenue are landscaped with mature trees. Modern high-rise commercial buildings are located south of the Victory Boulevard intersection. South of Victory Boulevard, Canoga Avenue is tree-lined with a landscaped median. Views of the Santa Susana Mountains and the Santa Monica Mountains can be seen from Canoga Avenue. The Warner Center lies within a mile of the Canoga Station.

- **Victory Boulevard to Warner Center Transit Hub –** The visual character of this segment of the alignment is dominated by large-scale commercial retail and office buildings. Currently, the MOL runs along Canoga Avenue and Oxnard Street to connect to the Warner Center Transit Hub. The MOL terminus is adjacent to the Westfield Promenade Mall on Owensmouth Avenue between Erwin Street and Oxnard Street. Views of the Santa Monica Mountains are prominent in this segment. Canoga Avenue and Owensmouth Avenue are tree lined.

### Station Areas

The following describes the visual and aesthetic conditions of each proposed station area:

- **Chatsworth Metrolink Station**- The proposed stations for each exclusive lane alternative would be located within the existing Chatsworth Metrolink Station site or adjacent to it on the vacant land to the west near the intersection of Lassen Street. The visual character of the station area is defined by Old Depot Plaza Road, the Metrolink Station and the Brown's Canyon Wash (**Figure 4.6-8**). On the west side of Old Depot Plaza Road is the railroad platform, a railroad museum, a child care center (Transit Tots West), bike lockers, a café, and landscaped park-and-ride lots. Old Depot Plaza Road is lined with mature palm trees and tall light poles. The Brown's Canyon Wash is located on the east side of Old Depot Plaza Road. A mural is painted on a portion of the high, concrete retaining wall alongside the Wash. Views of the industrial uses to the east of the Wash are partially screened by this retaining wall. Devonshire Street is a commercial strip to the north of the station area. There are dramatic views of the Santa Susana Mountains to the north from the station. The Santa Monica Mountains are also visible to the south.

- **Nordhoff Station-** Stations for the Canoga On-Street Dedicated Bus Lanes Alternative would be located on the farsides of the intersection of Canoga Avenue and Nordhoff Street. The visual character of the immediate station area is defined by Canord Plaza, a commercial development with parking in front, located at the southwest corner of the intersection, and a row of Fern Pines screening the industrial uses located behind the Metro ROW along the east side of Canoga Avenue (**Figure 4.6-9**).

The park-and-ride lot for the existing MOL Canoga Station screened from Canoga Avenue by a fence and landscaping

View of the existing MOL Busway in the foreground, the park-and-ride lot in the middle ground, and the Archstone Warner Center Apartments in the background



Figure 4.6-7
Existing Character of the Segment between Vanowen Street and Victory Boulevard


View of the existing local bus stops within the Chatsworth Metrolink Station


View of the Brown's Canyon Wash and the mural on the concrete wall



Figure 4.6-8
Existing Character of the
Chatsworth Metrolink Station Area

Canord Plaza has a paved parking lot fronting the street, with some landscaping. A Metro Bus maintenance yard is located at the northwest corner of the intersection. Unique views of the Santa Susana Mountains to the north and the Santa Monica Mountains to the south can be seen from the station area. For the Canoga Busway Alternative, station platforms would be located within the Metro ROW, on the farsides of the intersection. The station sites are currently vacant as there are no leases within the ROW in this area. The ROW is mainly covered with exposed soil and weeds. The visual character of the station area is characterized by industrial uses located to the east of the ROW and Eton Mobile Home Park located south of Osborne Street. Sensitive viewers in this station area are the residents of the mobile home park. On the north side of Nordhoff Street, views of Canoga Avenue and of the industrial uses to the east are partially blocked by rows of trees planted on both sides of the ROW (**Figure 4.6-9**). There are no visual resources in the station area.

- **Parthenia Station-** An optional station may be developed at Parthenia Street. The proposed station platforms for each alternative would be located on the farsides of the intersection. For the Canoga On-Street Dedicated Bus Lanes Alternative, the visual character is defined by a flooring warehouse and its parking lot adjacent to the southbound platform, and the vacant Metro ROW and mobile homes located east of the Metro ROW adjacent to the northbound platform (**Figure 4.6-10**). An electrical substation is located at the northwest corner of the intersection. Views of the Santa Susana Mountains to the north and the Santa Monica Mountains to the south can be seen from the station area. The station platforms for the Canoga Busway Alternative would be located within the Metro ROW. The Metro ROW is currently vacant and is mainly covered with exposed soil and low groundcover. A few mature trees (Pecan and Washington Filifera) and remnants of the previous rail operations such as rails and rail ties are also present within the Metro ROW. The visual character of the northbound station platform site is defined by Riviera Mobile Home Park (**Figure 4.6-10**). Sensitive viewers are the residents of this mobile home park. Views of the ROW from the mobile home park are partially blocked by shrubs, a few mature trees, fences and screens. The southbound station platform would be located adjacent to single-family and multi-family residential development. Residents of these single-family and multi-family dwellings are also considered sensitive viewers. These viewers are separated from the Metro ROW by a recently paved narrow street, also named Canoga Avenue, located south of Parthenia Street. Views of the ROW are partially screened from these residential uses by a few mature trees.

- **Roscoe Station-** The proposed station platforms for each alternative would be located on the farsides of the intersection. For the Canoga On-Street Dedicated Bus Lanes Alternative, the visual character of the immediate station area is characterized by a used car lot adjacent to the northbound station, and a fast food restaurant and an auto parts store adjacent to the southbound station platform (**Figure 4.6-11**). There are no street trees adjacent to the station sites. The surrounding neighborhood consists primarily of auto-oriented uses such as auto repair, sales, and a car wash. Costco and Home Depot are also located east of the stations. No sensitive uses are located adjacent to the station sites. Views of the Santa Susana and the Santa Monica Mountains can be seen along Canoga Avenue. For the Canoga Busway Alternative, auto-oriented uses characterize the visual environment of the proposed station platform sites, which are located within the Metro ROW. The station sites are currently occupied by used car lots (**Figure 4.6-11**). The warehouse for Costco can be seen toward the east. A clutter of billboards and signs and a few mature palm trees are also located within the ROW, on the south side of Roscoe Boulevard. No visual resources are located within this station area.

Potential location of the Northbound Station near Nordhoff Street for the Canoga On-Street Dedicated Bus Lanes Alternative


Potential location of the Southbound Station within the Metro ROW near Nordhoff Street for the Canoga Busway Alternative



Figure 4.6-9
Existing Character of the Nordhoff Street Station Area


Potential location of the Southbound Station near Parthenia Street for the Canoga On-Street Dedicated Bus Lanes Alternative

Potential location of the Northbound Station within the Metro ROW near Parthenia Street for the Canoga Busway Alternative with the Santa Susana Mountains in the background


Potential site of the Northbound Station at Roscoe Boulevard for the Canoga On-Street Dedicated Bus Lanes Alternative


Potential location of the Southbound Station for the Canoga Busway Alternative

- **Sherman Way Station-** The proposed Sherman Way station for the Canoga On-Street Dedicated Bus Lanes Alternative would be located on the farsides of the intersection. The visual character of the immediate station area is characterized by a new, low-rise shopping center and its parking lot, located at the northeast corner of the intersection and a gas station located at the southwest corner of the intersection (**Figure 4.6-12**). A gas station is located at the northwest corner of the intersection. The northwest corner is landscaped with flowering shrubs and young palm trees. To the southeast of the intersection is the Metro ROW, currently used for the storage of building materials and used cars. A pedestrian friendly commercial district, with a diverse assortment of entertainment and shopping options, is located to the west, along Sherman Way. Views of the Santa Susana Mountains to the north and the Santa Monica Mountains can be seen along Canoga Avenue. For the Canoga Busway Alternative, the station platforms and a park-and-ride lot would be located south of Sherman Way, in the approximately 275 ft wide ROW, as the ROW north of Sherman Way is only 65 ft wide. The station site is currently occupied by a used car lot and a film-related business (**Figure 4.6-12**). A few Trees-of-Heaven are planted in this area. The ROW is also used for storage of building materials near the station site. Two concrete plants are visible to the south within the ROW. No highly sensitive uses are located adjacent to the station.

- **Canoga Station-** The Canoga Busway Alternative station would be located adjacent to the existing MOL Canoga Station. The Canoga On-Street Dedicated Bus Lanes Alternative would utilize the existing MOL Canoga Station and park-and-ride lot and have stops added on Canoga Avenue north and south of the bus entrance to the existing station. The visual character of the station area is characterized by the park-and-ride lot, MOL station platforms and the newly constructed Archstone Warner Center Apartments, located on the east of the existing park-and-ride lot, south of Kittridge Street (**Figure 4.6-13**).The park-and-ride lot is paved and landscaped, mostly with Southern Magnolia trees. South of the MOL Station is a big box commercial development. The quarter mile station area is primarily comprised of industrial development west of Canoga Avenue. Modern high-rise commercial buildings can be seen toward the south from the park-and-ride lot. Views of the Santa Susana Mountains and the Santa Monica Mountains can be seen from Canoga Avenue as well as the park-and-ride lot.

- **Warner Center Transit Hub –** There are existing curbside MOL Stations and local bus stops at this location. The immediate station area is commercially oriented, with a mall and surface parking on the west side of Owensmouth Avenue and office buildings with open space and surface parking on the east side of Owensmouth Avenue. Owensmouth Avenue is a Warner Center Specific Plan-designated parkway, and is planted with mature Red Ironbark eucalyptus trees.

## 4.6.2 REGULATORY FRAMEWORK

Relevant goals, objectives, and policies from planning documents applicable to the project area are discussed in Section 4.1.3. To regulate activities which may affect the quality of the environment, the Conservation Element of the General Plan discusses policies to protect land forms and scenic features within the City. One of the objectives is "to protect and reinforce natural and scenic vistas as irreplaceable resources and for the aesthetic enjoyment of present and future generations." These scenic views include views of the ocean, striking or unusual natural terrain, or unique urban or historic features. Valued public views within the project area are of the City's most visible features, the Santa Susana Mountains, located to the north and the Santa Monica Mountains, located to the south. The Los Angeles River and its associated tributaries are identified as prominent topographic features. There are no other designated scenic vista points within the study area.

Potential location of the Northbound Station near Sherman Way for the Canoga On-Street Dedicated Bus Lanes Alternative


Potential location of the Northbound and Southbound Stations near Sherman Way for the Canoga Busway Alternative


Park-and-ride lot for the existing MOL Canoga Station with views of high-rise buildings south of Victory Boulevard


Existing MOL Canoga Station

The General Plan Transportation Element has an inventory of designated scenic highways for the preservation and enhancement of scenic resources along these designated highways/roadways. None of the streets within the project area are designated scenic highways or roadways. The Warner Center Specific Plan and the Downtown Canoga Park and Canoga Park Commercial Corridor Streetscape Plan establish urban design and landscaping standards to create a more aesthetically pleasing built environment in the study area. The Warner Center Specific Plan contains urban design and streetscape regulations for the area between the Ventura Freeway and Vanowen Street and from Topanga Canyon Boulevard to De Soto Avenue. The suggested street trees for Canoga Avenue south of Vanowen Street include Evergreen Magnolia and Chinese Pistache.

The Canoga Park Commercial Corridor Streetscape Plan provides "standards and direction for improvements to the public right-of-way" in order to "create a pedestrian-friendly environment and enhance the identity of the area." The Streetscape Plan is complemented by the Canoga Park Commercial Corridor Commercial Design Overlay District (CDO) which establishes design guidelines and standards that focus on improving the visual quality of development by addressing building features such as façade and wall treatments, parking areas, landscape buffers, pedestrian walkways, and building materials.

## 4.6.3 IMPACTS AND MITIGATION MEASURES

### Significance Criteria

The following evaluation criteria were adopted by Metro for use in this DEIR.

A significant adverse visual impact would occur if the alternatives considered would:

- Have a substantial adverse effect on a scenic vista and/or degrade the existing visual character or quality of the site and its surrounding.

- Result in the loss of a substantial number of specimen trees and/or mature trees that are not replaced.

- Create a new source of substantial light or glare that could adversely affect day or nighttime views in the area.

### Methodology

The City of Los Angeles CEQA Threshold Guide was consulted in developing the methodology. For the purposes of this analysis, both build alternatives (Canoga Busway Alternative and Canoga On-Street Dedicated Bus Lanes Alternative) were surveyed to identify the built environment along the corridors, major scenic vistas or views that are available along the segments of the corridors, and existing visual elements along the corridors including open space resources, street trees, and landscaping. The potential impacts of the proposed alternatives were characterized including installation of physical structures such as stations, construction of parking lots and walls for both alternatives, widening of Canoga Avenue into the Metro ROW for the Canoga On-Street Dedicated Bus Lanes Alternative and in the north, an elevated bridge structure for the Canoga Busway Alternative. The potential for these physical features to result in the removal of existing features such as street trees, light poles and fixtures, and other existing visual elements was noted as well as

potential to create glare. Street trees refer to trees that are located in the parkway or sidewalk along Canoga Avenue, Marilla Street, Owensmouth Avenue, and Lassen Street. In addition, the potential for these new features to eliminate, obstruct, or otherwise degrade existing background views of the Santa Susana Mountains to the north and the Santa Monica Mountains to the south from the parallel street ROW was noted. The potential for new landscaping and other amenities was also considered, which could in some locations reduce the negative or adverse impacts that could result from the installation of the project's physical features.

For purposes of this analysis, scenic vistas are those which are depicted in the City of Los Angeles General Plan Conservation Element as visible features or prominent topographic features including the Santa Monica Mountains and the Los Angeles River and its tributaries.

Visual quality refers to the general aesthetics of a view. The built environment and the sites natural features characterize the visual environment. Degradation of the visual quality of an area could mean that the landscape components would be less memorable, less intact, and less unified than the current landscape.

Viewer groups and their sensitivity identify who is most likely to experience a view and what are the associated sensitivities of the viewer and land use. Motorists and pedestrians have sensitivity to views from the public right-of-way which in this project refers to the background mountain views and limited other visual resources in the area such as trees and the Los Angeles River. Residents are considered to have sensitivity to the visual quality of a project as viewed from their dwellings.

This section describes the potential impacts on visual and aesthetic conditions along the No Project Alternative, TSM Alternative and the two proposed project alternatives using the significance criteria listed above. Generalized visual and aesthetic impacts of the project alternatives are described below. A segment-by-segment discussion of potential impacts, including impacts in station areas follows the general effects. Currently, the MOL runs on-street between the Canoga MOL Station and the Warner Center Transit Hub. In this segment, the build alternatives would utilize the existing MOL route and would result in no change in the visual environment from the MOL. Visual and aesthetic impacts between Lassen Street and Nordhoff Street are described in tabular form, where appropriate.

**Impact 4.6.1.For Alternative 3, Canoga On-Street Dedicated Bus Lanes and Alternative 4, Canoga Busway most elements would be at-grade and would not adversely affect a scenic vista or degrade the existing visual quality of the area. Vertical elements such as trees, stations, artwork, walls, and signage, would not adversely affect views of the mountains or the visual quality of the area. In most cases, stations would be located in areas adjoining multi-family residential, commercial or industrial development, would be in scale with existing surrounding land uses and massing and would not obstruct the character of key views. With the conceptual design, no significant visual impacts are anticipated with mitigation. Alternative 4, Option 5 in an elevated profile could result in a potentially significant impact without mitigation.**

<u>Alternative 1. No Project</u>

The No Project Alternative would not obstruct any sensitive views or degrade the existing visual quality of the area. Therefore, no impacts would occur.

## Alternative 2. TSM

For the TSM Alternative, the expanded bus service would run on existing streets, many of which have bus service and parking restrictions. The bus stops along Canoga Avenue would be located within the public right-of-way, and these bus stop improvements would be minimal and have no or minimal effect on adjoining uses. Therefore, this alternative would not obstruct any sensitive views of the mountains or the Los Angeles River or degrade the existing visual quality of the study area. No significant visual impacts are anticipated.

## Alternative 3. Canoga On-Street Dedicated Bus Lanes

The Canoga On-Street Dedicated Bus Lanes Alternative would consist of a reconstructed at-grade roadway including the dedicated bus lanes, at-grade crossings, a new landscaped median island, a bikeway with pedestrian lighting, new landscaping and one-story stations spaced approximately one mile apart. The project would include reconstruction of Canoga Avenue and relocation of utilities, and street light poles. Although, the existing character of Canoga Avenue would change due to the wider street cross-section, the inclusion of the landscaped median and more uniform street trees at the curbs would reduce the street's perceived width. These new trees would partially obstruct the background views of the mountains. However, billboards, other trees, and overhead utilities that block views would be removed or relocated resulting in no adverse impacts to views of the mountains. No adverse impacts on the overall character of the area are anticipated. In fact, this alternative would have a beneficial impact by improving the visual character of Canoga Avenue. Potential impacts are discussed segment by segment below:

- **Devonshire Street to Lassen Street –** The Canoga On-Street Dedicated Bus Lanes Alternative and its Options would not substantially obstruct any sensitive views of the mountains or degrade the existing visual quality of the area. Chatsworth Metrolink Station Option A would locate a non-revenue turnaround and additional parking on vacant land adjacent to the existing park-and-ride lot. However, considering the existing transit use and commercially oriented nature of the Chatsworth Metrolink Station and industrial uses west of the railroad tracks, there would be no substantial change in visual character of the Chatsworth Metrolink Station. Chatsworth Metrolink Station Option C would be visible from the multi-family residential uses north of Lassen Street and west of Remmet Avenue. Landscaping and screening of the station along Remmet Avenue would screen these views of the station. Therefore, no significant visual impacts are anticipated.

- **Lassen Street to Nordhoff Street –** This portion of the project would be located adjacent to primarily industrial uses south of Plummer Street. North of Plummer, the Sunburst Mobile Home Park is located east of the railroad tracks. Residents of these mobile homes are considered sensitive viewers. The potential adverse effects of the Canoga On-Street Dedicated Bus Lanes Alternative Options 1 through 3 on scenic vistas or existing visual quality north of Plummer Street are listed in **Table 4.6.2.**

**Table 4.6.2: Adverse Effect on Scenic Vista or Degradation of Existing Visual Quality between Lassen Street and Nordhoff Street - Canoga On-Street Dedicated Bus Lanes Alternative Option 1 to 3**

| | |
|---|---|
| o Northern Segment Option 1: Dedicated lane ends at Marilla | The project would not substantially alter existing vistas of the mountains from existing public right-of-way in this area. Street trees and landscaping in the Metro ROW would be provided along |

| Table 4.6.2: Adverse Effect on Scenic Vista or Degradation of Existing Visual Quality between Lassen Street and Nordhoff Street - Canoga On-Street Dedicated Bus Lanes Alternative Option 1 to 3 | |
|---|---|
| Street | the project south of Marilla Street which would minimize residents' views of the street lighting, poles and bus lanes, and improve the visual environment. No significant impacts are anticipated. |
| o Northern Segment Option 2: Dedicated lanes continue to at-grade "T" intersection on Lassen Street 200 ft west of tracks | The project would not alter existing vistas of the mountains from existing public right-of-way in this area. Street trees would be provided along the project which would minimize residents' views of the bus lanes, street lights and poles, and improve the visual environment. No significant impacts are anticipated. |
| o Northern Segment Option 3: Dedicated lane continues to an at-grade parallel crossing of Lassen west of tracks | The project would not alter existing vistas of the mountains from existing public right-of-way in this area. Street trees would be provided along the project which would minimize residents' views of the bus lanes, stations, street lights and poles, and improve the visual environment. No significant impacts are anticipated. |

Nordhoff Station platforms for the Canoga On-Street Dedicated Bus Lanes Alternative would be located on the farsides of the intersection of Canoga Avenue and Nordhoff Street. Uses adjacent to the Nordhoff Street Station are mostly commercial and industrial. There are no viewers of high sensitivity in this station area. Additional trees and landscaping would minimize visual impacts at this station, making them not significant.

- **Nordhoff Street to Roscoe Boulevard –** For the Canoga On-Street Dedicated Bus Lanes Alternative, the construction of the median, bus lanes on Canoga Avenue, and the bike path with lighting in the Metro ROW, would introduce new elements adjacent to the mobile homes located to the east of the Metro ROW between Osborne Street and Parthenia Street, and adjacent to the single-family and multi-family homes located east of the Metro ROW and south of Parthenia Street. Residents of these homes are considered sensitive viewers. These homes would be more than 50 ft from the eastern edge of the project pavement and more than 110 ft from the median. A few mobile homes on the west side of Canoga Avenue are directly adjacent to this alternative. However, the visual environment would not materially change from existing conditions. As this alternative would not interrupt the background views of the Santa Susana Mountains to the north and the Santa Monica Mountains to the south and landscaping would be provided along the project minimizing residents' views of the alignment and stations, visual impacts would not be significant.

  Parthenia Station platforms would be located adjacent to a flooring warehouse and the vacant Metro ROW. On the east side of the Metro ROW are mobile homes. Residents' views of the northbound station would be blocked by a privacy wall and/or landscaping.

  Roscoe Station platforms would be located adjacent to a used car lot and an auto parts store. The visual impacts at this station would not be significant, as there are no sensitive viewers and landscaping of the area would be improved.

- **Roscoe Boulevard to Saticoy Street –** This portion of the project would travel adjacent to commercial and industrial uses. There are no sensitive uses along this portion of the project. The

construction of the Canoga On-Street Dedicated Bus Lanes Alternative would not interrupt the background views of the Santa Susana Mountains to the north from the public right-of-way. No significant visual impacts are anticipated, and there would be beneficial visual effects due to planting of new trees and landscaping along the length of the project and eliminating existing billboards.

- **Saticoy Street to Sherman Way –** For the Canoga On-Street Dedicated Bus Lanes Alternative, views of the new bus lanes and median would be visible from the commercial uses and the New Academy Canoga Park Elementary School located on the west side of Canoga Avenue, however few school windows face the street. Users of the school are considered sensitive viewers along this portion of the alignment. New trees planted on both sides of Canoga Avenue and in the median would soften views of the Canoga On-Street Dedicated Bus Lanes Alternative from the school. This alternative would not block the views of the Santa Susana Mountains to the north and the Santa Monica Mountains to the south from the public right-of-way, and no significant impacts are anticipated. There would be beneficial visual effects due to the planting of new trees and landscaping along the length of the project and eliminating existing billboards.

  Sherman Way Station platforms would displace a new shopping center and be located adjacent to a gas station. Due to the planned landscape improvements and the existing character of the intersection, with its lack of high-sensitivity viewers, there would be no significant visual impacts.

- **Sherman Way to Vanowen Street –** Uses along this portion of the corridor are predominantly commercial and industrial, thus there are no viewers of high sensitivity in the area. This alternative would not block views of the Santa Susana Mountains or the Santa Monica Mountains from the public right-of-way. Visual impacts would not be significant for this alternative**.** There would be beneficial visual impacts associated with the landscaping of Canoga Avenue and the Metro ROW softening the views of the concrete plants from Canoga Avenue.

- **Vanowen Street to Victory Boulevard –** Residents of the newly developed Archstone Warner Center Apartments located on the east side of the park-and-ride lot are considered sensitive viewers. Existing landscaping within the park-and-ride lot would partially screen views of the bus lanes on Canoga Avenue and the parking. This alternative would not block views of the mountains and visual impacts would not be significant.

**Alternative 4. Canoga Busway**

The Canoga Busway Alternative would include an at-grade roadway, at-grade crossings, new landscaping and one-story stations, except for one sub-option north of Nordhoff Street which would include a grade separation of the railroad tracks and Lassen Street. This alternative would also include a potential soundwall adjacent to the Sunburst Mobile Home Park north of Plummer Street for Options 4 and 4a. Impacts related to the Canoga Busway Alternative are discussed segment by segment below:

- **Devonshire Street to Lassen Street -** The Canoga Busway Alternatives would not obstruct background views of the mountains or degrade the existing visual quality of the area. Chatsworth Metrolink Station Option C would be visible from the multi-family residential uses north of Lassen Street and landscaping and a wall along Remmet Avenue would buffer these uses. Chatsworth Metrolink Station Option A would locate a non-revenue turnaround and additional parking on vacant land adjacent to the existing park-and-ride lot. Considering the existing transit

use and commercially oriented nature of the Chatsworth Metrolink Station and the industrial uses to the west of the railroad tracks there would not be a substantial change in the visual character and therefore no significant visual impacts.

- **Lassen Street to Nordhoff Street –** This portion of the project is primarily adjacent to industrial uses south of Plummer Street. North of Plummer, the Sunburst Mobile Home Park is located east of the railroad tracks. Residents of these mobile homes are considered sensitive viewers. The potential adverse effects of the Canoga Busway Alternative on background views of the mountain or existing visual quality north of Plummer Street are listed in **Table 4.6.3.**

| **Table 4.6.3: Adverse Effect on Scenic Vista or Degradation of Existing Visual Quality between Lassen Street and Nordhoff Street – Canoga Busway Alternative Option 1 to 5** | |
|---|---|
| o Northern Segment Option 1: Busway and bikeway end at Plummer | The project would not materially alter existing vistas of the mountains from the existing public right-of-way in this area. Landscaping would be provided along the project to minimize residents' views of the bus lanes, street lights and poles, and stations. No significant impacts are anticipated. |
| o Northern Segment Option 2: At-grade "T" Intersection on Lassen 200 ft west of tracks | The project would not substantially alter existing vistas of the mountains from the existing public right-of-way in this area. Landscaping would be provided along the project to minimize residents' views of the bus lanes, street lights and poles, and stations. The Busway, its landscaping, and fencing would remove a portion of an industrial building somewhat modifying the character of the area. No significant impacts are anticipated. |
| o Northern Segment Option 2a: One-way bus operations; northbound via at-grade "T" intersection on Lassen 200 ft west of tracks and southbound via Owensmouth and Plummer | The project would not alter existing vistas of the mountains from the existing public right-of-way in this area. Landscaping would be provided along the project to minimize residents' views of the bus lanes, street lights and poles. The Busway, its landscaping, and fencing would remove a portion of an industrial building somewhat modifying the character of the area. No significant impacts are anticipated. |
| o Northern Segment Option 3: At-grade parallel crossing of Lassen west of tracks | The project would not alter existing vistas of the mountains from the existing public right-of-way in this area. Landscaping would be provided along the project to minimize residents' views of the bus lanes, street lights and poles, and stations. No significant impacts are anticipated. |
| o Northern Segment Option 3a: One-way bus operations; northbound via at-grade parallel crossing of Lassen west of tracks and southbound via Owensmouth and Plummer | The project would not substantially alter existing background views of the mountains from the existing public right-of-way in this area. Landscaping would be provided along the project to minimize residents' views of the bus lanes, street lights and poles, and stations. No significant impacts are anticipated. |
| o Northern Segment | The Busway and multi-use path would be underground in a portion |

| Table 4.6.3: Adverse Effect on Scenic Vista or Degradation of Existing Visual Quality between Lassen Street and Nordhoff Street – Canoga Busway Alternative Option 1 to 5 | |
|---|---|
| Option 4: Underpass of tracks with crossing of Lassen east of tracks at Old Depot Plaza Road | of this segment and this portion would not be visible to the residents. A safety wall and screen/fence would line the underpass where the Busway starts to go below the railroad tracks, and where the Busway emerges at-grade. The Busway and bike path would modify the entry and parking of the mobile home clubhouse. Soundwalls, fences, and landscaping would also be provided along the interface with the mobile home property. A 12 ft soundwall would alter views of the ROW from the mobile homes. However, existing views from the mobile homes are not of high quality as they are of railroad tracks, vacant ROW covered with exposed soil and some weedy groundcover, and industrial buildings. This project would not substantially alter existing vistas of the mountains from the public right-of-way or degrade the character of this area. No significant impacts are anticipated. |
| o Northern Segment Option 4a: Underpass of tracks with parallel crossing of Lassen | The Busway and multi-use path would be underground in a portion of this segment and this portion would not be visible to the residents. A safety wall and screen/fence would line the underpass where the Busway starts to go below the railroad tracks, and where the Busway emerges at-grade. Soundwalls, fences, and landscaping would also be provided along the interface with the mobile home property. A 12 ft soundwall would alter the views of the ROW from the mobile homes. However, existing views are not high quality as they are the railroad tracks and vacant ROW covered with exposed soil and some weedy groundcover, and industrial buildings. This project would not substantially alter existing vistas in this area of the mountains from the public right-of-way and not substantially degrade the visual quality of the area. No significant impacts are anticipated. |
| o Northern Segment Option 5: Elevated or below grade separation of railroad tracks and Lassen | The elevated viaduct would be a new visual element in this area. Bus riders would have access to views into the mobile homes located east of the railroad tracks. This would reduce privacy for these residences unless a barrier to screen views on the viaduct would be provided. The overhead viaduct could block views of mountains and shade mobile homes. Therefore, a significant visual impact is anticipated for Option 5 in an elevated profile. A below-grade separation of the railroad tracks and Lassen Street would have no significant effects on the visual environment. |

- **Nordhoff Street to Roscoe Boulevard –** For this alternative, both sides of the Metro ROW would include landscaped areas, where feasible with natural drainage swales, and in some cases berms or privacy walls to minimize views of the project. This alternative would not interrupt the background views of the Santa Susana Mountains to the north or the Santa Monica Mountains to the south from the public right-of-way. Visual impacts would not be significant.

- **Roscoe Boulevard to Saticoy Street –** This portion of the project would travel adjacent to commercial and industrial uses. There are no sensitive uses along this portion of the project. The construction of the proposed alternative would not interrupt the background views of the Santa

Susana Mountains to the north or the Santa Monica Mountains to the south. No significant visual impacts are anticipated, and there would be beneficial visual effects due to planting of new trees and landscaping along the length of the project and eliminating billboards.

- **Saticoy Street to Sherman Way –**The planned bikeway/pedestrian path with new landscaping and trees along the western edge of the Metro ROW would act as a buffer between the New Academy Canoga Park Elementary School located on the west side of Canoga Avenue and the edges of the project pavement. This would minimize potentially adverse visual impacts on the school across the street from the Metro ROW. This alternative would not block the views of the Santa Susana Mountains to the north or the Santa Monica Mountains to the south, and no significant impacts are anticipated. There would be beneficial visual impacts effects due to the planting of new trees and landscaping along the length of the project and eliminating billboards.

- **Sherman Way to Vanowen Street –** Uses along this portion of the corridor are predominantly commercial and industrial, thus there are no viewers of high sensitivity in the area. Visual impacts would not be significant for the Canoga Busway Alternative**.** There would be beneficial impacts associated with the landscaping of the Metro ROW.

- **Vanowen Street to Victory Boulevard –** Residents of the newly developed Archstone Warner Center Apartments located on the east side of the park-and-ride lot are considered sensitive viewers. These residents currently view the existing Metro MOL Canoga Station and park-and-ride. Existing landscaping within the Canoga park-and-ride lot would partially screen views of the Busway and the parking. New station platforms would be located adjacent to the Archstone Warner Center boundary. The one story station's canopy would be primarily visible to the upper stories of the Archstone Warner Center Apartment buildings which are setback 20 to 25 ft from the Metro ROW. A solid 4 foot wall along Metro's property line already exists adjacent to the Archstone Warner Center Apartments. A taller wall may be provided directly adjacent to the stations for privacy. Additional landscaping along this wall would not substantially modify the current views of the units and the garden area. Visual impacts would not be significant for the Canoga Busway Alternative.

**Bus Maintenance Facility**

All of the build alternatives would require storage and maintenance facility for the new buses. Reconfiguration or expansion of Division 8 which would be all at grade and internal to the Division 8 facility would not result in any significant visual quality impacts or degrade the visual quality of the area. An off-site bus parking area on a Metro-owned vacant lot at the northwest corner of Marilla Street and Owensmouth Avenue would not degrade the visual quality of the area. This vacant site is surrounded by industrial uses and development of any maintenance and parking facilities adjacent to these locations would be compatible with the existing character of the area (e.g., height, scale, mass, lighting) and would not result in any significant visual quality impacts.

*Mitigation Measures:*

Alternative 3. Canoga On-Street Dedicated Bus Lanes

***MM 4.6-1*:** To reduce visual impacts, provide trees and landscaping as described in the Project Description and similar to the MOL. Relocation of overhead utility lines on the east side of Canoga Avenue shall be coordinated with Los Angeles Department of Water and Power's

program for underground utilities. If utility poles and wires must be relocated above ground, these should be placed to not obstruct or prohibit new tree plantings.

***MM 4.6-2:*** Soundwalls walls/fences, and landscape screening shall be designed taking into consideration community input. Landscaping, where technically feasible, shall shield adjacent residencies to maintain privacy.

***MM 4.6-3:*** The following Metro Art policies will be applied to all build alternatives:

- **Public Art and the Design Process**: As part of the Design/Build process, artists will be hired to participate in the project. Metro Art staff will invite interested members of the communities (residential, business, and institutional) along the alignment to form a Metro Art Advisory Group. This process of community participation follows FTA policy (Circular 9400.1A), which states: "To create facilities that are integral components of communities, information about the character, makeup, and history of the neighborhood should be developed and local residents and businesses could be involved in generating ideas for the project."

  A budget will be established for public art that will be based on a percentage of the hard costs (construction costs) for the project and will cover design fees and fabrication and installation of art elements. Again, as directed by the FTA (Circular 9400.1A), "Funds spent on the art component of the project should be appropriate to the overall costs of the transit project and adequate to have an impact."

- **Design Excellence**: Following policy established by the FTA for design and art in transit projects (Circular 9400.1A), MTA commits to the idea that: "Good design and art can improve the appearance and safety of a facility, give vibrancy to its public spaces, and make patrons feel welcome. Good design and art will also contribute to the goal that transit facilities help to create livable communities." To continue its commitment to these ideals, design excellence will be an important criterion for selection of design team members and for evaluation of design proposals.

  To ensure design excellence, the MTA will follow the award-winning model for "Excellence in Public Architecture" established by the General Services Administration of the U.S. Government. That process attracts large numbers of qualified design firms through a streamlined process and utilizes the insight of outside peer advisors.

- **Graphics and Wayfinding**: The quality of graphic signage and wayfinding within the system and within the adjacent neighborhoods greatly affects the ease and comfort with which patrons will use the system. Station names, station identification, directional signage, logos, maps, and informational signage shall adhere to the MTA Graphics Standards. The guiding principles for the standards are to simplify Metro signage systems in a way that makes sense for patrons, using uniformity in text styles, a rational hierarchy of sign sizes, clear directional arrows, etc.

Alternative 4. Canoga Busway

Same as **MM4.6-1**, **4.6-2** and **4.6-3.**

Alternative 4, Canoga Busway Option 5

MM 4.6-4: To reduce visual impacts for the Canoga Busway Alternative Option 5, provide landscaping adjacent to the mobile homes, and also visual barriers on the elevated viaduct or other measures that would reduce direct views from the elevated Busway onto adjacent mobile homes.

MM 4.6-5: Design guidelines for the elevated bridge structure for the Canoga Busway Alternative - Option 5 shall consider community input before the construction phase of the project. Design guidelines shall include techniques to reduce the massing and profile of the elevated structure, and to maintain views, where possible of the Santa Susana Mountains.

*Level of Impact After Mitigation:* Impacts to scenic views or sensitive users would be less than significant for Alternatives 3 and 4. Implementation of Mitigation measures MM 4.6-1 through MM 4.6-5 above would reduce the impacts to scenic views of the mountains and sensitive users to less than significant.

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**Impact 4.6.2.Portions of Canoga Avenue and the Metro ROW contain trees that would be affected by the construction of the project. However, the conceptual plan includes considerably more trees to be planted than removed for Alternative 3, Canoga On-Street Dedicated Bus Lanes and Alternative 4, Canoga Busway. Therefore, impacts would not be significant with mitigation.**

Alternative 1. No Project

The No Project Alternative would not result in the removal of street trees. Therefore, no impacts would occur.

Alternative 2. TSM

The TSM Alternative would not likely remove existing trees. No impacts are anticipated.

Alternative 3. Canoga On-Street Dedicated Bus Lanes

The Canoga On-Street Dedicated Bus Lanes Alternative would result in a removal or relocation of approximately 350 to 400 trees depending on the Option selected north of Plummer Street. These trees would be replaced by approximately 1,200 to 1,350 new and relocated trees depending on the Option. These new trees would be planted in rows, spaced approximately 30 to 40 ft apart, on both sides of Canoga Avenue, and also in the new median island for the Canoga On-Street Dedicated Bus Lanes Alternative. Therefore, no significant impacts are anticipated.

Alternative 4. Canoga Busway

The Canoga Busway Alternative would result in displacement of approximately 250 to 300 trees, depending on the Option selected north of Plummer Street. These trees would be replaced by approximately 1,400 to 1,700 new or relocated trees depending on the Northern Options. New trees would be planted in the Metro ROW on either side of the Busway in a pattern similar to the MOL.

More detailed landscape concepts would be developed in the Preliminary Engineering phase to refine the trees to be displaced and the location and number of new trees. Therefore, no significant impacts are anticipated.

**Bus Maintenance Facility**

The reconfiguration or expansion of Division 8 would not remove or displace any trees. The bus parking area on the Metro-owned vacant lot at the northwest corner of Marilla Street and Owensmouth Avenue would include an increase in the number of trees in the area to screen the facility. No significant impacts are anticipated.

*Mitigation Measures:*

Alternatives 3. Canoga On-Street Dedicated Bus Lanes and Alternative 4. Canoga Busway

> ***MM 4.6-6:*** A landscape plan and guidelines shall be prepared during Preliminary Engineering stage establishing the number and pattern of tree species. Approximately, 1,200 to 1,350 new and relocated trees would be provided for Alternative 3 and 1,400 to 1,700 new and relocated trees for Alternative 4. Wherever feasible, specimen trees within the existing ROW or sidewalk shall be preserved or relocated and incorporated into the landscape plan where space permits. Specimen trees removed shall be replaced at a minimum of 1:1 ratio. During the Design/Build phase, the alignment of the dedicated lanes and Busway and placement of elements such as privacy walls, soundwalls for Options 4 and 4a, natural drainage, and fences as well as landscape guidelines developed during the Preliminary Engineering will be followed and the project will continue to take into account existing mature trees in the Metro ROW and avoid their removal where possible.

*Level of Impact After Mitigation:* Implementation of Mitigation Measures MM4.6-1 through 4.6-6 would result in a less than significant impact on the sensitive views and scenic vistas or views in the area.

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**Impact 4.6.3. The construction of the project would result in the installation of additional lighting at station areas and along the bikeway for Alternative 3, Canoga On-Street Dedicated Bus Lanes and Alternative, 4 Canoga Busway. For Alternative 3 street lighting and utility poles on the east side would be relocated closer to residents than the existing condition. For Alternative 4, additional lighting would be limited to 12 ft to 20 ft high lighting poles along the bikeway and lighting of stations similar to the MOL. The impacts of bus headlights on residents along the corridor would be minimal due to planned landscape improvements, fences, walls and other measures. For Alternative 4, Options 4 and 4a, soundwalls located close to existing mobile homes and their outdoor spaces would reduce access to sunlight and air and impacts would be significant without mitigation. No other significant impacts with mitigation are anticipated except the elevated component of Alternative 4, Option 5 has the potential to add significantly to ambient lighting adjacent to mobile homes if lighting is provided on the overpass.**

## Alternative 1. No Project

The No Project Alternative would not create a new source of light or glare. Therefore, no impacts would occur.

No stations are associated with the No Project Alternative, therefore no impacts are anticipated.

## Alternative 2. TSM

The TSM Alternative would not create a new source of light or glare that could affect day or night time views. No significant impacts are anticipated.

Standard Metro bus stops are associated with the TSM Alternative and no visual impacts are anticipated.

## Alternative 3. Canoga On-Street Dedicated Bus Lanes

Impacts related to the Canoga On-Street Dedicated Bus Lanes Alternative are discussed below:

- **Devonshire Street to Lassen Street –** Lighting is currently provided in the Chatsworth Metrolink Station area. New lighting will be provided at the new station platforms similar to the MOL. Considering the existing lighting provided today, the transit use and commercially oriented nature of the area, visual impacts would not be significant.

- **Lassen Street to Nordhoff Street –**The potential impacts of the sub-options for the Canoga On-Street Dedicated Bus Lanes Alternative are listed in **Table 4.6.4.**

**Table 4.6.4: Create a New Source of Substantial Light or Glare that Could Affect Day or Nighttime Views - Canoga On-Street Dedicated Bus Lanes Alternative Options 1 to 3**

| | |
|---|---|
| o Northern Segment Option 1: Dedicated lane ends at Marilla Street | Lighting levels along Canoga Avenue would increase to accommodate the bus lanes. Additional lighting would be designed and oriented not to create spillover lighting and landscaping introduced along the corridor would reduce reflective light and glare. |
| o Northern Segment Option 2: Dedicated lanes continue to at-grade "T" intersection on Lassen Street 200 west of tracks | Lighting levels along Canoga Avenue would increase to accommodate the bus lanes. Additional lighting would be designed and oriented not to create spillover lighting and landscaping introduced along the corridor would reduce reflective light and glare. |
| o Northern Segment Option 3: Dedicated lane continue to an at-grade parallel crossing of Lassen west of tracks | Lighting levels along Canoga Avenue would increase to accommodate the bus lanes and stations. Additional lighting would be designed and oriented not to create spillover lighting and landscaping introduced along the corridor would reduce reflective light and glare. |

- **Nordhoff Street to Roscoe Boulevard –** New lighting would be provided at station platforms and for the bikepath at levels similar to MOL. Street lighting on the east side of Canoga will be moved into the Metro ROW closer to the existing residential uses. Additional lighting would be designed and oriented not to create spillover effects and landscaping introduced along the corridor would reduce reflective light and glare.

- **Roscoe Boulevard to Saticoy Street -** New lighting would be provided at station platforms and for the bikepath at levels similar to MOL. Street lighting on the east side of Canoga will be moved into the Metro ROW. Additional lighting would be designed and oriented not to create spillover effects and landscaping introduced along the corridor would reduce reflective light and glare.

- **Saticoy Street to Sherman Way -** New lighting would be provided at station platforms and for the bikepath at levels similar to MOL. Street lighting on the east side of Canoga will be moved into the Metro ROW. Additional lighting would be designed and oriented not to create spillover effects and landscaping introduced along the corridor would reduce reflective light and glare.

- **Sherman Way to Vanowen Street -** New lighting would be provided at station platforms and for the bikepath at levels similar to MOL. Street lighting on the east side of Canoga will be moved into the Metro ROW. Additional lighting would be designed and oriented not to create spillover effects and landscaping introduced along the corridor would reduce reflective light and glare.

- **Vanowen Street to Victory Boulevard –** Lighting is currently provided in the existing MOL Canoga Station area. Street lighting will be moved to the east and would be designed to not create spillover effects and landscaping in the park-and-ride lot would reduce reflective light and glare. Considering this and the existing transit use of the area, visual impacts would not be significant.

**Alternative 4. Canoga Busway**

Impacts related to the Canoga Busway Alternative are discussed below:

- **Devonshire Street to Lassen Street –** Lighting is currently provided in the Chatsworth Metrolink Station area. Station Option C would add station lighting in an industrial area with multi-family uses located nearby. Lighting would be shielded from adjacent residential uses. Mitigation provided would ensure that lighting is oriented and hooded to eliminate disruptive spillover lighting.

- **Lassen Street to Nordhoff Street –** For the Canoga Busway Alternative, lighting levels would increase along the new bikepath and at stations. The impacts of headlights on residents of the mobile homes located east of the railroad tracks would be minimal due to planned landscape improvements, the potential soundwall adjacent to the Sunburst Mobile Home Park south of Plummer Street and a privacy wall for the area south of Nordhoff Street. The potential impacts of the Options of the Canoga Busway Alternative are listed in **Table 4.6.5.** For Options 4 and 4a, a soundwall would be constructed adjacent to the mobile homes directly adjacent to the east of the Metro ROW and south of Lassen Street. Existing mobile homes in this location are approximately three to five ft from the Metro ROW. The soundwall would be located approximately 0 to 15 ft away from the Metro ROW line and would be approximately 12 ft tall. The soundwall would cast shadows on the rear yard and windows of the mobile homes facing the Metro ROW when the sun is low during winter months. However, existing trees adjacent to the mobile homes in some locations already cast shadows in the windows. For Options 4 and 4a soundwalls located next to

the mobile homes would reduce access to sunlight and air circulation to usable open space at the rear of the mobile homes. However, this would be minimized by setbacks of the wall to capture sunlight near windows and architectural treatment. A less than significant impact is anticipated with design treatments as discussed.

Nordhoff Station platforms would be located on the farsides of the intersection of Canoga Avenue and Nordhoff Street. Uses adjacent to the Nordhoff Street Station are commercial and industrial. Additional trees and landscaping would minimize visual impacts at this station, making them not significant.

| Table 4.6.5: Create a New Source of Substantial Light or Glare that Could Affect Day or Nighttime Views – Canoga Busway Alternative Option 1 to 5 | |
|---|---|
| o Northern Segment Option 1: Busway and bikeway end at Plummer | Lighting levels would increase along the new Busway and the bikeway. Additional lighting shall be designed and oriented not to create spillover lighting and landscaping introduced along the corridor would reduce reflective light and glare. |
| o Northern Segment Option 2: At-grade "T" Intersection on Lassen 200 ft west of tracks | Lighting levels would increase along the new Busway and the bikeway. Additional lighting shall be designed and oriented not to create spillover lighting and landscaping introduced along the corridor would reduce reflective light and glare. |
| o Northern Segment Option 2a: One-way bus operations; northbound via at-grade "T" intersection on Lassen 200 ft west of tracks and southbound via Owensmouth and Plummer | Lighting levels would increase along the new Busway and the bikeway. Additional lighting shall be designed and oriented not to create spillover lighting and landscaping introduced along the corridor would reduce reflective light and glare. |
| o Northern Segment Option 3: At-grade parallel crossing of Lassen west of tracks | Lighting levels would increase along the new Busway and bikeway. Additional lighting shall be designed and oriented not to create spillover lighting and landscaping introduced along the corridor would reduce reflective light and glare. |
| o Northern Segment Option 3a: One-way bus operations; northbound via at-grade parallel crossing of Lassen west of tracks and southbound via Owensmouth and Plummer | Lighting levels would increase along the new Busway and bikeway. Additional lighting shall be designed and oriented not to create spillover lighting and landscaping introduced along the corridor would reduce reflective light and glare. |
| o Northern Segment Option 4: Underpass of tracks with crossing of | Lighting levels would increase along the new Busway and bikeway. Additional lighting shall be designed and oriented not to create spillover lighting and landscaping introduced along the corridor |

| Table 4.6.5: Create a New Source of Substantial Light or Glare that Could Affect Day or Nighttime Views – Canoga Busway Alternative Option 1 to 5 | |
|---|---|
| Lassen at Old Depot Plaza Road | would reduce reflective light and glare. The impacts of headlights on residents of the mobile homes located east of the railroad tracks will be minimal due to planned landscape improvements. |
| o Northern Segment Option 4a: Underpass of tracks with parallel crossing of Lassen | Lighting levels would increase along the new Busway and bikeway. Additional lighting shall be designed and oriented not to create spillover lighting and landscaping introduced along the corridor would reduce reflective light and glare. |
| o Northern Segment Option 5: Elevated or below grade separation of railroad tracks and Lassen | Light spillover from the viaduct would likely affect residents of the mobile home park. Mitigation would ensure that lighting is designed and placed in such a way as to minimize glare and nighttime light intrusion on the residences and/or a screen wall is placed on the viaduct. |

- **Nordhoff Street to Roscoe Boulevard –** There would be limited additional lighting planned along the corridor. Landscaping introduced along the corridor would reduce reflective light and glare.

  The optional Parthenia Station would be located within the Metro ROW, adjacent to a mobile home park, and single-and multi-family homes. Residents would have filtered views of the stations and lighting. A privacy wall would be constructed adjacent to the mobile homes. The planned landscape improvements and privacy wall would buffer residential uses from the stations and bikeway lighting. Lighting at the station area will be designed and placed in such a way as to minimize glare and nighttime light intrusion on the residences.

  Roscoe Station platform sites are currently occupied by used car lots. The visual impacts due to light and glare would be minimal due to the existing commercial orientation of the station area, and due to the planned landscape improvements.

- **Roscoe Boulevard to Saticoy Street -** There would be limited additional lighting planned along the corridor. Landscaping introduced along the corridor would reduce reflective light and glare.

- **Saticoy Street to Sherman Way -** There would be limited additional lighting planned along the corridor. Landscaping introduced along the corridor would reduce reflective light and glare.

  Sherman Way Station platforms and park-and-ride for the Canoga Busway Alternative would be located south of Sherman Way, within the 275 ft wide Metro ROW. The new park-and-ride lot would be illuminated for security purposes. Some glare impacts could occur due to the presence of this security lighting as well as vehicle headlights. However, the park-and-ride lot would be screened from Canoga Avenue by the proposed landscaping improvements, and the addition of the Busway with regard to light and glare would result in a less than significant impact.

- **Sherman Way to Vanowen Street -** There would be limited additional lighting planned along the corridor. Landscaping introduced along the corridor would reduce reflective light and glare.

- **Vanowen Street to Victory Boulevard –** Lighting is currently provided in the MOL Canoga Station area. The new station platform near the Archstone Warner Center Apartments would be

designed to minimize glare and night time light intrusion. Landscaping in the park-and-ride lot would further reduce reflective light and glare. Considering the existing transit use and lighting of the area, visual impacts would not be significant.

**Bus Maintenance Facility**

Lighting is currently provided within Division 8 and its parking lot. Additional lighting shall be designed and oriented not to create spillover lighting. Light and glare impacts are not anticipated because there are no residential uses or other light sensitive land uses immediately adjacent to the facility to which nighttime spillover lighting are typically of concern. The new bus parking area on the Metro-owned vacant lot at the northwest corner of Marilla Street and Owensmouth Avenue would be designed to minimize glare and night time light intrusions. Landscaping around the parking facility would further reduce reflective light and glare.

*Mitigation Measures:*

Alternatives 3. Canoga On-Street Dedicated Bus Lanes and Alternative 4. Canoga Busway

***MM 4.6-7***: To reduce impacts from glare from bus headlights, stations, and park-and-ride lots, landscaping, fences, or walls or other measures shall be provided, designed and placed in such a way as to minimize glare and nighttime light intrusion on residences. A landscape plan, lighting plan and the design of screening features shall consider community input during final design.

Alternative 4. Canoga Busway, Option 4 and 4a

***MM 4.6-8***: If a wall taller than six ft or a soundwall for Options 4 and 4a is adjacent to existing mobile homes or their usable open spaces which are located 10 ft or less from the wall or soundwall, architectural treatment, screening with vines and landscaping for visual relief, a variation in the wall plane, setbacks or other similar solutions shall be provided to provide access to sunlight and air for windows and usable space.

Alternative 4. Canoga Busway, Option 5

***MM 4.6-9***: In Northern Segment Option 5, the elevated viaduct shall be designed to minimize glare and night time light intrusion on the mobile homes.

*Level of Impact After Mitigation:* Mitigation Measures MM **4.6-7** through MM **4.6-9** above would reduce potential light and glare impacts to a less than significant level.

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**Impact 4.6.4. Construction of the build alternatives would result in temporary disruptions to the visual character of the study area. Such disruptions would not include blockage of key views, but could result in visual intrusions, shade and shadow, increase in ambient light levels, and glare during the short period of construction. However, mitigation measures would reduce the impacts to less than significant.**

## Alternative 1. No Project

The No Project Alternative would not include construction activity, therefore visual character of the study area would not be affected, and construction impacts would not occur.

## Alternative 2. TSM

The TSM Alternative would only involve minimal fixed facility construction. No significant visual impacts of construction are anticipated.

## Alternative 3. Canoga On-Street Dedicated Bus Lanes

Canoga Avenue would be widened on the east side into the Metro ROW to accommodate additional bus lanes. Construction areas would be fenced off from views, where feasible. Construction equipment and activities would be visible to businesses along Canoga Avenue, however these views would be intermittent and short-term. Visual impacts such as shadows or blockage of key views would not occur. Visual impacts of construction would not be significant.

Sensitive users along the alignment include the mobile home and single-family residents. Except for a small number of mobile homes adjacent to Canoga Avenue on the west side most residences would be located approximately 20 to 25 ft from any construction activity and views of the construction fence would be partially screened by existing fences and vegetation. Once walls/fences or landscaping are installed, they would serve to block views of the construction. Short-term views of construction activities would occur when fencing/privacy walls adjacent to these sensitive uses are constructed. No significant visual impacts of construction for this alternative are anticipated. Construction lighting could create glare at nearby residential neighborhoods which would result in a significant impact. This impact could be reduced by limiting construction to day time directly adjacent to residential uses. Implementation of mitigation measure would reduce visual impacts.

Due to the predominantly commercial/industrial nature of the areas adjacent to construction, and the temporary nature of this construction, visual impacts would not be significant. At the Sherman Way and Canoga Station and park-and-ride, views of the construction activities could potentially be visible from second story windows of multi-family residents east of Deering Avenue. Similarly at Canoga Station and park-and-ride construction activities would be visible to second story residents of the Archstone Warner Center Apartments. These impacts would be intermittent and short-term. Therefore, visual impacts of construction would not be significant.

## Alternative 4. Canoga Busway

For construction of this alternative medium sized earth-moving equipment such as earth loaders or scrapers, grading equipment such as dozers and forklifts may be used. Cranes may be used for larger construction needs such as bridges over the Santa Susana Wash or the Los Angeles River. Construction areas would be surrounded by temporary fences, where necessary. Views of the fences would be visible to sensitive viewers along Canoga Avenue (i.e. mobile home and single family residents). However, these views would be intermittent and short-term. Once walls are built, they would serve to block views of construction in the ROW. Architectural treatment and screening with vines and landscaping for visual relief would mitigate the impact of the wall as discussed above in Section 4.6.3. Because views of construction would be temporary and intermittent, and no other visual impacts such as changes to lighting or blockage of key views would occur, the visual impacts of

construction for this alternative would not be significant. Construction lighting could create glare at nearby residential neighborhoods which would result in a significant impact. This impact could be reduced by limiting construction directly adjacent to residential uses to day time hours. Implementation of mitigation measure would reduce visual impacts. Construction of the elevated bridge for the Northern Segment Option 5 would be temporary and would be screened by construction fences. However, the visual impacts of the structure could be potentially significant without mitigation as discussed above in Section 4.6.

At the Sherman Way Station and park-and-ride, views of the construction activities could potentially be visible from second story windows of multi-family residents east of Deering Avenue. Similarly, construction at Canoga Station and park-and-ride would be visible from second story windows of the Archstone Warner Center Apartments residents. However, these impacts would be intermittent and short-term.

*Mitigation Measures:*

Alternatives 3. Canoga On-Street Dedicated Bus Lanes and Alternative 4. Canoga Busway

> ***MM 4.6-10:*** All construction lighting shall be hooded and shielded to minimize spillover effects and glare. Alternatively, screening and construction fences can be used to shield construction lighting. Lighting shall be directed towards the interior of the construction staging area and shielded so as to avoid or minimize spillover into adjacent residential areas. Construction activities directly adjacent to residential uses shall be limited to day time hours unless required by the City of Los Angeles.

*Level of Impact After Mitigation:* Construction impacts would be reduced to less than significant with implementation of Mitigation Measure **MM 4.6-10**.

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**Impact 4.6.5. The proposed project would not result in a potentially significant cumulatively considerable visual impact. No significant impacts are anticipated and no mitigation is required.**

The 2004 SCAG RTP, which is hereby incorporated by reference, provides the cumulative context for analysis of the Canoga Transportation Corridor Project. Projects contemplated in the RTP that require the construction of new facilities (e.g., new Busway, stations, parking facilities) could have some direct physical effects on visual quality. The Canoga Transportation Corridor would require installation of physical structures such as stations; construction of parking lots and walls. The Canoga Transportation Corridor Project would modify the existing visual character of the Metro ROW from vacant land and industrial uses to a multi-modal transportation facility in a landscaped environment. However, it would not result in obstruction or modification of background views of the mountains or the degradation of the visual quality. Impacts would be less than significant and no mitigation is required.

*Mitigation Measures:* None required.

*Level of Impact After Mitigation:* Less than significant.

# 4.7 TRAFFIC, CIRCULATION, & PARKING

This section describes the study area's transportation-related environmental setting, impacts and mitigation measures. Setting information is provided for existing year 2007 conditions and future information is provided for the forecast year of 2030. The analysis will identify the significance of the project's impacts on the transportation system by 2030 assuming the implementation of other major funded and committed transit or highway improvements over the next 23 years.

The four alternatives discussed in this section include No Project, Transportation System Management (TSM), Canoga On-Street Dedicated Bus Lanes and Canoga Busway. General, as well as local impacts on the transportation system (highway, transit, and parking) are discussed.

General impacts include effects of the project on system-wide (San Fernando Valley or Valley) transportation performance indicators and on the study area's predominant travel corridors; whereas, local impacts deal with specific traffic access, circulation, intersection and parking impacts along the Canoga Transportation Corridor and near the proposed stations.

## 4.7.1 EXISTING SETTING

### Highway System

*Freeways*

Two freeways serve the study area. Both the US 101 (Ventura Freeway) and SR-118 (Ronald Reagan Freeway) facilitate east-west travel between Los Angeles County and Ventura County and connect the San Fernando Valley with points east through the San Gabriel Valley via I-210 (Foothill Freeway). US 101 connects the Valley directly with the Los Angeles Basin through the Santa Monica Mountains. I-5 connects the Valley to the Antelope Valley to the north and downtown Los Angeles to the south. I-405 (San Diego Freeway) similarly connects both US 101 and SR-118 to the Westside of the Los Angeles basin. **Table 4.7-1** briefly describes the general characteristics of the Study Area's major freeways.

**Table 4.7-1: Existing Traffic Characteristics for the San Fernando Valley East-West Freeways**

| Freeway | Alignment | Mixed-Flow Lanes + HOV | Range of Volume (ADT) |
|---|---|---|---|
| SR-118 | East-West | 8 + 2 | 106,000 – 241,000 |
| US 101 | East-West | 8-10 | 172,000-325,000 |

Source: 2007 Traffic Volumes on the California State Highway System, Caltrans, 2007.

The Ventura Freeway is congested in both directions for much of the day and is one of the busiest and most congested freeways in Southern California. The peak-hour congestion patterns persist for three to four hours in each of the peak periods on a daily basis. In addition, the freeway also experiences congestion patterns during the off-peak periods. The freeway corridor serves a large number of activity centers and provides connections to Hollywood and downtown Los Angeles. The Ventura Freeway is used by local traffic, as well as for long-distance commuters. This freeway is projected to be one of Southern California's most congested in the future, operating at 50 to 60 percent over capacity by the year 2030.

During the AM and PM peak hours, many of the freeways and arterial facilities in the Valley are operating at or near capacity in the peak direction of travel. Most of the freeways are experiencing average operating speeds of fewer than 30 miles per hour in the peak direction of travel (toward the Los Angeles Central Business District). Increased freeway congestion on US 101 would result in no travel time advantage for commuter express buses on freeways.

SR-118 is used intra-valley travel but also by long distance commuters coming from or going to Ventura County. In the San Fernando Valley, SR-118 is eight lanes wide. The Ventura county portion of the freeway has six lanes. However, construction has already begun for the widening of SR-118 through Simi Valley (from Tapo Street to Kuehner Drive) from six to eight lanes.

*Arterials*

The entire corridor study area is within the jurisdiction of the City of Los Angeles. Roadways in the City of Los Angeles have functional classifications that range from Major Highway, to Secondary Highway, Collector Street and Local Street. Major Highways typically include three travel lanes in each direction. Secondary Highways typically have two lanes in each direction. Collectors and Local Streets only have one lane per direction. The arterial and local street system in the San Fernando Valley conforms predominantly to an east-west/north-south grid system. In the study area, particularly at its northern end, this grid system begins to break down due to geographical constraints which make some of the streets discontinuous. **Table 4.7-2** lists the key east-west arterials within the study area, their functional classifications, and range of daily traffic volumes.

**Table 4.7-2: Existing Characteristics of East-West Arterials in the Study Area**

| Arterial Location | Operational Classification | Range of Volume (ADT) |
|---|---|---|
| Devonshire Street | Major Highway | 15,600-26,100 |
| Lassen Street | Secondary Highway | 15,600-21,400 |
| Plummer Street | Secondary Highway | 3,800-7,000 |
| Nordhoff Street | Major Highway | 11,400-26,000 |
| Parthenia Street | Secondary Highway | 8,000-22,000 |
| Roscoe Boulevard | Major Highway | 29,000-34,300 |
| Saticoy Street | Secondary Highway | 20,000-30,000 |
| Sherman Way | Major Highway | 26,500-29,300 |
| Vanowen Street | Secondary Highway | 19,500-28,300 |
| Victory Blvd | Major Highway | 31,400-38,100 |
| Oxnard Street | Secondary Highway | 9,800-16,900 |

Source: LADOT, Electronic Traffic Count Database (2007)

Devonshire Street is a Major Highway with three lanes (two travel lanes and one parking lane) each direction and left turn lanes up to Topanga Canyon Boulevard; it then continues west as a collector.

Lassen Street is a Secondary Highway with two lanes each direction and left turn lanes up to Topanga Canyon Boulevard; it then continues west as a collector.

Plummer Street is a Secondary Highway with two lanes in each direction and left turn lanes up to De Soto Avenue. Plummer Street does not cross the Metro-owned ROW; it begins again at Canoga

Avenue and then continues west as a Secondary Highway beyond City limits.

Nordhoff Street is a Major Highway with three lanes (two travel lanes and one parking lane) each direction and left turn lanes up to Topanga Canyon Boulevard; it then continues west as a local street.

Parthenia Street is a Secondary Highway with two lanes each direction and left turn lanes up to Topanga Canyon Boulevard; it then continues west as a local street.

Roscoe Boulevard is a Major Highway with two lanes in each direction and a two-way continuous left-turn lane throughout the study area.

Saticoy Street is a Secondary Highway with two lanes in each direction and a two-way continuous left-turn lane throughout the study area.

Sherman Way is classified as a divided major highway east of Variel Avenue, where six through lanes and a raised median island are provided. West of Variel Avenue, it is classified as a major highway and provides four through lanes and a two-way continuous left-turn lane.

Vanowen Street is a four-lane Secondary Highway with a continuous two-way left turn lane throughout the study area.

Victory Boulevard is a Major Highway with a two-way continuous left-turn lane throughout the study area. Six through lanes are provided between Topanga Canyon Boulevard and De Soto Avenue. Four through lanes are provided from east of Fallbrook Avenue to Topanga Canyon Boulevard and five lanes (three eastbound and two westbound) are provided east of De Soto Avenue to Winnetka Avenue.

Oxnard Street is a Secondary Highway with two lanes in each direction throughout the study area, narrowing to two lanes both west of Shoup Avenue and east of Winnetka Avenue. A raised median island is present between Topanga Canyon Boulevard and Canoga Avenue, and two-way continuous left-turn lanes are provided between Canoga Avenue and De Soto Avenue and between Farralone Avenue and Capistrano Avenue.

**Table 4.7-3** lists the key north-south arterials within the study area, their functional classifications, and range of daily traffic volumes.

**Table 4.7-3: Existing Characteristics of North-South Arterials in the Study Area**

| Arterial Location | Operational Classification | Range of Volume(ADT) |
|---|---|---|
| Topanga Canyon Blvd. | State Highway | 42,000-48,000 |
| Owensmouth Avenue | Collector | 10,000-21,500 |
| Canoga Avenue | Secondary Highway | 13,000-40,100 |
| De Soto Avenue | Major Highway | 35,200-40,600 |

Source: LADOT, Electronic Traffic Count Database (2007)

Topanga Canyon Boulevard is also a State Highway (SR-27) and is maintained by Caltrans. It has three lanes in each direction and left turn lanes and intersects both SR-118 and US 101 with interchanges.

Owensmouth Avenue is improved to above Collector Street standards in the Warner Center area with two lanes in each direction. However, north of Vanowen Street it has one lane in each direction. It does not extend south of the US 101 Freeway and terminates in a residential neighborhood in Chatsworth. It therefore does not function as a freeway access route to the same extent as the other north-south streets in the study area.

Canoga Avenue extends south of Ventura Boulevard and has a half diamond interchange on US 101, with ramps to/from the east. South of Vanowen Street, it is improved to Secondary Highway standards, but north of Vanowen to Nordhoff Street, it includes the number of travel lanes typical of a Secondary Highway (two in each direction, plus left turn lanes), but does not include parking nor a sidewalk along its east side. North of Nordhoff Street, the roadway narrows; to one lane in each direction and it becomes discontinuous at the Metrolink/Amtrak tracks where it curves and ties into Marilla Street. Canoga Avenue does not exist between Marilla Street and Lassen Avenue and north of Lassen it becomes essentially a local residential street with equestrian trails along its edge instead of sidewalks. It extends under the SR-118 Freeway as a narrow roadway and serves as an equestrian access route to the parks and trails north of the freeway.

De Soto Avenue is a fully improved Major Highway that extends from south of US 101 to SR-118. It has full interchanges on both freeways and three lanes in each direction.

For the purposes of this study, it is important to evaluate patterns and magnitude of traffic volumes carried by the east-west streets which cross the north-south corridor. **Figure 4.7-1** and **Figure 4.7-2** show AM and PM traffic volume by direction that is carried on the east-west arterials at the locations where they cross the north-south transit corridor. As seen on these figures, arterial traffic volumes are highly directional during the peak hours, reflecting the Valley's major patterns of commute traffic, with westbound the predominant direction in the AM and the eastbound in the PM peak. Generally, traffic volumes are higher during the PM peak compared to the AM and tend to be higher in the southern portion than the northern portion during both peaks. This is partly attributable to the fact that Parthenia, Nordhoff and Lassen do not continue west of Topanga Canyon Boulevard as major through routes. The east-west streets to the south continue further west into West Hills.

*Intersection Levels of Service*

As illustrated on **Figure 4.7-3,** a total of forty one intersections within the immediate vicinity of the Corridor were selected for detailed LOS analysis. These intersections were chosen in consultation with the City of Los Angeles Department of Transportation (LADOT) and represent intersections that are directly along the alignment, or are on a major access route to a park-and-ride station. The selection of intersections was made based on proximity to the alignment, potential travel pattern orientation, access routes and expected level of auto access activity at each station. The distribution of project trips to the stations is detailed in **Appendix D**.

**Figure 4.7-1 Morning Peak Hour Cross Street Volumes**

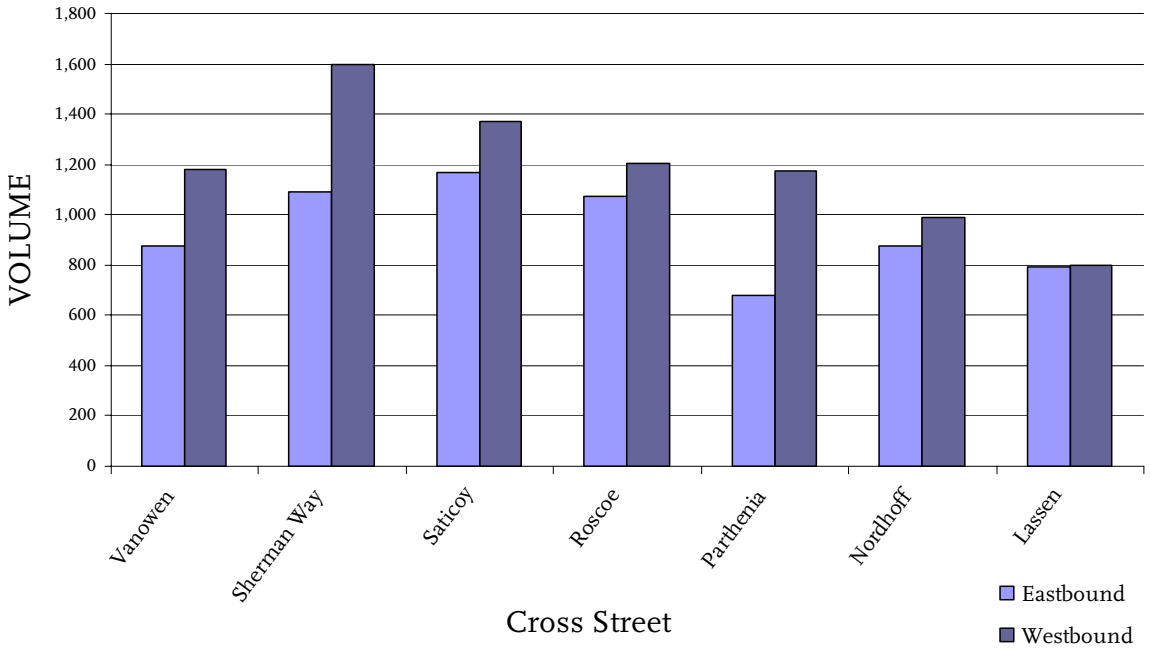
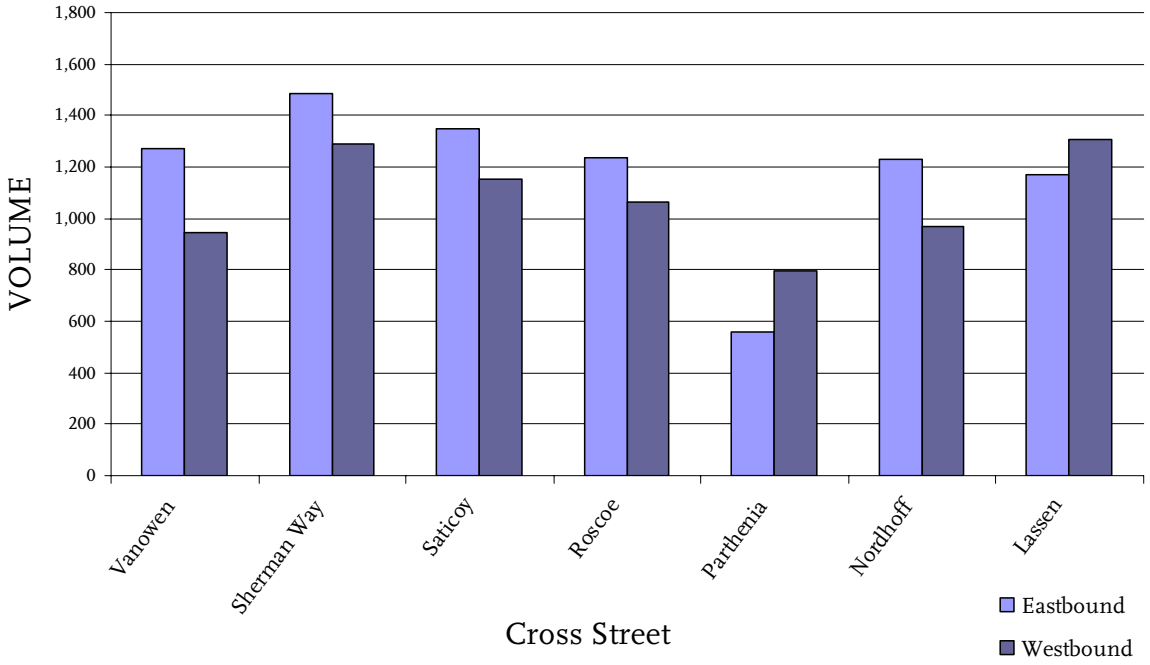
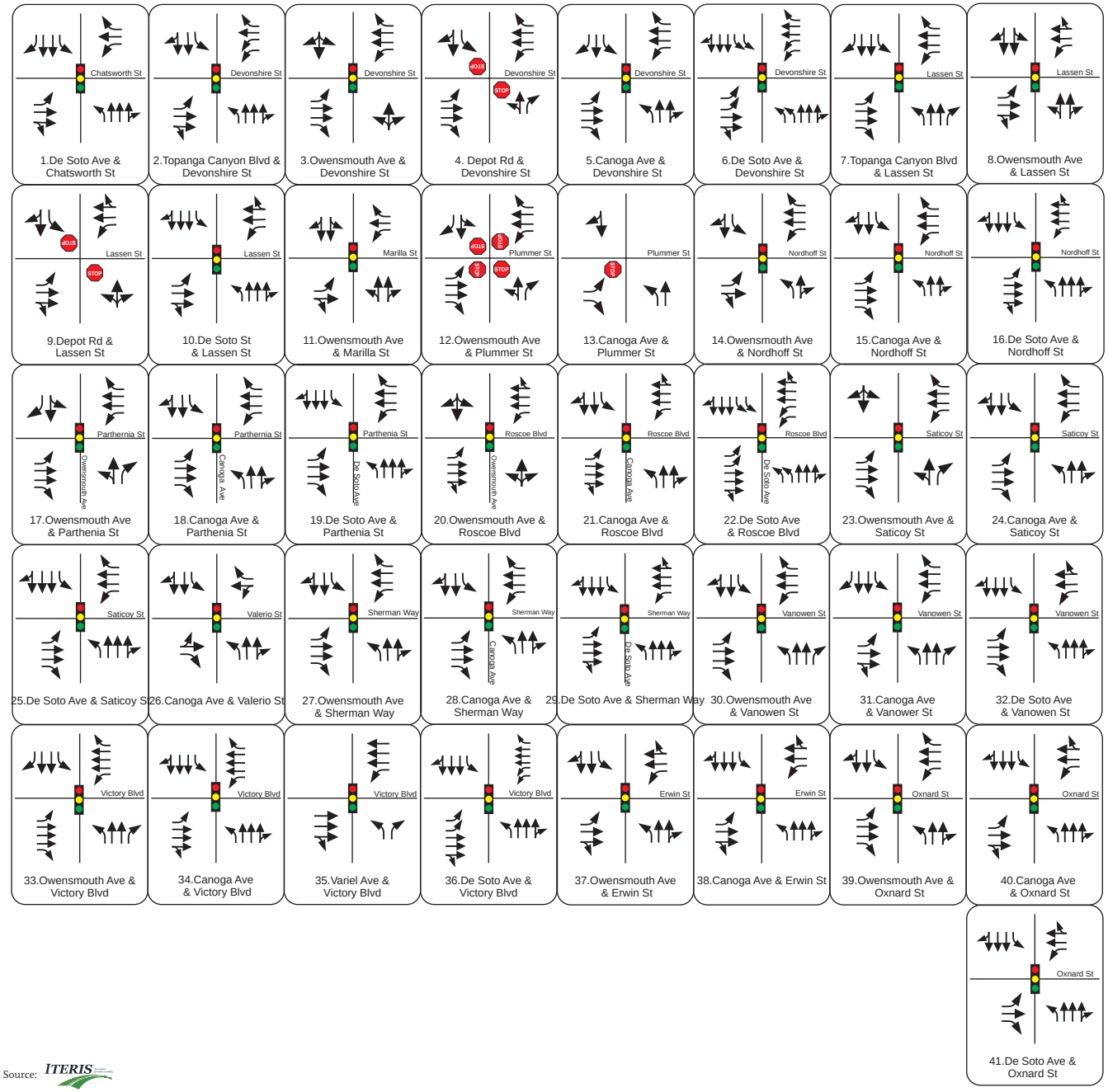
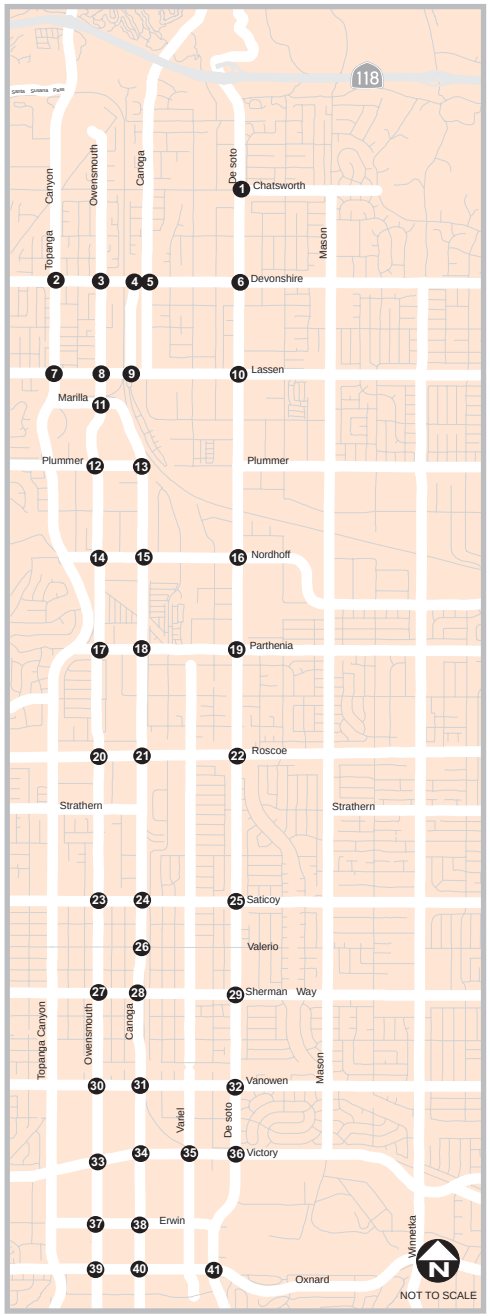



**Figure 4.7-2 Afternoon Peak Hour Cross Street Volumes**




Source: Iteris, 2007




Source: ITERIS



Figure 4.7-3
Study Area and Intersection Configurations

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Detailed AM and PM peak period turning movement ground counts were conducted at the existing study intersections during the month of October, 2007. Current conditions at each study intersection were analyzed using the Operational Analysis Methodology of the 2000 Highway Capacity Manual (HCM). The Operations Analysis Methodology results in a rating of conditions at an intersection based on the average number of seconds of delay experienced by motorists traveling through the intersection. Level of service (LOS) ranges from Level A, free flow conditions, to Level F (jammed conditions), with Level E representing capacity. Detailed signal timing and phasing information was obtained from LADOT and used as inputs to the intersection analysis. **Table 4.7-4** presents a brief description of each LOS letter grade, as well as the range of delays associated with each grade.

The results of the intersection operating conditions analysis, with levels of service and average delay for each peak period, are included in **Appendix D**. The majority of the study intersections along the Canoga corridor are currently operating at relatively good levels of service, as compared to some of the other corridors in the Valley. Among the 41 existing study intersections, 17 are presently operating at acceptable LOS D or better and 14 intersections are currently operating at LOS E or F during the morning and/or evening peak periods, as listed in **Table 4.7-5**. **Figure 4.7-4** illustrates the locations of the intersections operating at LOS E or F. Most are concentrated along De Soto Avenue and Topanga Canyon Boulevard.

The signalized intersections along Canoga Avenue that could be affected by the Canoga On-Street Dedicated Bus Lanes Alternative or the Busway Alternative are mostly operated as two-phase signals, with one phase for north-south traffic and one phase for east-west traffic. Left and right turn movements are made concurrently with the through phases, without "protected" turn phases.

**Table 4.7-4 Level of Service Definitions**

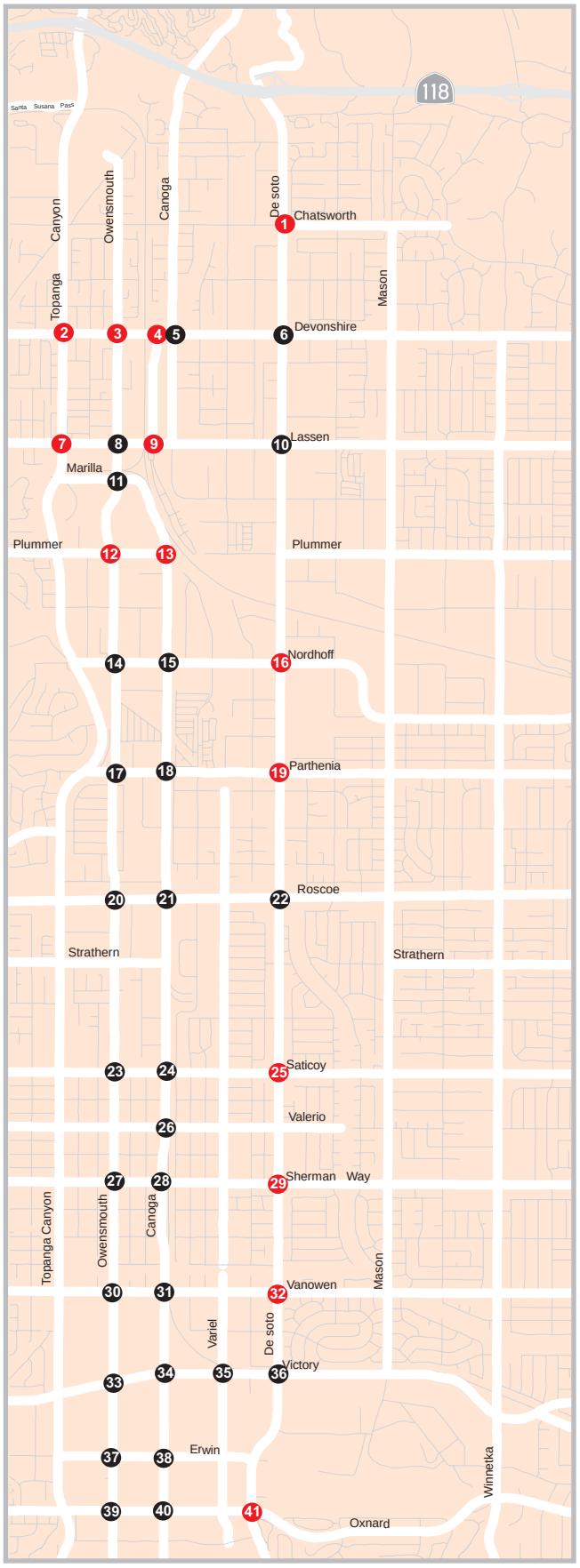
| Level of Service | Description | Signalized Intersection Delay (seconds per vehicle) | Unsignalized Intersection Delay (seconds per vehicle) |
|---|---|---|---|
| A | Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation. | $\leq$ 10 | $\leq$ 10 |
| B | Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form. | >10 and $\leq$ 20 | >10 and $\leq$ 15 |
| C | Good operation. Occasionally drivers may have to wait more than 60 seconds, and back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted. | >20 and $\leq$ 35 | >15 and $\leq$ 25 |
| D | Fair operation. Vehicles are sometimes required to wait more than 60 seconds during short peaks. There are no long-standing traffic queues. | >35 and $\leq$ 55 | >25 and $\leq$ 35 |
| E | Poor operation. Some long-standing vehicular queues develop on critical approaches to intersections. Delays may be up to several minutes. | >55 and $\leq$ 80 | >35 and $\leq$ 50 |
| F | Forced flow. Represents jammed conditions. Backups form locations downstream or on the cross street may restrict or prevent movement of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop and go type traffic flow. | > 80 | > 50 |

Source: *Highway Capacity Manual*, Special Report 209, Transportation Research Board, Washington, D.C., 2000.

**Table 4.7-5: Level of Service Analysis – Existing Conditions (2007)**

| Intersection | Control | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|---|
| | | Delay | V/C | LOS | Delay | V/C | LOS |
| 1. Chatsworth St & De Soto Ave | S | 59.3 | 1.153 | **E** | 49.3 | 1.037 | D |
| 2. Devonshire St & Topanga Canyon Blvd | S | 102.3 | 1.082 | **F** | 52.7 | 1.072 | D |
| 3. Devonshire St & Owensmouth Ave | S | 53.8 | 1.218 | D | 57.8 | 1.187 | **E** |
| 4. Devonshire St & Old Depot Plaza Rd | TWSC | 236.3 | 0.000 | **F** | 44.0 | 0.000 | **E** |
| 5. Devonshire St & Canoga Ave | S | 16.3 | 0.599 | B | 16.2 | 0.541 | B |
| 6. Devonshire St & De Soto Ave | S | 40.7 | 0.950 | D | 35.7 | 0.891 | D |
| 7. Lassen St & Topanga Canyon Blvd | S | 135.8 | 1.296 | **F** | 84.5 | 1.138 | **F** |
| 8 Lassen St & Owensmouth Ave | S | 20.1 | 0.927 | C | 45.9 | 1.133 | D |
| 9. Lassen St & Old Depot Plaza Rd | TWSC | 30.2 | 0.000 | D | 555.6 | 0.000 | **F** |
| 10.Lassen St & De Soto Ave | S | 22.0 | 0.976 | C | 19.4 | 1.063 | B |
| 11. Marilla St & Owensmouth Ave | S | 12.1 | 0.741 | B | 17.8 | 0.871 | B |
| 12. Plummer St & Owensmouth Ave | AWSC | 15.1 | 0.640 | C | 91.3 | 1.342 | **F** |
| 13. Plummer St & Canoga Ave | TWSC | 20.7 | 0.000 | C | 284.4 | 0.000 | **F** |
| 14. Nordhoff St & Owensmouth Ave | S | 10.9 | 0.693 | B | 22.8 | 0.962 | C |
| 15. Nordhoff St & Canoga Ave | S | 21.4 | 1.043 | C | 13.7 | 0.749 | B |
| 16. Nordhoff St & De Soto Ave | S | 97.0 | 0.935 | **F** | 55.0 | 1.078 | D |
| 17. Parthenia St & Owensmouth Ave | S | 10.2 | 0.522 | B | 9.8 | 0.362 | A |
| 18. Parthenia St & Canoga Ave | S | 15.3 | 0.776 | B | 12.3 | 0.685 | B |
| 19. Parthenia St & De Soto Ave | S | 57.2 | 1.346 | **E** | 14.4 | 0.861 | B |
| 20. Roscoe Blvd & Owensmouth Ave | S | 19.9 | 0.710 | B | 19.3 | 0.707 | B |
| 21. Roscoe Blvd & Canoga Ave | S | 15.1 | 0.859 | B | 16.0 | 0.913 | B |
| 22. Roscoe Blvd & De Soto Ave | S | 30.8 | 0.874 | C | 30.4 | 0.911 | C |
| 23. Saticoy St & Owensmouth Ave | S | 15.1 | 0.917 | B | 20.5 | 0.926 | C |
| 24. Saticoy St & Canoga Ave | S | 15.7 | 0.860 | B | 22.3 | 0.985 | C |
| 25. Saticoy St & De Soto Ave | S | 63.2 | 0.993 | **E** | 78.0 | 1.024 | **E** |
| 26. Valerio St. & Canoga Ave. | S | 10.2 | 0.720 | B | 6.1 | 0.519 | A |
| 27. Sherman Way & Owensmouth Ave | S | 20.3 | 0.938 | C | 16.0 | 0.690 | B |
| 28. Sherman Way & Canoga Ave | S | 32.0 | 1.047 | C | 29.7 | 0.979 | C |
| 29. Sherman Way & De Soto Ave | S | 36.8 | 0.979 | D | 59.8 | 1.156 | **E** |
| 30. Vanowen St & Owensmouth Ave | S | 11.0 | 0.699 | B | 13.7 | 0.936 | B |
| 31. Vanowen St & Canoga Ave | S | 21.8 | 0.794 | C | 24.4 | 0.958 | C |
| 32 Vanowen St & De Soto Ave | S | 35.7 | 0.934 | D | 69.1 | 1.271 | **E** |
| 33. Victory Blvd & Owensmouth Ave | S | 30.1 | 0.792 | C | 30.8 | 0.709 | C |
| 34. Victory Blvd & Canoga Ave | S | 36.5 | 0.981 | D | 44.6 | 1.073 | D |
| 35. Victory Blvd & Variel Ave | S | 16.0 | 0.452 | B | 18.9 | 0.783 | B |
| 36. Victory Blvd & De Soto Ave | S | 36.7 | 0.971 | D | 35.3 | 1.003 | D |
| 37. Erwin St & Owensmouth Ave | S | 11.7 | 0.487 | B | 11.5 | 0.516 | B |
| 38. Erwin St & Canoga Ave | S | 12.8 | 0.532 | B | 17.6 | 0.890 | B |
| 39. Oxnard St & Owensmouth Ave | S | 12.2 | 0.595 | B | 12.8 | 0.662 | B |
| 40. Oxnard St & Canoga Ave | S | 16.1 | 0.628 | B | 26.7 | 1.020 | C |
| 41. Oxnard & De Soto Ave | S | 77.5 | 1.811 | **E** | 18.0 | 0.695 | B |

Source: Iteris, 2007
Notes: S=Signalized Intersection; TWSC=Two-way Stop Controlled; AWSC=All-way stop controlled
LOS is related to average vehicle delay for signalized and AWSC intersections; LOS for TWSC intersections is related to the worst approach delay.




**Legend**

- # Study Intersection
- # Study Intersection Operating at LOS E or F during at least one peak hour

Source: ITERIS

NOT TO SCALE



Figure 4.7-4
Existing (2007) Intersection Level of Service

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## Parking Facilities

There are two existing park-and-ride facilities in the Study Area: Metro Orange Line (MOL) Canoga Station and the Chatsworth Metrolink Station. **Table 4.7-6** and **Table 4.7-7** summarize the existing parking supply and demand at the Canoga MOL Station and the Chatsworth Metrolink Station, respectively.

**Table 4.7-6 Existing Canoga Park-and-Ride Utilization**

| TIME | Reg. | ♿ | Total | U |
|---|---|---|---|---|
| **Spaces** | **587** | **21** | **608** | |
| **7:00 AM** | 82 | 3 | 85 | 14% |
| **8:00 AM** | 129 | 5 | 134 | 22% |
| **9:00 AM** | 129 | 4 | 133 | 22% |
| **4:00 PM** | 140 | 5 | 145 | 24% |
| **5:00 PM** | 124 | 5 | 129 | 21% |
| **6:00 PM** | 121 | 4 | 125 | 21% |

Notes: Source: Iteris, 2007
U=utilization
Parking survey performed on October 25, 2007

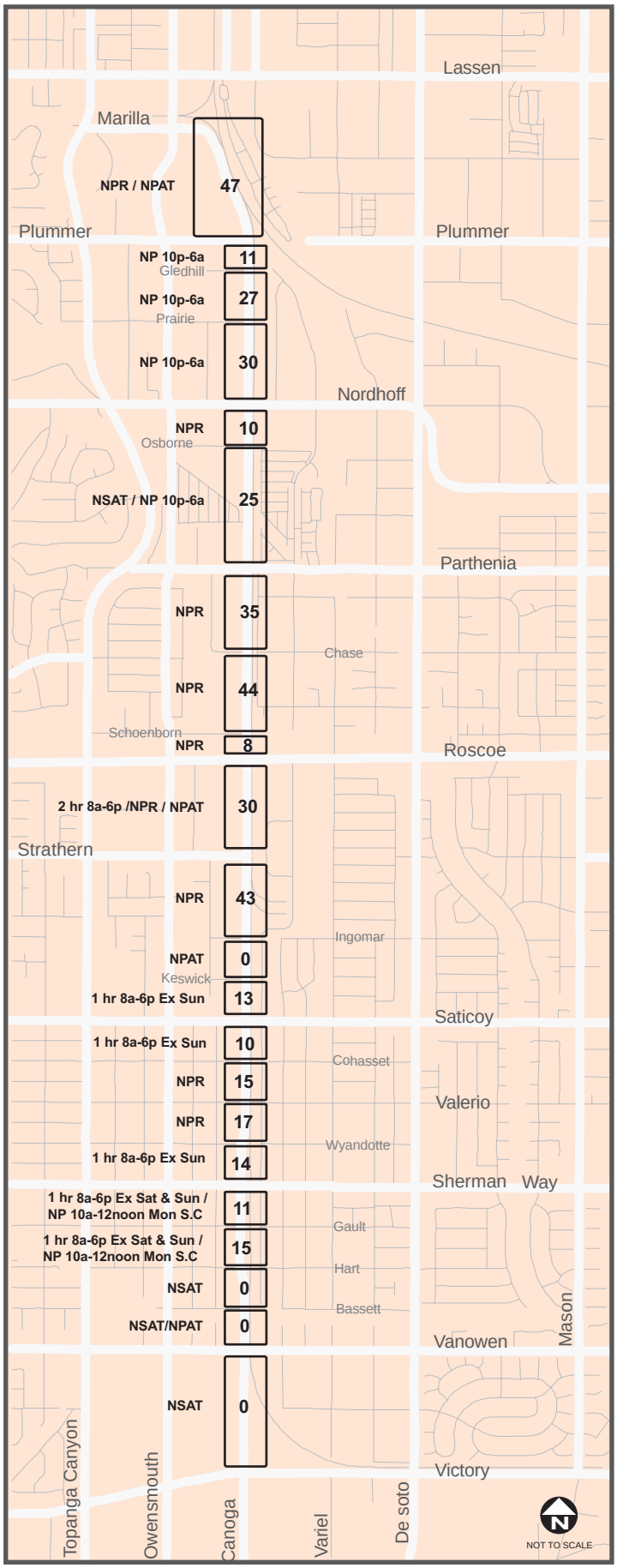
**Table 4.7-7 Existing Chatsworth Metrolink Station Park-and-Ride Utilization**

| TIME | Parking Lot No.1 NORTH | | | | Parking Lot No.2 SOUTH | | | | | Total | U |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Reg. | ♿ | Reserved | 15 Minutes | Reg. | ♿ | District 12 Council | Reserved | Electric Vehicle | | |
| **Spaces** | **194** | **6** | **5** | **5** | **257** | **4** | **4** | **3** | **2** | **480** | |
| **7:00 AM** | 84 | 6 | 0 | 0 | 102 | 2 | 0 | 0 | 0 | 194 | 40% |
| **8:00 AM** | 114 | 6 | 0 | 0 | 139 | 2 | 0 | 0 | 0 | 261 | 54% |
| **9:00 AM** | 115 | 6 | 0 | 0 | 138 | 2 | 0 | 0 | 0 | 261 | 54% |
| **4:00 PM** | 122 | 2 | 4 | 0 | 167 | 3 | 0 | 1 | 0 | 299 | 62% |
| **5:00 PM** | 116 | 2 | 2 | 0 | 111 | 3 | 0 | 0 | 0 | 234 | 49% |
| **6:00 PM** | 109 | 2 | 1 | 0 | 108 | 2 | 0 | 0 | 0 | 222 | 46% |

Notes: Source: Iteris, 2007
U=utilization
Parking survey performed on October 25, 2007

A parking survey was conducted to determine the level of utilization at both park-and-ride lots. The survey was conducted on a weekday, under good weather conditions. As seen on **Table 4.7-6,** utilization of the MOL Canoga park-and-ride lot does not exceed 22% during a normal weekday. As seen on **Table 4.7-7**, utilization of the Chatsworth Metrolink Station park-and-ride lot does not exceed 62% during a normal weekday. Both park-and-ride lots are able to accommodate a substantial amount of new riders.

On-street parking is provided along the west side of Canoga Avenue, between Hart Street and Marilla Street. As illustrated in **Figure 4.7-5,** there are approximately 406 un-marked parking spaces along Canoga Avenue. A parking survey was conducted along the west side of Canoga Avenue to determine the level of utilization of these spaces. The survey was conducted on a weekday, under good weather conditions.




**Legend**

NSAT No Stopping Any Time
NPAT No Parking Any Time
NPR No Parking Restrictions
NP No Parking
[#] Approximate Number of Parking Spaces

Source: ITERIS



**Figure 4.7-5**
**Canoga Avenue On-Street Parking Supply**

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**Table 4.7-8** summarizes the results of the on-street parking survey. Generally, the on-street parking is most heavily utilized in the southern section of Canoga Avenue around Sherman Way during the midday peak period. As seen on **Table 4.7-8**, even during the highest parking demand hours, at least 58% of the overall on-street parking supply along Canoga Avenue is available.

No parking is permitted along the east side of Canoga Avenue, south of Plummer Street. North of Plummer, where there is no curb along the east side of the street, parking is permitted on the dirt shoulder. Near the intersection with Marilla Street, there are frequently large trucks parked on the shoulder of the roadway. The results of a vehicle classification parking count conducted at this location are summarized in **Table 4.7-9**. The survey revealed that all the nighttime parking activity along Canoga Avenue near Marilla Street consists of trucks.

### Existing Transit Services

Metro transit service throughout the western San Fernando Valley is primarily comprised of local bus routes, 12 of these being east-west alignments and the other three being north-south alignments, with one local circulator (Route 645) also operating in the area. In addition, three of the east-west locals have a limited-stop service (lines 353, 363 and 364 on Roscoe Boulevard, Sherman Way and Nordhoff Street respectively). A Metro Rapid Bus line operates along Ventura Boulevard between Warner Center and Universal City while the MOL operates on its own ROW between North Hollywood and Warner Center.

Other public transit operators serving western San Fernando with bus service include:

- Antelope Valley Transit Authority (AVTA) with one commuter express route 787 linking Lancaster/Palmdale with the western San Fernando Valley
- Santa Clarita Transit with two Commuter Express services (Routes 791 and 796)
- Simi Valley Transit Local Route C
- LADOT DASH with two routes serving Warner Center and one linking Northridge and Chatsworth
- LADOT Commuter Express buses to/from Thousand Oaks and Simi Valley and downtown LA/USC serving the western San Fernando Valley.

A Metrolink commuter rail line crosses the western San Fernando Valley on its way to/from Ventura County and Union Station in downtown Los Angeles with a stop at the Chatsworth Metrolink Station. There are 20 daily Metrolink trains on the Ventura Metrolink route. Amtrak also provides service on the tracks through the study area, with 10 daily trains stopping at the Chatsworth Metrolink Station. In addition, there are about six daily freight trains using the same rail lines.

The Metro bus service network has been established in a grid pattern with most of the routes focused on east-west alignments, with a smaller number of north-south lines in the western San Fernando Valley (see Existing Transit Network). Despite the fact that the bus network covers all major arterials, bus service is not provided evenly throughout the western San Fernando Valley (see **Table 4.7-10** ).

## Table 4.7-8 Existing Canoga Avenue On-Street Parking Utilization

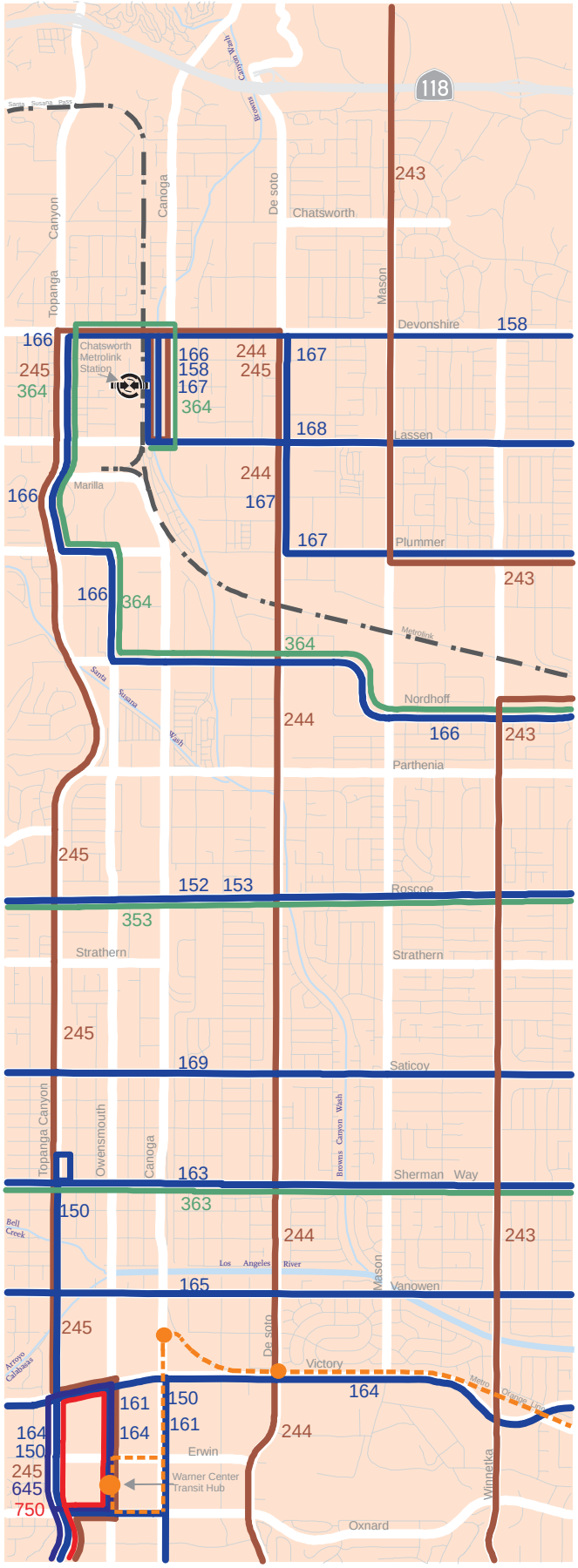
| between | and | approx. # of spaces | 7:00 AM | U | 8:00 AM | U | 9:00 AM | U | 11:00 AM | U | 12:00 PM | U | 1:00 PM | U | 4:00 PM | U | 5:00 PM | U | 6:00 PM | U |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Victory Blvd | Vanowen St | 0 | 0 | - | 0 | - | 0 | - | 3 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - |
| Vanowen St | Bassett St | 0 | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - |
| Bassett St | Hart St | 0 | 1 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - |
| Hart St | Gault St | 15 | 2 | 14% | 7 | 48% | 6 | 41% | 8 | 55% | 10 | 69% | 9 | 62% | 4 | 27% | 9 | 62% | 8 | 55% |
| Gault St | Sherman Way | 11 | 1 | 9% | 8 | 71% | 7 | 62% | 10 | 89% | 8 | 71% | 8 | 71% | 8 | 71% | 7 | 62% | 7 | 62% |
| Sherman Way | Wyandotte St | 14 | 1 | 7% | 2 | 15% | 2 | 15% | 7 | 51% | 11 | 80% | 11 | 80% | 12 | 87% | 7 | 51% | 7 | 51% |
| Wyandotte St | Valerio St | 17 | 11 | 66% | 10 | 60% | 10 | 60% | 12 | 72% | 12 | 72% | 12 | 72% | 12 | 72% | 11 | 66% | 10 | 60% |
| Valerio St | Cohasset St | 15 | 0 | 0% | 3 | 20% | 3 | 20% | 4 | 26% | 4 | 26% | 4 | 26% | 5 | 33% | 3 | 20% | 3 | 20% |
| Cohasset St | Saticoy St | 10 | 0 | 0% | 3 | 29% | 3 | 29% | 0 | 0% | 0 | 0% | 0 | 0% | 2 | 19% | 1 | 10% | 1 | 10% |
| Saticoy St | Keswick St | 16 | 5 | 31% | 4 | 25% | 4 | 25% | 15 | 94% | 10 | 63% | 10 | 63% | 4 | 25% | 1 | 6% | 1 | 6% |
| Keswick St | Ingomar St | 0 | 0 | - | 1 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - |
| Ingomar St | Strathern St | 43 | 4 | 9% | 13 | 31% | 14 | 33% | 14 | 33% | 14 | 33% | 14 | 33% | 8 | 19% | 9 | 21% | 8 | 19% |
| Strathern St | Roscoe Blvd | 30 | 11 | 37% | 11 | 37% | 11 | 37% | 14 | 47% | 14 | 47% | 14 | 47% | 7 | 23% | 10 | 33% | 9 | 30% |
| Roscoe Blvd | Schoenborn St | 8 | 0 | 0% | 0 | 0% | 0 | 0% | 1 | 13% | 1 | 13% | 1 | 13% | 1 | 13% | 1 | 13% | 1 | 13% |
| Schoenborn St | Chase St | 44 | 19 | 43% | 23 | 53% | 24 | 55% | 25 | 57% | 24 | 55% | 24 | 55% | 16 | 37% | 18 | 41% | 17 | 39% |
| Chase St | Parthenia St | 35 | 13 | 38% | 11 | 32% | 10 | 29% | 10 | 29% | 7 | 20% | 7 | 20% | 7 | 20% | 7 | 20% | 7 | 20% |
| Parthenia St | Osborne St | 25 | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% |
| Osborne St | Nordoff St | 10 | 1 | 10% | 2 | 19% | 3 | 29% | 4 | 38% | 5 | 48% | 4 | 38% | 1 | 10% | 3 | 29% | 1 | 10% |
| Nordoff St | Prairie St | 30 | 5 | 17% | 5 | 17% | 5 | 17% | 3 | 10% | 2 | 7% | 3 | 10% | 3 | 10% | 3 | 10% | 3 | 10% |
| Prairie St | Gledhill St | 27 | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% |
| Gledhill St | Plummer St | 11 | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% |
| Plummer St | Marilla St | 47 | 37 | 79% | 35 | 75% | 36 | 77% | 39 | 83% | 39 | 83% | 39 | 83% | 25 | 53% | 10 | 21% | 11 | 24% |
| **Totals** | | **406** | **111** | **27%** | **138** | **34%** | **138** | **34%** | **169** | **42%** | **161** | **40%** | **160** | **39%** | **115** | **28%** | **100** | **25%** | **94** | **23%** |

Notes: These are estimations based on aerial photography and are intended only for discussion of ROM parking impacts. Each un-marked on-street parking space is assumed to occupy approximately 24 ft.; U=utilization

## Table 4.7-9 Truck Parking Activity along Northernmost Segment of Canoga Avenue

| Street Side | Truck Type | 7:00 AM | T | 8:00 AM | T | 9:00 AM | T | 11:00 AM | T | 12:00 PM | T | 1:00 PM | T | 4:00 PM | T | 5:00 PM | T | 6:00 PM | T |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East Side | 2 Axles | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |
| | 3 Axles | 0 | | 1 | | 1 | | 1 | | 0 | | 0 | | 1 | | 1 | | 1 | |
| | 4 Axles | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |
| | 5+ Axles | 7 | | 4 | | 5 | | 6 | | 7 | | 9 | | 10 | | 8 | | 9 | |
| West Side | 2 Axles | 0 | | 0 | | 0 | | 0 | | 1 | | 0 | | 0 | | 0 | | 0 | |
| | 3 Axles | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |
| | 4 Axles | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |
| | 5+ Axles | 1 | | 1 | | 1 | | 0 | | 0 | | 1 | | 1 | | 1 | | 1 | |
| **Total** | | **8** | **22%** | **6** | **17%** | **7** | **19%** | **7** | **18%** | **8** | **21%** | **10** | **26%** | **12** | **48%** | **10** | **100%** | **11** | **100%** |

T=trucks as a percentage of the total number of vehicles




**Legend**

- East/West Local Service
- North/South Local Service
- Metro Rapid
- Limited Stop Service
- Special Service
- Metrolink & Metrolink Stations
- Metro Orange Line
- Existing Stations (Metro Orange Line)

NOT TO SCALE

Source: Metro



**Figure 4.7-6**
**Existing Transit Service**

G:\USERS\2007\J07-1643 Northern Canoga Extension - Orangeline\gra

## Table 4.7-10 Existing Transit Service

| | Route Number | Route | Span of Service (in hours) | | | Approximate Trunk Headway (in minutes) | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Weekday | Saturday | Sunday/ Holiday | Weekday | | Saturday | Sunday/ Holiday |
| | | | | | | Peak | Off-peak | Base | Base |
| 10 Minutes or Better | 150 | Warner Center - Ventura Bl. - Universal City Local | 24 | 24 | 24 | 8 - 20 | 30 | 20 | 15 |
| | 750 | Warner Center - Ventura Bl. - Universal City Metro Rapid | 17 | 17 | 17 | 6 - 10 | 20 | 15 | 12 |
| | 901 | Metro Orange Line | 20 | 20 | 20 | 5 - 6 | 10 | 11 | 11 |
| | 161 | Thousand Oaks - Warner Center | 14 | 13 | 13 | 10 - 30 | 55 - 60 | 30 | 60 |
| | 163 | Sherman Way | 19 | 18 | 17 | 8 - 10 | 10 - 15 | 12 | 20 |
| | 164 | Victory Bl. | 18 | 17 | 16 | 6 - 10 | 20 | 25 | 30 |
| | 165 | Vanowen St. | 17 | 16 | 15 | 6 - 10 | 20 | 25 | 30 |
| | 166 | Nordhoff St. Local | 17 | 15 | 14 | 5 - 12 | 12 - 24 | 15 | 30 |
| | 364 | Nordhoff St. Limited | 6 | - | - | 8 - 10 | - | - | - |
| | 167 | Plummer St. | 18 | 18 | 18 | 8 - 35 | 50 | 60 | 60 |
| | 244 | De Soto Av. | 16 | 13 | - | 5 - 20 | 50 | 50 | - |
| | LADOT Commuter Express 422 | LA Downtown - Thousand Oaks Reverse Commute | 8 | - | - | 6 - 30 | - | - | - |
| | LADOT DASH | Warner Center North | 12 | 9 | - | 10 | 20 | 20 | - |
| | LADOT DASH | Warner Center South | 12 | 9 | - | 8 | 15 | 15 | - |
| 11 to 30 Minutes | 152 | Fallbrook - Roscoe - Glenoaks - Vineland | 19 | 18 | 17 | 12 - 25 | 25 | 30 | 30 |
| | 153 | Fallbrook - Roscoe - Sun Valley - Vineland | 9 | - | - | 15 - 40 | - | - | - |
| | 158 | Devonshire St. | 15 | 14 | 13 | 12 | 20 | 13 | 20 |
| | 243 | Winnetka Av. | 14 | 13 | - | 20 - 30 | 50 | 45 | - |
| | 245 | Topanga Canyon Blvd. | 20 | 19 | 18 | 15 - 30 | 50 | 50 | 60 |
| | 353 | Roscoe Bl. Limited | 6 | - | - | 20 - 30 | - | - | - |
| | 363 | Sherman Way Limited | 7 | - | - | 25 - 30 | - | - | - |
| | 645 | Mulholland Dr. - Valley Circle Bl. | 13 | - | - | 20 - 40 | 60 | - | - |
| | LADOT Commuter Express 419 | Chatsworth - LA Downtown | 7 | - | - | 15 - 90 | - | - | - |
| | LADOT Commuter Express 423 | Thousand Oaks - LA Downtown | 4 | - | - | 14 - 60 | - | - | - |
| | Antelope Valley Transit Authority 787 | Lancaster/Palmdale - West San Fernando Valley | 6 | - | - | 15 - 30 | - | - | - |
| | Santa Clarita Transit 791 | West San Fernando Valley - Santa Clarita | 5 | - | - | 22 - 82 | - | - | - |
| | Santa Clarita Transit 796 | Santa Clarita - West San Fernando Valley | 5 | - | - | 25 - 80 | - | - | - |
| 31 to 60 Minutes | LADOT DASH | Northridge - Chatsworth | 7 | - | - | 31 - 58 | - | - | - |
| | LADOT Commuter Express 575 | Simi Valley - Chatsworth - Warner Center | 3.5 | - | - | 35 - 70 | - | - | - |
| | 168 | Chatsworth - Lassen St. | 7 | - | - | 60 | - | - | - |
| | 169 | Saticoy St. | 15 | - | - | 60 | 60 | - | - |
| 61 and above Minutes | Simi Valley Transit Route C | Simi Valley - Chatsworth | 13 | 13 | - | 70 | 70 | 14 | - |

Source: Operator schedules as at August 2007

As summarized in **Table 4.7-10**, local routes have varying service hours and varying service frequencies. The table also shows that routes providing more service (5-10 minute headways) are those along Sherman Way, Victory Boulevard, Vanowen Street, Nordhoff Street, De Soto Avenue and Plummer Street as well as the MOL and Metro Rapid and local service on Ventura Boulevard. The Warner Center DASH routes and reverse Commuter Express Route 422 operated by LADOT also have high service levels.

The second highest service frequency (11 - 30 minutes) is provided on bus routes that provide service throughout the Western San Fernando Valley, with service in both north-south (Winnetka, Topanga Canyon Boulevard) and east-west (Fallbrook-Roscoe, Devonshire). LADOT commuter expresses from Chatsworth (Route 419) and Thousand Oaks (Route 423) and Antelope Valley Transit Authority and Santa Clarita Commuter Express Routes 787, 791 and 796 respectively all fall within this category, as does the Metro Mulholland Drive – Valley Center circulator Route 645 on the western edge of the Study Area.

The lowest frequency service (more than 30 minute headways) is found on the Metro Lassen and Saticoy local services as well as the LADOT Northridge – Chatsworth DASH and Route 573 Commuter Express from Simi Valley, as well as the local Simi Valley – Chatsworth service (route D).

An analysis of the Service Frequency of Existing Transit Service in AM Peak, Midday, PM Peak periods (see Figures **4.7-7, 4.7-8** and **4.7-9** respectively) shows greatest service levels on the Metro Orange Line, Ventura Metro Rapid and local services on east-west alignments of Victory Boulevard, Vanowen Street, Sherman Way, Roscoe Boulevard and Nordhoff Street. Highest service frequencies on north-south alignment are on Fallbrook Avenue (extension of Roscoe) and De Soto Avenue. Midday frequency in general has lower service levels across all corridors.

**Figure 4.7-10** illustrates the ridership per stop for the transit lines that operate in the study area. MOL ridership has been growing steadily since its opening in 2005. **Figure 4.7-11** illustrates the average weekday ridership on the MOL, which has grown to over 25,000 boardings per day. Monthly boardings are higher in the summer time than winter. Daily boardings and alightings at the Canoga Station of the MOL total close to 1,000 on a weekday and over 500 on weekends as shown in **Table 4.7-11**.

**Table 4.7-11 Metro Orange Line Boardings & Alightings at Canoga Station**

| | Eastbound | | Westbound | | Total | |
|---|---|---|---|---|---|---|
| | Ons | Offs | Ons | Offs | Ons | Offs |
| **Weekday** | 423 | 23 | 21 | 522 | 444 | 545 |
| **Saturday** | 301 | 9 | 14 | 337 | 315 | 346 |
| **Sunday** | 250 | 9 | 18 | 275 | 268 | 284 |

Source: Metro July '06 – June '07 data


**Legend**

- Metro Bus System
- Freeway
- Major Street
- Metro Orange Line
- Metro Station
- Metrolink Line
- Metrolink Station

**AM Peak**

- 10 minutes or less
- 11 - 15 minutes
- 16 - 30 minutes
- 31 minutes and above

*Source:* **TMD**



**Figure 4.7-7**
**Service Frequency on Existing Routes AM Peak Period**

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**Legend**

- Metro Bus System
- Freeway
- Major Street
- Metro Orange Line
- Metro Station
- Metrolink Line
- Metrolink Station

**Midday**

- 10 minutes or less
- 11 - 15 minutes
- 16 - 30 minutes
- 31 minutes and above
- Route Does Not Operate

*Source:* **TMD**



**Figure 4.7-8**
**Service Frequency on Existing Routes Midday Peak Period**

G:\USERS\2007\07-1643 Northern Canoga Extension - Orangeline\gra


**Legend**

- Metro Bus System
- Freeway
- Major Street
- Metro Orange Line
- Metro Station
- Metrolink Line
- Metrolink Station

**PM Peak**

- 10 minutes or less
- 11 - 15 minutes
- 16 - 30 minutes
- 31 minutes and above

*Source:* **TMD**



**Figure 4.7-9**
**Service Frequency on Existing Routes PM Peak Period**

G:\USERS\2007\07-1643 Northern Canoga Extension - Orangeline\gra


**Legend**

- Metro Bus System
- Freeway
- Major Street

**Metro Orange Line**

- Line
- Station

**Metrolink**

- Metrolink Line
- Metrolink Station

| | All Intersections | Orange Line Station | Daily Ons/Offs |
|---|---|---|---|
| ON | | | 1,000 |
| OFF | | | |
| ON | | | 500 |
| OFF | | | |
| ON | | | 250 |
| OFF | | | |

Source: TMD



**Figure 4.7-10**
**Study Area Transit Ridership**

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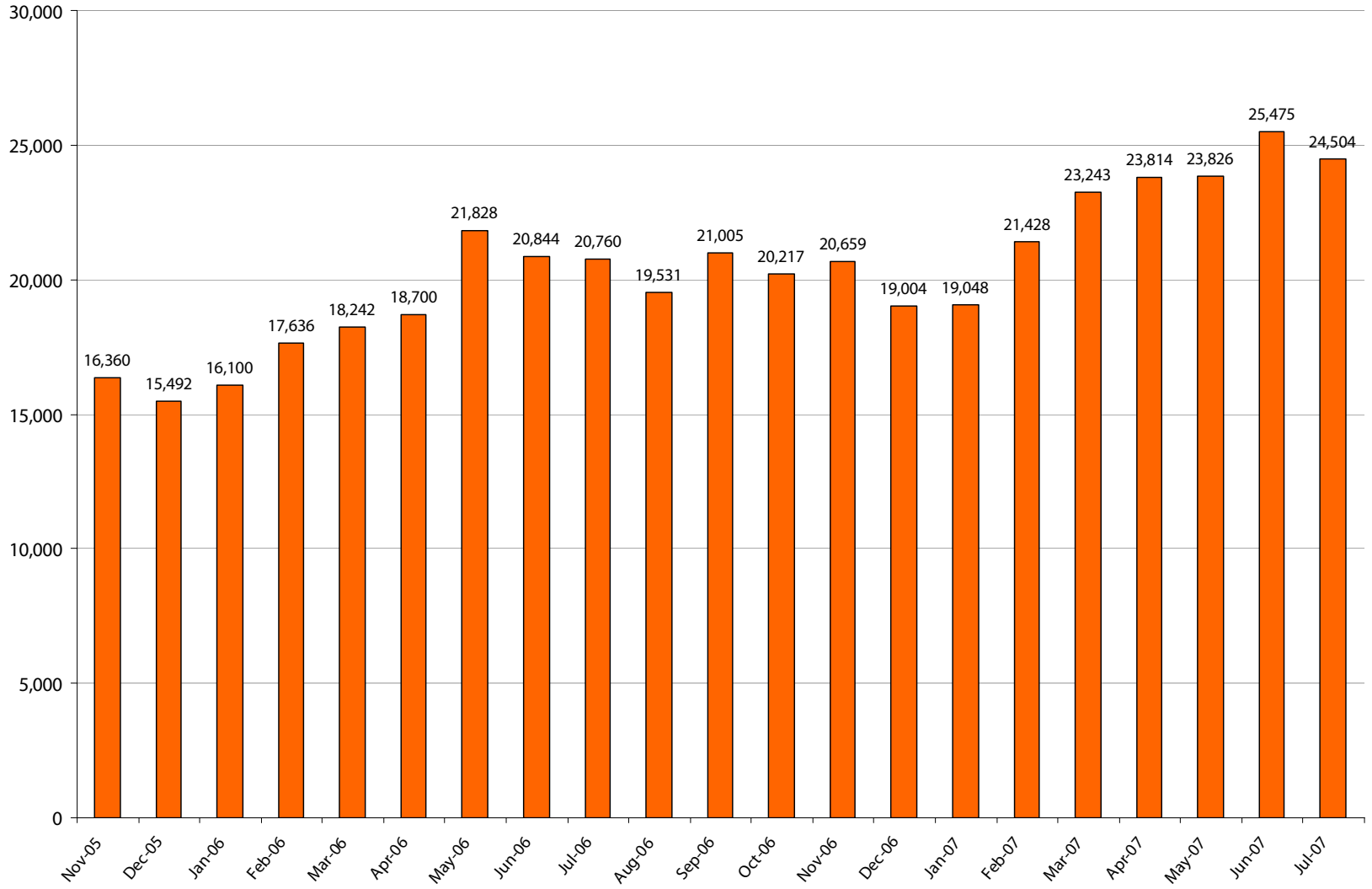
## Figure 4.7-11 MOL Ridership Patterns




Source: Metro, 2007

## Bicycle and Pedestrian Access

Bicycle facilities are described by the type of bicycle environment they provide. Class I bicycle paths are separate facilities from roadways, where bicyclists have a dedicated pathway on which to ride. Class II bikeways include striped bicycle lanes on a roadway with adjacent travel lanes for vehicles. Class III facilities are bicycle routes designated solely with signage, where bicyclists share the travel way with vehicles. Commuter Bikeways are intended to provide some of the benefits of a Class II facility (during peak travel periods) while limiting parking prohibitions to the morning and evening peak hour, in order to encourage the use of key roadways as commuter facilities for bicyclists. The City's Bicycle Plan, a portion of the Transportation Element, designates the following bikeways within the study area:

- Class II Bikeway
  - Topanga Canyon Boulevard between Santa Susana Pass Road and Mulholland Drive
  - Winnetka Avenue between Devonshire Street and Ventura Boulevard
  - Devonshire Street between Topanga Canyon Boulevard and Woodman Avenue

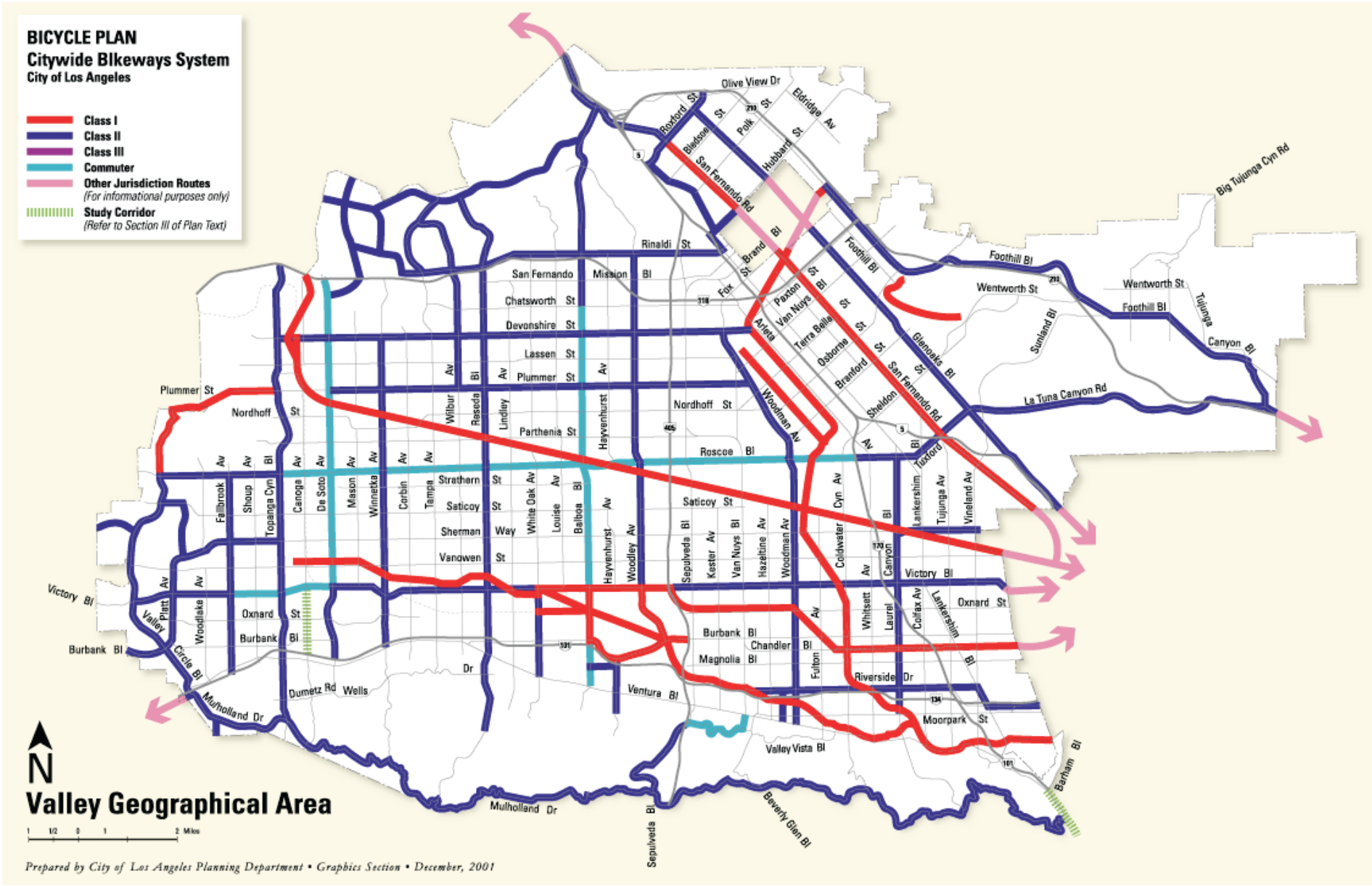
- Commuter Bikeway
  - De Soto Avenue between Rinaldi Street and Victory Boulevard
  - Roscoe Boulevard between Topanga Canyon Boulevard and Balboa Boulevard

The City of Los Angeles Bicycle Plan is currently being updated. A Class I bicycle path was implemented as part of the Metro Orange Line extending across the San Fernando Valley from North Hollywood to Warner Center. This facility is maintained by LADOT and will be added to the Bicycle Plan as part of this update. The plan will seek to identify connections to the bikeway along the Metro Orange Line. **Figure 4.7-12** illustrates the current City of Los Angeles Bicycle Master Plan.

In June 2006, Metro adopted the Metro Bicycle Strategic Plan to replace the earlier 1996 sub-regional bicycle master plans in Los Angeles County. Metro's 2006 regional plan shifted the focus from arterial bikeways to a strategy using bicycles with transit to fully utilize and enhance the regional transit system. The Northern Extension of the Metro Orange Line was not included in the Strategic Plan, but the Plan did propose consideration of bike-transit hubs at stations along the Metro Orange Line and at Metrolink stations, including the Chatsworth Metrolink Station. If the Northern Extension of the Metro Orange Line had been an approved project at the time of the development of the Strategic Plan, it is likely that the stations along the extension would have been listed as candidate sites for bike-transit hubs.

The combined elements of the streetscape can make a street a more pleasant place to be, particularly for pedestrians and cyclists, who are unshielded from the environment by an enclosed vehicle. Because transit trips typically include some travel by foot or bicycle, a pleasant streetscape can improve the attractiveness of transit use along a given corridor.

The north-south arterial streets of the San Fernando Valley are varied in urban design detail and do not have a common streetscape quality. Most arterial streets have few trees, sidewalks are narrow and/or in poor condition, have few amenities for transit users, and signage is geared towards the motorist instead of the pedestrian or cyclist. Today, Canoga Avenue and the adjoining Metro ROW have limited urban design elements and amenities for potential transit uses. The ROW has minimal street trees and few sidewalks. However, several cross-streets have tree-lined sidewalks and some recent and proposed developments near Warner Center have transit-supportive uses.




Source: City of Los Angeles - General Plan Framework

NOT TO SCALE



Figure 4.7-12
City of Los Angeles Bicycle Plan (San Fernando Valley)

G:\USERS\2007\J07-1643 Northern Canoga Extension - Orangeline\gra

## 4.8.2 REGULATORY FRAMEWORK

Transportation planning for Los Angeles County at the regional level is the responsibility of the Southern California Association of Governments (SCAG) which is the designated Metropolitan Planning Organization (MPO) for the six-county region, including Los Angeles, Ventura, Orange, San Bernardino, Riverside, and Imperial counties. Under federal law, SCAG must prepare a Regional Transportation Plan (RTP). The RTP demonstrates how the region will meet federal mandates, particularly air quality requirements, and must be approved by federal agencies in order to continue receiving federal transportation funds. Only projects and programs included in the RTP are eligible for federal funding. Metro, as the state-designated regional transportation planning and programming agency for Los Angeles County, submits recommended projects and programs to SCAG for inclusion in the RTP. Metro proactively identifies the transportation needs and challenges that Los Angeles County will face over the next 25 years through the development of its Long Range Transportation Plan (LRTP). The Plan helps decision-makers understand the options that are available for improving the transportation system, and how different options contribute toward improving mobility. The adopted LRTP becomes the blueprint for implementing future transportation improvements in Los Angeles County. For a project to be implementable, it must be identified in the LRTP and have a certified EIR. The *2001 LRTP for Los Angeles County,* prepared by Metro, is currently undergoing an update. The current plan includes recommendations for a Baseline Plan that includes projects already approved by the Metro Board, a Constrained Plan that includes projects that can be funded with funds available by allocation over the next twenty-five years, and a Strategic Plan that includes high priority projects that would be funded if more revenue became available. A high-capacity north-south transit service in the western San Fernando Valley is included in the Constrained Plan without the identification of a specific route. The LRTP identifies the Canoga Transportation Corridor as a Baseline project.

## 4.8.3 IMPACTS AND MITIGATION MEASURES

### Traffic Forecast Methodology

Traffic conditions for the horizon year of 2030 were forecast and evaluated for the No Project Alternative and for each of the project alternatives. The No Project Alternative, in effect, represents the projected horizon year traffic volumes in the study area in the absence of any improvements along the Canoga Transportation Corridor.

Traffic volume forecasts for 2030 No Project conditions and each of the project alternatives were developed using the Metro travel demand forecast model. The model was updated, refined, and re-calibrated specifically for this study to 2007 conditions and then used to forecast travel characteristics in 2030.

The No Project transit network reflects the transit service levels anticipated by Metro to exist in 2030, without the Canoga Transportation Corridor project.

To estimate the more localized traffic impacts associated with each project alternative, intersection traffic volume projections for each scenario were developed using the following process:

1. Development of future traffic volumes reflecting 2000-2030 background traffic growth, and changes due to auto trip reduction and other shifts in traffic as a direct result of the Canoga Transportation Corridor service.

2. Development of additional peak hour auto access trips to stations related to park-and-ride and kiss-and-ride (drop-off) trips.

3. Development of additional BRT vehicle volumes at intersections along the corridor using the assumed BRT headways for each project alternative.

The above process was employed because the projected 2030 vehicle trips produced directly by the highway assignment module of the Metro Model do not explicitly include neither the transit vehicles themselves nor the auto portion of transit-access (park-and-ride or kiss-and-ride) trips. Use of this methodology, allowed for a "true" impact analysis, which reflects both macro-level reductions and/or shifts in background traffic due to the transit service, as well as the micro-level additional local impacts created by station-access traffic and additional buses.

To develop Future No Project traffic volumes for the first step, a growth-factoring process was used. Traffic growth factors were calculated for the study area arterials by comparing traffic volume results from the Metro Model for the No Project and for each of the project alternatives. These results included AM and PM peak link volumes at key intersections along the Canoga Transportation Corridor for the base year 2007 and forecast year 2030.

Due to a lack of significant difference in traffic growth patterns between the project alternatives and the No Project Alternative, the traffic volumes (but not the distributions) for each build alternative were assumed to be the same as the No Project Alternative. This results in a conservative estimation of future traffic conditions since no reduction in background traffic is assumed as a result of auto drivers changing mode to transit only. The traffic along the study area intersections is anticipated to grow by 24-25 percent during both the AM and PM peaks. The growth rates were 1.04 and 1.08 per year for the AM and PM peak hours, respectively. These growth factors were then applied to the existing 2007 traffic counts to develop future background (base) volumes at each of the study intersections for all alternatives. Detailed results of the growth factors for the study area can be found in **Appendix D** of this report.

In the second step of the forecasting process, the projected base intersection volumes for each of the two BRT alternatives were adjusted by adding the station access auto traffic, which includes park-and-ride auto traffic and bus and shuttle traffic consisting of feeder and line haul buses. The estimated vehicle trip generation for each of the project alternatives is described in more detail in the subsequent sections, which discuss the impacts of each alternative. The estimated trip distributions were developed based on the location of the transportation system and the most likely routes to the stations and were reviewed and adjusted for local conditions through observations of traffic patterns and volumes.

## Significance Criteria

*Intersections*

Intersection capacity analyses were performed for the forty-one critical intersections within the Canoga Transportation Corridor study area for No-Project conditions and for each of the project alternatives. The threshold to determine when a project impact is significant, adopted by Metro, is as follows:

> "An intersection is considered to be significantly affected if project traffic is projected to cause deterioration in level of service to E and/or worse, or results in an increase in the average vehicle delay of 5.0 seconds or more at an intersection projected to operate at LOS E or worse under No Project conditions."

This impact threshold was developed for use with the Highway Capacity Manual (HCM) operations analysis methodology, which is based on average delay at intersections, rather than the change in volume-to-capacity (V/C) ratio, which is typically used by LADOT for development project traffic impact studies. The delay-based methodology was the preferable approach for this type of project to reflect the impact of traffic operations changes, such as additional clearance time or signal phases at intersections, due to the BRT operation, rather than just the changes in traffic volumes.

The seconds of delay in the impact threshold criteria were derived from the relative change in the V/C ratio from the comparable Critical Movement Analysis (CMA) methodology thresholds. That is, the traditional impact threshold of 0.02 change in V/C at LOS E (which has a range of V/C's of 0.10) is 20 percent of the range for that LOS. This is equivalent to the 5.0 second change at LOS E (which has a 25 second range, from 55 to 80 seconds) using the 2000 HCM methodology as shown in **Table 4.7-12.**

**Table 4.7-12 LOS Criteria for Signalized Intersections**

| Level of Service | Signalized Intersection Delay Per Vehicle (sec) |
|---|---|
| A | ≤10 |
| B | > 10 and ≤ 20 |
| C | > 20 and ≤ 35 |
| D | > 35 and ≤ 55 |
| E | > 55 and ≤ 80 |
| F | > 80 |

Source: 2000 Highway Capacity Manual.

This methodology is used to evaluate the impacts of project-related traffic, as well as the effects of transit operations on signalized and unsignalized intersections. Mitigation of impacts based on these guidelines (e.g. reduction of delay by 5.0 seconds or more) would likely require traffic signal modifications and/or physical improvements, such as additional through or turn lanes at intersections, new traffic signals and possible road widenings.

*Parking*

Loss of existing off-street parking spaces would be considered a significant impact if the spaces had been consistently utilized to meet the parking demands of nearby land uses or transportation systems and if there were no nearby alternate off-street parking spaces available to accommodate the displaced parking demand. Similarly, permanent loss of existing on-street parking spaces would be considered a significant impact if the spaces had been consistently utilized to meet the parking demands of nearby land uses and if there were no nearby alternate off-street or on-street parking spaces available to accommodate the displaced parking demand.

## Discussion of General Impacts

The implementation of the Canoga Extension of the MOL would affect local traffic conditions in the Canoga Transportation Corridor study area in several ways. Localized increases in traffic along the corridor and near the station areas, especially those with parking or bus loading/unloading facilities, or those expected to be major points for access by park-and-ride patrons could be anticipated. These increases in traffic volumes could have an effect on traffic flow at critical intersections within the corridor and actions may be needed to mitigate these potential impacts. For the Canoga Busway Alternative, implementation of off-set BRT crossings at cross-streets would require the modification of existing signals along Canoga Avenue, potentially increasing average vehicle delays at those locations. Finally, the transit priority system expected to be implemented along the east-west corridor could result in some impacts in terms of additional delays to motorists using streets which cross the corridor.

The operation of a Canoga Extension of the MOL could impact traffic and circulation along the corridor due to circulation issues resulting from cross traffic conflicts with the at-grade operation of the BRT (BRT Alternatives only). This evaluation considers the following issues related to the interface of the transit alternatives with surface street traffic:

- number of at-grade arterials that intersect the BRT corridor
- transit vehicle conflicts with mixed-flow traffic
- magnitude of traffic at station area and park-and-ride facilities
- transit priority treatment at signalized intersections
- bus interface/access and issues relating to station access for parking

*At-Grade Major and Secondary Arterial Crossings with BRT*

The impacts associated with the BRT alternatives are directly associated with the number of at-grade crossings and the level of delay caused by traffic signal priority given to the transit corridor facility while diminishing the cross traffic efficiency.

The Canoga Transportation Corridor crosses a total of seven major and secondary arterials, and a few collector and residential streets along its path. The Canoga Busway would operate within the Metro-owned ROW that generally parallels Canoga Avenue and other north-south arterials such as Topanga Canyon Boulevard and De Soto Avenue, and therefore would not directly impact traffic along these arterials. However, the Canoga Busway would affect east-west cross streets, necessitating special treatment and coordination of the signalization system along the route.

The Canoga On-Street Dedicated Bus Lanes Alternative would not use the entire ROW along Canoga Avenue. Instead only a portion of the ROW would be used to widen Canoga Avenue to provide the on-street dedicated bus lanes. This would eliminate off-set BRT crossings at cross-streets since the bus lanes would be within the Canoga/Cross Street signalized intersections, not adjacent to them. The buses running on Canoga Avenue would also take advantage of the transit signal priority system.

The partial traffic signal prioritization proposed for the Canoga Transportation Corridor may possibly increase delay for motorists crossing the corridor on the cross streets. Such impacts and delays can be minimized using the latest signal timing/synchronization technologies and vehicle detection capabilities; nonetheless, it would still result in increased delays from vehicles unable to clear an intersection due to the shorter signal phase for cross traffic movement. This would especially be the case for locations where new traffic signals would be installed, and places where left and right turns across the busway from parallel streets would be controlled by separate signal phases in the future. The coordination of signals at closely spaced intervals between a parallel street and the transit corridor would also take on additional complexities that would need to be addressed. These specific impacts are quantified in this chapter.

*Transit Vehicle Conflicts with Mixed-flow Traffic*

This category of potential impacts deals with the interface of the Canoga Transportation Corridor's transit vehicles or buses relative to vehicular traffic, including trucks, if and when the BRT buses would be sharing the road with mixed-flow traffic. All BRT alternatives provide rapid transit service primarily along an exclusive ROW, but in mixed-flow traffic along Oxnard and Erwin and Owensmouth Avenue in Warner Center. Consequently, its impacts relative to mixed traffic along the east-west arterials would be kept to a minimum.

*Transit Priority Treatment at Signalized Intersections*

Priority treatment of buses at intersections holds the potential for reducing a significant source of delay in bus operations. This is accomplished through preferential bus signal priority, which in effect keeps buses from being delayed in general traffic, while helping maintain bus schedules. However, such an operational mechanism may negatively affect cross street traffic movement. See Chapter 3 for a description of transit priority at signalized intersections.

LADOT currently has the necessary hardware and software to implement a transit priority treatment at signalized intersection to address this issue. The use of loop detectors embedded in the pavement in advance of traffic signals, or newly emerging visual recognition technologies placed above intersections on signal mastarms, would now allow traffic signal controllers to detect a bus as a distinct object separate from a car or truck. This allows the signal processor sufficient warning to adjust the signal phases on cross streets so that the bus may receive a green indication when it reaches the cross street. In certain cases this would occur by lengthening the green phase for the busway and the parallel street, and other cases it may occur by shortening the green phase on the east/west streets.

The proper placement of advance detection devices would avoid abrupt changes in a signal cycle, (e.g., the green phase not truncated prior to a minimum specified time). It is important to locate the detectors far enough in advance of the cross street, so that the bus traveling at a planned speed would arrive at the cross street and expect a green signal indication. However, it may not be feasible in

every instance to provide the same level of priority treatment for buses traveling in both directions, especially if headways become too short.

The bus signals and adjacent intersections would have to be integrated to create one consolidated signalized intersection that would control both automobiles and buses and accommodate transit priority treatment. New signals need to be installed where the transit signal may be off-set from the nearest traffic signal by more than 85 ft. This would constitute a separate signal that would be interconnected to the adjacent traffic signal.

In the case of the Canoga Busway Alternative, buses would receive a green signal indication simultaneously with Canoga Avenue. The stop bar for traffic approaching the transit crossing would be located before the transit crossing so that there would not be any traffic stopped between the busway and the adjacent street's traffic signals. Turn movements from the adjacent east/west street would also require separate signal phases with red arrows to reduce the potential for left or right turns across the busway when a transit vehicle is moving in conjunction with the through traffic on the parallel arterial. Consideration would be given to the use of pre-signals and queue cutters to prevent traffic from stopping on or blocking the busway.

*Access to Stations*

To assess potential traffic impacts around stations, it was necessary to first determine the number of persons and their mode of access to each station, so this could be converted to auto trips in station areas. Existing mode of access information was obtained from Metro for the Metro Orange Line to assist in validating model forecasts. In general, the majority of patrons on a busway reach the busway stations via transit (i.e., transfer to the busway service) or walk to the facility.

**Table 4.7-13** summarizes the mode of access characteristics of the project. The park-and-ride capacity also influences the mode split. Park-and-ride capacity and demand are discussed in a later section of this chapter. For the TSM Alternative, 96 percent of the patrons arrive via transit or walking modes, with 4 percent via automobile. For the Canoga On-Street Dedicated Bus Lanes Alternative, 90 percent of the patrons arrive via transit or walking modes, and 10 percent via automobile. For the Canoga Busway Alternative, the same percentages hold, but the absolute numbers of trips are increased due to the higher riders.

**Table 4.7-13 Mode of Access Description**

| | Daily | Mode of Access | | Auto Split | |
|---|---|---|---|---|---|
| Alternatives | Ridership (at new stations only) | Transit/Walk/ Other | Auto | PNR[1] | KNR[2] |
| Canoga On-Street Dedicated Bus Lanes | 7,985 | 7,187 | 799 | 368 | 158 |
| Canoga Busway | 8,200 | 7,380 | 820 | 381 | 163 |

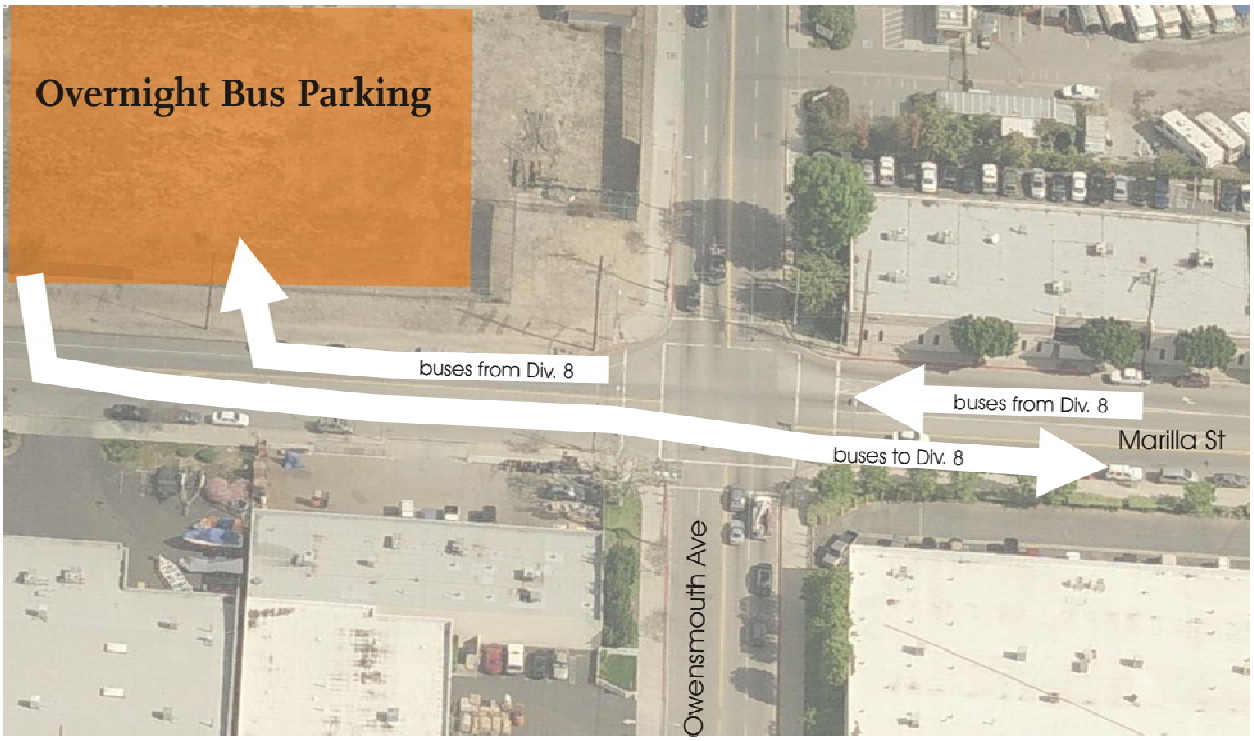
Source: Iteris, Inc, 2007
1: Park-and-Ride; 2: Kiss-and-Ride

It is expected that the streets intersecting the BRT route at stations with parking would be more affected (in terms of traffic entering and exiting from parking facilities) than those without parking facilities. These impacts are discussed subsequently in this chapter.

*Access to the Overnight Parking Facility*

As discussed in Chapter 3 Project Description, buses would be maintained at Metro's Division 8 facility in Chatsworth. Due to existing space constraints at Division 8, an off-site overnight parking facility would be provided at the Metro-owned lot in the northwest corner of Marilla Street and Owensmouth Avenue. Access to the facility would be provided on Marilla Street. **Figure 4.7-13** illustrates the access points and egress/ingress routes for the facility. Since buses would be coming in and out of the facility during off-peak hours, no significant traffic impacts are foreseen.

**Figure 4.7-13 Off-Site Overnight Parking Facility Access**




Source: Iteris, 2007

**Impact 4.7.1 The proposed project would have a beneficial impact on Valley-wide mobility indicators. Bus boardings, daily transit trips and boardings, and the overall transit mode share would increase; vehicle miles traveled and daily vehicle trips would be reduced.**

The first two columns in **Table 4.7-14** compare mobility statistics for 2005 and 2030 No Project conditions. This comparison highlights the growth in travel and the resultant change in mobility conditions that are expected to take place by 2030. Valley-wide transit trips are expected to increase. This would result in a decrease in overall valley-wide travel mileage, as represented by vehicle miles of travel (VMT).

**Table 4.7-14 Comparison of Valley-Wide Transportation Imdicators (RSA 12 and 13)**

| *Statistics* | Base 2000 | 2030 No Project Compared to 2000 Base | TSM Compared to No Project | Canoga On-Street Dedicated Bus Lanes Compared to No Project | Canoga Busway Compared to No Project |
|---|---|---|---|---|---|
| Daily Person Trips | 58,986,071 | 77,301,301 | 77,301,301 | 77,301,301 | 77,301,301 |
| % Difference | | 18,315,230 | 0 | 0 | 0 |
| Daily Transit Trips | 1,407,961 | 1,648,195 | 1,649,440 | 1,657,138 | 1,657,218 |
| Difference | | 240,234 | 1,245 | 8,943 | 9,023 |
| % Difference | | 17% | 0.08% | 0.54% | 0.55% |
| Daily Transit Boardings | 2,297,225 | 2,639,199 | 2,640,019 | 2,658,520 | 2,658,842 |
| Difference | | 341,974 | 820 | 19,321 | 19,643 |
| % Difference | | 14.89% | 0.03% | 0.73% | 0.74% |
| Daily Bus Boardings | 2,263,656 | 2,568,228 | 2,569,019 | 2,573,746 | 2,573,881 |
| Difference | | 304,572 | 791 | 5,518 | 5,653 |
| % Difference | | 13.45% | 0.03% | 0.21% | 0.22% |
| Total Transit Mode Share | 2.39% | 2.13% | 2.13% | 2.14% | 2.14% |
| % Difference | | -0.25% | 0.002% | 0.012% | 0.012% |
| Daily Vehicle Trips | 2,933,344 | 3,510,867 | 3,510,160 | 3,506,886 | 3,506,862 |
| Difference | | 577,523 | -707 | -3,981 | -4,005 |
| % Difference | | 20% | -0.020% | -0.11% | -0.11% |
| Daily Auto VMT | 23,545,355 | 30,837,332 | 30,833,837 | 30,816,278 | 30,794,421 |
| Difference | | 7,291,977 | -3,495 | -21,054 | -42,911 |
| % Difference | | 31% | -0.01% | -0.07% | -0.14% |

Source: Iteris, 2007

From a Valley-wide perspective, with over 1.6 million daily transit trips, the differences in ridership between these alternatives are relatively small.

## Alternative 1. No Project

Alternative 1 results represent the No Project conditions to which all other Alternatives are compared.

## Alternative 2. TSM

Enhancements in bus service in the TSM Alternative are expected to result in an increase of 1,245 transit trips per day (0.08 percent) over the No Project Alternative. Unlike "transit trips", "transit boardings" also account for transfers between transit modes. The projected total Valley-wide transit boardings follow a similar trend to transit trips and result in a 0.03 percent increase in transit boardings over the No Project Alternative. The TSM Alternative would add 791 bus boardings (0.03 percent increase) over the No Project Alternative. The TSM Alternative transit mode split is forecast to be 2.13 percent. The implementation of enhanced transit service shifts some trips from the auto mode to transit. The actual number of reduced vehicle trips for the TSM Alternative is 707. VMT is a measure of the total amount of travel in miles, as it includes the total mileage traveled by all vehicles on the entire highway system during a certain period. A decrease in VMT indicates a decrease in total number and/or overall length of trips, which translate into lower emissions. The TSM Alternative experiences a small change (0.01 percent) in VMT compared to the No Project Alterntive.

## Alternative 3. Canoga On-Street Dedicated Bus Lanes

The Canoga On-Street Dedicated Bus Lanes Alternative would add 8,943 daily transit trips (0.54 percent). Unlike "transit trips", "transit boardings" also account for transfers between transit modes. The projected total valley-wide transit boardings follow a similar trend to transit trips and result in 0.73 percent increase in transit boardings over the No Project Alternative. The Canoga On-Street Dedicated Bus Lanes Alternative would add 5,518 bus boardings (0.21 percent increase) over the No Project Alternative. The Canoga On-Street Dedicated Bus Lanes Alternative transit mode split is forecast to be 2.14 percent. The implementation of enhanced transit service shifts some trips from the auto mode to transit. The actual number of reduced vehicle trips for the Canoga On-Street Dedicated Bus Lanes Alternative is 3,981. The Canoga On-Street Dedicated Bus Lanes Alternative experiences a small change (0.07 percent) in VMT compared to the No Project Alternative.

## Alternative 4. Canoga Busway

Results from the Canoga Busway Alternative analysis show that daily transit ridership is projected to be about 9,023 trips more than the No Project Alternative. Unlike "transit trips", "transit boardings" also account for transfers between transit modes. The projected total valley-wide transit boardings follow a similar trend to transit trips and result in 0.74 percent increase in transit boardings over the No Project Alternative. The Canoga Busway Alternative would add 5,653 bus boardings (0.22 percent increase) over the No Project Alternative. The Canoga Busway Alternative transit mode split is forecast to be 2.14 percent. The implementation of enhanced transit service shifts some trips from the auto mode to transit. The actual number of reduced vehicle trips for the Canoga Busway Alternative is 4,005. The Canoga Busway Alternative experiences a small change (0.14 percent) in VMT compared to the No Project Alternative.

***Mitigation Measures:*** None required.

***Level of Significance After Mitigation:*** Beneficial Impact.

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**Impact 4.7.2 The proposed project would have a beneficial impact on study area mobility indicators. Both vehicle miles traveled (VMT) and vehicle hours traveled (VHT) would decrease.**

The above figures were all comparisons of the Valley-wide statistics. The degradation of study area-wide mobility indicators between 2000 and 2030 is slightly less severe compared to the entire Valley. VMT would increase by 21 percent and VHT by nearly 33 percent, while travel speeds are expected to drop by 9 percent from an average of 34 miles per hour in 2000 to 31 miles per hour in 2030.

**Table 4.7-15** summarizes the more localized study area-wide impacts of the transit alternatives. Impacts of the alternatives are more pronounced in the Study Area compared to the Valley, and are more relevant to this impact analysis. These statistics highlight the overall beneficial effects of implementation of transit system improvements throughout the Study Area in general, and specifically a more focused transit service such as the BRT along the Canoga Transportation Corridor.

**Table 4.7-15 Statistics for Study Area**

| Valley Statistics | 2006 | 2030 No Project Compared to 2005 | Alternative 2 Compared to No Project | Alternative 3 Compared to No Project | Alternative 4 compared to No Project |
|---|---|---|---|---|---|
| Daily Auto VMT | 1,208,663 | 1,460,757 | 1,460,099 | 1,456,426 | 1,456,715 |
| Difference | | 252,094 | -658 | -4,331 | -4,042 |
| % Difference | | 21% | -0.05% | -0.30% | -0.28% |
| Daily Auto VHT | 35,938 | 47,746 | 47,727 | 47,529 | 47,586 |
| Difference | | 11,808 | -19 | -217 | -160 |
| % Difference | | 33% | -0.04% | -0.45% | -0.34% |
| Daily Average Speed | 34 | 31 | 31 | 31 | 31 |
| Difference | | -3 | 0 | -3 | -3 |
| % Difference | | -9% | -9% | -9% | -9% |

Source: Iteris, 2007

## Alternative 1. No Project

Alternative 1 represents the No Project conditions to which all other Alternatives are compared.

Alternative 2. TSM

VMT would decrease by 0.04 percent for the TSM Alternative. VHT statistics follow the same trend as VMT, with relatively small decreases (0.04). Average travel speeds in the study area are expected to remain the same with the TSM Alternative compared to the No Project Alternative.

Alternative 3. Canoga On-Street Dedicated Bus Lanes

VMT would decrease by 0.30 percent for the Canoga On-Street Dedicated Bus Lanes Alternative. VHT would decrease also by 0.45 percent. Average travel speeds in the study area are expected to remain the same as in the No Project Alternative.

Alternative 4. Canoga Busway

VMT would decrease by 0.28 percent for the Canoga Busway Alternative. VHT would decrease also by 0.34 percent. Average travel speeds in the study area are expected to remain the same as in the No Project Alternative.

***Mitigation Measures:*** None required.

***Level of Significance After Mitigation:*** Beneficial Impact.

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**Impact 4.7.3 Development of the proposed project would result in increased delays on local intersections. Some of the study intersections in the vicinity of the project site would experience a potentially significant increase in delay without mitigation. For Alternative 2, TSM one of the 41 study intersections would be significantly impacted before mitigation; five of the 41 study intersections would be significantly impacted before mitigations for Alternative 3, Canoga On-Street Dedicated Bus Lanes; and nine intersections would be significantly impacted before mitigations for Alternative 4, Canoga Busway. All of these impacts would be considered less than significant after mitigation for all alternatives.**

Alternative 1. No Project

The No Project Alternative presents projected operating conditions of study intersections in 2030 without the development of a transit project along the Canoga Transportation Corridor. The study assumed traffic signal operating specifications (cycle lengths, phases, etc.) to be generally the same as those of today. The growth factors (over 2007 conditions), as summarized above, were applied to existing peak hour turning movements at the study area intersections to develop estimated 2030 No-Build traffic volumes for AM and PM peak hours.

**Table 4.7-16** summarizes the results of these analyses. Results of intersection operating conditions for each of the alternatives, with LOS and average delay for each peak period, are included in **Appendix D**. Review of this table shows that 24 intersections are expected to operate at level of service (LOS) E or F during one or more peak hours. This compares to 14 intersections currently (2007 conditions) operating at LOS E or worse.

| Table 4.7-16 LOS E/F Intersections – No Project Alternative | | | | | | |
|---|---|---|---|---|---|---|
| | LOS E | | LOS F | | Decrease or Increase in Delay (Compared to Existing) | |
| Intersection | AM | PM | AM | PM | AM | PM |
| 1. Chatsworth St & De Soto Ave | | | X | X | 57.7 | 101.3 |
| 2. Devonshire St & Topanga Canyon Blvd | | | X | X | 85.4 | 83.4 |
| 3. Devonshire St & Owensmouth Ave | | | X | X | 35.2 | 32.7 |
| 4. Devonshire St & Old Depot Plaza Rd | | | X | X | -15.8 | 98.9 |
| 6. Devonshire St & De Soto Ave | X | | | X | 38.1 | 54.3 |
| 7. Lassen St & Topanga Canyon Blvd | | | X | X | 60.6 | 98.6 |
| 8 Lassen St & Owensmouth Ave | | | X | X | 77.7 | 142.3 |
| 9. Lassen St & Old Depot Plaza Rd | | | X | X | 44.2 | Overflow |
| 10.Lassen St & De Soto Ave | X | X | | | 38.3 | 47.7 |
| 12. Plummer St & Owensmouth Ave | | | | X | 8.7 | 66.2 |
| 13. Plummer St & Canoga Ave | | | | X | 6.6 | Overflow |
| 16. Nordhoff St & De Soto Ave | | | X | X | 57.5 | 91.8 |
| 19. Parthenia St & De Soto Ave | | | X | | 47.1 | 19.5 |
| 24. Saticoy St & Canoga Ave | | | | X | 29.2 | 61.2 |
| 25. Saticoy St & De Soto Ave | | | X | X | 88.7 | 108.4 |
| 27. Sherman Way & Owensmouth Ave | X | | | | 37.4 | 24.3 |
| 28. Sherman Way & Canoga Ave | X | | | X | 28.2 | 84.4 |
| 29. Sherman Way & De Soto Ave | | | X | X | 50.1 | 121.1 |
| 31. Vanowen St & Canoga Ave | | X | | | 12.8 | 30.7 |
| 32 Vanowen St & De Soto Ave | | | X | X | 66.3 | 98.5 |
| 34. Victory Blvd & Canoga Ave | | | X | X | 46.3 | 123.3 |
| 36. Victory Blvd & De Soto Ave | X | X | | | 23.4 | 38.5 |
| 40. Oxnard St & Canoga Ave | | X | | | 6.3 | 33.9 |
| 41. Oxnard & De Soto Ave | | | X | | 10.9 | 12.6 |

Source: Iteris, 2007

## Alternative 2. TSM

The TSM Alternative assumes an improved bus transit system throughout the Valley, mostly through increases in service frequency on existing bus lines and the implementation a new Metro Local bus route (246) on Canoga Avenue. In contrast to the BRT Alternative, this alternative does not have transit stations to which automobile trips are attracted in large numbers. Passengers using this improved bus service are assumed to access the buses through conventional bus stops and existing or unofficial park-and-ride facilities. Therefore, this alternative does not have the impacts of the additional station access vehicle trips. To develop traffic volume forecasts for this alternative, growth factors presented above for the No Project Alternative were used. Bus volumes from proposed Local Route 246 were added to the final intersection volumes of this alternative. Bus volumes in the peak hour were assumed to be 10 buses per hour per direction.

As seen on **Table 4.7-17**, 24 intersections are projected to operate at LOS E or worse during the peak hours. These are the same 24 intersections that operate at LOS E and F under the No Project Alternative. However, due to the addition of bus volumes from the new Local line 246, the intersection of Lassen Street & Owensmouth Avenue is expected to operate slightly worse than the No Project Alternative and there would be a significant impact according to the defined thresholds

above. It should be noted however, that the operation of typical bus transit service on existing streets by Metro would technically be categorically exempt from CEQA review. LOS results and calculation sheets are provided in **Appendix D**.

**Table 4.7-17 LOS E/F and Affected Intersections – TSM Alternative**

| | LOS E | | LOS F | | Decrease or Increase in Delay (Compared to No Build) | | IMPACT | |
|---|---|---|---|---|---|---|---|---|
| Intersection | AM | PM | AM | PM | AM | PM | AM | PM |
| 1. Chatsworth St & De Soto Ave | | | X | X | 0.0 | 0.0 | No | No |
| 2. Devonshire St & Topanga Canyon Blvd | | | X | X | 0.0 | 0.0 | No | No |
| 3. Devonshire St & Owensmouth Ave | | | X | X | 0.0 | 0.0 | No | No |
| 4. Devonshire St & Old Depot Plaza Rd | | | X | X | 0.0 | 0.0 | No | No |
| 6. Devonshire St & De Soto Ave | X | | | X | 0.0 | 0.0 | No | No |
| 7. Lassen St & Topanga Canyon Blvd | | | X | X | 0.0 | 0.0 | No | No |
| 8 Lassen St & Owensmouth Ave | | | X | X | 13.2 | 13.6 | **Yes** | **Yes** |
| 9. Lassen St & Old Depot Plaza Rd | X | | | X | -7.0 | Overflow | No | No |
| 10.Lassen St & De Soto Ave | X | X | | | 0.0 | 0.0 | No | No |
| 12. Plummer St & Owensmouth Ave | | | | X | 0.0 | 0.0 | No | No |
| 13. Plummer St & Canoga Ave | | | | X | 1.6 | Overflow | No | No |
| 16. Nordhoff St & De Soto Ave | | | X | X | 0.0 | 0.0 | No | No |
| 19. Parthenia St & De Soto Ave | | | X | | 0.0 | 0.0 | No | No |
| 24. Saticoy St & Canoga Ave | | | | X | 0.6 | 1.9 | No | No |
| 25. Saticoy St & De Soto Ave | | | X | X | 0.0 | 0.0 | No | No |
| 27. Sherman Way & Owensmouth Ave | X | | | | 0.0 | 0.0 | No | No |
| 28. Sherman Way & Canoga Ave | X | | | X | 4.8 | -0.4 | No | No |
| 29. Sherman Way & De Soto Ave | | | X | X | 0.0 | 0.0 | No | No |
| 31. Vanowen St & Canoga Ave | | X | | | 1.0 | 2.7 | No | No |
| 32 Vanowen St & De Soto Ave | | | X | X | 0.0 | 0.0 | No | No |
| 34. Victory Blvd & Canoga Ave | | | X | X | 3.0 | -3.7 | No | No |
| 36. Victory Blvd & De Soto Ave | X | X | | | 0.0 | 0.0 | No | No |
| 40. Oxnard St & Canoga Ave | | X | | | 0.5 | 0.7 | No | No |
| 41. Oxnard & De Soto Ave | | | X | | 0.0 | 0.0 | No | No |

Source: Iteris, 2007

Even though under CEQA, and according to the defined thresholds, the TSM Alternative would not have any impacts at the intersection of Lassen Street & Old Depot Plaza Road, the operation of Local line 246 would require this intersection to be signalized.

## Alternative 3. Canoga On-Street Dedicated Bus Lanes

As described in detail in the Project Description, this alternative assumes operation of buses within the dedicated lanes on Canoga Avenue between the Canoga MOL Station and the Chatsworth Metrolink Station. Bus volumes in the peak hour were assumed to be 20 buses per hour (three minute headways) per direction.

Auto access trips for the BRT stations with parking lots were developed from mode of access data derived from the Metro Model. Daily ridership, park-and-ride and kiss-and-ride trips were calculated

for each station and assigned to the roadway network. Daily trip generation for each station is summarized in **Table 4.7-18.** Note that the Canoga extension is not expected to add parking demand at the Canoga Station, beyond the growth in parking demand associated with the overall growth in MOL ridership between 2007 and 2030, because few people would be expected to park at the Canoga Station and take the Canoga BRT north to Chatsworth.

**Table 4.7-18 Auto Trip Generation – Canoga On-Street Dedicated Bus Lanes Alternative**

| Station Name | Canoga On-Street Dedicated Bus Lanes | | |
|---|---|---|---|
| | Total Peak Period Auto Access | Peak Hour Park-and-Ride | Peak Hour Kiss-and-Ride |
| Sherman Way | 141 | 37 | 32 |
| Roscoe | 72 | 0 | 55 |
| Nordhoff | 19 | 0 | 15 |
| Chatsworth | 158 | 42 | 36 |
| **Totals** | **390** | **79** | **138** |

Source: Iteris, 2007

As noted earlier, the growth factors that were developed for the No Project Alternative were also used for the other three alternatives. The station auto access trips are typically one of the potential causes of traffic impacts at nearby intersections.

Station access traffic was distributed to the roadway system for each station area based on travel demand model trip distribution characteristics and probable travel patterns based on major origin-destination patterns. The resulting station access traffic volume turning movements at study area intersections were added to the 2030 background traffic volumes.

Detailed discussions were held with Los Angeles Department of Transportation (LADOT) staff to identify the likely traffic signal operational characteristics and scenarios for the implementation of the Canoga On-Street Dedicated Bus Lanes Alternative. Based on these discussions, and directions from LADOT, specific cycle lengths were assumed at study intersections which are along Canoga Avenue where the dedicated lanes would be implemented. These modifications were made where necessary and assumed to be part of the project for the Canoga On-Street Dedicated Bus Lanes Alternative and are reflected in intersection LOS calculations.

As described in Section 3.0, the Canoga On-Street Dedicated Bus Lanes Alternative has three optional alignments for the northern portion of the route. The intersection traffic impacts associated with this alternative would be the same for all three options for the majority of the study intersections. The only differences would be seen in the intersections close to the southern entrance of the Chatsworth Metrolink Station. These are: Lassen Street & Owensmouth Avenue and Lassen Street & Old Depot Plaza Road. Northern Segment Option 1 would be used to discuss the overall traffic impacts and the differences between the Option 1 and the other options are discussed subsequently.

Northern Segment Option 1

**Table 4.7-19** summarizes the results of the intersection capacity analyses of study intersections for the Canoga On-Street Dedicated Bus Lanes Alternative, using the northern segment Option 1 circulation pattern. LOS E/F forms the basis for identification of intersections with unacceptable levels of service. LOS results and calculation sheets are provided in **Appendix D.**

For the Canoga On-Street Dedicated Bus Lanes Alternative Option 1, 24 intersections are projected to operate at LOS E or worse during the peak hours. Based on the significant impact criteria, the Canoga On-Street Dedicated Bus Lanes Alternative would have significant impacts under CEQA on five study intersections. Mitigation for these five intersections is discussed below.

Northern Segment Option 2

As described in Section 3.0, for Northern Segment Option 2 the dedicated bus lanes would intersect Lassen Street 200 ft west of the railroad tracks and buses would then turn right onto Lassen Street to reach the Chatsworth Metrolink Station. The traffic impacts of this option would be the same as for Option 1. LOS results and calculation sheets are provided in **Appendix D.**

Northern Segment Option 3

As described in Section 3.0, for Northern Segment Option 3 the dedicated bus lanes would cross Lassen Street west of and parallel to the railroad tracks and the alignment terminates in a new station on the west side of the tracks. The traffic impacts of this option would be the same as for Option 1. Under this option the buses would not utilize Lassen Street & Old Depot Plaza Road to reach the Chatsworth Metrolink Station and therefore this intersection is not assumed to be signalized. However, increased park-and-ride activity at the station would require the intersection to be signalized. LOS results and calculation sheets are provided in **Appendix D.**

Localized Traffic Impacts

Installation of the station platforms on the western sidewalk of Canoga Avenue could impact circulation and access to several private properties. The station at Sherman Way would likely result in the closure of one of the driveways to the gas station on the southwest corner of Canoga/Sherman Way. An alternate driveway would remain available on Canoga Avenue to the north of the station platform. It would also likely result in the closure of the alley south of that gas station. The east-west alley connects to a north-south alley behind the commercial properties fronting on Canoga Avenue. The north-south alley extends from Sherman Way on the north to Gault Street on the south, so access would be maintained to the parking areas and trash receptacles behind the commercial properties via the north-south alley.

**Table 4.7-19 LOS E/F and Affected Intersections – Canoga On-Street Dedicated Bus Lanes Alternative**

| | LOS E | | LOS F | | Decrease or Increase in Delay (Compared to No Build) | | IMPACT | |
|---|---|---|---|---|---|---|---|---|
| **Intersection** | **AM** | **PM** | **AM** | **PM** | **AM** | **PM** | **AM** | **PM** |
| 1. Chatsworth St & De Soto Ave | | | X | X | 0.9 | 0.5 | No | No |
| 2. Devonshire St & Topanga Canyon Blvd | | | X | X | 0.2 | 0.5 | No | No |
| 3. Devonshire St & Owensmouth Ave | | | X | X | 1.1 | 0.0 | No | No |
| 4. Devonshire St & Old Depot Plaza Rd | | | X | X | 35.5 | 17.6 | **Yes** | **Yes** |
| 6. Devonshire St & De Soto Ave | | | X | X | 1.9 | 1.4 | No | No |
| 7. Lassen St & Topanga Canyon Blvd | | | X | X | -18.4 | -22.5 | No | No |
| 8 Lassen St & Owensmouth Ave | | | X | X | 32.8 | 28.5 | **Yes** | **Yes** |
| 10.Lassen St & De Soto Ave | X | X | | | 0.2 | 0.2 | No | No |
| 12. Plummer St & Owensmouth Ave | | | | X | 0.1 | 0.2 | No | No |
| 13. Plummer St & Canoga Ave | | | | X | 0.0 | Overflow | No | No |
| 16. Nordhoff St & De Soto Ave | | | X | X | 0.0 | 0.0 | No | No |
| 19. Parthenia St & De Soto Ave | | | X | | 0.0 | 0.0 | No | No |
| 24. Saticoy St & Canoga Ave | | | | X | 3.6 | -0.2 | No | No |
| 25. Saticoy St & De Soto Ave | | | X | X | 0.3 | 0.0 | No | No |
| 27. Sherman Way & Owensmouth Ave | X | | | | 2.1 | -0.5 | No | No |
| 28. Sherman Way & Canoga Ave | | | | X | -15.0 | -29.5 | No | No |
| 29. Sherman Way & De Soto Ave | | | X | X | 0.4 | 0.3 | No | No |
| 31. Vanowen St & Canoga Ave | | X | | | 2.6 | 10.4 | No | **Yes** |
| 32 Vanowen St & De Soto Ave | | | X | X | 0.0 | 0.0 | No | No |
| 34. Victory Blvd & Canoga Ave | | | X | X | 2.0 | 0.5 | No | No |
| 36. Victory Blvd & De Soto Ave | X | X | | | -2.3 | -3.3 | No | No |
| 38. Erwin St & Canoga Ave | | X | | | 3.6 | 13.0 | No | **Yes** |
| 40. Oxnard St & Canoga Ave | | X | | | 5.0 | 7.9 | No | **Yes** |
| 41. Oxnard & De Soto Ave | | | X | | 0.0 | 0.0 | No | No |

Source: Iteris, 2007

At the Roscoe Station, the two commercial properties south of Roscoe Boulevard would each have one of their two driveways closed to accommodate the station platform. This would require a reconfiguration of the internal circulation and parking layouts at these two properties.

The station at Nordhoff Street would be located south of the driveway serving the commercial center on the southwest corner of the Nordhoff/Canoga intersection, so there would be no impact on access to the corner parcel. At the second property south of Nordhoff Street, one of the two driveways serving the parking area for this property would have to be closed.

If the optional station at Parthenia Street is implemented, it would require closure of the corner parcel's driveway on Canoga Avenue. An alternate driveway is located on Parthenia Street, but access to/from Canoga Avenue would be decreased for this property.

Furthermore, the implementation of a landscaped median along Canoga Avenue would impact circulation and access to several private properties. The existing two-way left-turn lane allows vehicles to exit the properties and continue north on Canoga Avenue. Similarly, vehicles can make a left-turn into the properties when traveling north on Canoga Avenue. Left-turn pockets would be provided at

every intersection of local streets along Canoga Avenue. However, it is not likely that left-turn pockets will be provided to access business driveways. Vehicles would instead make a u-turn at the nearest median cut or signalized intersection. These extra left-turns were accounted for in the intersection traffic analysis for Canoga On-Street Dedicated Bus Lanes Alternative.

## Alternative 4. Canoga Busway

As described in detail in the Project Description, this alternative assumes operation of buses within an off-street busway between the Canoga MOL station and the Chatsworth Metrolink Station. Maximum bus volumes in the peak hour were assumed to be 20 buses per hour (three minute headways) per direction.

Auto access trips for each BRT station were developed from mode of access data derived from the Metro Model. Daily ridership, park-and-ride and kiss-and-ride trips were calculated for each station and assigned to the roadway network. Daily trip generation for each station is summarized in **Table 4.7-20.**

**Table 4.7-20 Auto Trip Generation – Canoga Busway Alternative**

| Station Name | Canoga Busway | | |
|---|---|---|---|
| | Total Peak Period Auto Access | Peak Hour Park-and-Ride | Peak Hour Kiss-and-Ride |
| Sherman Way | 143 | 38 | 32 |
| Roscoe | 74 | 0 | 56 |
| Nordhoff | 20 | 0 | 15 |
| Chatsworth | 169 | 45 | 38 |
| **Totals** | **406** | **83** | **141** |

Source: Iteris, 2007

As noted earlier, no additional park-and-ride activity is expected at the Canoga Station as a result of this MOL Extension alternative, and the growth factors that were developed for the No Project Alternative were also used for the other three alternatives.

Station access traffic was distributed to the roadway system for each station area based on travel demand model trip distribution characteristics and probable travel patterns based on major origin-destination patterns. The resulting station access traffic volume turning movements at study area intersections were added to the 2030 background traffic volumes.

Detailed discussions were held with LADOT staff to identify the likely traffic signal operational characteristics and scenarios for the implementation of the BRT system. Issues such as signal priority, cycle and phasing modifications, additional protective phasing for turns, loss time and other operational details were discussed. Based on these discussions, and directions from LADOT, specific signal timing as well as geometric modifications were assumed at study intersections which are along and/or immediately adjacent to the BRT alignment. These include items such as:

- Additional clearance time for east-west streets to clear traffic across the BRT alignment, when the stop bars are moved back behind the BRT facility.

- Additional left turn phases and left turn lanes (where one does not currently exist) on Canoga Avenue to stop the left turning vehicles from turning across the BRT alignment.

- Additional right turn phases and right turn lanes (where one does not currently exist) on Canoga Avenue to stop the right turning vehicles from turning across the BRT alignment.

- Other modifications to adjacent signals to account for BRT signal priority treatments.

The above operational and physical modifications were made where necessary and assumed to be part of the project for the Canoga Busway Alternative and are reflected in intersection LOS calculations for this alternative.

As described in Section 3.0, Alternative 4 has eight optional alignments for the northern portion of the route. The intersection traffic impacts associated with this alternative would be the same for all eight options for the majority of the study intersections. The only differences would be seen in the study intersections close to the southern entrance of the Chatsworth Metrolink Station (i.e. Lassen Street & Owensmouth Avenue and Lassen Street & Old Depot Plaza Road) and on study intersections along Owensmouth Avenue (the northern portion only) and Plummer Street (i.e. Owensmouth Avenue & Plummer Street and Plummer Street & Canoga Avenue). These intersections would be signalized as part of the project for options in which the buses utilize the streets to access the Chatsworth Metrolink Station (i.e. Option 1, 2a and 3a). Northern Segment Option 1 is used to discuss the overall traffic impacts and the differences between Option 1 operating conditions and the other options are discussed subsequently.

Northern Segment Option 1

**Table 4.7-21** summarizes the results of the intersection capacity analyses of study intersections for the Canoga Busway Alternative, using the Option 1 northern segment circulation pattern. LOS E/F forms the basis for identification of intersections with unacceptable LOS. LOS results and calculation sheets are provided in **Appendix D**.

For the Canoga Busway Alternative, 24 intersections are projected to operate at LOS E or worse during the peak hours, same as in the No Project Alternative. Based on the significant impact criteria, the Canoga Busway Alternative would have significant impact under CEQA on nine study intersections. Mitigation for these nine study intersections is discussed below.

Northern Segment Option 2

Under this option the buses would only use a small segment along Lassen Street to reach the Chatsworth Metrolink Station. Buses would not use the intersections of Lassen Street & Owensmouth Avenue, Owensmouth Avenue & Plummer Street and Plummer Street & Canoga Avenue. Because Owensmouth Avenue & Plummer Street and Plummer Street & Canoga Avenue are not signalized by the project under this option, they would operate at LOS F during the PM peak hour. LOS results and calculation sheets are provided in **Appendix D**.

**Table 4.7-21 LOS E/F and Affected Intersections – Canoga Busway Alternative**

| | LOS E | | LOS F | | Decrease or Increase in Delay (Compared to No Build) | | IMPACT | |
|---|---|---|---|---|---|---|---|---|
| **Intersections** | **AM** | **PM** | **AM** | **PM** | **AM** | **PM** | **AM** | **PM** |
| 1. Chatsworth St & De Soto Ave | | | X | X | 0.9 | 0.5 | No | No |
| 2. Devonshire St & Topanga Canyon Blvd | | | X | X | 0.2 | 0.8 | No | No |
| 3. Devonshire St & Owensmouth Ave | | | X | X | 1.1 | 0.0 | No | No |
| 4. Devonshire St & Old Depot Plaza Rd | | | X | X | 37.0 | 25.3 | **Yes** | **Yes** |
| 6. Devonshire St & De Soto Ave | | | X | X | 2.0 | 1.6 | No | No |
| 7. Lassen St & Topanga Canyon Blvd | | | X | X | -18.4 | -22.4 | No | No |
| 8 Lassen St & Owensmouth Ave | | | X | X | 33.6 | 29.5 | **Yes** | **Yes** |
| 10.Lassen St & De Soto Ave | X | X | | | 0.2 | 0.2 | No | No |
| 15. Nordhoff St & Canoga Ave | | X | | | -6.4 | 31.0 | No | **Yes** |
| 16. Nordhoff St & De Soto Ave | | | X | X | 0.0 | 0.0 | No | No |
| 19. Parthenia St & De Soto Ave | | | X | | 0.0 | 0.0 | No | No |
| 21. Roscoe Blvd & Canoga Ave | X | X | | | 31.3 | 26.9 | **Yes** | **Yes** |
| 24. Saticoy St & Canoga Ave | | | X | X | 41.6 | 22.3 | **Yes** | **Yes** |
| 25. Saticoy St & De Soto Ave | | | X | X | 0.3 | 0.0 | No | No |
| 27. Sherman Way & Owensmouth Ave | X | | | | 2.1 | -0.5 | No | No |
| 28. Sherman Way & Canoga Ave | | | X | X | 43.0 | -16.5 | **Yes** | No |
| 29. Sherman Way & De Soto Ave | | | X | X | 0.4 | 0.3 | No | No |
| 31. Vanowen St & Canoga Ave | | X | | | 13.0 | 24.2 | No | **Yes** |
| 32 Vanowen St & De Soto Ave | | | X | X | 0.0 | 0.0 | No | No |
| 34. Victory Blvd & Canoga Ave | | | X | X | 2.0 | 0.5 | No | No |
| 36. Victory Blvd & De Soto Ave | X | X | | | -2.3 | -3.3 | No | No |
| 38. Erwin St & Canoga Ave | | X | | | 3.6 | 13.0 | No | **Yes** |
| 40. Oxnard St & Canoga Ave | | X | | | 5.0 | 7.9 | No | **Yes** |
| 41. Oxnard & De Soto Ave | | | X | | 0.0 | 0.0 | No | No |

Source: Iteris, 2007

Northern Segment Option 2a

The impacts and intersection LOS for this option is the same as for Option 1. LOS results and calculation sheets are provided in **Appendix D**.

Northern Segment Option 3a

Under this option, the buses would only use a small segment along Lassen Street to reach the Chatsworth Metrolink Station. Lassen Street & Old Depot Plaza Road is not assumed to be signalized for this option, but signalization would be required due to the increase in park-and-ride activity at the Chatsworth Metrolink Station. LOS results and calculation sheets are provided in **Appendix D**.

Northern Segment Option 4

Under this option, the buses would not use the streets to reach the Chatsworth Metrolink Station. Owensmouth Avenue & Plummer Street and Plummer Street & Canoga Avenue are not signalized as part of the project under this option and they would operate at LOS F during the PM peak hour. LOS results and calculation sheets are provided in **Appendix D**

Northern Segment Option 3, 4a, and 5

Under these options, the buses would not use the streets to reach the Chatsworth Metrolink Station. Owensmouth Avenue & Plummer Street and Plummer Street & Canoga Avenue are not signalized as part of the project under these options and they would operate at LOS F during the PM peak hour. Similarly, Lassen Street & Old Depot Plaza Road is not assumed to be signalized for these options, but would require signalization as part of the project due to the increase in park-and-ride activity at the Chatsworth Metrolink Station. LOS results and calculation sheets are provided in **Appendix D**.

Driveway Closures

The current access to the National Ready Mix Concrete plant will have to be closed for the construction of the busway. Trucks currently using that driveway to access the concrete plant would have to use Deering Avenue instead. Trucks accessing the Portland Cement Concrete Plant already use Deering Avenue on a daily basis. Furthermore, based on conversations with National Ready Mix management, the closure of the Canoga Avenue driveway will not represent a problem for the business' operation.

**Table 4.7-22** below summarizes the intersection traffic impacts of each alternative.

## Table 4.7-22 Summary of Intersection Traffic Impacts

| Intersections | Peak Hour | No Build | | Alternative | | Change | Impact |
|---|---|---|---|---|---|---|---|
| | | Delay | LOS | Delay | LOS | | |
| **Alternative 2 TSM** | | | | | | | |
| 8 Lassen St & Owensmouth Ave | AM | 97.8 | F | 111 | F | 13.2 | **Yes** |
| | PM | 188.2 | F | 201.8 | F | 13.6 | **Yes** |
| **Alternative 3 Canoga On-Street Dedicated Lanes** | | | | | | | |
| 4. Devonshire St & Old Depot Plaza Rd | AM | 220.5 | F | 256 | F | 35.5 | **Yes** |
| | PM | 142.9 | F | 160.5 | F | 17.6 | **Yes** |
| 8 Lassen St & Owensmouth Ave | AM | 97.8 | F | 130.6 | F | 32.8 | **Yes** |
| | PM | 188.2 | F | 216.7 | F | 28.5 | **Yes** |
| 31. Vanowen St & Canoga Ave | AM | 34.6 | C | 37.2 | D | 2.6 | No |
| | PM | 55.1 | E | 65.5 | E | 10.4 | **Yes** |
| 38. Erwin St & Canoga Ave | AM | 17.1 | B | 20.7 | C | 3.6 | No |
| | PM | 51.5 | D | 64.5 | E | 13.0 | **Yes** |
| 40. Oxnard St & Canoga Ave | AM | 22.4 | C | 27.4 | C | 5.0 | No |
| | PM | 60.6 | E | 68.5 | E | 7.9 | **Yes** |
| **Alternative 4 Canoga Busway** | | | | | | | |
| 4. Devonshire St & Old Depot Plaza Rd | AM | 220.5 | F | 257.5 | F | 37.0 | **Yes** |
| | PM | 142.9 | F | 168.2 | F | 25.3 | **Yes** |
| 8 Lassen St & Owensmouth Ave | AM | 97.8 | F | 131.4 | F | 33.6 | **Yes** |
| | PM | 188.2 | F | 217.7 | F | 29.5 | **Yes** |
| 15. Nordhoff St & Canoga Ave | AM | 54.1 | D | 47.7 | D | -6.4 | No |
| | PM | 28.1 | C | 59.1 | E | 31.0 | **Yes** |
| 21. Roscoe Blvd & Canoga Ave | AM | 25.8 | C | 57.1 | E | 31.3 | **Yes** |
| | PM | 29.8 | C | 56.7 | E | 26.9 | **Yes** |
| 24. Saticoy St & Canoga Ave | AM | 44.9 | D | 86.5 | F | 41.6 | **Yes** |
| | PM | 83.5 | F | 105.8 | F | 22.3 | **Yes** |
| 28. Sherman Way & Canoga Ave | AM | 60.2 | E | 103.2 | F | 43.0 | **Yes** |
| | PM | 114.1 | F | 97.6 | F | -16.5 | No |
| 31. Vanowen St & Canoga Ave | AM | 34.6 | C | 47.6 | D | 13.0 | No |
| | PM | 55.1 | E | 79.3 | E | 24.2 | **Yes** |
| 38. Erwin St & Canoga Ave | AM | 17.1 | B | 20.7 | C | 3.6 | No |
| | PM | 51.5 | D | 64.5 | E | 13.0 | **Yes** |
| 40. Oxnard St & Canoga Ave | AM | 22.4 | C | 27.4 | C | 5.0 | No |
| | PM | 60.6 | E | 68.5 | E | 7.9 | **Yes** |

Source: Iteris, 2007

### *Mitigation Measures:*

As stated previously, an intersection is considered to experience a significant effect under CEQA if the project causes a deterioration in LOS to E or worse, or results in an increase in the average vehicle delay of 5.0 seconds or more at an intersection projected to operate at LOS E or worse under No-Project conditions. Based on these criteria, mitigation measures need to be implemented at two to nine intersections, depending on the project alternative considered.

The approach used to develop mitigation measures at the intersections was to first consider operational improvements and second to consider physical improvements. Operational improvements included signal timing and phasing changes. The cycle lengths for the study intersections were adjusted and the green times for each approach fine-tuned to satisfy the forecast traffic demands, including BRT buses. If that approach did not mitigate the impacts, physical improvements to the intersection were then developed. Typical recommendations include signalization, additional turn lanes, road widening, and additional through lanes.

The following conceptual physical intersection improvements were developed to mitigate the significant traffic impacts at study area intersections.

#### Alternative 2. TSM

***MM 4.7-1:*** Lassen Street & Owensmouth Avenue. Re-time the existing signal from a 50-second cycle during the peak periods to provide a 90-second cycle length during peak periods. In addition, change the existing permissive phasing on Lassen Street to provide protective phasing for left turns onto Owensmouth Avenue.

***MM 4.7-2:*** Lassen Street & Old Depot Plaza Road. Install a three-phase traffic signal that would provide protective left-turn phasing for buses turning left into the Chatsworth Metrolink Station.

#### Alternative 3. Canoga On-Street Dedicated Bus Lanes

Northern Option 1

All the options include all the Alternative 2 mitigations plus the following:

***MM 4.7-3:*** Devonshire Street & Old Depot Plaza Road. Install a two-phase traffic signal.

***MM 4.7-4***: Canoga Avenue & Vanowen Street. Widen the Canoga Avenue northbound approach to provide an additional through lane, from one left-turn lane, two through lanes and one right-turn lane to consist of one left-turn lane, three through lanes and one right-turn lane. Re-stripe the Vanowen Street eastbound approach from one left-turn lane, one through lane and one shared through-right-turn lane to consist of one left-turn lane, two through lanes and one right-turn lane. Re-striping the eastbound approach to accommodate this number of lanes would reduce the width of the Vanowen Street westbound curb-lane. Since Metro Bus 165 stops on the northwest corner of the intersection, this reduction in curb-lane width would produce a traffic blockage every time a bus arrives at the stop (buses arrive every 6-10 minutes during the peak period and every 20 minutes during the off-peak

period), but this is not considered a significant impact. This mitigation measure is conceptually illustrated in **Figure 4.7-14.**

***MM 4.7-5:*** Canoga Avenue & Erwin Street. Change the existing permissive phasing to provide protective phasing for the northbound left turns and the eastbound left turns.

***MM 4.7-6***: Canoga Avenue & Oxnard Street. Re-stripe the Canoga Avenue southbound approach from one left-turn lane, two through lanes and one shared through-right-turn lane to consist of one left-turn lane, two trough lanes and one right-turn lane.

## Alternative 4. Canoga Busway

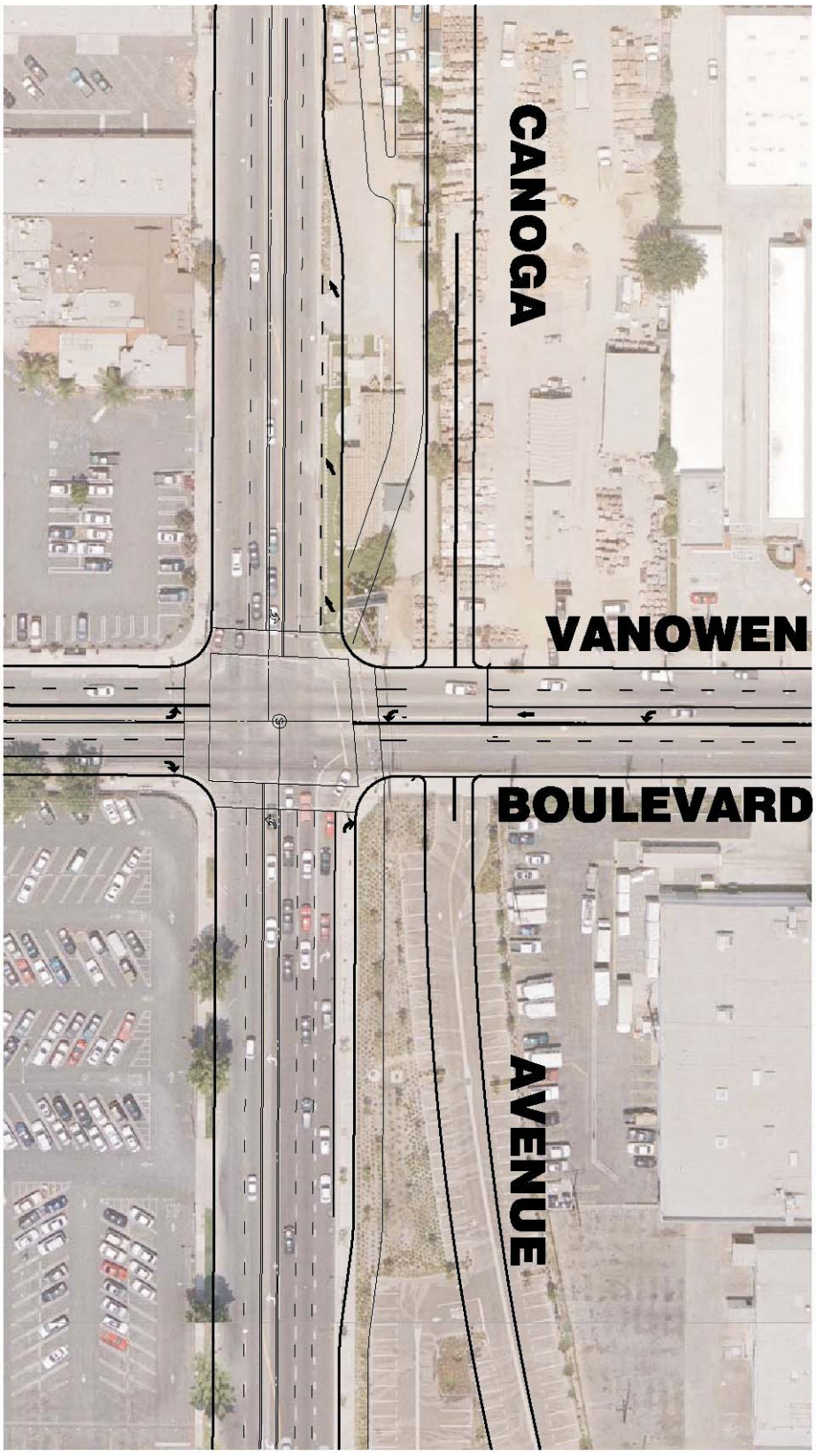
All Options have all of the Alternative 3 mitigations plus the following:

***MM 4.7-7:*** Canoga Avenue & Nordhoff Street. Widen the Canoga Avenue southbound approach from one left-turn lane, one through lane and one shared through-right-turn lane to consist of one left-turn lane, two through lanes and a right-turn lane. This mitigation measure is conceptually illustrated in **Figure 4.7-15.**

***MM 4.7-8***: Canoga Avenue & Roscoe Boulevard. Widen the Canoga Avenue southbound approach from one left-turn lane, one through lane and one shared through-right-turn lane to consist of one left-turn lane, two through lanes and a right-turn lane. Additionally, widen Roscoe Boulevard westbound approach from one left-turn lane, two through lanes and one shared through-right-turn lane to consist of one left-turn lane, three through lanes and one right-turn lane. This mitigation measure is conceptually illustrated in **Figure 4.7-16.**

***MM 4.7-9***: Canoga Avenue & Saticoy Street. Widen the Canoga Avenue southbound approach from one left-turn lane, one through lane and one shared through-right-turn lane to consist of one left-turn lane, two through lanes and one through/right-turn lane. This mitigation measure is conceptually illustrated in **Figure 4.7-17.**

***MM 4.7-10***: Canoga Avenue & Sherman Way. Widen the Canoga Avenue southbound approach from one left-turn lane, one through lane and one shared through-right-turn lane to consist of one left-turn lane, two through lanes and a right-turn lane. Widen the Sherman Way westbound approach to provide an additional through lane, from one left-turn lane, two through lanes and one right-turn lane to consist of one left-turn lane, three through lanes and one right-turn lane. To accomplish this, the bus stop for westbound Metro Route 163, located on the northwest corner of the intersection, must be moved further west to allow the third westbound departure lane to be dropped and traffic to merge into two lanes. This mitigation measure is conceptually illustrated in **Figure 4.7-18.**




Source: ITERIS

NOT TO SCALE



Figure 4.7-14
MM 4.7-4 Canoga Avenue & Vanowen Street

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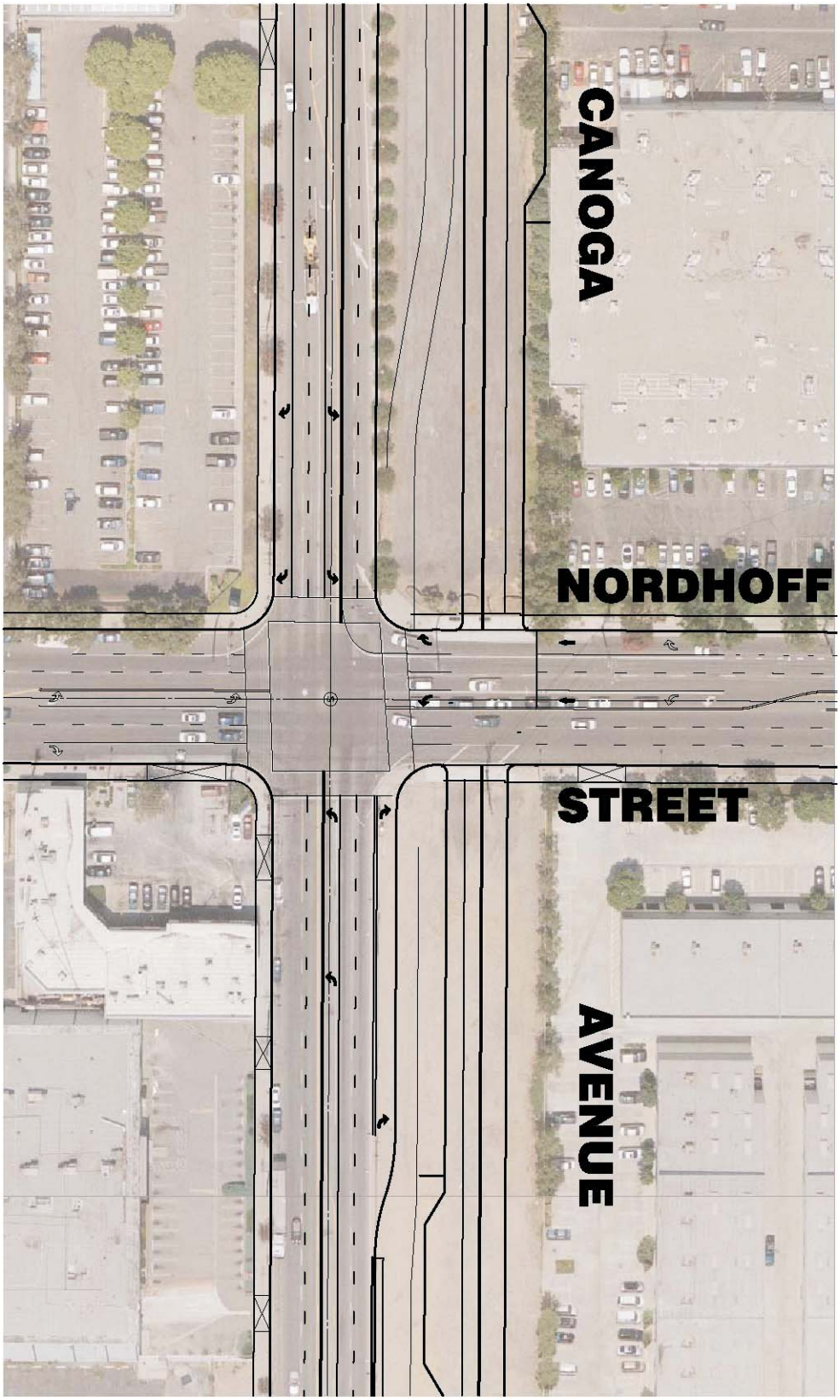


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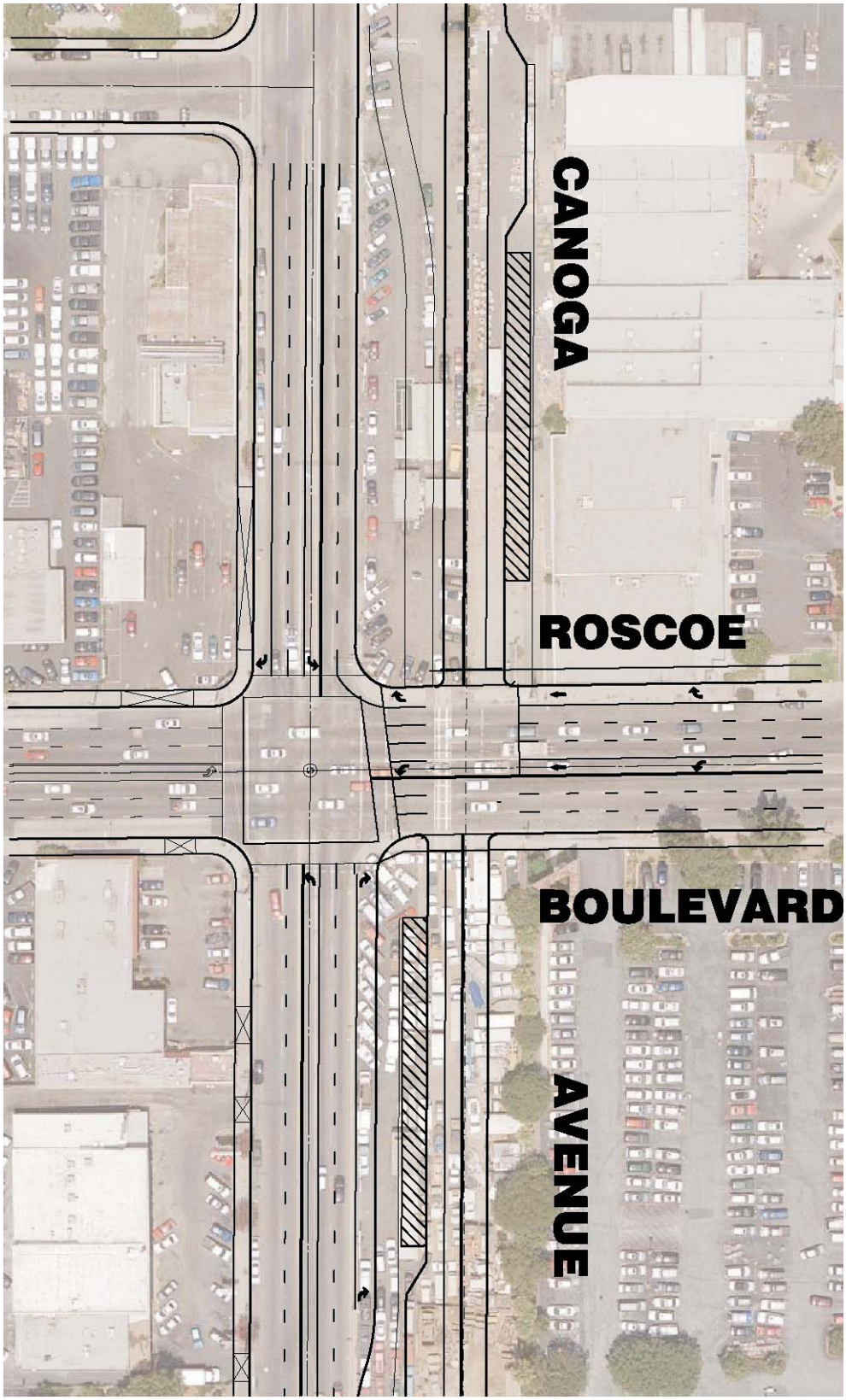


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NOT TO SCALE



Figure 4.7-16
MM 4.7-8 Canoga Avenue & Roscoe Boulevard

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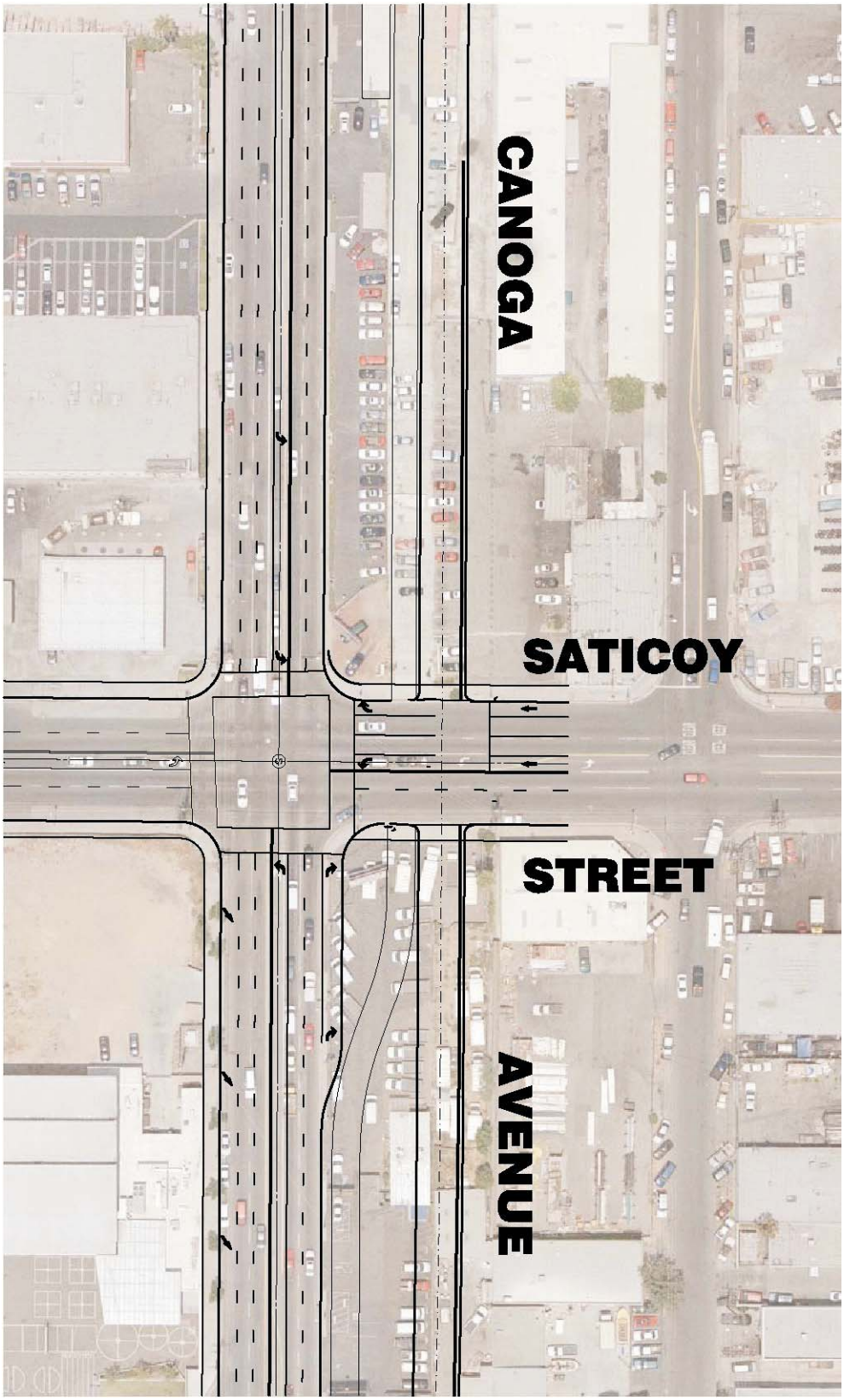


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Figure 4.7-17
MM 4.7-9 Canoga Avenue & Saticoy Street

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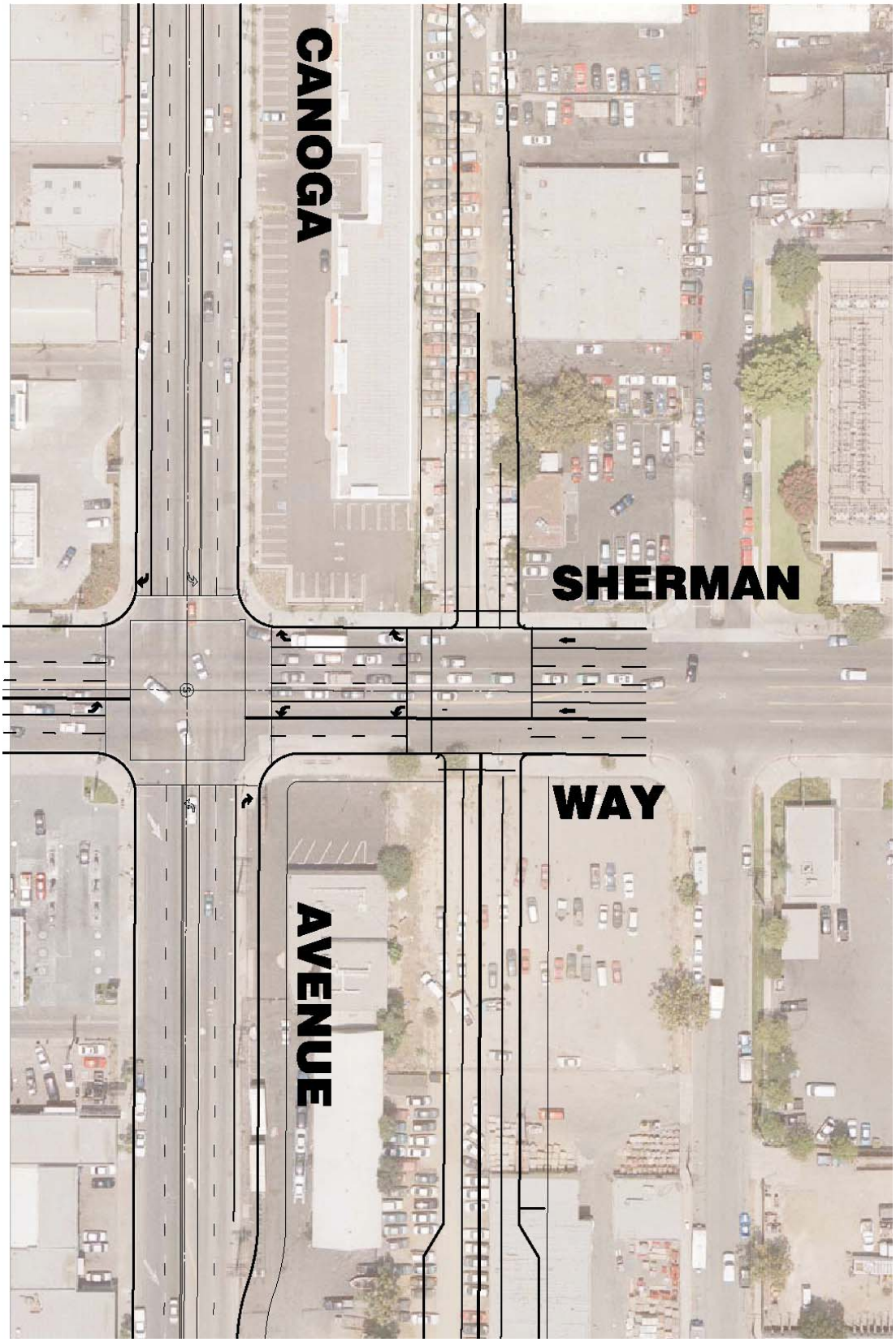


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NOT TO SCALE



Figure 4.7-18
MM 4.7-10 Canoga Avenue & Sherman Way

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**Table 4.7-23** below shows the initial LOS and delay before mitigation and the mitigated results. With the implementation of these measures, all significant impacts are mitigated.

**Table 4.7-23 Level of Service After Mitigation**

| Intersections | Peak Hour | No Build | | Alternative | | Change | Impact | Mitigated Alternative | | Change | Residual Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Delay | LOS | Delay | LOS | | | Delay | LOS | | |
| **Alternative 2 TSM** | | | | | | | | | | | |
| 8 Lassen St & Owensmouth Ave | AM | 97.8 | F | 111 | F | 13.2 | **Yes** | 46.0 | D | -51.8 | No |
| | PM | 188.2 | F | 201.8 | F | 13.6 | **Yes** | 132.8 | F | -55.4 | No |
| **Alternative 3 Canoga On-Street Dedicated Bus Lanes** | | | | | | | | | | | |
| 4. Devonshire St & Old Depot Plaza Rd | AM | 220.5 | F | 256 | F | 35.5 | **Yes** | 3.1 | A | -217.4 | No |
| | PM | 142.9 | F | 160.5 | F | 17.6 | **Yes** | 5.1 | A | -137.8 | No |
| 8 Lassen St & Owensmouth Ave | AM | 97.8 | F | 130.6 | F | 32.8 | **Yes** | 51.5 | D | -46.3 | No |
| | PM | 188.2 | F | 216.7 | F | 28.5 | **Yes** | 140.5 | F | -47.7 | No |
| 31. Vanowen St & Canoga Ave | AM | 34.6 | C | 37.2 | D | 2.6 | No | 34.2 | C | -0.4 | No |
| | PM | 55.1 | E | 65.5 | E | 10.4 | **Yes** | 50.4 | D | -4.7 | No |
| 38. Erwin St & Canoga Ave | AM | 17.1 | B | 20.7 | C | 3.6 | No | 29.8 | C | 12.7 | No |
| | PM | 51.5 | D | 64.5 | E | 13.0 | **Yes** | 51.4 | D | -0.1 | No |
| 40. Oxnard St & Canoga Ave | AM | 22.4 | C | 27.4 | C | 5.0 | No | 24.3 | C | 1.9 | No |
| | PM | 60.6 | E | 68.5 | E | 7.9 | **Yes** | 63.8 | E | 3.2 | No |
| **Alternative 4 Canoga Busway** | | | | | | | | | | | |
| 4. Devonshire St & Old Depot Plaza Rd | AM | 220.5 | F | 257.5 | F | 37.0 | **Yes** | 3.1 | A | -217.4 | No |
| | PM | 142.9 | F | 168.2 | F | 25.3 | **Yes** | 5.2 | A | -137.7 | No |
| 8 Lassen St & Owensmouth Ave | AM | 97.8 | F | 131.4 | F | 33.6 | **Yes** | 51.7 | D | -46.1 | No |
| | PM | 188.2 | F | 217.7 | F | 29.5 | **Yes** | 140.6 | F | -47.6 | No |
| 15. Nordhoff St & Canoga Ave | AM | 54.1 | D | 47.7 | D | -6.4 | No | 47.7 | D | -6.4 | No |
| | PM | 28.1 | C | 59.1 | E | 31.0 | **Yes** | 53.2 | D | 25.1 | No |
| 21. Roscoe Blvd & Canoga Ave | AM | 25.8 | C | 57.1 | E | 31.3 | **Yes** | 48.3 | D | 22.5 | No |
| | PM | 29.8 | C | 56.7 | E | 26.9 | **Yes** | 55.0 | D | 25.2 | No |
| 24. Saticoy St & Canoga Ave | AM | 44.9 | D | 86.5 | F | 41.6 | **Yes** | 54.4 | D | 9.5 | No |
| | PM | 83.5 | F | 105.8 | F | 22.3 | **Yes** | 87.7 | F | 4.2 | No |
| 28. Sherman Way & Canoga Ave | AM | 60.2 | E | 103.2 | F | 43.0 | **Yes** | 61.2 | E | 1.0 | No |
| | PM | 114.1 | F | 97.6 | F | -16.5 | No | 89.7 | F | -24.4 | No |
| 31. Vanowen St & Canoga Ave | AM | 34.6 | C | 47.6 | D | 13.0 | No | 43.6 | D | 9.0 | No |
| | PM | 55.1 | E | 79.3 | E | 24.2 | **Yes** | 53.8 | D | -1.3 | No |
| 38. Erwin St & Canoga Ave | AM | 17.1 | B | 20.7 | C | 3.6 | No | 29.8 | C | 12.7 | No |
| | PM | 51.5 | D | 64.5 | E | 13.0 | **Yes** | 51.4 | D | -0.1 | No |
| 40. Oxnard St & Canoga Ave | AM | 22.4 | C | 27.4 | C | 5.0 | No | 24.3 | C | 1.9 | No |
| | PM | 60.6 | E | 68.5 | E | 7.9 | **Yes** | 63.8 | E | 3.2 | No |

Source: Iteris, 2007

***Level of Impact After Mitigation***: Less than Significant.

**Impact 4.7.4 Alternative 3, Canoga On-Street Dedicated Lanes and Alternative 4, Canoga Busway would have a significant impact on existing Park-and-Ride Lots. This impact would be considered less than significant after mitigation.**

The transit stations are expected to generate additional traffic created by transit patrons accessing the stations. Not all transit patrons are expected to drive their vehicles to the planned stations. Rather, some patrons would walk to the nearest station (maximum walking distance is assumed to be approximately ½ mile). Some would transfer from other transit modes to utilize the MOL Extension; some would park their vehicles and ride the bus—especially at those stations with park-and-ride facilities—while others would simply be dropped off at kiss-and-ride areas, or arrive via bicycles.

## Alternative 1. No Project

The No Project Alternative would not change the MOL Canoga Station park-and-ride lot nor the Chatsworth Metrolink Station parking lot, so it would have no impact on either of these off-street parking facilities. Parking demand at these lots would likely increase in the future due to increased demand for ridership on the existing MOL and other transit services. Since the MOL Canoga Station park-and-ride lot is only about 25% utilized, there is a significant amount of parking available to accommodate increased parking demands. The Chatsworth Metrolink station has about 180 parking spaces available on a typical day, so it also has a significant amount of parking available to accommodate increased parking demands.

## Alternative 2. TSM

The TSM Alternative would not change the MOL Canoga Station park-and-ride lot nor the Chatsworth Metrolink Station parking lot, so it would have no impact on either of these off-street parking facilities. The implementation of local Route 246 on Canoga Avenue would not be expected to generate park-and-ride demand since patrons on Metro local bus service do not typically arrive at local bus stops via automobile. They typically walk or transfer from another local bus. Improvements to other local routes in the TSM Alternative would similarly not be expected to generate increased park-and-ride activity. Since the MOL Canoga Station park-and-ride lot is only about 25% utilized, there is a significant amount of parking available to accommodate increased parking demands. The Chatsworth Metrolink station has about 180 parking spaces available on a typical day, so it also has a significant amount of parking available to accommodate increased parking demands.

## Alternative 3. Canoga On-Street Dedicated Bus Lanes

The widening of Canoga Avenue to provide room for the addition of bus-only lanes, right-turn lanes at intersections and the pedestrian/bicycle path along the east side of Canoga Avenue would impact the MOL Canoga Station park-and-ride lot. Approximately 90% of the first row of parking closest to Canoga Avenue would have to be removed and that ROW used for the Canoga On-Street Dedicated Bus Lanes Alternative features. This would be a loss of approximately 100 parking spaces. The existing MOL Canoga Station park-and-ride lot typically has more than 450 parking spaces available, so the loss of about 100 spaces would not be considered a significant impact. The Canoga On-Street Dedicated Bus Lanes Alternative would also provide a new park-and-ride lot with approximately 255 spaces at Sherman Way that would supplement the MOL Canoga Station park-and-ride lot.

The extension of MOL service north to the Chatsworth Metrolink Station would increase parking demand at the Chatsworth Station. The existing Metrolink Station parking lots have a total of 480 parking spaces that currently serve both Metrolink and Amtrak rail patrons, and could be used by future MOL park-and-ride patrons. Ridership projections for the Canoga On-Street Dedicated Bus Lanes Alternative indicate that daily transit boardings for this corridor would be on the order of 7,895 daily riders. The Alternative proposes three (3) park-and-ride lots (one new one) located at the following stations: MOL Canoga Station (608 existing spaces decreased to about 508 spaces), Chatsworth Metrolink Station (480 spaces) and Sherman Way (255 spaces). **Table 4.7-24** provides a breakdown of the total daily ridership, mode of access (transit/walk or auto), and the demand at individual lots and lot capacity at the respective stations with parking facilities for the Canoga On-Street Dedicated Bus Lanes Alternative.

The parking demand analysis reflected in **Table 4.7-24** illustrates that the supply of parking would not exceed demand at any of the stations. The project is not expected to result in a significant impact under CEQA on parking demand at the proposed stations.

**Table 4.7-24 On-Street Bus Lanes Alternative Ridership and Mode of Access Analysis**

| Station Name | Ridership | | | MOL Mode of Access (Peak Period) | | | | Park-and-Ride Lots | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Daily | Peak Period | Off-Peak Period | Transit/ Walk | Auto | Park-and-Ride | Kiss-and-Ride | Capacity | Other Demand | Off-Peak Demand | Total Demand | U |
| Canoga | 3229 | 2462 | 767 | 2,216 | 246 | 172 | 74 | 508 | 0 | 54 | 226 | 44% |
| Sherman Way | 2,378 | 1,405 | 973 | 1,265 | 141 | 98 | 42 | 255 | 0 | 68 | 166 | 65% |
| Roscoe | 2,883 | 1,804 | 1,079 | 1,732 | 72 | 0 | 72 | 0 | 0 | 0 | 0 | - |
| Nordhoff | 595 | 477 | 118 | 458 | 19 | 0 | 19 | 0 | 0 | 0 | 0 | - |
| Chatsworth | 2,129 | 1,576 | 553 | 1,418 | 158 | 110 | 47 | 480 | 299 | 39 | 448 | 93% |
| **Totals** | **11,214** | **7,724** | **3,490** | **7,089** | **636** | **380** | **254** | **1,243** | **299** | **161** | **840** | **68%** |

U: Utilization Source: Iteris, Inc, 2007

There are about 180 parking spaces available at the existing Chatsworth Metrolink Station on a typical weekday. The extension of the MOL would increase the year 2030 parking demand at the station by approximately 149 spaces. This would bring the station parking lots to about 93% full. This would not be considered a significant impact, but it would likely accelerate the need to expand the parking at the station sooner than if the MOL were not extended and only the growth in Metrolink patronage was affecting the parking demand in the future. There is Metro-owned vacant land available at the north end of the station area to accommodate additional surface parking when it is needed.

Note that some of the Northern Terminus station options discussed earlier in Chapter 3 would affect the off-street parking supply at the Chatsworth Metrolink Station. The impacts of those station options are discussed below.

At stations that do not provide parking, there is also the potential that some MOL patrons may attempt to park on nearby residential streets. Parking was not provided at these stations, however to reduce the potential of traffic impacts in the neighborhoods. The parking situation in neighborhoods around stations with no parking should be monitored by LADOT and mitigation measures, such as residential permit parking, implemented if it should cause inconvenience to residents.

## Alternative 4. Canoga Busway

Ridership projections for the Canoga Busway Alternative indicate that daily transit boardings for this alternative would be on the order of 8,200 daily riders. The Canoga Busway Alternative proposes three (3) park-and-ride lots (one new one) located at the following stations: MOL Canoga Station (608 existing spaces decreased to about 235-290 spaces), Chatsworth Metrolink Station (480 spaces) and Sherman Way (255 spaces). **Figure 3-31** in the Project Description illustrates one concept for how the MOL Canoga Station park-and-ride lot would be reconfigured to accommodate the MOL extension and new station platforms. **Table 4.7-25** provides a breakdown of the total daily ridership, mode of access (transit/walk or auto), and the demand at individual lots and lot capacity at the respective stations with parking facilities for the Canoga Busway Alternative.

**Table 4.7-25 Canoga Busway Alternative Ridership and Mode of Access Analysis**

| Station Name | Ridership | | | MOL Mode of Access (Peak Period) | | | | Park-and-Ride Lots | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Daily | Peak Period | Off-Peak Period | Transit/ Walk | Auto | Park-and-Ride | Kiss-and-Ride | Capacity | Other Demand | Off-Peak Demand | Total Demand | U |
| Canoga | 3,211 | 2447 | 764 | 2,202 | 245 | 171 | 73 | 235 | 0 | 53 | 224 | 95% |
| Sherman Way | 2,407 | 1,425 | 982 | 1,283 | 143 | 100 | 43 | 255 | 0 | 69 | 169 | 66% |
| Roscoe | 2,933 | 1,841 | 1,092 | 1,767 | 74 | 0 | 74 | 0 | 0 | 0 | 0 | - |
| Nordhoff | 613 | 489 | 124 | 469 | 20 | 0 | 20 | 0 | 0 | 0 | 0 | - |
| Chatsworth | 2,247 | 1,687 | 560 | 1,518 | 169 | 118 | 51 | 480 | 299 | 39 | 456 | 95% |
| **Totals** | **11,411** | **7,889** | **3,522** | **7,239** | **651** | **389** | **261** | **970** | **299** | **161** | **849** | **88%** |

U: Utilization Source: Iteris, Inc, 2007

There are about 180 parking spaces available at the existing Chatsworth Metrolink Station on a typical weekday. The extension of the MOL would increase the year 2030 parking demand at the station by approximately 157 spaces. This would bring the station parking lots to about 95% full. This would not be considered a significant impact, but it would likely accelerate the need to expand the parking at the station sooner than if the MOL were not extended and only the growth in Metrolink patronage was affecting the parking demand in the future. There is Metro-owned vacant land available at the north end of the station area to accommodate additional surface parking when it is needed.

Note that some of the Northern Terminus station options discussed earlier in Chapter 3 would affect the off-street parking supply at the Chatsworth Metrolink Station. The impacts of those station options are discussed below.

At stations that do not provide parking, there is also the potential that some MOL patrons may attempt to park on nearby residential streets. Parking was not provided at these stations, however to reduce the potential of traffic impacts in the neighborhoods. The parking situation in neighborhoods around stations with no parking should be monitored by LADOT and mitigation measures, such as residential permit parking, implemented if it should cause inconvenience to residents.

Northern Terminus Station Options

Some of the Chatsworth Metrolink Station options would affect the off-street parking supply. Refer to the descriptions of these options and figures illustrating them in Section 3.0. Option A, the Non-Revenue Turn-Around, would not affect the supply of parking in the current Chatsworth Metrolink Station parking lots. It could have some impact on the future expansion of the northern parking lot by moving the expansion further to the north, but no specific plans have yet been developed for that expansion.

Option B, the Turn-Around South of the Metrolink Station Platforms, would impact the existing parking area by displacing some of the parking closest to the train station. The displaced parking spaces would be replaced on at least a one-for-one basis in an expanded north parking lot. This would increase the walking distance from parking to the station platforms for some rail patrons, but this would not be considered a significant impact.

Option C, Turn-Around on Vacant Lot West of Tracks, would not affect the supply of parking in the current Metrolink Station parking lots. It would not have any impact on off-street parking.

Option D, Grade Separated station alternative, would impact the existing southern parking area by displacing some of the parking closest to the train station and along the area adjacent to the tracks. The displaced parking spaces would be replaced on at least a one-for-one basis in an expanded north parking lot. This would increase the walking distance from parking to the station platforms for some rail patrons, but this would not be considered a significant impact.

*Mitigation Measures:*

Alternative 3. Canoga On-Street Dedicated Bus Lanes and Alternative 4. Canoga Busway

> ***MM 4.7-11*** Off-street parking adjacent to the Sherman Way Station shall be provided to accommodate future park-and-ride demand, including extra demand due to the loss of any existing spaces at the re-configured MOL Canoga Station.

Chatsworth Metrolink Station Turn-Around Options B and D

> ***MM 4.7-12:*** The northern parking lot at the Chatsworth Metrolink Station shall be expanded either vertically or horizontally to replace, at a minimum on a one-for-one basis, the spaces displaced by the bus turn-around on the south parking lot.

*Level of Impact After Mitigation*: Less than significant

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**Impact 4.7.5 Alternative 3, Canoga On-Street Dedicated Lanes and Alternative 4, Canoga Busway could have a significant impact before mitigation on the supply of on-street parking along Canoga Avenue.**

Alternative 1. No Project

There would be no parking impacts associated with this alternative.

Alternative 2. TSM

There would be no parking impacts associated with this alternative.

Alternative 3. Canoga On-Street Dedicated Bus Lanes

As shown in Table 4.7-8 earlier, the utilization of on-street parking along the west side of Canoga Avenue varies from block-to-block throughout the day. There are a limited number of blocks where there are more than just a few cars parked along the curb during most of the day. This is due to the fact that most of the land uses along the west side of the corridor have off-street parking available. The two stretches of Canoga Avenue where there are consistently more than five cars parked per block are at the southern end, between Hart Street and Valerio Street, two blocks north and south of Sherman Way, and between Ingomar Street and Parthenia Street, several blocks on either side of Roscoe Boulevard. In the southern segment, up to 45 cars are parked on-street during the day. In the segment centered on Roscoe Boulevard, about 65 cars are parked along the western curb of Canoga Avenue.

Stations for the Canoga On-Street Dedicated Bus Lanes Alternative would be located at Sherman Way and Roscoe Boulevard. If parking lots are built on the Metro ROW adjacent to the Sherman and Roscoe stations, these lots could provide additional parking beyond what would be needed to serve MOL park-and-ride demand and those additional spaces could serve as replacement parking for the displaced on-street parking. It should be acknowledged that these spaces would not be as convenient for customers of businesses on the west side of the street, since they would have to cross Canoga Avenue and walk a block or two, but they could well serve the employees of the businesses by providing well-lit off-street parking areas, thereby freeing up parking spaces at the businesses that may now be occupied by employees.

At the northern end of Canoga Avenue near the curve in the road where it turns into Marilla Street, the east side of the street has an unpaved shoulder along which parking currently occurs. Most of the parking is by large "big rig" trucks, many of which are parked overnight. This informal truck parking area is not something that the City of Los Angeles intends to encourage, since the land uses that generate the demand for large trucks are intended to maintain on-site loading zones and truck parking areas. The displacement of this informal truck parking would not be considered a significant impact since it would encourage trucks to be parked off-street in proper truck parking facilities.

Alternative 4. Canoga Busway

There would be no on-street parking impacts associated with this alternative.

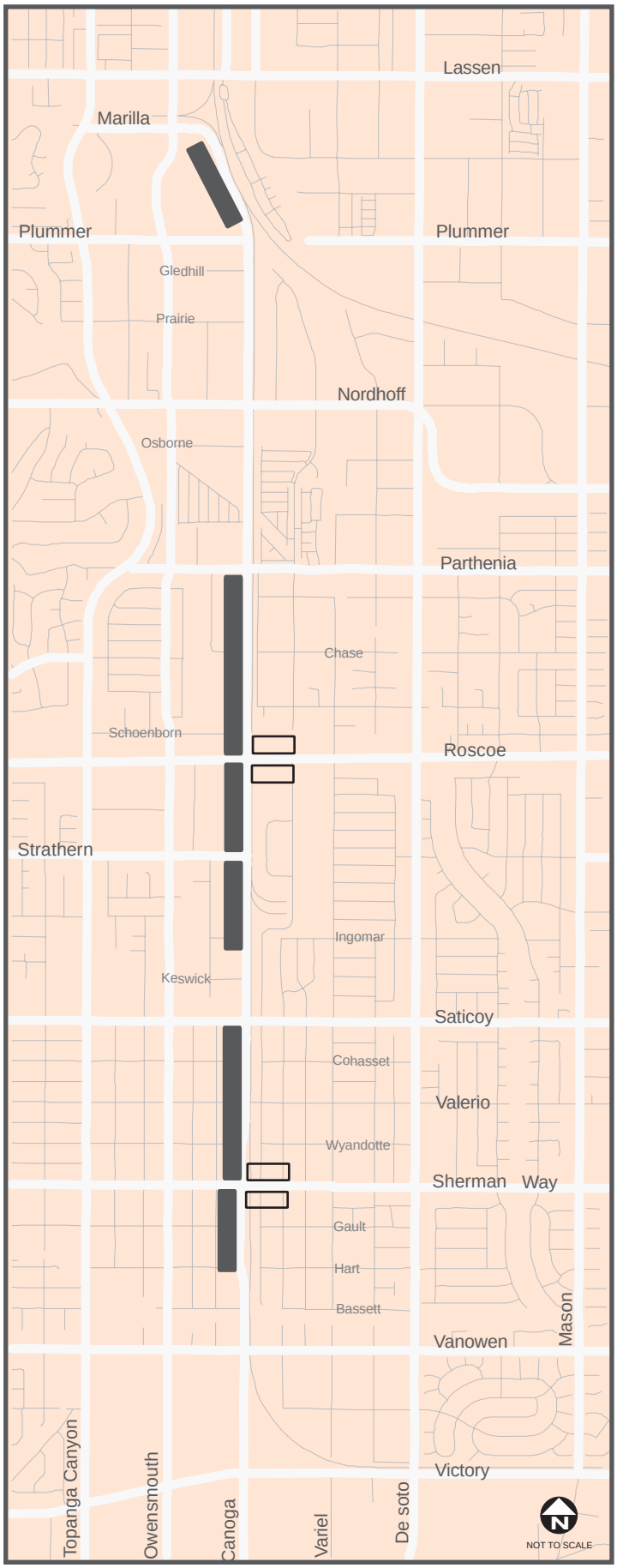
*Mitigation Measures:*

Alternative 3. Canoga On-Street Dedicated Bus Lanes

***MM 4.7-13a*** At the Sherman Way station, a parking lot(s) shall be provided on the Metro ROW that contains at least 50 parking spaces beyond the anticipated park-and-ride demand for the station that shall be designated as public parking. At the Roscoe Boulevard station, a parking lot shall be provided on the Metro ROW that contains at least 75 parking spaces beyond the anticipated park-and-ride demand for the station that shall be designated as public parking. **Figure 4.7-19** illustrates the locations of the replacement parking lots in relation to the blocks where on-street parking demand is highest. Or,

***MM 4.7-13b*** Modify the design of the Canoga On-Street Dedicated Bus Lanes Alternative to leave the on-street parking along the western curb of Canoga Avenue in those blocks where on-street parking is heavily utilized. This would have a detrimental but less than significant impact on bus operations.

***Level of Impact After Mitigation***: Less than significant




**Legend**

- Replacement Parking Locations
- Areas of consistent demand for on-street parking

Source: ITERIS



**Figure 4.7-19**
**Canoga Avenue On-Street Parking Mitigation**

G:\USERS\2007\J07-1643 Northern Canoga Extension - Orangeline\gra

**Impact 4.7.6 Alternative 3, Canoga On-Street Dedicated Lanes and Alternative 4, Canoga Busway have the potential to result in significant construction impacts on traffic circulation.**

Alternative 1. No Project

The No Project Alternative does not result in any construction activities so it would not have construction impacts.

Alternative 2. TSM

The TSM Alternative does not result in any construction activities so it would not have construction impacts.

Alternative 3. Canoga Dedicated Lanes

Because the Canoga On-Street Dedicated Bus Lanes Alternative will be routed through urban areas, motorists and pedestrians will at times be delayed and inconvenienced during the construction period. These impacts will be felt along the entire length of Canoga Avenue from the existing Canoga MOL Station to Lassen Avenue since the entire street will be reconstructed and widened into the Metro ROW.

The degree of traffic disruption during construction of the Canoga On-Street Dedicated Bus Lanes will depend on several factors, including the contracting procedure, how large the construction activity area is and how long each construction phase will last. The On-Street Alternative could be built under a design/build contract administered by Metro, as was the existing MOL, or it could be constructed trough a design-bid-build contract administered by The City of Los Angeles, as have other highway corridor projects funded by Metro, such as the Santa Monica Boulevard Transit Parkway project. The widened roadway will be built in stages with detours anticipated to maintain traffic on some sections of the roadway while other sections are being reconstructed. In some locations, streets may be closed temporarily during nighttime hours or lanes may be closed temporarily. In addition to construction impacts due to changes in existing street geometrics, the traffic generated by construction workers and trucks hauling excavated material or construction supplies may also cause traffic impacts.

The detailed construction staging plans will be developed by the Design/Build contractor or City of Los Angeles, so it is not known if construction will occur from north to south in multiple segments or if it will occur along the entire corridor simultaneously. It might be anticipated that construction will occur on the east side of the existing roadway so that it is widened into the Metro ROW first and traffic can be diverted onto these new lanes while the western half of the roadway is reconstructed. It is likely that for several months at a time, traffic will be detoured onto temporary pavement with temporary lane markings and signage, as construction activity occurs in each segment. It is likely that two lanes in each direction will be maintained on Canoga Avenue, south of Nordhoff Street, during peak periods, but there may be times during off peak hours when the roadway is narrowed to one lane in each direction, potentially resulting in some congestion and/or diversion of traffic to parallel routes, such as Owensmouth Avenue, Topanga Canyon Boulevard, Variel Avenue or De Soto Avenue.

Potential impacts to arterial traffic may occur during reconstruction and paving of Canoga Avenue and the cross street approaches to the intersections along Canoga. This construction on east-west cross streets is similar to street re-paving projects and will most likely be very short in duration and can be accomplished by half-street closures. If any full closures are necessary it should be done during the off-peak and/or night hours to minimize congestion and loss of significant cross street capacity. Once paving is complete, the traffic signal modifications will be installed at the crossings and nearby intersections, but will not cause substantial traffic impacts.

*Temporary Lane and Night-time Street Closures*

No permanent street closures are anticipated; temporary lane and night-time street closures may be required. These are listed in **Table 4.7-26.** Duration of these will typically range from 3-7 months. It is not anticipated that any cross streets will be closed entirely at any time. During final design, site and street specific Worksite Traffic Control Plans will be developed in cooperation with LADOT to accommodate required pedestrian and traffic movements.

**Table 4.7-26 Temporary (Weekend and Nighttime) Partial Lane and Street Closures for Resurfacing and Paving – Alternative 3**

| | |
|---|---|
| Vanowen Street | Parthenia Street |
| Sherman Way | Nordhoff Street |
| Valerio Street | Plummer Street |
| Saticoy Street | Lassen Street |
| Roscoe Boulevard | Old Depot Plaza Road |
| Note: *All locations are at the BRT Crossing points | |

Source: Iteris, Inc., 2007.

Other construction activity including placement of new signal equipment for the Dedicated On-Street Bus Lanes and modifications to existing signals may require temporary minor lane closures, but will not result in street closures.

*Trucks Removing Excavated Material*

Trucks removing excavated materials from the stations and park-and-ride lots have the potential to cause traffic impacts, if the number of trucks on a particular route causes congestion or if the routes utilized by the trucks are inappropriate (e.g., primarily residential in nature).

*Parking*

Due to the nature of the Canoga On-Street Dedicated Bus Lanes Alternative, it is likely that on-street parking on the west side of Canoga Avenue will be removed during the construction period since the permanent removal of on-street parking is part of the alternative. If the replacement parking lots that are to be constructed on the Metro ROW as mitigation for the loss of this parking are constructed prior to the removal of the on-street parking, this impact will not be significant. If the replacement parking is not built until a later stage of the construction activity, a short-term parking impact may result do to the loss of on-street parking.

## Alternative 4. Canoga Busway

Because the Canoga Busway will be routed through urban areas, motorists and pedestrians will at times be delayed and inconvenienced during the construction period. These impacts will be felt most acutely in areas of station construction since the majority of the project construction will be taking place within the abandoned railroad ROW, which is separated from the main arterial circulation system.

The degree of traffic disruption during construction of the Canoga Busway will depend on how large the construction activity area is and how long the construction phase will last. In some locations, streets may be closed temporarily during nighttime hours or lanes may be closed temporarily. In addition to construction impacts due to changes in existing street geometrics, the traffic generated by construction workers and trucks hauling excavated material or construction supplies may also cause traffic impacts.

Throughout the corridor, in the segments where the project will be constructed within the existing abandoned railroad ROW, it is not expected that construction and construction-generated traffic will cause disruptions to local traffic and circulation patterns. The construction vehicles will enter the ROW at the arterial crossing points and will operate within the exclusive busway facility causing little disruption to parallel or crossing arterials.

Potential impacts to arterial traffic may occur during construction and paving of the at-grade crossings and the intersection improvements along Canoga Avenue to install northbound right-turn-only lanes. The at-grade crossings will be graded and the crossings will be re-paved for smooth operation of the buses across the intersecting streets. This construction activity is similar to street re-paving projects and will most likely be very short in duration and can be accomplished by half-street closures. If any full closures are necessary it should be done during the off-peak and/or night hours to minimize congestion and loss of significant cross street capacity. Once paving is complete, the traffic signal modifications will be installed at the crossings and nearby intersections, but will not cause substantial traffic impacts.

### *Temporary Lane and Night-time Street Closures*

No permanent street closures are anticipated; temporary lane and night-time street closures may be required. These are listed in **Table 4.7-27.** Duration of these will typically range from 3-7 months. It is not anticipated that any cross streets will be closed entirely at any time.

During final design, site and street specific Worksite Traffic Control Plans will be developed in cooperation with LADOT to accommodate required pedestrian and traffic movements.

**Table 4.7-27 Temporary (Weekend and Nighttime) Partial Lane and Street Closures for Resurfacing and Paving – Alternative 4**

| | |
|---|---|
| Vanowen Street | Parthenia Street |
| Sherman Way | Nordhoff Street |
| Valerio Street | Plummer Street |
| Saticoy Street | Lassen Street |
| Roscoe Boulevard | Old Depot Plaza Road |

Note: *All locations are at the BRT Crossing points Source: Iteris, Inc., 2007

Temporary reductions in roadway capacity will occur where busway construction will cross City streets, resulting in partial closures of some crossings. Other construction activity including placement of new signal equipment for the Canoga Busway and modifications to existing signals may require temporary minor lane closures, but will not result in street closures.

*Trucks Removing Excavated Material*

Trucks removing excavated materials from the stations and park-and-ride lots have the potential to cause traffic impacts, if the number of trucks on a particular route causes congestion or if the routes utilized by the trucks are inappropriate (e.g., primarily residential in nature).

*Parking*

Due to the nature of the Canoga Busway project, it is unlikely that the elimination of spaces during construction will cause an overall parking shortfall. However, localized impacts and parking shortages or shortages of convenient parking may occur in the area immediately surrounding one or more proposed stations.

*Cumulative Impacts*

There are two types of cumulative construction impacts that could occur if the construction contracts are not well coordinated with one another or with other major construction projects in the vicinity of this project.

The construction schedule and the packaging of contracts will be defined during preliminary engineering or final design. In order to avoid cumulative construction impacts, Metro should seek to specify in the Design/Build contract documents that multiple excavation efforts are not happening in close proximity to one another with trucks from more than one excavation project attempting to use the same haul route at the same time. The area is traversed by two freeways, SR-118 to the north and US 101 to the south, making it relatively easy to design haul routes from each station to a freeway via arterial streets, and the amount of excavated material may not be substantial if the earthwork can be balanced on site, thus minimizing the potential for cumulative impacts on any arterial street.

Since the precise construction scheduling and construction packages are not known at this time, it is not possible to comprehensively identify other specific development projects or public infrastructure improvement projects that might be under construction at the same time. Metro will continue to work with the City of Los Angeles and other entities (e.g., utility companies or Caltrans) to identify other major construction projects in the vicinity and coordinate construction activities, particularly haul routes (to be coordinated with LADOT and the Bureaus of Engineering (BOE) and Street Services), during the period of the construction contracts.

### *Mitigation Measures*

The following measures are identified to mitigate the potential impacts of construction on traffic circulation in the Canoga Transportation Corridor study area.

***MM 4.7- 14:*** Before the start of construction, Worksite Traffic Control Plans (WTCP) and Traffic Circulation Plans, including identification of detour requirements, will be formulated in cooperation with the City of Los Angeles and other affected jurisdictions (County, State). The WTCPs will be based on lane requirements and other special requirements defined by the Los Angeles City Department of Transportation (LADOT) for construction within the city and from other appropriate agencies for construction in those jurisdictions. LADOT will provide the contractor with the latest copy of the Requirements of the Contractor and Signs and Legends, to be incorporated into the WTCPs.

***MM 4.7-15:*** No designated major or secondary highway will be closed to vehicular or pedestrian traffic except at night or on weekends, unless approval is granted by LADOT. No collector or local street or alley will be completely closed, allowing continued local vehicular or pedestrian access to residences, businesses and other establishments. Comprehensive bus rerouting and detour plans will be adopted, if necessary.

***MM 4.7-16:*** Metro and the design/build contractor will develop preferred haul route plans for the removal of excavated material. The haul route plans shall prohibit the use of local residential streets, and avoid utilizing streets on which schools are located. If it is necessary for a potential haul route to pass a school, trucks shall be prohibited from hauling past the school during normal school hours. The truck haul route plan will distribute the trucks over more than one arterial street route to/from the freeways, but avoid the use of any local residential streets. Hauling operations may occur over more than one shift (not concentrated in an 8-hour period). Haul routes, which must be approved by the City of Los Angeles, will be developed in consultation with and must be approved by the LADOT and the Bureaus of Engineering and Street Services.

Example haul routes for carrying out excavated material are summarized below.

- Canoga Avenue south to 101 Freeway
- Canoga Avenue north and east to De Soto Avenue and north to SR-118

***MM 4.7-17:*** Metro will coordinate with other major construction projects within a 1-mile radius of the construction site to avoid, to the maximum extent practicable, overlapping haul routes with other public or private construction projects.

***MM 4.7-18:*** Prior to initiating construction, Metro will develop and adopt a site-specific parking plan that identifies construction worker parking restrictions and replacement parking for any substantial quantity of on-street parking lost during construction, subject to consultation with LADOT.

***MM 4.7-19:*** The City of Los Angeles will provide to the contractor the latest versions of Requirements of the Contractor and Signs and Legends, which will be incorporated into the construction contract and used in developing all WSTCPs.

***MM 4.7-20:*** Contractors shall notify property owners, residences, and businesses of major construction activities (e.g., utility relocation/disruption and re-routing of delivery trucks).

***MM 4.7-21:*** Contractors shall coordinate with local businesses and residents to provide advanced notification of traffic detours and delays, and potential utility disruptions associated with construction.

***MM 4.7-22:*** Contractors shall use temporary special signage to inform customers that merchants and other businesses directly affected by construction are open. The signage shall include closure information in advance of any future temporary closure. Signage shall also provide special access directions, if warranted.

***MM 4.7-23:*** Contractors shall be required to have all employees park off-street or on-street at Metro-approved locations to minimize the loss of commercial parking.

***MM 4.7-24*** Unless required by WSTCPs, construction activities shall be sequenced to minimize the temporary removal of multiple blocks of on-street parking at one time, which would make various on-street parking spaces available in an area under construction for a period of time.

***MM 4.7-25***: Prior to initiating construction, staging/detour plans will be reviewed by emergency response personnel (i.e. Fire Department).

*Level of Impact After Mitigation*: With the implementation of the mitigation measures above, the construction impacts of the project on traffic circulation and parking will be expected to be less than significant.

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**Impact 4.7.7 Cumulative development in the region would significantly impact traffic in the region, including the study area. The proposed project does not have a cumulatively considerable contribution to a significant cumulative impact.**

All Alternatives

As discussed in Impact 4.7.3, the proposed project would not have significant impact on any local intersections after mitigation. Furthermore, as discussed in Impacts 4.7.1 and 4.7.2, the proposed project would have a beneficial impact on Valley-wide mobility indicators such as VMT and VHT. Therefore, the proposed project would not have a considerable contribution to a significant cumulative impact.

***Mitigation Measures:*** None required.

***Level of Significance After Mitigation:*** Less than significant.

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# 4.8 AIR QUALITY

This section examines the degree to which the proposed project may result in significant adverse changes to air quality. Both short-term construction emissions occurring from activities such as site grading and haul truck trips and long-term effects related to the ongoing operation of the proposed project are discussed in this section. The analysis contained herein focuses on air pollution from two perspectives: daily emissions and pollutant concentrations. "Emissions" refer to the quantity of pollutant released into the air, measured in pounds per day (ppd). "Concentrations" refer to the amount of pollutant material per volumetric unit of air, measured in parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$).

## 4.8.1 EXISTING SETTING

### POLLUTANTS & EFFECTS

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards or criteria for outdoor concentrations to protect public health. The federal and state standards have been set at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include: carbon monoxide (CO), ozone ($O_3$), nitrogen dioxide ($NO_2$), sulfur dioxide ($SO_2$), particulate matter with a diameter less than or equal to 2.5 microns ($PM_{2.5}$), or less than or equal to 10 microns ($PM_{10}$), and lead (Pb). These pollutants are discussed below.

**Carbon Monoxide**. CO is a colorless and odorless gas formed by the incomplete combustion of fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas such as the project location, automobile exhaust accounts for the majority of CO emissions. CO is a non-reactive air pollutant that dissipates relatively quickly, so ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions, primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, a typical situation at dusk in urban areas between November and February.[1] The highest levels of CO typically occur during the colder months of the year when inversion conditions are more frequent. In terms of health, CO competes with oxygen, often replacing it in the blood, thus reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can be dizziness, fatigue, and impairment of central nervous system functions.

**Ozone**. $O_3$ is a colorless gas that is formed in the atmosphere when reactive organic gases (ROG), which includes volatile organic compounds (VOC), and oxides of nitrogen ($NO_X$) react in the presence of ultraviolet sunlight. $O_3$ is not a primary pollutant; it is a secondary pollutant formed by complex interactions of two pollutants directly emitted into the atmosphere. The primary sources of ROG and $NO_X$, the components of $O_3$, are automobile exhaust and industrial sources. Meteorology and terrain play major roles in $O_3$ formation. Ideal conditions occur during summer and early autumn, on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. The greatest source of smog-producing gases is the automobile. Short-term exposures (lasting for a few hours) to $O_3$ at levels typically observed in Southern California can result in breathing pattern

[1]Inversion is an atmospheric condition in which a layer of warm air traps cooler air near the surface of the earth, preventing the normal rising of surface air.

changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes.

**Nitrogen Dioxide.** $NO_2$, like $O_3$, is not directly emitted into the atmosphere but is formed by an atmospheric chemical reaction between nitric oxide (NO) and atmospheric oxygen. NO and $NO_2$ are collectively referred to as $NO_X$ and are major contributors to $O_3$ formation. $NO_2$ also contributes to the formation of $PM_{10}$. High concentrations of $NO_2$ can cause breathing difficulties and result in a brownish-red cast to the atmosphere with reduced visibility. 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 ppm.

**Sulfur Dioxide.** $SO_2$ is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Main sources of $SO_2$ are coal and oil used in power plants and industries. Generally, the highest levels of $SO_2$ are found near large industrial complexes. In recent years, $SO_2$ concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of $SO_2$ and limits on the sulfur content of fuels. $SO_2$ is an irritant gas that attacks the throat and lungs. It can cause acute respiratory symptoms and diminished ventilator function in children. $SO_2$ can also yellow plant leaves and erode iron and steel.

**Particulate Matter.** Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter also forms when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and $PM_{10}$ represent fractions of particulate matter. Inhalable particulate matter, or $PM_{10}$, is about 1/7 the thickness of a human hair. $PM_{2.5}$ refers to particulate matter that is 2.5 microns or less in diameter, roughly 1/28 the diameter of a human hair. Major sources of $PM_{10}$ include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning, industrial sources, windblown dust from open lands; and atmospheric chemical and photochemical reactions. $PM_{2.5}$ result from fuel combustion (e.g. motor vehicles, power generation, and industrial facilities), residential fireplaces, and wood stoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as $SO_2$, $NO_X$, and VOC.

$PM_{2.5}$ and $PM_{10}$ pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and $PM_{10}$ can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances, such as lead, sulfates, and nitrates can cause lung damage directly. These substances can be absorbed into the blood stream and cause damage elsewhere in the body. These substances can transport absorbed gases, such as chlorides or ammonium, into the lungs and cause injury. Whereas, particles 2.5 to 10 microns in diameter tend to collect in the upper portion of the respiratory system, particles 2.5 microns or less are so tiny that they can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility.

**Lead.** Pb in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline, the manufacturing of batteries, paint, ink, ceramics, and ammunition and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phase-out of leaded gasoline reduced the overall inventory of airborne lead by nearly 95 percent. With the phase-out of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emission sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance including intelligence quotient performance, psychomotor performance, reaction time, and growth.

**Toxic Air Contaminants.** A substance is considered toxic if it has the potential to cause adverse health effects in humans. A toxic substance released into the air is considered a toxic air contaminant (TAC). TACs are identified by state and federal agencies based on a review of available scientific evidence. In the State of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act, Assembly Bill 1807, Tanner. This two-step process of risk identification and risk management was designed to protect residents from the health effects of toxic substances in the air.

The South Coast Air Quality Management District (SCAQMD) has a long and successful history of reducing air toxics and criteria emissions in the South Coast Air Basin (Basin). SCAQMD has an extensive control program, including traditional and innovative rules and policies. These policies can be viewed in the SCAQMD's *Air Toxics Control Plan for the Next Ten Years* (March 2000).

## EXISTING AIR QUALITY

### Air Pollution Climatology

The project site is located within the Los Angeles County portion of the Basin. Ambient pollution concentrations recorded in Los Angeles County are among the highest in the four counties comprising the Basin.

The Basin is an area of high air pollution potential due to its climate and topography. The general region lies in the semi-permanent high pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. This Basin experiences warm summers, mild winters, infrequent rainfalls, light winds, and moderate humidity. This usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The Basin is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the west and high mountains around the rest of its perimeter. The mountains and hills within the area contribute to the variation of rainfall, temperature, and winds throughout the region.

The Basin experiences frequent temperature inversions. Temperature typically decreases with height. However, under inversion conditions, temperature increases as altitude increases, thereby preventing air close to the ground from mixing with the air above it. As a result, air pollutants are trapped near the ground. During the summer, air quality problems are created due to the interaction between the ocean surface and the lower layer of the atmosphere. This interaction creates a moist marine layer. An upper layer of warm air mass forms over the cool marine layer, preventing air pollutants from dispersing upward. Additionally, hydrocarbons and $NO_2$ react under strong sunlight, creating smog. Light, daytime winds, predominantly from the west, further aggravate the condition by driving air pollutants inland, toward the mountains. During the fall and winter, air quality problems are created due to CO and $NO_2$ emissions. CO concentrations are generally worse in the morning and late evening (around 10:00 p.m.). In the morning, CO levels are relatively high due to cold temperatures and the large number of cars traveling. High CO levels during the late evenings are a result of stagnant atmospheric conditions trapping CO in the area. Since CO is

produced almost entirely from automobiles, the highest CO concentrations in the Basin are associated with heavy traffic. $NO_2$ levels are also generally higher during fall and winter days.

The mountains and hills within the Basin contribute to the variation of rainfall, temperature, and winds throughout the region. The historical average wind speed recorded at the Burbank Wind Monitoring Station is approximately four miles per hour, with calm winds occurring approximately ten percent of the time. Wind at the project site predominately blows from the southeast.[2]

The historical annual average temperature at the project site is approximately 64 degrees Fahrenheit (°F). The project site experiences an average winter temperature of approximately 54°F and an average summer temperature of approximately 74°F. Total precipitation at the project site averages approximately 17 inches annually. Precipitation occurs mostly during the winter and relatively infrequently during the summer. Precipitation averages approximately ten inches during the winter, approximately four inches during the spring, approximately four inches during the fall, and less than one inch during the summer.[3]

The SCAQMD monitors air quality conditions at 38 locations throughout the Basin. The proposed project site is located in SCAQMD's West San Fernando Valley Air Monitoring Subregion (No. 6), which is served by the Reseda Air Monitoring Station. The Reseda Air Monitoring Station is located approximately four miles east of the project site at 18330 Gault Street in the City of Reseda. Historical data from the Reseda Air Monitoring Station were used to characterize existing conditions at the project site. Criteria pollutants monitored at the Reseda Air Monitoring Station include $O_3$, CO, $NO_2$, and $PM_{2.5}$. This station does not monitor $PM_{10}$ or $SO_2$. The nearest, most representative station that monitors $PM_{10}$ and $SO_2$ data is the Burbank Air Monitoring Station, located approximately 16 miles east of the project site at 228 West Palm Avenue in the City of Burbank. The locations of the relevant air monitoring stations are shown in **Figure 4.8-1**.

**Table 4.8-1** shows pollutant levels, the state standards, and the number of exceedances recorded at the Reseda and Burbank Monitoring Stations from 2004 to 2006.[4] As **Table 4.8-1** indicates, criteria pollutants CO, $NO_2$, and $SO_2$ did not exceed the state standards during the 2004 through 2006 period. However, the one-hour state standard for $O_3$ was exceeded 30 to 54 times during this period, and the eight-hour state standard for $O_3$ was exceeded 29 to 65 times. Additionally, the 24-hour state standard for $PM_{10}$ was exceeded between five and ten times, and the $PM_{2.5}$ annual average was exceeded each year from 2004 to 2006.

CO concentrations are typically used as an indicator of conformity with state standards because CO is the primary component of automobile exhaust (tailpipe emissions), and it does not readily react with other pollutants. In other words, operational air quality impacts associated with a project are generally best reflected through estimated changes in CO concentrations.

For purposes of this assessment, the ambient, or background, CO concentration is first established. SCAQMD defines the background level as the highest reading over the past three years. A review of data from the Reseda Monitoring Stations for the 2004 to 2006 period indicates that the one- and eight-hour background concentrations are approximately 5 and 3.5 ppm, respectively. The existing one- and eight-hour background concentrations do not exceed the state CO standard of 20 ppm and 9.0 ppm, respectively.

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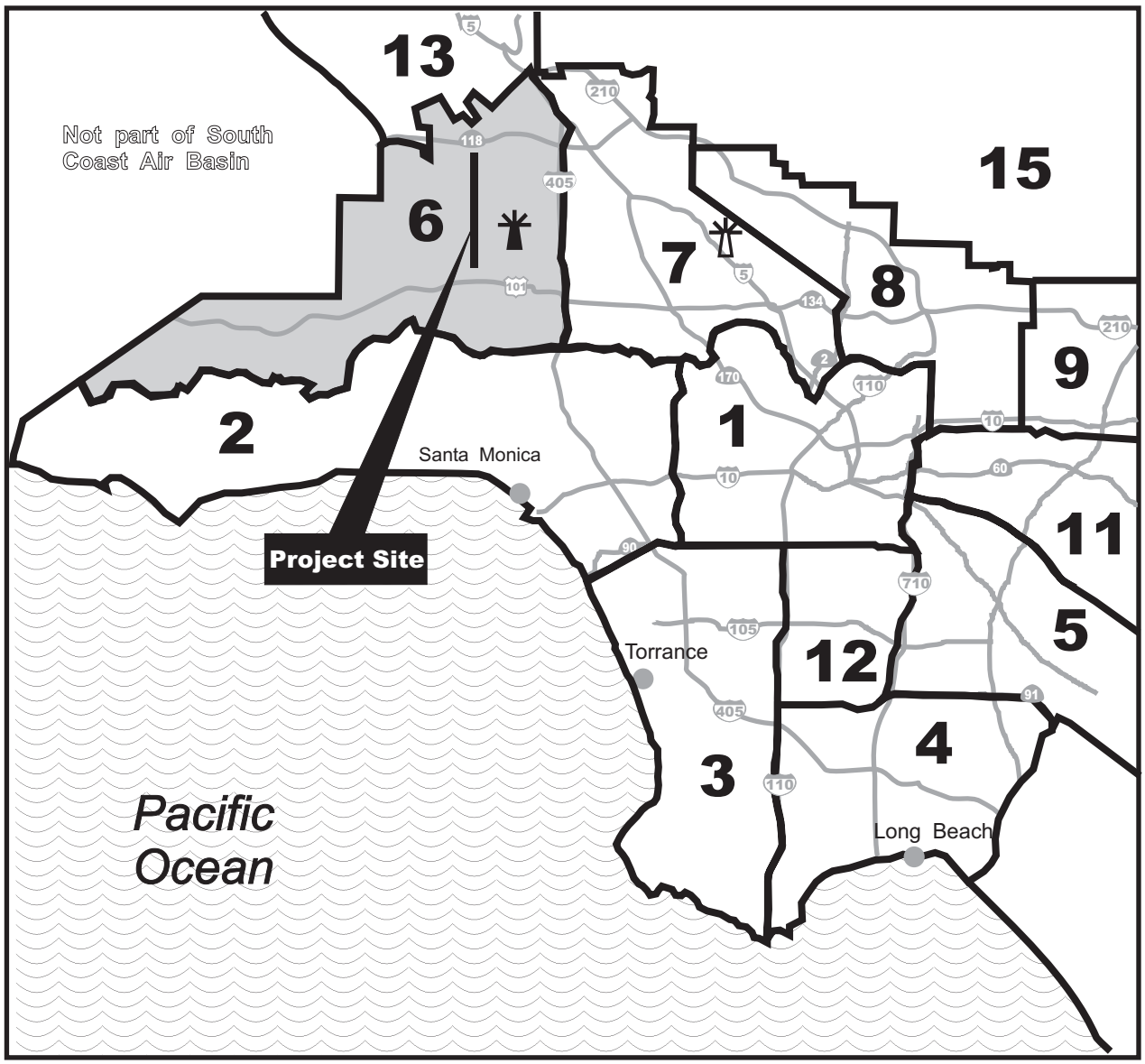
[2]SCAQMD, http://www.aqmd.gov/smog/metdata/MeteorologicalData.html.

[3]Western Regional Climate Center, http:// www.wrrc.dri.edu, accessed September 11, 2007.

[4]SCAQMD 2007 air quality data were not available when this analysis was completed.




**Legend** Reseda Monitoring Station  Burbank Monitoring Station

Air Monitoring Areas in Los Angeles County:

1. Central Los Angeles
2. Northwest Coastal
3. Southwest Coastal
4. South Coastal
5. Southeast Los Angeles County
6. West San Fernando Valley
7. East San Fernando Valley
8. West San Gabriel Valley
9. East San Gabriel Valley
10. Pomona/Walnut Valley (not shown)
11. South San Gabriel Valley
12. South Central Los Angeles
13. Santa Clarita Valley
15. San Gabriel Mountains

Approx. Scale

0 3.0 6.0 9.0 Miles

*Source: South Coast Air Quality Management District Air Monitoring Areas Map, 1999*

**TABLE 4.8-1: 2004-2006 Data from the Reseda and Burbank Monitoring Stations**

| Pollutant | Pollutant Concentration & Standards | Number of Days Above State Standard | | |
|---|---|---|---|---|
| | | 2004 | 2005 | 2006 |
| Ozone (1-hour) | Maximum 1-hr Concentration (ppm)<br>Days > 0.09 ppm (state 1-hr standard) | 0.13<br>54 | 0.14<br>30 | 0.16<br>32 |
| Ozone (8-hour) | Maximum 8-hr concentration (ppm)<br>Days > 0.08 ppm (federal 8-hr standard) | 0.12<br>65 | 0.11<br>29 | 0.11<br>39 |
| Carbon Monoxide | Maximum 1-hr concentration (ppm)<br>Days > 20 ppm (state 1-hr standard) | 5<br>0 | 5<br>0 | 5<br>0 |
| Carbon Monoxide | Maximum 8-hr concentration (ppm)<br>Days > 9 ppm (state 8-hr standard) | 3.5<br>0 | 3.5<br>0 | 3.4<br>0 |
| Nitrogen Dioxide | Maximum 1-hr Concentration (ppm)<br>Days > 0.18 ppm (state 1-hr standard) | 0.08<br>0 | 0.09<br>0 | 0.07<br>0 |
| PM10 | Maximum 24-hr concentration (µg/m$^3$)<br>Estimated Days > 50 µg/m$^3$ (state 24-hr standard) | 74<br>7 | 92<br>5 | 71<br>10 |
| PM2.5 | Maximum Annual Arithmetic Mean (µg/m$^3$)<br>Exceed state Standard (12 µg/m$^3$)? | 16<br>Yes | 14<br>Yes | 13<br>Yes |
| Sulfur Dioxide | Maximum 24-hr Concentration (ppm)<br>Days > 0.05 ppm (state 24-hr standard) | 0.010<br>0 | 0.006<br>0 | 0.004<br>0 |

**SOURCE:** SCAQMD, http://www.aqmd.gov/smog/historicaldata.htm

## Background Carbon Monoxide Conditions

CO concentrations are typically used as an indicator of conformity with state standards because CO is the primary component of automobile exhaust (tailpipe emissions), and it does not readily react with other pollutants. In other words, operational air quality impacts associated with a project are generally best reflected through estimated changes in CO concentrations.

For purposes of this assessment, the ambient, or background, CO concentration is first established. SCAQMD defines the background level as the highest reading over the past three years. A review of data from the Reseda Monitoring Stations for the 2004 to 2006 period indicates that the one- and eight-hour background concentrations are approximately 5 and 3.5 ppm, respectively. The existing one- and eight-hour background concentrations do not exceed the state CO standard of 20 ppm and 9.0 ppm, respectively.

## Existing Carbon Monoxide Concentrations at Project Area Intersections

There is a direct relationship between traffic/circulation congestion and CO impacts since exhaust fumes from vehicular traffic is the primary source of CO. CO is a localized gas that dissipates very quickly under normal meteorological conditions. Therefore, CO concentrations decrease substantially as distance from the source (intersection) increases. The highest CO concentrations are typically found in areas directly adjacent to congested roadway intersections.

Existing CO concentrations adjacent to five study intersections were modeled for daily conditions. The study intersections were selected to be representative of the project area and were based on traffic volume to capacity (V/C) ratio and the traffic level of service (LOS) as indicated in the traffic analysis.[5,6]

[5]Level of service is used to indicate the quality of traffic flow on roadway segments and at intersections. Level of service ranges from LOS A (free flow, little congestion) to LOS F (forced flow, extreme congestion).

[6]See EIR Section 4.7 Traffic, Circulation, & Parking.

The selected intersections are as follows:

- Lassen Street / Owensmouth Avenue - PM Peak Hour
- Erwin Street / Canoga Avenue - PM Peak Hour
- Lassen Street / Owensmouth Avenue - AM Peak Hour
- Sherman Way / Canoga Avenue - AM Peak Hour
- Vanowen Street / Canoga Avenue - PM Peak Hour

At each intersection, traffic-related CO contributions were added to background CO conditions. Traffic CO contributions were estimated using the United States Environmental Protection Agency (USEPA) CAL3QHC dispersion model, which utilizes traffic volume inputs and California Air Resources Board (CARB) EMFAC2007 emissions factors. Consistent with the California Department of Transportation (Caltrans) CO protocol, receptors were located three meters (approximately ten ft.) from each intersection corner.[7] Existing traffic conditions at the study intersections are shown in **Table 4.8-2**. One-hour CO concentrations at the analyzed intersections are approximately 6 ppm and eight-hour CO concentrations range from approximately 4.1 ppm to 4.3 ppm. Presently, none of the study intersections exceed the state one- and eight-hour CO standards of 20 ppm and 9.0 ppm, respectively.

**TABLE 4.8-2: Existing Carbon Monoxide Concentrations/a/**

| Intersections | Parts Per Million (ppm) | |
|---|---|---|
| | 1-hour | 8-hour |
| Lassen Street/Owensmouth Avenue - PMPeak Hour | 6 | 4.3 |
| Erwin Street/Canoga Avenue - PM Peak Hour | 6 | 4.3 |
| Lassen Street/Owensmouth Avenue - AM Peak Hour | 6 | 4.1 |
| Sherman Way/Canoga Avenue - AM Peak Hour | 6 | 4.3 |
| Vanowen Street/Canoga Avenue - PM Peak Hour | 6 | 4.2 |
| **State Standard** | **20** | **9.0** |

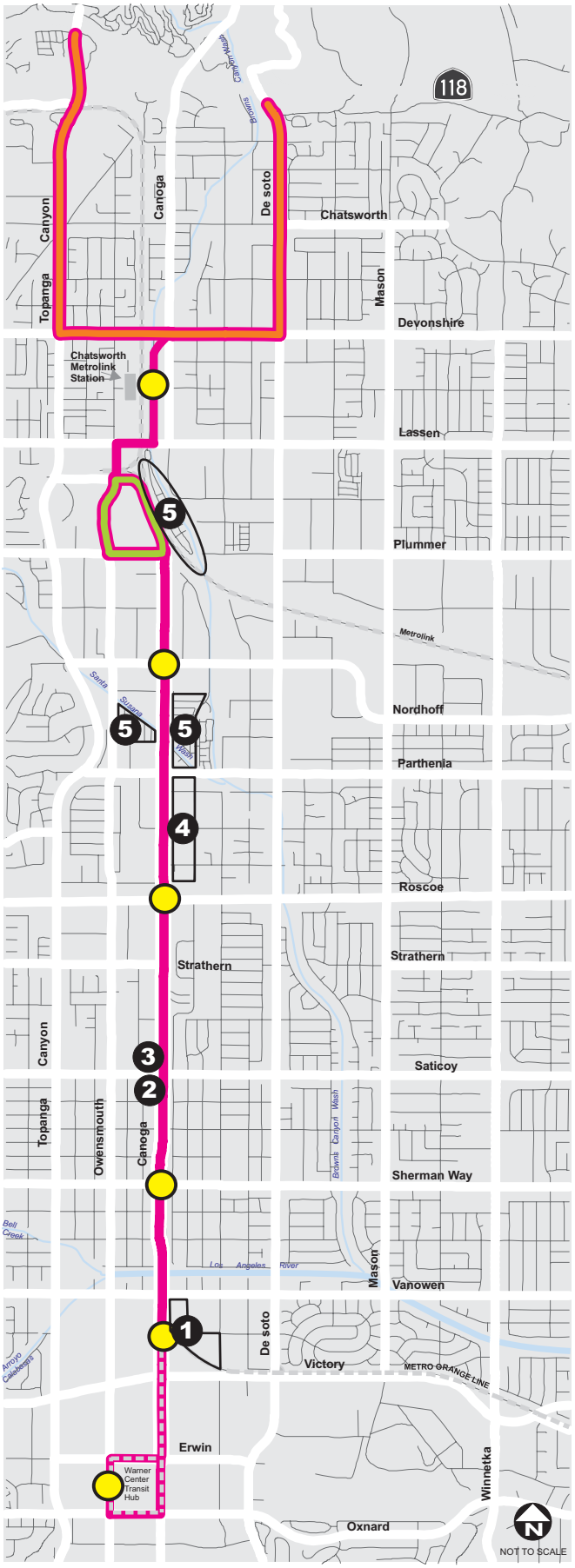
/a/All concentrations include one- and eight-hour ambient concentrations of 5 ppm and 3.5 ppm, respectively.
**SOURCE:** TAHA, 2008

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution, as identified by CARB, include children under 14, the elderly over 65 years of age, athletes, and people with cardiovascular and chronic respiratory diseases. According to the SCAQMD, sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.

As shown in **Figure 4.8-2**, sensitive receptors within one-quarter mile (1,320 ft.) of the project corridor include the following:

- Archstone Warner Center Apartments at the corner of Kittridge Street and Variel Avenue, approximately 40 to 370 ft. east of the project corridor

[7]Caltrans, Transportation Project-Level Carbon Monoxide Protocol, 1997.




Source: TAHA, 2007

- New Academy School on the west side of Canoga Avenue, between Cohasset and Saticoy Streets, approximately 25 to 80 ft. west of the project corridor

- Los Angeles County Mental Health on the west side of Canoga Avenue, between Keswick and Saticoy Streets, approximately 15 to 120 ft. west of the project corridor

- Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard, approximately 30 to 90 ft. from the project corridor

- Single-family and multi-family homes on the east side of Canoga Avenue, north of Community Street and south of Parthenia Street, approximately 70 to 105 ft. from the project corridor

- Eton Mobile Home Park on the east side of Canoga Avenue, between Osborne Street and Riviera Mobile Estates, approximately 25 to 50 ft. from the project corridor

- Riviera Mobile Estates on the east side of Canoga Avenue, north of Parthenia Street, approximately 25 to 50 ft. from the project corridor

- Canoga Mobile Estates homes on the west side of Canoga Avenue, between the Santa Susana Creek and Parthenia Street, approximately 35 to 90 ft. from the project site corridor

- Sunburst Mobile Home Park east of Canoga Avenue, between Lassen and Plummer Streets, approximately 30 to 330 ft. from the project corridor

- Multi-family residential uses on the north side of Lassen Street, between Owensmouth and Remmet Avenues, approximately 15 to 450 ft. from the project corridor

The above sensitive receptors represent the nearest sensitive land uses with the potential to be impacted by the proposed project. Additional single- and multi-family residences are located in the surrounding community within one-quarter mile of the project corridor.

## 4.8.2 REGULATORY FRAMEWORK

The Federal Clean Air Act (CAA) governs air quality in the United States. In addition to being subject to the requirements of CAA, air quality in California is also governed by more stringent regulations under the California Clean Air Act (CCAA). At the federal level, CAA is administered by the USEPA. In California, the CCAA is administered by the CARB at the state level and by the air quality management districts and air pollution control districts at the regional and local levels.

**United States Environmental Protection Agency.** USEPA is responsible for enforcing the federal CAA. USEPA is also responsible for establishing the National Ambient Air Quality Standards (NAAQS). NAAQS are required under the 1977 CAA and subsequent amendments. USEPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain types of locomotives. USEPA has jurisdiction over emission sources outside state waters (e.g., beyond the outer continental shelf) and establishes various emission standards, including those for vehicles sold in states other than California. Automobiles sold in California must meet stricter emission standards established by CARB.

**California Air Resources Board.** In California, CARB, which became part of the California Environmental Protection Agency (CalEPA) in 1991, is responsible for meeting the state

requirements of the federal CAA, administering the CCAA, and establishing the California Ambient Air Quality Standards (CAAQS). The CCAA, as amended in 1992, requires all air districts in the state to endeavor to achieve and maintain the CAAQS. CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride and visibility reducing particles. CARB regulates mobile air pollution sources, such as motor vehicles. CARB is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. CARB established passenger vehicle fuel specifications, which became effective on March 1996. CARB oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional and county level.

**South Coast Air Quality Management District.** SCAQMD monitors air quality within the project area. SCAQMD has jurisdiction over an area of approximately 10,743 square miles, consisting of Orange County; the non-desert portions of Los Angeles, Riverside, and Bernardino counties; and the Riverside County portion of the Salton Sea Air Basin and Mojave Desert Air Basin. The 1977 Lewis Air Quality Management Act created SCAQMD to coordinate air quality planning efforts throughout southern California. This Act merged four county air pollution control agencies into one regional district to better address the issue of improving air quality in Southern California. Under the Act, renamed the Lewis-Presley Air Quality Management Act in 1988, SCAQMD is the agency principally responsible for comprehensive air pollution control in the Basin. Specifically, SCAQMD is responsible for monitoring air quality, as well as planning, implementing, and enforcing programs designed to attain and maintain state and federal ambient air quality standards in the district. Programs that were developed include air quality rules and regulations that regulate stationary sources, area sources, point sources, and certain mobile source emissions. SCAQMD is also responsible for establishing stationary source permitting requirements and for ensuring that new, modified, or relocated stationary sources do not create net emission increases.

The Basin is a subregion of the SCAQMD and covers an area of 6,745 square miles. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The Basin is bounded by the Pacific Ocean to the west; the San Gabriel, San Bernardino and San Jacinto mountains to the north and east; and the San Diego County line to the south (**Figure 4.8-3**).

SCAQMD Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities) specifies work practice requirements to limit asbestos emissions from building demolition activities, including the removal and associated disturbance of asbestos-containing materials (ACM). The requirements for demolition activities include asbestos surveying, notification, ACM removal procedures and time schedules, ACM handling and clean-up procedures, and storage, disposal, and landfilling requirements for asbestos-containing waste materials. All operators are required to maintain records, including waste shipment records, and are required to use appropriate warning labels, signs, and markings.

**Global Climate Change.** Global climate change refers to historical variance in Earth's meteorological conditions, which are measured by wind patterns, storms, precipitation, and temperature. There is general scientific agreement that the Earth's average surface temperature has increased by 0.3 to 0.6 degrees Celsius over the past century. The reasons behind the increase in temperature are not well understood and are the subject of intense research activity. Many scientific studies have been completed to determine the extent that greenhouse gas (GHG) emissions from human sources (e.g., fossil fuel combustion) affect the Earth's climate. The interrelationships between atmospheric composition, chemistry, and climate change are very complex. For example, historical records


Source: California Air Resources Board, State and Local Air Monitoring Network Plan, October 1998

indicate a natural variability in surface temperature. Historical records also indicate that atmospheric concentrations of a number of GHG have increased significantly since the beginning of the industrial revolution. As such, significant attention is being given to anthropogenic (human) GHG emissions.

Many chemical compounds found in the Earth's atmosphere act as GHG. These gases allow sunlight to enter the atmosphere freely. When sunlight strikes the Earth's surface, some of it is reflected back towards space as infrared radiation (heat). GHGs absorb this infrared radiation and trap the heat in the atmosphere. Over time, the amount of energy sent from the sun to the Earth's surface should be approximately equal to the amount of energy radiated from Earth back into space, leaving the temperature of the Earth's surface roughly constant. Some GHG are emitted naturally (water vapor, carbon dioxide ($CO_2$), methane ($CH_4$), and $NO_2$), while others are exclusively human-made (e.g., gases used for aerosols). According to the California Energy Commission (CEC), emissions from fossil fuel consumption represent approximately 81 percent of GHG emissions and transportation creates 41 percent of GHG emissions in California.

The State of California has traditionally been a pioneer in efforts to reduce air pollution, dating back to 1963 when the California New Motor Vehicle Pollution Control Board adopted the nation's first motor vehicle emission standards. Likewise, California has a long history of actions undertaken in response to the threat posed by climate change. Assembly Bill (AB) 1493, signed by California's governor in July 2002, requires passenger vehicles and light duty trucks to achieve maximum feasible reduction of GHG emissions by model year 2009. AB 1493 was enacted based on recognition that passenger cars are significant contributors to the state's GHG emissions.

Following the passage of AB 1493, the issue was turned over to CARB to determine the reduction targets, based on the CARB's analysis of available and near-term technology and cost. After evaluating the options, the CARB established limits that will result in approximately a 22-percent reduction in GHG emissions from new vehicles by 2012, and approximately a 30-percent reduction by 2016. The Federal Clean Air Act reserves the control of emissions from motor vehicles for the federal government—with the exception of California, due to its early activity and special conditions (i.e., high density of motor vehicles, topography conducive to pollution formation in heavily populated basins—e.g., Los Angeles and the San Joaquin Valley), and any states that opt for the California regulations. For California to implement a modification such as that represented in AB 1493, it must, per the language of the Federal Clean Air Act, request a waiver (Sec. 209 (b)1). The USEPA has not ruled on California's request for a waiver, thereby possibly delaying CARB's proposed implementation schedule.

On September 27, 2006, AB 32, the California Global Warming Solutions Act of 2006, was enacted by the State of California. The legislature stated that "global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." AB 32 caps California's GHG emissions at 1990 levels by 2020. AB 32 defines GHG emissions as all of the following gases: $CO_2$, $CH_4$, $NO_2$, hydrofluorocarbons, perfluorocarbons and sulfur hexaflouride. This bill represents the first enforceable statewide program in the United States to cap all GHG emissions from major industries and include penalties for non-compliance. While acknowledging that national and international actions will be necessary to fully address the issue of global warming, AB 32 lays out a program to inventory and reduce GHG emissions in California and from power generation facilities located outside the state that serve California residents and businesses.

AB 32 charges CARB with the responsibility to monitor and regulate sources of GHG emissions in order to reduce those emissions. On June 1, 2007, CARB adopted three discrete early action measures to reduce GHG emission. These measures involved complying with a low carbon fuel standard, reducing refrigerant loss from motor vehicle air conditioning maintenance, and increasing

methane capture from landfills. On October 25 2007, the CARB tripled the set of previously approved early action measures. The newly approved measures include Smartway truck efficiency (i.e., reducing aerodynamic drag), port electrification, reducing perfluorocarbons from the semiconductor industry, reducing propellants in consumer products, promoting proper tire inflation in vehicles, and reducing sulfur hexaflouride emission from the non-electricity sector. AB 32 also required CARB to define the 1990 baseline emissions for California and adopt that baseline as the 2020 statewide emissions cap. CARB has determined that the total statewide aggregated greenhouse gas 1990 emissions level and 2020 emissions limit is 427 million metric tonnes of carbon dioxide equivalent.

CARB is also tasked with establishing a set of rules by January 1, 2011, for reducing GHG emissions to achieve the emissions cap by 2020. These rules must take effect no later than 2012. In designing emission reduction measures, CARB must aim to minimize costs, maximize benefits, improve and modernize California's energy infrastructure, maintain electric system reliability, maximize additional environmental and economic co-benefits for California, and complement the state's efforts to improve air quality.

California Senate Bill (SB) 97, passed in August 2007, is designed to work in conjunction with the CEQA and AB 32. CEQA requires the State Office of Planning and Research (OPR) to prepare and develop proposed guidelines for the implementation of CEQA by public agencies. SB 97 requires OPR, by July 1, 2009, to prepare, develop, and transmit to the State Resources Agency guidelines for the feasible mitigation of GHG emissions, as required by CEQA, including, but not limited to, effects associated with transportation or energy consumption. The Resources Agency would be required to certify and adopt the guidelines by January 1, 2010 and OPR would be required to periodically update the guidelines to incorporate new information or criteria established by the CARB pursuant to the California Global Warming Solutions Act of 2006. SB 97 would apply retroactively to any environmental impact report, negative declaration, mitigated negative declaration, or other document under CEQA that has not been certified or adopted by the CEQA lead agency. In addition, SB 97 exempts transportation projects funded under the Highway Safety, Traffic Reduction, Air Quality and Port Security Bond Act of 2006, or projects funded under the Disaster Preparedness and Flood Prevention Bond Act of 2006.

At this time, the USEPA does not regulate GHG emissions. In April 2007, the USEPA issued an important ruling in its first case on global warning. In the case of Massachusetts v. USEPA, the United States Supreme Court reviewed a USEPA decision not to regulate GHG emissions from cars and trucks under the Clean Air Act. The Court found that Massachusetts was injured by global warming. The lawsuit focused on Section 202 of the Clean Air Act. The case resolved the following legal issues: (1) the Clean Air Act grants the USEPA authority to regulate GHG, and (2) USEPA did not properly exercise its lawful discretion in deciding not to promulgate regulations.

Global warming and climate change have received substantial public attention for more than 15 years. For example, the United States Global Change Research Program was established by the Global Change Research Act of 1990 to enhance the understanding of natural and human-induced changes in the Earth's global environmental system, to monitor, understand and predict global change, and to provide a sound scientific basis for national and international decision making.

However, the analytical tools have not been developed to determine the effect on worldwide global warming from a particular increase in GHG, or the resulting effects on climate change in a particular locale. The scientific tools needed to evaluate the impacts that a specific project may have on the environment are also not yet available.

## National and California Ambient Air Quality Standards and Attainment Status

As required by the federal CAA, NAAQS have been established for seven major air pollutants: CO, $NO_2$, $O_3$, $PM_{2.5}$, $PM_{10}$, $SO_2$, and Pb. The CAA requires USEPA to designate areas as either attainment or nonattainment for each criteria pollutant based on whether the NAAQS have been achieved. The federal standards are summarized in **Table 4.8-3**. The USEPA has classified the Basin as maintenance for CO and nonattainment for $O_3$, $PM_{2.5}$, and $PM_{10}$.

**TABLE 4.8-3: State and National Ambient Air Quality Standards**

| Pollutant | Averaging Period | California | | Federal | |
|---|---|---|---|---|---|
| | | Standards | Attainment Status | Standards | Attainment Status |
| Ozone (O3) | 1-hour | 0.09 ppm (180 µg/m³) | Nonattainment | -- | -- |
| | 8-hour | 0.070 ppm (137 µg/m³) | n/a | 0.08 ppm (157 µg/m³) | Nonattainment |
| Respirable Particulate Matter (PM10) | 24-hour | 50 µg/m³ | Nonattainment | 150 µg/m³ | Nonattainment |
| | Annual Arithmetic Mean | 20 µg/m³ | Nonattainment | -- | -- |
| Fine Particulate Matter (PM2.5) | 24-hour | -- | -- | 35 µg/m³ | Nonattainment |
| | Annual Arithmetic Mean | 12 µg/m³ | Nonattainment | 15 µg/m³ | Nonattainment |
| Carbon Monoxide (CO) | 8-hour | 9.0 ppm (10 mg/m³) | Attainment | 9 ppm (10 mg/m³) | Maintenance |
| | 1-hour | 20 ppm (23 mg/m³) | Attainment | 35 ppm (40 mg/m³) | Maintenance |
| Nitrogen Dioxide (NO2) | Annual Arithmetic Mean | 0.03 ppm (56 µg/m³) | Attainment | 0.053 ppm (100 µg/m³) | Attainment |
| | 1-hour | 0.18 ppm (338 µg/m³) | Attainment | -- | -- |
| Sulfur Dioxide (SO2) | Annual Arithmetic Mean | -- | -- | 0.03 ppm (80 µg/m³) | Attainment |
| | 24-hour | 0.04 ppm (105 µg/m³) | Attainment | 0.14 ppm (365 µg/m³) | Attainment |
| | 3-hour | -- | -- | -- | -- |
| | 1-hour | 0.25 ppm (655 µg/m³) | Attainment | -- | -- |
| Lead (Pb) | 30-day average | 1.5 µg/m³ | Attainment | -- | -- |
| | Calendar Quarter | -- | -- | 1.5 µg/m³ | Attainment |

**SOURCE**: CARB, *Ambient Air Quality Standards*, February 22, 2007

As discussed above, the CAAQS are generally more stringent than the corresponding federal standards (NAAQS) and, as such, are used as the comparative standard in the air quality analysis contained in this report. The state standards are summarized in **Table 4.8-3**.

The CCAA requires CARB to designate areas within California as either attainment or non-attainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data shows that a state standard for the pollutant was violated at least once during the previous three calendar years.

Exceedances that are affected by highly irregular or infrequent events are not considered violations of a state standard and are not used as a basis for designating areas as nonattainment. Under the CCAA, the Los Angeles County portion of the Basin is designated as a nonattainment area for $O_3$, $PM_{2.5}$, and $PM_{10}$.[8]

**Air Quality Management Plan.** All areas designated as non-attainment under the CCAA are required to prepare plans showing how the area would meet the state air quality standards by its attainment dates. The AQMP is the region's plan for improving air quality in the region. It addresses CAA and CCAA requirements and demonstrates attainment with state and federal ambient air quality standards. The AQMP is prepared by SCAQMD and the Southern California Association of Governments (SCAG). The AQMP provides policies and control measures that reduce emissions to attain both state and federal ambient air quality standards by their applicable deadlines. Environmental review of individual projects within the Basin must demonstrate that daily construction and operational emissions thresholds, as established by the Basin, would not be exceeded. The environmental review must also demonstrate that individual projects would not increase the number or severity of existing air quality violations.

The 2007 AQMP was adopted by the SCAQMD on June 1, 2007. The 2007 AQMP proposes attainment demonstration of the federal $PM_{2.5}$ standards through a more focused control of $SO_X$, directly-emitted $PM_{2.5}$, and $NO_X$ supplemented with VOC by 2015. The eight-hour ozone control strategy builds upon the $PM_{2.5}$ strategy, augmented with additional $NO_X$ and VOC reductions to meet the standard by 2024. The 2007 AQMP also addresses several federal planning requirements and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The 2007 AQMP is consistent with and builds upon the approaches taken in the 2003 AQMP. However, the 2007 AQMP highlights the significant amount of reductions needed and the urgent need to identify additional strategies, especially in the area of mobile sources, to meet all federal criteria pollutant standards within the time frames allowed under the CAA.

## 4.8.3 IMPACTS AND MITIGATION MEASURES

### Significance Criteria

The proposed project would result in a significant construction impact if:

- Regional or localized construction emissions exceed SCAQMD thresholds for VOC, $NO_X$, CO, $SO_X$, $PM_{2.5}$, or $PM_{10}$. SCAQMD significance thresholds for construction activities appear in **Table 4.8-4**;
- The proposed project would generate excessive emissions of TACs; or
- The proposed project would create an odor nuisance.

[8]CARB, http://www.arb.ca.gov/desig/adm/adm.htm, accessed August 13, 2007.

| TABLE 4.8-4: SCAQMD Daily Construction Emissions Thresholds | | |
|---|---|---|
| **Criteria Pollutant** | **Regional Pounds Per Day** | **Localized Pounds Per Day** |
| Volatile Organic Compounds (VOC) | 75 | -- |
| Nitrogen Oxides (NOx) | 100 | 136 |
| Carbon Monoxide (CO) | 550 | 216 |
| Sulfur Oxides (SOx) | 150 | -- |
| Particulates (PM2.5) | 55 | 3 |
| Particulates (PM10) | 150 | 3 |
| **SOURCE**: SCAQMD, *CEQA Air Quality Handbook*, 1993, SCAQMD, *Sample Construction Scenarios For Projects Less Than Five Acres In Size*, February 2005, and SCAQMD, *Final Methodology to Calculate Particulate matter (PM) 2.5 and PM2.5 Significance Thresholds*, October 2006 | | |

The proposed project would result in a significant operational impact if:

- Daily operational emissions exceed SCAQMD operational emissions thresholds for VOC, $NO_X$, CO, $SO_X$, $PM_{2.5}$, or $PM_{10}$. SCAQMD significance thresholds for operational emissions appear in **Table 4.8-5**;
- Project-related traffic causes CO concentrations at study intersections to violate the CAAQS for either the one- or eight-hour period. The CAAQS for the one- and eight-hour periods are 20 ppm and 9.0 ppm, respectively. If CO concentrations currently exceed the CAAQS, then an incremental increase of 1.0 ppm over "no project" conditions for the one-hour period would be considered a significant impact. An incremental increase of 0.45 ppm over the "no project" conditions for the eight-hour period would be considered significant;[9]
- The proposed project would generate excess emissions of TACs;
- The proposed project would create an odor nuisance; or
- The proposed project would not be consistent with the AQMP.

| TABLE 4.8-5: SCAQMD Daily Operational Emissions Thresholds | |
|---|---|
| **Criteria Pollutant** | **Pounds Per Day** |
| Volatile Organic Compounds (VOC) | 55 |
| Nitrogen Oxides (NOx) | 55 |
| Carbon Monoxide (CO) | 550 |
| Sulfur Oxides (SOx) | 150 |
| Fine Particulates (PM2.5) | 55 |
| Particulates (PM10) | 150 |
| **SOURCE**: SCAQMD, *CEQA Air Quality Handbook*, 1993 | |

[9]Consistent with the SCAQMD Regulation XIII definition of a significant impact.

## Methodology

This air quality analysis is consistent with the methods described in the SCAQMD *CEQA Air Quality Handbook* (1993 edition), as well as the updates to the *CEQA Air Quality Handbook*, as provided on the SCAQMD website.[10]

Regional and localized construction emissions were analyzed for the proposed project. Construction emissions were calculated using the *CEQA Air Quality Handbook*. Regional emissions were compared to SCAQMD regional thresholds to determine project impact significance. The localized construction analysis followed guidelines published by the SCAQMD in the *Localized Significance Methodology for CEQA Evaluations* (SCAQMD Localized Significance Threshold (LST) Guidance Document).[11] In January 2005, the SCAQMD supplemented the SCAQMD LST Guidance Document with *Sample Construction Scenarios for Projects Less than Five Acres in Size*.[12]

The *CEQA Air Quality Handbook* was also used to calculate operational emissions (i.e., mobile and area sources). Localized CO emissions were calculated utilizing USEPA's CAL3QHC dispersion model and CARB's EMFAC2007 model. EMFAC2007 is the latest emission inventory model that calculates emission inventories and emission rates for motor vehicles operating on roads in California. This model reflects the CARB's current understanding of how vehicles travel and how much they pollute. The EMFAC2007 model can be used to show how California motor vehicle emissions have changed over time and are projected to change in the future. CAL3QHC is a model developed by USEPA to predict CO and other pollutant concentrations from motor vehicles at roadway intersections. The model uses a traffic algorithm for estimating vehicular queue lengths at signalized intersections.

**Impact 4.8.1. Based on the construction emission estimates, the No Project Alternative would have no regional construction air quality impact. The TSM, Canoga On-Street Dedicated Bus Lanes, and Canoga Busway Alternatives would result in less-than-significant regional construction air quality impacts without mitigation.**

Fugitive dust emissions would primarily result from demolition and site preparation (e.g., grading) activities. $NO_X$ emissions would primarily result from the use of heavy-duty construction equipment. The assessment of construction air quality impacts considers each of these potential sources. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation and the prevailing weather conditions.

It is mandatory for all construction projects in the Basin to comply with SCAQMD Rule 403 for Fugitive Dust. Specific Rule 403 control requirements include, but are not limited to, applying water in sufficient quantities to prevent the generation of visible dust plumes, applying soil binders to uncovered areas, reestablishing ground cover as quickly as possible, utilizing a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the project site, and maintaining effective cover over exposed areas. Compliance with Rule 403 would reduce regional $PM_{2.5}$ and $PM_{10}$ fugitive dust emissions by approximately 61 percent.

[10]SCAQMD, http://www.aqmd.gov/ceqa/hdbk.html, accessed November 8, 2007.
[11]SCAQMD, *Localized Significance Methodology*, June 2003.
[12]SCAQMD, *Sample Construction Scenarios for Projects Less than Five Acres in Size*, January 2005.

## Alternative 1. No Project

The No Project Alternative would not include any physical changes, and the Metro ROW would not be used for a transit project. This alternative would not require any construction activity. Therefore, the No Project Alternative would have no regional air quality construction impact.

## Alternative 2. TSM

The TSM Alternative would include frequency improvements on existing Metro transit routes, as well as providing a new local transit line for Canoga Avenue. The new local transit line would require construction of bus stops. Construction activity would be minimal and would not require the use of heavy-duty equipment or result in fugitive dust emissions. Therefore, the TSM Alternative would result in a less-than-significant regional air quality construction impact.

## Alternative 3. Canoga On-Street Dedicated Lanes

The Canoga On-Street Dedicated Lanes Alternative would be accommodated by widening Canoga Avenue into the Metro ROW. Construction would occur for approximately 24 to 36 months. Minimal construction information was available at the time this analysis was completed. As such, maximum daily emissions are presented for general construction activity utilizing conservative assumptions. **Table 4.8-6** shows the estimated daily regional emissions associated with the Canoga On-Street Dedicated Lanes Alternative. As shown, daily regional construction emissions would not exceed the SCAQMD regional significance thresholds for VOC, $NO_X$, CO, $SO_X$, $PM_{2.5}$, or $PM_{10}$. As such, the Canoga On-Street Dedicated Lanes Alternative would result in a less-than-significant regional air quality construction impact.

**TABLE 4.8-6: Estimated Daily Construction Emissions**

| Construction Phase | Pounds per Day | | | | | |
|---|---|---|---|---|---|---|
| | VOC | NOx | CO | SOx | $PM_{2.5}$ | $PM_{10}$ |
| General Construction Activity | | | | | | |
| Off-Site | 11 | 8 | 9 | <1 | <1 | <1 |
| On-Site | 7 | 71 | 29 | <1 | 11 | 51 |
| Total | 18 | 79 | 38 | <1 | 11 | 52 |
| | | | | | | |
| Maximum Regional Total | 18 | 79 | 38 | <1 | 11 | 52 |
| SCAQMD Significance Thresholds | **75** | **100** | **550** | **150** | **55** | **150** |
| Significant Impact? | **No** | **No** | **No** | **No** | **No** | **No** |
| | | | | | | |
| Maximum Localized Total | 7 | 71 | 29 | <1 | 11 | 51 |
| SCAQMD Significance Thresholds /a/ | **--** | **136** | **216** | **--** | **3** | **3** |
| Significant Impact? | **No** | **No** | **No** | **No** | **Yes** | **Yes** |

/a/ Assumed a one-acre project site and a 25-meter (82-foot) receptor distance. This is the smallest distance between source and receptor to be analyzed under the SCAQMD LST methodology.
**SOURCE**: TAHA, 2008 (Appendix E)

Alternative 4. Canoga Busway

The Canoga Busway Alternative would construct a dedicated bus lane in the Metro ROW. Construction would occur for approximately 20 to 24 months. The level of construction activity associated with the Canoga Busway Alternative would generally be similar to the Canoga On-Street Dedicated Lanes Alternative. **Table 4.8-6** shows the estimated regional daily emissions associated with the Canoga Busway Alternative. As shown, daily regional construction emissions would not exceed the SCAQMD regional significance thresholds for VOC, $NO_X$, CO, $SO_X$, $PM_{2.5}$, or $PM_{10}$. As such, the Canoga Busway Alternative would result in a less-than-significant regional air quality construction impact.

*Mitigation Measures:*

Each of the proposed alternatives would result in no impact or less-than-significant regional construction impacts, and, as such, no mitigation measures are necessary.

*Level of Impact After Mitigation*: Regional air quality construction emissions would result in no impact or less-than-significant impacts for each of the alternatives.

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**Impact 4.8.2. Based on localized emission calculations, the No Project Alternative would result in no localized construction impact. The TSM Alternative would result in a less-than-significant localized construction impact without mitigation. The Canoga On-Street Dedicated Bus Lanes and the Canoga Busway Alternatives would result in significant and unavoidable localized air quality construction impacts even with mitigation.**

Localized air quality construction $PM_{2.5}$, $PM_{10}$, CO, and $NO_2$ emissions were compiled using LST methodology promulgated by the SCAQMD.[13] Localized on-site emissions were calculated using similar methodology as the regional emission calculations. LSTs were developed based upon the size or total area of the emissions source, the ambient air quality in each source receptor area, and the distance to the sensitive receptor. LSTs for CO and $NO_2$ were derived by using an air quality dispersion model to back-calculate the emissions per day that would cause or contribute to a violation of any ambient air quality standard for a particular source receptor area. The construction $PM_{2.5}$ and $PM_{10}$ LST was derived using a dispersion model to back-calculate the emissions necessary to exceed a concentration equivalent to 50 $\mu g/m^3$ over five hours, which is the SCAQMD Rule 403 control requirement.

Alternative 1. No Project

The No Project Alternative would not include any physical changes, and the Metro ROW would not be used for a transit project. This alternative would not require any construction activity. Therefore, the No Project Alternative would have no localized air quality construction impact.

Alternative 2. TSM

The TSM Alternative would include frequency improvements on existing Metro transit routes, as well as providing a new local transit line for Canoga Avenue. The new local transit line would require construction of bus stops. Construction activity would be minimal and would not require the

[13]The concentrations of $SO_2$ are not estimated because construction activities would generate a small amount of $SO_X$ emissions. No state standard exists for VOC. As such, concentrations for VOC were not estimated.

use of heavy-duty equipment or result in fugitive dust emissions. Therefore, the TSM Alternative would result in a less-than-significant localized air quality construction impact.

Alternative 3. Canoga On-Street Dedicated Lanes

The Canoga On-Street Dedicated Lanes Alternative would be accommodated by widening Canoga Avenue into the Metro ROW. Construction would begin in 2010 and would occur for approximately 22 months. **Table 4.8-6** shows the estimated daily emissions associated with the Canoga On-Street Dedicated Lanes Alternative. As shown, localized construction emissions would not exceed the SCAQMD localized significance thresholds for $NO_X$ and CO. The localized significance thresholds would be exceeded for $PM_{2.5}$ and $PM_{10}$. As such, the Canoga On-Street Dedicated Lanes Alternative would result in a significant localized air quality construction impact.

Alternative 4. Canoga Busway

The Canoga Busway Alternative would construct a dedicated bus lane in the Metro ROW. The level of construction activity associated with the Canoga Busway Alternative would generally be similar to the Canoga On-Street Dedicated Lanes Alternative. **Table 4.8-6** shows the estimated daily emissions associated with the Canoga Busway Alternative. As shown, localized construction emissions would not exceed the SCAQMD localized significance thresholds for $NO_X$ and CO. The localized significance thresholds would be exceeded for $PM_{2.5}$ and $PM_{10}$. As such, the Canoga Busway Alternative would result in a significant localized air quality construction impact.

*Mitigation Measures:*

Mitigation Measures **MM 4.8-1** through **MM 4.8-8** would reduce localized $PM_{2.5}$ and $PM_{10}$ fugitive dust emissions and ensure compliance with SCAQMD Rule 403 for the Canoga On-Street Dedicated Lanes and the Canoga Busway Alternatives.

***MM 4.8-1:*** Water or a stabilizing agent shall be applied to exposed surfaces in sufficient quantity to prevent generation of dust plumes.

***MM 4.8-2:*** Track-out shall not extend 25 ft. or more from an active operation, and track-out shall be removed at the conclusion of each workday.

***MM 4.8-3:*** All haul trucks hauling soil, sand, and other loose materials shall maintain at least six inches of freeboard in accordance with California Vehicle Code Section 23114.

***MM 4.8-4:*** All haul trucks hauling soil, sand, and other loose materials shall be covered (e.g., with tarps or other enclosures that would reduce fugitive dust emissions).

***MM 4.8-5:*** Traffic speeds on unpaved roads shall be limited to 15 miles per hour.

***MM 4.8-6:*** Operations on unpaved surfaces shall be suspended when winds exceed 25 miles per hour.

***MM 4.8-7:*** Heavy equipment operations shall be suspended during first and second stage smog alerts.

***MM 4.8-8:*** On-site stock piles of debris, dirt, or rusty materials shall be covered or watered at least twice per day.

***Level of Impact After Mitigation***: Although Mitigation Measures **MM 4.8-1** through **4.8-8** would reduce localized $PM_{2.5}$ and $PM_{10}$ emissions for the Canoga On-Street Dedicated Lanes and the Canoga Busway Alternatives, these emissions would remain in exceedance of the significance thresholds. As such, localized $PM_{2.5}$ and $PM_{10}$ emissions would be considered significant and unavoidable for the Canoga On-Street Dedicated Lanes and the Canoga Busway Alternatives.

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**Impact 4.8.3. Based on the operational emission estimates, the No Project Alternative would have no regional operational impact. The TSM, Canoga On-Street Dedicated Bus Lanes, and Canoga Busway Alternatives would result in less-than-significant regional construction air quality impacts without mitigation.**

Regional operational emissions were estimated by multiplying the study area automobile and bus VMT by emission factors obtained from EMFAC2007 and the CARB.

Alternative 1. No Project

The No Project Alternative would not include any physical changes, and the Metro ROW would not be used for a transit project. This alternative would not result in new operational activity. Therefore, the No Project Alternative would have no regional operational impact.

Alternative 2. TSM

The TSM Alternative would include frequency improvements on existing Metro transit routes, as well as providing a new local transit line for Canoga Avenue. The TSM Alternative would increase automobile and bus VMT in the transportation system. As shown in **Table 4.8-7**, the TSM Alternative would increase mobile source emissions when compared to baseline conditions by 1 ppd for VOC, 7 ppd for $NO_X$, 2 ppd for CO. However, the TSM Alternative would decrease mobile source emissions when compared to baseline conditions by less than 1 ppd for $SO_X$, $PM_{2.5}$, and $PM_{10}$. Emissions associated with the TSM Alternative would not exceed SCAQMD significance thresholds. As such, the TSM Alternative would result in a less-than-significant regional air quality impact.

Alternative 3. Canoga On-Street Dedicated Lanes

The Canoga On-Street Dedicated Lanes Alternative would be accommodated by widening Canoga Avenue into the Metro ROW. The Canoga On-Street Dedicated Lanes Alternative would reduce automobile VMT and increase bus VMT in the transportation system. As shown in **Table 4.8-7**, the Canoga On-Street Dedicated Lanes Alternative would increase mobile source emissions when compared to baseline conditions by 1 ppd for VOC and 21 ppd for $NO_X$. However, the Canoga On-Street Dedicated Lanes Alternative would decrease mobile source emissions when compared to baseline conditions by 92 ppd for CO, less than 1 ppd for $SO_X$, and 3 ppd for $PM_{2.5}$ and $PM_{10}$. Emissions associated with the Canoga On-Street Dedicated Lanes Alternative would not exceed SCAQMD significance thresholds. As such, the Canoga On-Street Dedicated Lanes Alternative would result in a less-than-significant regional air quality impact.

Alternative 4. Canoga Busway

The Canoga Busway Alternative would construct a dedicated bus lane in the Metro ROW. The Canoga Busway Alternative would reduce automobile VMT and increase bus VMT in the transportation system. As shown in **Table 4.8-7**, the Canoga Busway Alternative would increase mobile source emissions when compared to baseline conditions by 17 ppd for $NO_X$. However, the

| TABLE 4.8-7: Estimated Daily Operational Emissions | | | | | | |
|---|---|---|---|---|---|---|
| Scenario | Pounds per Day | | | | | |
| | VOC | $NO_X$ | CO | $SO_X$ | $PM_{2.5}$ | $PM_{10}$ |
| Alternative 1 vs. Alternative 2 | 1 | 7 | 2 | (<1) | (<1) | (<1) |
| Significance Thresholds | 55 | 55 | 550 | 150 | 55 | 150 |
| Exceed Threshold? | No | No | No | No | No | No |
| | | | | | | |
| Alternative 1 vs. Alternative 3 | 1 | 21 | (92) | (<1) | (3) | (3) |
| Significance Thresholds | 55 | 55 | 550 | 150 | 55 | 150 |
| Exceed Threshold? | No | No | No | No | No | No |
| | | | | | | |
| Alternative 1 vs. Alternative 4 | (1) | 17 | (155) | (<1) | (4) | (4) |
| Significance Thresholds | 55 | 55 | 550 | 150 | 55 | 150 |
| Exceed Threshold? | No | No | No | No | No | No |
| **SOURCE**: TAHA, 2008 (Appendix E) | | | | | | |

Canoga Busway Alternative would decrease mobile source emissions when compared to baseline conditions by 1 ppd for VOC, 155 ppd for CO, 1 ppd for $SO_X$, and 4 ppd for $PM_{2.5}$ and $PM_{10}$. Emissions associated with the Canoga Busway Alternative would not exceed SCAQMD significance thresholds. As such, the Canoga Busway Alternative would result in a less-than-significant regional air quality impact.

*Mitigation Measures:*

Each of the proposed alternatives would result in no impact or less-than-significant regional operational impacts, and, as such, no mitigation measures are necessary.

*Level of Impact After Mitigation*: Regional operational emissions would result in no impact or less-than-significant impacts under each alternative.

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**Impact 4.8.4. Based on the CO hotspot analysis, the No Project, TSM, Canoga On-Street Dedicated Bus Lanes, and Canoga Busway Alternatives would result in less-than-significant localized CO hotspot impacts without mitigation.**

CO concentrations in 2030 are expected to be lower than existing conditions due to stringent state and federal mandates for lowering vehicle emissions. Although traffic volumes would be higher in the future both without and with the implementation of the proposed project, CO emissions from mobile sources are expected to be much lower due to technological advances in vehicle emissions systems, as well as from normal turnover in the vehicle fleet. Accordingly, increases in traffic volumes would be offset by increases in cleaner-running cars as a percentage of the entire vehicle fleet on the road.[14]

[14]Consistent with CARB's vehicle emissions inventory.

The state one- and eight-hour CO standards may be exceeded at congested intersections with high traffic volumes. The SCAQMD recommends a CO hotspot evaluation of potential localized CO impacts when V/C ratios are increased by two percent at intersections with a LOS of D or worse. SCAQMD also recommends a CO hotspot evaluation when an intersection decreases in LOS by one level beginning when LOS changes from C to D. A representative sample of intersections was selected based on SCAQMD guidance.

CO is a gas that disperses quickly. Thus, CO concentrations at sensitive receptor locations are expected to be much lower than CO concentrations adjacent to the roadway intersections. Additionally, the intersections were selected based on poor LOS and high traffic volumes. Sensitive receptors that are located away from congested intersections or are located near roadway intersections with better LOS would be exposed to lower CO concentrations.

Based on the traffic study, the selected intersections are as follows:

- Lassen Street/Owensmouth Avenue - PM Peak Hour
- Erwin Street/Canoga Avenue - PM Peak Hour
- Lassen Street/Owensmouth Avenue - AM Peak Hour
- Sherman Way/Canoga Avenue - AM Peak Hour
- Vanowen Street/Canoga Avenue - PM Peak Hour

The USEPA CAL3QHC micro-scale dispersion model was used to calculate CO concentrations for 2030 conditions. **Table 4.8-8** displays the CO concentrations associated with each alternative at the five study intersections.

### Alternative 1. No Project

Under the No Project Alternative, one-hour CO concentrations would be approximately 2 ppm at worst-case sidewalk receptors. Eight-hour CO concentrations would range from approximately 1.5 ppm to 1.7 ppm. The state one- and eight-hour standards of 20 ppm and 9.0 ppm, respectively, would not be exceeded at the five study intersections. As such, the No Project Alternative would result in a less-than-significant localized CO hotspot impact.

### Alternative 2. TSM

Under the TSM Alternative, one-hour CO concentrations would be approximately 2 ppm at worst-case sidewalk receptors. Eight-hour CO concentrations would range from approximately 1.5 ppm to 1.7 ppm. The state one- and eight-hour standards of 20 ppm and 9.0 ppm, respectively, would not be exceeded at the five study intersections. As such, the TSM Alternative would result in a less-than-significant localized CO hotspot impact.

### Alternative 3. Canoga On-Street Dedicated Lanes

Under the Canoga On-Street Dedicated Lanes Alternative, one-hour CO concentrations would be approximately 2 ppm at worst-case sidewalk receptors. Eight-hour CO concentrations would range from approximately 1.5 ppm to 1.7 ppm. The state one- and eight-hour standards of 20 ppm and 9.0 ppm, respectively, would not be exceeded at the five study intersections. As such, the Canoga On-Street Dedicated Lanes Alternative would result in a less-than-significant localized CO hotspot impact.

| TABLE 4.8-8: 2030 Carbon Monoxide Concentrations/a/ | | | | |
|---|---|---|---|---|
| **Alternative and Intersection** | **1-hour (parts per million)** | | **8-hour (parts per million)** | |
| | **Existing (2007)** | **Project Year (2030)** | **Existing (2007)** | **Project Year (2030)** |
| No Project Alternative | | | | |
| Lassen St/Owensmouth Ave –PM Peak Hour | 6 | 2 | 4.3 | 1.6 |
| Erwin St/Canoga Ave – PM Peak Hour | 6 | 2 | 4.3 | 1.5 |
| Lassen St/ Owensmouth Ave - AM Peak Hour | 6 | 2 | 4.1 | 1.5 |
| Sherman Way/Canoga Ave – AM Peak Hour | 6 | 2 | 4.3 | 1.7 |
| Vanowen St/Canoga Ave – PM Peak Hour | 6 | 2 | 4.2 | 1.6 |
| TSM Alternative | | | | |
| Lassen St/Owensmouth Ave –PM Peak Hour | 6 | 2 | 4.3 | 1.6 |
| Erwin St/Canoga Ave – PM Peak Hour | 6 | 2 | 4.3 | 1.5 |
| Lassen St/Owensmouth Ave - AM Peak Hour | 6 | 2 | 4.1 | 1.5 |
| Sherman Way/Canoga Ave – AM Peak Hour | 6 | 2 | 4.3 | 1.7 |
| Vanowen St/Canoga Ave – PM Peak Hour | 6 | 2 | 4.2 | 1.6 |
| Canoga On-Street Dedicated Bus Lanes Alternative | | | | |
| Lassen St/Owensmouth Ave – PM Peak Hour | 6 | 2 | 4.3 | 1.6 |
| Erwin St/Canoga Ave – PM Peak Hour | 6 | 2 | 4.3 | 1.5 |
| Lassen St/Owensmouth Ave - AM Peak Hour | 6 | 2 | 4.1 | 1.5 |
| Sherman Way/Canoga Ave – AM Peak Hour | 6 | 2 | 4.3 | 1.7 |
| Vanowen St/Canoga Ave – PM Peak Hour | 6 | 2 | 4.2 | 1.6 |
| Canoga Busway Alternative | | | | |
| Lassen St/Owensmouth Ave – PM Peak Hour | 6 | 2 | 4.3 | 1.6 |
| Erwin St/Canoga Ave – PM Peak Hour | 6 | 2 | 4.3 | 1.5 |
| Lassen St/Owensmouth Ave - AM Peak Hour | 6 | 2 | 4.1 | 1.5 |
| Sherman Way/Canoga Ave – AM Peak Hour | 6 | 2 | 4.3 | 1.7 |
| Vanowen St/Canoga Ave – PM Peak Hour | 6 | 2 | 4.2 | 1.6 |
| **State Standard** | **20** | | **9.0** | |

/a/ Existing concentrations include year 2007 one- and eight-hour ambient concentrations of 5 ppm and 3.5 ppm, respectively. No Project and Project concentrations include year 2030 one- and eight-hour ambient concentrations of 2 ppm and 1.3 ppm, respectively.
**SOURCE:** TAHA, 2008 (Appendix E)

## Alternative 4. Canoga Busway

Under the Canoga Busway Alternative, one-hour CO concentrations would be approximately 2 ppm at worst-case sidewalk receptors. Eight-hour CO concentrations would range from approximately 1.5 ppm to 1.7 ppm. The state one- and eight-hour standards of 20 ppm and 9.0 ppm, respectively, would not be exceeded at the five study intersections. As such, the Canoga Busway Alternative would result in a less-than-significant localized CO hotspot impact.

*Mitigation Measures:*

Each of the proposed alternatives would result in a less-than-significant localized CO hotspot impacts, and, as such, no mitigation measures are necessary.

*Level of Impact After Mitigation*: Localized CO hotspot impacts would result in a less-than-significant impact under each alternative.

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**Impact 4.8.5. The proposed project would not emit a substantial amount of TACs. The No Project Alternative would have no TAC impact. The TSM Alternative would result in a less-than-significant TAC impact without mitigation. The Canoga On-Street Dedicated Bus Lanes and Canoga Busway Alternatives would result in less-than-significant TAC impacts with mitigation.**

Alternative 1. No Project

The No Project Alternative would not include any physical changes, and the Metro ROW would not be used for a transit project. Therefore, the No Project Alternative would have no TAC impact.

Alternative 2. TSM

The TSM Alternative would include frequency improvements on existing Metro transit routes, as well as providing a new local transit line for Canoga Avenue. The TSM Alternative would not include substantial construction or operational activity. Therefore, the TSM Alternative would result in a less-than-significant TAC impact.

Alternative 3. Canoga On-Street Dedicated Lanes

The Canoga On-Street Dedicated Lanes Alternative would be accommodated by widening Canoga Avenue into the Metro ROW. Various hazardous materials have been identified or may be present in the ROW. Asbestos-containing material (ACM) may be present in the building material demolition debris. Near-surface soils may contain arsenic from weed killers (herbicides) commonly used by railroads for weed control. In addition, soils adjacent to paved areas within the ROW may contain aerially deposited lead (ADL) from vehicle exhaust. Hazardous materials identified on the surface could potentially become airborne and result in TAC exposure. As such, the Canoga On-street Dedicated Bus Lanes Alternative would result in a significant TAC impact without mitigation measures.

Alternative 4. Canoga Busway

The Canoga Busway Alternative would construct a dedicated bus lane in the Metro ROW. Various hazardous materials have been identified or may be present in the ROW. ACM may be present in the building material demolition debris. Near-surface soils may contain arsenic from weed killers (herbicides) commonly used by railroads for weed control. In addition, soils adjacent to paved areas within the ROW may contain aerially deposited lead from vehicle exhaust. Hazardous materials identified on the surface could potentially become airborne and result in toxic air contaminant exposure. As such, the Canoga Busway Alternative would result in a significant TAC impact without mitigation measures.

***Mitigation Measures:***

The following mitigation measures would reduce potential TAC exposure:

> ***MM 4.8-9*** Construction contractors shall comply with SCAQMD Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities). The requirements for demolition activities include asbestos surveying, notification, ACM removal procedures and time schedules, ACM handling and clean-up procedures, and storage, disposal, and landfilling requirements for asbestos-containing waste materials.
>
> ***MM 4.8-10*** Construction contractors shall prepare a project-specific Lead Compliance Plan to prevent or minimize worker exposure to lead while handling material containing aerially deposited lead. The Lead Compliance Plan shall contain the elements listed in Title 8, California Code of Regulations, Section 1532.1(e)(2)(B). Before submission to the Engineer, the Lead Compliance Plan shall be approved by an Industrial Hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene. The plan shall be submitted to the Engineer for review and acceptance at least 15 days prior to beginning work in areas containing aerially deposited lead.

***Level of Impact After Mitigation***: Mitigation Measures **MM 4.8-9** and **MM 4.8-10** would reduce the potential TAC impact to a less-than-significant level.

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**Impact 4.8.6. The No Project Alternative would have no odor impact. The TSM, Canoga On-Street Dedicated Bus Lanes, and Canoga Busway Alternatives would result in less-than-significant odor impacts without mitigation.**

Alternative 1. No Build

The No Project Alternative would not include any physical changes, and the Metro ROW would not be used for a transit project. This alternative would not require any construction activity or result in new operational activity. Therefore, the No Project Alternative would have no odor impact.

Alternative 2. TSM

The TSM Alternative would include frequency improvements on existing Metro transit routes as well as providing a new local transit line for Canoga Avenue. The new local transit line would require construction of bus stops. Construction activity would be minimal and would not require the use of heavy-duty equipment. Therefore, the TSM Alternative would result in a less-than-significant construction odor impact.

According to the SCAQMD *CEQA Air Quality Handbook*, land uses and industrial operations that are associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies and fiberglass molding. The TSM Alternative would not include any land use or activity that typically generates adverse odors. As such, TSM Alternative operational activity would not cause an odor nuisance, and operational odors would result in a less-than-significant impact.

Alternative 3. Canoga On-Street Dedicated Lanes

Potential sources that may emit odors during construction activities include equipment exhaust and paving materials. Odors from these sources would be localized and generally confined to the construction area. The Canoga On-Street Dedicated Lanes Alternative would utilize typical construction techniques, and the odors would be typical of most construction sites and temporary in nature. As such, Canoga On-Street Dedicated Lanes Alternative construction activity would not cause an odor nuisance, and construction odors would result in a less-than-significant impact.

According to the SCAQMD *CEQA Air Quality Handbook*, land uses and industrial operations that are associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies and fiberglass molding. The Canoga On-Street Dedicated Lanes Alternative would not include any land use or activity that typically generates adverse odors. As such, Canoga On-Street Dedicated Lanes Alternative operational activity would not cause an odor nuisance, and operational odors would result in a less-than-significant impact.

Alternative 4. Canoga Busway

Potential sources that may emit odors during construction activities include equipment exhaust and paving materials. Odors from these sources would be localized and generally confined to the construction area. The Canoga Busway Alternative would utilize typical construction techniques, and the odors would be typical of most construction sites and temporary in nature. As such, Canoga Busway Alternative construction activity would not cause an odor nuisance, and construction odors would result in a less-than-significant impact.

According to the SCAQMD *CEQA Air Quality Handbook*, land uses and industrial operations that are associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies and fiberglass molding. The Canoga Busway Alternative would not include any land use or activity that typically generates adverse odors. As such, Canoga Busway Alternative operational activity would not cause an odor nuisance, and operational odors would result in a less-than-significant impact.

*Mitigation Measures:*

Construction and operational odors would result in no impact or less-than-significant impacts for each alternative, and, as such, no mitigation measures are necessary.

*Level of Impact After Mitigation*: Construction and operational odors would result in no impacts or less-than-significant impacts under each alternative.

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**Impact 4.8.7. The No Project, TSM, Canoga On-Street Dedicated Bus Lanes, and Canoga Busway Alternatives would be consistent with the 2007 AQMP without mitigation.**

Alternative 1. No Project

The No Project Alternative would not include any physical changes, and the Metro ROW would not be used for a transit project. This alternative would not require any construction activity or result in new operational activity. Therefore, the No Project Alternative would be consistent with the 2007 AQMP.

Alternative 2. TSM

The TSM Alternative would include frequency improvements on existing Metro transit routes, as well as providing a new local transit line for Canoga Avenue. The purpose of the 2007 AQMP is to develop a comprehensive program that will lead the region into compliance with federal eight-hour ozone and $PM_{2.5}$ air quality standards. The SCAQMD has provided pollutant emission significance thresholds designed to assist the Basin in achieving compliance. As demonstrated in **Table 4.8-7**, the TSM Alternative emissions would not exceed the SCAQMD significance thresholds. Therefore, the TSM Alternative would be consistent with the 2007 AQMP.

Alternative 3. Canoga On-Street Dedicated Lanes

The Canoga On-Street Dedicated Lanes Alternative would be accommodated by widening Canoga Avenue into the Metro ROW. The purpose of the 2007 AQMP is to develop a comprehensive program that will lead the region into compliance with federal eight-hour ozone and $PM_{2.5}$ air quality standards. The SCAQMD has provided pollutant emission significance thresholds designed to assist the Basin in achieving compliance. As demonstrated in **Table 4.8-7**, the Canoga On-Street Dedicated Lanes Alternative emissions would not exceed the SCAQMD significance thresholds. Therefore, the Canoga On-Street Dedicated Lanes Alternative would be consistent with the 2007 AQMP.

Alternative 4. Canoga Busway

The Canoga Busway Alternative would construct a dedicated bus lane in the Metro ROW. The purpose of the 2007 AQMP is to develop a comprehensive program that will lead the region into compliance with federal eight-hour ozone and $PM_{2.5}$ air quality standards. The SCAQMD has provided pollutant emission significance thresholds designed to assist the Basin in achieving compliance. As demonstrated in **Table 4.8-7**, the Canoga Busway Alternative emissions would not exceed the SCAQMD significance thresholds. Therefore, the Canoga Busway Alternative would be consistent with the 2007 AQMP.

*Mitigation Measures:*

Each alternative would be consistent with the 2007 AQMP, and, as such, no mitigation measures are necessary.

*Level of Impact After Mitigation*: Each alternative would be consistent with the 2007 AQMP.

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**Impact 4.8.8. The No Project Alternative would have no global warming impact. The TSM, Canoga On-Street Dedicated Bus Lanes, and Canoga Busway Alternatives would result in a beneficial global warming impact without mitigation.**

Alternative 1. No Project

The No Project Alternative would not include any physical changes, and the Metro ROW would not be used for a transit project. This alternative would not result in new operational activity. Therefore, the No Project Alternative would have no global warming impact.

## Alternative 2. TSM

The TSM Alternative would include frequency improvements on existing Metro transit routes, as well as providing a new local transit line for Canoga Avenue. The TSM Alternative would increase automobile and bus VMT in the transportation system. As shown in **Table 4.8-9**, the TSM Alternative would decrease GHG emissions compared to baseline conditions by 2 tons per year. The TSM Alternative would result in less GHG emissions than baseline conditions and, as such, would result in a beneficial global warming impact.

**TABLE 4.8-9: Estimated GHG Emissions**

| Scenario | Carbon Dioxide Equivalent (Tons per Year) |
|---|---|
| Alternative 1 vs. Alternative 2 | (2) |
| Alternative 1 vs. Alternative 3 | (8,322) |
| Alternative 1 vs. Alternative 4 | (13,634) |

**SOURCE**: TAHA, 2008 (Appendix E)

## Alternative 3. Canoga On-Street Dedicated Lanes

The Canoga On-Street Dedicated Lanes Alternative would be accommodated by widening Canoga Avenue into the Metro ROW. The Canoga On-Street Dedicated Lanes Alternative would reduce automobile VMT and increase bus VMT in the study area. As shown in **Table 4.8-9**, the Canoga On-Street Dedicated Lanes Alternative would decrease GHG emissions compared to baseline conditions by 8,332 tons per year. The Canoga On-Street Dedicated Lanes Alternative would result in less GHG emissions than baseline conditions and, as such, would result in a beneficial global warming impact.

## Alternative 4. Canoga Busway

The Canoga Busway Alternative would construct a dedicated bus lane in the Metro ROW. The Canoga Busway Alternative would reduce automobile VMT and increase bus VMT in the study area. As shown in **Table 4.8-9**, the Canoga Busway Alternative would decrease GHG emissions compared to baseline conditions by 13,634 tons per year. The Canoga Busway Alternative would result in less GHG emissions than baseline conditions and, as such, would result in a beneficial global warming impact.

### *Mitigation Measures:*

Each of the proposed alternatives would result in no impact or beneficial global warming impacts, and, as such, no mitigation measures are necessary.

***Level of Impact After Mitigation:*** GHG emissions would result in no impact or beneficial impacts under each alternative.

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**Impact 4.8.9. The No Project Alternative would have no cumulative air quality impact. The TSM, Canoga On-Street Dedicated Bus Lanes, and Canoga Busway Alternatives would result in less-than-significant cumulative air quality impacts without mitigation.**

Alternative 1. No Project

The No Project Alternative would not include any physical changes, and the Metro ROW would not be used for a transit project. This alternative would not require any construction activity or result in new operational activity. Therefore, the No Project Alternative would have no cumulative air quality impact.

Alternative 2. TSM

The TSM Alternative would include frequency improvements on existing Metro transit routes, as well as providing a new local transit line for Canoga Avenue. The TSM Alternative would increase automobile and bus VMT in the transportation system. As shown in **Table 4.8-7**, the TSM Alternative would increase mobile source emissions when compared to baseline conditions by 1 ppd for VOC, 7 ppd for $NO_X$, and 2 ppd for CO. However, the TSM Alternative would decrease mobile source emissions when compared to baseline conditions by less than 1 ppd for $SO_X$, $PM_{2.5}$ and $PM_{10}$. Emissions associated with the TSM Alternative would not exceed SCAQMD significance thresholds. Therefore, the TSM Alternative would result in a less-than-significant cumulative air quality impact.

Alternative 3. Canoga On-Street Dedicated Lanes

The Canoga On-Street Dedicated Lanes Alternative would be accommodated by widening Canoga Avenue into the Metro ROW. The Canoga On-Street Dedicated Lanes Alternative would reduce automobile VMT and increase bus VMT in the transportation system. As shown in **Table 4.8-7**, the Canoga On-Street Dedicated Lanes Alternative would increase mobile source emissions when compared to baseline conditions by 1 ppd for VOC and 21 ppd for $NO_X$. However, the Canoga On-Street Dedicated Lanes Alternative would decrease mobile source emissions when compared to baseline conditions by 92 ppd for CO, less than 1 ppd for $SO_X$, and 3 ppd for $PM_{2.5}$ and $PM_{10}$. Emissions associated with the Canoga On-Street Dedicated Lanes Alternative would not exceed SCAQMD significance thresholds. Therefore, the Canoga On-Street Dedicated Lanes Alternative would result in a less-than-significant cumulative air quality impact.

Alternative 4. Canoga Busway

The Canoga Busway Alternative would construct a dedicated bus lane in the Metro ROW. The Canoga Busway Alternative would reduce automobile VMT and increase bus VMT in the transportation system. As shown in **Table 4.8-7**, the Canoga Busway Alternative would increase mobile source emissions when compared to baseline conditions by 17 ppd for $NO_X$. However, the Canoga Busway Alternative would decrease mobile source emissions when compared to baseline conditions by 1 ppd for VOC, 155 ppd for CO, 1 ppd for $SO_X$, and 4 ppd for $PM_{2.5}$ and $PM_{10}$. Emissions associated with the Canoga Busway Alternative would not exceed SCAQMD significance thresholds. Therefore, the Canoga Busway Alternative would result in a less-than-significant cumulative air quality impact.

*Mitigation Measures:*

Each of the proposed alternatives would result in no impact or less-than-significant cumulative air quality impacts, and, as such, and no mitigation measures are necessary.

***Level of Impact After Mitigation***: Cumulative air quality impacts would result in no impact or less-than-significant impact under each alternative.

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# 4.9 NOISE & VIBRATION

This section evaluates noise and vibration impacts associated with the implementation of the proposed project. The noise and vibration analysis in this section assesses the following: existing noise and vibration conditions along the project corridor and its vicinity, as well as short-term construction and long-term operational noise and vibration impacts associated with the proposed project. Mitigation measures for potentially significant impacts are recommended, where appropriate. The assumptions and calculations used to estimate construction noise are provided in Appendix F. The assumptions and modeling outputs for traffic noise are available upon request at Metro.

## 4.9.1 EXISTING SETTING

### *NOISE CHARACTERISTICS AND EFFECTS*

#### Characteristics of Sound

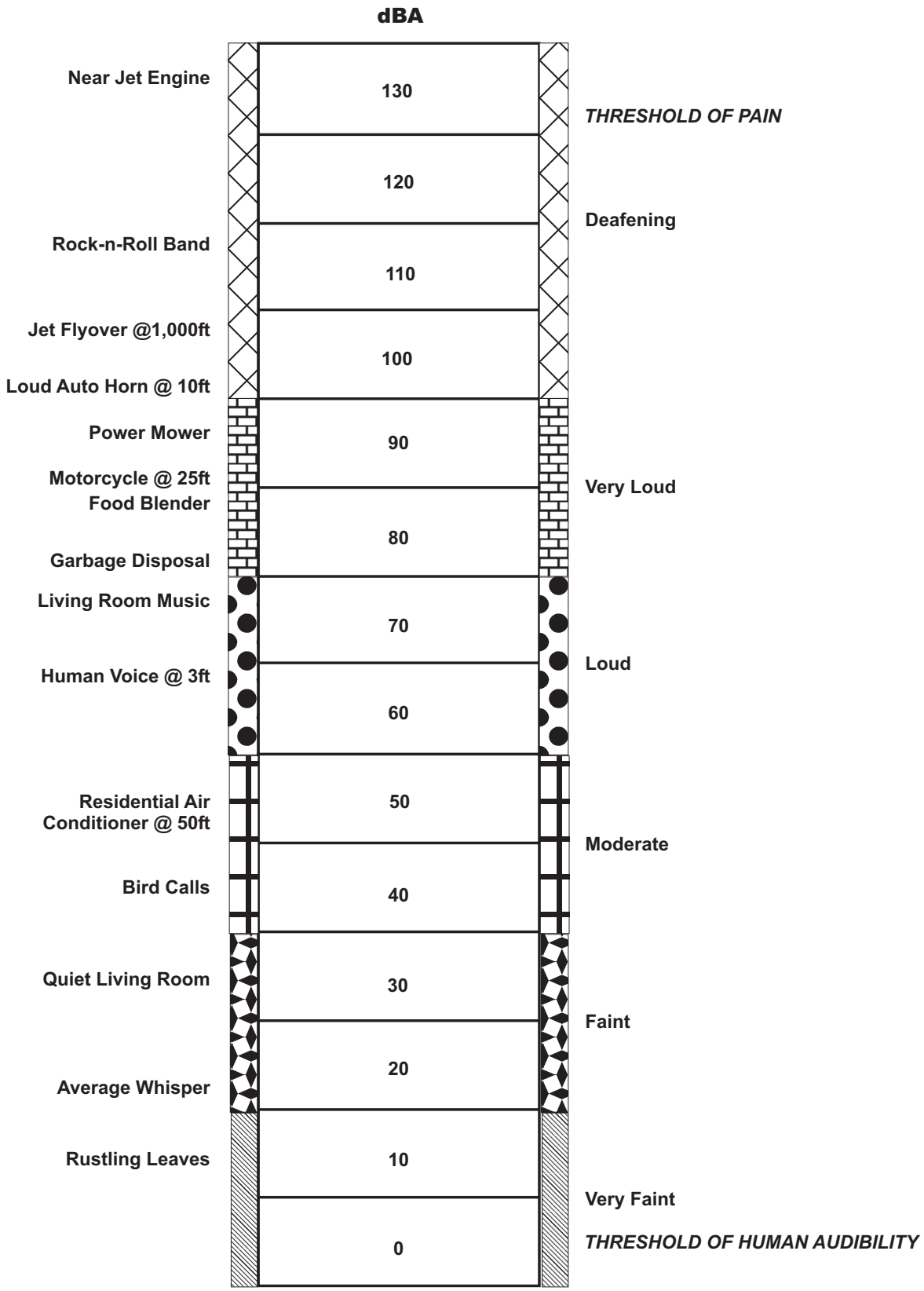
Sound is technically described in terms of the loudness (amplitude) and frequency (pitch) of the sound. The standard unit of measurement for sound is the decibel (dB). The human ear is not equally sensitive to sound at all frequencies. The "A-weighted scale," abbreviated dBA, reflects the normal hearing sensitivity range of the human ear. On this scale, the range of human hearing extends from approximately 3 to 140 dBA. **Figure 4.9-1** provides examples of A-weighted noise levels from common sounds.

#### Noise Definitions

This noise analysis discusses sound levels in terms of Equivalent Noise Level ($L_{eq}$) and Day-Night Sound Level ($L_{dn}$).

**Equivalent Noise Level.** $L_{eq}$ is the average noise level on an energy basis for any specific time period. The $L_{eq}$ for one hour is the energy average noise level during the hour. The average noise level is based on the energy content (acoustic energy) of the sound. $L_{eq}$ can be thought of as the level of a continuous noise which has the same energy content as the fluctuating noise level. The equivalent noise level is expressed in units of dBA. $L_{eq}$ is used by the Federal Transit Administration (FTA) to evaluate potential noise impacts of proposed transit projects on institutional uses with primarily daytime and evening uses, such as schools, libraries, churches, and medical offices.

**Day-Night Sound Level.** $L_{dn}$ is basically a 24-hour $L_{eq}$ with an adjustment to reflect the greater sensitivity of most people to nighttime noise. The adjustment is a ten-dBA penalty for all sound that occurs in the nighttime hours of 10:00 p.m. to 7:00 a.m. The effect of the penalty is that in the calculation of $L_{dn}$, any event that occurs during the nighttime hours is equivalent to ten of the same event during the daytime hours. $L_{dn}$ is the most common measure of total community noise over a 24-hour period and is used by FTA to evaluate residential noise impacts from proposed transit projects. Because $L_{dn}$ accounts for human sensitivity to sound, the $L_{dn}$ 24-hour figure is always a higher number than the actual 24-hour average.




Source: Cowan, James P., Handbook of Environmental Acoustics

### Effects of Noise

Noise is generally defined as unwanted sound. The degree to which noise can impact the human environment ranges from levels that interfere with speech and sleep (annoyance and nuisance) to levels that cause adverse health effects (hearing loss and psychological effects). Human response to noise is subjective and can vary greatly from person to person. Factors that influence individual response include the intensity, frequency, and pattern of noise, the amount of background noise present before the intruding noise, and the nature of work or human activity that is exposed to the noise source.

### Audible Noise Changes

Studies have shown that the smallest perceptible change in sound level for a person with normal hearing sensitivity is approximately three dBA. A change of at least five dBA would be noticeable and would likely evoke a community reaction. A ten-dBA increase is subjectively heard as a doubling in loudness and would most certainly cause a community response.

Noise levels decrease as the distance from the noise source to the receiver increases. Noise generated by a stationary noise source, or "point source," will decrease by approximately six dBA over hard surfaces and 7.5 dBA over soft surfaces for each doubling of the distance. For example, if a noise source produces a noise level of 89 dBA at a reference distance of 50 ft., then the noise level would be 83 dBA at a distance of 100 ft. from the noise source, 77 dBA at a distance of 200 ft., and so on.

Generally, noise is most audible when traveling by direct line-of-sight.[1] Barriers, such as walls, berms, or buildings, that break the line-of-sight between the source and the receiver greatly reduce noise levels from the source since sound can only reach the receiver by bending over the top of the barrier (diffraction). Sound barriers can reduce sound levels by up to 20 dBA. However, if a barrier is not high or long enough to break the line-of-sight from the source to the receiver, its effectiveness is greatly reduced. In situations where the source or the receiver is located three meters (approximately 9.84 ft.) above the ground, or whenever the line-of-sight averages more than three meters above the ground, sound levels would be reduced by approximately three decibels for each doubling of distance.

## *VIBRATION CHARACTERISTICS AND EFFECTS*

### Characteristics of Vibration

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Vibration can be a serious concern, causing buildings to shake and rumbling sounds to be heard. In contrast to noise, vibration is not a common environmental problem. Some common sources of vibration are trains, buses on rough roads, and construction activities such as blasting, pile driving, and heavy earth-moving equipment.

### Vibration Definitions

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings and is measured in inches per second. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on

[1]Line-of-sight is an unobstructed visual path between the noise source and the noise receptor.

the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (Vdb) is commonly used to measure RMS. The decibel notation acts to compress the range of numbers required to describe vibration.[2]

### Effects of Vibration

High levels of vibration may cause physical personal injury or damage to buildings. However, vibration levels rarely affect human health. Instead, most people consider vibration to be an annoyance that may affect concentration or disturb sleep. In addition, high levels of vibration may damage fragile buildings or interfere with equipment that is highly sensitive to vibration (e.g., electron microscopes).

To counter the effects of vibration, the Federal Railway Administration (FRA) has published guidance relative to vibration impacts. According to the FRA, fragile buildings can be exposed to vibration levels of 0.5 inches per second PPV without experiencing structural damage.[3]

### Perceptible Vibration Changes

In contrast to noise, vibration is not a phenomenon that most people experience every day. The background vibration velocity level in residential areas is usually 50 RMS or lower, well below the threshold of perception for humans, which is around 65 RMS.[4] Most perceptible indoor vibration is caused by sources within buildings such as operation of mechanical equipment, movement of people, or slamming of doors. Typical outdoor sources of perceptible vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If the roadway is smooth, the vibration from traffic is rarely perceptible.

## *SENSITIVE RECEPTORS*

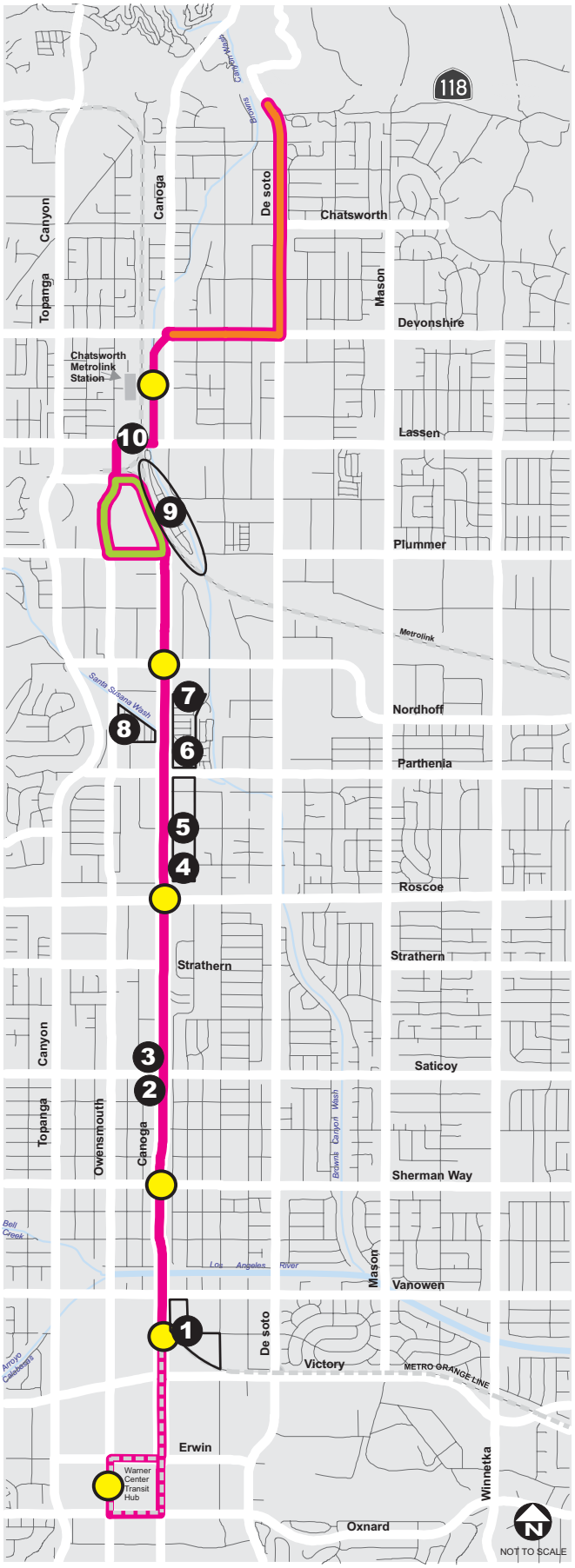
Noise- and vibration-sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas would each be considered noise- and vibration-sensitive and may warrant unique measures for protection from intruding noise. As shown in **Figure 4.9-2**, sensitive receptors near the project corridor include the following:

1. Archstone Warner Center Apartments at the corner of Kittridge Street and Variel Avenue, approximately 40 to 370 ft. east of the project corridor, depending on the build alternative
2. New Academy Canoga Park (school) on the west side of Canoga Avenue, between Cohasset and Saticoy Streets, approximately 25 to 80 ft. west of the project corridor, depending on the build alternative
3. Westhill Mental Health Facility on the west side of Canoga Avenue, between Keswick and Saticoy Streets, approximately 15 to 120 ft. west of the project corridor, depending on the build alternative

[2]Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, April 1995.

[3]Federal Railway Administration, *High-Speed Ground Transportation Noise and Vibration Impact Assessment*, December 1998.

[4]Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, April 1995.




**Legend**

**# Sensitive Receptor Location**

1. Archstone Warner Center Apartments
2. New Academy Canoga Park
3. Westhill Mental Health Facility
4. Single-Family Residences
5. Single- and Multi-Family Residences
6. Riveria Mobile Estates
7. Eton Mobile Home Park
8. Canoga Mobile Estates
9. Sunburst Mobile Home Park
10. Multi-Family Residences

*Source: TAHA, 2007*

4. Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street, approximately 30 to 90 ft. from the project corridor, depending on the build alternative
5. Single- and multi-family homes on the east side of Canoga Avenue, north of Community Street and south of Parthenia Street, approximately 70 to 105 ft. from the project corridor, depending on the build alternative
6. Riviera Mobile Estates on the east side of Canoga Avenue, north of Parthenia Street, approximately 25 to 50 ft. from the project corridor, depending on the build alternative
7. Eton Mobile Home Park on the east side of Canoga Avenue, between Osborne Street and Riviera Mobile Estates, approximately 25 to 50 ft. from the project corridor, depending on the build alternative
8. Canoga Mobile Estates on the west side of Canoga Avenue, between the Santa Susana Creek and Parthenia Street, approximately 35 to 90 ft. from the project corridor, depending on the build alternative
9. Sunburst Mobile Home Park east of Canoga Avenue, between Lassen and Plummer Streets, approximately 30 to 330 ft. from the project corridor, depending on the build alternative
10. Multi-family residential uses on the north side of Lassen Street, between Owensmouth and Remmet Avenues, approximately 15 to 450 ft. from the project corridor, depending on the build alternative

The above sensitive receptors represent the nearest residential and other sensitive land uses with the potential to be impacted by the proposed project. Additional single- and multi-family residences are located in the surrounding community, within one-quarter mile of the project corridor.

### *EXISTING NOISE ENVIRONMENT*

The existing noise environment of the project area is characterized by vehicular traffic and noises typical to a dense urban area. Vehicular traffic is the primary source of noise in the project vicinity. Using existing traffic volumes provided by the project traffic consultant and the Federal Highway Administration (FHWA) Traffic Noise Model (TNM), AM and PM peak hour $L_{eq}$s and the 24-hour $L_{dn}$ were calculated at sensitive receptors near the project corridor. Existing mobile noise levels are shown in **Table 4.9-1**. As shown in **Table 4.9-1**, the $L_{dn}$ at sensitive receptors ranges from 66.3 to 75.5 dBA. Noise levels during the AM peak hour range from 65.4 to 75.4 dBA $L_{eq}$ at sensitive receptor locations. Noise levels during the PM peak hour range from 67.3 to 75.7 dBA $L_{eq}$ at sensitive receptor locations.

### *EXISTING VIBRATION ENVIRONMENT*

Similar to the environmental setting for noise, the vibration environment is dominated by traffic from nearby roadways. Heavy trucks can generate vibrations that vary depending on vehicle type, weight, and pavement conditions. As heavy trucks typically operate on major streets (e.g., Canoga Avenue), existing vibration in the project vicinity is largely related to heavy truck traffic on the surrounding roadway network. Vibration levels from adjacent roadways are not perceptible along the project corridor. In addition, train tracks are located along the northern portion of the project corridor and train activity occasionally generates perceptible vibration.

**Table 4.9-1: Existing Traffic Sound Levels**

| Key to Figure 4.9-2 | Sensitive Receptor | Estimated Sound Level (dBA) | | |
|---|---|---|---|---|
| | | AM Peak Leq | PM Peak Leq | 24-Hour Ldn |
| 1 | Archstone Warner Center Apartments | 66.6 | 67.4 | 67.1 |
| 2 | New Academy Canoga Park | 75.4 | 75.7 | 75.5 |
| 3 | Westhill Mental Health Facility | 75.4 | 75.7 | 75.5 |
| 4 | Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 69.7 | 70.4 | 70.0 |
| 5 | Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 68.2 | 68.9 | 68.5 |
| 6 | Riviera Mobile Estates | 69.5 | 70.3 | 69.9 |
| 7 | Eton Mobile Home Park | 69.5 | 70.3 | 69.9 |
| 8 | Canoga Mobile Estates | 71.9 | 72.7 | 72.3 |
| 9 | Sunburst Mobile Home Park | 65.4 | 67.3 | 66.3 |
| 10 | Multi-family residences on the north side of Lassen Street | 73.5 | 74.4 | 73.9 |

**SOURCE:** TAHA, 2008

## 4.9.2 REGULATORY FRAMEWORK

## APPLICABLE REGULATIONS

### Federal Transit Administration

The FTA has published the *Transit Noise and Vibration Impact Assessment* (FTA Report DOT-T-95-15, April 1995), which contains thresholds for noise impacts to communities from transit systems. These noise impact criteria are based on the change in ambient noise exposure. $L_{dn}$ is used to characterize residential areas, and a maximum one-hour operational $L_{eq}$ is used to characterize other noise sensitive areas, such as schools, parks, and outdoor amphitheaters. In addition to the noise impact criteria, the FTA assessment also describes vibration impact criteria with respect to land use and the frequency of transit system usage.

### City of Los Angeles

The City of Los Angeles has established policies and regulations concerning the generation and control of noise that could adversely affect its citizens and noise sensitive land uses. Regarding construction, the Los Angeles Municipal Code (LAMC) indicates that no construction or repair work shall be performed between the hours of 9:00 p.m. and 7:00 a.m. the following day, since such activities would generate loud noises and disturb persons occupying sleeping quarters in any adjacent dwelling, hotel, apartment or other place of residence.[5] No person, other than an individual home owner engaged in the repair or construction of his/her single-family dwelling, shall perform

[5]City of Los Angeles, LAMC, Chapter IV, Article 1, Section 41.40, January 29, 1984 and Chapter XI, Article 2, Section 112.04, August 8, 1996.

any construction or repair work of any kind or perform such work within 500 ft. of land so occupied before 8:00 a.m. or after 6:00 p.m. on any Saturday or on a federal holiday, or at any time on any Sunday. Under certain conditions, the City may grant a waiver to allow limited construction activities to occur outside of the limits described above.

The LAMC also specifies the maximum noise level of powered equipment or powered hand tools.[6] Any powered equipment or hand tool that produces a maximum noise level exceeding 75 dBA at a distance of 50 ft. is prohibited. However, this noise limitation does not apply where compliance is technically infeasible. Technically infeasible means the above noise limitation cannot be met despite the use of mufflers, shields, sound barriers and/or any other noise reduction device or techniques during the operation of equipment.

The City of Los Angeles has published significance thresholds to be used in noise analyses.[7] The significance thresholds, which are further discussed below, include thresholds for construction and operational noise levels.

The City has not adopted standards for vibration.

## 4.9.3 IMPACTS AND MITIGATION MEASURES

### Significance Criteria

Based on the City of Los Angeles *L.A. CEQA Thresholds Guide* and the FTA *Transit Noise and Vibration Impact Assessment*, the proposed project would result in significant noise impacts if it would generate noise levels in excess of the following thresholds.

#### *Construction Noise*

A significant construction impact would result if:

- Construction activities lasting more than one day would exceed existing ambient noise levels by ten dBA or more at a noise sensitive use;
- Construction activities lasting more than ten days in a three-month period would exceed existing ambient noise levels by five dBA or more at a noise sensitive use; or
- Construction activities would exceed the ambient noise level by five dBA over any one-hour period 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.

#### *Operational Noise*

Project significance associated with transit activity was determined based on FTA guidance. The FTA Noise Impact Criteria group noise sensitive land uses into the following three categories:

Category 1: Buildings or parks where quiet is an essential element of their purpose.
Category 2: Residences and buildings where people normally sleep. This includes residences, hospitals, and hotels where nighttime sensitivity is assumed to be of utmost importance.

[6]City of Los Angeles, LAMC, Chapter XI, Article 2, Section 112.05, August 8, 1996.

[7]City of Los Angeles, *L.A. CEQA Thresholds Guide*, 2006.

Category 3: Institutional land uses with primarily daytime and evening use. This category includes schools, libraries, churches and active parks.

$L_{dn}$ was used to characterize noise exposure for residential areas (Category 2). For other noise sensitive land uses, such as mental health facilities and school buildings (Categories 1 and 3), the maximum one-hour $L_{eq}$ during the facility's operating period was used.

Metro uses the FTA criteria for severe impacts to determine the significance of the impact. Severe noise impacts are considered "significant" as this term is used in implementing regulations. Noise mitigation will normally be specified for severe impact areas unless there is no practical method of mitigating the noise.

The noise impact criteria are summarized in **Table 4.9-2**. The first column shows the existing noise exposure and the remaining columns show the additional noise exposure from the transit project that would cause a severe impact. The future noise exposure would be the combination of the existing noise exposure and the additional noise exposure caused by the transit project. **Table 4.9-3** presents the incremental increase in the future noise level (i.e., when the transit project noise level is added to the existing noise level) that would have to occur to cause a severe impact. The noise criteria was developed to recognize the heightened community annoyance caused by late-night or early-morning transit service and to respond to the varying sensitivity of communities to transit projects under different background noise conditions. As the existing level of ambient noise increases, the total amount of community noise exposure that is allowed to increase is reduced. The justification for the criteria is that people already exposed to high levels of noise will notice and be annoyed by only a small increase in the amount of noise in their community. In contrast, if the existing noise levels are quite low, a greater change in the community noise will be required for the equivalent level of annoyance. It should be noted that these annoyance levels are based on general community reactions to noise at varying levels, which have been documented in scientific literature and do not account for specific community attitudinal factors which may exist.[8]

### *Construction Vibration*

There are no adopted state or City of Los Angeles vibration standards. Based on federal guidelines, the proposed project would result in a significant construction vibration impact if the proposed project would expose buildings to the FRA building damage threshold level of 0.5 inches per second PPV.

[8]FTA, Transit Noise and Vibration Impact Assessment, April 1995.

**Table 4.9-2: FTA Noise Impact Criteria for Severe Impact**

| Existing Noise Exposure Leq or Ldn | Project Noise Exposure Impact Thresholds, Ldn or Leq, dBA /a/ | |
|---|---|---|
| | Category 1 or 2 Sites | Category 3 Sites |
| <43 | Ambient+15 | Ambient+20 |
| 43 | 58 | 63 |
| 44 | 59 | 64 |
| 45 | 59 | 64 |
| 46 | 59 | 64 |
| 47 | 59 | 64 |
| 48 | 59 | 64 |
| 49 | 59 | 64 |
| 50 | 60 | 65 |
| 51 | 60 | 65 |
| 52 | 60 | 65 |
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| 68 | 68 | 73 |
| 69 | 69 | 74 |
| 70 | 69 | 74 |
| 71 | 70 | 75 |
| 72 | 71 | 76 |
| 73 | 72 | 77 |
| 74 | 72 | 77 |
| 75 | 73 | 78 |
| 76 | 74 | 79 |
| 77 | 75 | 80 |
| >77 | 75 | 80 |

/a/ Ldn is used for land uses where nighttime sensitivity is a factor (i.e., Category 2 land uses); maximum one-hour Leq is used for land use involving only daytime activities (i.e., Categories 1 and 3 land uses).
Category Definitions:
Category 1: Buildings or parks where quiet is an essential element of their purpose.
Category 2: Residences and buildings where people normally sleep. This includes residences, hospitals, and hotels where nighttime sensitivity is assumed to be of utmost importance.
Category 3: Institutional land uses with primarily daytime and evening use. This category includes schools, libraries, and churches.
**SOURCE:** FTA, *Transit Noise and Vibration Impact Assessment*, April 1995

**Table 4.9-3: FTA Noise Impact Criteria for Severe Impact Based on Increase Over Existing Noise Levels**

| Existing Noise Exposure Leq or Ldn | Impact Threshold for Increase in Cumulative Noise Exposure Ldn or Leq, dBA /a/ | |
|---|---|---|
| | Category 1 or 2 Sites | Category 3 Sites |
| <43 | 15.1 | 20.0 |
| 43 | 15.1 | 20.0 |
| 44 | 14.2 | 19.1 |
| 45 | 13.2 | 18.1 |
| 46 | 13.2 | 18.1 |
| 47 | 12.3 | 17.1 |
| 48 | 11.3 | 16.1 |
| 49 | 10.4 | 15.1 |
| 50 | 9.5 | 14.2 |
| 51 | 9.5 | 14.2 |
| 52 | 8.6 | 13.2 |
| 53 | 7.8 | 12.3 |
| 54 | 7.8 | 12.3 |
| 55 | 7.0 | 11.3 |
| 56 | 7.0 | 11.3 |
| 57 | 6.2 | 10.4 |
| 58 | 5.5 | 9.5 |
| 59 | 5.5 | 9.5 |
| 60 | 4.8 | 8.6 |
| 61 | 4.8 | 8.6 |
| 62 | 4.1 | 7.8 |
| 63 | 4.1 | 7.8 |
| 64 | 3.5 | 7.0 |
| 65 | 3.5 | 7.0 |
| 66 | 3.5 | 7.0 |
| 67 | 3.0 | 6.2 |
| 68 | 3.0 | 6.2 |
| 69 | 3.0 | 6.2 |
| 70 | 2.5 | 5.5 |
| 71 | 2.5 | 5.5 |
| 72 | 2.5 | 5.5 |
| 73 | 2.1 | 4.8 |
| 74 | 2.1 | 4.8 |
| 75 | 2.1 | 4.8 |
| 76 | 2.1 | 4.8 |
| 77 | 1.8 | 4.1 |

/a/ Ldn is used for land uses where nighttime sensitivity is a factor (i.e., Category 2 land uses); maximum one-hour Leq is used for land use involving only daytime activities (i.e., Categories 1 and 3 land uses).
Category Definitions:
Category 1: Buildings or parks where quiet is an essential element of their purpose.
Category 2: Residences and buildings where people normally sleep. This includes residences, hospitals, and hotels where nighttime sensitivity is assumed to be of utmost importance.
Category 3: Institutional land uses with primarily daytime and evening use. This category includes schools, libraries, and churches.
**SOURCE:** FTA, *Transit Noise and Vibration Impact Assessment*, April 1995

### *Operational Vibration*

The criteria for environmental impact from operational vibration are based on the maximum RMS vibration levels for repeated events of the same source. The criteria presented in **Table 4.9-4** accounts for variation in project types, as well as the frequency of events, which differ widely among transit projects. The criteria are primarily based on experience with passenger train operations, as rubber-tire vehicles (such as buses) rarely create vibration problems unless there is a discontinuity or bump in the road that causes the vibration.

**Table 4.9-4: Vibration Impact Criteria**

| Land Use Category | Vibration Impact Levels | |
|---|---|---|
| | Frequent Events/a/ | Infrequent Events/b/ |
| **Category 1:** Buildings where low ambient vibration is essential for interior operations | 65 VdB/c/ | 65 VdB/c/ |
| **Category 2:** Residences and buildings where people normally sleep | 72 VdB | 80 VdB |
| **Category 3:** Institutional land uses with primarily daytime uses | 75 VdB | 83 VdB |

/a/ "Frequent Events" is defined as more than 70 vibration events per day. Most rapid transit projects fall into this category.
/b/ "Infrequent Events" is defined as fewer than 70 vibration events per day. This category includes most commuter rail systems.
/c/ This criterion limit is based on levels that are acceptable for most moderately sensitive equipment, such as optical microscopes. Vibration sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design of the HVAC systems and stiffened floors.
**SOURCE:** FTA, *Transit Noise and Vibration Impact Assessment*, April 1995

## Methodology

Potential noise and vibration impacts were determined using the most recent traffic and noise models, the most representative traffic conditions, the best vehicle fleet distribution information, and the best known construction information available during the preparation of the Draft EIR. Sensitive receptors that potentially would be significantly impacted by noise and vibration were identified, and the existing ambient noise levels at these sensitive receptors were estimated through field measurements and by using the FHWA TNM.

Modeled ambient noise levels rather than measured noise levels were used in this noise analysis to characterize existing ambient noise levels since the modeled noise levels only take into account traffic noise, the predominate noise source in the corridor. It does not take into account other noise sources, such as noise from trains (which is a noise source that is experienced at the Sunburst Mobile Home Park), pedestrians, emergency sirens, and car horns. As such, using the modeled noise source to characterize existing ambient noise levels would represent worst-case conditions in this analysis since it would result in greater increases in noise levels.

The projected noise levels associated with each alternative were estimated using the FHWA TNM and took into account vehicle acceleration at intersections, future traffic conditions, and the proximity of roadways to sensitive receptors.

**Impact 4.9.1. Construction activity has the potential to significantly increase ambient noise levels through the use of heavy-duty construction equipment. The No Project Alternative would not result in any construction noise impact. The TSM Alternative would result in less-than-significant construction noise impacts without mitigation. However, the Canoga On-Street Dedicated Bus Lanes and the Canoga Busway Alternatives would result in significant and unavoidable construction noise impacts.**

Construction of the proposed project would result in temporary increases in ambient noise levels in the project area on an intermittent basis. The increase in noise levels would likely result in a temporary annoyance to nearby residents during construction. Noise levels would fluctuate depending on construction phase, equipment type and duration of use, distance between the noise source and receptor, and presence or absence of noise attenuation barriers.

Construction activities require the use of numerous noise-generating equipment, such as jackhammers, pneumatic impact equipment, saws, and tractors. Typical noise levels from various types of equipment that may be used during construction are listed in **Table 4.9-5**. The table shows noise levels at distances of 50 and 100 ft. from the construction noise source.

**Table 4.9-5: Maximum Noise Levels of Common Construction Machines**

| Noise Source | Noise Level (dBA) /a/ | |
|---|---|---|
| | 50 Ft. | 100 Ft. |
| Jackhammer | 82 | 76 |
| Steamroller | 83 | 77 |
| Street Paver | 80 | 74 |
| Backhoe | 83 | 77 |
| Street Compressor | 67 | 61 |
| Front-end Loader | 79 | 73 |
| Street Cleaner | 70 | 64 |
| Idling Haul Truck | 72 | 66 |
| Cement Mixer | 72 | 66 |

/a/ Assumes a six-decibel drop-off rate for noise generated by a "point source" and traveling over hard surfaces. Actual measured noise levels of the equipment listed in this table were taken at distances of ten and 30 ft. from the noise source.
**SOURCE:** Cowan, James P., *Handbook of Environmental Acoustics*, 1994

Whereas **Table 4.9-5** shows the noise level of each equipment, the noise levels shown in **Table 4.9-6** take into account the likelihood that more than one piece of construction equipment would be in operation at the same time and lists the typical overall noise levels that would be expected for each phase of construction. These noise levels are based on surveys conducted by USEPA in the early 1970s. Since 1970, regulations have been enforced to improve noise generated by certain types of construction equipment to meet worker noise exposure standards. However, many older pieces of equipment are still in use. Thus, the construction phase noise levels indicated in **Table 4.9-6** represent worst-case conditions. As the table shows, the highest noise levels are expected to occur during the grading/excavation and finishing phases of construction. The noise source is assumed to be generating a noise level of 89 dBA at a reference distance of 50 ft.

The noise limitation of the LAMC does not apply where compliance is technically infeasible.[9] Technically infeasible means that the noise standard cannot be met despite the use of mufflers, shields, sound barriers, and/or other noise reduction devices or techniques during the operation of equipment. For example, it would not be feasible to construct a temporary soundwall that stretches the length of the approximately four-mile corridor.

**Table 4.9-6: Outdoor Construction Noise Levels**

| Construction Phase | Noise Level At 50 Ft. (dBA) |
|---|---|
| Ground Clearing | 84 |
| Grading/Excavation | 89 |
| Foundations | 78 |
| Structural | 85 |
| Finishing | 89 |

**SOURCE:** Environmental Protection Agency, *Noise from Construction Equipment and Operations, Building Equipment and Home Appliances, PB 206717*, 1971

## Alternative 1. No Project

The No Project Alternative would not include any construction activity and, as such, would not generate temporary noise sources that would result in increases in the ambient noise levels. Therefore, the No Project Alternative would have no impact on the ambient noise levels.

## Alternative 2. TSM

The TSM Alternative would include frequency improvements on existing Metro transit routes, as well as provide a new local transit line for Canoga Avenue. The TSM Alternative would not include major construction activity. If any physical improvements should be implemented along with the bus operations improvements, typical street construction activities, such as site-specific intersection improvements, and upgrades to the traffic signal system, such as integrated signal operation, would be involved (see Section 3.0 Project Description). The location of these types of construction activities is currently undetermined. However, it is expected that noise levels associated with these types of activities would be lower than the Canoga On-Street Dedicated Bus Lanes Alternative and the Canoga Busway Alternative since construction activities for the TSM Alternative would be less intensive and would require fewer pieces of construction equipment than the two build alternatives. Therefore, the TSM Alternative would result in a less-than-significant impact on ambient noise levels.

## Alternative 3. Canoga On-Street Dedicated Bus Lanes

Construction of the Canoga On-Street Dedicated Bus Lanes Alternative could begin in 2010 and would occur between 24 to 36 months. The noise level during the construction period at each receptor location was calculated by (1) making a distance adjustment to the construction source sound level and (2) logarithmically adding the adjusted construction noise source level to the ambient noise level. The estimated construction noise levels at sensitive receptors are shown in **Table 4.9-7**. As presented, unmitigated construction noise levels would exceed the five-dBA significance threshold at multiple sensitive receptors along the project corridor. It is important to

[9]City of Los Angeles, LAMC, Chapter IX, Article 2, Section 122.05.

note that construction activity would occur over the entire length of the project corridor and, as such, would be short-term and temporary at each sensitive receptor. Nonetheless, the Canoga On-Street Dedicated Bus Lanes Alternative would result in a significant construction noise impact without implementation of mitigation measures at all sensitive receptors under Option 2. Under Options 1 and 3, only one sensitive receptor (multi-family residences on the north side of Lassen Street) would not experience a significant impact. Significant impacts are anticipated at all other sensitive receptors for these options.

Additional sensitive receptors located east and west of the project corridor would also experience increased ambient noise levels due to construction activity. However, the increases at these locations would be less than those at the sensitive receptors presented in **Table 4.9-7** due to distance and building attenuation (i.e., sensitive receptors closer to the project site would act as a soundwall to other sensitive receptors further away).

**Table 4.9-7: Construction Noise Levels – Canoga On-Street Dedicated Bus Lanes Alternative**

| Receptor | Distance (ft.) /a/ | Maximum Construction Noise Level (dBA) /b/ | Existing Ambient (dBA, Leq) /c/ | New Ambient (dBA, Leq) /d/ | Increase | Significant Impact? (≥5dBA) |
|---|---|---|---|---|---|---|
| **Option 1** | | | | | | |
| Archstone Warner Center Apartments | 370 | 71.6 | 66.6 | 72.8 | 6.2 | Yes |
| New Academy School /e/ | 25 | 87.0 | 75.4 | 87.3 | 11.9 | Yes |
| Westhill Mental Health Facility | 15 | 99.5 | 75.4 | 99.5 | 24.1 | Yes |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 90 | 83.9 | 69.7 | 84.1 | 14.4 | Yes |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 105 | 82.6 | 68.2 | 82.7 | 14.5 | Yes |
| Riviera Mobile Estates | 50 | 89.0 | 69.5 | 89.0 | 19.5 | Yes |
| Eaton Mobile Home Park | 50 | 89.0 | 69.5 | 89.0 | 19.5 | Yes |
| Canoga Mobile Estates | 35 | 92.1 | 71.9 | 92.1 | 20.2 | Yes |
| Sunburst Mobile Home Park | 140 | 80.1 | 65.4 | 80.2 | 14.8 | Yes |
| Multi-family residences on the north side of Lassen Street | 890 | 64.0 | 73.5 | 74.0 | 0.5 | No |
| **Option 2** | | | | | | |
| Archstone Warner Center Apartments | 370 | 71.6 | 66.6 | 72.8 | 6.2 | Yes |
| New Academy School /e/ | 25 | 87.0 | 75.4 | 87.3 | 11.9 | Yes |
| Westhill Mental Health Facility | 15 | 99.5 | 75.4 | 99.5 | 24.1 | Yes |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 90 | 83.9 | 69.7 | 84.1 | 14.4 | Yes |

**Table 4.9-7: Construction Noise Levels – Canoga On-Street Dedicated Bus Lanes Alternative**

| Receptor | Distance (ft.) /a/ | Maximum Construction Noise Level (dBA) /b/ | Existing Ambient (dBA, Leq) /c/ | New Ambient (dBA, Leq) /d/ | Increase | Significant Impact? (≥5dBA) |
|---|---|---|---|---|---|---|
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 105 | 82.6 | 68.2 | 82.7 | 14.5 | Yes |
| Riviera Mobile Estates | 50 | 89.0 | 69.5 | 89.0 | 19.5 | Yes |
| Eaton Mobile Home Park | 50 | 89.0 | 69.5 | 89.0 | 19.5 | Yes |
| Canoga Mobile Estates | 35 | 92.1 | 71.9 | 92.1 | 20.2 | Yes |
| Sunburst Mobile Home Park | 110 | 82.2 | 65.4 | 82.2 | 16.8 | Yes |
| Multi-family residences on the north side of Lassen Street | 90 | 83.9 | 73.5 | 84.3 | 10.8 | Yes |
| **Option 3** | | | | | | |
| Archstone Warner Center Apartments | 370 | 71.6 | 66.6 | 72.8 | 6.2 | Yes |
| New Academy School /e/ | 25 | 87.0 | 75.4 | 87.3 | 11.9 | Yes |
| Westhill Mental Health Facility | 15 | 99.5 | 75.4 | 99.5 | 24.1 | Yes |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 90 | 83.9 | 69.7 | 84.1 | 14.4 | Yes |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 105 | 82.6 | 68.2 | 82.7 | 14.5 | Yes |
| Riviera Mobile Estates | 50 | 89.0 | 69.5 | 89.0 | 19.5 | Yes |
| Eaton Mobile Home Park | 50 | 89.0 | 69.5 | 89.0 | 19.5 | Yes |
| Canoga Mobile Estates | 35 | 92.1 | 71.9 | 92.1 | 20.2 | Yes |
| Sunburst Mobile Home Park | 110 | 82.2 | 65.4 | 82.2 | 16.8 | Yes |
| Multi-family residences on the north side of Lassen Street | 90 | 75.4 | 73.5 | 77.5 | 4.0 | No |

/a/ Distance of noise source from receptor.
/b/ Construction noise source's sound level at receptor location with distance and structure adjustment.
/c/ Pre-construction activity ambient sound level at receptor location. The AM peak hour Leq was used to characterize the existing ambient noise level since construction activities would occur during this time and existing ambient noise levels at sensitive receptors would be lower during this time period. The modeled ambient noise levels were used in this noise analysis to characterize existing ambient noise levels since the modeled noise levels only takes into account traffic noise, the predominate noise source in the corridor. It does not take into account other noise sources, such as noise from trains, pedestrians, emergency sirens, and car horns. As such, using the modeled noise source to characterize existing ambient noise levels would represent worst-case conditions in this analysis since it would result in greater increases in noise levels.
/d/ New sound level at receptor location during the construction period, including noise from construction activity.
/e/ Includes an 8-dBA reduction for 10-foot wall located between the project corridor and the sensitive receptor.
**SOURCE**: TAHA, 2008

Construction of the Canoga Busway Alternative would be required to comply with the requirements of Section 112.03 and 41.40 of the City of Los Angeles Municipal Code and any variances to the Code issued by the City. The City of Los Angeles regulations prohibit construction between 9:00 p.m. and 7:00 a.m. without a variance. If nighttime construction would occur, Metro would be required to

obtain a variance from the City. As an example, the City previously issued a noise variance for Metro Red Line construction that allowed construction between 9:00 p.m. and 7:00 a.m. as long as: 1) construction noise did not exceed ambient noise level plus five decibels, and 2) construction noise did not result in substantial community complaints being registered with the City.

Typical methods to control construction noise include requiring the contractor to construct soundwalls or other types of noise barriers near the affected sensitive receptors, placing sound blankets around stationary equipment, placing restrictions on construction during nighttime hours, limiting the use of particularly noisy activities such as impact driving and jackhammering, and requiring construction to be performed in compliance with specific equipment and property line noise limits.

## Alternative 4. Canoga Busway

Construction of the Canoga Busway Alternative is anticipated to begin in 2010 and would occur for 20 to 24 months. The noise level during the construction period at each receptor location was calculated by (1) making a distance adjustment to the construction source sound level and (2) logarithmically adding the adjusted construction noise source level to the ambient noise level. The estimated construction noise levels at sensitive receptors are shown in **Table 4.9-8**. As presented, unmitigated construction noise levels would exceed the five-dBA significance threshold at multiple sensitive receptors along the project corridor. It is important to note that construction activity would occur over the entire length of the project corridor and, as such, would be short-term and temporary at each sensitive receptor. Nonetheless, the Canoga Busway Alternative would result in a significant construction noise impact without implementation of mitigation measures at eight sensitive receptors under Options 1, 4 and 5. For Options 2 through 3a, this alternative would result in a significant construction noise impact without implementation of mitigation measures at nine sensitive receptors.

Additional sensitive receptors located east and west of the project corridor would also experience increased ambient noise levels due to construction activity. However, the increases at these locations would be less than those at the sensitive receptors presented in **Table 4.9-8** due to distance and building attenuation (i.e., sensitive receptors closer to the project site would act as a soundwall to other sensitive receptors further away).

**Table 4.9-8: Construction Noise Levels – Canoga Busway Alternative**

| Receptor | Distance (ft.) /a/ | Maximum Construction Noise Level (dBA) /b/ | Existing Ambient (dBA, Leq) /c/ | New Ambient (dBA, Leq) /d/ | Increase | Significant Impact? (≥5dBA) |
|---|---|---|---|---|---|---|
| **Option 1** | | | | | | |
| Archstone Warner Center Apartments | 40 | 90.9 | 66.6 | 91.0 | 24.4 | Yes |
| New Academy School /e/ | 80 | 76.9 | 75.4 | 79.2 | 3.8 | No |
| Westhill Mental Health Facility | 120 | 81.4 | 75.4 | 82.4 | 7.0 | Yes |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 30 | 93.4 | 69.7 | 93.5 | 23.8 | Yes |

| Table 4.9-8: Construction Noise Levels – Canoga Busway Alternative | | | | | | |
|---|---|---|---|---|---|---|
| **Receptor** | **Distance (ft.) /a/** | **Maximum Construction Noise Level (dBA) /b/** | **Existing Ambient (dBA, Leq) /c/** | **New Ambient (dBA, Leq) /d/** | **Increase** | **Significant Impact? (≥5dBA)** |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 70 | 86.1 | 68.2 | 86.1 | 17.9 | Yes |
| Riviera Mobile Estates | 25 | 95.0 | 69.5 | 95.0 | 25.5 | Yes |
| Eton Mobile Home Park | 25 | 95.0 | 69.5 | 95.0 | 25.5 | Yes |
| Canoga Mobile Estates | 90 | 83.9 | 71.9 | 84.2 | 12.3 | Yes |
| Sunburst Mobile Home Park | 330 | 72.6 | 65.4 | 73.4 | 8.0 | Yes |
| Multi-family residences on the north side of Lassen Street | 2,900 | 53.7 | 73.5 | 73.5 | 0.0 | No |
| **Options 2 and 2a** | | | | | | |
| Archstone Warner Center Apartments | 40 | 90.9 | 66.6 | 91.0 | 24.4 | Yes |
| New Academy School /e/ | 80 | 76.9 | 75.4 | 79.2 | 3.8 | No |
| Westhill Mental Health Facility | 120 | 81.4 | 75.4 | 82.4 | 7.0 | Yes |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 30 | 93.4 | 69.7 | 93.5 | 23.8 | Yes |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 70 | 86.1 | 68.2 | 86.1 | 17.9 | Yes |
| Riviera Mobile Estates | 25 | 95.0 | 69.5 | 95.0 | 25.5 | Yes |
| Eton Mobile Home Park | 25 | 95.0 | 69.5 | 95.0 | 25.5 | Yes |
| Canoga Mobile Estates | 90 | 83.9 | 71.9 | 84.2 | 12.3 | Yes |
| Sunburst Mobile Home Park | 90 | 83.9 | 65.4 | 84.0 | 18.6 | Yes |
| Multi-family residences on the north side of Lassen Street | 90 | 83.9 | 73.5 | 84.3 | 10.8 | Yes |
| **Option 3 and 3a** | | | | | | |
| Archstone Warner Center Apartments | 40 | 90.9 | 66.6 | 91.0 | 24.4 | Yes |
| New Academy School /e/ | 80 | 76.9 | 75.4 | 79.2 | 3.8 | No |
| Westhill Mental Health Facility | 120 | 81.4 | 75.4 | 82.4 | 7.0 | Yes |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 30 | 93.4 | 69.7 | 93.5 | 23.8 | Yes |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 70 | 86.1 | 68.2 | 86.1 | 17.9 | Yes |

| Table 4.9-8: Construction Noise Levels – Canoga Busway Alternative | | | | | | |
|---|---|---|---|---|---|---|
| **Receptor** | **Distance (ft.) /a/** | **Maximum Construction Noise Level (dBA) /b/** | **Existing Ambient (dBA, Leq) /c/** | **New Ambient (dBA, Leq) /d/** | **Increase** | **Significant Impact? (≥5dBA)** |
| Riviera Mobile Estates | 25 | 95.0 | 69.5 | 95.0 | 25.5 | Yes |
| Eton Mobile Home Park | 25 | 95.0 | 69.5 | 95.0 | 25.5 | Yes |
| Canoga Mobile Estates | 90 | 83.9 | 71.9 | 84.2 | 12.3 | Yes |
| Sunburst Mobile Home Park | 90 | 83.9 | 65.4 | 84.0 | 18.6 | Yes |
| Multi-family residences on the north side of Lassen Street | 200 | 77.0 | 73.5 | 78.6 | 5.1 | Yes |
| **Option 4** | | | | | | |
| Archstone Warner Center Apartments | 40 | 90.9 | 66.6 | 91.0 | 24.4 | Yes |
| New Academy School /e/ | 80 | 76.9 | 75.4 | 79.2 | 3.8 | No |
| Westhill Mental Health Facility | 120 | 81.4 | 75.4 | 82.4 | 7.0 | Yes |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 30 | 93.4 | 69.7 | 93.5 | 23.8 | Yes |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 70 | 86.1 | 68.2 | 86.1 | 17.9 | Yes |
| Riviera Mobile Estates | 25 | 95.0 | 69.5 | 95.0 | 25.5 | Yes |
| Eton Mobile Home Park | 25 | 95.0 | 69.5 | 95.0 | 25.5 | Yes |
| Canoga Mobile Estates | 90 | 83.9 | 71.9 | 84.2 | 12.3 | Yes |
| Sunburst Mobile Home Park | 30 | 93.4 | 65.4 | 93.4 | 28.0 | Yes |
| Multi-family residences on the north side of Lassen Street | 450 | 69.9 | 73.5 | 75.1 | 1.6 | No |
| **Option 4a** | | | | | | |
| Archstone Warner Center Apartments | 40 | 90.9 | 66.6 | 91.0 | 24.4 | Yes |
| New Academy School /e/ | 80 | 76.9 | 75.4 | 79.2 | 3.8 | No |
| Westhill Mental Health Facility | 120 | 81.4 | 75.4 | 82.4 | 7.0 | Yes |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 30 | 93.4 | 69.7 | 93.5 | 23.8 | Yes |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 70 | 86.1 | 68.2 | 86.1 | 17.9 | Yes |
| Riviera Mobile Estates | 25 | 95.0 | 69.5 | 95.0 | 25.5 | Yes |
| Eton Mobile Home Park | 25 | 95.0 | 69.5 | 95.0 | 25.5 | Yes |

**Table 4.9-8: Construction Noise Levels – Canoga Busway Alternative**

| Receptor | Distance (ft.) /a/ | Maximum Construction Noise Level (dBA) /b/ | Existing Ambient (dBA, Leq) /c/ | New Ambient (dBA, Leq) /d/ | Increase | Significant Impact? (≥5dBA) |
|---|---|---|---|---|---|---|
| Canoga Mobile Estates | 90 | 83.9 | 71.9 | 84.2 | 12.3 | Yes |
| Sunburst Mobile Home Park | 30 | 93.4 | 65.4 | 93.4 | 28.0 | Yes |
| Multi-family residences on the north side of Lassen Street | 340 | 72.3 | 73.5 | 76.0 | 2.5 | No |
| **Option 5** | | | | | | |
| Archstone Warner Center Apartments | 40 | 90.9 | 66.6 | 91.0 | 24.4 | Yes |
| New Academy School /e/ | 80 | 76.9 | 75.4 | 79.2 | 3.8 | No |
| Westhill Mental Health Facility | 120 | 81.4 | 75.4 | 82.4 | 7.0 | Yes |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 30 | 93.4 | 69.7 | 93.5 | 23.8 | Yes |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 70 | 86.1 | 68.2 | 86.1 | 17.9 | Yes |
| Riviera Mobile Estates | 25 | 95.0 | 69.5 | 95.0 | 25.5 | Yes |
| Eton Mobile Home Park | 25 | 95.0 | 69.5 | 95.0 | 25.5 | Yes |
| Canoga Mobile Estates | 90 | 83.9 | 71.9 | 84.2 | 12.3 | Yes |
| Sunburst Mobile Home Park | 100 | 83.0 | 65.4 | 83.1 | 17.7 | Yes |
| Multi-family residences on the north side of Lassen Street | 340 | 72.3 | 73.5 | 76.0 | 2.5 | No |

/a/ Distance of noise source from receptor.
/b/ Construction noise source's sound level at receptor location with distance and structure adjustment.
/c/ Pre-construction activity ambient sound level at receptor location. The AM peak hour Leq was used to characterize the existing ambient noise level since construction activities would occur during this time and existing ambient noise levels at sensitive receptors would be lower during this time period. The modeled ambient noise levels were used in this noise analysis to characterize existing ambient noise levels since the modeled noise levels only takes into account traffic noise, the predominate noise source in the corridor. It does not take into account other noise sources, such as noise from trains, pedestrians, emergency sirens, and car horns. As such, using the modeled noise source to characterize existing ambient noise levels would represent worst-case conditions in this analysis since it would result in greater increases in noise levels.
/d/ New sound level at receptor location during the construction period, including noise from construction activity.
/e/ Includes an 8-dBA reduction for 10-foot wall located between the project corridor and the sensitive receptor.
**SOURCE**: TAHA, 2008

Construction of the Canoga On-Street Dedicated Bus Lanes Alternative would be required to comply with the requirements of Section 112.03 and 41.40 of the City of Los Angeles Municipal Code and any variances to the Code issued by the City. The City of Los Angeles regulations prohibit construction between 9:00 p.m. and 7:00 a.m. without a variance. If nighttime construction would occur, Metro would be required to obtain a variance from the City. As an example, the City previously issued a noise variance for Metro Red Line construction that allowed construction between 9:00 p.m. and 7:00 a.m. as long as: 1) construction noise did not exceed ambient noise level plus five decibels, and 2) construction noise did not result in substantial community complaints being registered with the City.

Typical methods to control construction noise include requiring the contractor to construct soundwalls or other types of noise barriers near the affected sensitive receptors, placing sound blankets around stationary equipment, placing restrictions on construction during nighttime hours, limiting the use of particularly noisy activities such as impact driving and jackhammering, and requiring construction to be performed in compliance with specific equipment and property line noise limits.

### *Mitigation Measures:*

The following mitigation measures are applicable to the Canoga On-Street Dedicated Bus Lanes and the Canoga Busway Alternatives:

### *Construction Phase Noise Mitigation Measures*

***MM 4.9-1:*** Metro will require construction contractors to equip construction equipment with the most effective locally available commercial mufflers, along with any other suitable noise attenuation devices.

***MM 4.9-2:*** In noise sensitive areas, the construction contractor shall work with Metro to select construction processes and techniques that create the lowest noise levels. These techniques include, but are not limited to, the mixing of concrete off-site instead of on-site, using hydraulic tools instead of pneumatic tools, and using quieter equipment as opposed to noisier equipment (such as rubber-tired equipment rather than track equipment).

***MM 4.9-3:*** Metro will ensure that equipment staging areas and rock crushing operations for recycling concrete and asphalt rubble are located as far as possible from sensitive receptors.

***MM 4.9-4:*** Metro will require that construction contractors limit construction activities that generate loud noise levels to daytime hours, including construction activities that generate loud noise levels for short periods of time. Example restrictions include limiting the use of jackhammers and other pneumatic impact devices and restricting construction in residential areas to daytime hours. Metro shall have the ability to require the construction contractor to enforce additional noise reduction measures to minimize construction noise levels during the evening and nighttime hours. Metro shall also have the ability to limit certain types of construction activities to the daytime hours.

***MM 4.9-5:*** Metro will coordinate with the City of Los Angeles Department of Transportation to conduct sandblasting during the daytime hours rather than during the evening and nighttime hours.

***MM 4.9-6:*** Metro will develop specific noise limits at noise sensitive areas to be included in the construction specifications and require that construction contractors perform noise monitoring during construction to verify compliance with the limits. Metro shall have the ability to require construction contractors to enforce noise reduction measures to ensure that noise levels at noise sensitive areas are minimized.

***MM 4.9-7:*** Metro will require that construction contractors minimize the use of backup alarms. Potential techniques that Metro can require construction contractors to enforce include designing construction sites to minimize the need for backup alarms (subject to approval by safety regulatory agencies); use strobe lights in place of backup alarms at night (subject to approval by safety regulatory agencies); use of flagmen to keep the area behind

maneuvering vehicles clear; and use self-adjusting, ambient-controlled backup alarms to adjust the alarm loudness up and down depending on ambient noise levels.

***MM 4.9-8:*** Metro will require the construction contractor to establish a "noise disturbance coordinator." The disturbance coordinator shall be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and would be required to implement reasonable measures such that the complaint is resolved. All signs posted at the construction site shall list the telephone number for the disturbance coordinator. Metro shall have the ability to require the construction contractor to enforce additional noise reduction measures to minimize construction noise levels.

***MM 4.9-9:*** Metro will require the construction contractor to install temporary sound barriers (e.g., soundwall or sound blankets) between the construction site and sensitive receptors. Metro will determine the type, length, and height of the sound barriers that would be used. Metro will also require the construction contractor to place portable sound blankets around sandblasting and jackhammering operations, as well as around construction activities that involve vibratory rollers. The sound barriers shall break the line-of-sight between the construction equipment on the construction site and the sensitive receptors.

*Level of Impact After Mitigation*: Less than significant for the TSM Alternative. Significant and unavoidable impact for the Canoga On-Street Dedicated Bus Lanes and the Canoga Busway Alternatives. Mitigation Measure **MM 4.9-1** would reduce construction noise levels by at least three dBA.[10] Mitigation Measure **MM 4.9-9** would reduce construction noise levels by five dBA or more, depending on the type, length, and height of the sound barrier. Mitigation Measures **MM 4.9-2** through **MM 4.9-8** would assist in further attenuating construction noise levels. **Tables 4.9-9** and **4.9-10** shows the estimated construction noise levels with implementation of mitigation measures for the Canoga On-Street Dedicated Bus Lanes Alternative and the Canoga Busway Alternative, respectively. As shown, mitigated noise levels would still exceed the five-dBA significance threshold at eight sensitive receptors for all three options under the Canoga On-Street Dedicated Bus Lanes Alternative. For the Canoga Busway Alternative, mitigated noise levels would still exceed the five-dBA significance threshold at six sensitive receptors under Option 1 and seven sensitive receptors for Options 2 through 5. As such, both the Canoga On-Street Dedicated Bus Lanes Alternative and the Canoga Busway Alternative would result in a significant and unavoidable construction noise impact.

**Table 4.9-9: Construction Noise Levels with Mitigation – Canoga On-Street Dedicated Bus Lanes Alternative**

| Receptor | Distance (ft.) /a/ | Maximum Construction Noise Level (dBA) /b/ | Existing Ambient (dBA, Leq) /c/ | New Ambient (dBA, Leq) /d/ | Increase | Significant Impact? (≥5dBA) |
|---|---|---|---|---|---|---|
| **Option 1** | | | | | | |
| Archstone Warner Center Apartments | 370 | 63.6 | 66.6 | 68.4 | 1.8 | No |
| New Academy School /e/ | 25 | 79.0 | 75.4 | 80.6 | 5.2 | Yes |
| Westhill Mental Health Facility | 15 | 91.5 | 75.4 | 91.6 | 16.2 | Yes |

[10]City of Los Angeles, *L.A. CEQA Thresholds Guide*, 2006.

| Table 4.9-9: Construction Noise Levels with Mitigation – Canoga On-Street Dedicated Bus Lanes Alternative | | | | | | |
|---|---|---|---|---|---|---|
| **Receptor** | **Distance (ft.) /a/** | **Maximum Construction Noise Level (dBA) /b/** | **Existing Ambient (dBA, Leq) /c/** | **New Ambient (dBA, Leq) /d/** | **Increase** | **Significant Impact? (≥5dBA)** |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 90 | 75.9 | 69.7 | 76.8 | 7.1 | Yes |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 105 | 74.6 | 68.2 | 75.5 | 7.3 | Yes |
| Riviera Mobile Estates | 50 | 81.0 | 69.5 | 81.3 | 11.8 | Yes |
| Eaton Mobile Home Park | 50 | 81.0 | 69.5 | 81.3 | 11.8 | Yes |
| Canoga Mobile Estates | 35 | 84.0 | 71.9 | 84.4 | 12.5 | Yes |
| Sunburst Mobile Home Park | 140 | 72.1 | 65.4 | 72.9 | 7.5 | Yes |
| Multi-family residences on the north side of Lassen Street | 890 | 75.9 | 73.5 | 73.6 | 10.1 | No |
| **Option 2** | | | | | | |
| Archstone Warner Center Apartments | 370 | 63.6 | 66.6 | 68.4 | 1.8 | No |
| New Academy School /e/ | 25 | 79.0 | 75.4 | 80.6 | 5.2 | Yes |
| Westhill Mental Health Facility | 15 | 91.5 | 75.4 | 91.6 | 16.2 | Yes |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 90 | 75.9 | 69.7 | 76.8 | 7.1 | Yes |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 105 | 74.6 | 68.2 | 75.5 | 7.3 | Yes |
| Riviera Mobile Estates | 50 | 81.0 | 69.5 | 81.3 | 11.8 | Yes |
| Eaton Mobile Home Park | 50 | 81.0 | 69.5 | 81.3 | 11.8 | Yes |
| Canoga Mobile Estates | 35 | 84.0 | 71.9 | 84.4 | 12.5 | Yes |
| Sunburst Mobile Home Park | 110 | 74.2 | 65.4 | 74.7 | 9.3 | Yes |
| Multi-family residences on the north side of Lassen Street | 90 | 75.9 | 73.5 | 77.9 | 4.4 | No |
| **Option 3** | | | | | | |
| Archstone Warner Center Apartments | 370 | 63.6 | 66.6 | 68.4 | 1.8 | No |
| New Academy School /e/ | 25 | 79.0 | 75.4 | 80.6 | 5.2 | Yes |
| Westhill Mental Health Facility | 15 | 91.5 | 75.4 | 91.6 | 16.2 | Yes |

**Table 4.9-9: Construction Noise Levels with Mitigation – Canoga On-Street Dedicated Bus Lanes Alternative**

| Receptor | Distance (ft.) /a/ | Maximum Construction Noise Level (dBA) /b/ | Existing Ambient (dBA, Leq) /c/ | New Ambient (dBA, Leq) /d/ | Increase | Significant Impact? (≥5dBA) |
|---|---|---|---|---|---|---|
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 90 | 75.9 | 69.7 | 76.8 | 7.1 | Yes |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 105 | 74.6 | 68.2 | 75.5 | 7.3 | Yes |
| Riviera Mobile Estates | 50 | 81.0 | 69.5 | 81.3 | 11.8 | Yes |
| Eaton Mobile Home Park | 50 | 81.0 | 69.5 | 81.3 | 11.8 | Yes |
| Canoga Mobile Estates | 35 | 84.0 | 71.9 | 84.4 | 12.5 | Yes |
| Sunburst Mobile Home Park | 110 | 74.2 | 65.4 | 74.7 | 9.3 | Yes |
| Multi-family residences on the north side of Lassen Street | 240 | 67.4 | 73.5 | 74.4 | 0.9 | No |

/a/ Distance of noise source from receptor.
/b/ Construction noise source's sound level at receptor location with distance and structure adjustment.
/c/ Pre-construction activity ambient sound level at receptor location. The AM peak hour Leq was used to characterize the existing ambient noise level since construction activities would occur during this time and existing ambient noise levels at sensitive receptors would be lower during this time period. The modeled ambient noise levels were used in this noise analysis to characterize existing ambient noise levels since the modeled noise levels only takes into account traffic noise, the predominate noise source in the corridor. It does not take into account other noise sources, such as noise from trains, pedestrians, emergency sirens, and car horns. As such, using the modeled noise source to characterize existing ambient noise levels would represent worst-case conditions in this analysis since it would result in greater increases in noise levels.
/d/ New sound level at receptor location during the construction period, including noise from construction activity.
/e/ Includes an eight-dBA reduction for ten-foot wall located between the project corridor and the sensitive receptor.
**SOURCE**: TAHA, 2008

**Table 4.9-10: Construction Noise Levels with Mitigation – Canoga Busway Alternative**

| Receptor | Distance (ft.) /a/ | Maximum Construction Noise Level (dBA) /b/ | Existing Ambient (dBA, Leq) /c/ | New Ambient (dBA, Leq) /d/ | Increase | Significant Impact? (≥5dBA) |
|---|---|---|---|---|---|---|
| **Option 1** | | | | | | |
| Archstone Warner Center Apartments | 40 | 82.9 | 66.6 | 83.0 | 16.4 | Yes |
| New Academy School /e/ | 80 | 68.9 | 75.4 | 76.3 | 0.9 | No |
| Westhill Mental Health Facility | 120 | 73.4 | 75.4 | 77.5 | 2.1 | No |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 30 | 85.4 | 69.7 | 85.6 | 15.9 | Yes |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 70 | 78.1 | 68.2 | 78.5 | 10.3 | Yes |
| Riviera Mobile Estates | 25 | 87.0 | 69.5 | 87.1 | 17.6 | Yes |

| Table 4.9-10: Construction Noise Levels with Mitigation – Canoga Busway Alternative | | | | | | |
|---|---|---|---|---|---|---|
| **Receptor** | **Distance (ft.) /a/** | **Maximum Construction Noise Level (dBA) /b/** | **Existing Ambient (dBA, Leq) /c/** | **New Ambient (dBA, Leq) /d/** | **Increase** | **Significant Impact? (≥5dBA)** |
| Eton Mobile Home Park | 25 | 87.0 | 69.5 | 87.1 | 17.6 | Yes |
| Canoga Mobile Estates | 90 | 75.9 | 71.9 | 77.4 | 5.5 | Yes |
| Sunburst Mobile Home Park | 330 | 64.6 | 65.4 | 68.0 | 2.6 | No |
| Multi-family residences on the north side of Lassen Street | 2,900 | 45.7 | 73.5 | 73.5 | 0.0 | No |
| **Options 2 and 2a** | | | | | | |
| Archstone Warner Center Apartments | 40 | 82.9 | 66.6 | 83.0 | 16.4 | Yes |
| New Academy School /e/ | 80 | 68.9 | 75.4 | 76.3 | 0.9 | No |
| Westhill Mental Health Facility | 120 | 73.4 | 75.4 | 77.5 | 2.1 | No |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 30 | 85.4 | 69.7 | 85.6 | 15.9 | Yes |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 70 | 78.1 | 68.2 | 78.5 | 10.3 | Yes |
| Riviera Mobile Estates | 25 | 87.0 | 69.5 | 87.1 | 17.6 | Yes |
| Eton Mobile Home Park | 25 | 87.0 | 69.5 | 87.1 | 17.6 | Yes |
| Canoga Mobile Estates | 90 | 75.9 | 71.9 | 77.4 | 5.5 | Yes |
| Sunburst Mobile Home Park | 90 | 75.9 | 65.4 | 76.3 | 10.9 | Yes |
| Multi-family residences on the north side of Lassen Street | 90 | 75.9 | 73.5 | 77.9 | 4.4 | No |
| **Option 3 and 3a** | | | | | | |
| Archstone Warner Center Apartments | 40 | 82.9 | 66.6 | 83.0 | 16.4 | Yes |
| New Academy School /e/ | 80 | 68.9 | 75.4 | 76.3 | 0.9 | No |
| Westhill Mental Health Facility | 120 | 73.4 | 75.4 | 77.5 | 2.1 | No |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 30 | 85.4 | 69.7 | 85.6 | 15.9 | Yes |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 70 | 78.1 | 68.2 | 78.5 | 10.3 | Yes |
| Riviera Mobile Estates | 25 | 87.0 | 69.5 | 87.1 | 17.6 | Yes |
| Eton Mobile Home Park | 25 | 87.0 | 69.5 | 87.1 | 17.6 | Yes |
| Canoga Mobile Estates | 90 | 75.9 | 71.9 | 77.4 | 5.5 | Yes |

| Table 4.9-10: Construction Noise Levels with Mitigation – Canoga Busway Alternative | | | | | | |
|---|---|---|---|---|---|---|
| **Receptor** | **Distance (ft.) /a/** | **Maximum Construction Noise Level (dBA) /b/** | **Existing Ambient (dBA, Leq) /c/** | **New Ambient (dBA, Leq) /d/** | **Increase** | **Significant Impact? (≥5dBA)** |
| Sunburst Mobile Home Park | 90 | 75.9 | 65.4 | 76.3 | 10.9 | Yes |
| Multi-family residences on the north side of Lassen Street | 200 | 69.0 | 73.5 | 74.8 | 1.3 | No |
| **Option 4** | | | | | | |
| Archstone Warner Center Apartments | 40 | 82.9 | 66.6 | 83.0 | 16.4 | Yes |
| New Academy School /e/ | 80 | 68.9 | 75.4 | 76.3 | 0.9 | No |
| Westhill Mental Health Facility | 120 | 73.4 | 75.4 | 77.5 | 2.1 | No |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 30 | 85.4 | 69.7 | 85.6 | 15.9 | Yes |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 70 | 78.1 | 68.2 | 78.5 | 10.3 | Yes |
| Riviera Mobile Estates | 25 | 87.0 | 69.5 | 87.1 | 17.6 | Yes |
| Eton Mobile Home Park | 25 | 87.0 | 69.5 | 87.1 | 17.6 | Yes |
| Canoga Mobile Estates | 90 | 75.9 | 71.9 | 77.4 | 5.5 | Yes |
| Sunburst Mobile Home Park | 30 | 85.4 | 65.4 | 85.5 | 20.1 | Yes |
| Multi-family residences on the north side of Lassen Street | 450 | 61.9 | 73.5 | 73.8 | 0.3 | No |
| **Option 4a** | | | | | | |
| Archstone Warner Center Apartments | 40 | 82.9 | 66.6 | 83.0 | 16.4 | Yes |
| New Academy School /e/ | 80 | 68.9 | 75.4 | 76.3 | 0.9 | No |
| Westhill Mental Health Facility | 120 | 73.4 | 75.4 | 77.5 | 2.1 | No |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 30 | 85.4 | 69.7 | 85.6 | 15.9 | Yes |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 70 | 78.1 | 68.2 | 78.5 | 10.3 | Yes |
| Riviera Mobile Estates | 25 | 87.0 | 69.5 | 87.1 | 17.6 | Yes |
| Eton Mobile Home Park | 25 | 87.0 | 69.5 | 87.1 | 17.6 | Yes |
| Canoga Mobile Estates | 90 | 75.9 | 71.9 | 77.4 | 5.5 | Yes |
| Sunburst Mobile Home Park | 30 | 85.4 | 65.4 | 85.5 | 20.1 | Yes |
| Multi-family residences on the north side of Lassen Street | 340 | 64.3 | 73.5 | 74.0 | 0.5 | No |

| Table 4.9-10: Construction Noise Levels with Mitigation – Canoga Busway Alternative | | | | | | |
|---|---|---|---|---|---|---|
| **Receptor** | **Distance (ft.) /a/** | **Maximum Construction Noise Level (dBA) /b/** | **Existing Ambient (dBA, Leq) /c/** | **New Ambient (dBA, Leq) /d/** | **Increase** | **Significant Impact? (≥5dBA)** |
| **Option 5** | | | | | | |
| Archstone Warner Center Apartments | 40 | 82.9 | 66.6 | 83.0 | 16.4 | Yes |
| New Academy School /e/ | 80 | 68.9 | 75.4 | 76.3 | 0.9 | No |
| Westhill Mental Health Facility | 120 | 73.4 | 75.4 | 77.5 | 2.1 | No |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 30 | 85.4 | 69.7 | 85.6 | 15.9 | Yes |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 70 | 78.1 | 68.2 | 78.5 | 10.3 | Yes |
| Riviera Mobile Estates | 25 | 87.0 | 69.5 | 87.1 | 17.6 | Yes |
| Eton Mobile Home Park | 25 | 87.0 | 69.5 | 87.1 | 17.6 | Yes |
| Canoga Mobile Estates | 90 | 75.9 | 71.9 | 77.4 | 5.5 | Yes |
| Sunburst Mobile Home Park | 100 | 75.0 | 65.4 | 75.4 | 10.0 | Yes |
| Multi-family residences on the north side of Lassen Street | 340 | 64.3 | 73.5 | 74.0 | 0.5 | No |

/a/ Distance of noise source from receptor.
/b/ Construction noise source's sound level at receptor location with distance and structure adjustment.
/c/ Pre-construction activity ambient sound level at receptor location. The AM peak hour Leq was used to characterize the existing ambient noise level since construction activities would occur during this time and existing ambient noise levels at sensitive receptors would be lower during this time period. The modeled ambient noise levels were used in this noise analysis to characterize existing ambient noise levels since the modeled noise levels only takes into account traffic noise, the predominate noise source in the corridor. It does not take into account other noise sources, such as noise from trains, pedestrians, emergency sirens, and car horns. As such, using the modeled noise source to characterize existing ambient noise levels would represent worst-case conditions in this analysis since it would result in greater increases in noise levels.
/d/ New sound level at receptor location during the construction period, including noise from construction activity.
/e/ Includes an eight-dBA reduction for ten-foot wall located between the project corridor and the sensitive receptor.
**SOURCE**: TAHA, 2008

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**Impact 4.9.2. Construction of the proposed project has the potential to increase vibration levels through the use of heavy-duty construction equipment. The No Project Alternative would have no vibration impact. The TSM, Canoga On-Street Dedicated Bus Lanes, and Canoga Busway Alternatives would result in less-than-significant construction vibration impacts without mitigation.**

Heavy-duty construction equipment would be used to construct the TSM, Canoga On-Street Dedicated Bus Lanes, and Canoga Busway Alternatives. Heavy-duty construction equipment also would be potentially utilized to construct overpasses or underpasses under the Canoga Busway Alternative (Options 4, 4a, and 5). As shown in **Table 4.9-11**, heavy-duty equipment (e.g., a large bulldozer) generates vibration levels of 0.089 inches per second PPV at a distance of 25 ft. Vibration quickly lessens with distance. For example, a large bulldozer generates vibration levels of 0.031 inches per second PPV at a distance of 50 ft.

| Table 4.9-11: Vibration Velocities for Construction Equipment | | |
|---|---|---|
| **Equipment** | **PPV at 25 ft. (Inches/Second) /a/** | **PPV at 50 ft. (Inches/Second) /a/** |
| Large Bulldozer | 0.089 | 0.031 |
| Caisson Drilling | 0.089 | 0.031 |
| Loaded Trucks | 0.076 | 0.027 |
| Vibratory Roller | 0.210 | 0.070 |

/a/ Fragile buildings can be exposed to vibration levels of 0.5 inches per second PPV without experiencing structural damage.
**SOURCE:** Federal Transit Authority, *Transit Noise and Vibration Impact Assessment*, April 1995

## Alternative 1. No Project

The No Project Alternative would not include any construction activity and, as such, would not generate any sources of vibration. Therefore, the No Project Alternative would have no vibration impact.

## Alternative 2. TSM

The TSM Alternative would include frequency improvements on existing Metro transit routes, as well as provide a new local transit line for Canoga Avenue. The TSM Alternative would not include major construction activity. If any physical improvements should be implemented along with the bus operations improvements, typical street construction activities, such as site-specific intersection improvements, and upgrades to the traffic signal system, such as integrated signal operation, would be involved (see Section 3.0 Project Description). The location of these types of construction activities is currently undetermined. However, it is expected that vibration levels associated with these types of activities would be lower than the Canoga On-Street Dedicated Bus Lanes Alternative and the Canoga Busway Alternative since construction activities that would be associated with the TSM Alternative would be less intensive and would require fewer pieces of construction equipment. Therefore, the TSM Alternative would result in a less-than-significant vibration impact.

## Alternative 3. Canoga On-Street Dedicated Bus Lanes

Ground-borne vibration from construction activities, such as the use of vibratory rollers, would be a source of disturbance at sensitive receptors and would cause intermittent, localized intrusion along the Corridor. The nearest sensitive receptor to the Canoga On-Street Dedicated Bus Lanes Alternative would be approximately 15 ft. from occasional heavy equipment activity and could experience vibration levels of 0.45 inches per second PPV. This vibration level would be less than the 0.5 inches per second PPV building damage significance threshold. As such, Canoga On-Street Dedicated Bus Lanes Alternative construction-related vibration would result in a less-than-significant impact.

## Alternative 4. Canoga Busway

Ground-borne vibration from construction activities, such as the use of vibratory rollers, would be a source of disturbance at sensitive receptors and would cause intermittent, localized intrusion along the Corridor. The nearest sensitive receptor to the Canoga Busway Alternative would be approximately 30 ft. from occasional heavy equipment activity and could experience vibration levels of 0.16 inches per second PPV. This vibration level would be less than the 0.5 inches per second PPV building damage significance threshold. As such, Canoga Busway Alternative construction-related vibration would result in a less-than-significant impact.

### *Construction Phase Vibration Mitigation Measures*

Construction activity associated with each alternative would not result in vibration impacts, and no mitigation measures are necessary.

*Level of Impact After Mitigation*: Less than significant.

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**Impact 4.9.3. Operation of the proposed project has the potential to significantly increase ambient noise levels. The No Project Alternative would have no impact on operational noise. The TSM Alternative would have a less-than-significant impact. The Canoga On-Street Dedicated Bus Lanes and Canoga Busway Alternatives would result in significant impacts on ambient noise levels without mitigation.**

The predominant noise source for the proposed project is vehicular traffic. To ascertain noise impacts, traffic was modeled utilizing FHWA TNM.

#### Alternative 1. No Project

Under the No Project Alternative, which reflects conditions anticipated for year 2030 with no major transit improvements, changes in traffic would be limited to normal growth on the existing roadways and transit network. The No Project Alternative would not change the existing operations of Canoga Avenue. None of the existing park-and-ride facilities would be altered, and no new park-and-ride facilities would be constructed. Therefore, the No Project Alternative would have no impact on operational noise.

#### Alternative 2. TSM

The TSM Alternative would include frequency improvements on existing Metro transit routes, as well as provide a new local transit line for Canoga Avenue. None of the existing park-and-ride facilities would be altered, and no new park-and-ride facilities would be constructed. **Table 4.9-12** compares noise levels associated with the TSM Alternative with existing conditions at sensitive receptors along Canoga Avenue. This table also identifies the number of severe impacts for single-family residential (includes mobile homes), multi-family residential, and other (schools and mental health facility) land uses. As shown, none of the sensitive receptors would be exposed to a severe impact.

**Table 4.9-12: Operational Noise Impact Assessment – TSM Alternative**

| Sensitive Receptor | dBA, Leq or Ldn /a/ | | | | Equal to or Exceed Severe Impact Threshold? | Number of Severe Impacts | | |
|---|---|---|---|---|---|---|---|---|
| | Existing | TSM Alternative | Change | Severe Impact Threshold | | SF /b/ | MF /c/ | Other |
| Archstone Warner Center Apartments | 67.1 | 67.9 | 0.8 | 3.0 | No | 0 | 0 | 0 |
| New Academy Canoga Park | 75.4 | 76.3 | 0.9 | 4.8 | No | 0 | 0 | 0 |
| Westhill Mental Health Facility | 75.7 | 76.9 | 1.2 | 4.8 | No | 0 | 0 | 0 |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 70.0 | 71.2 | 1.2 | 2.5 | No | 0 | 0 | 0 |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 68.5 | 69.6 | 1.1 | 3.0 | No | 0 | 0 | 0 |
| Riviera Mobile Estates | 69.9 | 70.9 | 1.0 | 2.5 | No | 0 | 0 | 0 |
| Eton Mobile Home Park | 69.9 | 70.9 | 1.0 | 2.5 | No | 0 | 0 | 0 |
| Canoga Mobile Estates | 72.3 | 73.2 | 0.9 | 2.5 | No | 0 | 0 | 0 |
| Sunburst Mobile Home Park | 66.3 | 67.3 | 1.0 | 3.5 | No | 0 | 0 | 0 |
| Multi-family residences on the north side of Lassen Street | 73.9 | 75.0 | 1.1 | 2.1 | No | 0 | 0 | 0 |
| **Total** | | | | | | **0** | **0** | **0** |

/a/ Ldn is used for all residential uses (i.e., single-family homes, multi-family homes, and mobile homes). The AM peak hour Leq is used for the New Academy Canoga Park since class would be in session noise when at this time, and the PM peak hour Leq is used for the Westhill Mental Health Facility Leq is the highest during the PM peak hour.
/b/ SF = single-family residence or mobile home
/c/ MF = multi-family residential building
**SOURCE**: TAHA, 2008

In addition to the increase in noise levels at sensitive receptors along Canoga Avenue due to the new local transit route, the frequency improvements of existing Metro transit routes along other roadways also would likely increase ambient noise levels at sensitive receptors within close proximity to these transit routes. However, the noise level increase from frequency improvements of an existing transit route is expected to be less than the noise level increase from a new transit route since fewer buses would be added to an existing transit route than to a new transit route. Thus, the noise level increase at sensitive receptors near transit routes with frequency improvements is expected to be less than the noise level increase at the sensitive receptors along Canoga Avenue, which would have a new local

transit line. Therefore, the TSM Alternative would not result in a significant operational noise impact.

## Alternative 3. Canoga On-Street Dedicated Bus Lanes

**Mobile Noise**. The Canoga On-Street Dedicated Bus Lanes Alternative would introduce a new transit route along Canoga Avenue. New bus lanes would be constructed on Canoga Avenue. Buses traveling along Canoga Avenue have the potential to increase noise levels as the buses travel past sensitive receptors near the project corridor. These types of noise are considered single-event noise since the noise increase would occur for a short time period (i.e., as the buses travel past sensitive receptors). Noise from buses also has the potential to generate low frequency noise that can be perceived as vibration and can be a source of disturbance at sensitive receptors. Although low frequency noise may be perceived as vibration, this type of noise is airborne noise and not ground-borne vibration. However, the criteria for determining a significant noise impact under the City of Los Angeles *L.A. CEQA Thresholds Guide* and the FTA *Transit Noise and Vibration Impact Assessment* is to determine the frequency, duration, and loudness of the noise and how the frequency, duration, and loudness of the noise would affect ambient noise levels, which are typically measured in $L_{eq}$ or $L_{dn}$. By determining the frequency, duration, and loudness of the noise, the effect of the noise on ambient noise levels can be determined. It should be noted that Metro is in the process of testing new mufflers that may reduce low frequency noise from buses.

**Table 4.9-13** compares noise levels associated with the Canoga On-Street Dedicated Bus Lanes Alternative with existing conditions. This table also identifies the number of sensitive receptors (e.g., single-family residential [includes mobile homes], multi-family residential, and other [schools and mental health facility] land uses) that would be exposed to severe impacts. This alternative would result in no severe impacts under Options 1 and 3. Option 2 of this alternative would result in severe impacts at three sensitive receptors. The sensitive receptors with severe impacts include three multi-family residential buildings on the north side of Lassen Street. The severe impact would only occur within 25 ft. from the edge of Lassen Street. Since Option 2 would generate severe impacts at sensitive receptors, a significant operational noise impact is anticipated for this option.

**Noise from Park-and-Ride Facilities**. The Canoga On-Street Dedicated Bus Lanes Alternative would reconfigure the park-and-ride facility at the Canoga Station. The nearest sensitive receptor to this facility is the Archstone Warner Center Apartments. The number of parking spaces at this facility would decrease (608 existing spaces decreased to about 490 spaces). As such, fewer vehicles would access the park-and-ride facility and noise levels would not incrementally increase when compared to existing conditions. Thus, less-than-significant impacts are anticipated for this park-and-ride facility.

The On-Street Dedicated Bus Lanes Alternative would also provide a new park-and-ride facility at Sherman Way that would supplement the Canoga Station park-and-ride lot. This new park-and-ride facility would be surrounded by commercial and industrial uses. No sensitive receptors are located next to this facility. Thus, the proposed park-and-ride facility in this area would result in a less-than-significant noise impact.

**Table 4.9-13: Operational Noise Impact Assessment – Canoga On-Street Dedicated Bus Lanes Alternative**

| Sensitive Receptor | dBA, Leq or Ldn /a/ | | | | Equal to or Exceed Severe Impact Threshold? | Number of Severe Impacts | | |
|---|---|---|---|---|---|---|---|---|
| | Existing | Canoga On-Street Dedicated Bus Lanes Alternative | Change | Severe Impact Threshold | | SF /b/ | MF /c/ | Other |
| **Option 1** | | | | | | | | |
| Archstone Warner Center Apartments | 67.1 | 67.5 | 0.4 | 3.0 | No | 0 | 0 | 0 |
| New Academy Canoga Park | 75.4 | 74.9 | -0.5 /d/ | 4.8 | No | 0 | 0 | 0 |
| Westhill Mental Health Facility | 75.7 | 75.2 | -0.5 /d/ | 4.8 | No | 0 | 0 | 0 |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 70.0 | 71.6 | 1.6 | 2.5 | No | 0 | 0 | 0 |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 68.5 | 69.8 | 1.3 | 3.0 | No | 0 | 0 | 0 |
| Riviera Mobile Estates | 69.9 | 71.2 | 1.3 | 2.5 | No | 0 | 0 | 0 |
| Eton Mobile Home Park | 69.9 | 71.2 | 1.3 | 2.5 | No | 0 | 0 | 0 |
| Canoga Mobile Estates | 72.3 | 72.5 | 0.2 | 2.5 | No | 0 | 0 | 0 |
| Sunburst Mobile Home Park | 66.3 | 67.3 | 1.0 | 3.5 | No | 0 | 0 | 0 |
| Multi-family residences on the north side of Lassen Street | 73.9 | 75.5 | 1.6 | 2.1 | No | 0 | 0 | 0 |
| **Total** | | | | | | **0** | **0** | **0** |
| **Option 2** | | | | | | | | |
| Archstone Warner Center Apartments | 67.1 | 67.5 | 0.4 | 3.0 | No | 0 | 0 | 0 |
| New Academy Canoga Park | 75.4 | 74.9 | -0.5 /d/ | 4.8 | No | 0 | 0 | 0 |
| Westhill Mental Health Facility | 75.7 | 75.2 | -0.5 /d/ | 4.8 | No | 0 | 0 | 0 |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 70.0 | 71.6 | 1.6 | 2.5 | No | 0 | 0 | 0 |

| Table 4.9-13: Operational Noise Impact Assessment – Canoga On-Street Dedicated Bus Lanes Alternative | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Sensitive Receptor** | **dBA, Leq or Ldn /a/** | | | | **Equal to or Exceed Severe Impact Threshold?** | **Number of Severe Impacts** | | |
| | **Existing** | **Canoga On-Street Dedicated Bus Lanes Alternative** | **Change** | **Severe Impact Threshold** | | **SF /b/** | **MF /c/** | **Other** |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 68.5 | 69.8 | 1.3 | 3.0 | No | 0 | 0 | 0 |
| Riviera Mobile Estates | 69.9 | 71.2 | 1.3 | 2.5 | No | 0 | 0 | 0 |
| Eton Mobile Home Park | 69.9 | 71.2 | 1.3 | 2.5 | No | 0 | 0 | 0 |
| Canoga Mobile Estates | 72.3 | 72.5 | 0.2 | 2.5 | No | 0 | 0 | 0 |
| Sunburst Mobile Home Park | 66.3 | 68.6 | 2.3 | 3.5 | No | 0 | 0 | 0 |
| Multi-family residences on the north side of Lassen Street | 73.9 | 76.8 | 2.9 /e/ | 2.1 | Yes | 0 | 3/f/ | 0 |
| **Total** | | | | | | **0** | **3** | **0** |
| **Option 3** | | | | | | | | |
| Archstone Warner Center Apartments | 67.1 | 67.5 | 0.4 | 3.0 | No | 0 | 0 | 0 |
| New Academy Canoga Park | 75.4 | 74.9 | -0.5 /d/ | 4.8 | No | 0 | 0 | 0 |
| Westhill Mental Health Facility | 75.7 | 75.2 | -0.5 /d/ | 4.8 | No | 0 | 0 | 0 |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 70.0 | 71.6 | 1.6 | 2.5 | No | 0 | 0 | 0 |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 68.5 | 69.8 | 1.3 | 3.0 | No | 0 | 0 | 0 |
| Riviera Mobile Estates | 69.9 | 71.2 | 1.3 | 2.5 | No | 0 | 0 | 0 |
| Eton Mobile Home Park | 69.9 | 71.2 | 1.3 | 2.5 | No | 0 | 0 | 0 |
| Canoga Mobile Estates | 72.3 | 72.5 | 0.2 | 2.5 | No | 0 | 0 | 0 |
| Sunburst Mobile Home Park | 66.3 | 68.6 | 2.3 | 3.5 | No | 0 | 0 | 0 |

**Table 4.9-13: Operational Noise Impact Assessment – Canoga On-Street Dedicated Bus Lanes Alternative**

| Sensitive Receptor | dBA, Leq or Ldn /a/ | | | | Equal to or Exceed Severe Impact Threshold? | Number of Severe Impacts | | |
|---|---|---|---|---|---|---|---|---|
| | Existing | Canoga On-Street Dedicated Bus Lanes Alternative | Change | Severe Impact Threshold | | SF /b/ | MF /c/ | Other |
| Multi-family residences on the north side of Lassen Street | 73.9 | 75.4 | 1.5 | 2.1 | No | 0 | 0 | 0 |
| **Total** | | | | | | **0** | **0** | **0** |

/a/ Ldn is used for all residential uses (i.e., single-family homes, multi-family homes, and mobile homes). The AM peak hour Leq is used for the New Academy Canoga Park since class would be in session noise when at this time, and the PM peak hour Leq is used for the Westhill Mental Health Facility Leq is the highest during the PM peak hour.
/b/ SF – single-family residence or mobile home
/c/ MF = multi-family residential building
/d/ The primary noise sources are automobiles, medium-duty trucks, and heavy-duty trucks. Although the Canoga On-Street Dedicated Bus Lanes Alternative would place buses close to sensitive receptors, the noise generated by buses are much less than the noise generated by automobiles, medium duty trucks, and heavy duty trucks since this alternative would introduce a maximum of 40 buses per hour during peak hour when compared to over 900 other types of motor vehicles traveling along the same street. Noise levels are less than existing conditions since this alternative would place the primary vehicular noise sources farther away from the sensitive receptors.
/e/ Although Option 1 would place buses closer to the apartments than Option 2, Option 2 would install a new signal at the corner of Remmet Avenue and Lassen Street. As such, vehicles would be accelerating closer to the apartments under Option 2 than Option 1. The acceleration of vehicles typically generates higher noise levels than vehicles that are either traveling at a constant speed or are idling.
/f/ Severe impacts would occur within 25 ft. from the edge of Lassen Street.
**SOURCE**: TAHA, 2007

This alternative could extend the existing park-and-ride facility at the Chatsworth Metrolink Station to the vacant area near Devonshire Street. The nearest sensitive receptors with a direct line-of-sight to the proposed park-and-ride area are multi-family residential uses approximately 350 ft. to the west. Approximately 480 parking spaces could be added to this facility, which would have a noise level of 42 dBA ($L_{dn}$), or 38 dBA ($L_{eq}$).[11] The existing ambient noise level at these sensitive receptors is 61 dBA ($L_{eq}$). The additional parking spaces would incrementally increase ambient noise levels at the sensitive receptors by less than one dBA. Thus, less-than-significant impacts are anticipated.

**Passenger Information Systems**. Each of the proposed stations would be equipped with speakers for the passenger information system. This system would inform travelers of the wait time for the arrival of the next bus and provide other real-time and pre-recorded busway operating information. The speakers have the potential to increase ambient noise levels at sensitive receptors near the Parthenia Street Station. The sensitive receptor that would be potentially affected by this system at the Parthenia Street Station is Riviera Mobile Estates. None of the other stations are located next to sensitive receptors.

Noise levels of the passenger information system at the existing Balboa Boulevard Station were taken to determine the potential noise level of the passenger information system at the proposed stations for this alternative.[12] To be clearly intelligible, the speakers must generate a sound pressure level of at least ten dBA above the background noise level. Assuming that the proposed speakers would emit noise levels of ten dBA above the ambient noise levels at a distance of five ft., the proposed speakers would not incrementally increase ambient noise levels at a distance of approximately 15 ft. from the proposed speakers. Riviera Mobile Estates are approximately 50 ft. from the potential Parthenia

[11]FTA Transit Noise Model, 1997.

[12]Noise levels were taken on January 31, 2008 between 8:25 a.m. and 8:35 a.m. at a distance of five ft from the speakers.

Street Station. If noise emitted from the speakers is greater than ten dBA above the ambient noise levels, it is likely that these sensitive receptors would be affected. Implementation of mitigation measures would be required to ensure that less-than-significant impacts are anticipated. None of the other stations are located next to sensitive receptors.

Alternative 4. Canoga Busway

**Mobile Noise**. The Canoga Busway Alternative would introduce a new transit route within the Canoga Avenue ROW. The new busway would be constructed on the east side of Canoga Avenue. Buses traveling on the busway have the potential to increase noise levels as the buses travel past sensitive receptors near the project corridor. These types of noise are considered single-event noise since the noise increase would occur for a short time period (i.e., as the buses travel past sensitive receptors). Noise from buses also has the potential to generate low frequency noise that can be perceived as vibration and can be considered annoying. Although low frequency noise may be perceived as vibration, this type of noise is airborne noise and not ground-borne vibration. However, the criteria for determining a significant noise impact under the City of Los Angeles *L.A. CEQA Thresholds Guide* and the FTA *Transit Noise and Vibration Impact Assessment* is to determine the frequency, duration, and loudness of the noise and how the frequency, duration, and loudness of the noise would affect ambient noise levels, which are typically measured in $L_{eq}$ or $L_{dn}$. By determining the frequency, duration, and loudness of the noise, the effect of the noise on ambient noise levels can be determined. It should be noted that Metro is in the process of testing new mufflers that may reduce low frequency noise from buses.

**Table 4.9-14** compares noise levels associated with the Canoga Busway Alternative with existing conditions. This table also identifies the number of sensitive receptors that would be exposed to severe impacts. As presented in the table, this alternative would result in no severe impacts under Options 1 and 5. Options 2 through 3a of this alternative would result in severe impacts at three multi-family residential buildings on the north side of Lassen Street. Under Options 2, 3, and 3a, the severe impact would only occur within 23 ft. from the edge of Lassen Street. Under Option 2a, the severe impact would only occur within 21 ft. from the edge of Lassen Street. Options 4 and 4a would result in severe impacts at three mobile homes in the Sunburst Mobile Home Park. The mobile homes that would be impacted are located near the proposed tunnel openings. The severe impact would only occur within 67 ft. of the edge of the proposed tunnel openings. Since Options 2 through 4a would generate severe impacts at sensitive receptors, significant operational noise impacts are anticipated for these options.

It should be noted that the primary noise sources on Canoga Avenue are automobiles, medium-duty trucks, and heavy-duty trucks. Although the Canoga Busway Alternative would place buses closer to the single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street, and the single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street, than the Canoga On-Street Dedicated Bus Lanes Alternative, the noise generated by the buses would be much less than the noise generated by the primary noise sources. Noise levels at these sensitive receptors are higher under the Canoga On-Street Dedicated Bus Lanes Alternative when compared to the Canoga Busway Alternative since the Canoga On-Street Dedicated Bus Lanes Alternative would place the roadway closer to these sensitive receptors and, thus, the primary noise sources would be closer to the sensitive receptors.

| Table 4.9-14: Operational Noise Impact Assessment – Canoga Busway Alternative | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Sensitive Receptor** | **dBA, Leq or Ldn /a/** | | | | **Equal to or Exceed Severe Impact Threshold?** | **Number of Severe Impacts** | | |
| | **Existing** | **Canoga Busway Alternative** | **Change** | **Severe Impact Threshold** | | **SF /b/** | **MF /c/** | **Other** |
| **Option 1** | | | | | | | | |
| Archstone Warner Center Apartments | 67.1 | 68.9 | 1.8 | 3.0 | No | 0 | 0 | 0 |
| New Academy Canoga Park | 75.4 | 76.0 | 0.6 | 4.8 | No | 0 | 0 | 0 |
| Westhill Mental Health Facility | 75.7 | 76.3 | 0.6 | 4.8 | No | 0 | 0 | 0 |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 70.0 | 71.2 | 1.2 | 2.5 | No | 0 | 0 | 0 |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 68.5 | 69.5 | 1.0 | 3.0 | No | 0 | 0 | 0 |
| Riviera Mobile Estates | 69.9 | 71.0 | 1.1 | 2.5 | No | 0 | 0 | 0 |
| Eton Mobile Home Park | 69.9 | 71.0 | 1.1 | 2.5 | No | 0 | 0 | 0 |
| Canoga Mobile Estates | 72.3 | 72.9 | 0.6 | 2.5 | No | 0 | 0 | 0 |
| Sunburst Mobile Home Park | 66.3 | 66.9 | 0.6 | 3.5 | No | 0 | 0 | 0 |
| Multi-family residences on the north side of Lassen Street | 73.9 | 75.5 | 1.6 | 2.1 | No | 0 | 0 | 0 |
| **Total** | | | | | | **0** | **0** | **0** |
| **Option 2** | | | | | | | | |
| Archstone Warner Center Apartments | 67.1 | 68.9 | 1.8 | 3.0 | No | 0 | 0 | 0 |
| New Academy Canoga Park | 75.4 | 76.0 | 0.6 | 4.8 | No | 0 | 0 | 0 |
| Westhill Mental Health Facility | 75.7 | 76.3 | 0.6 | 4.8 | No | 0 | 0 | 0 |

| Table 4.9-14: Operational Noise Impact Assessment – Canoga Busway Alternative | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Sensitive Receptor** | **dBA, Leq or Ldn /a/** | | | | **Equal to or Exceed Severe Impact Threshold?** | **Number of Severe Impacts** | | |
| | **Existing** | **Canoga Busway Alternative** | **Change** | **Severe Impact Threshold** | | **SF /b/** | **MF /c/** | **Other** |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 70.0 | 71.2 | 1.2 | 2.5 | No | 0 | 0 | 0 |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 68.5 | 69.5 | 1.0 | 3.0 | No | 0 | 0 | 0 |
| Riviera Mobile Estates | 69.9 | 71.0 | 1.1 | 2.5 | No | 0 | 0 | 0 |
| Eton Mobile Home Park | 69.9 | 71.0 | 1.1 | 2.5 | No | 0 | 0 | 0 |
| Canoga Mobile Estates | 72.3 | 72.9 | 0.6 | 2.5 | No | 0 | 0 | 0 |
| Sunburst Mobile Home Park | 66.3 | 67.4 | 1.1 | 3.5 | No | 0 | 0 | 0 |
| Multi-family residences on the north side of Lassen Street | 73.9 | 76.5 | 2.6 /d/ | 2.1 | Yes | 0 | 3 /e/ | 0 |
| **Total** | | | | | | **0** | **3** | **0** |
| **Option 2a** | | | | | | | | |
| Archstone Warner Center Apartments | 67.1 | 68.9 | 1.8 | 3.0 | No | 0 | 0 | 0 |
| New Academy Canoga Park | 75.4 | 76.0 | 0.6 | 4.8 | No | 0 | 0 | 0 |
| Westhill Mental Health Facility | 75.7 | 76.3 | 0.6 | 4.8 | No | 0 | 0 | 0 |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 70.0 | 71.2 | 1.2 | 2.5 | No | 0 | 0 | 0 |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 68.5 | 69.5 | 1.0 | 3.0 | No | 0 | 0 | 0 |
| Riviera Mobile Estates | 69.9 | 71.0 | 1.1 | 2.5 | No | 0 | 0 | 0 |

| Table 4.9-14: Operational Noise Impact Assessment – Canoga Busway Alternative | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Sensitive Receptor** | **dBA, Leq or Ldn /a/** | | | | **Equal to or Exceed Severe Impact Threshold?** | **Number of Severe Impacts** | | |
| | **Existing** | **Canoga Busway Alternative** | **Change** | **Severe Impact Threshold** | | **SF /b/** | **MF /c/** | **Other** |
| Eton Mobile Home Park | 69.9 | 71.0 | 1.1 | 2.5 | No | 0 | 0 | 0 |
| Canoga Mobile Estates | 72.3 | 72.9 | 0.6 | 2.5 | No | 0 | 0 | 0 |
| Sunburst Mobile Home Park | 66.3 | 67.2 | 0.9 | 3.5 | No | 0 | 0 | 0 |
| Multi-family residences on the north side of Lassen Street | 73.9 | 76.2 | 2.3 | 2.1 | Yes | 0 | 3 /f/ | 0 |
| **Total** | | | | | | **0** | **3** | **0** |
| **Option 3** | | | | | | | | |
| Archstone Warner Center Apartments | 67.1 | 68.9 | 1.8 | 3.0 | No | 0 | 0 | 0 |
| New Academy Canoga Park | 75.4 | 76.0 | 0.6 | 4.8 | No | 0 | 0 | 0 |
| Westhill Mental Health Facility | 75.7 | 76.3 | 0.6 | 4.8 | No | 0 | 0 | 0 |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 70.0 | 71.2 | 1.2 | 2.5 | No | 0 | 0 | 0 |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 68.5 | 69.5 | 1.0 | 3.0 | No | 0 | 0 | 0 |
| Riviera Mobile Estates | 69.9 | 71.0 | 1.1 | 2.5 | No | 0 | 0 | 0 |
| Eton Mobile Home Park | 69.9 | 71.0 | 1.1 | 2.5 | No | 0 | 0 | 0 |
| Canoga Mobile Estates | 72.3 | 72.9 | 0.6 | 2.5 | No | 0 | 0 | 0 |
| Sunburst Mobile Home Park | 66.3 | 67.5 | 1.2 | 3.5 | No | 0 | 0 | 0 |
| Multi-family residences on the north side of Lassen Street | 73.9 | 76.2 | 2.3 | 2.1 | Yes | 0 | 3 /e/ | 0 |
| **Total** | | | | | | **0** | **3** | **0** |

| Table 4.9-14: Operational Noise Impact Assessment – Canoga Busway Alternative | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Sensitive Receptor** | **dBA, Leq or Ldn /a/** | | | | **Equal to or Exceed Severe Impact Threshold?** | **Number of Severe Impacts** | | |
| | **Existing** | **Canoga Busway Alternative** | **Change** | **Severe Impact Threshold** | | **SF /b/** | **MF /c/** | **Other** |
| **Option 3a** | | | | | | | | |
| Archstone Warner Center Apartments | 67.1 | 68.9 | 1.8 | 3.0 | No | 0 | 0 | 0 |
| New Academy Canoga Park | 75.4 | 76.0 | 0.6 | 4.8 | No | 0 | 0 | 0 |
| Westhill Mental Health Facility | 75.7 | 76.3 | 0.6 | 4.8 | No | 0 | 0 | 0 |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 70.0 | 71.2 | 1.2 | 2.5 | No | 0 | 0 | 0 |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 68.5 | 69.5 | 1.0 | 3.0 | No | 0 | 0 | 0 |
| Riviera Mobile Estates | 69.9 | 71.0 | 1.1 | 2.5 | No | 0 | 0 | 0 |
| Eton Mobile Home Park | 69.9 | 71.0 | 1.1 | 2.5 | No | 0 | 0 | 0 |
| Canoga Mobile Estates | 72.3 | 72.9 | 0.6 | 2.5 | No | 0 | 0 | 0 |
| Sunburst Mobile Home Park | 66.3 | 67.4 | 1.1 | 3.5 | No | 0 | 0 | 0 |
| Multi-family residences on the north side of Lassen Street | 73.9 | 76.6 | 2.7 | 2.1 | Yes | 0 | 3 /e/ | 0 |
| **Total** | | | | | | **0** | **3** | **0** |
| **Option 4** | | | | | | | | |
| Archstone Warner Center Apartments | 67.1 | 68.9 | 1.8 | 3.0 | No | 0 | 0 | 0 |
| New Academy Canoga Park | 75.4 | 76.0 | 0.6 | 4.8 | No | 0 | 0 | 0 |
| Westhill Mental Health Facility | 75.7 | 76.3 | 0.6 | 4.8 | No | 0 | 0 | 0 |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 70.0 | 71.2 | 1.2 | 2.5 | No | 0 | 0 | 0 |

| Table 4.9-14: Operational Noise Impact Assessment – Canoga Busway Alternative | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Sensitive Receptor** | **dBA, Leq or Ldn /a/** | | | | **Equal to or Exceed Severe Impact Threshold?** | **Number of Severe Impacts** | | |
| | **Existing** | **Canoga Busway Alternative** | **Change** | **Severe Impact Threshold** | | **SF /b/** | **MF /c/** | **Other** |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 68.5 | 69.5 | 1.0 | 3.0 | No | 0 | 0 | 0 |
| Riviera Mobile Estates | 69.9 | 71.0 | 1.1 | 2.5 | No | 0 | 0 | 0 |
| Eton Mobile Home Park | 69.9 | 71.0 | 1.1 | 2.5 | No | 0 | 0 | 0 |
| Canoga Mobile Estates | 72.3 | 72.9 | 0.6 | 2.5 | No | 0 | 0 | 0 |
| Sunburst Mobile Home Park | 66.3 | 70.6 /g/ | 4.3 | 3.5 | Yes | 3 /h/ | 0 | 0 |
| Multi-family residences on the north side of Lassen Street | 73.9 | 75.3 | 1.4 | 2.1 | No | 0 | 0 | 0 |
| **Total** | | | | | | **3** | **0** | **0** |
| **Option 4a** | | | | | | | | |
| Archstone Warner Center Apartments | 67.1 | 68.9 | 1.8 | 3.0 | No | 0 | 0 | 0 |
| New Academy Canoga Park | 75.4 | 76.0 | 0.6 | 4.8 | No | 0 | 0 | 0 |
| Westhill Mental Health Facility | 75.7 | 76.3 | 0.6 | 4.8 | No | 0 | 0 | 0 |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 70.0 | 71.2 | 1.2 | 2.5 | No | 0 | 0 | 0 |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 68.5 | 69.5 | 1.0 | 3.0 | No | 0 | 0 | 0 |
| Riviera Mobile Estates | 69.9 | 71.0 | 1.1 | 2.5 | No | 0 | 0 | 0 |
| Eton Mobile Home Park | 69.9 | 71.0 | 1.1 | 2.5 | No | 0 | 0 | 0 |
| Canoga Mobile Estates | 72.3 | 72.9 | 0.6 | 2.5 | No | 0 | 0 | 0 |
| Sunburst Mobile Home Park | 66.3 | 70.6 /g/ | 4.3 | 3.5 | Yes | 3 /h/ | 0 | 0 |

| Table 4.9-14: Operational Noise Impact Assessment – Canoga Busway Alternative | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Sensitive Receptor** | **dBA, Leq or Ldn /a/** | | | | **Equal to or Exceed Severe Impact Threshold?** | **Number of Severe Impacts** | | |
| | **Existing** | **Canoga Busway Alternative** | **Change** | **Severe Impact Threshold** | | **SF /b/** | **MF /c/** | **Other** |
| Multi-family residences on the north side of Lassen Street | 73.9 | 75.3 | 1.4 | 2.1 | No | 0 | 0 | 0 |
| **Total** | | | | | | **3** | **0** | **0** |
| **Option 5** | | | | | | | | |
| Archstone Warner Center Apartments | 67.1 | 68.9 | 1.8 | 3.0 | No | 0 | 0 | 0 |
| New Academy Canoga Park | 75.4 | 76.0 | 0.6 | 4.8 | No | 0 | 0 | 0 |
| Westhill Mental Health Facility | 75.7 | 76.3 | 0.6 | 4.8 | No | 0 | 0 | 0 |
| Single-family homes on the east side of Canoga Avenue, north of Roscoe Boulevard and south of Community Street | 70.0 | 71.2 | 1.2 | 2.5 | No | 0 | 0 | 0 |
| Single- and multi-family homes on the east side of Canoga Avenue, south of Parthenia Street | 68.5 | 69.5 | 1.0 | 3.0 | No | 0 | 0 | 0 |
| Riviera Mobile Estates | 69.9 | 71.0 | 1.1 | 2.5 | No | 0 | 0 | 0 |
| Eton Mobile Home Park | 69.9 | 71.0 | 1.1 | 2.5 | No | 0 | 0 | 0 |
| Canoga Mobile Estates | 72.3 | 72.9 | 0.6 | 2.5 | No | 0 | 0 | 0 |
| Sunburst Mobile Home Park | 66.3 | 67.2 | 0.9 | 3.5 | No | 0 | 0 | 0 |
| Multi-family residences on the north side of Lassen Street | 73.9 | 75.0 | 1.1 | 2.1 | No | 0 | 0 | 0 |
| **Total** | | | | | | **0** | **0** | **0** |

**Table 4.9-14: Operational Noise Impact Assessment – Canoga Busway Alternative**

| Sensitive Receptor | dBA, Leq or Ldn /a/ | | | | Equal to or Exceed Severe Impact Threshold? | Number of Severe Impacts | | |
|---|---|---|---|---|---|---|---|---|
| | Existing | Canoga Busway Alternative | Change | Severe Impact Threshold | | SF /b/ | MF /c/ | Other |

/a/ Ldn is used for all residential uses (i.e., single-family homes, multi-family homes, and mobile homes). The AM peak hour Leq is used for the New Academy Canoga Park since class would be in session noise when at this time, and the PM peak hour Leq is used for the Westhill Mental Health Facility Leq is the highest during the PM peak hour.
/b/ SF = single-family residence or mobile home
/c/ MF = multi-family residential building
/d/ The primary noise sources are automobiles, medium-duty trucks, and heavy-duty trucks. Although Option 1 would place buses closer to the apartments than Option 2, the noise generated by the buses are much less than the noise generated by the primary noise sources. More automobiles, medium-duty trucks, and heavy-duty trucks would be traveling closer to the apartments under Option 2 than under Option 1 since no buses would be traveling pass the apartments on Lassen Street under Option 2.
/e/ The severe impact would only occur within 23 ft. from the edge of Lassen Street.
/f/ The severe impact would only occur within 21 ft. from the edge of Lassen Street.
/g/ Noise levels were adjusted to account for the increase in noise levels at the proposed tunnel openings.
/h/ The severe impact would only occur within 67 ft. of the edge of the proposed tunnel openings.
**SOURCE**: TAHA, 2007

**Noise from Park-and-Ride Facilities**. The Canoga Busway Alternative would reconfigure the park-and-ride facility at the Canoga Station. The nearest sensitive receptor to this facility is the Archstone Warner Center Apartments. The number of parking spaces at this facility would decrease (608 existing spaces decreased to about 230 to 290 spaces). As such, fewer vehicles would access the park-and-ride facility and noise levels would not incrementally increase when compared to existing conditions. Thus, less-than-significant impacts are anticipated for this park-and-ride facility.

The Canoga Busway Alternative would also provide a new park-and-ride facility at Sherman Way that would supplement the Canoga Station park-and-ride lot. This new park-and-ride facility would be surrounded by commercial and industrial uses. No sensitive receptors are located next to this facility. Thus, the proposed park-and-ride facility in this area would result in a less-than-significant noise impact.

This alternative could extend the existing park-and-ride facility at the Chatsworth Metrolink Station to the vacant area near Devonshire Street. The nearest sensitive receptors with a direct line-of-sight to the proposed park-and-ride area are multi-family residential uses approximately 350 ft. to the west. Approximately 480 parking spaces could be added to this facility, which would result in a noise level of 42 dBA ($L_{dn}$), or 38 dBA ($L_{eq}$). The existing ambient noise level at these sensitive receptors is 61 dBA ($L_{eq}$). The additional parking spaces would incrementally increase ambient noise levels at the sensitive receptors by less than one dBA. Thus, less-than-significant impacts are anticipated.

**Passenger Information Systems**. Each of the proposed stations would be equipped with speakers for the passenger information system. This system would inform travelers of the wait time for the arrival of the next bus and provide other real-time and pre-recorded busway operating information. The speakers have the potential to increase ambient noise levels at sensitive receptors near the Parthenia Street and Canoga Stations. The sensitive receptor that would be potentially affected by this system at the optional Parthenia Street Station is Riviera Mobile Estates. The sensitive receptor that would be potentially affected by this system at the Canoga Station is the Archstone Warner Center Apartments. None of the other stations are located next to sensitive receptors.

Noise levels of the passenger information system at the existing Balboa Boulevard Station were taken to determine the potential noise level of the passenger information system at the proposed stations for this alternative.[13] To be clearly intelligible, the speakers must generate a sound pressure level of

[13] *Ibid.*

at least ten dBA above the background noise level. Assuming that the proposed speakers would emit noise levels of ten dBA above the ambient noise levels at a distance of five ft., the proposed speakers would not incrementally increase ambient noise levels at a distance of approximately 15 ft. from the proposed speakers. Riviera Mobile Estates and Archstone Warner Station Apartments are approximately 25 and 40 ft., respectively, from the proposed stations. If noise emitted from the speakers is greater than ten dBA above the ambient noise levels, it is likely that these sensitive receptors would be affected. Implementation of mitigation measures would be required to ensure that less-than-significant impacts are anticipated. None of the other stations are located next to sensitive receptors.

### *Operational Phase Noise Mitigation Measures*

The following mitigation measures are applicable to the Canoga On-Street Dedicated Bus Lanes and the Canoga Busway Alternatives:

> ***MM 4.9-10:*** New buses intended for use in the corridor under the Canoga On-Street Dedicated Bus Lanes and the Canoga Busway Alternatives shall be equipped with the most effective commercially available mufflers.
>
> ***MM 4.9-11:*** The sound path of the speakers for the passenger information systems shall be directed downward and away from sensitive receptors.
>
> ***MM 4.9-12:*** Sound emitted from the speakers shall not exceed the ambient sound level at the proposed stations by more than ten dBA.

The following mitigation measures are applicable for Option 2 of the Canoga On-Street Dedicated Bus Lanes Alternative and Options 2 through 3a of the Canoga Busway Alternative:

> ***MM 4.9-13:*** For the multi-family residences north of Lassen Street, one of the following measures shall be implemented:
>
> 1) Metro shall reimburse property owners who retrofit the existing residential uses, or
> 2) Metro shall purchase noise easements from the affected property owners.
>
> Areas where this mitigation measure would be implemented are shown in **Figures 4.9-3**.

The following mitigation measures are applicable to Options 4 and 4a of the Canoga Busway Alternative:

> ***MM4.9-14:*** A soundwall with a minimum height of eight feet shall be constructed along the western property line of the Sunburst Mobile Home Park. The soundwall shall be installed along the western perimeter of the property. The soundwall shall be tall and long enough to break the line-of-sight between the buses at the proposed bus lanes and the mobile homes at the Sunburst Mobile Home Park. To break the line-of-sight between the bus lanes on Canoga Avenue and the mobile homes at the Sunburst Mobile Home Park, the soundwall shall be extended by 260 ft. to the north of the northernmost mobile home and up to the Browns Canyon Wash to the south. **Figure 4.9-3** illustrates the location of the soundwall. The installation of the soundwall shall be coordinated with the applicable public agencies.


Source: Metro Real Estate & TAHA, 2008

***Levels of Impact After Mitigation:*** Less than significant. Implementation of Mitigation Measure **MM 4.9-10** would reduce bus noise by at least three dBA when compared to existing Metroliners that are not equipped with mufflers for the Canoga On-Street Dedicated Bus Lanes and the Canoga Busway Alternatives. Mitigation Measure **MM 4.9-13** would mitigate significant impacts at the multi-family residential buildings north of Lassen Street by either reimbursing property owners to retrofit the existing residential uses or purchasing noise easements. Implementation of this mitigation measure would reduce impacts at these muti-family residential buildings to less-than-significant levels for Option 2 of the Canoga On-Street Dedicated Bus Lanes Alternative and Options 2 through 3a of the Canoga Busway Alternative.

In addition to reducing bus noise, noise impacts can be reduced or eliminated by blocking the sound path between the source and sensitive receptor by using soundwalls. To be effective, the soundwalls must break the direct line-of-sight from the source to the sensitive receptor and have no gaps. Soundwalls that are closer to the sensitive receptor are more effective than soundwalls that are closer to the noise source. A soundwall that is adjacent to the sensitive receptor and breaks the line-of-sight between the source and the receiver can reduce noise levels by 5 to 20 dBA, depending on the location of the sensitive receptors relative to the soundwall. Mitigation Measure **MM 4.9-14** would add soundwalls along the western property line of the Sunburst Mobile Home Park for Options 4 and 4a of the Canoga Busway Alternative. A total of approximately 3,350 lineal ft. of soundwall would be required at the Sunburst Mobile Home Park. With implementation of this mitigation measure, significant impacts at the Sunburst Mobile Home Park would be reduced to less-than-significant levels.

Implementation of Mitigation Measures **MM 4.9-11** and **4.9-12** would reduce noise impacts associated with the proposed passenger information system to less-than-significant levels for the Canoga On-Street Dedicated Bus Lanes and Canoga Busway Alternatives.

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**Impact 4.9.4. Operation of the proposed project has the potential to increase vibration levels. The No Project Alternative would have no vibration impact. The TSM, Canoga On-Street Dedicated Bus Lanes, and Canoga Busway Alternatives would result in less-than-significant operational vibration impacts without mitigation.**

Alternative 1. No Project

The No Project Alternative would not change the existing operations of Canoga Avenue. Therefore, the No Project Alternative would have no vibration impact.

Alternative 2. TSM

The TSM Alternative would include frequency improvements on existing Metro transit routes, as well as provide a new local transit line for Canoga Avenue. It is unusual for buses to cause perceptible ground-borne vibration as rubber tires and suspension systems provide vibration isolation. Vibration levels associated with this alternative would be less than the 72 VdB threshold. Therefore, the TSM Alternative would result in a less-than-significant vibration impact.

Alternative 3. Canoga On-Street Dedicated Bus Lanes

It is unusual for buses to cause perceptible ground-borne vibration as rubber tires and suspension systems provide vibration isolation. Most problems with bus vibration can be directly related to a pothole, bump, expansion joint, poor soil conditions, or other discontinuity in the road surface.

Buses operating under the Canoga On-Street Dedicated Bus Lanes Alternative would operate on a freshly paved surface. Maintenance would ensure that problematic potholes are filled and bumps are smoothed. Vibration levels associated with this alternative would be less than the 72 VdB threshold. As such, Canoga On-Street Dedicated Bus Lanes Alternative operational vibration would result in a less-than-significant impact.

Alternative 4. Canoga Busway

It is unusual for buses to cause perceptible ground-borne vibration as rubber tires and suspension systems provide vibration isolation. Most problems with bus vibration can be directly related to a pothole, bump, expansion joint, poor soil conditions, or other discontinuity in the road surface. Buses operating under the Canoga Busway Alternative would operate on freshly paved surface. Maintenance would ensure that problematic potholes are filled and bumps are smoothed. Vibration levels associated with this alternative would be less than the 72 VdB threshold. As such, Canoga Busway Alternative operational vibration would result in a less-than-significant impact.

### *Operational Phase Vibration Mitigation Measures*

Operational activity associated with each alternative would result in no impact or less-than-significant vibration impacts, and no mitigation measures are necessary.

*Level of Impact After Mitigation*: Less than significant.

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**Impact 4.9.5. The proposed project has the potential to result in a significant cumulative noise impact. The No Project Alternative would have no cumulative impact. The TSM, Canoga On-Street Dedicated Bus Lanes, and Canoga Busway Alternatives would result in significant impact on ambient noise levels without mitigation.**

When calculating future traffic impacts, the traffic consultant accounted for future without project traffic growth. The traffic growth projections are based on Metro's travel demand model, which takes into account growth within and outside the project corridor and reflects cumulative conditions. Thus, the future traffic results without and with the alternatives already account for cumulative impacts. Since the noise impacts are generated directly from the traffic analysis results and the noise analysis compares future with project noise levels with existing noise levels, the future with project noise impacts described in this section already reflect cumulative impacts. As discussed under Impact 4.9-3, the Canoga On-Street Dedicated Bus Lanes Alternative (Option 2) and the Canoga Busway Alternative (Options 2 through 4a) would result in significant impacts on ambient noise levels before mitigation.

### *Mitigation Measures:*

Mitigation Measures **MM4.9-9** through **MM4.9-12** for the Canoga On-Street Dedicated Bus Lanes Alternative and **MM4.9-9** through **MM4.9-13** for the Canoga Busway Alternative would be applicable to cumulative noise impacts.

*Level of Impact After Mitigation*: Less than significant. Implementation of Mitigation Measures **MM4.9-9** through **MM4.9-12** for the Canoga On-Street Dedicated Bus Lanes Alternative and **MM4.9-9** through **MM4.9-13** for the Canoga Busway Alternative would reduce impacts to less-than-significant levels.

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# 4.10 GEOLOGY, SOILS, AND SEISMICITY

Geology, soils, and seismicity are factors that often determine design criteria for the development of transit improvements, particularly when grade separation structures are involved. This section summarizes the geologic materials, faults, seismic characteristics, and other subsurface conditions of the project area.

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 elements of the general plans for the City and County of Los Angeles; official Alquist-Priolo earthquake fault zone maps; official seismic hazard zone maps; and geologic and topographic maps and other publications of California Geological Survey (CGS), United States Geological Survey (USGS), and the California Division of Oil and Gas.

## 4.10.1 EXISTING SETTING

### Regional Geologic Setting

The proposed project is located within a western portion of the San Fernando Valley, which is an elongated valley, roughly 22 miles long in an east-west direction and generally approximately 9 miles wide in a north-south direction, although stretching to 12 miles wide at its widest point. Situated within the Transverse Ranges geomorphic province of California, the San Fernando Valley is bounded by the San Gabriel and Santa Susana Mountains to the north, the Santa Monica Mountains to the south, the Verdugo Mountains to the east, and the Simi Hills to the west. Geomorphic provinces are large natural regions, dominated by similar rocks or geologic structures.

The Transverse Ranges geomorphic province is composed of several mountain ranges oriented in an east-west direction and extending over 320 miles from the Mojave and Colorado Desert Provinces to Point Arguello at the Pacific Ocean. Included within the Transverse Ranges are portions of Riverside, San Bernardino, Los Angeles, and Ventura Counties. Acting as a northern boundary, the Transverse Ranges truncate the northwest trending structural grain of the Peninsular Ranges geomorphic province, which is composed of multiple mountain ranges and valleys extending southward 775 miles past the US-Mexican Border. The Peninsular Ranges geomorphic province is the largest province in North America.

Southern California is seismically active, being situated at the convergence of the North American and Pacific tectonic plates. Earthquakes along the San Andreas fault relieve convergent plate stress in the form of right lateral strike slip offsets. The Transverse Ranges work as a block causing the San Andreas fault to bend or kink, producing compressional stresses that are manifest as reverse, thrust, and right lateral faults. Faulting associated with the compressional forces creates earthquakes and is primarily responsible for the mountain building, basin development, and regional upwarping found in this area. As rocks are folded and faulted within the rising mountain ranges, landsliding and erosion transport sediment or alluvium into the San Fernando Valley, creating a deep sedimentary basin.

Mountain ranges surrounding the San Fernando Valley contain rocks varying in age from the Pre-Cambrian eon to the Tertiary period and younger sedimentary and volcanic rocks that range from Tertiary period to Quaternary period. As ages of the rocks vary greatly, so does the composition of

the rocks surrounding the valley: from igneous and metamorphic crystalline complexes to marine and nonmarine sediments. Thus, the sediments within the San Fernando Valley vary greatly, both in composition and grain size.

## Topography, Slopes and Major Drainage

The floor of the San Fernando Valley slopes gently to the east at about a one percent gradient. Elevations of the valley floor vary from 1,000 ft above mean sea level (MSL) at the north and northwestern ends of the valley, to 500 ft MSL at the Los Angeles River Narrows, the southeastern end of and point at which the Los Angeles River exits the valley. The Los Angeles River Narrows act as base level for the river and the valley.

Sediments from the bounding mountain ranges are carried into and across the San Fernando Valley through numerous seasonal streams flowing to the Los Angeles River, the master drainage for the valley, which flows west to east. The Los Angeles River begins at the confluence of Arroyo Calabasas and Bell Creek, within the proposed project, approximately 1/4 mile west of Canoga Avenue, between Canoga Avenue and Topanga Canyon Boulevard, north of Vanowen Street. In this area, the Los Angeles River, Arroyo Calabasas, and Bell Creek are concrete lined channels.

The Chatsworth Reservoir, now empty, was previously used by the Los Angeles Department of Water and Power (LADWP) as a water storage facility until 1969 when the dam was deemed to be unsafe in the event of a large earthquake, such as those subsequently experienced in 1971 and 1994. Currently, water flowing into the reservoir is directed through the outlet, which drains to Chatsworth Creek and into Bell Creek. The confluence of the creeks is located approximately 3/4 mile west of Topanga Boulevard. Chatsworth Reservoir is situated approximately 1/4 mile west of Topanga Canyon Boulevard.

Beginning north of California State Route (SR) 118 is the south flowing Browns Canyon Wash, which is joined by the southeast flowing Santa Susana Pass Wash approximately 1/4-mile east of Canoga Avenue and 400 ft south of Parthenia Street. Both Browns Canyon and Santa Susana Washes are concrete lined within the project area. Browns Canyon Wash joins the Los Angeles River approximately 1 mile east of Canoga Street.

Elevations within the proposed project area vary from approximately 950 ft MSL near the Chatsworth Metrolink Station to approximately 780 ft MSL at the southern end. Slope gradients generally range from less than one percent to one-half percent along the project reach. North of the Chatsworth Metrolink Station, the slope gradients are steeper with elevations rising to about 1,220 ft MSL near the intersection of Topanga Canyon Boulevard and the SR-118 in the foothills of the Santa Susana Mountains. Both cut and fill slopes are present along the northern portion of Topanga Canyon Boulevard.

The average elevations of the mountains surrounding this portion of the San Fernando Valley range from 1,700 ft MSL for the Santa Monica Mountains, 1,800 ft MSL for the Simi Hills, to 2,000 ft for the Santa Susana Mountains. The highest point in the area is San Fernando Peak in the Santa Susana Mountains, having an elevation of 3,741 ft MSL.

## Local Geology and Soils

Holocene to Pleistocene alluvial and older elevated alluvial soils comprise the majority of geologic material exposed at the surface of the San Fernando Valley and within the proposed project area. Quaternary-age Saugus formation exposures are present northeast of the proposed project. The Tertiary Lindero Canyon and Monterey formations and the Cretaceous Chatsworth formation are exposed within the north and northwest portions of the proposed project area.[1]

Prior to construction of flood control dams and channels, the floor of the San Fernando Valley was composed of a series of coalescing alluvial fans with season streams shifting position throughout the valley. Alluvial sediments grade from coarse-grained sands and gravels at the eastern end of the valley, predominately carried into the valley from the crystalline complexes of the San Gabriel Mountains, to finer grained sediments at the western end of the valley, carried from the Tertiary and pre-Tertiary sedimentary formations surrounding this portion of the valley.[2] Generally, the finer grained sediments of the west valley contain shallow and perched groundwater, as well as coarse-grained stream channel deposits. Lateral discontinuity of lithologies typifies the valley's alluvium. Development throughout the project area has disturbed the majority of near-surface alluvial materials.

Underlying the alluvial sediments of the western San Fernando Valley are Paleogene to Miocene sedimentary strata and Miocene Topanga and Modelo formations.[3] These rocks extend and are exposed within the Santa Monica Mountains. Cretaceous-age rocks exposed within the Simi Hills are 2 km higher than similar strata under the western San Fernando Valley, being separated by the Chatsworth Reservoir fault. The depth of alluvium within the project area may vary from 100 to 700 ft below the ground surface (bgs).

Available boring logs within and adjacent to project reach generally indicate the presence of loose to dense silty sands and stiff to hard silts with some clays and gravels underlain by very dense sands and gravels and very hard silts.

## Groundwater

Groundwater data available from LADWP groundwater monitoring wells, boring logs in the project vicinity, and the historical high groundwater level presented in the CGS seismic hazard zone report were reviewed.

LADWP identified nine groundwater monitoring wells throughout the project site and vicinity, four of which are currently inactive. Depths to groundwater within active wells varied from a minimum of 15.4 ft (Well No. 4719J located near Sherman Way and Brown Canyon Wash) to greater than 99 ft (Well No. 3600H located near Gault Street and Eton Avenue). Highest groundwater elevations were recorded in Well No. 4705A (874 ft MSL) located near the intersection of Canoga Avenue and Lassen

[1] Dibblee, T.W., 1989, *Geologic map of the Oat Mountain Quadrangle*, Los Angeles County, California, Map No. DF-22, Scale 1:24,000.

[2] Tinsley, J.C., T.L. Youd, D.M. Perkins, and A.T.F. Chen, 1985, Evaluating *Liquefaction Potential*, In Joseph I. Zioney, ed. *Evaluating Earthquake Hazards in the Los Angeles Region – An Earth Science Perspective*, U.S. Geological Survey, Professional Paper 1360, pp. 263-315.

[3] Wright, T.L., 2001, *Subsurface Geology of the San Fernando Valley, California*, 97th Annual Meeting, and Pacific Section, American Association of Petroleum Geologists, April 9-11, 2001.

Street. The general groundwater gradient was to the south, with the lowest recorded elevation near the intersection of Galt Street and Eton Avenue in Well No. 3600H at 689 ft MSL. Although the gradient was generally to the south, it was not uniform.

Additionally, LADWP reported groundwater monitoring Well No. 4735B approximately 1.4 miles east of the project area. A record of groundwater elevations was available from 1956 to 2006. In 1957, the highest groundwater level was recorded at a depth of 56.4 ft. Groundwater levels within the San Fernando Valley have been dropping since the 1960s. In 1996, the lowest groundwater level was recorded in Well No. 4735B at 86 ft bgs corresponding to an elevation of approximately 789 ft MSL.

Groundwater levels were reportedly encountered at depths ranging from 25 to 40 ft in the boring logs reviewed.

Historically high groundwater levels as depicted in the CGS seismic hazard zone report for the Canoga Park 7.5-minute quadrangle are presented on **Figure 4.10-1**. The historically high groundwater levels were as shallow as 10 ft bgs within the project reach, ranging from the south end of the project (Canoga Avenue and Victory Boulevard) to approximately Saticoy Street and near the Chatsworth Metrolink Station.

Precipitation, runoff, and spreading of imported water are the primary means of recharge for the basin's unconfined aquifer. Groundwater percolates into alluvial soils primarily through rivers (without concrete bottoms), near water retaining structures such as dams and flood control basins, and through spreading grounds. Seasonal precipitation and runoff are the only natural sources of recharge, and given that various types of development have covered the majority of the ground surface within the project area, recharge is limited. Historical rainfall records for the years 1985/86 through 2005/06 varied from 6 inches to approximately 43 inches per year with an average of 18.6 inches. During the 2005/06 year, 43 inches of precipitation fell on the valley, being the highest recorded rainfall total.[4]

Recharge basins are located within the eastern portion of the San Fernando Valley, down gradient from the project site. Portions of three MWD water supply feeders are located within the site: West Valley Feeder No. 1, West Valley Feeder No. 2, and the Calabasas Feeder. West Valley Feeders No. 1 and No. 2 transect the proposed project near its northern boundary, south of SR-118. The Calabasas Feeder ties to West Valley Feeder No. 2, extending southward along Topanga Canyon Boulevard past the Chatsworth Reservoir where it bends to the west of site before continuing further to the south.

As the groundwater basin is an unconfined aquifer, the depth of the basin extends from the ground surface to approximately 1,200 ft bgs; although, within the project area, the depth is estimated to vary from approximately 100 to 700 ft bgs. While groundwater levels have generally dropped since the 1960s, levels vary both seasonally and annually, and are dominated by groundwater basin management through pumping by DWP. Given these conditions, there is potential for continued shallow groundwater throughout the site.

[4] Metropolitan Water District, 2007, web page http://www.mwdh2o.com.

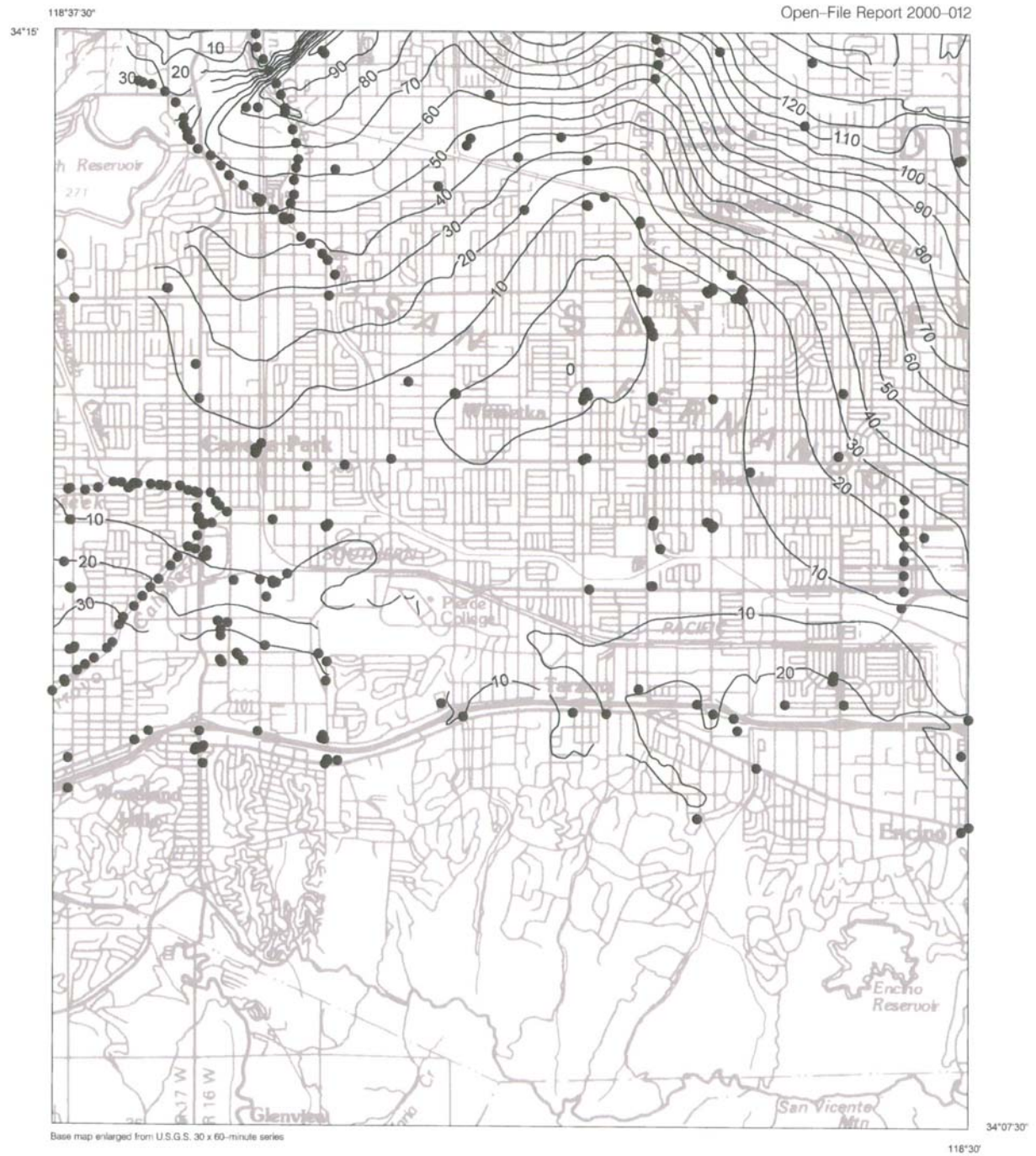



Plate 1.2 Historically highest ground water contours and borehole locations,Canoga Park 7.5-minute Quadrangle, California.

NOT TO SCALE

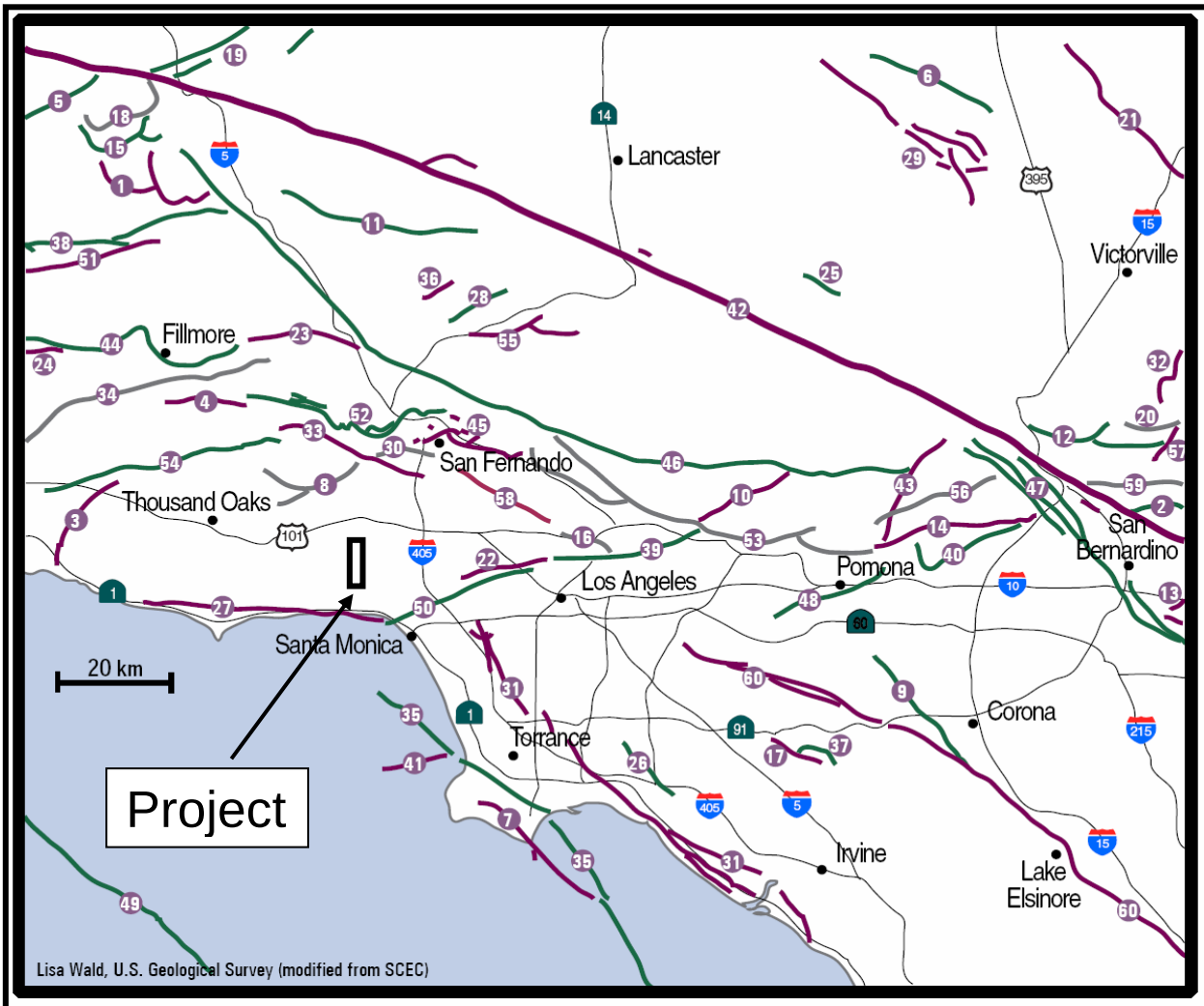
## Faulting and Seismicity

Southern California is a geologically complex and diverse area, dominated by the compressional forces created as the North American and Pacific tectonic plates slide past one another along a transform fault known as the San Andreas. Regional tectonic compressional forces shorten and thicken the earth's crust, creating and uplifting the local transverse mountain ranges, including the Santa Susana, Santa Monica, and San Gabriel. A variety of fractures within the crust are created to accommodate the compressional strain, allowing one rock mass to move relative to another rock mass; this is a fault. Within Southern California, several fault types are expressed, including lateral or strike slip faults, vertical referred to as normal and reverse or thrust faults, and oblique faults accommodating both lateral and vertical offset. Earthquakes are the result of sudden movements along faults, generating ground motion (sometimes violent) as the accumulated stress within the rocks is released as waves of seismic energy.

The proposed project area is geologically complex with numerous slow moving faults such as the blind thrust responsible for the Mw6.7 Northridge earthquake of 1994. Many faults shown on regional geologic maps within a 100-mile radius of the project site were recognized to be active (Holocene displacement) or potentially active (Quaternary displacement) by CGS and the USGS. **Figure 4.10-2** depicts the location of recognized faults within Los Angeles and San Fernando Valley areas.

Known faults within the area, classified as either active or potentially active are listed in **Table 4.10-1**. Fault classifications as defined by the CGS and USGS, as reported on referenced documents were identified within the table. Faults identified within **Table 4.10-1** as being included within an Alquist Priolo earthquake fault zone were considered at the time of this report to be active faults, or faults that have demonstrable movement within the Holocene or last 11,000 years.

In many cases, only portions of the known length of a fault are included within an Alquist Priolo earthquake fault zone. Inclusion within an earthquake fault zone occurs when, for example, the ground surface is ruptured by a fault, as exemplified by the San Fernando segment of the Sierra Madre fault zone during the 1971 San Fernando earthquake. Additionally, site investigations prior to development or redevelopment will entail fault studies, at which time a small portion of a fault may be determined to be active. Portions of earthquake fault zoned faults that have not experienced recent ground rupture or have not been investigated are not necessarily included within an earthquake fault zone. No earthquake fault zoned faults extend into or cross the proposed project at this time. The Safety Element of the Los Angeles City General Plan includes a portion of the project area within its Fault Rupture Study Area, shown as **Figure 4.10-3**.




1 Alamo thrust
2 Arrowhead fault
3 Bailey fault
4 Big Mountain fault
5 Big Pine fault
6 Blake Ranch fault
7 Cabrillo fault
8 Chatsworth fault
9 Chino fault
10 Clamshell-Sawpit fault
11 Clearwater fault
12 Cleghorn fault
13 Crafton Hills fault zone
14 Cucamonga fault zone
15 Dry Creek
16 Eagle Rock fault
17 El Modeno
18 Frazier Mountain thrust
19 Garlock fault zone
20 Grass Valley fault
21 Helendale fault
22 Hollywood fault
23 Holser fault
24 Lion Canyon fault
25 Llano fault
26 Los Alamitos fault
27 Malibu Coast fault
28 Mint Canyon fault
29 Mirage Valley fault zone
30 Mission Hills fault
31 Newport Inglewood fault zone
32 North Frontal fault zone
33 Northridge Hills fault
34 Oak Ridge fault
35 Palos Verdes fault zone
36 Pelona fault
37 Peralta Hills fault
38 Pine Mountain fault
39 Raymond fault
40 Red Hill (Etiwanda Ave) fault
41 Redondo Canyon fault
42 San Andreas Fault
43 San Antonio fault
44 San Cayetano fault
45 San Fernando fault zone
46 San Gabriel fault zone
47 San Jacinto fault
48 San Jose fault
49 Santa Cruz-Santa Catalina Ridge f.z.
50 Santa Monica fault
51 Santa Ynez fault
52 Santa Susana fault zone
53 Sierra Madre fault zone
54 Simi fault
55 Soledad Canyon fault
56 Stoddard Canyon fault
57 Tunnel Ridge fault
58 Verdugo fault
59 Waterman Canyon fault
60 Whittier fault

NOT TO SCALE

## TABLE 4.10-1 : SIGNIFICANT FAULTS WITHIN PROJECT VICINITY

| Fault Name<br>Relative Fault Geometry<br>(ss) strike slip, (r) reverse, (n) normal, (rl) rt. lateral, (ll) left lateral,<br>(o) oblique, (t) thrust | Fault Class | Distance to Fault[2] (miles) | Direction from Site (miles) | Maximum Moment Magnitude | Fault Length (miles) | Dip angle, direction | Alquist Priolo Earthquake Fault Zoned |
|---|---|---|---|---|---|---|---|
| Chatsworth[3] - r | B | 1.5 | NW | 6.8 | 12 | N | NO |
| Northridge Hills3 - r | B | 2 | NE | 6.2 | 10 | N | NO |
| Mission Hills[3] - r | B | 3 | NE | 6.2 | 7 | N | NO |
| Sierra Madre (Santa Susana) - r | B | 5.6 | N | 7.2 | 35.4 | 45°, N | YES |
| Simi Santa Rosa - r | B | 7.3 | NW | 7.0 | 25 | 60°, N | YES |
| Northridge4 - r | B | 7.6 | NE | 7.0 | 19.3 | 42°, S | NO |
| Sierra Madre (San Fernando) - r | B | 8.4 | NE | 6.7 | 11.2 | 45°, N | YES |
| Verdugo - r | B | 10.3 | E | 6.9 | 18 | 45°, NE | NO |
| Holser - r | B | 12.0 | NE | 6.5 | 12.4 | 65°, S | YES |
| Malibu Coast - ll,r,o | B | 12.8 | SSW | 6.7 | 23 | 75°, N | YES |
| Oak Ridge (onshore) - r | B | 13.0 | NW | 7.0 | 30.5 | 65°, S | YES |
| San Gabriel - ss, rl | B | 13.3 | NNE | 7.2 | 44.7 | 90° | YES |
| Santa Monica (Onshore) - ll,r,o | B | 13.8 | S | 6.6 | 17.4 | 75°, N | NO |
| Hollywood - ll,r,o | B | 14.9 | SE | 6.4 | 10.56 | 70°, N | NO |
| Anacapa- Dume - r,II,o | B | 15.0 | SW | 7.5 | 46.6 | 50°, N | NO |
| San Cayetano - r | B | 17.0 | NNW | 7.0 | 26 | 60°,N | YES |
| Sierra Madre (Sierra Madre B) - r | B | 17.8 | NE | 7.2 | 35.4 | 45°, N | YES |
| Newport - Inglewood (Rose Canyon) - rl,ss | B | 19.1 | SE | 7.1 | 41 | 90° | YES |
| Upper Elysian Park4 - r | B | 19.1 | SE | 6.4 | 12.4 | 50°, NE | NO |
| Palos Verdes (Offshore) - rl,ss | B | 19.6 | S | 7.3 | 59.6 | 90° | NO |
| Puente Hills Blind Thrust[4] - r | B | 21.1 | SE | 7.1 | 27.3 | 25°, N | NO |
| Raymond - ll,r,o | B | 22.6 | SE | 6.5 | 14.3 | 75°, N | YES |
| Santa Ynes - east segment, II - ss | B | 29.9 | NW | 7.1 | 42.2 | 80° | YES |
| San Andreas (Mojave) - ss,rl | A | 31.5 | NNE | 7.4 | 64 | 90° | YES |
| San Andreas (Cholame) - ss,rl | A | 31.5 | NNE | 7.3 | 39 | 90° | YES |
| Elsinore (Whittier) - rl,r,o | A | 37.2 | SE | 6.8 | 23.6 | 75°, NE | YES |

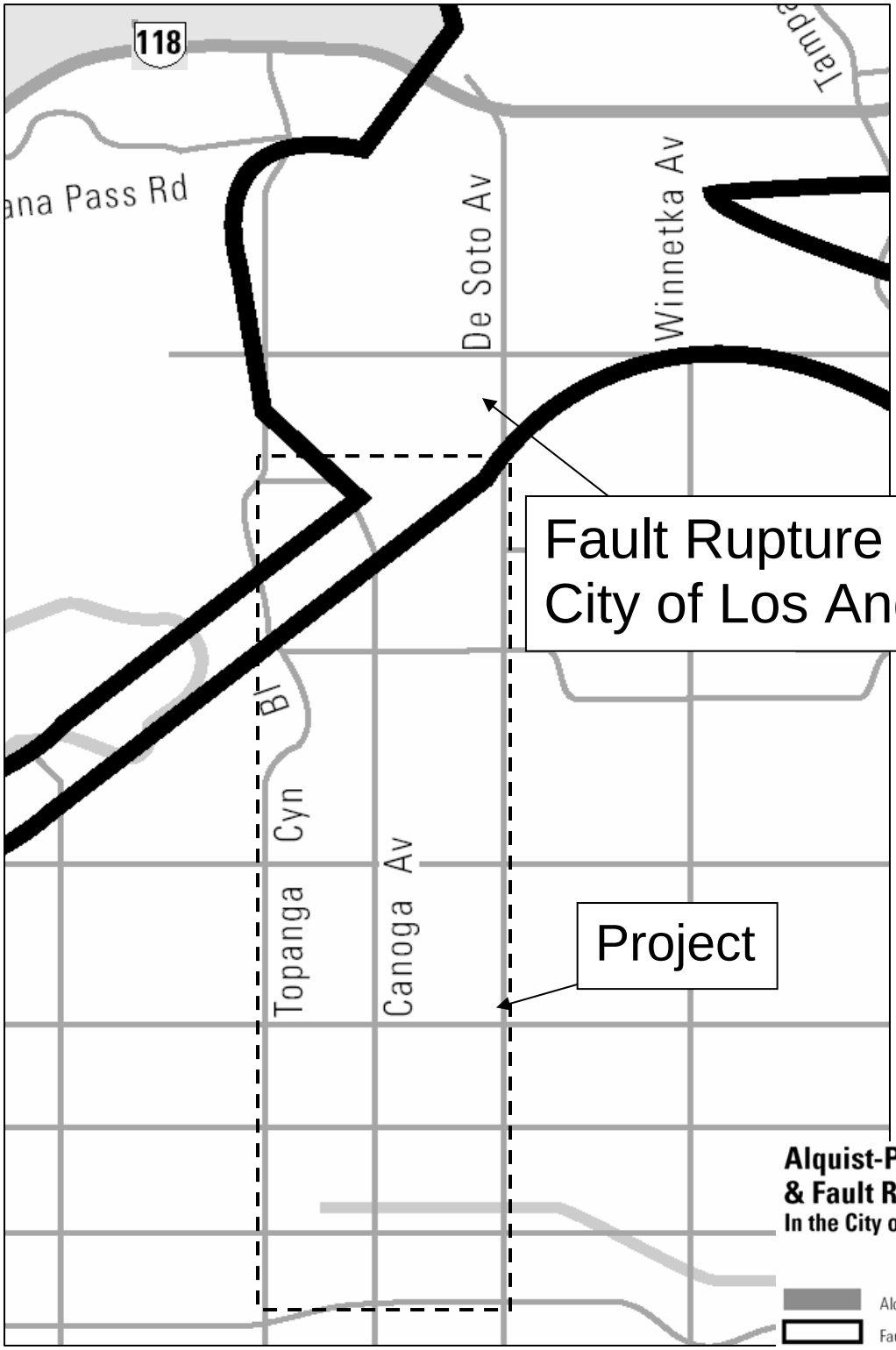
***Notes:***

1. Fault characterization based on CGS database[5] compiled by the computer program EZFRISK[6]. Distance, which is defined as the closest distance to rupture surface, was computed using the EZFRISK program with the relationship by Sadigh et al.[7]
2. Approximate distance from the intersection of Canoga Avenue and Santa Susana Wash.
3. Not in database. These are potentially active faults based on Southern California Earthquake Data Center, www.data.scec.org, Baldwin, J. N., Kelson, I. K., Paleoseismic Investigation of the Northridge Hills fault, Northridge, CA, 1998.
4. The Northridge, Puente Hills, and the Upper Elysian blind thrust faults do not have surface expression. These are considered active faults.

[5] Cao, T., Bryant, W.A., Rowshandel, B., Branum, D., and Willis, C.J., 2003, *Revised 2002 California Probabilistic Seismic Hazard Maps*, June 2003.

[6] Risk Engineering, Inc., 2005, EZ-FRISK computer program.

[7] Sadigh, K., Chang, C.Y., Egan, J.A., Makdisi, F., and Youngs, R.R., 1997, *Attenuation Relationships for Shallow Crustal Earthquakes Based on California Strong Motion Data*, Seismological Research Letters, Volume 68, No. 1.


118
ana Pass Rd
De Soto Av
Winnetka Av
Tampa
Fault Rupture Study Area – City of Los Angeles
Topanga Cyn Bl
Canoga Av
Project
Alquist-Priolo Special Study Zones & Fault Rupture Study Areas
In the City of Los Angeles
Alquist- Priolo Special Study Zone Areas
Fault Rupture Study Areas
0
1
2
Scale in miles
NOT TO SCALE

Several faults are present in Southern California that do not have surface expression. These faults are generally known as blind thrust faults. Both the Whittier Narrows earthquake (1987) and the Northridge earthquake (1994) occurred on blind thrust faults. Blind thrust faults are low angle reverse faults that do not extend to the surface; therefore, identifying their locations from surface mapping is difficult at best. Rather deep bore holes and seismic records provide details about the geometry of these faults.

Underlying the proposed project area is the Northridge Thrust, which is sometimes called the Pico Thrust, as it is known for its creation of the Pico Anticline. Movement on the Northridge Thrust resulted in the 1994 Northridge earthquake. This fault is thought to be part of the Oak Ridge fault, situated west of the site, extending offshore where it is known to be seismically active. As the trace of the Oak Ridge fault is followed toward the proposed project area, it is obscured and is overlain by the Santa Susana fault, thereby creating a blind thrust in the area of the project.

## Strong Ground Motion

Ground shaking intensity is influenced by several factors, including but not limited to the distance of the epicenter from the site and depth at which the earthquake occurred, the magnitude of the earthquake, subsurface geologic structures, as well as surface topography, depth of groundwater, and strength of the earth materials underlying the site.

An earthquake's intensity is the affect the ground shaking has on the earth's surface. Several methods for rating earthquakes have been developed, but within the United States, the Modified Mercalli Intensity (MMI) is used. This system is not mathematically derived, but is simply based on observation of destruction, indexed to the roman numerals I through XII, with an "I" representing an event that was nearly unperceivable, to "XII," which represents near total destruction of all structures and the land surface is deformed.

Measurements of ground motion or magnitudes of the amount of energy released by an earthquake are quantified and recorded on various scales, the first of which was originally developed by Charles F. Richter in 1935. The scales are based on a logarithm of the amplitude of waves recorded by seismographs. Several scales have been developed, but most commonly used are the Richter magnitude or local magnitude (ML), the surface-wave magnitude (Ms), the body wave magnitude (Mb), and the moment magnitude (Mw). Currently, the moment magnitude is most commonly reported, as it is based on the concept of seismic moment and is the most accurate scale for large magnitude earthquakes.

Earthquake-induced ground motion intensity can be described using peak site accelerations, represented as a fraction of the acceleration of gravity (g). Peak bedrock accelerations for design level earthquakes on a nearby fault can be calculated using any of a number of different attenuation relationships.

Given the proximity of the proposed project area with respect to the faults listed within **Table 4.10-1** and shown on **Figure 4.10-2,** in conjunction with known damage associated with both the 1971 San Fernando Earthquake (6.7 Mw), and the 1994 Northridge earthquake (6.7 Mw) intense ground shaking should be expected in the future with force sufficient to produce a X or XI on the MMI. The strongest ground acceleration ever measured instrumentally within an urban area of North America

(Southern California Earthquake Center [SCEC]) was measured during the Northridge earthquake to be 1.8g, recorded on Tarzan Hill, some 1.5 miles from the site.[8]

Probabilistic analyses performed using the computer program EZFRISK indicate that the peak ground motion can vary from 0.35g to 0.42g and 0.64g to 0.84g for Operating Design Earthquake (ODE) and Maximum Design Earthquake (MDE; ODE and MDE defined in Section 4.10.2) events, respectively.[9]

### Liquefaction and Related Ground Failures

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 seismic 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, unconsolidated silts, sands, and silty sands within 50 ft 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.[10]

The expected level of ground shaking in the proposed project area is high enough to initiate liquefaction. This in conjunction with known shallow groundwater (less than 50 ft bgs) and the presence of loose to medium dense sands, silty sands, and stiff silts provide for susceptibly to liquefaction within portions of the proposed project area.

A seismic hazard zone map, produced by the State of California is presented as **Figure 4.10-4**.[11] This map indicates that more than 50 percent of the proposed project area is susceptible to liquefaction. Areas that are designated as potential liquefaction zones have or have had a water table shallower than 40 ft bgs. Soils with a potential for liquefaction are shown to be concentrated within the southern half of the proposed project area in part due to the Los Angeles River with its young sediments and near surface groundwater.

Los Angeles City Safety Elements maps depict approximately 50 percent of the proposed project area to be within areas of potential liquefaction, **Figure 4.10-5**. Delineated liquefaction areas are not coincident with those of the State of California Seismic Hazard Maps. Differences may be the result of the data sets used and the water depths used as screening criteria. City of Los Angeles maps delineate two zones: Liquefiable Areas (groundwater 30 ft or less bgs) and Potential Liquefiable Area (groundwater between 30 ft and 50 ft bgs). It should be noted that the City of Los Angeles Bureau of Engineering, Department of Public Works has adopted the liquefaction boundaries shown on the State of California Seismic Hazard Maps.

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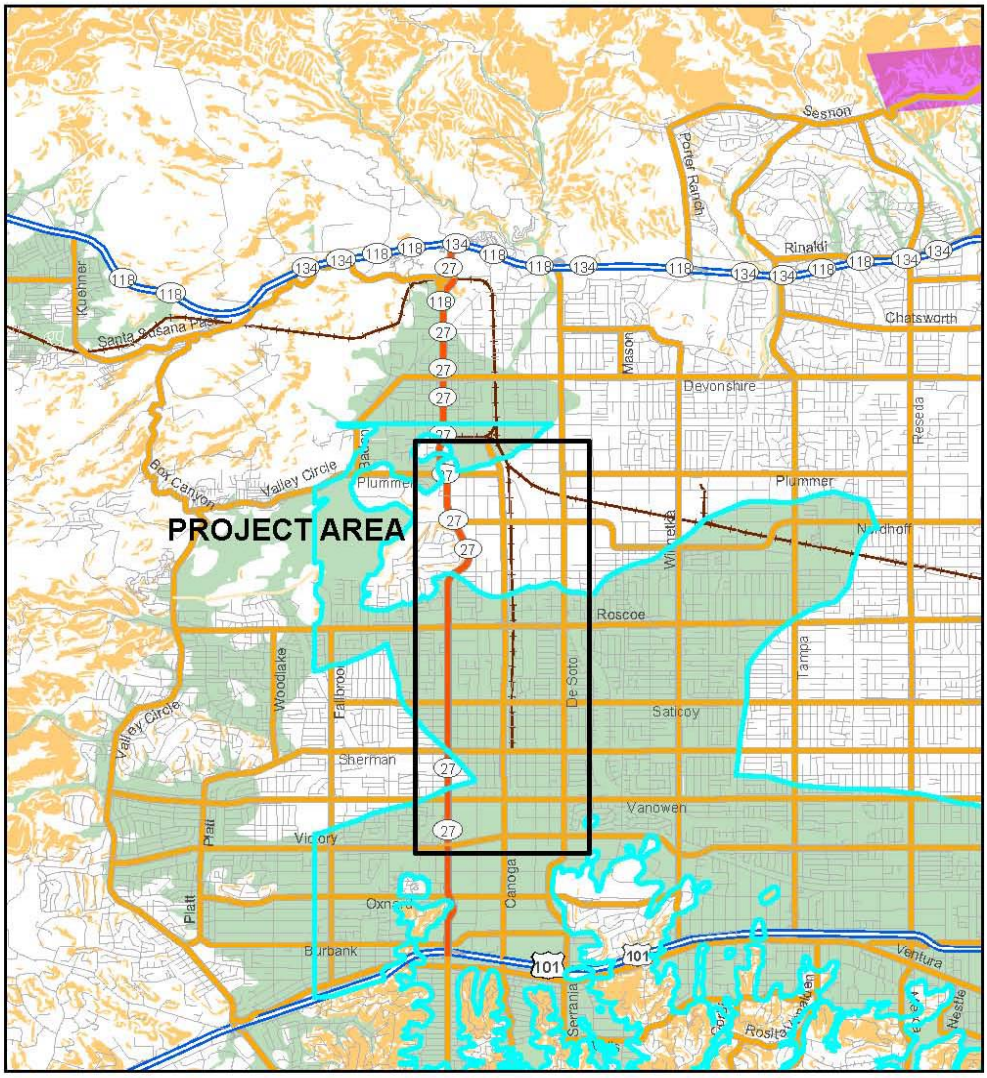
[8] Shakal, A., M. Huang, R. Darragh, T. Cao R. Sherburne, P. Malhotra, C. Cramer, R. Sydnor, V. Graizer, G. Maldonado, C. Peterspm, and J. Wampole, 1994, *CSMIP Strong Motion Records from the Northridge, California, Earthquake of 17 January 1994*, report OSMS 94-07, California Division of Mines and Geology, Sacramento, California.

[9] Risk Engineering, Inc., 2005, EZ-FRISK computer program.

[10] Youd, T.L. and Perkins, D M., 1978, *Mapping Liquefaction-Induced Ground Failure Potential*, Proceedings of the American Society of Civil Engineers, Journal of the Geotechnical Engineering Division, v. 104, no. GT4, pp. 433-446.

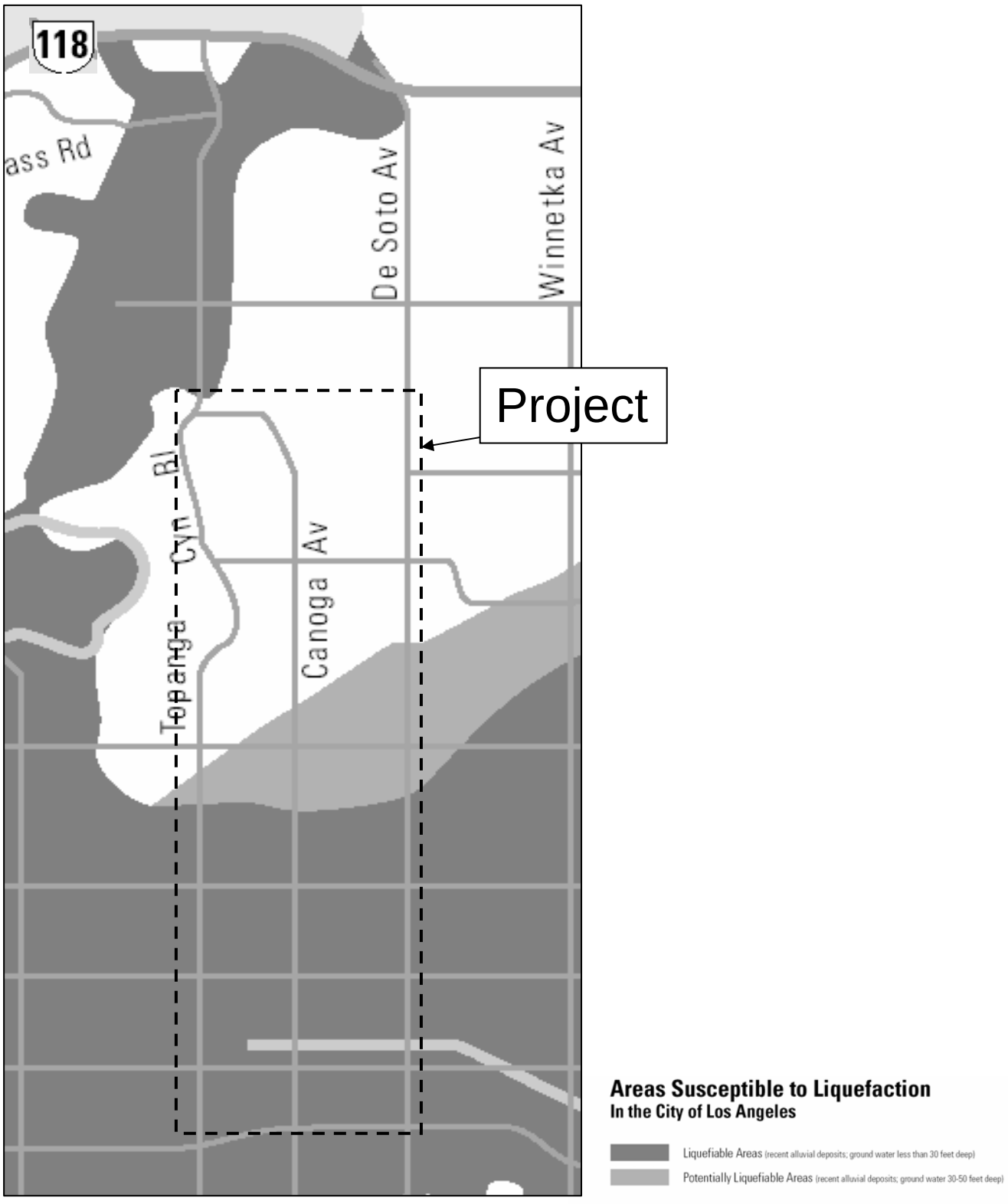
[11] California Geological Survey, 2001, *Alquist-Priolo Earthquake Fault Zone (APEFZ) maps*, Geographic Information System (GIS) data files.




## Legend

- Alquist-Priolo Earthquake Fault Zone
- CGS Landslide Hazard Zone
- CGS Liquefaction Hazard Zone

NOT TO SCALE




City of Los Angeles – Department of City Planning
Safety Element of the Los Angeles City General Plan

NOT TO SCALE

Lateral spreading can occur on relatively shallow slopes. Liquefaction of shallow layers causes a loss of shear strength, allowing the surface to move laterally across gentle slopes. Areas with lateral spreading potential would most likely be adjacent to drainages where slopes are steepest and water may be more likely to accumulate. It is not possible to map specific areas prone to lateral spreading based on the current data available for this study. However, based on the existing topography and noting that Los Angeles River and the Santa Susana Wash are concrete lined, potential for lateral spreading is not that significant within the project area.

### Landslides, Slope Failure

Landslides are the result of the force of gravity exceeding the resistive forces of rock and soils on slopes that are generally inclined steeper than 10 degrees. Surficial and gross slope failures are often the result of extended ground shaking and high ground accelerations generated during an earthquake.

Slope failures can be classified as translational and rotational landslides, mud and debris flows, and rock falls. Translational slides fail along bedding planes and rotational slides fail across bedding planes. A bedding plane in sedimentary rock refers to the plane that separates each successive rock layer, one above the other. Mud and debris flows are surficial failures involving rapid downslope movement of unconsolidated top soil, colluvium[12], and weathered bedrock that have experienced significant increases in moisture due to heavy rain fall, broken water mains and irrigation pipes, plugged culverts, or improper grading. In the case of mud and debris flows, the rigid earth mass becomes saturated and moves as a viscous fluid driven downslope by gravity.

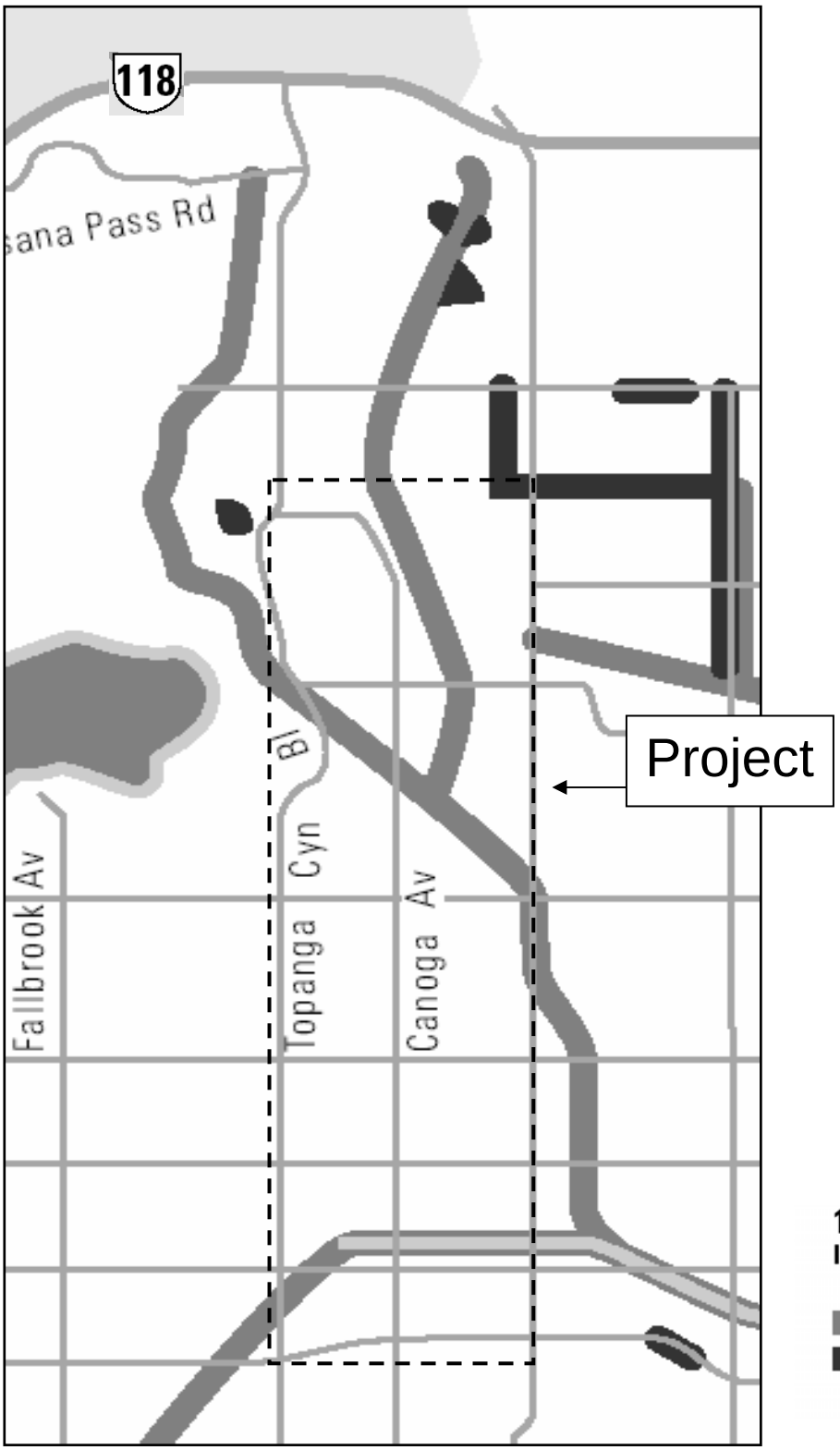
The majority of the proposed project is not susceptible to slope instabilities due to the absence of steep sloping terrain. Slopes are generally inclined from 1 to 5 degrees. Slopes north of the project area (north of Andora Avenue and Rinaldi Street in the area of Stoney Point Park) are steeper and could potentially generate surficial and gross slope instabilities. Additionally, along the eastern side of the Chatsworth Reservoir are hillsides sloping north, east, and southward toward Topanga Canyon Boulevard that could potentially be affected by surficial and gross slope instability.

Areas susceptible to slope instability are identified by the State of California on Seismic Hazards Maps presented on **Figure 4.10-4**. The City of Los Angeles, Bureau of Engineering Department of Public Works has adopted the State of California's seismically-induced landslide susceptibility zones.

### Flooding

Mountains on three sides surround the western end of the San Fernando Valley. Rain water from the hills and mountains flows into the valley, which has developed as a sedimentary basin through seasonal rains and flooding. Storm water is routed into various concrete storm channels, and directed into the Los Angeles River, which then flows east to the Sepulveda Basin. City of Los Angeles Safety Element, identified the potential for flooding during a 100-year flood event, along the Los Angeles River, Browns Wash, and Santa Susana Pass Wash, all of which traverse the proposed project area. **Figure 4.10-6** depicts the flood plains for the project area.

[12] A loose deposit of soil and weathered rock accumulated through the action of gravity.




**100-Year & 500-Year Flood Plains**
**In the City of Los Angeles**

100-Year Flood Plain Areas
500-Year Flood Plain Areas

0 1 2
Scale in miles

NOT TO SCALE

### Subsidence and Settlement

Subsidence is the gradual downward settling of the land surface with little or no horizontal movement. It is caused by many different factors. Extracting large fluid volumes (water, oil and gas) from thick layers of poorly consolidated sediments is a principal cause of surface subsidence. Since the thickness of alluvial sediments in the area is limited by shallow bedrock and no major groundwater production fields are located within or nearby the proposed project area, the potential for surface subsidence associated with groundwater extraction is limited.

Structures can settle due to consolidation of clay- or silt-rich sediments that have not been buried by other geologic deposits, or that have not undergone hydro-consolidation (addition of water into the soil structure). Specific quantitative conditions by geologic or soil unit were not determined for this study. Based on qualitative description of soils in the boring logs, the subsurface soils within the project area do not appear to have significant potential for settlement.

### Expansive Soils

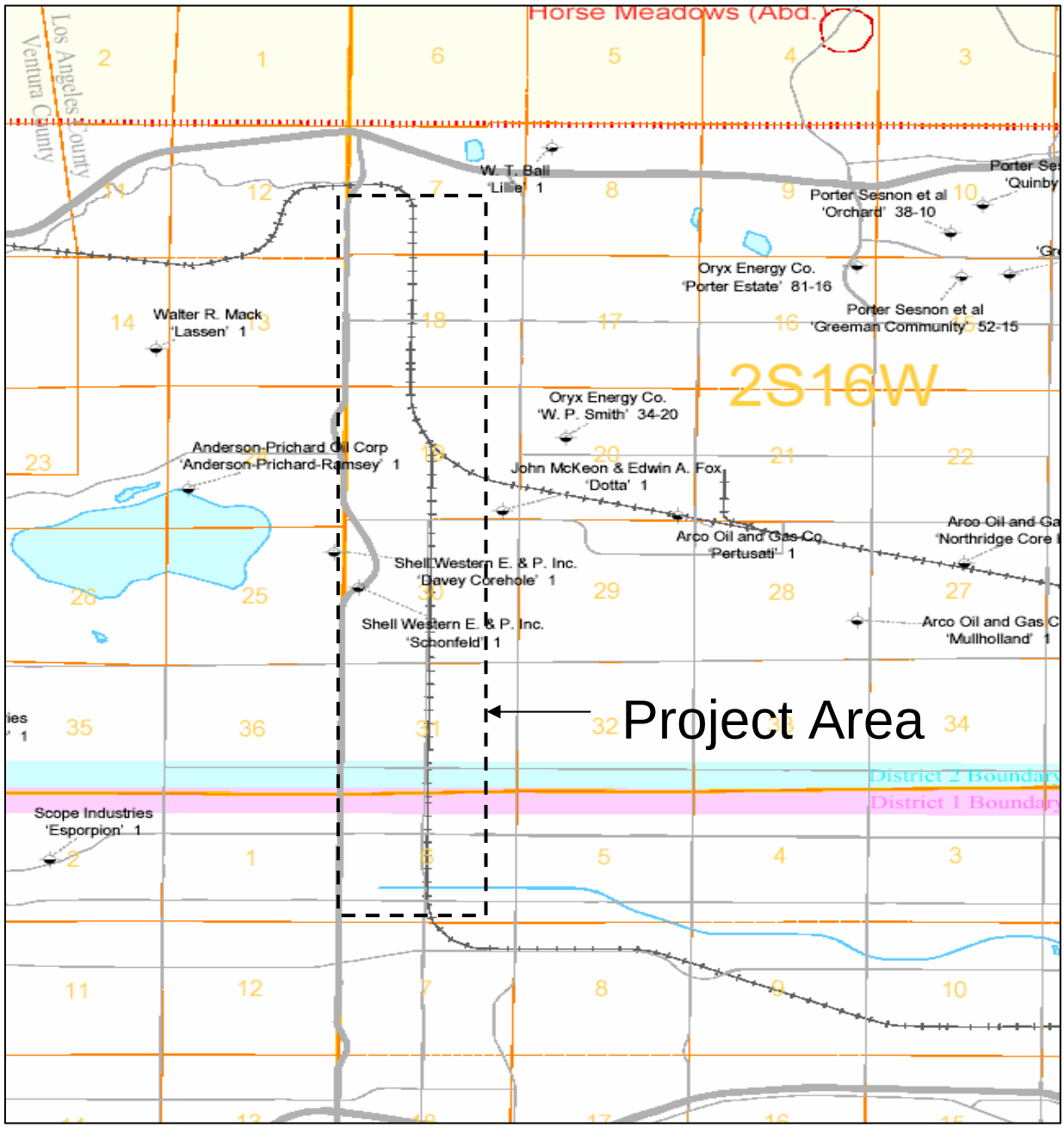
Clayey soils present within the near surface can expand when saturated. A quantitative assessment of the expansion potential of the soils was not performed for this study. Based on soil descriptions noted in the boring logs reviewed, there is no significant potential for presence of expansive soils within the near surface.

### Percolation Characteristics

Percolation rates are dependant on the soil type, grain size and composition, moisture content, and other boundary conditions. A quantitative assessment of percolation rates was not performed for this study. Based on the boring logs reviewed, the subsurface soils in the project area mostly consist of silty sands and silts underlain by sands with occasional presence of clays and gravels. The sands will likely have high percolation rates and the silty sands and sandy silts will likely have moderate percolation rates. The presence of clays can, however, reduce the percolation rate considerably. The site sands, silty sands, and sandy silts generally correspond to National Resources Conservation Service (NRCS) hydrologic soil group (HSG), soil types A and B, and are generally considered to be suitable for onsite percolation.

### Mineral Resources

Oil and gas exploration and pumping from proven reserves has occurred extensively with the Santa Susana Mountains to the north and northeast of the site. The Northridge Hills Anticline was explored as a potential oil trap by drilling numerous exploratory borings within the area. The California Department of Conservation's Regional Wildcat Maps for Districts 1 and 2 indicated that four wells were adjacent to the project as depicted on **Figure 4.10-7**. According to the Wildcat Maps and conversations with California Department of Conservation Personnel, the wells within the proposed project area and vicinity are abandoned, dry wells.


Horse Meadows (Abd.)
Los Angeles County
Ventura County
W. T. Ball
'Lilla' 1
Porter Sesnon et al
'Orchard' 38-10
Porter Se
'Quinby
Oryx Energy Co.
'Porter Estate' 81-16
Porter Sesnon et al
'Greeman Community' 52-15
Walter R. Mack
'Lassen' 1
2S16W
Oryx Energy Co.
'W. P. Smith' 34-20
Anderson-Prichard Oil Corp
'Anderson-Prichard-Ramsey' 1
John McKeon & Edwin A. Fox
'Dotta' 1
Arco Oil and Gas Co
'Pertusati' 1
Arco Oil and Ga
'Northridge Core
Shell Western E. & P. Inc.
'Davey Corehole' 1
Shell Western E. & P. Inc.
'Schonfeld' 1
Arco Oil and Gas C
'Mullholland' 1
Project Area
District 2 Boundary
District 1 Boundary
Scope Industries
'Esporpion' 1

NOT TO SCALE

## 4.10.2 REGULATORY FRAMEWORK

The Alquist-Priolo Geologic Hazards Zone Act was passed in 1972 by the State of California to mitigate the hazard of surface faulting to structures for human occupancy. The Act has been amended 10 times and was renamed the Alquist-Priolo Earthquake Fault Zoning Act on January 1, 1994. The Alquist-Priolo Earthquake Fault Zoning Act's main purpose is to prevent the construction of structures used for human occupancy on the surface trace of active faults as documented in Special Publication 42 by CGS. The Act only addresses the hazard of surface fault rupture and is not directed toward other earthquake hazards.

The Seismic Hazards Mapping Act of 1990 was enacted, in part, to address seismic hazards not included in the Alquist-Priolo Act, including strong ground shaking, landslides, and liquefaction. Under this Act, the State Geologist is assigned the responsibility of identifying and mapping seismic hazards. CGS Special Publication 117, adopted in 1997 by the State Mining and Geology Board, constitutes guidelines for evaluating seismic hazards other than surface faulting, and for recommending mitigation measures as required by Public Resources Code Section 2695 (a). In accordance with the mapping criteria, the CGS seismic hazard zone maps use a ground shaking event that corresponds to 10 percent probability of exceedance in 50 years.

Metro Design Criteria requires that special earthquake protection criteria be followed for important structures such as the grade separation bridges.[13] "The guiding philosophy of earthquake design for the Metro Rail projects is to provide a high level of assurance that the overall system will continue to operate during and after an Operating Design Earthquake (ODE)." Operating procedures assume safe shut down and inspection before returning to operation. "Further, the system design will provide a high level of assurance that public safety will be maintained during and after a Maximum Design Earthquake (MDE)." The ODE and MDE are defined as earthquake events with return periods of 200 and 2,500 years, respectively.[13] The probabilities of exceedance of the ODE and MDE events are 40 and 5 percent or less, respectively, during the 100-year facility design life.

## 4.10.3 IMPACTS AND MITIGATION MEASURES

### Significance Criteria

The criteria used to determine the significance of an impact are based on Appendix G of the CEQA Guidelines. The project impacts related to geology and soils would be considered significant if the project could:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault
  - Strong seismic ground shaking
  - Seismic-related ground failure including liquefaction
  - Landslides
- Result in substantial soil erosion or the loss of topsoil.

[13] Metro, 2005, *Los Angeles County Metropolitan Transportation Authority Design Criteria for Mid-City Exposition LRT.*

- 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, or collapse.
- Be located on expansive soil.
- Has soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

## Methodology

Based on review of available data noted in Section 4.10.1, existing conditions in the proposed project area were evaluated in accordance with the Impact Criteria listed above. Impacts considered are indicated below. Specific Mitigation Measures are provided for impacts that are considered potentially significant.

### Impact 4.10.1. The proposed project could expose people or structures to less than significant to potentially significant adverse effects from surface rupture of an earthquake fault prior to mitigation.

The project site is not located within an Alquist-Priolo earthquake fault zone. A portion of the site is, however, located within a fault rupture study zone as shown on Figure 4.10-3. Surface rupture could also occur at the project site when movement occurs at known active faults such as Sierra Madre fault zone (located approximately 10 miles from the site) or along potentially active faults such as Chatsworth fault (located approximately 1.5 miles from the site) or previously unknown faults.

#### Alternative 1. No Project

The No Project alternative would not result in any change in impacts related to rupture of an earthquake.

#### Alternative 2. TSM

Improvements would consist of new bus stops with canopies for the new local transit line for Canoga Avenue. Since these structures are lightly loaded and because the site is not located within an Alquist-Priolo zone the adverse exposure from these improvements are less than significant.

#### Alternative 3. Canoga On-Street Dedicated Bus Lanes

Improvements would consist of widening of Canoga Avenue within Metro ROW, landscaping, bikeway/pedestrian path, walls, and bus stations with canopy. Since the proposed structures would be lightly loaded (except the widening of the existing bridge over the Los Angeles River) and because the site is not located within an Alquist-Priolo zone the adverse exposure from these improvements would be less than significant.

#### Alternative 4. Canoga Busway

Improvements would consist of addition of two bus lanes within Metro ROW, landscaping, bikeway/pedestrian path, drainage swales, bus stations with canopy, widening/ replacement of grade separation structures where Canoga Avenue crosses the Los Angeles River and Santa Susana Wash, a potential new grade separation structure at Lassen Street/Metrolink railroads, and soundwalls. All

improvements except the proposed grade separation structures would be lightly loaded and because the site is not located within an Alquist-Priolo zone the adverse exposure from these improvements would be less than significant. The potential grade separation structure near Lassen Street is located within a fault rupture study zone as shown on Figure 4.10-3. If further studies indicate that there is a potential for fault rupture in this area then the proposed grade separation structure could be subjected to potentially significant adverse effects without mitigation.

*Mitigation Measures:*

No mitigation required for Alternatives 1, 2, and 3. For Alternative 4 Mitigation measure **MM 4.10-1** should be performed.

> ***MM 4.10-1***: A geological study shall be performed during the final design of any proposed grade separation structures located within the fault study area shown on Figure 4.10-3. The results of the geological studies shall be incorporated in the final design of the structure.

*Level of Impact After Mitigation*: Less than significant.

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**Impact 4.10.2 The proposed project could expose people or structures to significant adverse effects from strong seismic ground shaking.**

The project site, similar to any other site in Southern California, would be subjected to strong ground shaking during a seismic event. The anticipated ground acceleration for design seismic events ranges from 0.35 g to 0.84g as indicated in Section 4.10.1.

Alternative 1. No Project

The No Project alternative would not result in any change in impacts related to strong seismic ground shaking.

Alternative 2. TSM

The proposed bus stops and canopies would be subjected to strong seismic ground shaking and could pose a hazard to project workers and riders without proper design.

Alternative 3. Canoga On-Street Dedicated Bus Lanes

The proposed bus stops, canopies, grade separation structures, and walls would be subjected to strong seismic ground shaking and without mitigation could pose significant risks to workers, riders, and passers by.

Alternative 4. Canoga Bus Way

The proposed bus stops, canopies, soundwalls, and grade separation structures would be subjected to strong seismic ground shaking and without mitigation could pose significant risks to workers, riders, and passers by.

*Mitigation Measures:*

No mitigation is required for Alternative 1. Mitigation measures **MM 4.10-2** and **MM 4.10-3** identified below shall be required for Alternatives 2, 3, and 4.

> ***MM 4.10-2***: A geotechnical investigation shall be performed during final design. The investigation shall include collection of site specific soil samples, laboratory testing, engineering analyses, and recommendations for final design.
>
> ***MM4.10-3***: During the investigation noted in **MM4.10-2**, the magnitude of the strong ground shaking shall be confirmed and acceleration response spectra recommended for design seismic events in accordance with the latest editions of Metro, AREMA, Caltrans code, and California Building codes. The structural design shall then incorporate these shaking in accordance with the applicable codes to maintain structural integrity during seismic events.

*Level of Impact After Mitigation*: Less than significant.

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**Impact 4.10.3 The proposed project could expose people or structures to potentially significant adverse effects from liquefaction-induced ground failures prior to mitigation.**

More than 50 percent of the site is located within a liquefaction zone as shown on Figure 4.10-4 and discussed within Section 4.10.1. While the proposed project would not increase the site liquefaction potential a collapse failure of the proposed structures could adversely affect life safety.

Alternative 1. No Project

The No Project alternative would not result in any change in impacts related to liquefaction induced ground failure.

Alternative 2. TSM

The proposed bus stops and canopies on Canoga Avenue at Sherman Way, Roscoe Boulevard, and Lassen Street are within the liquefaction zone. The foundations for the proposed bus stops and canopies would likely be located within the upper 5 to 10 ft. The current ground water levels are generally deeper than 20 ft bgs at these locations. The effects of liquefaction would, therefore, be likely increased settlement at these improvements and not a total collapse. Accordingly, the impact is expected to be less than significant for the lightly loaded structures planned for this alternative.

Alternative 3. Canoga On-Street Dedicated Bus lanes

The proposed bus stops and canopies on Canoga Avenue at Sherman Way, Saticoy, Roscoe Boulevard, and Lassen Street and the grade separation structure at Los Angeles River structure are within the liquefaction zone. The grade separation structure (widening) would be founded on large shallow foundations or deep pile foundations. These foundations can be significantly affected by liquefaction.

Alternative 4. Canoga Busway

In addition to the bus stops and canopies similar to that noted for Alternatives 2 and 3, the grade separation structure at the Los Angeles River and the potential grade separation near Lassen Street are located within the liquefaction zone. The grade separation structures would be founded on large shallow foundations or deep pile foundations. These foundations can be significantly affected by liquefaction.

*Mitigation Measures:*

A range of mitigation measures will be applicable based on the extent of liquefaction potential and structure foundation loads and depths.

No mitigation is required for Alternative 1. Alternative 2 would require **MM 4.10-2**, **MM 4.10-4**, and if needed **MM 4.10-5**. Alternatives 3 and 4 would require **MM 4.10-2**, **MM 4.10-4**, and if needed **MM 4.10-5** and **MM 4.10-6**.

> ***MM 4.10-4:*** The geotechnical investigation noted in **MM 4.10-2** shall include evaluation of site specific liquefaction potential in accordance with CGS Special Publication 117 for all planned structures that lie within the liquefaction zone shown on Figure 4.10-4.
>
> ***MM 4.10-5:*** For lightly loaded structures such as bus stops, canopies, and walls, if **MM 4.10-4** indicates that the likely effect of liquefaction is increased settlement and not collapse, then incorporate geotechnical and/or structural methods to mitigate the effects of liquefaction on the foundations during final design. The geotechnical mitigation methods may range from recompaction of the upper material to provision of a mechanically stabilized earth (MSE) foundation system. The structural mitigation methods may range from planning for repairs/ maintenance after a seismic event to supporting the improvements on mat foundation or interconnected beam foundations to tolerate the anticipated seismic settlement without collapse.
>
> ***MM 4.10-6:*** For grade separation structures, if **MM 4.10-4** indicates liquefaction potential, then incorporate structural design to mitigate effects of liquefaction or perform geotechnical ground improvement to mitigate liquefaction potential. The structural design will likely include deep pile foundations that extend below the potentially liquefiable layers. The foundation design should incorporate the effects of liquefaction induced down drag on axial pile capacity and reduced lateral resistance from liquefied soils per geotechnical recommendations. The ground improvement methods may range from stone columns in non-contaminated areas to compaction grouting in contaminated areas.

***Level of Impact After Mitigation***: Less than significant

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**Impact 4.10.4 The proposed project would expose people or structures to less than significant adverse effects from landslides; no mitigation is required, although mitigation is recommended.**

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. Permanent slopes will be required at the grade separation locations.

**Alternative 1. No Project**

The No Project alternative would have no impact from landslides.

**Alternative 2. TSM**

Alternative 2 would have no impact from landslides.

**Alternative 3. Canoga On-Street Dedicated Bus lanes**

Alternative 3 would require permanent slopes at the abutments of the grade separation structure at Los Angeles River. The abutment slopes at the Los Angeles River could have a potential for slope instability during a seismic event because of the high seismic ground shaking and liquefaction potential.

**Alternative 4. Canoga Busway**

Alternative 4 would require permanent slopes at the abutments of the grade separation structures. The abutment slopes at the Los Angeles River and the potential abutment slopes near Lassen Street could have a potential for slope instability during a seismic event because of the high seismic ground shaking and liquefaction potential.

***Mitigation Measures:***

No mitigation is required for Alternatives 1 and 2. For Alternatives 3 and 4, mitigation measures **MM 4.10-2** and **MM 4.10-7** are recommended to reduce instability of new slopes during seismic conditions.

> ***MM 4.10-7***: Perform slope stability analyses for the planned abutment slopes at the grade separation structures at Los Angeles River and Lassen Street considering seismic ground shaking and liquefaction potential. If analyses indicate a factor-of-safety (FS) less than 1.1 for pseudo-static conditions or FS less than 1.3 for post-earthquake conditions, deformation analyses should be performed and its effects on the foundations should be evaluated. If the foundations cannot tolerate the estimated deformations, the slope inclinations will have to be revised (to be shallower) such that the minimum FS values noted above are met.

***Level of Impact After Mitigation***: Less than significant to no impact.

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**Impact 4.10.5 The proposed project is not expected to result in significant erosion or loss of top soil; no mitigation is required.**

*Mitigation Measures:*

The surface at the project site would be paved or vegetated. Accordingly, no mitigation measure is required for Alternatives 1 through 4.

***Level of Impact After Mitigation***: Less than significant to no impact.

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**Impact 4.10.6 The proposed project would have less than significant potential to result in on- or off-site landslide, lateral spreading, and collapse; no mitigation is required.**

The proposed project is not located on a geologic unit or soil that is unstable, or that could become unstable as a result of the project. However, there is significant potential for liquefaction and liquefaction induced subsidence as noted in Impact 4.10-3.

*Mitigation Measures:*

No mitigation measure is required for Alternatives 1 through 4 except as noted for Impact 4.10.3. The geotechnical investigation noted in MM 4.10-2 should confirm the absence of unstable geologic unit or soil along the proposed improvements.

***Level of Impact After Mitigation***: Less than significant.

---

**Impact 4.10.7 The proposed project would have less than significant potential for adverse effects from expansive soils; no mitigation is required.**

Based on the soil descriptions noted on the boring logs reviewed, the upper soils primarily consist of sands and silts and expansive soils are not present along the project alignment. Clays that have expansion potential may, however, be localized.

*Mitigation Measures:*

The geotechnical investigation noted in **MM 4.10-2** should confirm the absence of expansion soils along improvements that may be affected by expansive soils.

***Level of Impact After Mitigation***: Less than significant.

---

**Impact 4.10.8 The soils at the proposed project site can adequately support septic tanks and an alternative waste water system, if needed; no mitigation is required.**

The soils in the proposed project area already support septic tanks and a large infrastructure of sewer pipes. Any small additional demand for any septic tanks generated by Project restrooms or auxiliary facilities could be accommodated by existing infrastructure.

*Mitigation Measures:* **None required.**

*Level of Impact After Mitigation*: Less than significant.

---

**Impact 4.10.9 The proposed project would have less than significant impact from other subsurface conditions such as shallow subsurface gas; no mitigation is required.**

There are no known methane or hydrogen sulfide deposits within the project area. No major construction of enclosed spaces such as buildings and subterranean parking structures is associated with the project; therefore, there is no potential for the accumulation of shallow subsurface gas to impact the proposed project area.

*Mitigation Measures:*

None required.

*Level of Impact After Mitigation*: Less than significant.

---

**Impact 4.10.10 The proposed project would have less than significant impacts on geologic resources during construction; no mitigation is required, although measures are recommended.**

<u>Alternative 1. No Project</u>

Under the No project Alternative, existing conditions would remain the same and no construction will be performed. Therefore there is no construction period impact.

<u>Alternative 2. TSM</u>

Alternative 2 involves construction of bus stops and canopies only. Since these improvements are not extensive and consist of minimal localized site grading the construction period impact for Alternative 2 will be less than significant.

Alternative 3. Canoga On-Street Dedicated Bus lanes

Alternative 3 will require roadway and wall construction in addition to the bus stops and canopies. Grading could also be required for the proposed widening of grade separation structures. Roadway construction could expose soils along the proposed alignment to possible wind and water erosion. Existing groundwater levels were at more than 20 ft bgs. Groundwater should therefore not impact the construction of most of the proposed improvements with the exception of widening of grade separations. Four documented abandoned oil wells or dry holes are identified adjacent to the proposed project area and none of these are within the Alternative 3 alignment. If undocumented abandoned oil wells or dry holes are encountered during grading activities a significant or adverse impact would result. See Section 4.11 for potential for encountering hazardous or contaminated materials.

Alternative 4. Canoga Busway

Alternative 4 would require construction of grade separation structure near Lassen Street in additions to the improvements noted for Alternative 3. The construction period impacts for Alternative 4 would therefore include those noted for Alternative 3 as well as additional concerns of handling groundwater for the Lassen Street grade separation.

*Mitigation Measures:*

No mitigation measures are required for Alternative 1. Mitigation measures are recommended for Alternatives 2, 3, and 4 in accordance with general construction procedures. Mitigation measures **MM4.10-8** and **MM 4.10-9** are applicable for Alternative 2. For Alternatives 3 and 4, **MM 4.10-8** through **MM 4.10-10** are applicable. See section 4.11 for mitigation measures if hazardous or contaminated materials are encountered during construction.

> ***MM 4.10-8***: Implementing industry standard storm water pollution control Best Management Practices would reduce soil erosion to a less than significant or adverse level. Erosion control measures that shall be implemented as part of Best Management Practices would include the placement of sandbags, use of proper grading techniques, appropriate sloping, and covering or stabilizing topsoil stockpiles. Construction industry standard storm water Best Management Practices are provided in the State of California Storm Water Best Management Practice Handbook, Construction Activity.
>
> ***MM 4.10-9:*** Discoveries of undocumented wells or dry holes during construction activities must be reported to the City of Los Angeles and the California Division of Oil, Gas and Geothermal Resources (DOGGR). Any wells or dry holes uncovered must be plugged and abandoned in accordance with current DOGGR regulations.
>
> ***MM 4.10-10***: Any groundwater that is encountered during foundation installation (or during excavations for the underpass option near Lassen Street) should be contained and disposed off-site appropriately.

*Level of Impact After Mitigation*: Less than significant.

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**Impact 4.10.11. There is no potential for substantial cumulative geologic resource impacts because potential geologic impacts are mostly localized; no mitigation is required.**

***Mitigation Measures:***

None required.

***Level of Impact After Mitigation***: Less than significant.

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# 4.11 HAZARDOUS MATERIALS

This section addresses current locations within the project area that have the potential for contamination from hazardous materials or the migration of contaminants from nearby hazardous waste sites. A study of the right-of-way (ROW) conditions was prepared by Diaz•Yourman & Associates (DYA) and an Environmental Site Assessment Report (ESA) was prepared in November 2007. This study is contained in **Appendix G**.

## 4.11.1 EXISTING SETTING

The ESA prepared for the site focused on potential hazardous substances that may be encountered by construction activities associated with the proposed project. As grading and excavation work for the proposed project would generally be limited to a depth of 5 ft or less, except at proposed grade separation structures, the ESA findings and conclusions generally pertain to the identification of potential near-surface contamination from on-site or adjacent sources. At the grade separation structure locations involving deeper construction excavations, potential deeper soil or groundwater contamination from nearby and more distant sources were considered. Grade separation features consist of bridge crossings at the Los Angeles River and Santa Susana Wash, and possible grade separation near Lassen Street.

The ESA identified facilities located within one-quarter mile of the proposed project site that might reasonably be anticipated to emit hazardous emissions or handle hazardous or acutely hazardous material in accordance with the CEQA guidelines. 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. For a complete list see **Appendix G**.

### Arsenic from Weed Killer

Near-surface soils within the railroad ROW may contain arsenic from weed killers (herbicides) commonly used in the past by railroads for weed control. The existing Metro Orange Line from North Hollywood Station to the Canoga Park and Ride Station encountered total arsenic concentrations between 0.99 to 546 mg/kg along the previous railroad right-of-way. The total arsenic concentrations were above the presumed background total arsenic concentration of 11ppm for the area. Metro and the California Department of Toxic Substance Control (DTSC) agreed on a plan to use a site specific action level of 50ppm for the site. Soils with arsenic levels above 50 ppm were removed and disposed of off-site according to State disposal guidelines. Soils with arsenic between 11 and 50 ppm were considered as having elevated levels of arsenic and were required to be managed through soil amendment and additional agronomic tests to prevent migration of arsenic to water supplies as well as exposure to humans.

### Railroad Ties

Railroad ties are commonly treated with various chemicals for preservation, including but not limited to creosote, pentachlorophenol and metallic arsenates. Upon removal during construction, railroad ties remaining within the former railroad bed in the ROW may either become a product suitable for reuse or a waste product. Upon removal, railroad ties designated for reuse should be managed as "Treated Wood Waste" (TWW) in accordance with Alternative Management Standards provided in

CCR Title 22 Section 67386. Railroad-tie materials designated for disposal should be considered potentially hazardous TWW and should be managed and disposed in accordance with Title 22 Section 67386.

In addition, railroad ties previously salvaged and stored for reuse at various locations within the Project ROW should be managed as "Treated Wood Waste" (TWW) in accordance with Alternative Management Standards provided in CCR Title 22 Section 67386.

### Lead

Soils adjacent to paved areas within the Project ROW 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.

### Volatile Organic Compounds (VOC) in groundwater

Where groundwater is present at shallow depths (15 to 20 ft below the ground surface [bgs]) low concentrations of VOC (close to maximum contaminate levels [MCL]) may be present in the following two areas:

- Chlorinated solvents (e.g., Tetrachloroethylene [Perchloroethylene] [PCE], Trichloroethylene [TCE]) from the former Rocketdyne facilities near the southern end of the project ROW south of the Los Angeles River.
- Fuel VOC (e.g., benzene, toluene, ethylbenzene, and xylene [BTEX]; Methyl tert-butyl ether [MTBE]) from former leaking underground storage tank (LUST) cases within approximately 200 ft south of Sherman Way.
- As of 2003, off-site investigation and remediation for the existing remaining Rocketdyne facilities at 6933 Canoga Avenue (currently referred to as Pratt & Whitney) was considered completed by RWQCB, while on-site groundwater monitoring continues for the facility. As of the most recent monitoring report in 2006, PCE was reported at a concentration of 28 ppb in a monitoring well in the northeastern corner of the facility, located approximately 200 ft upgradient of the Project area on the northeastern corner of Vanowen Street and Canoga Avenue.

### Underground Storage Tanks (UST) and Leaking Underground Storage Tanks (LUST)

Registered USTs could be an environmental concern when they are within, or immediately adjacent to, the Project ROW. LUST cases could potentially contaminate the groundwater. The following UST and LUSTs were found to be at locations of potential impacts within the project area:

- Skyline Concrete Sales (now National Ready Mix), 6969 Deering Avenue, is within the Project ROW north of Bassett Street and had a permit for a new fueling station in 1973; an application for UST removal in 1988 with no further record of removal; one diesel UST was abandoned in place with concrete fill in 1966; and one new 12,000-gallon UST was installed in 1988 and is currently active.
- Cal Mat Concrete, 7001 Deering Street, located within the project ROW at Hart Street, north of Bassett Street, low-level soil contamination from a former LUST remains beneath a

structure. A 10,000-gallon UST was removed in 1986. A 1,200-gallon UST was removed in 1987; as part of the UST removal, soil was removed and three groundwater monitoring wells were installed in the years 1987 to 1994, 2001, and 2005. Groundwater was between 12 to 17 ft bgs; groundwater flows along a southern gradient. Low concentrations of fuel hydrocarbons may remain in soil and groundwater.

- Valley Builders (formerly Wilsons Canoga Feed), 7101/7119 Deering Avenue, Los Angeles Fire Department (LAFD) file review found two 1,000-gallon fuel USTs, which were removed in 1986; soil sampling was required but there was no record of sampling in the file. USTs were located next to Deering Avenue, north of Gault Street (currently 7119 Deering Avenue).
- Former Hull Bros. Lumber Co., 21350 Sherman Way, is within the project ROW at the southwest corner of Canoga Avenue and Sherman Way. Groundwater wells are still located on-site per the September 20, 2007, site survey; minor VOC in groundwater in the Project ROW. This case remains open with California Regional Water Quality Control Board; case closure has been requested by the responsible party.

### Evidence of hazardous substances, unlabeled drums, and petroleum hydrocarbons

Evidence of hazardous substances, unlabeled drums, and petroleum hydrocarbons were observed at several locations within or adjacent to the project ROW during the site reconnaissance:

- Masonry Club, stone and brick building materials, 7000 Canoga Avenue; this facility has two 55-gallon diesel fuel containers (per discussion with tenant) in a shed in the northeastern corner on a pallet on a concrete floor; the drums have no secondary containment or labeling and there are oil stains on the parcel. There are also used, railroad ties stored for landscaping reuse within the facility presumed treated with preservatives and thereby subject to Title 22 Alternative management Standards for TWW.
- Cruz Construction, 7101 Deering Avenue, construction contractor yard; this parcel has a small maintenance area in the northeastern corner with oil stains on the ground and asphalt concrete (AC) pavement in the northeastern corner. There are also used, railroad ties within this facility presumed treated with preservatives and thereby subject to Title 22 Alternative management Standards for TWW.
- An unidentified solid waste transfer operation (no address available, assumed to be +/- 7100 Canoga Avenue) on a narrow strip on the east side of Canoga Avenue approximately halfway between Vanowen Street and Sherman Way.
- The Costume Shop (formerly Hull Bros. Lumber Co.), 21350 Sherman Way, is located within the Project ROW on the southeast corner of Canoga Avenue and Sherman Way. LUST monitoring wells remain and the case remains open.
- The eastern side of the Project ROW facing Canoga Avenue, between Wyandote and Valerio Street, is occupied by Star Construction contractor yard (7320 Canoga Avenue). The Star Construction parcel was observed to have unlabeled 55-gallon drums stored, scattered oil stains, and fueling trailers.
- The area on the eastern side of the ROW just south of Valerio Street is apparently being used by a painting service, presumably Galvin Painting, 7357 Deering Avenue, located immediately adjacent to the east side of the Project ROW. At the time of the survey, DYA observed storage of five unlabeled 55-gallon drums and paint stains on the gravel surface within an approximately10-foot-diameter area.

- At the southern end of an unattended rental truck storage on the east side of Canoga Avenue immediately north of Valerio Street, two unlabeled drums that appeared to contain an oily liquid were observed.
- The segment of the ROW along the eastern side of Canoga Avenue where Deering Avenue veers east (no address, 7700 block of Canoga Avenue) is occupied by several contractor yards and vehicle maintenance yards that included several areas that were closed, locked, and un-accessible; observations from available vantage points indicate some of these areas have unlabeled drum storage and oily stains on the ground surface.
- "Ovidios," an operating auto repair garage, 7800 Canoga Avenue, is within the Project ROW north of Ingomar Street, which includes a concrete block garage with approximately six bays with at least five underground hydraulic lifts. There is also a waste oil and waste oil filter storage area on the south side of the building using five 55-gallon drums for storage; the waste oil materials are reportedly recycled by a service. The area has oil stains on the concrete surface. A clarifier was also shown south of the building on a 1998 Metropolitan Transportation Authority (MTA) report. According to a previous UST closure report, as much as 1,000 milligrams per kilogram (mg/kg) total petroleum hydrocarbons (TPH) remained in soil beneath the auto service garage building.
- 7900 Canoga Avenue: this parcel has a truck repair canopy with concrete pavement; there is a waste oil and parts-cleaning 100-gallon waste storage container next to the office building; the operator stated that the waste materials are recycled by Demeno Cardoon with manifests. There is also another vehicle repair parcel adjacent to Valley Trucking that was unoccupied at the time of DYA's site visit. There are scattered oils stains on the ground surface at both of these vehicle maintenance operations.
- Between Prairie Street and Plummer Street, a large quantity of used railroad ties for sale to the public, were observed to be stored at the northern end of the vacant ROW. There were also unlabeled drums in the area. The railroad ties should be presumed treated with preservatives and thereby subject to Title 22 Alternative management Standards for TWW.
- Metro and Pratt & Whitney have a ten year agreement stipulating that, if ongoing groundwater monitoring on the Pratt & Whitney facility on the west side of Canoga Avenue shows contamination has spread towards Metro right-of-way, Metro must allow for future monitoring wells to be installed.

### Asbestos

Asbestos-containing material (ACM) may be present in the building material demolition debris observed at the waste transfer facility between Vanowen Street and Sherman Way.

## 4.11.2 REGULATORY FRAMEWORK

Certain chemical and physical properties of a substance may cause it to be considered hazardous. As defined by the California Code of Regulations (CCR), Title 22, Section 66084, a "hazardous material" is a "substance or combination of substances which, because of its quantity, concentration, physical, chemical, or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed."

According to the California Health and Safety Code, Section 25124, a "hazardous waste" is any hazardous material that is abandoned, discarded or in storage prior to recycling. For example, excavated soil containing hazardous materials would be considered hazardous waste if the concentration of contaminants exceeded specific CCR Title 22 criteria.

CEQA Statute (California Public Resources Code, Division 13 Environmental Protection), Section 21092.6 Location of Projects on Hazardous Waste Sites List, directs the lead agency to consult the lists compiled pursuant to Section 65962.5 of the Government Code to determine whether the project and any alternatives are included on any hazardous waste sites lists.

## 4.11.3 IMPACTS AND MITIGATION MEASURES

### Significance Criteria

The criteria used to determine the significance of an impact are based on Appendix G of the CEQA Guidelines. The proposed project could result in a significant impact if it would be located on a site which is included on a list of hazardous materials site compiled pursuant to Government Code Section 65962.6 and, as a result, if it would create a significant hazard to the public or the environment.

### Methodology

The methodology used to identify the potential impact consisted of locating potentially hazardous sites and comparing their locations with the route of the proposed project. A Phase I ESA was prepared by DYA in November 2007 in which hazardous assessment documents previously prepared for the ROW were reviewed and potential hazards on the project site were evaluated.

**Impact 4.11.1. The proposed project is located on land that is known to contain hazardous materials and as a result could create a hazard to the public or environment if mitigation measures were not implemented.**

#### Alternative 1. No Project

The No Project Alternative will have no impacts.

#### Alternative 2. TSM

Excavations for construction of proposed bus stops and canopies may encounter aerially deposited lead, arsenic and petroleum hydrocarbons in shallow soils. Because of the limited amount of grading the impact is anticipated to be less-than-significant.

#### Alternative 3. Canoga On-Street Dedicated Bus Lanes

Grading for Canoga Avenue widening and construction of proposed improvements may encounter hazardous materials during grading and excavation within the ROW. The construction work for the proposed Project would generally be contained in the upper 5 ft of soil except for the proposed widening of Canoga Avenue grade separation over the Los Angeles River. The ESA indicated that in or adjacent to the Project ROW there are instances of potentially leaking USTs, stained soil, and

unlabeled drums. In addition, it is likely that lead and arsenic may have been deposited within the soil along the Project ROW and may occur at hazardous levels. Deeper construction excavations for the bridge widening may encounter groundwater impacted by VOC. The potential for an encounter with hazardous materials is a significant impact.

Alternative 4. Canoga Busway

The proposed improvements and grading for Alternative 4 is similar to that of Alternative 3 with the exception of additional grading for replacement of existing Canoga Avenue grade separation structures at the Los Angeles River and Santa Susana Wash and any new construction (underpass or aerial structure) near Lassen Street south of the Chatsworth Metrolink Station. The potential for an encounter with hazardous material is a significant impact similar to Alternative 3.

*Mitigation Measures:*

Alternative 1 will not need any mitigation measures. For Alternative 2, mitigation measures **MM 4.11-1** through **MM 4.11-7** are recommended. Mitigation measures **MM4.11-2** through **MM4.11-13** are applicable for Alternatives 3 and 4.

***MM 4.11-1:*** A Phase II investigation shall be performed at proposed bus stops along Canoga Avenue at Sherman Way, Nordoff, Roscoe, Parthenia (optional stop), and at the Chatsworth Metrolink station. Soil borings shall be performed at locations where earthwork is planned for construction of bus stops. Soil sampling shall include environmental screening for contamination by visual observations and field screening for volatile organic compounds with a photoionization detector (PID). The soils shall be tested for arsenic and lead. Based on field screening, soil samples shall be analyzed for the suspected chemicals by a laboratory certified by the State of California Department of Health Services.

***MM 4.11-2:*** Railroad ties stored for reuse or removed during construction excavation are presumed treated with preservatives and thereby subject to Title 22 Alternative Management Standards for Treated Wood Waste (TWW).

***MM 4.11-3:*** On the previous Metro Orange Line project from the North Hollywood Station to the Canoga Park-and-Ride Station, Metro and the California Department of Toxic Substance Control (DTSC) agreed on a plan for handling soils with elevated levels of arsenic. The DTSC calculated an action level for arsenic to be 50ppm. Soils with arsenic levels above 50 ppm were removed and disposed of off-site according to State disposal guidelines. Soils with arsenic between 11 and 50 ppm were considered as having elevated levels of arsenic and were required to be managed to prevent migration of arsenic to water supplies as well as exposure to humans. A similar agreement between Metro and DTSC establishing thresholds for removal and management of soils with elevated levels of arsenic is anticipated for this project based on the soil conditions in the Project area. To evaluate the presence and extent of arsenic in the near surface soils, a Phase II investigation shall be performed where earthwork is planned.

***MM 4.11-4:*** Yellow thermoplastic paint markings on the pavement should be evaluated for lead and other heavy metals such as chromium before disposal.

***MM 4.11-5:*** Excavated soils with lead above a total threshold limit concentration (TTLC) above 1,000 ppm and/or soluble threshold limit concentration (STLC) above 5 mg/l are considered hazardous. Metro plans to coordinate with DTSC to have a site specific background level for the project and a plan for handling soils with elevated levels of lead. To evaluate the presence and extent of lead in the near surface soils, a Phase II investigation shall be performed where earthwork is planned.

***MM 4.11-6*** Soils with petroleum hydrocarbons or hazardous constituents exceeding cleanup levels provided by California Regional Water Quality Control Board (RWQCB) and/or Department of Toxic Substances Control (DTSC) shall be remediated or disposed of off-site according to State guidelines.

***MM 4.11-7:*** Metro must make allowances for future groundwater monitoring wells to be installed by Pratt & Whitney at the Canoga Park-and-Ride Station if required.

***MM 4.11-8*** To evaluate evidence of hazardous substances, unlabeled drums, and petroleum hydrocarbons observed during the Phase I investigation, a Phase II investigation shall be performed where earthwork is planned between 7000 and 7900 Canoga Avenue. Sufficient borings shall be preformed to estimate the lateral extent and levels of contamination. Soil sampling shall include environmental screening for contamination by visual observations and field screening for volatile organic compounds with a photo ionization detector (PID). Based on field screening, soil samples shall be analyzed for the suspected chemicals by a laboratory certified by the State of California Department of Health Services.

***MM 4.11-9:*** To evaluate for the presence of deeper soil contamination and volatile organic compounds (VOC) in groundwater at grade separation excavations, soils borings and groundwater monitoring wells shall be installed. Soil sampling shall include environmental screening for contamination by visual observations and field screening for volatile organic compounds with a PID. Based on field screening, soil samples shall be analyzed for the suspected chemicals by a certified laboratory. Groundwater samples should be analyzed for VOC.

***MM 4.11-10:*** Groundwater removed for construction purposes with VOC above State and Federal Maximum Contaminant Levels for drinking water shall be treated or disposed according to applicable state guidelines.

***MM 4.11-11:*** Buildings that will be demolished shall have a comprehensive ACM inspection prior to demolition. Asbestos-containing materials (ACM) that may be identified as present in any building to be demolished, including the building material debris observed at the waste transfer facility between Vanowen Street and Sherman Way shall be tested and properly disposed.

***MM 4.11-12:*** At 6969 Deering Avenue, 7001 Deering Avenue, and 7101/7119 Deering Avenue, a Phase II investigation shall be performed consisting of surveying the lots to assess for potentially unknown remaining underground storage tanks.

***MM 4.11-13:*** At 21350 Sherman Way groundwater monitoring shall continue until the case is closed by RWQCB.

***Level of Impact After Mitigation***: Less-than-significant.

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**Impact 4.11.2. There are no potential to cumulative hazardous materials impacts, no mitigation is required.**

***Mitigation Measures:***

None required.

***Level of Impact After Mitigation:*** Less than significant.

# 4.12 WATER RESOURCES

This section addresses the water resources, hydrology and water quality that would change due to the proposed project.

## 4.12.1 EXISTING SETTING

The project site is located in the Los Angeles River Watershed. The Los Angeles River is 51 miles long from the western end of the San Fernando Valley to the Queensway Bay and Pacific Ocean at Long Beach. It has a total drainage area of approximately 834 square miles. The project is in the upper portion of this watershed just below the eastern portions of the Santa Monica Mountains, Simi Hills, and Santa Susana Mountains. Where the Los Angeles River crosses the Metro ROW it flows in an easterly direction and the upstream tributary area, including Chatsworth Reservoir, Chatsworth Creek, Bell Creek and Arroyo Calabasas is approximately 44.5 square miles and is 28% impervious. This project area is about 5% of the total drainage area for the Los Angeles River Watershed.

The project site is primarily within the Metro Right-of-Way (ROW) along the east side of Canoga Avenue from the existing MOL Canoga Station to the Chatsworth Metrolink Station and portions of Canoga Avenue's ROW. The Metro ROW varies from 40-ft. to 275-ft. with the majority being 100-ft. wide. Portions of the project are adjacent to the Metro ROW in public ROW for Canoga Avenue.

DRAINAGE FACILITIES

The Santa Susana Creek also crosses the Metro ROW and alignments, flowing in a southeasterly direction. The area tributary to the Santa Susana Creek upstream of the project is approximately 2.5 square miles and is 49% impervious. South of Parthenia, the Santa Susana Creek flows into Browns Canyon Wash and then another 2.5 miles to the Los Angeles River confluence. The Santa Susana Creek is a county facility. At the location where it crosses the proposed BRT alignment it is a reinforced concrete rectangular channel 10-ft. deep with bottom width of 28-ft.

At the northerly end of the alignments, just east of the Metrolink Chatsworth Station, Browns Canyon Wash flows in a southerly direction. Browns Canyon Wash is a reinforced concrete rectangular channel with a depth of 10-ft. and width of 60-ft. Browns Canyon Wash is a Los Angeles County facility.

Near the southerly end of the project, Kelvin Channel (just east of De Soto Avenue) crosses the existing De Soto Metro Orange Line Station flowing in a northerly direction just upstream of the confluence with the Los Angeles River. The tributary area upstream is about 4.0 square miles and 42% impervious.

The Los Angeles River, Santa Susana Creek, and Browns Canyon Wash are all identified as "Zone A (areas of 100-year flood) contained in channel."[1] The Study area is all Zone C (areas of minimal flooding) except the crossings of the Los Angeles River and Santa Susana Creek.

[1] FEMA. Flood Insurance Rate Maps 060137 0018 C, 060137 0027 C and 060137 0036 C, effective December 2, 1980.

The Los Angeles River is a Los Angeles County facility. At the location where it crosses the BRT it is a reinforced concrete trapezoidal channel 17.5-ft. deep with bottom width of 45-ft. and side slopes of 2.25 Horizontal to 1 Vertical. The channel invert has a 1% cross slope towards the center. There are 12-ft. wide paved roadways on each bank. The construction of the channel was completed in 1958 by the U.S. Army Corps of Engineers with operation and maintenance transferred to Los Angeles County Flood Control District. The design discharge was 24,000 cfs with 2.1-ft. of freeboard to the top of the channel lining. Velocity in this reach of the channel is 23.5 ft. per second (fps).

## DRAINAGE PATTERNS

The proposed alignments run along the east side of Canoga Avenue. Between the Los Angeles River and the Santa Susana Creek crossings, the runoff is generally in a southeasterly direction. Offsite flow is intercepted by the curb and gutter of Canoga Avenue before reaching the Metro ROW. In Canoga Avenue, offsite flow is conveyed southerly, from a point near the Santa Susana Creek crossing on the surface. A 4.0-ft. wide by 0.9-ft. high City of Los Angeles culvert (P-28181) conveys flow in Canoga Avenue across Parthenia Street and discharges back to the curb and gutter of Canoga Avenue. City of Los Angeles culverts also convey flow in Canoga Avenue across Roscoe Boulevard and discharge back to the curb and gutter of Canoga Avenue. Just before reaching Saticoy Street, the surface flow in Canoga Avenue is collected in a City of Los Angeles storm drain (D-23389). Record drawings indicate this portion of the storm drain was constructed in 1975 and had a 10-year design discharge of 265 to 352 cfs. This 75-inch diameter reinforced concrete pipe storm drain continues to convey flow in a southerly direction in Canoga Avenue past Valerio Street where it joins the County of Los Angeles storm drain (No. 478). This 81-inch to 96-inch diameter reinforced concrete pipe storm drain continues to convey flow in a southerly direction in Canoga Avenue to the Los Angeles River.

At the south end of the project, runoff is generally in a northeasterly direction. Offsite flow is intercepted by the curb and gutter of Victory Boulevard and Canoga Avenue before reaching the Metro ROW. In Victory Boulevard, offsite flow is conveyed easterly and collected in a City of Los Angeles storm drain (D-18020) under the street that conveys storm water to Kelvin Channel. This 54-inch to 66-inch diameter storm drain was constructed in 1963. Kelvin Channel is a Los Angeles County facility (Project No. 112) that flows northerly along the easterly side of De Soto Avenue. In Canoga Avenue, offsite flow is conveyed northerly and collected in a City of Los Angeles storm drain (D-22847) under the street that conveys storm water to the Los Angeles River. This storm drain is an 8.5-ft. wide by 10.0-ft. high reinforced concrete box.

North of Santa Susana Creek, the Metro ROW continues along the east side of Canoga Avenue. In this area runoff is generally in a southeasterly direction. Offsite flow is intercepted by the curb and gutter of Canoga Avenue before reaching the Metro ROW. In Canoga Avenue, offsite flow is conveyed southerly, from the end of the project on the surface until it reaches Nordhoff Street. At this intersection it is conveyed under Nordhoff Street in City of Los Angeles culverts that discharge back to the curb and gutter of Canoga Avenue. Flow continues southerly in Canoga Avenue until collected in City of Los Angeles storm drain (D-21230). This 42-inch diameter reinforced concrete pipe storm drain, constructed in 1967, discharges into the Santa Susana Creek.

## 4.12.2 REGULATORY FRAMEWORK

The Water Quality Act of 1987 added Section 402(p) to the 1972 federal Clean Water Act (CWA) (33 U.S.C § 1251-1387). This section requires the United Stated Environmental Protection Agency (USEPA) to establish regulations setting forth National Pollutant Discharge Elimination System (NPDES) requirements for storm water discharges in two phases. On November 16, 1990, Phase I storm water regulations were directed at municipal separate storm sewer systems (MS4s) serving a population of 100,000 or more, including construction activities. On December 8, 1999, Phase II storm water regulations were directed at storm water discharges not covered in Phase I, including small MS4s (serving a population of less than 100,000), small construction projects (one to five acres), municipal facilities with delayed coverage under the Intermodal Surface Transportation Efficiency Act of 1991.

The Porter-Cologne Water Quality Act of 1969 established the principal California program for water quality control. This Act authorizes the State Water Resources Control Board (SWRCB) to preserve and enhance all beneficial uses of the state's immensely complex waterscape and divides the State of California into nine Regional Water Quality Control Board (RWQCB) areas. Sections of the Porter-Cologne Act were used as a basis for the 1972 CWA and responsibility for implementing the federal provisions was assumed by the state. The project is located in the Los Angeles Regional Water Quality Control Board (LARWQCB) Region 4.

The General Construction Activity Storm Water Permit (92-08-DWQ) adopted September 8, 1992 covered construction activities disturbing 5 acres or more. On August 19, 1999 the SWRCB reissued the General Construction Storm Water Permit (99-08-DWQ) which decreased the covered project size from 5 to 1 acre. Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP should contain a site map(s) which shows the construction site perimeter, existing and proposed buildings, lots, roadways, storm water collection and discharge points, general topography both before and after construction, and drainage patterns across the project. The SWPPP must list Best Management Practices (BMPs) the discharger will use to protect storm water runoff and the placement of those BMPs. Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.

Under Section 303(d) of the 1972 CWA states are required to list impaired water-bodies and develop and implement Total Maximum Daily Loads (TMDLs) for these water-bodies. California listed the Los Angeles River Reach 6 (above Sepulveda Flood Control Basin and in the vicinity of the project) as a water quality limited segment in 2006. Pollutants identified are 1,1-Dichloroethylene(1,1-DCE)/Vinylidene chloride, Coliform Bacteria, Tetrachloroethylene/PCE, and Trichloroethylene/TCE.

The "Water Quality Control Plan, Los Angeles Region: Basin Plan" (1994) prepared by the California Regional Water Quality Control Board, Los Angeles Region (RWQCB), designates beneficial uses for surface and ground waters, sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's anti-degradation policy, and describes implementation programs to protect all waters in the Region.

The RWQCB on September 19, 2001, adopted amendments to the Basin Plan, to incorporate TMDLs for trash in the Los Angeles River (Resolution No. 01-013). On August 9, 2007, the RWQCB adopted a new trash TMDL (Resolution No. 07-012). This amendment indicates that trash in the Los Angeles River is causing impairment of beneficial uses and storm water discharge is the major source of trash in the river. Compliance with the final waste load allocation may be achieved through a full capture system. A full capture system is any device or series of devices that traps all particles retained by a 5mm mesh screen and has a design treatment capacity of not less that the peak flow rate resulting from a 1-year, 1-hour storm. The numeric target of the TMDL is zero trash in the river, with a phased reduction for a period of 9 years.

The RWQCB on June 2, 2005, adopted amendments to the Basin Plan, to incorporate TMDLs for metals in the Los Angeles River (Resolution No. R2005-006). On September 6, 2007, the RWQCB, revised the metals TMDL (Resolution No. R2007-014). This amendment indicates that metals including copper, cadmium, lead, zinc, aluminum and selenium in the Los Angeles River are causing impairment of beneficial uses and during wet weather, most of the metals loadings are in the particulate form and are associated with wet-weather storm water flow. There are separate targets for dry-weather and wet weather.

The RWQCB on July 10, 2003, adopted amendments to the Basin Plan, to incorporate TMDLs for nutrients in the Los Angeles River (Resolution No. R2003-009). On December 4, 2003, the RWQCB, revised the nutrients TMDL (Resolution No. R2003-016). This amendment indicates that nitrogen compounds (ammonia, nitrate, and nitrite) in the Los Angeles River are causing impairment of beneficial uses. The principal source of nitrogen compounds are three water reclamation plants, however, urban runoff, storm water, groundwater discharge may also contribute nitrate loads

The General Construction Activity Storm Water Permit (99-08-DWQ) requires (Section A.10 – SWPPP) permittees to implement post-construction storm water management requirements and comply with the numerical criteria for mitigating storm water runoff through infiltration, or detention and retention as adopted in Board Resolution R-00-02, Standard Urban Storm Water Mitigation Plan (SUSMP).

The Los Angeles Municipal Storm Water permit (NPDES Permit No: CAS004001, December 13, 2001; amended September 14, 2006 by Order R4-2006-0074, and August 9, 2007 by Order R4-2007-0042) requires new development and redevelopment projects to incorporate SUSMPs. Project categories for which SUSMPs are applicable include "Parking Lots" of 5,000 square ft. or larger, or with 25 or more parking spaces. General requirements of the SUSMP include 1) post-development peak storm water runoff discharge rates shall not exceed the estimated pre-development rate where the increased peak storm water discharge rate will result in increased potential for downstream erosion, 2) conserve natural areas, 3) minimize storm water pollutants of concern, 4) protect slopes and channels, 5) provide storm drain stenciling and signage, 6) properly design outdoor material storage areas, 7) properly design trash storage areas, 8) provide proof of ongoing BMP maintenance, 9) post-construction treatment control BMPs are required to incorporate, at a minimum, either a volumetric or flow based treatment control design standard or both, to mitigate (infiltrate, filter, or treat) storm water runoff.

The RWQCB provided guidance for additional studies and preparation of the EIR regarding infiltration BMPs affecting groundwater at the Canoga Transportation Corridor Project to MTA on September 7, 2007. This guidance identified the need for evaluation of water quality impacts and proposed mitigations. These are addressed herein.

Construction within Los Angeles County Flood Control District (LACFCD) facilities, Los Angeles River and Santa Susana Creek would be restricted during the rainy season from October 15 to April 15. During the dry season construction has to maintain a minimum channel capacity of 33% from April 15 to May 31, 5% from June 1 to August 31, and 33% from September 1 to October 15. For these facilities, LACFCD is the lead agency for design and permitting. The Army Corps of Engineers has a reviewing role for the River.

## 4.12.3 IMPACTS AND MITIGATION MEASURES

### Impact 4.12.1 With mitigation neither project construction nor operation would result in violations of any water quality standards or waste discharge requirements.

With mitigation the project would have a less than significant or possibly beneficial impact on water quality because impacts are mitigated for increased impervious areas in Alternatives 3 and 4 and other areas remain unchanged or decrease impervious area in Alternatives 1, 2, 3, and 4.

#### Alternative 1. No Project

This alternative would have a less than significant impact on water quality because quality and discharge are not changed.

#### Alternative 2. TSM

This alternative would have a less than significant impact on water quality because quality and discharge are not changed.

#### Alternative 3. Canoga On-Street Dedicated Bus Lanes

Impervious area within the project ROW would increase overall for this alternative (some areas increase others decrease) due to the northbound dedicated lane and 10-ft. wide multi-use path or 10-ft. wide bike path and adjacent 7-ft. wide pedestrian pathway. The project would decrease the area within the ROW used for parking lots and industrial/commercial development which would have a beneficial impact on water quality.

The MOL Canoga Station would be slightly reduced in size to accommodate the northbound dedicated lane and bike/pedestrian paths. The Parthenia Street, and Nordhoff Street stations would not have park-and-ride facilities. The pervious area at the existing Chatsworth Metrolink Station is assumed to remain unchanged. However the number of parking spaces decreases in some alternatives due to the construction of the bus layover and turn around facility in the current parking lot. If the bus turnaround is constructed west of the railroad tracks, the impervious area will increase as this area is currently unpaved.

During construction, equipment operation, material storage, and general activities will occur on the Metro owned ROW and within the City streets, primarily on Canoga Avenue and the east west streets of Vanowen, Sherman Way, Valerio, Saticoy, Roscoe, Parthenia, Nordhoff, Plummer, Marilla, Owensmouth and Lassen. The widening of Canoga Avenue will require widening the existing Los Angeles River Bridge and lengthening of the existing Santa Susana Wash Box Culvert. These activities will have short term impacts during the actual construction. Short term construction effects will be mitigated by implementation of the National Pollutant Discharge Elimination System

(NPDES) requirements as administered by the California State Water Resources Control Board (SWRCB).

## Alternative 4. Canoga Busway

Similar to Alternative 3 a decrease in parking area and commercial/industrial development within the ROW would be beneficial to water quality.

The project ROW, including the existing MOL Canoga Station and Chatsworth Metrolink Station covers approximately 87.2 acres. Under existing conditions 37.4 acres of the ROW is impervious (43%) most of which is commercial/industrial development and parking lots. The Busway would result in an increase of approximately 5.7 acres of impervious surfaces resulting in a total of 43.1 acres (49%). The area within the ROW that would be used for parking or commercial/industrial development (land-uses that are subject to SUSMP requirements) would be reduced from 37.4 acres to 11.0 acres. The 11.0 acres would include 6.4 acres for parking lots and 4.6 acres of existing commercial/industrial land-use that would remain due to long-term leases. Approximately 32.1 acres of the post-project impervious area (43.1 acres total) would be roadway, Busway, and multi-use paths which are not land-use categories subject to SUSMP regulations.

The existing MOL Canoga Station park and ride facility would be modified by reducing the number of parking spaces to allow for the construction of the BRT roadway. The parking lot area would decrease from 4.8 acres to approximately 2.2 acres.

The Sherman Way Station would include a new park and ride facility covering approximately 0.4 acres. Near the Sherman Way Station, approximately 4.6 acres of existing commercial/industrial development could remain under leases along the easterly side of the ROW. The Roscoe Boulevard, Parthenia Street and Nordhoff Street stations would not have park-and-ride facilities. Changes to the Chatsworth Metrolink Station are as described in Alternative 3.

Construction impacts are generally as described in Alternative 3. Alternative 4 includes removal and reconstruction of the Los Angeles River Bridge and construction of the Santa Susana Wash Box Culvert. These activities will have short term impacts during the actual construction activities.

### *Mitigation Measures:*

***MM 4.12-1:*** Runoff from parking lots (MOL Canoga Station, Sherman Way Station, and Chatsworth Metrolink Station) shall be treated, as required by Standard Urban Storm Water Mitigation Plan (SUSMP), prior to discharging into existing storm drain systems. Stormceptor® units have been installed as post-construction treatment control Best Management Practices (BMPs) at the existing MOL Canoga Station. These units shall continue to be used for the modified parking area and additional units added at the new Sherman Way Station and existing Chatsworth Metrolink Station. At the Canoga Station, the design must make accommodations for installation of groundwater monitoring wells, if wells are required to address contamination from the Pratt & Whitney site. See Section 4.11 Hazardous Material for additional Mitigation Measures.

***MM 4.12-2:*** Where sufficient area is available, runoff shall be collected in roadside vegetated swales and directed to existing curb and gutter or storm drains in Canoga Avenue. In other areas, runoff shall be collected in gutters and directed to the storm drain systems in Canoga

Avenue. Swale design shall be coordinated with mitigations for potential arsenic and lead in soils described in Section 4.11 Hazardous Materials.

***MM 4.12-3:*** Prepare SUSMP in accordance with the Los Angeles Municipal Storm Water permit to address construction and operational impacts. The SUSMP shall identify post-development peak runoff, conserve natural areas, minimize storm water pollutants, protect slopes and channels, and post-construction BMPs and other items as required by the permit. Air Quality mitigations may also provide mitigation to water resources impacts and are addressed in Section 4.8 by measures 1 through 7 and 9.

***MM 4.12-4:*** Develop Storm Water Pollution Prevention Plan (SWPPP) that complies with National Pollutant Discharge Elimination System (NPDES) requirements from California State Water Resources Control Board (SWQCB). Construction shall be in compliance with this permit.

*Level of Impact After Mitigation*: None or Beneficial.

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**Impact 4.12.2 The project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge; no mitigation is required.**

The project would have no impact or less than significant impact on groundwater and would not substantially deplete groundwater supplies or interfere with groundwater recharge such that there should be a net deficit in aquifer volume or a lowering of the local groundwater table level before mitigation.

Alternative 1. No Project

This alternative would have a less than significant impact on water quality.

Alternative 2. TSM

This alternative would have no impact on groundwater and would not substantially deplete groundwater supplies or interfere with groundwater recharge such that there should be a net deficit in aquifer volume or a lowering of the local groundwater table level before mitigation.

Alternative 3. Canoga On-Street Dedicated Bus Lanes

Although the total impervious surface area within the project ROW would increase, the increased potential for infiltration in the vegetated swales along the Busway and multi-use path would offset reduced infiltration associated with the increase of impervious area. This alternative would have less than significant impact on groundwater and would not substantially deplete groundwater supplies or interfere with groundwater recharge such that there should be a net deficit in aquifer volume or a lowering of the local groundwater table level before mitigation.

Alternative 4. Canoga Busway

This alternative is similar to Alternative 3. Although the total impervious surface area within the project ROW would increase 5.70 acres from 37.4 acres to 43.1 acres, the increased potential for infiltration in the vegetated swales along the Busway and multi-use path would tend to offset reduced infiltration associated with the increase of impervious area.

*Mitigation Measures:*

None Required

*Level of Impact After Mitigation*: None or less than significant.

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**Impact 4.12.3 With mitigation, the project would not 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 substantial erosion or siltation on- or off-site or result in flooding on- or off-site.**

With mitigation the project would not substantially alter the existing drainage pattern of area. It would not alter the course of a stream or river, or substantially increase the surface runoff.

Alternative 1. No Project

This alternative would have a less than significant impact on drainage patterns.

Alternative 2. TSM

This alternative would have no impact on existing drainage patterns of the site or area, including through the alteration of the course of a stream or river, or substantially increasing the rate or amount of surface runoff in a manner which would result in flooding on- or off-site before mitigation.

Alternative 3. Canoga On-Street Dedicated Bus Lanes

Approximately 12.75 acres of the project ROW south of the Los Angeles River would drain to the Los Angeles River through existing storm drains in Canoga Avenue. Imperviousness would decrease in this area with a reduction in 50-year peak discharge and a decrease in 50-year 24-hour runoff volume thus reducing the volume of water draining to the Los Angeles River. North of the Los Angeles River approximately 32.27 acres of the project ROW would drain to the Los Angeles River through existing storm drains in Canoga Avenue. Imperviousness in this area would increase with an increase in 50-year peak discharge and an increase in 50-year 24-hour runoff volume. The total 50-year peak discharge to the river (both north and south) would increase by a small amount and volume decrease slightly. Generally runoff would be collected in roadside swales and directed to existing curb and gutter or storm drains in Canoga Avenue. This would have a less than significant on existing drainage patterns of the site or area, including through the alteration of the course of a stream or

river, or substantially increasing the rate or amount of surface runoff in a manner which would result in flooding on- or off-site before mitigation.

Approximately 18.68 acres of the project ROW would drain to Santa Susana Creek. Under existing conditions this area is only 6-percent impervious. Post project the amount of impervious area would increase. The 50-year peak discharge would increase and the 50-year 24-hour runoff volume would increase. In this area runoff sheet flows into Canoga Avenue and is conveyed by curb and gutter in a southerly direction to inlets at Santa Susana Creek. This would have a less than significant impact on existing drainage patterns of the site or area, including through the alteration of the course of a stream or river, however it would have a significant impact on substantially increasing the rate or amount of surface runoff in a manner which would result in flooding on- or off-site before mitigation.

Alternative 4. Canoga Busway

The impact on the drainage patterns would be similar to Alternative 3. South of the Los Angeles River, imperviousness would decrease from 77% to 62% in this area with a reduction in 50-year peak discharge from 20.9 cfs to 20.6 cfs and a decrease in 50-year 24-hour runoff volume of 0.68 acre-ft. North of the Los Angeles River, imperviousness would increase from 51% to 55% with an increase in 50-year peak discharge from 45.0 cfs to 45.4 cfs and an increase in 50-year 24-hour runoff volume of 0.49 acre-ft. The total 50-year peak discharge to the river (both north and south) would increase about 0.1 cfs and volume decrease about 0.19 acre-ft. Generally runoff would be collected in roadside swales and directed to existing curb and gutter or storm drains in Canoga Avenue. This would have a less than significant on existing drainage patterns of the site or area, including through the alteration of the course of a stream or river, or substantially increasing the rate or amount of surface runoff in a manner which would result in flooding on- or off-site before mitigation.

Drainage impacts in the area of the Santa Susana Creek will be similar to Alternative 3. Post project the amount of impervious area would increase to 38-percent. The 50-year peak discharge would increase from 15.9 cfs to 20.2 cfs and the 50-year 24-hour runoff volume would increase 2.37 acre-ft.

*Mitigation Measures:*

> **MM 4.12-5**: Small detention/infiltration basins shall be provided as-needed within the ROW to reduce peak flow and runoff volumes to pre-project conditions. Locations shall include the park-and-ride lots at Canoga Station, Sherman Way Station, Roscoe Station (Alternative 3 only) and the Chatsworth Metrolink Station.

*Level of Impact After Mitigation*: None or less than significant.

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**Impact 4.12.4. With mitigation the project would not create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.**

With mitigation the project would not exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.

Alternative 1. No Project

This alternative would have no impact on creating or contributing runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff before mitigation.

Alternative 2. TSM

The impact would be the same at Alternative 1. This alternative would have a less than significant impact on runoff and drainage systems.

Alternative 3. Canoga On-Street Dedicated Bus Lanes

South of the Los Angeles River, imperviousness would decrease. North of the Los Angeles River imperviousness in this area would increase. The total peak discharge to the river (both north and south) would increase be essentially unchanged. Generally runoff would be collected in roadside swales and directed to existing curb and gutter or storm drains in Canoga Avenue. This would have a less than significant impact on creation or contribution to runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff before mitigation.

In the area of Santa Susana Creek, the post project the amount of impervious area would increase, the 50-year peak discharge would increase and the 50-year 24-hour runoff volume would increase. However sufficient capacity is available within the existing system to accept this runoff. In this area runoff sheet flows into Canoga Avenue and is conveyed by curb and gutter in a southerly direction to inlets at Santa Susana Creek. This would have a less than significant impact on creation or contribution to runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff before mitigation.

Alternative 4. Canoga Busway

Similar to Alternative 2, however, the increase in impervious area would be slightly more but the capacity of the existing system would not be exceeded.

*Mitigation Measures:*

MM 4.12-1, 4.12-2, 4.12-3 and 4.12-4 also address this impact.

*Level of Impact After Mitigation*: Less than significant.

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**Impact 4.12.5. With mitigation the project would not substantially degrade water quality.**

Alternative 1. No Project

This alternative would have a less than significant impact on water quality because the impervious areas drainage patterns would be unchanged.

Alternative 2. TSM

This alternative would have a less than significant impact on water quality because the impervious areas drainage patterns would be unchanged.

Alternative 3. Canoga On-Street Dedicated Bus Lanes

Impervious area within the project ROW would increase for this alternative due the northbound dedicated lane and 10-ft. wide multi-use path or 10-ft. wide bike path and adjacent 7-ft. wide pedestrian pathway. A decrease in parking area and commercial/industrial development within the right of way would be beneficial to water quality. The MOL Canoga Station would be slightly reduced in size to accommodate the northbound dedicated lane and bike/pedestrian paths. The Roscoe Boulevard, Parthenia Street, and Nordhoff Street stations would not have park-and-ride facilities. The size of the paved area at the existing Chatsworth Metrolink Station is assumed to remain unchanged.

Alternative 4. Canoga Busway

The project would decrease the area within the ROW used for parking lots and industrial/commercial development which would have a beneficial impact on otherwise substantially degrading water quality.

The project ROW, including the existing MOL Canoga Station and Chatsworth Metrolink Station covers approximately 87.2 acres. Under existing conditions 37.4 acres of the ROW is impervious (43%) most of which is commercial/industrial development and parking lots. The Busway would result in an increase of approximately 5.7 acres of impervious surfaces resulting in a total of 43.1 acres (49%). The area within the ROW that would be used for parking or commercial/industrial development (land-uses that are subject to SUSMP requirements) would be reduced from 37.4 acres to 11.0 acres. The 11.0 acres would include 6.4 acres for parking lots and 4.6 acres of existing commercial/industrial land-use that would remain due to long-term leases. Approximately 32.1 acres of the post-project impervious area (43.1 acres total) would be roadway, Busway, and multi-use paths which are not land-use categories subject to SUSMP regulations.

The existing MOL Canoga Station park-and-ride facility would be modified by reducing the number of parking spaces. The parking lot area would decrease from 4.8 acres to approximately 2.2 acres.

The Sherman Way Station would include a new park and ride facility. The Roscoe Boulevard, Parthenia Street and Nordhoff Street stations would not have park-and-ride facilities. The size of the parking facilities at the existing Chatsworth Metrolink Station is assumed to remain unchanged except in the alternative west of the railroad tracks.

*Mitigation Measures:*

MM 4.12-1, 4.12-2, 4.12-3 and 4.12-4 also address this impact.

*Level of Impact After Mitigation*: None or Beneficial.

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**Impact 4.12.6. The project would not 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; no mitigation is required.**

The project would place housing within a 100-year flood hazard area.

*Mitigation Measures:*

None Required

*Level of Impact After Mitigation*: No Impact.

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**Impact 4.12.7. The project would not place structures that would impede or redirect flood flows, nor 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, or inundation from seiche, tsunami or mudflow; no mitigation is required.**

The project would not result in the exposure of 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.

*Mitigation Measures:*

None Required

*Level of Impact After Mitigation*: No impact.

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# 4.13 BIOLOGICAL RESOURCES

## 4.13.1 EXISTING SETTING

The Canoga Transportation Corridor (Corridor) is approximately 4 miles long and will be an extension of the existing Metro Orange Line between the existing Orange Line Canoga Park Station at the southern terminus, and the Chatsworth Metrolink Station in northwestern San Fernando Valley at the northern terminus. The Corridor extends along Canoga Avenue and parallels the Metro railroad ROW.

Prior to performing the field surveys, existing documentation relevant to the proposed project was reviewed. The California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Vascular Plants of California* ,[1], CDFG California Natural Diversity Databank (CNDDB)[2] (i.e., Canoga Park, Santa Susana, Oat Mountain, Van Nuys, Beverly Hills, San Fernando, Calabasas, Malibu Beach, and Topanga USGS 7.5 minute quadrangles), and the *Soil Survey of Los Angeles, California, West San Fernando Valley Area* [3] were reviewed prior to the site visit. These databases contain records of reported occurrences in or within the immediate vicinity of the proposed project site for species with special regulatory status (special-status species), defined as those species that are federal- or state-listed endangered or threatened or proposed endangered or threatened species, federal candidate species, State Species of Special Concern (CSC), and plants on CNPS Lists 1A, 1B, or 2. Recent aerial photographs (Google Earth 2007) were reviewed to assess the project area and surrounding areas for potential habitat for plants and wildlife.

In order to accurately evaluate biological conditions within the Corridor, a Biological Study Area (BSA) was established. The BSA is defined as that area within 500 ft of the centerline of the proposed route along Canoga Avenue. A qualified biologist conducted a reconnaissance-level survey on October 28, 2007 to identify the distribution and relative abundance of common and sensitive wildlife resources within the Corridor. This field effort included hand mapping for any natural vegetation communities, and developing detailed field notes that (1) identify the extent and character of potentially jurisdictional drainage features, include a 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 project site by relevant species. Focused plant and wildlife surveys were not performed during the site visit.

The BSA consists of urban development that includes roadway, ornamental landscaping, sidewalks, driveways and parking areas, loading docks, retail businesses, equipment and supply storage (e.g., for landscaping and building materials firms), residential development, and the Union-Pacific Railroad (UPRR) line. Elevation ranges from roughly 800 ft above sea level at the south to about 980

[1] California Native Plant Society. 2007. Inventory of Rare and Endangered Plants (online edition, v7-06a). Sacramento, CA: California Native Plant Society. Available: <http://www.cnps.org/inventory>. Accessed: October 22, 2007.
[2] California Department of Fish and Game. 2007. California Natural Diversity Database. Sacramento, CA: California Department of Fish and Game, Wildlife and Habitat Data Analysis Branch. Element report for the Canoga Park, California, and immediately surrounding USGS 7.5-minute quadrangle maps. Data date: August 4, 2007.
[3] Natural Resources Conservation Service. 2007. Web Soil Survey. Accessed: <http://websoilsurvey.nrcs.usda.gov/app/>. Data date: 1980.

ft at the north end, sloping gently and evenly throughout. Ornamental vegetation was present along much of Canoga Avenue, especially along southern portions of the BSA and in residential areas. Located at the northern Corridor terminus is the Chatsworth Metrolink train station and an open, disturbed dirt lot. The dirt lot is graded, heavily disturbed, and nearly devoid of vegetation with the exception of a few ruderal (disturbance-adapted), nonnative species. The Warner Center Transit Hub is the southern Corridor terminus, the UPRR line runs to the east of the Corridor and to the west is urban development. No undeveloped or natural open space parks are present anywhere within the BSA, and only one small park (Parthenia Park, supporting lawns and nonnative, ornamental plants) of any type is present.

Two drainage features transect the BSA. These are Santa Susana Wash and the Los Angeles River. A third drainage feature, Browns Canyon Wash, extends within the BSA but does not transect it. All are concrete-bottomed with minimal cover (well under 5 percent) of vegetation or algae. As such, they do not meet the regulatory criteria for wetlands under Section 404 of the federal Clean Water Act.

The BSA is located east of the confluence of Calabasas Arroyo and Bell Creek at the headwaters of the Los Angeles River. Where it transects Canoga Avenue, the Los Angeles River is a flat-bottomed trapezoidal concrete-lined channel approximately 143 ft wide, bank to bank. Modest surface flows were present during the reconnaissance site assessment and vegetation cover within the river is well below 5 percent. Water within the river is runoff from adjacent developed areas within and upstream of the BSA. The Los Angeles River serves as a major drainage feature in this part of the county.

Santa Susana Wash transects the BSA near Parthenia Street. Santa Susana Wash is a concrete, flat bottom, open box culvert. The wash is approximately 28 ft wide and modest surface flows were present during the reconnaissance-level site assessment. Vegetation cover within the wash is well below 5 percent. Water within the wash is intermittent as the drainage serves as runoff from the adjacent developed areas within and upstream of the BSA.

Browns Canyon Wash is a concrete, flat-bottom open box culvert, similar to the Santa Susana Wash in form and relative lack of biological resources. Vegetation cover is well below 5 percent. It extends within the BSA along the northern portion of the Corridor but does not transect it and the project will not result in any direct impacts to the wash.

Soils within the BSA are compacted throughout except in landscaped areas and nearly devoid of vegetation along the UPRR. Several soil types are mapped within the BSA. Soils phases within the BSA include Anacapa-Urban land complex (0 to 2 percent slopes), Anacapa-Urban land complex, (2 to 9 percent slopes), Gaviota sandy loam (9 to 30 percent slopes), Cropley-Urban land complex (0 to 2 percent slopes), Mocho-Urban land complex (0 to 2 percent slopes), San Emigdio-Urban land complex (0 to 2 percent slopes), and Rock outcrop-Gaviota complex (30 to 75 percent slopes).

## Vegetation

### *Vegetation Communities*

No natural vegetation communities are present. Vegetation in the proposed project area consists of heavily disturbed areas and ornamental landscaping.

### Ornamental Landscaping

Ornamental landscaping and areas of escaped ornamental plantings consist of introduced trees, shrubs, and turf grasses in horticultural plantings along the proposed project alignment. Ornamental species observed to be common within the BSA include turf grasses, Baby Sun-rose (*Aptenia cordifolia*), Rosemary (*Rosmarinus officinalis*), Peruvian Pepper-tree (*Schinus molle*), Tree-of-heaven (*Ailanthus altissima*), Chilean Pepper-tree (*Schinus polygamus*), and "Modesto" Velvet Ash (*Fraxinus velutina* [cultivar Modesto]). Several species native to California were clearly planted within ornamental landscaping, most notably at existing bus terminals near either end of the BSA and included Western Sycamore (*Platanus racemosa*), Engelmann's Oak (*Quercus engelmannii*), Coast Live Oak (*Quercus agrifolia*), Toyon (*Heteromeles arbutifolia*), California Bush Sunflower (*Encelia californica*), and Deergrass (*Muhlenbergia rigens*). Native plants that appeared to be naturalized or remnant in the BSA were a single Blue Elderberry (*Sambucus mexicana*) and small amounts of weedy native annuals or short-lived perennials scattered in ornamental areas or at the edges of a few disturbed areas. These latter species included Telegraph Weed (*Heterotheca grandiflora*) and Common Horseweed (*Conyza canadensis*).

### Disturbed

Disturbed areas include areas paved or beneath buildings, as well as dirt-surfaced areas (e.g., abandoned parkways, railroad ROW) that have been or are subject to intensive disturbance precluding any natural community. Plant species occurring in disturbed areas are typically opportunistic, invasive species adapted to rapid colonization of soils that have been recently exposed or are compacted, amended, or otherwise greatly altered. Open areas in the BSA exhibit fairly high to very high degrees of past disturbance. The most extensive such areas in the BSA are unplanted areas at and along the existing railroad tracks; these are largely bare dirt and gravel at this time. Plant species found in disturbed areas of the BSA include a moderate variety of ruderal (disturbance-adapted) species such as Russian-thistle (Salsola tragus), Puncture Vine (*Tribulus terrestris*), Prickly Lettuce (*Lactuca serriola*), Cheeseweed (*Malva parviflora*), Telegraph Weed (*Heterotheca grandiflora*), Common Horseweed (*Conyza canadensis*), Common Sow Thistle (*Sonchus oleraceus*), Crabgrass (*Digitaria sanguinalis*), White Amaranth (*Amaranthus albus*), Jimsonweed (*Datura wrightii*), Bermuda Grass (*Cynodon dactylon*),and Water Barnyard Grass (*Echinochloa crus-galli*).

### *Special-Status Plant Species*

The CNDDB and CNPS literature review resulted in a list of 32 special-status plant species, 11 of which have federal- or state-listed threatened or endangered status. None of the 32 species have any reasonable potential to occur within the BSA because the proposed project area lacks suitable conditions to support these species. The plant species, their current status, and their potential to occur within the BSA are summarized in **Table 4.13-1**. No special-status plant species were observed during the reconnaissance surveys.

**Table 4.13-1. Listed Special-Status Plant Species**

| Scientific Name | Common Name | Status Designation | Potential for Occurrence | Habitat and Distribution |
|---|---|---|---|---|
| *Astragalus brauntonii* | Braunton's Milk-vetch | ESA: FE<br>CESA: None<br>CNPS: List 1B.1 | None | Closed-cone coniferous forest, chaparral, coastal scrub, valley and foothill grassland, recent burns or disturbed areas, in stiff gravelly clay soils overlaying granite or limestone 13-2,099 ft above msl. |
| *Astragalus pycnostachyus* var. *lanosissimus* | Ventura Marsh Milk-vetch | ESA: FE<br>CESA: SE<br>CNPS: List 1B.1 | None | Coastal strand and beach areas |
| *Berberis nevinii* | Nevin's Barberry | ESA: FE<br>CESA: SE<br>CNPS: List 1B | None | Evergreen shrub occurring in chaparral, cismontane woodland, coastal scrub, and sandy or gravelly riparian scrub at elevations ranging from 950 to 2,700 ft above msl. |
| *Chorizanthe parryi* var. *fernandina* | San Fernando Valley Spineflower | ESA: Candidate<br>CESA: SE<br>CNPS: List 1B.1 | None | Coastal scrub, sandy soils in elevations ranging from 9-3,395 ft above msl. |
| *Cordylanthus maritimus ssp. maritimus* | Salt Marsh Birds's-beak | ESA: FE<br>CESA: SE<br>CNPS: List 1B.2 | None | Coastal salt marshes and dunes |
| *Dithyrea maritima* | Beach Spectaclepod | ESA: None<br>CESA: ST<br>CNPS: List 1B.1 | None | Coastal dunes, sandy coastal scrub |
| *Dodecahema leptoceras* | Slender-horned spineflower | ESA: FE<br>CESA: SE<br>CNPS: List 1B.1 | None | Silty areas of low disturbance within alluvial scrub communities |
| *Dudleya cymosa marcescens* | Marcescent Dudleya | ESA: FT<br>CESA: Rare<br>CNPS: List 1B.2 | None | On sheer rock surfaces and rocky volcanic cliffs, 590-1700 ft elevation |
| *Dudleya cymosa oviatifolia* | Santa Monica Mountains Dudleya | ESA: FT<br>CESA: None<br>CNPS: List 1B.2 | None | In canyons on sedimentary conglomerates, primarily North-facing slopes, 690-1640 ft elevation |
| *Orcuttia californica* | California Orcutt Grass | ESA: FE<br>CESA: SE<br>CNPS: List 1B.1 | None | Deeper portions of vernal pools |

**Table 4.13-1. Listed Special-Status Plant Species**

| Scientific Name | Common Name | Status Designation | Potential for Occurrence | Habitat and Distribution |
|---|---|---|---|---|
| *Pentachaeta lyonii* | Lyon's Pentachaeta | ESA: FE<br>CESA: SE<br>CNPS: List 1B.1 | None | Edges of clearings in chaparral, valley and foothill grassland |
| *Astragalus tener* var. *titi* | Coastal Dunes Milk-vetch | ESA: None<br>CESA: None<br>CNPS: List 1B.1 | None | Moist, sandy depressions in coastal bluff scrub, coastal dunes |
| *Atriplex parishii* | Parish's Brittlescale | ESA: None<br>CESA: None<br>CNPS: List 1B.1 | None | Drying alkali flats with fine soils, below 460 ft elevation |
| *Baccharis malibuensis* | Malibu Baccharis | ESA: None<br>CESA: None<br>CNPS: List 1B.1 | None | Conejo volcanic substrates within coastal scrub, chaparral, and cismontane woodland |
| *California macrophylla* | Round-leaved Filaree | ESA: None<br>CESA: None<br>CNPS: List 1B.1 | None | Clay soils in cismontane woodland, valley and foothill grassland |
| *Calochortus clavatus var. gracilis* | Slender Mariposa Lily | ESA: None<br>CESA: None<br>CNPS: List 1B.2 | None | Shaded foothill canyons, often on grassy slopes within coastal scrub or chaparral |
| *Calochortus plummerae* | Plummer's mariposa lily | ESA: None<br>CESA: None<br>CNPS: List 1B.2 | None | Bulbiferous herb occurring on rocky and sandy sites, usually alluvial or granitic material, in coastal scrub, chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grasslands at elevations ranging from 325 to 5,500 ft msl |
| *Camissonia lewisii* | Lewis' Evening-primrose | ESA: None<br>CESA: None<br>CNPS: List 3 | None | Sandy or clay soil within a variety of natural vegetation communities |
| *Deinandra minthornii* | Santa Susana Tarplant | ESA: None<br>CESA: SR<br>CNPS: List 1B.2 | None | Sandstone outcrops and crevices, in natural shrublands |
| *Centromadia parryi ssp. australis* | Southern Tarplant | ESA: None<br>CESA: None<br>CNPS: List 1B.1 | None | Variably disturbed sites near the coast at marsh edges, also in alkaline soils sometimes with saltgrass |

**Table 4.13-1. Listed Special-Status Plant Species**

| Scientific Name | Common Name | Status Designation | Potential for Occurrence | Habitat and Distribution |
|---|---|---|---|---|
| *Dudleya blochmaniae blochmaniae* | Blockman's Dudleya | ESA: None<br>CESA: None<br>CNPS: List 1B.1 | None | Open, rocky slopes, often in shallow clays over serpentine or rocky areas with little soil, in natural scrub and grasslands |
| *Dudleya cymosa ssp. agourensis* | Agoura Hills Dudleya | ESA: None<br>CESA: None<br>CNPS: List 1B.2 | None | Rocky, volcanic breccia in chaparral and cismontane woodland |
| *Dudleya multicaulis* | Many-stemmed Dudleya | ESA: None<br>CESA: None<br>CNPS: List 1B.2 | None | Heavy soils, natural grassy slopes in scrub or native grasslands |
| *Horkelia cuneata* ssp. *puberula* | Mesa Horkelia | ESA: None<br>CESA: None<br>CNPS: List 1B.1 | None | Perennial herb occurring in coastal scrub, chaparral and cismontane woodland on sandy or gravelly soils at elevations ranging from 230 to 2,660 ft msl. |
| *Malacothamnus davidsonii* | Davidson's Bush Mallow | ESA: None<br>CESA: None<br>CNPS: List 1B.2 | None | Deciduous shrub occurring in coastal scrub, cismontane woodland, riparian woodland, and chaparral, often-in sandy washes at elevations ranging from 610 to 2,805 meters |
| *Nama stenocarpum* | Mud Nama | ESA: None<br>CESA: None<br>CNPS: List 2.2 | None | Drying lake or river margins with fine soils |
| *Nolina cismontana* | Chaparral Nolina | ESA: None<br>CESA: None<br>CNPS: List 1B.2 | None | Primarily on sandstone and shale substrates, also known from gabbro; in natural shrub communities |
| *Pseudognaphalium leucocephalum* | White Rabbit-tobacco | ESA: None<br>CESA: None<br>CNPS: List 2.2 | None | Sandy riverbeds in natural areas |
| *Sidalcea neomexicana* | Salt Spring Checkerbloom | ESA: None<br>CESA: None<br>CNPS: List 2.2 | None | Perennial herb occurring in coastal scrub, chaparral, lower montane coniferous forest, brackish marshes, mohavean desert scrub, and playas on alkaline, mesic soils at elevations ranging from 0 to 5,020 ft msl. |

**Table 4.13-1. Listed Special-Status Plant Species**

| Scientific Name | Common Name | Status Designation | Potential for Occurrence | Habitat and Distribution |
|---|---|---|---|---|
| *Symphyotrichum greatae* | Greata's Aster | ESA: None<br>CESA: None<br>CNPS: List 1B.3 | None | Mesic canyons in chaparral, cismontane woodland |

**Federal (Fed)**
**Endangered Species Act (ESA) Listing Codes:**
FE Federally-listed as Endangered
FT Federally-listed as Threatened
FPE Federally-proposed for listing as Endangered
FPT Federally-proposed for listing as Threatened
FPD Federally-proposed for delisting
FC Federal candidate species (former Category 1 candidates)
(FSC) Federal Species of Concern (Not an active term, and is provided for informational purposes only)
**State (CA)**
**California Endangered Species Act (CESA) Listing Codes:**
SE State-listed as Endangered
ST State-listed as Threatened
SR State-listed as Rare (Listed "Rare" animals have been re-designated as Threatened, but Rare plants have retained the Rare designation.)
SCE State candidate for listing as Endangered
SCT State candidate for listing as Threatened

**California Native Plant Society (CNPS) Listing Code:**

| | |
|---|---|
| List 1A: | Plants presumed extinct in California. |
| List 1B: | Plants rare and endangered in California and throughout their range. |
| List 2: | Plants rare, threatened or endangered in California but more common elsewhere in their range. |
| List 3: | Plants about which we need more information; a review list. |
| List 4: | Plants of limited distribution; a watch list. |

Source: Jones & Stokes, 2007.

## Wildlife

### *Amphibians*

Amphibians were not observed within the proposed project area. Amphibians require moisture and a soil substrate for at least a portion of their life cycle and many require standing or flowing water for reproduction. The drainages within the BSA consist of concrete-bottomed channels with minimal soils or vegetation. Other than a low but reasonable potential for small numbers of one or two common, disturbance-tolerant species, habitat conditions within the BSA are not conducive to support amphibians.

### *Reptiles*

Reptiles were not observed within the proposed project alignment. Very limited suitable habitat exists for reptiles within the project alignment. Common reptile species that may occur within the proposed project alignment include Western Fence Lizard (*Sceloporus occidentalis*) and Side-blotched Lizard (*Uta stansburiana*).

### *Birds*

The most diverse group of animals observed during the surveys is birds. Nine species of birds were observed during the reconnaissance site visit performed of the proposed project alignment. Birds observed included House Sparrow (*Passer domesticus*), House Finch (*Carpodacus mexicanus*), Rock Pigeon (*Columba livia*), Mourning Dove (*Zenaida macroura*), Black Phoebe (*Sayornis nigricans*), Western Bluebird (*Sialia mexicana*), Yellow-rumped Warbler (*Dendroica coronata*), Northern Mockingbird (*Mimus polyglottos*), and European Starling (*Sturnus vulgaris*). All of these are common, widespread species strongly adapted to intensive-use, human-altered landscapes. Raptors (birds of prey) are not expected to occur within the BSA apart from rare and brief visits by a few common species, due to the lack of undeveloped open space and prey base. Native birds, including their nests and eggs, are specifically protected under the Migratory Bird Protection Act (16 USC 703-712).[4] Mature trees throughout the proposed project alignment have potential to provide foraging and nesting habitat for songbirds. In addition, there is a low but reasonable potential for a few species of native birds (primarily Killdeer, *Charadrius vociferus*) to nest elsewhere within the BSA, such as on the ground or on structures. Evidence was sought, but not found, that colonial birds such as swallows may nest in the BSA.

### *Mammals*

Two mammal species were observed or detected during the surveys. These included Botta's Pocket Gopher (*Thomomys bottae*) and Domestic Dog (*Canis familiaris*). Other common species of mammals that have moderate to low potential to occur in very small numbers within the BSA include Coyote (*Canis latrans*), Striped Skunk (*Mephitis mephitis*), California Ground Squirrel (*Spermophilus beecheyi*), Virginia Opossum (*Didelphis virginiana*) and Domestic Cat (*Felis catus*).

### *Special-Status Wildlife Species*

The potential for the presence of listed or other special-status wildlife species within the proposed project were determined from a literature review of the CNDDB and other pertinent biological documentation, professional knowledge of regional resources and wildlife, and current fieldwork at the BSA. Based on this information, a "potential for occurrence" ranking was assigned to each special-status species that could potentially occur within the BSA (see **Table 4.13-2** below). Special-status wildlife species include all federal and state endangered and threatened species and state Species of Special Concern.

After a thorough review of applicable information and study of the BSA, no special-status wildlife species were identified to have any reasonable potential to occur within the proposed project area because the project area lacks suitable habitat conditions to support these species.

[4] There are approximately 600 bird species protected under the Migratory Bird Protection Act. Please refer to the following website for a complete list: Website: Federal Register Online, August 24, 2006 (Volume 71, Number 164)
<http://frwebgate1.access.gpo.gov/cgi-bin/
waisgate.cgi?WAISdocID=466002115404+0+0+0&WAISaction=retrieve>.

**Table 4.13-2. Listed Special-Status Wildlife Species**

| Scientific Name | Common Name | Status | Probability of Occurrence | Habitat |
|---|---|---|---|---|
| **FISHES** | | | | |
| *Catostomus santaanae* | Santa Ana Sucker | ESA: FT<br>CESA: SC | None | Endemic to Los Angeles Basin south coastal streams. Habitat generalists but prefer sand-rubble-boulder bottoms, clear water, & algae. |
| *Gila orcutti* | Arroyo Chub | ESA: None<br>CESA: None<br>CDFG: SC | None | Occurs in slow water stream sections with mud or sand bottoms. Often found in intermittent streams. |
| *Eucuclogobius newberryi* | Tidewater Goby | ESA: FE<br>CESA: None<br>CDFG: SC | None | Estuarine wetlands |
| *Oncorhynchys mykiss irideus* | Southern Steelhead | ESA: FE<br>CESA: None<br>CDFG: SC | None | Natural streams with low disturbance. |
| **AMPHIBIANS** | | | | |
| *Bufo californicus* | Arroyo Toad | ESA: FE<br>CESA: None<br>CDFG: SC | None | Sandy, low gradient open wash habitat with slow moving or pooling water. |
| *Rana aurora draytonii* | California Red-legged Frog | ESA: FT<br>CESA: None<br>CDFG: SC | None | Natural streams with low levels of disturbance and without nonnative predators such as Bullfrog. |
| *Rana muscosa* | Mountain Yellow-legged Frog | ESA: FE<br>CESA: None<br>CDFG: SC | None | Disjunct So. Cal. population persists as remnants in small streams in the San Gabriel, San Bernardino, and San Jacinto mountains; historical elevation range was about 370 to over 2290 m (1200-7500 ft), with remaining populations only toward the upper end of that range; inhabit varied lakes and streams, but avoid the smallest streams; show a tendency toward open stream and lakeshores that slope gently for the first 2 to 3 inches (5 - 8 cm) of depth; apparently rarely found far from water, though data on movements and ability to recolonize sites are lacking. |
| *Scaphiopus hammondii* | Western Spadefoot | ESA: None<br>CESA: None<br>CDFG: SC | None | Range from near Redding, Shasta County, in north central California south into nw Baja California, and entirely west of the Sierra Nevada and deserts; known elevational range is from sea level to about 1363 m (4472 ft); require temporary rain pools with water temperatures between 48° and 86° f. (9° and 30° C) lasting upwards of 3 weeks; disturbance tolerance can be high. |

**Table 4.13-2. Listed Special-Status Wildlife Species**

| Scientific Name | Common Name | Status | Probability of Occurrence | Habitat |
|---|---|---|---|---|
| **REPTILES** | | | | |
| *Clemmys marmorata pallida* | Southwestern Pond Turtle | ESA: None<br>CESA: None<br>CDFG: SC | None | Inhabits permanent or nearly permanent bodies of water in many habitat types including ponds, marshes, rivers, and streams with suitable basking sites. |
| *Lampropeltis zonata (pulchra)* | San Diego California Mountain Kingsnake | ESA: None<br>CESA: None<br>CDFG: SC | None | Elevational range extends from near sea level up to about 5900 ft. In coniferous or mixed coniferous-hardwood forests with considerable to abundant downed logs and/or slash. At lower elevations it is generally associated with various riparian woodlands connective to higher elevation forest. |
| *Phrynosoma coronatum blainvillei* | San Diego Coast Horned Lizard | ESA: None<br>CESA: None<br>CDFG: SC | None | Occurs in coastal sage scrub, open chaparral, riparian woodland, annual grassland habitats that support adequate prey species. |
| *Thamnophis hammondii* | Two-striped Garter Snake | ESA: None<br>CESA: None<br>CDFG: SC | None | Found in or near fresh water, often along streams with rocky beds and riparian growth. Absent from concrete channels. |
| **BIRDS** | | | | |
| *Athene cunicularia* | Burrowing Owl | ESA: None<br>CESA: None<br>CDFG: SC | None | Prefers open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Dependent on small mammal burrows (particularly ground squirrels) for its subterranean nesting. |
| *Agelaius tricolor* | Tricolored Blackbird | ESA: None<br>CESA: None<br>CDFG: SC | None | Intensively gregarious, males and females remaining in large flocks together year round. Elevational range is from near sea level to at least 4400 ft (1341 m). Nests in dense colonies in marshes and occasionally in moist thickets, agricultural fields, or sewage treatment plants. They will readily use restored or created wetlands. Species often commute in flocks for some distance between nesting areas and feeding areas, and the latter can be in varied wetlands, including sewage treatment plants, or in open areas such as agricultural fields and even stock yards or short grasslands. |

| Table 4.13-2. Listed Special-Status Wildlife Species | | | | |
|---|---|---|---|---|
| **Scientific Name** | **Common Name** | **Status** | **Probability of Occurrence** | **Habitat** |
| *Aimophila ruficeps canescens* | Ashy (=Southern California) Rufous-crowned Sparrow | ESA: None<br>CESA: None<br>CDFG: SC | None | Fairly common, widespread and generally fairly conspicuous resident of rocky grassland and patchy shrub habitats, often including areas with disturbance from fire, trash, soil compaction and nonnative vegetation. There is no regular migration, and dispersal is typically limited. Elevation range extends from near sea level to at least 2500 ft, and probably somewhat higher. |
| *Aquila chrysaetos* | Golden Eagle | ESA: EPA?<br>CESA: CFP ?<br>CDFG:SC | None | Occurs widely in Ca., and forages in grassland and open savannah of many types. It tolerates considerable variation in topography and elevation. It is very sensitive to human disturbance |
| *Coccyzus americanus occidentalis* | Western Yellow-billed Cuckoo | ESA: FC<br>CESA: SE<br>CDFG: None | None | Inhabitant of extensive riparian forests; it has declined from a fairly common, local breeder in much of California sixty years ago, to virtual extirpation, with only a handful of tiny populations remaining in all of California today. Losses are tied to obvious loss of nearly all suitable habitat, but other factors may also be involved. Relatively broad, well-shaded riparian forests are utilized, although it tolerates some disturbance. A specialist to some degree on tent caterpillars, with a remarkably fast development of young covering only 18 - 21 days from incubation to fledging. |
| *Polioptila californica californica* | Coastal California Gnatcatcher | ESA: FT<br>CESA: None<br>CDFG: SC | None | Occurs in coastal sage scrub vegetation on mesas, arid hillsides, and in washes and nests almost exclusively in California sagebrush. |
| *Vireo bellii pusillus* | Least Bell's vireo | ESA: FE<br>CESA: SE | None | Occurs in moist thickets and riparian areas that are predominately comprised of willow and mule fat. |
| **MAMMALS** | | | | |
| *Antrozous pallidus* | Pallid Bat | ESA: None<br>CESA: None<br>CDFG: None | None | Throughout So. Cal. from coast to mixed conifer forest; grasslands, shrublands, woodlands, & forest; most common in open, dry habitats w/ rocky areas for roosting; yearlong resident in most of range; Roosts – caves, crevices, mines, hollow trees, buildings. |
| *Euderma maculatum* | Spotted Bat | ESA: None<br>CESA: None<br>CDFG: SC | None | Habitats occupied range from arid deserts and grasslands through mixed conifer forests. It apparently occurs from sea level to 10,600 ft (3230 meters) elevation. |

**Table 4.13-2. Listed Special-Status Wildlife Species**

| Scientific Name | Common Name | Status | Probability of Occurrence | Habitat |
|---|---|---|---|---|
| *Eumops perotis californicus* | Western Mastiff Bat | ESA: None<br>CESA: None<br>CDFG: SC | None | For roosting, appear to favor rocky, rugged areas in lowlands where abundant suitable crevices are available for day roosts. There appears to be little use of night roosts. Roost sites may be in natural rock or in tall buildings away from or at the edge of urban areas, large trees or elsewhere, but must be at least 2 inches (5 centimeters) wide and 12 inches (30 centimeters) deep, and narrow to at most 1 inch (2.5 cm) at their upper end. |
| *Macrotus californicus* | California Leaf-nosed Bat | ESA: None<br>CESA: None<br>CDFG: SC | None | Roosts are in deep tunnels or caves, occasionally in buildings or bridges. It was formerly found throughout southern California, but is apparently now restricted to the deserts. Historical habitats utilized in coastal areas appear to be poorly known. The species is sensitive to disturbance at roosts, and the extensive human development of coastal Southern California may be the cause of extirpation. |
| *Microtus californicus stephensi* | South Coast Marsh Vole | ESA: None<br>CESA: None<br>CDFG: SC | None | Tidal marshes in Los Angeles, Orange, and southern Ventura counties. |
| *Neotoma lepida intermedia* | San Diego desert woodrat | ESA: None<br>CESA: None<br>CDFG: SC | None | Occurs in moderate to dense canopies, especially in rock outcrops, rocky cliffs, and slopes. Occurs in Southern California from San Diego County to San Luis Obispo County. |

**Federal (Fed)**
**Endangered Species Act (ESA) Listing Codes:**
FE Federally-listed as Endangered
FT Federally-listed as Threatened
FPE Federally-proposed for listing as Endangered
FPT Federally-proposed for listing as Threatened
FPD FC Federally-proposed for delisting
Federal candidate species (former Category 1 candidates)
(FSC) Federal Species of Concern (Not an active term, and is provided for informational purposes only)
**State (CA)**
**California Endangered Species Act (CESA) Listing Codes:**
SE State-listed as Endangered
ST State-listed as Threatened
SCE State candidate for listing as Endangered
SCT State candidate for listing as Threatened

Source: Jones & Stokes, 2007.

## 4.13.2 REGULATORY SETTING

Federal, state, and local regulations related to biological resources that would apply to the proposed project are discussed below.

### Federal Environmental Regulations

#### *Federal Endangered Species Act*

The Federal Endangered Species Act (FESA) was enacted in 1973 to provide protection to threatened and endangered species and their associated ecosystems. "Take" of a listed species is prohibited except when authorization has been granted through a permit under Section 4(d), 7 or 10(a) of the FESA. "Take" is defined as to harass, harm, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any of these activities without a permit.

#### *Migratory Bird Treaty Act*

The Migratory Bird Treaty Act (MBTA) was enacted in 1918. Its purpose is to prohibit the killing or transport of native migratory birds, or any part, nest, or egg of any such bird unless allowed by another regulation adopted in accordance with the MBTA. There is a list of species that are protected by this act, which includes nearly all native species.

#### *Bald and Golden Eagle Protection Act*

The Bald and Golden Eagle Protection Act was first enacted in 1940 to prohibit the take, transport, or sale of bald eagles (Haliaeetus leucocephalus), their eggs, or any part of an eagle except when permitted by Secretary of Interior. In 1962, the act was amended to afford the same level of protection to the golden eagle.

#### *Clean Water Act*

In 1948, Congress first passed the Federal Water Pollution Control Act. This act was amended in 1972 and became known as the Clean Water Act. The Clean Water Act regulates the discharge of pollutants into the waters of the United States. Under Section 404, permits need to be obtained from the U.S. Army Corps of Engineers (USACE) for discharge of dredge or fill material into waters of the U.S. Under Section 401 of the act, Water Quality Certification from the Regional Water Quality Control Board (RWQCB) needs to be obtained if there are to be any impacts to waters of the U.S.

### State Environmental Regulations

#### *California Environmental Quality Act*

CEQA requires that biological resources be considered when assessing the environmental impacts resulting from proposed actions. CEQA does not specifically define what constitutes an "adverse effect" on a biological resource. Instead, lead agencies are charged with determining what specifically should be considered an impact.

### *California Fish and Game Code*

The California Fish and Game Code contains several sections affording protection to native birds from "take" (principally Section 3800, but see also Sections 3503, 3503.5, 3505, and 3801.6). These protections are similar to those under the federal Migratory Bird Treaty Act, but cover all, "naturally occurring" birds.

### *California Endangered Species Act*

The California Endangered Species Act (CESA) prohibits the "take" of any species that the California Fish and Game Commission determines to be a threatened or endangered species and is administered by the California Department of Fish and Game (CDFG). Incidental take of these listed species can be approved by the CDFG. "Take" is defined as to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.

### *Lake and Streambed Alteration Program*

The Lake and Streambed Alteration Program is administered by the CDFG and is found in Section 1600 et seq. of the California Fish and Game Code. The CDFG is to be notified if the project will affect lake or streambed resources.

### *Porter-Cologne Water Quality Control Act*

The Porter-Cologne Water Quality Control Act is the California equivalent of the Federal Clean Water Act. It provides for statewide coordination of water quality regulations through the establishment of the California State Water Resources Control Board and nine separate Regional Water Quality Control Boards that oversee water quality on a day-to-day basis at the regional/local level.

### *Natural Community Conservation Planning Act of 1991*

The Natural Community Conservation Planning (NCCP) Act is designed to conserve natural communities at the ecosystem scale while accommodating compatible land use. The CDFG is the principal state agency implementing the NCCP Program. NCCP plans developed in accordance with the act provide for comprehensive management and conservation of multiple wildlife species and identify and provide for the regional or area-wide protection and perpetuation of natural wildlife diversity while allowing compatible and appropriate development and growth.

## Local Environmental Regulations

### *Tree Removal*

According to the City of Los Angeles policies (City of Los Angeles 1972), all removed trees must be replaced, whether native or not, as follows:

- Mark and replace all native trees greater than 2.5 centimeters (1 inch) in diameter at breast height (dbh; 4.5-ft above surrounding grade) with the same species at 2:1 ratio. Source

materials should be of the same subspecies and/or variety locally present, and also from seeds or cuttings gathered within coastal southern California to ensure local provenance.

- Mark and replace all nonnative trees greater than 2.5 centimeters (1 inch) in diameter at breast height (dbh; 4.5 ft above surrounding grade) with native trees of appropriate local climate tolerance at a 2:1 ratio. Source materials should be from seeds or cuttings gathered within coastal southern California to ensure local provenance.
- All removed trees greater than 20 ft in height or 20 centimeters (8 inches) in diameter at breast height (dbh; 4.5 ft above surrounding grade) should be replaced with the same species (except as described below) on a two-for-one basis.

In addition to the above policy, the City of Los Angeles Municipal Code (Section 1. Subdivision 12 of Subsection A of Section 12.21; Ordinance 177404) provides for the protection of native trees of four types: (1) oaks other than Scrub Oak (*Quercus dumosa*), (2) Southern California Black Walnut (Juglans californica var. californica), (3) Western Sycamore (*Platanus racemosa*), and (4) California Bay (*Umbellularia californica*). To qualify for protection, individual plants must also measure four inches or more in cumulative diameter, 4.5 ft above the ground level at the base of the tree.

To avoid potentially significant effects to natural resources in off-site areas, such as downstream portions of the Los Angeles River, replacement trees must not be from among the following list of trees or large shrubs considered to be nonnative, invasive species by the California Invasive Plant Council:[5]

*Schinus molle*, Peruvian pepper-tree or California pepper-tree

*Schinus terebinthifolius*, Brazilian pepper-tree

*Elaeagnus angustifolia* (or *E. angustifolius*), oleaster (or Russian-olive)

*Acacia melanoxylon*, blackwood acacia

*Robinia pseudoacacia*, black locust

*Ficus carica*, edible fig (or common fig)

*Myoporum laetum*, lollypop tree (or Ngaio tree)

*Eucalyptus camaldulensis*, river red gum (or red gum)

*Eucalyptus globulus*, Tasmanian blue gum (or blue gum)

*Olea europaea*, European olive (or commercial olive)

*Ailanthus altissima*, tree-of-heaven

*Tamarix* species, tamarisk or salt-cedar (all species)

[5] California Invasive Plant Council. 2006. California Invasive Plant Inventory. Berkeley, CA: California Invasive Plant Council. February. Available: <www.cal-ipc.org>.

## 4.13.3 IMPACTS AND MITIGATION MEASURES

### Significance Criteria

The project would have a significant adverse environmental impact on biological resources if it would:

- Have an adverse effect, either directly or through habitat modifications, on any species listed as endangered, threatened, or proposed or critical habitat for these species.
- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFG or USFWS.
- Have a substantial adverse effect on any riparian habitat or other special-status or depleted natural community identified in local or regional plans, policies, regulations or by the CDFG or USFWS.
- Have a substantial adverse effect on protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, 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 ordinances.
- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan, or other approved local, regional, or state HCP.

### Methodology

#### *General*

Prior to performing the field evaluation, existing documentation relevant to the proposed project was reviewed. A list of species and natural communities of focused interest for review in the project context was developed. Resources included previous environmental documents and current data from of the California Department of Fish and Game's (CDFG) California Natural Diversity Database[6] and the California Native Plant Society's Online Inventory of Rare and Endangered Vascular Plants of California.[7]. These were reviewed for the quadrangles containing and surrounding the proposed project (i.e., Canoga Park, California and surrounding USGS 7.5 minute quadrangles). The databases contain records of reported occurrences of special-status species and depleted natural communities identified within the given geographic area. Special-status species

[6] California Department of Fish and Game. 2007. California Natural Diversity Database. Sacramento, CA: California Department of Fish and Game, Wildlife and Habitat Data Analysis Branch. Element report for the Canoga Park, California, and immediately surrounding USGS 7.5-minute quadrangle maps. Data date: August 4, 2007.

[7] California Native Plant Society. 2007. Inventory of Rare and Endangered Plants (online edition, v7-06a). Sacramento, CA: California Native Plant Society. Available: <http://www.cnps.org/inventory>. Accessed: October 22, 2007.

include federally- or state-listed listed endangered or threatened or proposed endangered or threatened species, California Species of Special Concern (CSC), and those on CNPS Lists 1A, 1B, and 2. In addition, data and expertise internal to the Iteris Team were used to add other special-status species with potential to occur in the area of the project even where no specific records are currently in the published databases.

Prior to visiting the site, soils mapping[8] and recent aerial photographs of the entire study area were reviewed analyzed to identify areas of special focus during the field evaluation. On October 28, 2007, a qualified biologist conducted a thorough biological reconnaissance-level survey to identify the distribution and relative abundance of general and special-status wildlife resources within the proposed project. A habitat assessment was also performed to determine the relative quality or potential of the habitat types to support special-status plant and wildlife species.

The field evaluation was conducted by walking within and adjacent to the proposed project area, recording plant and wildlife observations in standardized field notes. Plant communities within the proposed project were qualitatively described and dominant or common species identified. Biological resources within the proposed project area were inventoried and the potential for the presence of special-status plant and wildlife species and special-status habitats was assessed. A list of plant and wildlife species observed was documented in field notes. Appendix A includes the list of wildlife species observed. When allowed and pertinent, representative digital photos were taken of the areas evaluated.

### *Vegetation*

During the field evaluation, all habitat types were visited to identify dominant or common species and to classify any natural community types according to Holland[9]. All native or naturalized plant species and representative, common ornamental species observed were recorded in field notes.

### *Wildlife*

A thorough, reconnaissance-level field evaluation was conducted on October 28, 2007, within and adjacent to the proposed project area to characterize the distribution and relative abundance of wildlife species, wildlife resources, and wildlife habitat within the proposed project. Habitat types within the proposed project were investigated, concentrating on special-status habitat areas (e.g., depleted natural communities) within the proposed project and its immediate vicinity. Wildlife and wildlife sign, including tracks, fecal material, carcasses, nests, excavations, and vocalizations, were noted and recorded in standardized field notes.

[8] Natural Resources Conservation Service. 2007. Web soil survey. Accessed: <http://websoilsurvey.nrcs.usda.gov/app/>. Data date: 1980.
[9] Holland, R. F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California.* Nongame-Heritage Program. Sacramento, CA: California Department of Fish and Game.

### *Likelihood of Occurrence*

For each of the special-status species identified through the CNDDB or CNPS databases or other sources as known or potentially occurring within the vicinity of the proposed project site, conditions were assessed for the special-status species' potential to occur within the proposed project area. The criteria and categories below were utilized to rank each special-status species' likelihood of occurrence: The results of this assessment are summarized in Tables 4.13-1 and 4.13-2.

**None**: The species was not detected and is considered absent based on (1) current, focused surveys conducted by qualified personnel at an appropriate time for identification of the species or (2) species is restricted to habitats that do not occur within or immediately adjacent to the proposed project.

**Low**: The species was not detected, no records exist of the species occurring within the proposed project or its immediate vicinity, and/or habitats needed to support the species are of poor quality or are both isolated and minimal in extent.

**Moderate**: The species was not detected. However, either a historical record exists of the species within the immediate vicinity of the proposed project (approximately 5 miles) or the habitat requirements associated with the species are met within the proposed project.

**High**: The species was not detected. However, both a historical record exists of the species within the proposed project or its immediate vicinity (approximately 5 miles) and the habitat requirements associated with the species are met within the proposed project, or the habitat within the proposed project area appears especially suitable, extensive, or both.

**Present**: Species was detected within the proposed project during the current fieldwork by a qualified biologist.

**Impact 4.13.1. Construction activities would not result in temporary harassment or mortality to special-status species and/or temporary loss of occupied habitat for those species. Since special-status species and their occupied habitat are not expected to be present in the immediate project area, no significant impacts would occur; no mitigation is required.**

#### Alternative 1. No Project

The No Project Alternative would not result in any construction within the proposed project area. In addition, there is no reasonable potential for special-status plant or animal species or their occupied habitat on or immediately adjacent to the project. As such, no potential impacts to biological resources would occur during construction of the project.

#### Alternative 2. TSM

The TSM Alternative includes changes to existing Metro bus routes and the addition of a new local transit line for Canoga Avenue.

Due to the absence of any reasonable potential for special-status plant or animal species or their occupied habitat, there are no construction elements of this alternative that are likely to have a potentially significant impact on biological resources. Therefore, no significant impacts are anticipated.

Alternative 3. Canoga On-Street Dedicated Bus Lanes

As discussed in Chapter 3.0, Project Description, the Canoga On-Street Dedicated Bus Lanes Alternative would operate as a typical Metro Rapid service on street. The alternative would require designating a southbound, Bus-Only Lane along the western edge of Canoga Avenue as well as the widening of Canoga Avenue into the Metro right-of-way (ROW).

Due to the absence of any reasonable potential for special-status plant or animal species or their occupied habitat, there are no construction elements of this alternative that are likely to have a potentially significant impact on biological resources. Therefore, no significant impacts are anticipated.

Alternative 4. Canoga Busway

This alternative would consist of extending the existing Metro Orange Line north on the abandoned railroad ROW, paralleling Canoga Avenue. Four options are being considered for the northern segment, which would connect to the Chatsworth Metrolink station: (1) a grade-separated busway would be built along the Metrolink rail alignment and possibly Lassen Street going directly into the Chatsworth Metrolink Station; (2) the busway would end at Plummer Street, with buses using Plummer Street, Owensmouth Avenue, Lassen Street, and Old Depot Plaza Road; (3) the busway would end at Marilla Street, with buses using Marilla Street, Owensmouth Avenue, Lassen Street, and Old Depot Plaza Road; or (4) the busway would continue north of Marilla Street, running parallel to the Metrolink tracks, and connect to the Chatsworth Metrolink station after crossing Lassen Street.

Due to the absence of any reasonable potential for special-status plant or animal species or their occupied habitat, there are no construction elements of this alternative that are likely to have a potentially significant impact on biological resources. Therefore, no significant impacts are anticipated.

*Mitigation Measures:*

No mitigation measures are needed, as this impact would not be potentially significant under any of the proposed alternatives.

***Level of Impact After Mitigation:*** Less than significant.

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**Impact 4.13.2. Permanent or ongoing project operations would not result in harassment or mortality to special-status species and/or loss of occupied habitat for those species, should such species or habitats be present. Since special-status species (as defined) and their occupied habitat do not have reasonable potential to be present in the immediate project area, there is no potential for significant impacts to these species. No mitigation is required. See Impact 4.13.5 regarding the Migratory Bird Treaty Act.**

Alternative 1. No Project

The No Project Alternative would not result in any construction within the proposed project area. In addition, there is no reasonable potential for special-status plant or animal species or their occupied

habitat on or immediately adjacent to the project. As such, no potential impacts to biological resources would occur during operation of the project.

Alternative 2. TSM

The TSM Alternative includes changes to existing Metro bus routes and the addition of a new local transit line for Canoga Avenue.

Due to the absence of any reasonable potential for special-status plant or animal species or their occupied habitat, there are no operational elements of this alternative that are likely to have a potentially significant impact on biological resources. Therefore, no significant impacts are anticipated.

Alternative 3. Canoga On-Street Dedicated Bus Lanes

As discussed in Chapter 3.0, Project Description, the Canoga On-Street Dedicated Bus Lanes Alternative would operate as a typical Metro Rapid service on street. The alternative would require designating a southbound, Bus-Only Lane along the western edge of Canoga Avenue as well as the widening of Canoga Avenue into the Metro ROW.

Due to the absence of any reasonable potential for special-status plant or animal species or their occupied habitat, there are no operational elements of this alternative that are likely to have a potentially significant impact on biological resources. Therefore, no significant impacts are anticipated.

Alternative 4. Canoga Busway

This alternative would consist of extending the existing Metro Orange Line north on the abandoned railroad right-of-way, paralleling Canoga Avenue. Four options are being considered for the northern segment, which would connect to the Chatsworth Metrolink station: (1) a grade-separated busway would be built along the Metrolink rail alignment and possibly Lassen Street going directly into the Chatsworth Metrolink Station; (2) the busway would end at Plummer Street, with buses using Plummer Street, Owensmouth Avenue, Lassen Street, and Old Depot Plaza Road; (3) the busway would end at Marilla Street, with buses using Marilla Street, Owensmouth Avenue, Lassen Street, and Old Depot Plaza Road; or (4) the busway would continue north of Marilla Street, running parallel to the Metrolink tracks, and connect to the Chatsworth Metrolink station after crossing Lassen Street.

Due to the absence of any reasonable potential for special-status plant or animal species or their occupied habitat, there are no operational elements of this alternative that are likely to have a potentially significant impact on biological resources.

*Mitigation Measures:*

No mitigation measures are needed, as this impact would not be potentially significant under any of the proposed alternatives.

*Level of Impact After Mitigation:* Less than significant.

**Impact 4.13.3. Project changes to existing conditions, either temporarily or permanently, would not interrupt or remove functional wildlife corridors or habitat linkages, and would not adversely affect large-scale, landscape level functioning of the project area for this purpose. The project would not affect common native species nor special-status species or populations. Because such corridors or linkages are not present in the immediate project area, no significant impacts to these resources are anticipated, and no mitigation measures are necessary.**

## Alternative 1. No Project

The No Project Alternative would not result in any construction within the proposed project area. In addition, the project lies entirely within a developed, urban area and provides no opportunity for accessible movement between two or more, existing open spaces. Finally, there is no reasonable potential for special-status plant or animal species or their occupied habitat on or immediately adjacent to the project. As such, the project would not result in any adverse effects to wildlife corridors or habitat linkages. Therefore, no significant impacts are anticipated.

## Alternative 2. TSM

The TSM Alternative includes changes to existing Metro bus routes and the addition of a new local transit line for Canoga Avenue.

As under the other proposed alternatives, the project lies entirely within a developed, urban area and provides no opportunity for accessible movement between two or more, existing open spaces. In addition, there is no reasonable potential for special-status plant or animal species or their occupied habitat. As such, the project would not result in any adverse effects to wildlife corridors or habitat linkages. Therefore, no significant impacts are anticipated.

## Alternative 3. Canoga On-Street Dedicated Bus Lanes

As discussed in Chapter 3.0, Project Description, the Canoga On-Street Dedicated Bus Lanes Alternative would operate as a typical Metro Rapid service on street. The alternative would require designating a southbound, Bus-Only Lane along the western edge of Canoga Avenue as well as the widening of Canoga Avenue into the Metro ROW.

As under the other proposed alternatives, the project lies entirely within a developed, urban area and provides no opportunity for accessible movement between two or more, existing open spaces. In addition, there is no reasonable potential for special-status plant or animal species or their occupied habitat. As such, the project would not result in any adverse effects to wildlife corridors or habitat linkages. Therefore, no significant impacts are anticipated.

Alternative 4. Canoga Busway

This alternative would consist of extending the existing Metro Orange Line north on the abandoned railroad right-of-way, paralleling Canoga Avenue. Four options are being considered for the northern segment, which would connect to the Chatsworth Metrolink station: (1) a grade-separated busway would be built along the Metrolink rail alignment and possibly Lassen Street going directly into the Chatsworth Metrolink Station; (2) the busway would end at Plummer Street, with buses using Plummer Street, Owensmouth Avenue, Lassen Street, and Old Depot Plaza Road; (3) the busway would end at Marilla Street, with buses using Marilla Street, Owensmouth Avenue, Lassen Street, and Old Depot Plaza Road; or (4) the busway would continue north of Marilla Street, running parallel to the Metrolink tracks, and connect to the Chatsworth Metrolink station after crossing Lassen Street.

As under the other proposed alternatives, the project lies entirely within a developed, urban area and provides no opportunity for accessible movement between two or more, existing open spaces. In addition, there is no reasonable potential for special-status plant or animal species or their occupied habitat. As such, the project would not result in any adverse effects to wildlife corridors or habitat linkages. Therefore, no significant impacts are anticipated.

*Mitigation Measures:*

No mitigation measures are needed, as this impact would not be potentially significant under any of the proposed alternatives.

*Level of Impact After Mitigation:* Less than significant.

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**Impact 4.13.4. The project would not have a substantial adverse effect on protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. Although there are stormwater channels present, including the Los Angeles River, on and adjacent to the project site, they lack a prevalence of wetland vegetation and are not wetlands under current regulations. Because no wetlands exist on or adjacent to the project site, and because the project would not result in fill or substantial alteration of flow elsewhere, no impacts to wetlands would occur, and no mitigation is required.**

Alternative 1. No Project

The No Project Alternative would not result in any construction within the proposed project area. As such, the project would not result in any adverse effects to wetlands. Therefore, no significant impacts are anticipated.

Alternative 2. TSM

The TSM Alternative includes changes to existing Metro bus routes and the addition of a new local transit line for Canoga Avenue. As such, the project would not result in any adverse effects to wetlands. Therefore, no significant impacts are anticipated.

## Alternative 3. Canoga On-Street Dedicated Bus Lanes

As discussed in Chapter 3.0, Project Description, the Canoga On-Street Dedicated Bus Lanes Alternative would operate as a typical Metro Rapid service on street. The alternative would require designating a southbound, Bus-Only Lane along the western edge of Canoga Avenue as well as the widening of Canoga Avenue into the Metro ROW.

This alternative may require minor, temporary discharge of fill into two existing channels through which waters flow under Canoga Avenue, the Los Angeles River and the Santa Susana Wash. Both are confined channels with concrete bed and bank and total plant cover well below 5 percent in the project area. Thus, neither is considered jurisdictional wetlands. Permitting is anticipated to be required under Sections 404 and 401 of the federal Clean Water Act and Section 1602 of the California Fish and Game Code (Lake or Streambed Alteration Program), to address minor and/or temporary fill for bridge widening. Under those programs, both of which will entail applicable terms and conditions supporting a policy of no net loss of functions and values, avoidance and mitigation measures will prevent any measurable loss of waterway functions and values. Because no wetlands are present and anticipated impacts to jurisdictional waters would be both minor in extent and within already highly disturbed sites, assuming compliance with existing laws and regulations, the project would not result in any significant, adverse effects to wetlands or to other water feature functions or values. Therefore, no significant impacts are anticipated.

## Alternative 4. Canoga Busway

This alternative would consist of extending the existing Metro Orange Line north on the abandoned railroad right-of-way, paralleling Canoga Avenue. Four options are being considered for the northern segment, which would connect to the Chatsworth Metrolink station: (1) a grade-separated busway would be built along the Metrolink rail alignment and possibly Lassen Street going directly into the Chatsworth Metrolink Station; (2) the busway would end at Plummer Street, with buses using Plummer Street, Owensmouth Avenue, Lassen Street, and Old Depot Plaza Road; (3) the busway would end at Marilla Street, with buses using Marilla Street, Owensmouth Avenue, Lassen Street, and Old Depot Plaza Road; or (4) the busway would continue north of Marilla Street, running parallel to the Metrolink tracks, and connect to the Chatsworth Metrolink station after crossing Lassen Street.

This alternative may require minor, temporary discharge of fill into two existing channels through which waters flow under Canoga Avenue, the Los Angeles River and the Santa Susana Wash. Both are confined channels with concrete bed and bank and total plant cover well below 5 percent in the project area. Thus, neither is considered jurisdictional wetlands. Permitting is anticipated to be required under Sections 404 and 401 of the federal Clean Water Act and Section 1602 of the California Fish and Game Code (Lake or Streambed Alteration Program), to address minor and/or temporary fill for bridge widening. Under those programs, both of which will entail applicable terms and conditions supporting a policy of no net loss of functions and values, avoidance and mitigation measures will prevent any measurable loss of waterway functions and values. Because no wetlands are present and anticipated impacts to jurisdictional waters would be both minor in extent and within already highly disturbed sites, assuming compliance with existing laws and regulations, the project would not result in any significant, adverse effects to wetlands or to other water feature functions or values. Therefore, no significant impacts are anticipated.

*Mitigation Measures:*

No wetlands are present on or adjacent to the project site. Therefore, no mitigation measures are needed, as this impact would not be potentially significant under any of the proposed alternatives.

*Level of Impact After Mitigation:* Less than significant.

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**Impact 4.13.5. The project would require the removal of a small number of planted trees, a less than significant impact because these trees do not have special regulatory status as rare or sensitive. Removal of trees or other construction activities, however, could affect native birds and their nests and conflict with the Migratory Bird Treaty Act and similar laws in the California Fish and Game Code protecting native bird species, a potentially significant impact that would less than significant with mitigation.**

Alternative 1. No Project

The No Project Alternative would not result in any construction within the proposed project area. As such, the project would not result in any adverse effects through conflict with any federal, state, or local law, regulation, or policy protecting biological resources. No trees would be removed or affected. No trees would be removed or affected. Therefore, no significant impacts are anticipated.

Alternative 2. TSM

The TSM Alternative includes changes to existing Metro bus routes and the addition of a new local transit line for Canoga Avenue. As such, the project would not result in any adverse effects through conflict with a federal, state, or local law, regulation, or policy protecting biological resources. No trees would be removed or affected. No trees would be removed or affected. Therefore, no significant impacts are anticipated.

Alternative 3. Canoga On-Street Dedicated Bus Lanes

As discussed in Chapter 3.0, Project Description, the Canoga On-Street Dedicated Bus Lanes Alternative would operate as a typical Metro Rapid service on street. The alternative would require designating a southbound, Bus-Only Lane along the western edge of Canoga Avenue as well as the widening of Canoga Avenue into the Metro ROW, which could require the removal of some trees along or within the right-of-way.

According to City of Los Angeles policies[10] and ordinances, all removed trees must be replaced, whether native or not. The project will result in the removal of three planted, native trees, all California sycamores (*Platanus racemosa*). In addition, under Metrolink Option A, a total of 10 planted, native trees would be removed (eight California sycamores and two coast live oaks, *Quercus agrifolia*); under Metrolink Option B, six planted, native trees would be removed (two California sycamores and four coast live oaks). No trees would be removed under Metrolink options C or D.

Tree removals under all Metrolink options under Alternative 3 would be less than CEQA significant with regard to impacts on biological resources. This is because the impact would affect a relatively small number of planted trees that are not part of an intact natural community, have no special regulatory status as rare or sensitive, and are unlikely to be utilized by other species that have such status. Thus, mitigation for tree impacts is triggered only through requirements to comply with local laws and ordinances.

There is moderate potential for violation of the federal Migratory Bird Treaty Act and similar laws in the California Fish and Game Code protecting native birds, if any tree removal or other project construction were to occur during the core nesting season for native birds, 01 March through 31 August. Because only small numbers of native birds, all lacking any special regulatory status, would be potentially affected, this impact would be less than significant under CEQA on a biological basis. However, these activities may result in conflicts with state and federal laws protecting native birds and their active nests, a potentially significant impact.

## Alternative 4. Canoga Busway

This alternative would consist of extending the existing Metro Orange Line north on the abandoned railroad ROW, paralleling Canoga Avenue. Four options are being considered for the northern segment, which would connect to the Chatsworth Metrolink station: (1) a grade-separated busway would be built along the Metrolink rail alignment and possibly Lassen Street going directly into the Chatsworth Metrolink Station; (2) the busway would end at Plummer Street, with buses using Plummer Street, Owensmouth Avenue, Lassen Street, and Old Depot Plaza Road; (3) the busway would end at Marilla Street, with buses using Marilla Street, Owensmouth Avenue, Lassen Street, and Old Depot Plaza Road; or (4) the busway would continue north of Marilla Street, running parallel to the Metrolink tracks, and connect to the Chatsworth Metrolink station after crossing Lassen Street. This alternative could require the removal of some trees along or within the right-of-way.

According to City of Los Angeles policies[11] and ordinances, all removed trees must be replaced, whether native or not. The project will result in the removal of 23 planted, native California sycamores and one planted, native coast live oak. In addition, under Metrolink Option A, a total of 10 planted, native trees would be removed (eight California sycamores and two coast live oaks, *Quercus agrifolia*); under Metrolink Option B, six planted, native trees would be removed (two California sycamores and four coast live oaks). No trees would be removed under Metrolink options C or D.

Tree removals under all Metrolink options under Alternative 4 would be less than CEQA significant with regard to impacts on biological resources. This is because the impact would affect a relatively small number of planted trees that are not part of an intact natural community, have no special regulatory status as rare or sensitive, and are unlikely to be utilized by other species that have such

[10] City of Los Angeles. 1972. *Policies for the Installation and Preservation of Landscaping and Trees on Public Property.* City of Los Angeles, Office of City Engineer, Special Order No. S018-0372.
[11] Ibid.

status. Thus, mitigation for tree impacts is triggered only through requirements to comply with local laws and ordinances.

There is moderate potential for violation of the federal Migratory Bird Treaty Act and similar laws in the California Fish and Game Code protecting native birds, if any tree removal or other project construction were to occur during the core nesting season for native birds, 01 March through 31 August. Because only small numbers of native birds, all lacking any special regulatory status, would be potentially affected, this potential effect would be less than significant under CEQA on a biological basis, but may result in conflicts with state and federal laws protecting native birds and their active nests.

### *Mitigation Measures:*

The following mitigation measure shall be implemented to prevent conflict with existing federal, state, and/or local laws, regulations and/or ordinances protecting biological resources that may be encountered during construction of proposed project:

> ***MM 4.13-1:*** Any grading or removal of native or nonnative vegetation for the project shall be conducted outside the core nesting season for native birds in the project area, which is 01 March through 31 August. If such activities cannot be so restricted, a qualified biologist shall conduct a pre-construction survey for nesting birds in relevant areas on and adjacent to the project within 7 days prior to any project activities that could disturb nesting birds. Any active (or potentially active) nests shall be identified with information relevant to the statutes at hand, which proscribe the mortality, injury, or causing nest failure of protected bird species, including location (accurately mapped or recorded using GPS) and this information relayed within 72 hours to relevant project personnel and resource agency personnel. No project activities that may result in mortality or failure of an active nest of native birds shall be conducted within 100 feet of an active (or potentially active) nest of a native bird. The distance of 100 feet is based on anticipated tolerance for project activities for native birds in an existing, urban setting, but may be modified (up to 300 feet or down to 50 feet) on a case-by-case basis, based on professional judgment and written recommendations of the qualified biologist.
>
> ***MM 4.13-2:*** All trees removed must be replaced in accordance with the guidelines described under Local Environmental Regulations in Section 4.13.2, Regulatory Setting.

***Level of Impact After Mitigation:*** Less than significant.

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**Impact 4.13.6. The project would not have a cumulatively considerable effect on wetlands, special-status species, or disrupt functional wildlife corridors in the project area. However, the removal of trees and other construction activities as a result of the proposed project and other cumulative projects in the project area, could result in cumulatively considerable impacts to native birds and their nests and conflict with the Migratory Bird Treaty Act and similar laws in the California Fish and Game Code protecting native bird species. Impacts would be less than significant after mitigation.**

The project area for cumulative biological impacts would depend upon the range and habitat of species adversely affected by the proposed project. The project lies entirely within a developed, urban area. As such, special-status species and their occupied habitat do not have reasonable potential to be present in the immediate project area. In addition, the project's urban setting provides no opportunity for accessible movement between two or more existing open spaces. The proposed project is not located on protected wetlands as defined by Section 404 of the Clean Water Act. As such, no cumulatively considerable impacts to wetlands, special-status species, or wildlife corridors would occur. However, there is moderate potential for violation of the federal Migratory Bird Treaty Act and similar laws in the California Fish and Game Code protecting native birds, if any tree removal or other project construction were to occur during the core nesting season for native birds, 01 March through 31 August. Because only small numbers of native birds, all lacking any special regulatory status, would be potentially affected, this potential effect would be less than significant under CEQA on a biological basis, but may result in conflicts with state and federal laws protecting native birds and their active nests. Thus, construction activities as a result of the proposed project and other cumulatively significant projects in the project area could potentially result in a cumulative significant impact to natives birds, such as the killdeer. Mitigation has been proposed as part of the proposed project that would reduce impacts to a less-than-significant impact.

*Mitigation Measures:*

The proposed project includes mitigation that would reduce potential impacts to a less-than-significant level. Similar measures may also be implemented for other related projects that have the potential to affect biological resources.

*Level of Impact After Mitigation:* The incremental effects of the proposed project and related projects, after mitigation, would not contribute to an adverse or cumulatively considerable impact to biological resources under CEQA.

# 4.14 ENERGY

This section examines the proposed project's energy needs (petroleum and equivalent British Thermal Units (BTU)) and the project's effects on the region's energy resources. Implementation of the proposed project is expected to change the dynamics of all vehicle classes with regard to vehicle miles traveled (VMT). Changes in VMT, in turn, would affect energy consumption.

## 4.14.1 EXISTING SETTING

California's overall energy consumption continues to be dominated by growth in passenger vehicles. California is the third largest consumer of transportation fuels in the world (behind the United States as a whole and China) – more than 16 billion gallons of gasoline and nearly three billion gallons of diesel consumed each year.[1] Demand for gasoline and diesel is normally expected to increase by one to two percent each year as a growing population registers more vehicles and drives more miles.[2] While national demand grew by 1.5 percent in the first half of 2007, consumption in California has dropped. Californians used nearly one percent less gasoline in April 2007 – 10.5 million fewer gallons of gasoline than the previous April.[3] This was the fourth straight quarter in which Californians have used less gasoline than they did during the same period the year before.

## 4.14.2 REGULATORY FRAMEWORK

The California Energy Commission is the state's primary energy policy and planning agency. Created by the Legislature in 1974 and located in Sacramento, the Commission has five major responsibilities: (1) forecasting future energy needs and keeping historical energy data (2) licensing thermal power plants 50 megawatts or larger (3) promoting energy efficiency through appliance and building standards (4) developing energy technologies and supporting renewable energy and (5) planning for and directing state response to energy emergency.

The Commission published the *2007 Integrated Energy Policy Report* (IEPR) in October 2007. The IEPR was prepared in response to Senate Bill (SB) 1389, Chapter 568, Statutes of 2002, which requires that the Commission prepare a biennial integrated energy policy report that contains an integrated assessment of major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety. The IEPR fulfills the requirement of SB 1389.

## 4.14.3 IMPACTS AND MITIGATION MEASURES

A significant energy impact would occur if the proposed project would result in a substantial increase in energy consumption. For purposes of this analysis, "substantial increase" is defined as a five percent increase in energy consumption.

[1] California Energy Commission, *2007 Integrated Energy Policy Report*, October 2007.

[2] *Ibid.*

[3] *Ibid.*

## Methodology

Direct energy consumption involves energy used by the operation of vehicles (automobile, truck, bus, or train) within the Corridor. In assessing the direct energy impact, consideration was given to annual VMT associated with the proposed project and fuel consumption rates by vehicle type.

The direct energy analysis for each alternative was based on Corridor traffic volumes and the total VMT. Daily traffic volumes for the Corridor were provided by the Metro model and annualized based on transit statistics. Energy consumption factors for the various modes identified in **Table 4.14-1** were developed by Oak Ridge National Laboratory and published in the 2007 *Transportation Energy Data Book: Edition 26-2007.*

**TABLE 4.14-1: ENERGY CONSUMPTION FACTORS**

| Mode | Factor (BTU/Vehicle Mile) |
|---|---|
| Passenger Vehicles (automobiles, vans, light trucks) | 5,489 |
| Transit Bus (all vehicle types)/a/ | 38,275 |

/a/ FTA recommends utilizing a transit bus energy consumption factor of 38,275 BTUs/VMT for all bus types (including alternative fueled buses). BTUs per vehicle mile consumption factors have not been developed for alternative fuels such as compressed natural gas (CNG), liquefied natural gas (LNG), and others.
BTU = British thermal unit
**SOURCE**: Oak Ridge National Laboratory, *Transportation Energy Book: Edition 26-2007*, 2007

### Impact 4.14.1. The No Project Alternative would have no energy impact. The TSM, Canoga On-Street Dedicated Bus Lanes, and Canoga Busway Alternatives would result in beneficial energy impacts without mitigation.

#### Alternative 1. No Project

The No Project Alternative would not include any physical changes, and the Metro ROW would not be used for a transit project. This alternative would not result in new operational activity. Therefore, the No Project Alternative would have no energy impact.

#### Alternative 2. TSM

The TSM Alternative would include frequency improvements on existing Metro transit routes, as well as providing a new local transit line for Canoga Avenue. The TSM Alternative would reduce automobile VMT by 7,562 and increase bus VMT by 761 in the transportation system. As shown in **Table 4.14-2**, the TSM Alternative would decrease BTU consumption compared to baseline conditions by 4,518,898,195 BTUs per year. The TSM Alternative would result in less energy consumption than baseline conditions and, as such, would result in a beneficial energy impact.

**TABLE 4.14-2: ESTIMATED ENERGY CONSUMPTION**

| Scenario | Change in Energy Consumption (BTU per Year) |
|---|---|
| Alternative 1 vs. Alternative 2 | (4,518,898,195) |
| Alternative 1 vs. Alternative 3 | (142,499,666,060) |
| Alternative 1 vs. Alternative 4 | (222,580,964,995) |

**SOURCE**: TAHA, 2008

Alternative 3. Canoga On-Street Dedicated Lanes

The Canoga On-Street Dedicated Lanes Alternative would be accommodated by widening Canoga Avenue into the Metro ROW. The Canoga On-Street Dedicated Lanes Alternative would reduce automobile VMT by 91,271 and increase bus VMT by 2,889 in the study area. As shown in **Table 4.13-2**, the Canoga On-Street Dedicated Lanes Alternative would decrease BTU consumption compared to baseline conditions by 142,499,666,060 BTUs per year. The Canoga On-Street Dedicated Lanes Alternative would result in less energy consumption than baseline conditions and, as such, would result in a beneficial energy impact.

Alternative 4. Canoga Busway

The Canoga Busway Alternative would construct a dedicated bus lane in the Metro ROW. The Canoga Busway Alternative would reduce automobile VMT by 131,242 and increase bus VMT by 2,889 in the study area. As shown in **Table 4.14-1**, the Canoga Busway Alternative would decrease BTU consumption compared to baseline conditions by 222,580,964,995 BTUs per year. The Canoga Busway Alternative would result in less energy consumption than baseline conditions and, as such, would result in a beneficial energy impact.

*Mitigation Measures:*

Each of the proposed alternatives would result in no impact or beneficial energy impacts and, as such, no mitigation measures are necessary.

*Level of Impact After Mitigation*: Energy consumption would result in no impact or beneficial impacts under each alternative.

# 4.15 SAFETY & SECURITY

This section describes the study area's safety-related environmental setting, impacts and mitigation measures. Setting information is provided for existing year 2007 conditions. The analysis identifies the potential for the project to impact safety and security in the study area.

The four scenarios discussed in this section include No Project, Transportation System Management (TSM), Canoga On-Street Dedicated Bus Lanes and Canoga Busway. The section will further describe the effects of the No Project, TSM Alternative and each of the two build alternatives on the transportation system within the corridor.

## 4.7.1 EXISTING SETTING

Safety and security, as it pertains to the Canoga Transportation Corridor, is concerned with four general topics:

1) Accident prevention (including accidents involving vehicles, bicycles, and pedestrians; and injuries);
2) Crime prevention (including crimes against patrons and/or employees, theft, and fare evasion);
3) Emergency Response; and
4) Safety and security during the construction period.

Existing procedures and design of facilities are described below to provide a context for the impact discussion of these four topics.

### Existing Procedures

Metro oversees the operation of bus, heavy rail transit and light rail transit services throughout Los Angeles County. As part of its responsibilities, Metro implements its System Safety Program Plan to maintain and improve the safety of commuter operations, reduce accidents and associated costs, and comply with State regulations. These safety measures have been established to ensure worker and passenger safety, prevent crime, allow for adequate emergency response, and include emergency procedures to be followed in the event of a natural disaster. Metro currently provides police surveillance (via contracts with the Los Angeles County Sheriff's Department), non-uniformed police inspectors on transit buses and at major transit nodes, close-circuit television in some locations, and an emergency radio response system.

Metro has also established several bus transit-specific projects and programs to further enhance safety for its passengers, employees, and the community. These include:

- Photo equipment installed on buses to permit live video surveillance and recording.

- Direct communication between buses, drivers, and LADP and L.A. County Sheriff's Department Transit Dispatch/Emergency Response Center.

- The Transit Safety Awareness Program, which communicates safety information to motorists and pedestrians through transit user aids, bus stop information signs, and the Internet.

- Metro's Injury and Illness Prevention Program, which addresses workplace safety procedures, communication with employees on health and safety issues, identification and resolution of unsafe conditions, procedures for investigation of workplace injuries and illnesses, and occupational health and safety training.

- Community Emergency Response Training (CERT) in collaboration with the Los Angeles City Fire Department, in which employees are trained in earthquake awareness, disaster medical procedures, and rescue operations.

*Metro Orange Line (MOL) Safety and Security Measures*

The MOL began operation October 29, 2005. Metro has since implemented a number of initiatives to help ensure the MOL operates with the utmost safety and security. Metro has contracted with the Sheriff's Department to provide security on the alignment and at stations 24-hour a day. Trespassing on the busway is strictly prohibited and offenders are cited up to $500. Sheriff's Department enforcement includes motor, cruiser and horse-mounted patrols.

Additionally, Metro and the Los Angeles Unified School District (LAUSD) have partnered to deliver safety presentations to more than 100 schools within a 1.5-mile radius of the MOL, bringing the agency's "Safety 1st" message to thousands of Valley school students, teachers and parents.

The safety program, which includes an animated video presentation, drives home the importance of obeying all signs, signals and street striping on the Busway.

The LAUSD assisted Metro in identifying and outreaching to the schools. LAUSD has sent Metro safety information to school administrators and encouraged them to participate in the free presentations.

Metro has adapted its nationally recognized Rail Safety Training Program expressly for the MOL. A 20-minute presentation given by Metro safety representatives provides school children with an overview of the busway and station intersections. Presenters show actual busway photos and renderings, pointing out specific safety factors relating to each station. Safety guidelines are given for pedestrians, bicyclists and motorists.

The presentation is followed by an eight-minute animated video entitled "Metro Orange Line Sensation" that is primarily intended for elementary school-age children. The video presentation tells of the adventures of several youngsters who utilize the MOL for the very first time on their way across the Valley to visit a friend. Youngsters demonstrate both safe and unsafe behaviors with new Metro Liner buses at stations and on the busway in a fun, engaging manner. Following Metro's visit to the schools, copies of the video are left with each school's library for administrators to share with new groups of students.

Children have reacted enthusiastically to the presentations, especially the animated video, which is extremely popular with younger school kids. School children are often the first to embrace innovative technologies such as the new busway and play an important part in transferring their knowledge about the line and the need for safety to their parents, siblings and others. Metro regularly visits schools to teach about safety whenever the agency opens new transit service in Los Angeles County.

The rate of traffic incidents along the MOL has followed a declining trend. **Figure 4.15-1** illustrates the history of traffic accidents along the MOL busway.

## Facility Design

The design of the existing MOL (including vehicles, stations, parking lots, etc.) is intended to provide a safe, secure, and comfortable transit system. A number of security features were purposely included in the design of the MOL to enhance user security. Security-related design features currently include emergency telephones at station platforms, public announcement systems, open sight lines, graffiti-resistant materials, crosswalks, and a contract for security patrol by Los Angeles County Sheriff's Department. All these features may be applied to the proposed busway. Some locations may include Advanced Traveler Information Systems (ATIS), bike lockers, map cases, and ticket vending machines. Some of the safety-related elements of the existing MOL design are summarized below:

### *Vehicular Safety*

Metro also works closely with the Los Angeles Department of Transportation (LADOT) to construct busway intersections with all necessary street infrastructure to enable motorists, bicyclists and pedestrians to interact safely with the Metro Liner Buses as they cross through 36 Valley intersections between North Hollywood and Woodland Hills.

To help ensure safe crossings at the intersections, all MOL intersections come equipped with traffic signals for each direction of travel. Arrow signals provide the exact direction motorists should precede.

The middle of many street intersections has clearly marked "Keep Clear" zones intended to keep motorists from blocking the intersection. Motorists are advised to stay behind the double white lines until there is enough room and time for them to clear the intersection and get to the other side. Turning on a red light at these intersections is strictly prohibited to prevent motorists from placing their vehicle in the path of an approaching bus.

To guard motorists from accidentally driving onto the busway, "Do Not Enter" signs and other directional signs have been installed on both sides of the busway entrances. Signs are complemented with flashing electronic "Bus Coming" signs when buses approach the intersection.

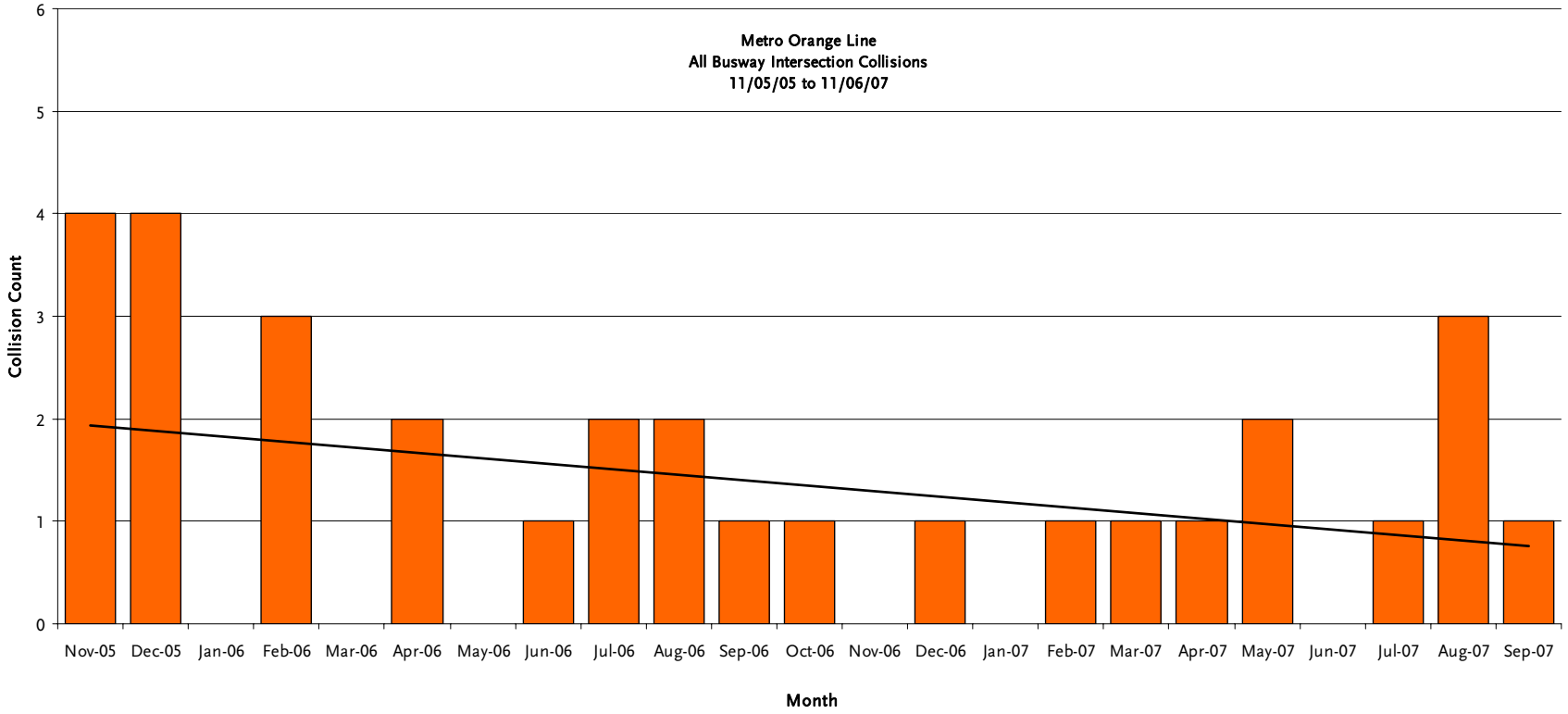
### *Pedestrian Safety*

Each intersection contains crosswalks to allow pedestrians and bicyclists to safely access stations. Metro has also constructed four signalized pedestrian crossings to help members of the community access the other side of the busway.

### *Station Security*

A number of security measures have been installed on the MOL. All stations are well-lit and are equipped with closed circuit television surveillance cameras at both ends of the station which are monitored 24 hours a day by Metro's Bus Operations Center (BOC) in Downtown Los Angeles.

## Figure 4.15-1 Metro Orange Line Traffic Accident History



Patrons may utilize the passenger assistance telephone to directly contact a live operator at the BOC to report safety or security concerns. The BOC operator can make special safety and security announcements to all station patrons on a public address system. Patrons may also use public telephones installed at each station.

## 4.7.2 REGULATORY FRAMEWORK

None

## IMPACTS AND MITIGATION MEASURES

### Significance Criteria

The project could have a significant impact under CEQA if it exposes the public to increased potential for crime, exposes the public to increased danger from accidents, or impairs emergency response capability within surrounding communities.

### Methodology

The No Project Alternative was compared with the Transportation Systems Management (TSM) Alternative, Canoga On-Street Dedicated Bus Lanes Alternative and Canoga Busway Alternative. The assessment of safety and security issues addresses accident prevention, crime prevention, and emergency response, with regard to both design and operation. The project could have a significant impact under CEQA if it exposes the public to increased potential for crime, exposes the public to increased danger from accidents, or impairs emergency response capability within surrounding communities.

Accident Prevention

This analysis addresses accidents resulting from the operation of the project alternatives. Safety issues to be considered include the potential for car/bus; bicycle/bus; pedestrian/car; pedestrian/bus; and other types of accidents. Accidents can occur at park-and-ride lots, at grade crossings, stations or waiting platforms, or on the ROW. Accident prevention also relates to bus maintenance, as well as station and busway design (lighting, fencing, signage, surfaces, and material, control devices, etc.). LADOT safety standards for pedestrian and bicycles will be utilized in the proposed project, in addition to Metro standards.

Crime Prevention

This analysis addresses crimes against persons or property potentially occurring during operation of the proposed project. Crime prevention measures are typically implemented to manage this potential risk through station and busway design and operational procedures including security along the busway, at park-and-ride lots, station and graffiti removal.

Local crime statistics, project design features, Metro procedures, and safety records have been reviewed. The analysis focuses on the potential for crime against persons, property theft, and vandalism.

Emergency Response

Station and busway design (access, layout, exits, alarms, evacuation) and operational procedures (interagency agreements, training, evacuation) are pertinent to the efficiency of emergency response personnel and the ability of passengers to clear an area in an emergency. Impacts have been assessed through a review of proposed design aspects and traffic conditions.

**Impact 4.15.1 The proposed project would not considerably increase the potential for traffic or pedestrian accidents. The proposed project would not have a significant impact on public safety.**

## Alternative 1. No Project

This alternative would have no significant impacts under CEQA on accidents, since it will maintain existing transit service as it is at present.

## Alternative 2. TSM

According to fiscal year (FY) 2007 statistics, Metro's at-grade bus accident rate (involving collisions with vehicles or people) was approximately 3.69 collisions per 100,000 scheduled miles (Metro, 2007). Based on projections to the year 2030, the TSM Alternative would add approximately 1,685,915 additional bus miles per year to the total Metro bus system, and therefore could increase the number of accidents (but not the rate) by a marginal amount. However, the TSM Alternative would enhance existing transit service in the western San Fernando Valley, which, by attracting new riders from autos, could off-set the marginal increase of potential accidents.

The bus operations associated with the TSM Alternative within the study area would be expected to not have a significant impact on public safety due to bus-related accidents.

## Alternative 3. Canoga On-Street Dedicated Bus Lanes

The Canoga On-Street Dedicated Bus Lanes Alternative would add approximately 1,548,794 additional bus miles per year to the county-wide system by the year 2030. Similar to the effects associated with the TSM Alternative, the Canoga On-Street Dedicated Bus Lanes Alternative would be expected to have no significant impacts on public safety under CEQA.

It should also be noted that the accident experience is based on buses running in mixed-flow traffic. The Canoga On-Street Dedicated Bus Lanes Alternative would place buses on dedicated lanes along Canoga Avenue, separated from mixed-flow traffic except at intersections and at driveways along the southbound lane. This would reduce the potential for conflict between normal street traffic and bus operations significantly and therefore lessen the potential for accidents.

As a result of the busway and integrated safety features (for drivers, bikes, and pedestrians), the project would not have a significant impact under CEQA on safety.

## Alternative 4. Canoga Busway

The Canoga Busway Alternative would add approximately 1,548,794 additional bus miles per year to the county-wide system by the year 2030. Similar to the effects associated with the TSM Alternative, the Canoga Busway Alternative would be expected to have no significant impacts on public safety under CEQA.

It should also be noted that the accident experience is based on buses running in mixed-flow traffic. The accident rate for the MOL is significantly lower (1.55 collision per 100,000 scheduled miles) than the county-wide rate (3.69). As with the existing MOL, the Canoga Busway Alternative would place buses on a separate ROW, separated from mixed-flow traffic except at intersections, which would reduce the potential for conflict between normal street traffic and bus operations. This would lessen the potential for accidents.

In addition to the physical separation of the busway from parallel street traffic, the busway will be designed in the same way as the existing MOL to further reduce the potential for accidents and create a safer transit system through the use of enhanced signal control and operator communications equipment.

Pedestrian/bus conflicts would be prevented in the same way they are prevented with the MOL. LADOT safety standards for pedestrians and bicycles will be implemented. Warning signage would also be placed in plain view of the pedestrian.

Specific safety features have also been designed to protect vehicular traffic crossing the corridor, as they are today in the MOL. Before reaching the intersection, drivers would be warned by pre-signals that they are approaching an intersection that crosses the busway. Traffic lighting would be modified to insure adequate stopping distances for cross-traffic lanes to maintain acceptable levels of service at intersections. The busway will be painted or striped to visually designate that it is not a street.

The intersections would operate as an at-grade street crossing and will not require the installation of bells, gates or whistles associated with rail crossings. Busway drivers have full control of their vehicle and will be able to brake quickly or move out of the way to avoid incidents.

In addition to the safety devices provided on the MOL, colored textured concrete or pavers and potentially embedded lights could be placed at pedestrian crossings of the Busway. Not only will these define the pedestrian path, but also help prevent motorists from accidentally turning into the busway.

As described in Chapter 3, several options are being considered for the northern segment of the alignment. Safety considerations, in terms of railroad crossing accidents, for each of the options vary depending on the way in which the alignment would cross the tracks. The relative safety of each of the option is discussed below.

Northern Segment Options 1, 2, and 2a – These three options are considered the least safe, relative to the others, because they would be adding buses to the existing at-grade railroad crossing located at Lassen Street. Buses would stop before crossing the railroad tracks. The design of these options would include queue detectors and potentially quad gates at the railroad tracks to reduce the likelihood that a bus would ever be stopped on the tracks.

Northern Segment Options 3, 3a, 4 and 4a – These four options are considered safer than the at-grade crossing options (1, 2 and 2a) because the buses would not have to cross tracks. Buses would parallel the tracks on either side.

Northern Segment Option 5 – This option is considered the safest relative to the others because there would be no crossing at all. The buses would reach the Chatsworth Metrolink station via a underground tunnel or an elevated structure.

The multi-use path that would run parallel to the busway would be used by pedestrian and cyclists alike. To separate people from buses, swales, fencing and vegetation would be used. In most areas, the multi-use path would be separated from the busway by fencing of sufficient height to discourage unauthorized entry into the busway. This would physically and visually mark the corridor as a dedicated area, not for use by pedestrians of cyclists.

As a result of the busway and integrated safety features (for drivers, bikes, and pedestrians), the project would not have a significant impact under CEQA on safety.

***Mitigation Measures:*** None required.

***Level of Significance After Mitigation:*** Less than significant.

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**Impact 4.15.2 The proposed project would not result in a significant impact on crime prevention.**

All Alternatives

The study area is served by the San Fernando Valley Bureau of the City of the LAPD. LAPD's West Valley and Devonshire divisions have direct supervision over the study area. **Table 4.15-1** summarizes the number of property crimes and crimes against persons reported by the LAPD West Valley and Devonshire divisions.

| Table 4.15-1 Comparison of Crime Statistics | |
|---|---|
| Metro-Reported Crime Data | |
| Category | Orange Line and other SFV lines |
| Crimes Involving Property | |
| Burglary | 3 |
| Larceny | 28 |
| Crimes Against Persons | |
| Assault | 8 |
| Robbery | 11 |
| Community-wide Crime Data | |
| Category | West Valley and Devonshire Divisions |
| Crimes Involving Property | |
| Burglary | 4,099 |
| Larceny | 7,932 |
| Crimes Against Persons | |
| Assault | 1,195 |
| Robbery | 735 |
| | |
| Total Metro Crimes | 50 |
| Total Community Crimes | 1,3961 |
| Percent | 0.36% |

Source: Los Angeles Police Department, 2007 and Metro, FY 2007

As seen in **Table 4.15-1**, the number of crimes occurring on Metro buses compared with crimes occurring in the community is insignificant The proposed project would not be expected to substantially alter the number of crimes occurring on Metro property, although reductions in crime statistics may be possible as a result of additional safety and surveillance measures that would be implemented as part of the design of stations.

Some residential areas are adjacent to the corridor, stations and parking lots and lighting and fencing would also be part of the project design to enhance security. At intersections and where the proposed fencing is not installed along the ROW line, fencing along the corridor would be extended to connect with soundwalls of the adjacent properties to deny pedestrian access to the portion of the ROW between the busway and back yard fences of private properties. Park-and-ride lots would also be fenced.

The proposed project would incorporate all the preventive measures mentioned previously, in addition to Metro crime prevention policies, to deter criminal acts and protect passengers, employees, and the community from crime. The proposed project could potentially have less crime (then other transit systems) as a result of the installation of emergency telephones at each platform, potentially closed-circuit monitoring systems, bike lockers, fencing, and lighting at station and parking lots. Therefore, the proposed project would not have significant impact under CEQA.

***Mitigation Measures:*** None required.

***Level of Significance After Mitigation:*** Less than significant.

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**Impact 4.15.3 The proposed project would not result in a significant impact on emergency response.**

Alternative 1. No Project

There would be no impacts to emergency response under this alternative, since it would maintain present conditions.

Alternative 2. TSM

The addition of more buses to the existing system and of a new Local Bus along Canoga Avenue would not negatively affect emergency access or evacuation routes, since it would only marginally affect traffic conditions. This alternative would not have a significant impact under CEQA.

Alternative 3. Canoga On-Street Dedicated Bus Lanes

The dedicated bus lanes segment of this alternative would not block or interrupt emergency access or evacuation routes. The on-street segments of the alternative would add buses to the mixed-flow traffic, which would also have no impact on emergency access or evacuation routes. However, should a major accident occur within the busway, or should there be an emergency of some kind, emergency vehicles could, with permission from Metro, use the dedicated bus lanes as an emergency access route. This alternative would not have a significant impact under CEQA.

Alternative 4. Canoga Busway

The busway segment of this alternative would not block or interrupt emergency access or evacuation routes. The on-street segments of the alternative would add buses to the mixed-flow traffic, which would also have no impact on emergency access or evacuation routes. However, should a major accident occur within the busway, or should there be an emergency of some kind, emergency vehicles could, with permission from Metro, use the busway as an emergency access route. This alternative would not have a significant impact under CEQA.

***Mitigation Measures:*** None required.

***Level of Significance After Mitigation:*** Less than significant.

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**Impact 4.15.4 The proposed project has the potential to have significant construction impacts on safety and security.**

Alternative 1. No Project

The No Project Alternative would not include construction activity. Therefore, safety and security would not be affected, and construction impacts would not occur.

## Alternative 2. TSM

The TSM Alternative would not include construction activity. Therefore, safety and security would not be affected, and construction impacts would not occur.

## Alternative 3. Canoga On-Street Dedicated Bus Lanes and Alternative 4. Canoga Busway

### Student Safety

Student safety during the construction period (see Section 4.14 Safety and Security) could be a concern at schools located adjacent to construction sites, if not mitigated. Construction specifications are written to reduce potential construction hazards. Construction crews are trained in safety requirements and procedures, and California Occupational Health and Safety Administration requirements must be met by the contractor. The contractor would also be required to secure unsafe construction sites (fences and signage) to avoid creating an "attractive nuisance" and to prohibit unauthorized entry. At some locations, crossing guards may be needed. Given the temporary and localized nature of the construction, as well as LADOT and contractor standard safety measures to be taken during construction, a significant impact is not expected.

### Emergency Response

The potential for significant impacts on emergency response during construction relates to detours, street closures, and increase traffic at intersections. To avoid disruption of emergency service during construction, emergency facilities will be consulted regarding the construction process to provide for the least intrusive construction process feasible. Proper communication with emergency facilities will inform them of exact construction area locations and schedules. Therefore, the proposed project would have no construction related impacts on emergency services.

## *Mitigation Measures:*

The following mitigation measures are applicable to the Canoga On-Street Dedicated Bus Lanes Alternative and the Canoga Busway Alternative:

> ***MM 4.15-1***: To further minimize impacts to schools, students, and active pedestrian communities, the following will be implemented:
>
> - Emergency services providers and school officials will be consulted regarding the construction process to reduce intrusiveness of the construction process and provide for continuing two-way communication throughout the construction period.
>
> - School officials will be consulted in order to ensure maintenance of safe student walk routes and access for passenger vehicles and school buses.
>
> - Flag men will be provided during intersection modifications in active pedestrian communities. Crossing guards or flag men will also be provided at construction sites in proximity to schools and where school pedestrian routes cross construction areas.

- Construction scheduling and haul routes will be sequenced to minimize conflicts with pedestrians, school buses and vehicular traffic during arrivals and dismissals on school days.

***Level of Significance After Mitigation:*** less than significant.

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**Impact 4.15.5: The proposed project does not have the potential to result in a significant cumulatively considerable impact on safety and security.**

The proposed project would not cause significant cumulative effects on safety and security. Rather, improved service would entice some drivers to choose public transit as a choice to commute. This would theoretically reduce the potential for traffic accidents. At the system level, this would be a beneficial cumulative effect of the proposed project.

***Mitigation Measures:*** None required.

***Level of Significance After Mitigation:*** Less than significant.

---

# 5.0 OTHER CEQA DISCUSSIONS

## 5.1 GROWTH INDUCING IMPACTS

CEQA Guidelines state that the discussion of growth-inducing impacts should focus on the ways in which the proposed Project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.

Generally, growth-inducing projects are located in isolated, undeveloped, or underdeveloped areas, necessitating the extension of major infrastructure (e.g., sewer and water facilities, roadways, etc.) or are those that could encourage "premature" or unplanned growth (i.e., "leap-frog" development). The proposed Project is proposed to meet the existing and future transit needs of the project area. The Canoga Metro Orange Line Extension would be located within a developed urban setting and would not extend into previously undeveloped areas that could induce changes in such areas. The proposed project would not result in the need for major infrastructure extension or government services beyond investments already planned.

As discussed in the Land Use and Development section (Section 4.1), the Canoga Transportation Corridor is identified as a 2% growth area by SCAG (i.e. it is an area where growth should be targeted because of the presence of transit). It is anticipated that in response to increased levels of transit in the region in general, communities in southern California will redirect growth to transit corridors including the Canaoga Transportation Corridor. Section 4.1 also discusses the areas surrounding the proposed stations and the potential for these areas to develop. As explained in section 4.1, such development will require specific analysis, review and approval, and is not reasonably foreseeable at this time.

## 5.2 CUMULATIVE IMPACTS

"Cumulative impacts" refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects, whereas the cumulative impact is the change in the environment from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor, but collectively significant, projects taking place over a period of time. [1]

The California Environmental Quality Act (CEQA) requires that the discussion of cumulative impacts reflects the severity of the impacts, as well as the likelihood of their occurrence; however, the discussion need not be as detailed as the discussion of environmental impacts attributable to the Project alone. Further, the discussion is intended to be guided by the standards of practicality and reasonableness.

A discussion of potentially significant cumulative impacts involves analyzing either (1) "a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency", or (2) "a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental

[1] CEQA Guidelines, Section 15130

document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact." [2]

The cumulative impact analysis presented in this EIR generally relies on method (2) described above. The analysis is based upon a summary of projections contained in an adopted planning document, namely, the Southern California Association of Government's (SCAG) 2004 Regional Transportation Plan (RTP), entitled "Destination 2030," SCAG indicates that lead agencies, such as Metro, may use the region-wide impact analysis contained in the Regional Transportation Plan Final Program EIR as the basis of their cumulative impact analysis. Therefore, the 2004 Regional Transportation Plan Final Program EIR (SCH No. 2003061075, April 2004), is generally used as the basis of the cumulative impact analyses and is hereby incorporated by reference per Section 15150 of the CEQA Guidelines. The document may be viewed on SCAG's internet site (www.scag.ca.gov), or by contacting the agency directly.

The RTP is a regional planning document that establishes the goals, objectives, and policies for the region's transportation system and establishes an implementation plan for transportation investments through the year 2030. SCAG refers to the RTP as a "blueprint" for a coordinated and balanced transportation system that links job centers to residential communities, and encourages compact growth patterns that reduce harmful environmental effects.

One of the key elements of the Proposed Plan is $25 billion in funding for proposed, committed, and programmed transit projects. The goal of the "Public Transportation System" element of the RTP is to "ensure mobility for people without access to automobiles and to provide attractive alternatives for drive-alone motorists or discretionary riders." To achieve this objective, the RTP specifically calls for an expanded system of bus service and rail transit, where the bus system is structured to feed into existing and proposed rail stations.

The RTP Program EIR contains a thorough analysis of environmental impacts resulting from implementation of various transportation projects throughout SCAG's six county region that encompasses approximately 38,000 square miles. The RTP reflects transportation, population, employment, and land use data for the six-county SCAG area through the year 2030, and is, thus, an appropriate basis for the analysis of cumulative impacts.

Cumulative impacts are evaluated in each of the technical issue sections (Sections 4.1 through 4.15) of this document. The analyses consider the cumulative effects of implementation of the proposed Project within the framework of the cumulative regional transportation analysis contained in SCAG's 2004 RTP Program EIR. While the RTP found impacts of the RTP to be significant in most categories, this EIR does not find that the project would have an unmitigable cumulatively considerable contribution to any impact.

## 5.3 LONG TERM EFFECTS AND IRREVERSIBLE ENVIRONMENTAL CHANGES

Construction and operation of the proposed Project would rely upon the use of nonrenewable resources. Use of fossil fuel derived energy sources such as gasoline, diesel fuel, electricity, and natural gas would be necessary for transport of workers and materials during construction and provision of electricity, natural gas, and fuel for buses, worker vehicles, and maintenance operations during the life of the Project. Although the fossil fuel consumption associated with the Project would constitute the depletion of a resource that is irretrievable and irreversible, the amount of resources

[2] CEQA Guidelines, Section 15130 (b) (1)

consumed would not be of an extraordinary nature in a regional context. Moreover, as demonstrated in Section 4.14 Energy, implementation of the proposed Project would be expected to result in a slight reduction in energy use in future years, due to increased transit use and correlating reduction in passenger vehicle use. As discussed above, the proposed Project would have a beneficial cumulative long-term effect with respect to use of non-renewable energy resources.

Chapter 4 presents an analysis of the potential impacts of the project. The following impacts were found to be **unavoidable significant adverse impacts**:

- Construction noise for the Canoga Dedicated Bus Lanes and Canoga Busway.
- Localized impacts on PM2.5 and PM10 during construction of the Canoga Dedicated Bus Lanes and Canoga Busway Alternatives.

## 5.4 EFFECTS DETERMINED NOT TO BE SIGNIFICANT

Chapter 4 presents an analysis of the potential impacts of the project. The following impacts were found to be **less than significant**:

- Land Use and Development
- Land Acquisition, Relocation and Displacement
- Population, Housing and Environmental Justice
- Parklands and Other Community Facilities
- Historic, Archeological and Paleontological Resources
- Visual and Aesthetic Impacts
- Traffic, Circulation and Parking
- Construction Air Quality other than PM 2.5 and PM10 for the Dedicated Lanes and Busway Alternatives, Operational regional criteria pollutant emissions
- Operational Noise for the Dedicated Lanes and Canoga Busway
- Geology, Soils and Seismicity
- Hazardous Materials
- Water Resources
- Biological Resources
- Energy
- Safety and Security

## 5.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Section 15126.6(e)(2) of the CEQA Guidelines requires that an environmentally superior alternative be identified among the selected alternatives, excluding the No Action alternative. The TSM alternative would not have the construction impacts (noise and localized PM10 and PM2.5) of the Dedicated Bus lanes and Busway alternatives and is thus determined to have the least environmental impact. Since the TSM Alternative involves only changing bus routes it would be categorically exempt and could be implemented at any time without environmental review. However, the TSM alternative would not realize mobility improvements in the area to the same extent as the Dedicated Lanes and Busway Alternatives.

# 6.0 REPORT AUTHORS AND CONSULTANTS; PERSONS AND SOURCES CONSULTED

## 6.1 REPORT AUTHORS AND CONSULTANTS

### LEAD AGENCY

Metro
One Gateway Plaza
Los Angeles, CA 90012

Walt Davis, Project Manager
Hitesh Patel, Project Engineer
David Monks, Outreach Coordinator
Carol Inge
Renee Berlin
Bill Satterfield
Gary Spivack
Dave Miklic
Dave Sotero
Laurel Kopanski
Teresa Fong
Colette Thomas
Dana Jones
Darra Cleveland
Carol Silver
Michael Brewer
Maria Reynolds
Robert Machuca
Kathleen Sanchez
Aspet Davidian
Cris Liban
Carl Ripaldi
Brian Lin
Jorge Pardo
Ron Stamm
David Chong
Leo Buhkin

### CONSULTANTS

**Project Management/QA/QC**
Iteris, Inc.
707 Wilshire Blvd., Suite 4810
Los Angeles, CA 90017

Michael, Meyer, Principal
Viggen Davidian, Principal
Key Taheri, Senior Program Manager
Khajag Derderian, Sr. Transp. Eng.
Ernesto Chaves, Transp. Planner
Ivan Salvatierra, Asst. Transp. Eng.
Srinivas Bhat, Sr. Transp. Eng.
Ashwin Sullia, Asst. Transp. Eng.
Mario Viana, Graphics/GIS Specialist
Omar Erroa, Asst. Transp. Eng.
Mark brown, Transp. Planner
Sherri Terrell, Administrator
Vishnu Garg, Associate Transp. Eng.

1515 South Manchester Avenue
Anaheim, CA 92802

Abbas Mohaddes, President and CEO
Marc Porter, Vice President

Sirius Environmental
1478 N. Altadena Drive
Pasadena, CA 91107

Wendy Lockwood

**Land Acquisition, Population and Housing, Air Quality, Noise, Energy, Parklands**
Terry A. Hayes Associates, LLC
8522 National Boulevard, Suite 102
Culver City, CA 90232
Terry A. Hayes, Principal
Kevin Ferrier
Teresa Li
Sam Silverman

**Civil Engineering**
DMJM Harris
515 South Flower St., 9th Floor
Los Angeles, CA 90017
Laura J. Mohr, PE, Eng Manager
Gary Sjelin, PE, Tech Manager

**Urban Design/Architecture, Landscape Architecture, Land Use, Aesthetics**
Gruen Associates
6330 San Vicente Boulevard, Suite 200
Los Angeles, CA 90048
Elaine Carbrey, AIA, AICP, Associate Partner
Meghna Khanna, Planner
Sukriti Agarwal, Planner
Michael Concepcion, Planner
Steve Smith, ASLA, Landscape Arch.
Dean Howell, Landscape Designer
Matthew Parrent, Graphic Designer
Gina Escalante, Summer Intern

**Utilities**
Bullock & Associates
140 Maple Drive, #303
Beverly Hills, CA 90212
Hope A. Bullock III

**Landscape Architecture**
Campbell & Campbell
1425 Fifth Street
Santa Monica, CA 90401
Doug Campbell

**Geotechnical, Hazardous Materials**
Diaz Yourman & Associates
1616 East 17th Street
Santa Ana, CA 92705
Nadesh Nadeswaran, PE, GE Pr. Eng.
Gary Gilbert, PE, Geologist
Gary Halbert, REA, CEG, Env Ass./Hy
Glenn Lauman, CEG, Geol. Cons

**Biology, Cultural Resources**
Jones & Stokes
811 W. Seventh Street, #800
Los Angeles, CA 90017
Lee Lisecki, Project Director
Teresa Tapia, Env. Consultant
Meghan Potter, Arch. Historian
Hina Gupta, Environmental Planner
David Greenwood, Arch. Historian
Andrew Bursan, Arch. Historian
Michelle Long, Archaeologist
Mark Robinson, Senior Archaeologist
Kurt Campbell, Senior Biologist
Kim Svitenko, Consulting Biologist

**Real Estate**
Paragon Partners
5762 Bolsa Ave., Suite 201
Huntington Beach, CA 92649
Chuck Wadell

**Transit Planning**
Transportation Management & Design
5541 Fermi Court, Suite 170
Carlsbad, CA 92008
Russ Chisholm, President
Joe Forgiarini

**Surveying/Base Maps**
Wagner Engineering & Survey
16933 Parthenia Street, Suite 100
Northridge, CA 91343
Stephanie Wagner

**Public Outreach**
Consensus Planning Group
626 Wilshire Blvd., Suite 1000
Los Angeles, CA 90017
Lilian De Loza Gutierrez
Marina Perez

Katherine Padilla & Associates
440 Tamarac Drive
Pasadena, CA 91105
Katherine Padilla

## 6.2 PERSONS CONSULTED

Kang Hu, LADOT
Michael Hunt, LADOT
Susan Bok, LADOT
Jonathan Hui, LADOT
Jason Rondou, LADOT
Tim Fremaux, LADOT
Emily Gabel, Los Angeles Department of City Planning
Simon Pastucha, Los Angeles Department of City Planning
Javier Minjares, Information Services, SCAG
Lawrence D. Michael, California Public Utilities Commission
Daniel J. Miller, Union Pacific Railroad
Ron Mathieu, Southern California Regional Rail Authority
Joanna Capelle, Southern California Regional Rail Authority
Darrell V. Maxey, Southern California Regional Rail Authority
Joanne Zhang, City of Los Angeles Bureau of Engineering
Lawrence Hsu, City of Los Angeles Bureau of Engineering
Renee Ellis, City of Los Angeles Bureau of Engineering
Carol Armstrong, Ph.D, City of Los Angeles Bureau of Engineering
Tona Avalos, Los Angeles County Department of Public Works
Barbara Romero, Santa Monica Mountains Conservancy
John R. Signor, Specialist in Western Railroad History
John Heller, Specialist in Pacific Electric Railway History
Beth Shirley, Member, Canoga-Owensmouth Historical Society
Dr. Sam McLeod, Los Angeles County Museum, Vertebrate Paleontology Section.
Thomas Shakford, South Central Coastal Information Center, California State University, Fullerton.
Dave Singleton, Native American Heritage Commission.
Charles Cook, Contact for the Chumash, Fernandeno, Tataviam, and Kitanemuk Tribes. Beverly Salazar Folkes, Contact for the Chumash, Tataviam, Fernandeno Tribes.
Delia Dominguez, Contact for the Kitanemuk and Yowlumne Tejon Tribes.
John Valenzuela, Contact for the San Fernando Band of Mission Indians.
Randy Guzman-Folkes, Contact for the Fernadeno Tataviam Band of Mission Indians.
Ron Andrade, Contact for the LA City/County Native American Indian Committee.
Bob Jacobi. Jacobi Building Materials
Vanessa Nicolas. Green Scene Landscaping Services,
Jeff Litzie. Site Supervisor
Russ Morton, Safety Officer Mr. Eddie Martin. Masonry Club
Jose Cruz. Cruz Construction
Un-named laborer. Unidentified waste transfer facility located on the east side of Canoga Avenue, west side of the Project ROW between Sherman Way and Vanowen Street, across from Hart Street
Service Counter clerk. Bob's Costumes
Gary Frankel. Manager, Ambela, Inc.
Josh Ellis. Central Valley Builders Supply
Bill Webb. Manager, Pyramid Pipe & Supply
"Clark." CPS Auto Sales, and Mr. Ovidios, Proprietor
"Efrain." Manager, Valley Truck Repair shop

## 6.3 SOURCES CONSULTED

SCAG, Regional Comprehensive Plan and Guide
SCAG, 2004 Regional Transportation Plan
SCAG, Compass Blueprint 2% Strategy
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# 7.0 GLOSSARY

Following are a number of acronyms, words, and phrases commonly used in environmental documents.

| | |
|---|---|
| Above-Grade | Above existing ground level |
| AC | asphalt concrete |
| ACHP | Advisory Council on Historic Preservation |
| AMC | aspestos-containing material |
| ADL | aerially-deposited lead |
| AIC | Architectural Information Center |
| Anticline | A fold that is convex upward. In simple anticlines, the beds are oppositely inclined. |
| APE | Area of Potential Effect |
| APTA | American Public Transit Association |
| AQMP | Air Quality Management Plan |
| At-Grade | A guideway or road with vertical alignment at elevations generally the same as the surrounding areas (i.e., not elevated or depressed). |
| ATSAC | Automated Traffic Surveillance and Control; a traffic signal system improvement. |
| Bgs | below the ground surface |
| BMPs | Best Management Practices; applicable to management of water quality. |
| BRT | Bus Rapid Transit |
| BTEX | benzene, toluene, ethylbenzene, and xylene |
| BSA | Biological Study Area |
| BTU | British Thermal Unit |
| CAA | Clean Air Act |
| CAAQS | California Ambient Air Quality Standards |
| California Register | California Register of Historical Resources |
| Cal-IPC | California Invasive Plant Council |
| CARB | California Air Resources Board |
| Cast-in-place | When molds and forms are built at the final place in the project site where the cast material will rest. Molds and forms are removed after the casting is complete. |
| CCAA | California Clean Air Act |
| CCR | California Code of Regulations |
| CDO | Canoga Park Commercial Corridor |
| CDFG | California Department of Fish and Game |
| CDMG | California Division of Mines and Geology |
| CDOG | California Division of Oil and Gas |
| CEQA | California Environmental Quality Act |
| CERCLIS | Comprehensive Environmental Response, Compensation, and Liability Information System |
| CESA | California Endangered Species Act |
| cfs | cubic feet per second |
| CGS | California Geological Survey |
| CNDDB | California Natural Diversity Database |

| | |
|---|---|
| CNPS | California Native Plant Society |
| CO | Carbon Monoxide |
| Corridor | Canoga Transportation Corridor |
| Cost-effectiveness | An index defined by FTA for purposes of evaluating major transit investments. It relates the capital and operating costs of a project to its ridership and travel time savings; see section 7-7 for a more complete discussion. |
| CPUC | California Public Utilities Commission |
| CSC | California Special Concern Species |
| dB | Decibel |
| dBA | An A-weighted measure of sound level, based on the American National Standard Institute specifications for sound level meter performance. The A-scale approximates the sensitivity of the human ear to various sound frequencies and is the scale used for most environmental noise studies. |
| dbh | diameter at breast height |
| Decibel (dB) | A unit of measurement of the intensity of sound or the air pressure differentials created by sound. Zero db was established as the weakest sound that can be detected by a young and alert person without hearing impairment. It is equivalent to an air pressure differential of 0.0002 microbars. |
| DOGGR | California Division of Oil, Gas and Geothermal Resources |
| DTSC | Department of Toxic Substances Control |
| DYA | Diaz Yourman & Associates |
| EIR | Environmental Impact Report |
| EIS | Environmental Impact Statement |
| ESA | Environmental Site Assessment |
| ESA | Endangered Species Act |
| Falsework | Temporary support structures used to during the construction of aerial structures and bridges. |
| FEMA | Federal Emergency Management Agency |
| FS | factor-of-safety |
| FESA | Federal Endangered Species Act |
| FSC | Federal Species of Concern |
| FTA | Federal Transit Administration |
| FTE | Full Time Equivalent as in full time equivalent employees. |
| FY | Fiscal Year |
| g | gravity |
| HSG ` | hydrologic soil group |
| I | Interstate freeway, as in I-405 |
| HCP | Habitat Conservation Plan |
| LACBD | Los Angeles Central Business District |
| LACMTA | Los Angeles County Metropolitan Transportation Authority |
| LACDA | Los Angeles County Drainage Area Review |
| LADOT | City of Los Angeles Department of Transportation |
| LADWP | Los Angeles Department of Water and Power |
| LAFD | Los Angeles Fire Department |
| Ldn | Sound level, day, night. This is a 24-hour Leq with the daytime level from 0700 to 2200 hours and the nighttime level from 2200 to 0700 hours. A 10-dB penalty is added to the nighttime period because this is normally the sleeping time. |

| | |
|---|---|
| Leq | The equivalent steady state sound level which in a stated period of time would contain the same acoustical energy as the time-varying sound level during the same period. |
| Linked Trip | A complete trip from origin to destination, regardless of the number of transfers. |
| LAMC | Los Angeles Municipal Code |
| LOS | Level of Service. A measure of operating conditions at intersections, ranging from LAS A (free flow conditions) to LOS F (jammed conditions). |
| LPA | Locally Preferred Alternative |
| LRT | Light Rail Transit |
| LUST | Leaking Underground Storage Tank |
| Mb | body wave magnitude |
| MCL | Maximum Contaminate Levels |
| MBTA | Migratory Bird Treaty Act |
| Metro | Los Angeles County Metropolitan Transportation Authority |
| MFR | Multi-family residence |
| mg/kg | milligrams per kilogram |
| MIS | Major Investment Study |
| MDE | Medium or Maximum Design Earthquake |
| ML | local magnitude |
| MMI | Modified Mercalli Intensity |
| MOA | Memorandum of Agreement |
| MOL | Metro Orange Line |
| MOS | Minimum Operable Segment |
| MPO | Metropolitan Planning Organization |
| Ms | surface-wave magnitude |
| MSE | mechanically stabilized earth |
| MSL | mean sea level |
| MTA | Metropolitan Transportation Authority |
| MTBE | Methyl tert-butyl ether |
| Mw | moment magnitude |
| National Register | National Register of Historic Places |
| NCCP | Natural Community Conservation Planning |
| NCHRP | National Cooperative Highway Research Program |
| NEPA | National Environmental Policy Act |
| New rider | A passenger who would use the transit system with the proposed major investment, as compared with the No Build Alternative. |
| NHPA | National Historic Preservation Act |
| NIST | U.S. National Institute of Standards and Technology |
| NOAA | U.S. National Oceanic and Atmospheric Administration |
| NOx | Nitrogen Dioxides |
| NPDES | National Pollutant Discharge Elimination System |
| NPL | National Priorities List of USEPA. |
| NRCS | Natural Resources Conservation Service |
| NRCS | National Resources Conservation Service |
| ODE | Operating Design Earthquake |
| Pb | Lead |
| PCB | Poly Cholorinated Biphenyls |
| PCE | Tetrachloroethylene (Perchloroethylene) |
| PID | photoionization detector |
| PF | Public Facility |

| | |
|---|---|
| PM10 | Particulate Matter (less than 10 microns in size) |
| PM2.5 | Particulate Matter (less than 2.5 microns in size) |
| ppm | parts per million |
| ppv | peak particle velocity |
| Pre-cast | When a cast or molded material is fabricated at a plant or manufacturing facility and is transported to the project site and set in place. |
| PWA | Public Works Administration |
| RCPG | Regional Comprehensive Plan and Guide |
| rms | root-mean-square |
| REC | recognized environmental concerns |
| ROG | Reactive Organic Gas |
| ROW | Right of way |
| RWQCB | Regional Water Quality Control Board |
| RTP | Regional Transportation Plan |
| RSA | Regional Statistical Area |
| SCAG | Southern California Association of Governments |
| SCAQMD | South Coast Air Quality Management District |
| SCEC | Southern California Earthquake Center |
| Screenline | An imaginary line drawn across streets and freeways that is used to track and record traffic volumes at the points where the screenline intersects the facility. |
| SCRRA | Southern California Regional Rail Authority, operators of the Metrolink commuter rail system |
| SEL | Sound Equivalent Level |
| SETS | Site Enforcement Tracking System |
| SFR | Single-family residence |
| SFV | San Fernando Valley |
| SOCAB | South Coast Air Basin |
| Soldier piles | H beams driven into the earth or placed into holes augured into the earth. Soldier piles are uniformly spaced along the edge of a planned vertical excavation for the construction of trenches and tunnels. During excavation, lagging is placed between the soldier piles to form the temporary excavation support. |
| SOWAPM | Scope of Work for Archaeological and Paleontological Monitoring |
| SOx | Sulfur Dioxides |
| SP | Southern Pacific Railroad |
| SR | State Route, as in SR-118 freeway |
| STLC | soluble threshold limit concentration |
| Strike | The direction or bearing of a horizontal line in the plane of an inclined stratum, joint, fault, or other structural plane. The strike is perpendicular to the dip. |
| SVP | Society of Vertebrate Paleontology |
| SWIS | Solid Waste Information System |
| SWPPP | Stormwater Pollution Prevention Plan |
| SWRCB | State Water Resources Control Board |
| Tie backs | Tie backs are long rods attached to the soldier piles and anchored into the earth behind the wall to counter the earth pressure on the temporary excavation support wall. They may be used instead of or in conjunction with cross bracing or struts. |
| TBM | A tunnel boring machine used for deep bore tunneling. |

| | |
|---|---|
| TCE | Trichloroethylene |
| TPH | total petroleum hydrocarbons |
| TSM | Transportation system management alternative that seeks to optimize use of the existing system, including improvements in bus service, without a major new capital investment. |
| TTLC | total threshold limit concentration |
| ULARA | Upper Los Angeles River Area |
| UPRR | Union Pacific Railroad |
| USACOE | U.S. Army Corps of Engineers |
| USDOT | United States Department of Transportation |
| USEPA | United States Environmental Protection Agency |
| USGS | U.S. Geological Survey |
| UST | Permitted Underground Storage Tank |
| UP | Union Pacific Railroad |
| VOC | Volatile Organic Compounds |
| V/C | Volume to Capacity ratio, used to assess levels of congestion at intersections |
| VHT | Vehicle Hours of Travel |
| WTCP | Worksite Traffic Control Plan |
| ZIMAS | City of Los Angeles, Zoning Information and Map Access System |