SAN FERNANDO VALLEY

EAST-WEST RAIL TRANSIT PROJECT

DRAFT

ENVIRONMENTAL IMPACT REPORT

STATE CLEARING HOUSE #89050304

NOVEMBER 1989

LACTC

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

403 WEST EIGHTH STREET, SUITE 500

LOS ANGELES, CALIFORNIA 90014

DRAFT

ENVIRONMENTAL IMPACT REPORT

SAN FERNANDO VALLEY
EAST-WEST RAIL TRANSIT PROJECT

STATE CLEARINGHOUSE #89050304

Prepared for:

Los Angeles County Transportation Commission
403 West 8th Street, Suite 500
Los Angeles, California 90014
(213) 626-0370

Prepared by:

Gruen Associates
6330 San Vicente Boulevard
Los Angeles, California 90048

In Association with:

Gannett-Fleming Transportation Engineers
Benito A. Sinclair & Associates, Inc.
DKS Associates, Inc.
Harris, Miller, Miller & Hanson, Inc.
Terry A. Hayes Associates
Anil Verma Associates

November 1989

TABLE OF CONTENTS

CHAPTER 1.0 INTRODUCTION AND SUMMARY

1.1 PURPOSE AND USES OF THE EIR 1-1
1.1.1 Public Review 1-1
1.1.2 Route Selection 1-1
1.1.3 Permits and Approvals 1-2
1.2 HISTORY OF THE PROJECT 1-2
1.3 DESCRIPTION OF PROJECT ALTERNATIVES 1-3
1.4 ENVIRONMENTAL IMPACT SUMMARY 1-8
1.5 AREAS OF CONTROVERSY/ISSUES TO BE RESOLVED 1-8

CHAPTER 2.0 PROJECT PURPOSE AND HISTORY

2.1 PROJECT DESCRIPTION 2-1
2.2 PROJECT PURPOSE 2-1
2.3 PLANNING HISTORY 2-3

CHAPTER 3.0 ENVIRONMENTAL SETTING

3.1 REGIONAL CONTEXT 3-1
3.2 LAND USE 3-4
3.3 DEMOGRAPHIC CHARACTERISTICS 3-6
3.3.1 Population and Housing 3-6
3.3.2 Employment 3-8
3.3.3 Jobs/Housing Balance 3-10
3.4 TRANSPORTATION 3-10
3.5 AIR QUALITY 3-12

CHAPTER 4.0 PROJECT ALTERNATIVES

4.1 DEFINITION OF EIR PROJECT ALTERNATIVES 4-3
4.2 SP BURBANK BRANCH PROFILE & ALIGNMENT ALTERNATIVES 4-5
4.2.1 Warner Center-Canoga Park Area 4-5
4.2.2 Reseda-West Van Nuys Area 4-9
4.2.3 Sepulveda Basin Area 4-14
4.2.4 Van Nuys-North Sherman Oaks Area 4-18
4.2.5 North Hollywood Area 4-22
4.2.6 North Hollywood to Universal City Area 4-28
4.3 VENTURA FREEWAY PROFILE & ALIGNMENT ALTERNATIVES 4-33
4.3.1 Warner Center-Woodland Hills Area 4-34
4.3.2 Woodland Hills-Tarzana Area 4-41
4.3.3 Tarzana-Encino Area 4-46
4.3.4 Encino-Sherman Oaks Area 4-53
4.3.5 Studio City-North Hollywood Area 4-58
4.3.6 Studio City-Universal City Area 4-66
4.4 STATION ALTERNATIVES 4-69
4.5 RAILYARDS AND PHASING OPTIONS 4-73
4.6 COST SUMMARY 4-79
4.7 TECHNOLOGY OPTIONS 4-82

CHAPTER 5.0 ENVIRONMENTAL IMPACTS

5.1 LAND USE 5-2
- 5.1.1 Existing Uses 5-2
- 5.1.2 Compatibility with Local Area Plans 5-3
- 5.1.3 Land Acquisition and Displacement 5-11
- 5.1.4 Property Values 5-22

5.2 TRANSPORTATION AND CIRCULATION 5-27
- 5.2.1 Regional Setting 5-29
- 5.2.2 Existing Conditions 5-35
- 5.2.3 Future Traffic Without Project-2010 5-43
- 5.2.4 Future Traffic With Project-2010 5-51
- 5.2.5 Mitigation Analysis 5-67

5.3 NOISE AND VIBRATION 5-89
- 5.3.1 Impact Criteria 5-89
- 5.3.2 Airborne Noise Projections 5-92
- 5.3.3 Ground-borne Vibration Projections 5-92
- 5.3.4 Impacts and Mitigation 5-93

5.4 VISUAL QUALITY, LIGHT AND GLARE 5-111
- 5.4.1 Visual Setting 5-111
- 5.4.2 Visual Impact Criteria 5-113
- 5.4.3 Visual Impact Assessment 5-115
- 5.4.4 Mitigation Measures 5-118

5.5 CONSTRUCTION AND UTILITIES 5-131
- 5.5.1 Types of Construction Activity 5-131
- 5.5.2 Duration of Construction Activity 5-132
- 5.5.3 SP Burbank Branch Impacts 5-132
- 5.5.4 Ventura Freeway Impacts 5-136
- 5.5.5 Mitigation Measures 5-138

5.6 AIR QUALITY 5-139

5.7 EARTH AND WATER IMPACTS 5-145
- 5.7.1 Geotechnical 5-145
- 5.7.2 Floodplains, Drainage and Hydrology 5-148
- 5.7.3 Risk of Upset 5-151

5.8 BIOLOGICAL AND RECREATIONAL IMPACTS 5-153
- 5.8.1 Sepulveda Basin Recreation Area 5-153
- 5.8.2 Other Recreational Areas 5-157

5.9 PUBLIC SERVICES, SAFETY AND SECURITY 5-159
- 5.9.1 Schools 5-159
- 5.9.2 Police 5-163
- 5.9.3 Fire 5-164

5.10 CULTURAL RESOURCES 5-169
- 5.10.1 Archaeology 5-169
- 5.10.2 Historic 5-171
- 5.10.3 Religious Institutions and Hospitals 5-173

TABLE OF CONTENTS (Continued)

CHAPTER 5.0 ENVIRONMENTAL IMPACTS (Continued)

5.11 POPULATION AND HOUSING 5-177
5.12 ENERGY 5-181
5.13 OTHER ENVIRONMENTAL EFFECTS/FINDINGS OF SIGNIFICANCE 5-185
- 5.13.1 Growth Inducement 5-185
- 5.13.2 Cumulative Impacts 5-186
- 5.13.3 Long Term Implications of the Proposed Project 5-186
- 5.13.4 Significant Unavoidable Adverse Impacts 5-187

5.14 MITIGATION MONITORING PROGRAM 5-191

CHAPTER 6.0 ALTERNATIVES TO THE PROJECT

6.1 NO PROJECT 6-1
6.2 ENVIRONMENTALLY SUPRIOR ALTERNATIVE 6-2
6.3 PREVIOUSLY STUDIED ALTERNATIVES 6-3
6.4 TECHNOLOGY ALTERNATIVES 6-3

CHAPTER 7.0 LIST OF PREPARERS, PERSONS CONTACTED AND REFERENCES

7.1 LIST OF PREPARERS 7-1
7.2 PERSONS AND AGENCIES CONTACTED 7-2
7.3 REFERENCES 7-4
7.4 LIST OF ACRONYMS 7-7

APPENDICES

APPENDIX A INITIAL STUDY AND NOTICE OF PREPARATION
APPENDIX B RESPONSES TO NOTICE OF PREPARATION

UNDER SEPARATE COVER

San Fernando Valley Rail Transit Project Engineering and Design Technical Report, Gannett-Fleming Transportation Engineers, Benito A. Sinclair & Associates, Anil Verma Associates, October 1989.

Noise and Vibration Technical Report, Harris, Miller Miller & Hanson Inc., October 1989.

LIST OF FIGURES

INTRODUCTION AND SUMMARY

1-1 Regional Rail Transit System 1-2
1-2 Alternative Route Alignments 1-3
1-3 Summary Table of Route Alternatives 1-5
1-4 Summary Maps of Route Alternatives 1-6
1-5 Summary Table of Environmental Impacts and Mitigation Measures 1-9

PROJECT PURPOSE AND HISTORY

2-1 Los Angeles County Rail Transit Plan 2-2
2-2 Los Angeles City Centers Concept 2-4
2-3 Historic Development of Project Alternatives 2-8

ENVIRONMENTAL SETTING

3-1 Southern California Planning Region 3-1
3-2 San Fernando Valley District Plan Areas in Citywide Context 3-3
3-3 San Fernando Valley Generalized Land Use 3-5
3-4 San Fernando Valley Population and Housing Distribution 3-7
3-5 San Fernando Valley Population Density 3-8
3-6 San Fernando Valley Employment Distribution 3-9
3-7 Estimated Jobs/Housing Ratio for San Fernando Valley areas 3-10
3-8 Air Quality Indicators (Ozone) Comparison of Valley and SCAQMD Monitoring Stations, 1984-1987 3-13

PROJECT ALTERNATIVES

4-1 Route Alternatives 4-2

SP BURBANK BRANCH ROUTE ALTERNATIVE

Warner Center-Canoga Park Area

4-2 Profile Alternatives 4-6
4-3 Topanga Station Area 4-7
4-4 Winnetka Station Area 4-8
4-5 Route Alignment (see fold-out section) 4-92

Reseda-West Van Nuys Area

4-6 Profile Alternatives 4-10
4-7 Tampa Station Area 4-11
4-8 Reseda Station Area 4-12
4-9 White Oak Station Area 4-13
4-10 Route Alignment (see fold-out section) 4-93

Sepulveda Basin Area

4-11 Profile Alternatives 4-15
4-12 Balboa Station Area 4-16
4-13 Woodley Station Area 4-17
4-14 Route Alignment (see fold-out section) 4-94

SP BURBANK BRANCH ROUTE ALTERNATIVE (Continued)

Van Nuys-North Sherman Oaks Area
4-15 Profile Alternatives 4-19
4-16 Sepulveda Station Area 4-20
4-17 Van Nuys Station Area 4-21
4-18 Route Alignment (see fold-out section) 4-95

North Hollywood Area
4-19 Profile Alternatives 4-23
4-20 Fulton Burbank Station Area 4-26
4-21 Laurel Canyon Station Area 4-27
4-22 Route Alignment (see fold-out section) 4-96

North Hollywood-Universal City Area
4-23 Profile Alternatives 4-29
4-24 North Hollywood Station Area 4-30
4-25 Vineland-Lankershim Route Options 4-31
4-26 Universal City Station Area 4-32
4-27 Route Alignment (see fold-out section) 4-97

VENTURA FREEWAY ROUTE ALTERNATIVE

Warner Center-Woodland Hills Area
4-28 Profile Configuration 4-35
4-29 Van Owen Station Area 4-37
4-30 Victory Station Area 4-38
4-31 Oxnard Station Area 4-39
4-32 DeSoto Station Area 4-40
4-33 Route Alignment (see fold-out section) 4-98

Woodland Hills-Tarzana Area
4-34 Profile Configuration 4-42
4-35 Winnetka Station Area 4-43
4-36 Tampa Station Area 4-44
4-37 Reseda Station Area 4-45
4-38 Route Alignment (see fold-out section) 4-99

Tarzana-Encino Area
4-39 Profile Alternatives 4-47
4-40 White Oak South Station Area 4-49
4-41 White Oak North Station Area 4-50
4-42 Hayvenhurst South Station Area 4-51
4-43 Hayvenhurst North Station Area 4-52
4-44 Route Alignment Alternatives (see fold-out section) 4-100

VENTURA FREEWAY ROUTE ALTERNATIVE (Continued)

Encino-Sherman Oaks Area
4-45 Profile Alternatives 4-54
4-46 Sepulveda South Station Area 4-55
4-47 Sepulveda North Station Area 4-56
4-48 Van Nuys Station Area 4-57
4-49 Route Alignment Alternatives (see fold-out section) 4-101

Studio City-North Hollywood Area
4-50 Profile Alternatives 4-59
4-51 Woodman South Station Area 4-60
4-52 Woodman North Station Area 4-61
4-53 Coldwater Canyon South Station Area 4-62
4-54 Coldwater Canyon North Station Area 4-63
4-55 Laurel Canyon South Station Area 4-64
4-56 Laurel Canyon North Station Area 4-65
4-57 Route Alignment Alternatives (see fold-out section) 4-102

North Hollywood-Universal City Area
4-58 Profile Configuration 4-67
4-59 Route Alignment Alternatives (see fold-out section) 4-103

Route Alignment Alternative Fold-Out Section 4-92

ENVIRONMENTAL IMPACTS

Land Use Impacts
5.1-1 Initial Environmental Checklist 5-1
5.1-2 Route Alternatives in Relation to Route Alternatives 5-5
5.1-3 SP Burbank Branch Summary of Displacements 5-12
5.1-4 Ventura Freeway Summary of Displacements 5-17
5.1-5 Residential Property Value Impacts for Selected Rail Transit Facilities 5-23

Transportation and Circulation Impacts
5.2-1 Functional Classification of Roadway System 5-28
5.2-2 Traffic Signal System 5-32
5.2-3 Study Intersections 5-36
5.2-4 Traffic Level of Service Interpretation 5-37
5.2-5 Burbank Branch-Existing Traffic Conditions at Study Intersections-Map 5-38
5.2-6 Burbank Branch-Existing Traffic Conditions at Study Intersections-Table 5-39
5.2-7 Ventura Freeway-Existing Traffic Conditions at Study Intersections-Table 5-41
5.2-8 Ventura Freeway-Existing Traffic Conditions at Study Intersections-Map 5-42
5.2-9 Burbank Branch-Future Base Traffic Conditions(2010)-Table 5-45

ENVIRONMENTAL IMPACTS

Transportation and Circulation Impacts (Continued)

5.2-10 Burbank Branch-Future Base Traffic Conditions (2010)-Map 5-46
5.2-11 Ventura Freeway-Future Base Traffic Conditions (2010)-Map 5-48
5.2-12 Ventura Freeway-Future Base Traffic Conditions (2010)-Table 5-49
5.2-13 Station Locations 5-50
5.2-14 Burbank Branch-Proposed Parking Supply 5-51
5.2-15 Ventura Freeway-Proposed Parking Supply 5-52
5.2-16 Burbank Branch-Trips Generated at Park/Ride Stations 5-52
5.2-17 Ventura Freeway-Trips Generated at Park/Ride Stations 5-54
5.2-18 Alternative #1-Future Conditions with Project (2010)-Map 5-53
5.2-19 Alternative #1-Future Conditions with Project (2010)-Table 5-56
5.2-20 Alternatives #2,#3-Future Conditions with Project (2010)-Map 5-58
5.2-21 Alternatives #2,#3-Future Conditions with Project (2010)-Table 5-59
5.2-22 Alternative #4-Future Conditions with Project (2010)-Map 5-60
5.2-23 Alternative #4-Future Conditions with Project (2010)-Table 5-62
5.2-24 Alternative #5-Future Conditions with Project (2010)-Map 5-64
5.2-25 Alternative #5-Future Conditions with Project (2010)-Table 5-65
5.2-26 Alternative #1-Project Mitigations 5-70
5.2-27 Alternative #2,#3-Project Mitigations 5-77
5.2-28 Alternative #4-Project Mitigations 5-81
5.2-29 Alternative #5-Project Mitigations 5-87

Noise and Vibration

5.3-1 Draft UMTA Noise Impact Criteria 5-90
5.3-2 Noise Impacts and Mitigation Summary 5-95
5.3-3 Vibration Impacts and Mitigation Summary 5-96
5.3-4 Alternative #1-Projected Noise Levels 5-98
5.3-5 Alternative #4-Projected Noise Levels 5-101
5.3-6 Summary of Noise Mitigation Requirements 5-103
5.3-7 Summary of Vibration Impacts 5-107

Visual Quality

5.4-1 Adjacent Land Uses by Route Alternative 5-112
5.4-2 Selected Adjacent Land Uses by Profile Configuration 5-114
5.4-3 Burbank Branch-Winnetka Station Visual Setting 5-120
5.4-4 Burbank Branch-Sepulveda Basin Area Visual Setting 5-122
5.4-5 Vineland Extension-Visual Setting 5-124
5.4-6 Ventura Freeway-Canoga Avenue Visual Setting 5-126
5.4-7 Ventura Freeway-Southside Aerial Visual Setting 5-128

Construction

5.5-1 Estimated Constuction Duration by Route Segment 5-133

ENVIRONMENTAL IMPACTS (Continued)

Air Quality

5.6-1 Comparison of Regional Emissions Based on VMT 5-141
5.6-2 Potential Power Plant Emissions Resulting from Rail Transit 5-141
5.6-3 Year 2010 Predicted Peak Hour CO Concentrations 5-143

Earth and Water, Risk of Upset

5.7-1 Estimated Earth Removal by Alternative 5-147
5.7-2 Truck Trips by Alternative-Export of Excavated Materials 5-148

Public Services

5.9-1 Schools Within 1/4 Mile of Rail Transit Line 5-160
5.9-2 Schools, Police and Fire Stations 5-161
5.9-3 Fire Stations in Project Area 5-166

Cultural Resources

5.10-1 Archaeological Surveys in Project Area 5-171
5.10-2 Historic Resources 5-172
5.10-3 Religious Institutions and Hospitals-Listing 5-173
5.10-4 Religious Institutions and Hospitals-Map 5-174

Population and Housing

5.11-1 1988 Housing Distribution in Affected Communities 5-179
5.11-2 Vacancy Rates for Affected Communities 5-179

Energy

5.12-1 Vehicle Miles Travelled and Energy Savings 5-182
5.12-2 Energy Consumption by Alternative 5-182

Chapter 1

INTRODUCTION AND SUMMARY

CHAPTER 1.0
INTRODUCTION AND SUMMARY

1.1 PURPOSE AND USES OF THE EIR

This Environmental Impact Report (EIR) identifies, describes, analyzes and evaluates significant environmental effects of a proposed rail transit project to be located in the San Fernando Valley of the City of Los Angeles. The EIR is intended to: a) provide the lead agency, responsible agencies, decision makers, and the general public with detailed information on the environmental effects of the proposed project, and b) to be used as tool by decision makers to facilitate decision making on the proposed project. The EIR has been prepared for the Los Angeles County Transportation Commission (LACTC) in accordance with the California Environmental Quality Act (CEQA) and State CEQA Guidelines, as amended. The LACTC is the designated lead agency for project.

The LACTC has determined that the project may have significant environmental impacts upon the environment and has therefore directed that this EIR prepared. The LACTC prepared an Initial Environmental Study which indicated those issue areas to be analyzed in this EIR. Following the completion of the Initial Study, a Notice of Preparation was submitted to all identified responsible agencies, and a project summary was distributed to the general public and those on the project mailing list. The Initial Study and the Notice of Preparation are provided in Appendix A. Responses to the Notice of Preparation are included in Appendix B. The San Fernando Valley Rail Transit Project Mailing List is included in Appendix C.

1.1.1 Public Review

Public officials, affected agencies and the general public have the opportunity for reviewing and commenting on the Draft Environmental Impact Report (DEIR) through a 45-day review period established by the State Office of Planning Research. During this review period, the LACTC will also conduct community workshops and public hearings at which time public testimony will be taken concerning the project and the DEIR. The preparers of the DEIR are required to respond, in writing, to relevant comments on the DEIR received from both citizens and public agencies. The comments and the responses to comments will be included in the Final EIR to be prepared after the public circulation period for the DEIR has ended.

1.1.2 Project Selection

After state and local governments and the general public have commented on the DEIR, LACTC will select a project from the options under study for final environmental clearance. Project decisions include:

- Selection of route alternative
- Selection of technology
- Determination of project length and corresponding rail yard site

These decisions will be based largely on information contained in this report and public comment.

1.1.3 Permits and Approvals

Implementation of the project will require a number of discretionary actions to be taken by the LACTC and other responsible agencies. The following agencies may use the EIR as a part of the process of issuing permits, approvals or cooperative agreements required to construct the project:

- City of Los Angeles
- California State Department of Transportation
- Los Angeles County Flood Control District
- U.S. Army Corps of Engineers
- Interstate Commerce Commission
- Public Utilities Commission
- Regional Water Quality Control Board
- South Coast Air Quality Management District
- Federal Railroad Administration
- Southern California Rapid Transit District
- Los Angeles Department of Water and Power
- Los Angeles County (Universaly City area connections)

1.2 HISTORY OF THE PROJECT

In November of 1980 the voters of the County of Los Angeles approved Proposition 'A'. This proposition authorized LACTC to assess a County-wide one-half percent sales tax to improve and expand existing public transit County-wide and to construct and operate a rail rapid transit system. As shown on the map which accompanied the proposition (Figure 1-1), one section of the rail rapid transit system was an east-west line serving the San Fernando Valley.

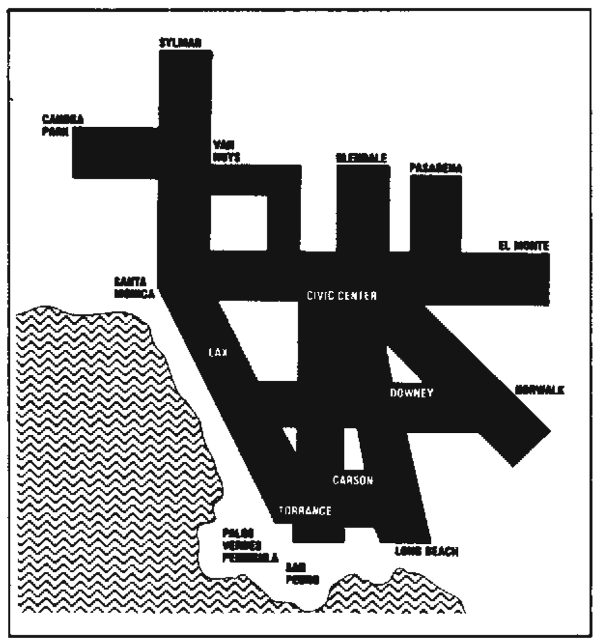


Figure 1-1
Regional Rail Transit System

In February of 1987 LACTC authorized the preparation of an EIR for the proposed rail transit project connecting the West San Fernando Valley to the Metro Rail station in either North Hollywood or Universal City. The Commission selected five alternative light rail routes to be studied in the EIR in addition to the "no project" alternative. These alternatives were studied in a report entitled Initial Alternatives Evaluation Report (Gruen Associates, September, 1987) relative to key engineering and environmental issues.

Following publication of this report, a series of citizen meetings were conducted in the San Fernando Valley to obtain citizen input to the project. In general, opposition by residents along all route alternatives was noted during these meetings.

On November 18, 1987 LACTC voted to defer further environmental study of the project and requested assistance from elected local officials to decide whether to continue with a rail transit project in the East/West San Fernando Valley corridor and, if so, where the project should be located. The Los Angeles City Council appointed the San Fernando Valley Citizens Advisory Panel which proceeded to prepare a report entitled Transportation Solutions (August 1, 1988). This report recommended that the Commission proceed with an EIR for three alternative routes: the SP Burbank Branch, the Ventura Freeway and San Fernando Road. In response to the citizens report, on September 28, 1988 the Commission authorized the resumption of the EIR process.

From September 28, 1988 to April 21, 1989 when the EIR Notice of Preparation was issued, the Commission modified the alternatives to be studied as a part of the EIR. In brief, the Commission added technology and track profile alternatives to those previously under study. These alternatives are described below.

1.3 DESCRIPTION OF PROJECT ALTERNATIVES

Two alternative route alignments have been selected for study in this EIR (Figure 1-2): 1) the Burbank Branch Route Alternative which follows, for the most part, the existing Southern Pacific Railroad Branch Line rights-of-way from Topanga Canyon Boulevard to the Metro Rail North Hollywood or Universal City Station; and 2) the Ventura Freeway Route Alternative which proceeds down Canoga Avenue and then follows, for the most part, the Ventura Freeway from Canoga Avenue to the Universal City Metro Rail Station.

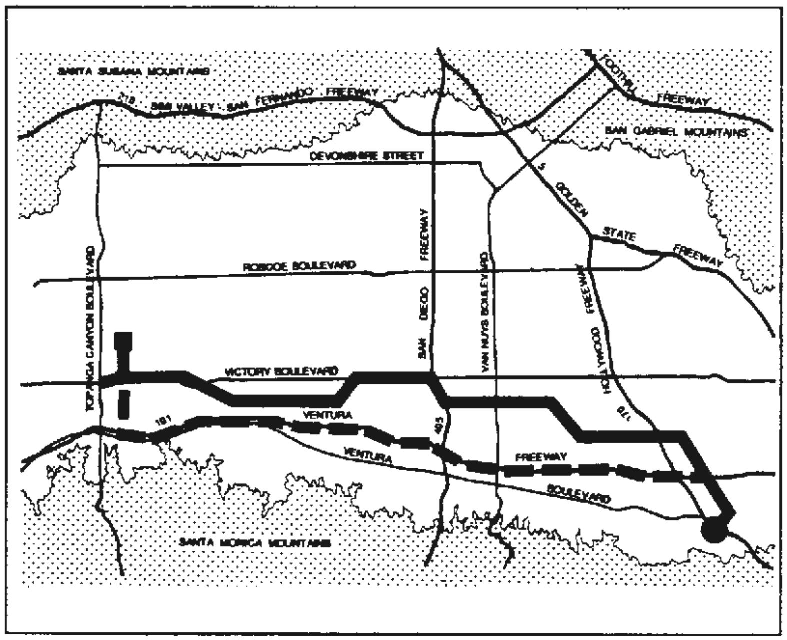


Figure 1-2
Alternative Route Alignments

As shown in Figures 1-3 and 1-4, six alternative profile and technology options are evaluated in this EIR for the Burbank Branch Route Alternative:

1a. Burbank LRT Vineland: A predominantly at-grade, light-rail transit (LRT) facility between Warner Center and Universal City utilizing Vineland Avenue between North Hollywood and Universal City. This alternative utilizes earth berms and shallow excavated segments in residential areas to mitigate noise and visual impacts. Transit riders would transfer at Universal City from LRT to Metro Rail trains.

1b. Burbank LRT Lankershim: A predominantly at-grade, LRT facility between Warner Center and North Hollywood, utilizing the adopted

Metro Rail subway on Lankershim Boulevard between North Hollywood and Universal City. This alternative is identical to alternative Number 1a, except for the Metro Rail subway segment between North Hollywood and Universal City. Transit riders would transfer at North Hollywood from LRT to Metro Rail trains.

2a. Burbank LRT Deep Trench Vineland: An LRT facility between Warner Center and Universal City that is in a deep trench or subway 25 to 30 feet below grade in residential areas. This alternative connects to Universal City via Vineland Avenue. Transit riders would transfer at Universal City from LRT to Metro Rail trains.

2b. Burbank LRT Deep Trench Lankershim: An LRT facility between Warner Center and North Hollywood that is in a deep trench or subway 25 to 30 feet below grade in residential areas. This alternative is identical to alternative Number 2a except between North Hollywood and Universal City where the adopted Metro Rail subway route would be used. Transit riders would transfer at North Hollywood from LRT to Metro Rail trains.

3a. Burbank Metro Rail Extension: An extension of Metro Rail between Warner Center and Universal City that is in deep-bore subway through residential areas 40 to 50 feet below grade. Transit riders would not be required to transfer between the main Metro Rail line and the San Fernando Valley extension.

3b. Burbank ART: An automated rail transit (ART) facility between Warner Center and North Hollywood that is in deep-bore subway through residential areas 40 to 50 feet below grade. Single car, fully automated trains would run at two-minute headways (time wait between trains) during peak periods, but transit riders would be required to transfer at North Hollywood between ART and Metro Rail trains.

Four alternatives profile and technology options are evaluated in this EIR for the Ventura Freeway Route Alternative:

4a. Ventura South Side Metro Rail Extension: An extension of Metro Rail that is predominantly on aerial guideway between Warner Center and Universal City along the south side of the Ventura Freeway. Transit riders would not be required to transfer between the main Metro Rail line and the San Fernando Valley extension.

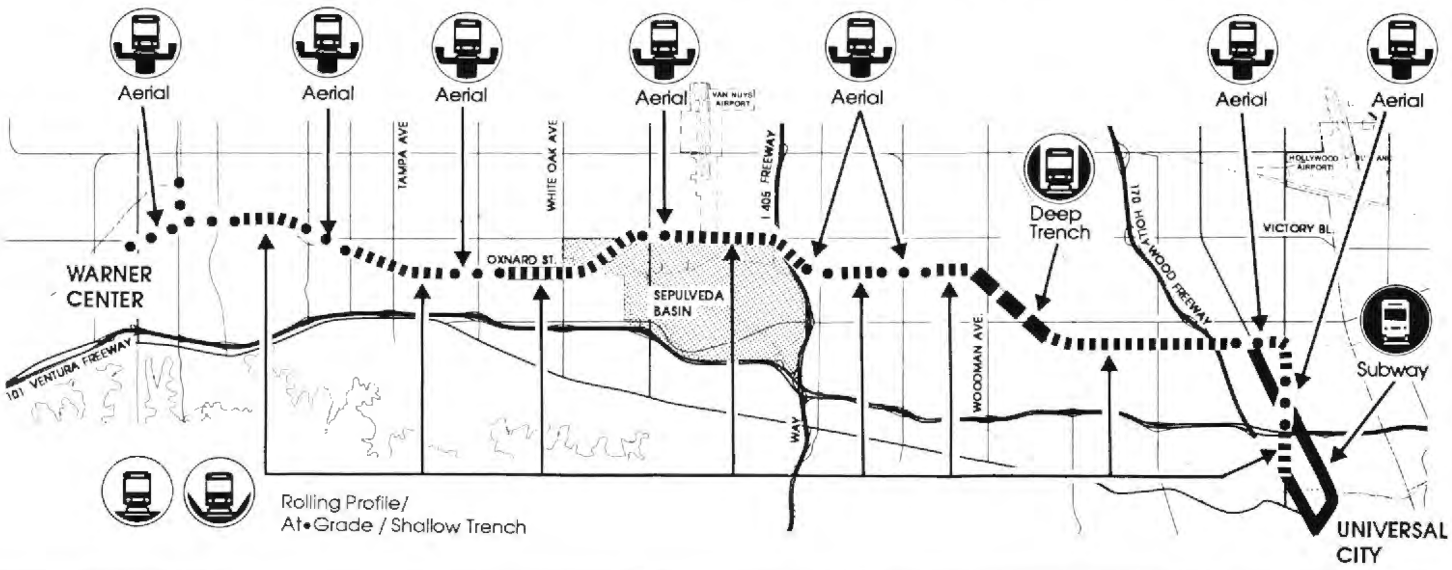
4b. Ventura South Side ART: An ART facility between Warner Center and Universal City along the south side of the Ventura Freeway on aerial guideway. Single-car, fully-automated trains would run at two-minute headways during peak periods, but transit riders would be required to transfer at Universal City between ART and Metro Rail trains. Metro Rail would terminate at Universal City instead of North Hollywood under this option.

ALIGNMENT ALTERNATIVE	ROUTE DESCRIPTION		FULL LENGTH OPERATIONS PLAN					PHASED LENGTH OPTION		COST IN 1994 (MILLION$)	
	Profile	Route Length to Universal City	Train Length	Headway (Peak Hours)	Travel Time (minutes) from Warner Center to Universal City	Travel Time (minutes) from Warner Center to Union Station	Average Weekday Trips***	Length	Average Weekday Trips***	Full Length	Phased Length Option
1a. SP Burbank Branch LRT + Vineland Extension	Aerial 5.6 mi. At-Grade 7.1 mi. Shallow Trench 3.3 mi. Deep Trench 0.3 mi. Subway 0.2 mi.	16.5 mi.	3 Car Trains	7 minutes: change trains at Universal City	:28	:55	46,200	8.1 miles Sepulveda Station to Universal City	37,900	1,305 1,060*	806 561*
1b. SP Burbank Branch LRT + Lankershim Extension	Aerial 3.9 mi. At-Grade 6.5 mi. Shallow Trench 3.2 mi. Deep Trench 0.3 mi. Subway 2.6 mi.	16.5 mi.	3 Car Trains	7 minutes: change trains at North Hollywood	:31	:55	46,200	8.1 miles Sepulveda Station to Universal City	37,900	1,692 1,017**	1,191 516**
2a. SP Burbank Branch LRT Deep Trench + Vineland Extension	Aerial 6.1 mi. At-Grade 2.3 mi. Shallow Trench 0.8 mi. Deep Trench 4.6 mi. Subway 2.7 mi.	16.5 mi.	3 Car Trains	7 minutes: change trains at Universal City	:28	:55	46,200	8.1 miles Sepulveda Station to Universal City	37,900	2,648 2,403*	1,439 1,194*
2b. SP Burbank Branch LRT Deep Trench + Lankershim Extension	Aerial 4.4 mi. At-Grade 1.7 mi. Shallow Trench 0.7 mi. Deep Trench 4.6 mi. Subway 5.1 mi.	16.5 mi.	3 Car Trains	7 minutes: change trains at North Hollywood	:31	:55	46,200	8.1 miles Sepulveda Station to Universal City	37,900	3,036 2,361**	1,823 1,148**
3a. SP Burbank Branch Metro Rail Extension Lankershim	Aerial 3.3 mi. At-Grade 1.4 mi. Shallow Trench 0.0 mi. Deep Trench 0.0 mi. Subway 11.9 mi.	16.6 mi.	3 Car Trains west of White Oak 6 Car Trains east of White Oak	12 minutes: (Topanga to White Oak) 6 minutes: (White Oak to Universal City)	:25	:49	57,800	10.2 miles Balboa Station to Universal City	48,900	3,583 2,908**	1,980 1,305**
3b. SP Burbank Branch ART Subway + Lankershim Metro Rail Extension	Aerial 3.3 mi. At-Grade 1.4 mi. Shallow Trench 0.0 mi. Deep Trench 0.0 mi. Subway 11.8 mi.	16.5 mi.	1 Car Trains	2 minutes: change trains at North Hollywood	:28	:52	54,800	8.1 miles Sepulveda Station to Universal City	38,100	3,452 2,777**	1,922 1,247**
4a. Ventura Freeway Metro Rail Extension via Southside Aerial	Aerial 13.0 mi. At-Grade 0.0 mi. Shallow Trench 0.0 mi. Deep Trench 0.0 mi. Subway 3.5 mi.	16.5 mi.	3 Car Trains west of Reseda 6 Car Trains east of Reseda	12 minutes: (Van Owen to Reseda) 6 minutes: (Reseda to Universal City)	:28	:52	50,900	6.8 miles Sepulveda Station to Universal City	35,400	2,260	1,105
4b. Ventura Freeway ART via Southside Aerial	Aerial 13.0 mi. At-Grade 0.0 mi. Shallow Trench 0.0 mi. Deep Trench 0.0 mi. Subway 3.5 mi.	16.5 mi.	1 Car Trains	2 minutes: change trains at Universal City	:28	:55	48,300	6.8 miles Sepulveda Station to Universal City	33,600	2,152	1,058
5a. Ventura Freeway Metro Rail Extension via Northside Subway	Aerial 4.8 mi. At-Grade 0.5 mi. Shallow Trench 0.0 mi. Deep Trench 0.0 mi. Subway 11.2 mi.	16.5 mi.	3 Car Trains west of Reseda 6 Car Trains east of Reseda	12 minutes: (Van Owen to Reseda) 6 minutes: (Reseda to Universal City)	:28	:52	53,000	7.1 miles Sepulveda Station to Universal City	36,900	3,544	1,831
5b. Ventura Freeway ART via Northside Subway	Aerial 4.8 mi. At-Grade 0.5 mi. Shallow Trench 0.0 mi. Deep Trench 0.0 mi. Subway 11.2 mi.	16.5 mi.	1 Car Trains	2 minutes: change trains at Universal City	:28	:55	50,200	7.1 miles Sepulveda Station to Universal City	35,000	3,376	1,734

*WITHOUT VINELAND LRT EXTENSION COSTS
**WITHOUT LANKERSHIM METRO RAIL EXTENSION COSTS
***SCAG

Figure 1-3

Summary of Project Alternatives; Alignment, Technology, Operations and Phasing Options



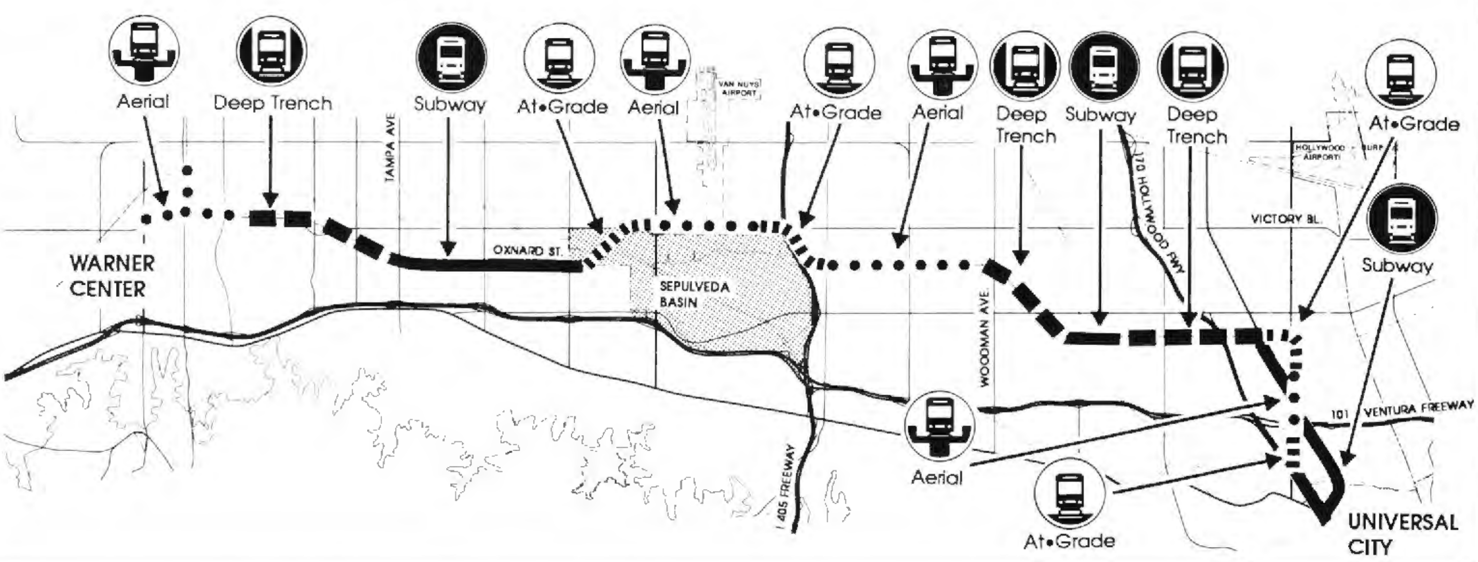
Alternative #1
SP BURBANK LRT
AT•GRADE

A predominantly at-grade alternative utilizing shallow trenches with berms in residential areas. Deep trench is used for the diagonal segment and aerial fly-overs are used at major street crossings.

Options:

#1a) Vineland Extension
#2a) Lankershim connection to Universal City (Metro Rail)

Phased length option:
Sepulveda to Universal City



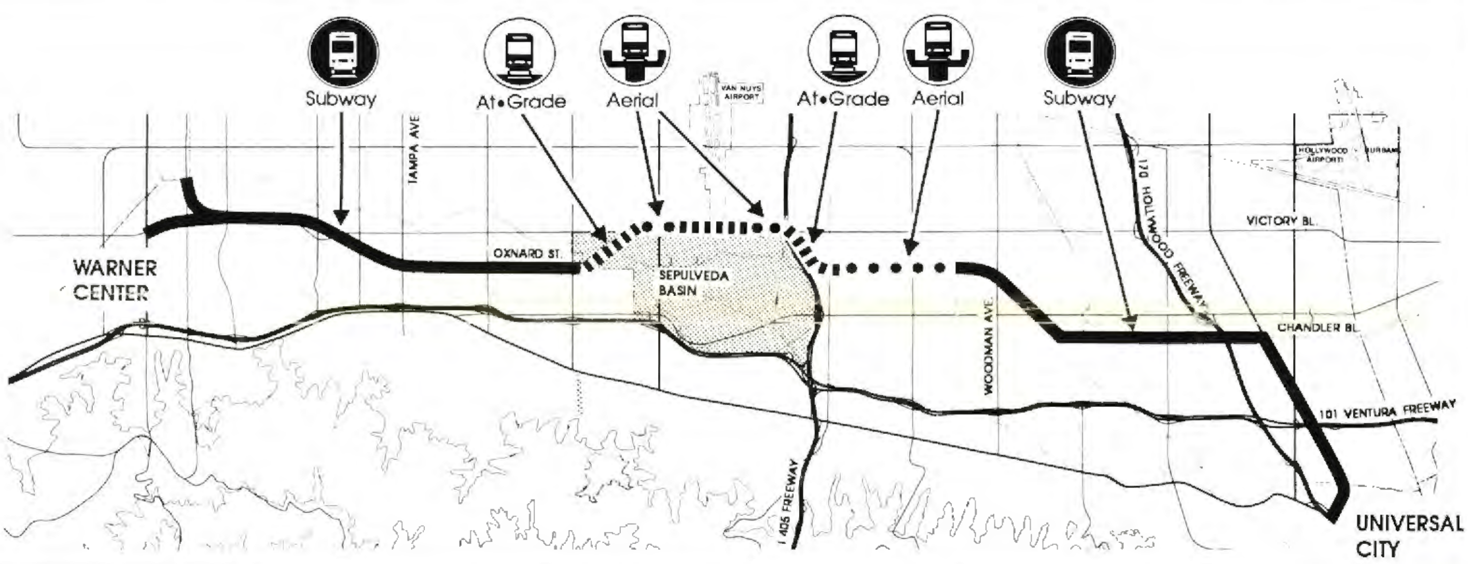
Alternative #2
SP BURBANK LRT
DEEP TRENCH/SUBWAY

A predominantly deep trench alternative in residential areas. Subway segments are used in some areas due to major utility requirements.

Options:

#2a) Vineland Extension
#2b) Lankershim connection to Universal City (Metro Rail)

Phased length option:
Sepulveda to Universal City



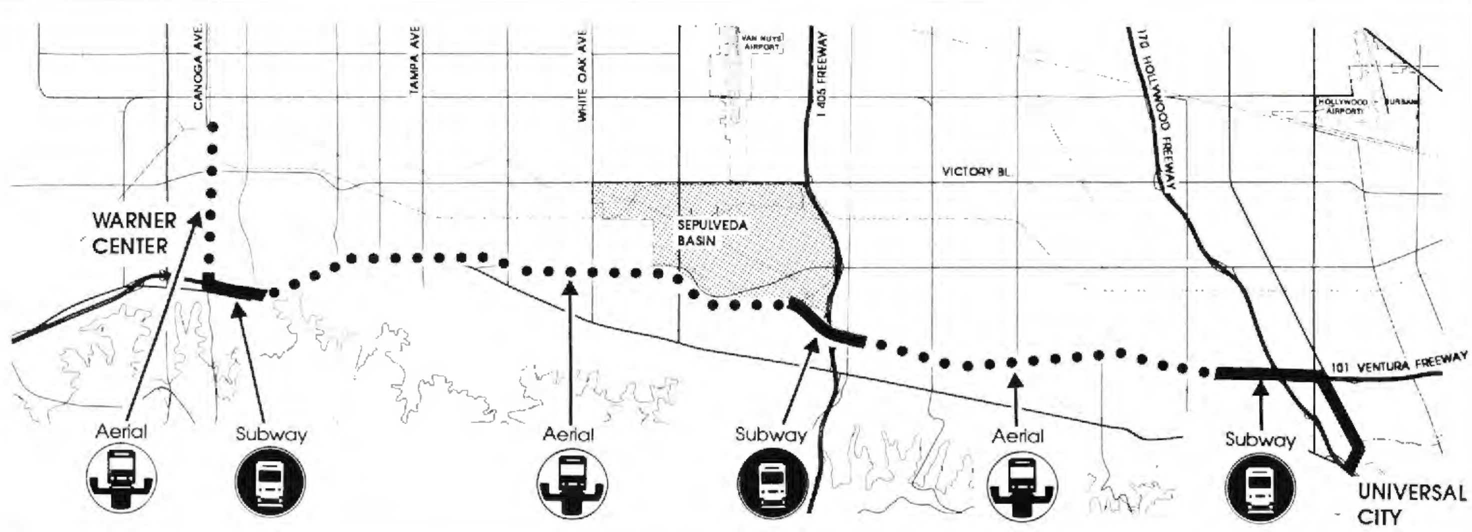
Alternative #3
SP BURBANK
ART/METRO RAIL EXTENSION

A predominantly subway alternative in residential areas with above ground segments between White Oak and Hazeltine Avenues.

Options:

#3a) Metro Rail Technology
#3b) ART Technology

Phased length option:
Balboa to Universal City



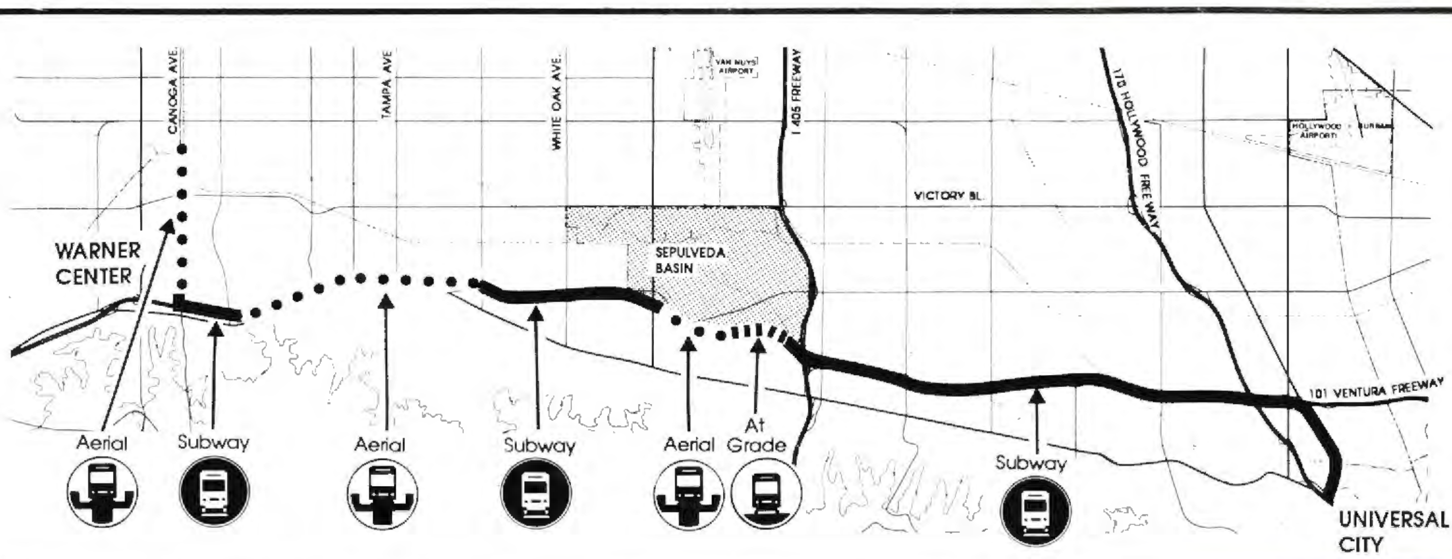
Alternative #4
VENTURA FREEWAY
SOUTHSIDE AERIAL

A predominantly aerial alternative along the south side of the Ventura Freeway. Subway segments would be used at freeway under-crossings.

Options:

#4a) Metro Rail Technology
#4b) ART Technology

Phased length option:
Sepulveda to Universal City



Alternative #5
VENTURA FREEWAY
NORTHSIDE SUBWAY

A combined aerial/subway alternative following the south side of the Ventura Freeway west of Reseda and the north side in subway east of Reseda.

Options:

#5a) Metro Rail Technology
#5b) ART Technology

Phased length option:
Sepulveda to Universal City

San Fernando Valley East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 1.4

Summary of Project Alternatives; Route and Profile Options

5a. Ventura North Side Metro Rail Extension: An extension of Metro Rail that is partially on aerial guideway and partially in deep-bore subway between Warner Center and Universal City. This alignment would follow the north side of the Ventura Freeway in a subway configuration between approximately Reseda Boulevard and Laurel Canyon Boulevard. Transit riders would not be required to transfer between the main Metro Rail line and the San Fernando Valley extension.

5b. Ventura North Side ART: An ART facility that is partially on aerial guideway and partially in deep-bore subway between Warner Center and Universal City. Single-car, fully automated trains would run at two-minute headways during peak periods, but transit riders would be required to transfer at Universal City between ART and Metro Rail trains. Metro Rail would terminate at Universal City instead of North Hollywood under this option.

All of the above alternatives include a railyard. The purpose of the yard is to provide for maintenance and/or storage of transit cars. For full length alternatives the yard is located at the northeast corner of Canoga Avenue and Vanowen Street. For Phased Length Options, as described below, the yard is located along the San Diego Freeway for both the Ventura Freeway or the SP Burbank Branch Alternatives.

In addition to the above, the EIR generally evaluates Phased Length Options for each alternative, representing the minimum segments which can be built for practical transit operations. Phased Length Options include the study of interim terminal stations located near the I-405 Freeway including parking, bus drop-offs and related facilities similar to those employed at the El Monte Busway Station.

Technologies studied in the EIR include:

- Light Rail Transit (LRT): is the same system that LACTC is developing for the Los Angeles/Long Beach Blue Line. Power is supplied via an overhead catenary system. The system is manually operated on non-exclusive rights-of-way.

- Automated Rail Transit (ART): will be similar to the system which LACTC is developing for the Norwalk-El Segundo Green Line. The system is automated, meaning that there do not need to be drivers on each train. Rail transit vehicles are controlled by computer from a central location, and operations plans can be flexible to respond to shorter headways and varied operating plans. Trains operate on exclusive rights-of-way and are grade separated at all street and highway crossings.

- Metro Rail (Metro): a segment of this system is currently being built in Downtown Los Angeles as a part of the Red Line that will eventually link Union Station with Universal City. The system is referred to generically as "heavy rail". Power is supplied via a third rail. The system can be operated both manually and by computer. The system operates on exclusive rights-of-way.

- Advanced Technologies (Monorail and Mag-Lev): These technologies are more experimental than other alternatives and have not yet seen widespread application in an American city. Monorail technologies have evolved considerably in recent years and presently are used for over 40 miles of high capacity route service in Japan.

  Medium capacity systems, such as the Disneyworld TG1 "M" series monorail, are also a possibility for particular applications. Mag-Lev (Magnetic Levitation Technologies) has had very limited practical application to date, although the potential for future use of this technology is great.

1.4 ENVIRONMENTAL IMPACT SUMMARY

Figure 1-5 summarizes environmental impacts and mitigation measures for the alternative route alignments. Impacts that would remain after mitigation are noted in the summary as "unavoidable adverse impacts" if the project is approved as proposed (CEQA Section 21081).

Technology Cost Comparison: The DEIR also provides a comparison of impacts resulting from advanced technology. In order to provide comparative construction cost estimates for these advanced technologies, the adjacent table provides comparative figures to the cost estimates provided in Figure 1-3. For this exercise the Ventura Freeway Alternative #4 was used. As can be seen in such a comparison, the Alternative #4a Metro Rail and Alternative #4b ART construction costs are greater than the medium capacity monorail and Mag-Lev costs, but lower than the high capacity monorail costs.

Summary of 1994 Alternative Technology Estimated Total Costs *

Alternative	Total Cost ($ Million)
Ventura Freeway Medium-Capacity Monorail/Via South Side Aerial	$2,093
Ventura Freeway High-Capacity Monorail/Via South Side Aerial	$2,305
Ventura Freeway Mag-Lev Via South Side Aerial	$2,094

* Based on Ventura Freeway South Side Aerial Alternative.

1.5 AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

By virtue of the long history of the project, and the many public workshops that have been held to discuss the project, numerous concerns have been raised by the community. The most frequently raised issues include noise/vibration, depreciation of property values, safety and security, traffic congestion, parking loss in neighborhoods, construction impacts, and proximity impacts (visual and privacy intrusion).

The primary issue to be resolved is how to select the preferred horizontal and vertical alignment and technology for the project. Choices range from a predominantly at-grade light rail option within the Burbank Branch Corridor to Metro Rail extensions which are in subway through residential areas. In addition, the choice of full-length or phased-length options between Universal City and Warner Center must be made.

Figure 1-5
Summary of Environmental Impacts and Mitigation Measures

Land Use (Section 5.1)

ENVIRONMENTAL IMPACT CATEGORY	SP BURBANK BRANCH ALTERNATIVES	VENTURA FREEWAY ALTERNATIVES
• Compatibility with Local Area Plans.	• Generally compatible with all six adopted Los Angeles City District Area Plans through which the alignment passes. • Some imcompatibility with Warner Center Specific Plan as that plan identifies a future station location at Oxnard/Owensmouth. Instead, the planned LACTC station would be located at Victory/Owensmouth, 3,300 feet away. Future connection to Topanga Canyon/Oxnard would be possible 1,000 feet away from Oxnard/Owensmouth.	• Rail transit has not been considered as a part of local area planning for the Ventura Freeway corridor. However, a rail corridor is generally compatible with the designation of the Ventura Freeway as a "transportation corridor." • Incompatibility with North Hollywood Redevelopment Area Plan and Metro Rail North Hollywood Station Area Master Plan, because the Ventura Freeway Alternatives do not provide service to the adopted Metro Rail North Hollywood Station. ***(Unavoidable adverse impact)*** • Some incompatiblity with Warner Center Specific Plan as that plan identifies a future station location at Oxnard/Owensmouth. Instead, the planned LACTC station would be located at Oxnard/Canoga, 1,200 feet away from Oxnard/Owensmouth.
• Land Acquisition and Displacement	• The Southern Pacific railroad (SPRR) plans to abandon the Burbank Branch freight rail line. However numerous commercial and industrial leaseholds still exist along that right-of-way that would be displaced. Some limited displacement outside of SPRR ownership would also be required. • Summary of Displacements: ***(Unavoidable Adverse Impact)*** Alternatives #1, #2 - 84 Parcels (23 are SPRR) - 203 acres (167 acres SPRR) - No homes or apartments - 113 businesses (43 are SPRR) - 381,000 sq. ft. of office and industrial buildings (255,000 sq. ft. are SPRR) - 285 commercial parking spaces - 802 jobs (344 are in SPRR leaseholds) Alternative #3 - 77 parcels (23 are SPRR) - 192 acres (167 acres are SPRR) - No homes or apartments - 56 businesses (43 are SPRR leaseholds) - 303,000 sq. ft. of office and industrial buildings (255,000 sq. ft. are in SPRR leaseholds) - No commercial parking spaces - 435 jobs (344 are in SPRR leaseholds)	• Substantial amount of private residential and business displacement. • Summary of Displacements: ***(Unavoidable Adverse Impact)*** Alternative #4 - 178 parcels - 174 acres - 70 single family homes - 429 multi-family homes - 1,078 residents - 98 businesses - 403,800 sq. ft. of commercial and industrial buildings - 680 commercial parking spaces - 1,123 jobs Alternative #5 - 143 parcels - 178 acres - 2 single-family homes - 212 multi-family homes - 430 residents - 133 businesses - 546,100 sq. ft. of commercial and industrial buildings - 690 commercial parking spaces - 1,489 jobs

Figure 1-5
Summary of Environmental Impacts and Mitigation Measures

Traffic & Circulation (Section 5.2)

ENVIRONMENTAL IMPACT CATEGORY	SP BURBANK BRANCH ALTERNATIVES	VENTURA FREEWAY ALTERNATIVES
• Regionwide Travel	• The project will have a beneficial impact on the region with a projected reduction in vehicle miles travelled. (VMT) VMT Reduction: Alt. #1 - 410,000 VMT/day Alt. #2 - 410,000 VMT/day Alt. #3 - 440,000 VMT/day	• The project will have a beneficial impact on the region with a projected reduction in vehicle miles travelled. VMT Reduction: Alt. #4 - 424,000 VMT/day Alt. #5 - 418,000 VMT/day
• Impacts near Stations and Major Streets	• Local area traffic impacts are expected at station areas. Intersections Adversely Affected: Alt. #1 - 18 intersections impacted (14 at-grade street crossings with signal pre-emption of traffic) Alt. #2 - 11 intersections (station area impacts only, as alignment is completely grade-separated from traffic) Alt. #3 - 11 intersections (station area impacts only, as alignment is completely grade-separated from traffic) Mitigation: Roadway improvements such as widening, restriping and reconfiguration of turn lanes will lessen station area impacts to levels that would not be significant. • Spillover parking could occur at station areas. Mitigation: Parking counts will be monitored and parking regulations will be strictly enforced. Neighborhoods may require residential on-street permit parking in some station areas.	• Local area traffic impacts are expected at station areas. Intersections Adversely Affected: Alt. #4 - 14 intersections impacted (Station area impacts only as alignment is completely grade-separated from traffic) Alt. #5 - 15 intersections impacted (Station area impacts only as alignment is completely grade-separated from traffic) Mitigation: Roadway improvements such as widening, restriping, and reconfiguration of turn lanes will lessen station area impacts to levels that would not be significant. • Spillover parking could occur at station areas. Mitigation: Parking counts will be monitored and parking regulations will be strictly enforced. Neighborhoods may require residential on-street permit parking in some station areas. • Guideway placement in the median of Canoga Avenue will require closure of up to two lanes during construction and permanent reconfiguration with intersection flares to provide for turning lanes under guideway. Mitigation: Construction would be phased to minimize impacts on local traffic & businesses. Some work could occur in weekend and night periods to avoid rush hour periods.

Figure 1-5
Summary of Environmental Impacts and Mitigaiton Measures

Noise and Vibration (Section 5.3)

ENVIRONMENTAL IMPACT CATEGORY	SP BURBANK BRANCH ALTERNATIVES	VENTURA FREEWAY ALTERNATIVES
• Noise	• Alternatives #2 and #3 are below ground in sensitive areas and therefore no noise impacts are anticipated. • Alternative #1, the at-grade LRT alignment utilizes a shallow trench with earthberms which serves to buffer noise sensitive areas. After mitigation with such berms, noise impacts remain for 38 single-family homes, principally due to the sound of street crossing warning bells. Mitigation: By limiting LRT speeds in night and weekend periods to 35 mph, it would be possible to not use warning bells at those times. In addition, 5dB quieter warning bells could be used during daytime periods when higher LRT speeds would be maintained. These mitigations would reduce impact to 9 single-family homes. LACTC would work with the affected owners to resolve site specific noise impacts during the design phase.	• Alternative #5 is below ground in sensitive areas and therefore no noise impacts are anticipated. • Alternative #4 is located on aerial guideway close to numerous commercial and residential buildings. Noise barriers can be attached to the outside of the guideway to mitigate most of this impact. Properties impacted after mitigation include: Alt. #4a - Metro Rail Alternative: - 13 single-family homes - 5 apartment buildings - 2 office buildings Alt. #4b - ART Alternative: - 9 single-family homes - 1 apartment building - 2 office buildings Mitigation: Further mitigation beyond noise barriers attached to the guideway would involve the use of up to 4,500 feet of welded tie-and-ballast track. Such treatment should eliminate the above impacts.
• Vibration	• The SP Burbank Branch Alternatives have potential for ground-borne vibration from two double crossover tracks located in residential areas. Impacts include: Alternative #1 - 20 single-family homes - 18 multi-family buildings - 1 religious building Alternative #2 - 19 single-family homes - 7 multi-family buildings - 1 religious building Alternative #3 - 20 single-family homes - 2 multi-family buildings - 1 religious building Mitigation: The specific needs for these crossovers will be assessed. Special treatment of track rail and track bed would occur following further studies of specific conditions. Estimates of special track work required for mitigation include: Alt. #1 - 800-4,300 feet Alt. #2 - 1,200-2,400 feet Alt. #3 - 600-2,750 feet	• Alternative #4 is predominantly on aerial guideway where there is little potential for vibration impact. Impact areas are in locations where single-family homes are closest to retained fill track sections. Impacts include: Alternative #4 - 25 single-family homes • Alternative #5 is predominantly in subway and has a much greater vibration impact potential because of the number of buildings that this alignment is directly under or almost under. Impacts include: Alternative #5 - 37 single-family homes - 42 multi-family buildings - 1 medical office building - 1 convalescent hospital Mitigation: Special treatment of track rail and track bed following further studies of specific conditions. Estimates of special track work required for mitigation include: Alt. #4 - 1,600-4,500 feet Alt. #5 - 4,050-13,300 feet

Figure 1-5
Summary of Environmental Impacts and Mitigation Measures

Visual (Section 5.4)		
ENVIRONMENTAL IMPACT CATEGORY	**SP BURBANK BRANCH ALTERNATIVES**	**VENTURA FREEWAY ALTERNATIVES**
• Adjacent Land Uses	• Summary of Adjacent Land Uses: Alternatives #1, #2, #3 - 44% residential - 36% commercial/industrial - 18% parks and schools - 2% freeway adjacent	• Summary of Adjacent Land Uses: Alternative #4 - 27% residential - 28% commercial/industrial - 4% parks and schools - 41% freeway adjacent Alternative #5 - 16% residential - 27% commercial/industrial - 7% parks and schools - 50% freeway adjacent
• Aerial Guideway Proximity Impacts	• Alternative #1, the at-grade LRT would have flyovers structures at major street crossings at DeSoto, Winnetka and Victory Boulevards. Although these guideways would be aesthetically designed and screened by landscaping where possible, proximity impacts including loss of privacy, and obstruction of view corridors would occur. Approximately 25-30 homes would have their sideyards and rear yards affected. ***(Unavoidable adverse impact)*** • Five stations would be located in residential areas. Such stations would contribute light and glare for all of the SP Burbank Branch Alternatives. Mitigation: Station design will incorporate elements which address light and glare impacts. LACTC willl seek community input and will coordinate with the City of Los Angeles regarding station plans.	• Alternative #4, the southside aerial would be configured on a guideway in residential areas for approximately 28% of its route. Some loss of privacy and blockage of view corridors would result for several hundred homes along this route. ***(Unavoidable adverse impact)*** • Six stations would be located in residential areas with Alternative #4 and three stations would be located in residential areas with Alternative #5. Such stations would contribute light and glare and alter the visual character of these areas. Mitigation: Station design will incorporate elements which address light and glare impacts. LACTC willl seek community input and will coordinate with the City of Los Angeles regarding station plans.

Figure 1-5
Summary of Environmental Impacts and Mitigation Measures

Construction (Section 5.5)		
ENVIRONMENTAL IMPACT CATEGORY	**SP BURBANK BRANCH ALTERNATIVES**	**VENTURA FREEWAY ALTERNATIVES**
• Duration of Construction	• The length of time that neighborhoods would be subject to temporary construction impacts would vary among the alternatives (construction periods based on typical one-mile segments): Alternative #1 At-grade construction is the fastest of the alternatives under study. Construction along the existing SP trackbed would extend for 2-3 months in at-grade areas and 8-12 months for aerial flyover structures. Alternative #2 Deep trench construction would involve heavy construction and excavation for the entire length of the line. Construction activities would extend for 3-4 years. Alternative #3 Deep-bore subway segments would utilize construction staging sites at future station areas. Heavy construction equipment and excavation activities would be confined to these station areas. Construction activities would extend for 3-4 years for deep-bore subway segments. Mitigation: Prior to construction traffic control plans and public information campaigns will be developed. Noise specifications for inclusion in Construction documents shall be developed on the selection of a preferred route. Utility relocations shall be phased to minimize service delays.	• Construction of aerial and subway sections along the edge of the Ventura Freeway would require a coordinated traffic management plan, with some freeway ramp relocations and closure of freeway lanes during off-peak periods. Off-peak construction would necessitate night and weekend work which would be disruptive in residential areas. ***(Unavoidable adverse impact)*** • The length of time that neighborhoods would be subject to temporary construction impacts would vary among the alternatives (construction periods based on typical one-mile segments): Alternative #4 Aerial guideway construction along the edge of the Ventura Freeway would most likely involve precast guideway sections being erected onto cast-in-place foundation and guideway support columns. Construction activities would extend for 8-12 months. Alternative #5 Deep-bore subway segments would utilize construction staging sites located at future station areas. Heavy construction equipment would be confined to these station areas. Construction activities would extend for 3-4 years in deep-bore subway segments. Mitigation: Prior to construction traffic control plans and public information campaigns will be developed. Noise specifications for inclusion in Construction documents shall be developed on the selection of a preferred route. Utility relocations shall be phased to minimize service delays.

Figure 1-5
Summary of Environmental Impacts and Mitigation Measures

Air Quality (Section 5.6)

ENVIRONMENTAL IMPACT CATEGORY	SP BURBANK BRANCH ALTERNATIVES	VENTURA FREEWAY ALTERNATIVES
• Regionwide Air Quality	• The project will have a beneficial impact on the region with a projected reduction in automobile generated pollutants: Alternatives #1, #2 - Organic gases 0.31 tons/day - Carbon monoxide 3.23 tons/day - Nitrogen oxides 0.60 tons/day Alternative #3 - Organic gases 0.33 tons/day - Carbon monoxide 3.47 tons/day - Nitrogen oxides 0.64 tons/day	• The project will have a beneficial impact on the region with a projected reduction in automobile generated pollutants: Alternatives #4, #5 - Organic gases 0.32 tons/day - Carbon monoxide 3.31 tons/day - Nitrogen oxides 0.62 tons/day
• Local Area Impacts	• Carbon monoxide concentrations at stations with larger parking lots are anticipated to increase due to increased traffic being attracted to these stations. The largest "hot-spot" increases range from 0.1 to 0.4 parts per million on future base levels of 17 to 20 parts per million. Mitigation: Station design shall incorporate measures to minimize congestion during peak periods including off street bus transfer points, on-site Kiss and ride parking, and circulation patterns that will reduce queue lengths, since auto idling is related to localized air pollution.	• Carbon monoxide concentrations at stations with larger parking lots are anticipated to increase due to increased traffic being attracted to these stations. The largest "hot-spot" increases range from 0.4 to 0.8 parts per million on future base levels of 17 to 20 parts per million. Mitigation: Station design shall incorporate measures to minimize congestion during peak periods including off street bus transfer points, on-site Kiss and ride parking, and circulation patterns that will reduce queue lengths, since auto idling is related to localized air pollution.

Figure 1-5
Summary of Environmental Impacts and Mitigation Measures

Earth & Water, Risk of Upset (Section 5.7)

ENVIRONMENTAL IMPACT CATEGORY	SP BURBANK BRANCH ALTERNATIVES	VENTURA FREEWAY ALTERNATIVES
• Earth Removal	• Excavation for below ground segments would require haul routes along the SP rignt-of-way and major streets. Quantities of earth removal removal by alternative include: Excavation Required: #1a) 127,000 cu yds #1b) 422,000 cu yds #2a) 1,884,000 cu yds #2b) 2,183,000 cu yds #3a) 2,293,000 cu yds #3b) 2,026,000 cu yds • Possibility exists that excavation along areas of this predominatly industrial/railroad corridor would uncover toxic materials. Such materials would be disposed of as specified in EPA guidelines. Mitigation: Excavation materials would be taken to other construction projects and to landfil sites. Because of shortages in such facilities, any substantial additional demand is significant. ***(Unavoidable adverse impact)***	• Excavation for below ground segments would require haul routes along the freeway and major surface streets. Quantities of earth removal by alternative include: Excavation Required: #4a) 634,000 cu yds #4b) 564,000 cu yds #5a) 2,100,000 cu yds #5b) 1,820,000 cu yds Mitigation: Excavation materials would be taken to other construction projects and to landfil sites. Because of shortages in such facilities, any substantial additional demand is significant. ***(Unavoidable adverse impact)***
• Floodplains	• Construction of the phased-length railyard in the Sepulveda Basin would be located within standard project flood levels. Construction activities would need to comply with stringent design requirements of the US Army Corps of Engineers.	• Construction of the phased-length railyard adjacent to the spillway area of the Sepulveda Dam would need to comply with stringent design requirements of the US Army Corps of Engineers.
• Hydrocarbons	• Potential dangers from underground hydrocarbons are of concern in underground sections (Alternatives #2 and #3). No areas of significant underground gas accumulation were identified.	• Potential dangers from underground hydrocarbons are of concern in underground sections (Alternative #5). No areas of significant underground gas accumulation were identified.
• Earthquakes	• The San Fernando Valley is a seismically active region although no active faults are crossed by the alignment. Mitigation: Design issues shall be addressed once a route has been selected and further Geotechnical studies are undertaken. No significant impacts or public safety issues are anticipated.	• The San Fernando Valley is a seismically active region although no active faults are crossed by the alignment. Mitigation: Design issues shall be addressed once a route has been selected and further Geotechnical studies are undertaken. No significant impacts or public safety issues are anticipated.

Figure 1-5
Summary of Environmental Impacts and Mitigation Measures

Biological & Recreational (Section 5.8)		
ENVIRONMENTAL IMPACT CATEGORY	**SP BURBANK BRANCH ALTERNATIVES**	**VENTURA FREEWAY ALTERNATIVES**
• Sepulveda Basin Recreation Area	• Although the SP Burbank alternatives pass through the Sepulveda Basin in railroad right-of-way, approximately 2.7 acres of parkland adjacent to the rail right-of-way would be required. • The SP Burbank phased-length route option would displace 28 acres of parkland adjacent to the San Diego Freeway for a railyard site. ***(Unavoidable adverse impacts)***	• Construction of aerial guideways and station areas would displace 6.1 acres of parkland for Alternative # 4 and 22.5 acres for Alternative # 5. • The Ventura Freeway phased-length route option would displace 21 acres of Sepulveda Recreation Area land currently used by LA Fire Department # 88 and the US Army Reserve Training Center. ***(Unavoidable adverse impacts)***
• Other Recreation and Park Facilities	• Station parking at the planned Winnetka Station would displace three Little Leauge softball fields on Pierce College property. • The Vineland Extension route option would diplace 1.3 acres of South Weddington Park. ***(Unavoidable adverse impacts)*** Mitigation: Parkland areas through which the rail transit project passes will be landscaped in coordination with the US Army Corps of Engineers and the LA Recreation and Parks Department to reflect planned recreation uses for these areas.	Mitigation: Parkland areas through which the rail transit project passes will be landscaped in coordination with the US Army Corps of Engineers and the LA Recreation and Parks Department to reflect planned recreation uses for these areas.

Figure 1-5
Summary of Environmental Impacts and Mitigation Measures

Public Services (Section 5.9)

ENVIRONMENTAL IMPACT CATEGORY	SP BURBANK BRANCH ALTERNATIVES	VENTURA FREEWAY ALTERNATIVES
• Schools	• These alternatives pass next to 4 schools and within 1/4 mile of 16 schools. • Noise impacts are not significant as Alternative #1 would be constructed with shallow trenches/berms near schools to provide buffering. • Alternatives #2 and #3 are located below ground and would therefore have no impact. • Schools located near planned transit stations would experience increased traffic congestion in the morning rush hours when school and transit uses coincide. Stations would provide positive benefit to schools for students and faculty that would use the transit system. Mitigation: LACTC safety criteria shall be observed and coordination with school officials shall be sought during the design phase of the project in regard to construction phasing, pedestrian walkways and security around storage, maintainance trackway and power source areas. Noise & vibration impacts will be reduced to acceptable levels.	• Alternative #4 would pass next to 5 schools and within 1/4 mile of 15 schools. • Alternative #5 would pass next to 3 schools and within 1/4 mile of 15 schools. • Alternative #4 would require the displacement of Campbell Hall School, a private elementary through senior high school located at Laurel Canyon Boulevard. ***(Unavoidable adverse impact)*** • Alternative #4 would also require temporary taking during the construction phase of a portion of Hesby St. School playground (currently not used for teaching) during the construction phase of the project. • Schools located near planned transit stations would experience increased traffic congestion in the morning rush hours when school and transit uses coincide. Stations would provide positive benefit to schools for students and faculty that would use the transit system. Mitigation: LACTC safety criteria shall be observed and coordination with school officials shall be sought during the design phase of the project in regard to construction phasing, pedestrian walkways and security around storage, maintainance trackway and power source areas. Noise & vibration impacts will be reduced to acceptable levels.
• Police	• Increased transit usage will result in increased demand on LAPD services to support Transit Security personnel.	• Increased transit usage will result in increased demand on LAPD services to support Transit Security personnel.
• Fire	• Increased transit usage will result in increased demand for LAFD fire fighting and paramedic units, increased inspection requirements and additional false alarms. Traffic concentrations around station areas may lengthen emergency response times during peak hours. • Alternative #1, due to crossing gates, may lengthen emergency response times due to signal pre-emption.	• Increased transit usage will result in increased demand for LAFD fire fighting, paramedic units, and increased inspection requirements. Traffic concentrations around station areas may lengthen emergency response times during peak hours. • The Alternative #4 and #5 Phased-Length Route would require the relocation of Fire Station #88 for the construction of a Rail Storage Facility along side the San Diego Freeway.

Figure 1-5
Summary of Environmental Impacts and Mitigation Measures

Cultural Resources (Section 5.10)

ENVIRONMENTAL IMPACT CATEGORY	SP BURBANK BRANCH ALTERNATIVES	VENTURA FREEWAY ALTERNATIVES
• Archaeological & Historical	• Potential exists for the disruption of archaeological sites during construction activities. No known active sites were identified along the project alternative routes, however appropriate CEQA guidelines will be followed in the event that artifacts are uncovered. • Some greater potential for uncovering historical or archaeological materials exists with Alternative #2, due to the need to excavate along the surface of the SP Burbank Route for most of the length of the alignment. Alternative #3 surface excavation would be confined to station areas, while Alternative #1 would be confined to shallow trench areas. Mitigation: Portions of the Sepulveda Basin through which the alignment will pass shall be monitored during construction. A survey along the railroad right-of-way should be conducted prior to the start of construction.	• Potential exists for the disruption of archaeological sites during construction activities. No known active sites were identified along the project alternative routes, however appropriate CEQA guidelines will be followed in the event that artifacts are uncovered. Mitigation: Portions of the Sepulveda Basin through which the alignment will pass shall be monitored during construction. A survey along the railroad right-of-way should be conducted prior to the start of construction.

Population & Housing (Section 5.11)

ENVIRONMENTAL IMPACT CATEGORY	SP BURBANK BRANCH ALTERNATIVES	VENTURA FREEWAY ALTERNATIVES
• Loss of Housing Stock	No housing would be displaced by these alternatives.	Because of low vacancy rates and a lack of affordable housing in the Los Angeles area, any loss of available housing is considered a significant adverse impact. • Alternative #4 would displace 69 single-family homes and 429 multi-family units. ***(Unavoidable adverse impact)*** • Alternative #5 would displace 2 single-family homes and 212 multi-family units. ***(Unavoidable adverse impact)*** Mitigation: LACTC would coordinate with the Los Angeles Community Development Department to develop a replacement housing program to replenish units displaced by the rail transit alignment. (Funding for the program has not been included in project cost esimates.)

Figure 1-5
Summary of Environmental Impacts and Mitigation Measures

Energy (Section 5.12)		
ENVIRONMENTAL IMPACT CATEGORY	**SP BURBANK BRANCH ALTERNATIVES**	**VENTURA FREEWAY ALTERNATIVES**
• Energy Savings	The project would have beneficial impact on regional energy consumption through a reduction in vehicle miles travelled. Daily Gallons of Fuel Saved: Alt #1, #2 - 18,800 gallons Alt #3 - 20,100 gallons	The project would have beneficial impact on regional energy consumption through a reduction in vehicle miles travelled. Daily Gallons of Fuel Saved: Alt #4 - 19,400 gallons Alt #5 - 19,100 gallons
Other Impacts (Section 5.13)		
• Growth Inducement	• All the alignments have the potential for redistribution and concentration of future regional growth along transit corridors. Alternative #3 has somewhat greater potential for redistribution due to greater estimated patronage and the higher potential of Metro Rail/ART transportation technologies to occommodate higher levels of patronage in the future than LRT technologies.	• All the alignments have the potential for redistribution and concentration of future regional growth along transit corridors.
• Cumulative Impacts	• Other transportation projects are in planning stages including a north-south rail transit line in the San Diego Freeway corridor, a possible extension of the east-west rail transit line from Canoga Park to Simi Valley, an HOV- bus guideway along the north side of the Ventura Freeway, a possible use of the Los Angeles River as a highway corridor, and potential rail connection between Sylmar, Palmdale and Los Angeles International Airport or CBD as a part of a high-speed interstate rail project linking Southern California and Las Vegas. Any or all of these projects would have the effect of increasing patronage on the east-west rail transit line, and therefore increase potential air quality and energy use savings compared to the project alone.	• Other transportation projects are in planning stages including a north-south rail transit line in the San Diego Freeway corridor, a possible extension of the east-west rail transit line from Conogo Park to Simi Valley, an HOV- bus guideway along the north side of the Ventura Freeway, a possible use of the Los Angeles River as a highway corridor, and potential rail connection between Sylmar, Palmdale and Los Angeles International Airport or CBD as a part of a high-speed interstate rail project linking Southern California and Las Vegas. Any or all of these projects would have the effect of increasing patronage on the east-west rail transit line, and therefore increase potential air quality and energy use savings compared to the project alone.

Chapter 2

PROJECT PURPOSE AND HISTORY

CHAPTER 2.0
PROJECT PURPOSE AND HISTORY

2.1 PROJECT DESCRIPTION

The proposed project examined by this report is a rail transit facility which will form a part of the larger 150-mile regional rail transit system being developed in Los Angeles County, California. The segment studied in this document is intended to primarily serve residential and employment centers in the San Fernando Valley. This segment is shown in the context of the Countywide Rail Transit Plan (Figure 2-1, Los Angeles County Rail Transit Plan).

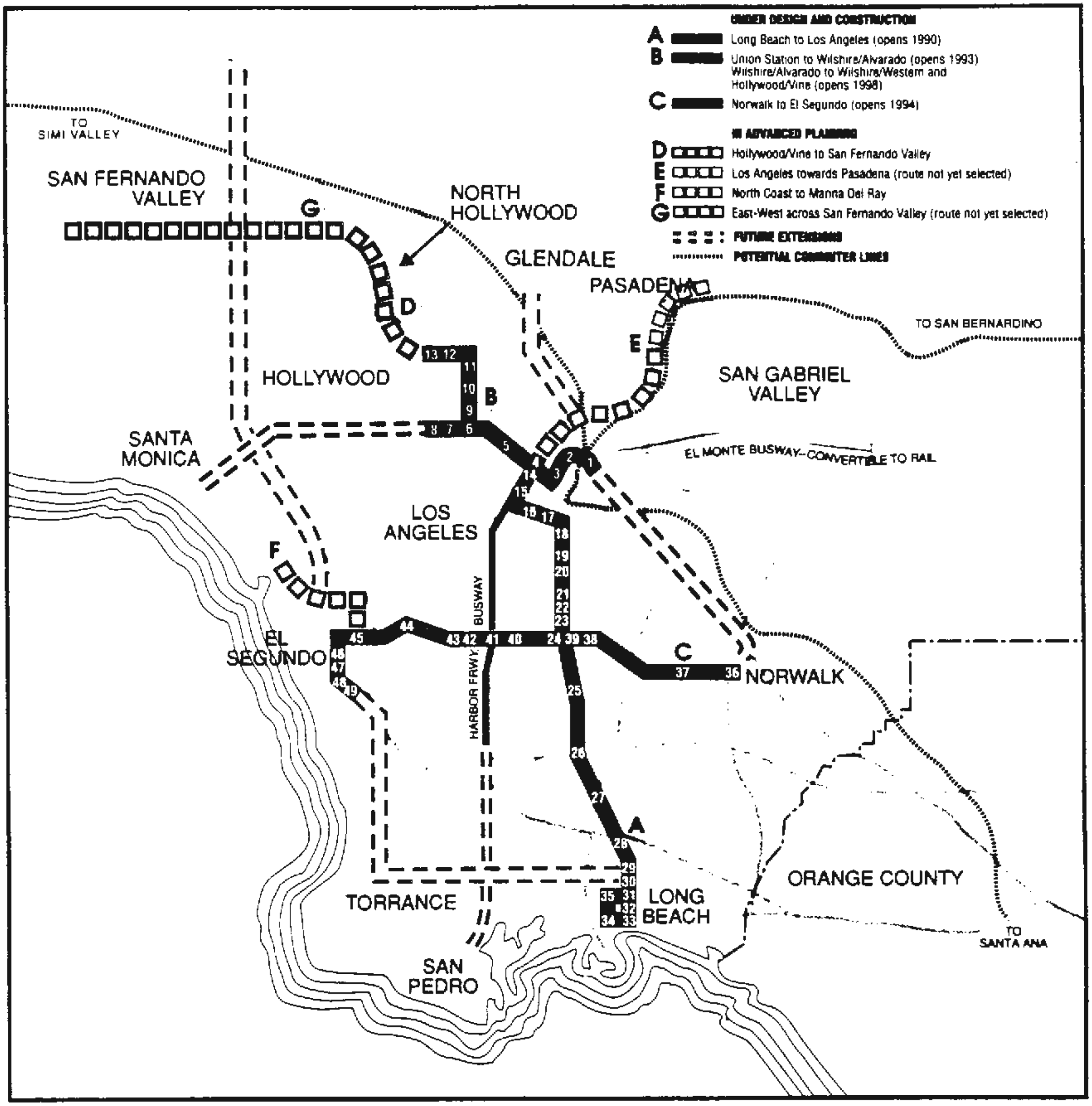
Depending on the alternative selected, the project will be adjacent or to the north of US Highway 101/State Route 134 (Ventura Freeway). The easterly terminus of the project will be the proposed Metro Rail station in either North Hollywood or Universal City which, in turn, will provide rail service to the Los Angeles Central Business District (CBD), or regional core, and beyond. From either Metro Rail station, the project will extend in a westerly direction to Warner Center in the west San Fernando Valley.

2.2 PROJECT PURPOSE

The purposes of the proposed project are threefold:

1. <u>To carry out the public mandate for the construction of a countywide rail transit system expressed by the voters in 1980 (Proposition A)</u>. Planning policies of the City of Los Angeles were reinforced when Los Angeles County voters passed Proposition A in November of 1980. This proposition added one-half percent to the County sales tax to provide, in part, local funding for a county-wide rail rapid transit system. The east-west rail transit line through the San Fernando Valley formed an important part of this system. Implementation of the project would represent a direct response to the voter mandate for such a system.

2. <u>To provide an alternative mode of transportation and help control the growth of traffic congestion in the San Fernando Valley</u>. The Southern California Rapid Transit District (SCRTD) operates the largest bus-only transit facility in the nation carrying over 1.5 million passengers daily. Nonetheless, more than 95% of the region's residents continue to rely almost exclusively on the automobile for transportation. The introduction of a regional rail transit system integrated with other public transit facilities is intended to provide an efficient, cost effective and reliable alternative form of transportation, thus decreasing the heavy reliance on the automobile for movement and better serving the needs of transit dependent residents.



San Fernando Valley East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 2-1

Los Angeles County Rail Transit Plan

Transportation modeling forecasts performed for the region indicate that problems associated with vehicular movement can be expected to increase substantially by the year 2010. SCAG estimates that average rush hour travel speeds will drop from the current 37 miles per hour to 17 miles per hour by the year 2000. The Ventura Freeway, for example, is currently operating at close to capacity and is forecasted to have average "rush" hour speed limits approaching seven miles per hour. Regional rail transit, in conjunction with other measures, can aid in reducing these levels of congestion.

3. To respond to the policies of the City of Los Angeles General Plan. A major component of the City of Los Angeles General Plan is the planning concept of creating centers (Figure 2-2, Los Angeles Centers Concept).[1] Centers are defined by the general plan as areas "*...with a high intensity of varied urban activities: residential, commercial, cultural, recreational, and appropriate industrial uses.*" [2] Transit systems are expected to play an important part in the centers concept as witnessed by policies of the General Plan's Circulation Element which state: "It is the City's policy that a rapid transit system is essential to the achievement of the General Plan. Such system is to interconnect Centers throughout the City and include auxiliary local systems in the larger Centers."[3] Designated major centers which the proposed project may serve include Warner Center/ Woodland Hills, Reseda, Van Nuys, Sherman Oaks, North Hollywood and Universal City. Development of the proposed project would therefore aid in realizing the policy aims of the City of Los Angeles General Plan.

2.3 PLANNING HISTORY

In 1976 the California State Legislature created the LACTC to coordinate short-range transportation funding and planning in Los Angeles County. The Commission is responsible for overseeing street, freeway and transit funds in Los Angeles and is the Lead Agency responsible for the San Fernando Valley Rail Transit project.

Over the past thirteen years LACTC has taken a number of steps toward the identification of appropriate routes and system alternatives. The development of project alternatives (Figure 2-3, Historic Development Process) is described below:

November 1980: Los Angeles County voters approved Proposition A, which defined the areas to be served by rail transit.

May 1983: LACTC adopted the San Fernando Valley East/West corridor as one of six high-priority rail transit corridors recommended for further route refinement studies under

---

1 Concept Los Angeles, The Concept of the Los Angeles General Plan, City of Los Angeles, April, 1974; and Centers Definition Report, City of Los Angeles Planning Department, 1983. City ordinances related to Centers were amended by Ordinance No. 161684 (effective November 3, 1986) which provided additional regulation of heights and floor areas.

2 Ibid (Concept Los Angeles), Page 2.

3 Ibid, Page 5.

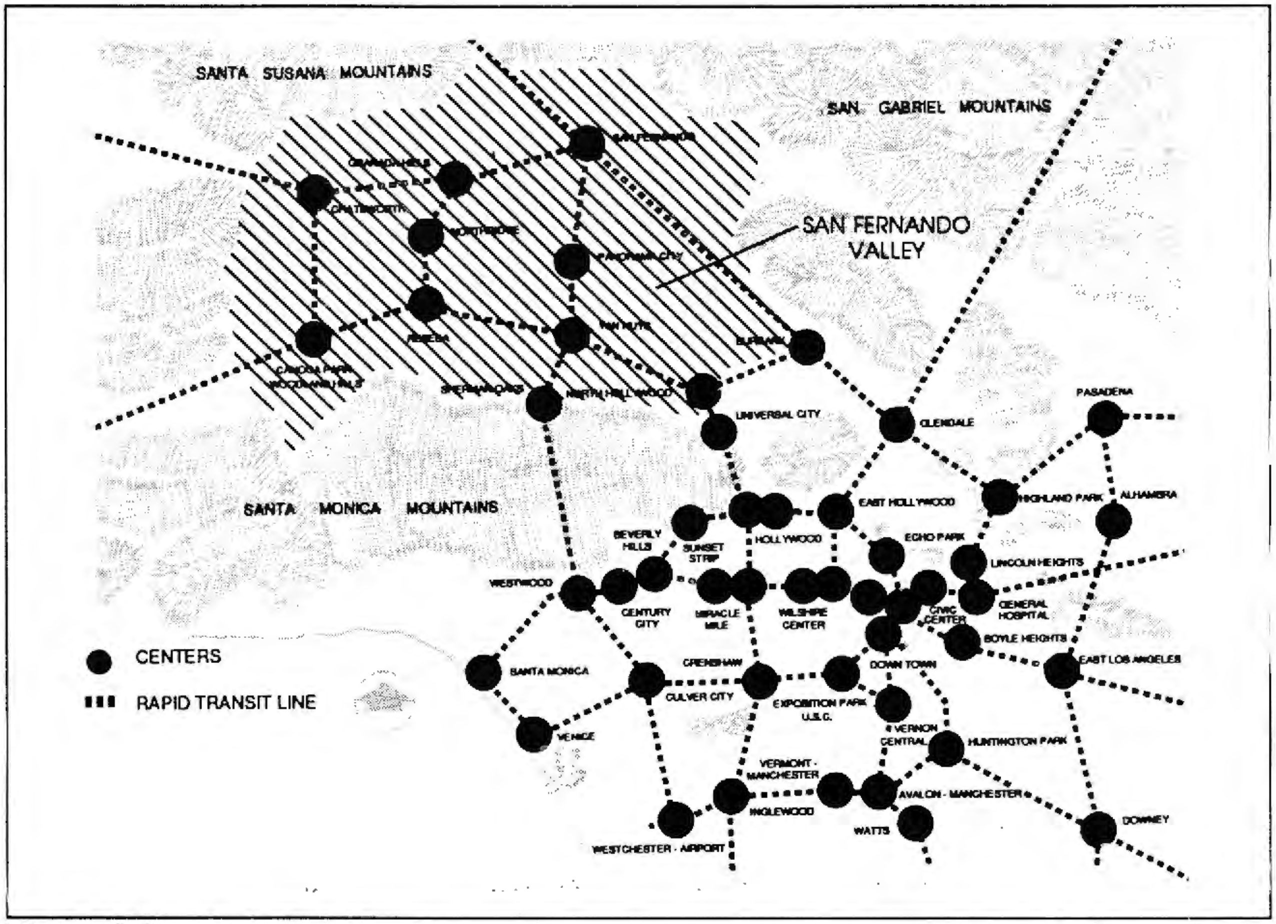


Figure 2-2
Los Angeles City Centers Concept

Source: The Los Angeles General Plan, 1974.

May 1983: LACTC adopted the San Fernando Valley East/West corridor as one of six high-priority rail transit corridors recommended for further route refinement studies under Proposition A.

July 1983: LACTC conducted a preliminary route assessment study. Alternative routes studied in the San Fernando Valley East/West Corridor included the Southern Pacific Mainline, Sherman Way, Ventura Freeway, Los Angeles River, Ventura Boulevard (aerial), and the Southern Pacific Burbank Branch.

October 1983: based on a preliminary assessment of candidate routes, LACTC selected a mid-Valley light rail transit line (LRT) generally following the Southern Pacific's Burbank Branch as a representative route for system planning purposes.

Spring 1985: LACTC initiated a route refinement study which analyzed multiple alignment variations generally using the Burbank Branch right-of-way. A summary report was issued in August 1986.

Fall 1986: Substantial local opposition to the Burbank Branch route emerged. LACTC elected to expand the route refinement study to include four other light rail routes. These included the SP Coast Mainline, Victory Boulevard, the Los Angeles River and the Ventura Freeway corridors.

February 1987: Five alternative routes were selected for study in an Environmental Impact Report by LACTC and conceptual engineering of the routes commenced. Route alternatives studied included the SP Burbank Branch, the SP Mainline, the LA River, Victory Boulevard, and Ventura Freeway aerial. Previous route alternatives, Sherman Way, the Southern Pacific Burbank Branch "Oxnard Street Variation", and the Ventura Boulevard aerial, were dropped from further consideration.

September 1987: Conceptual engineering of the routes was completed and presented in a report entitled Initial Alternatives Evaluation Report. Contents of the report were reviewed with the public.

November 1987: LACTC voted to postpone initiation of an EIR on the project due to continuing and growing opposition to all five alignment alternatives. Simultaneously, the Commission requested assistance from elected Valley officials to develop a consensus on how to proceed with future rail studies.

March 1988: The Los Angeles City Council created the San Fernando Valley Citizens Advisory Panel on Transportation Solutions. This panel prepared a report (Transportation Solutions, August, 1988) which included recommendations on how to proceed with rail transit development in the Valley.

August 1988: Pursuant to the Panel's report recommendations, the Los Angeles City Council adopted a resolution incorporating the following directives:

a. Preparation of an EIR for three alternative route alignments: the Southern Pacific Burbank Branch route, the Ventura Freeway route, and the San Fernando Road route.

b. Implementation of commuter rail service along the San Fernando Road route.

c. Reconvening of the Citizens' Panel to review the draft EIR.

d. Appointment of a citizen's oversight committee to implement community improvements or project enhancements upon the selection of a specific route for construction.

e. Study of an extension of Metro Rail within the EIR.

f. Study in the EIR (and for other transit projects in Los Angeles) of the total undergrounding of the rail line adjacent to residential communities where practical, affordable and feasible.

September 1988: Based on the Citizens Advisory Panel Report and the Council's action, LACTC adopted the following at their meeting of September 28, 1988:

a. Preparation of a Notice of Preparation to begin the formal EIR process on two alternatives:

- Ventura Freeway as an extension of Metro Rail.

- Burbank Branch route from Warner Center to North Hollywood in three configurations: 1) full subway, 2) trenched, bermed and fenced section, and 3) some combination of full subway and trenched, bermed and fenced sections.

b. Prepare a Route Refinement Study of the San Fernando Road route on the condition that Proposition A funds from the Los Angeles City Council and the Los Angeles County Board of Supervisors be provided to study this alternative.

<u>January 1989:</u> The Notice of Preparation was prepared and submitted to the LACTC Transit Committee. The Transit Committee recommended authorization to release the Notice of Preparation. Additional comments from the City and other groups emerged. At the January 25, 1989 meeting, the LACTC deferred issuance of the Notice of Preparation for the EIR pending staff review of additional comments received from the City of Los Angeles' Chief Legislative Analyst, elected officials, and members of the public.

<u>February 1989:</u> At the February 13th meeting of the Transit Committee, LACTC staff recommendations were revised to include the following alternatives:

<u>Burbank Branch Route</u>:

a. An aerial/subway alternative which is in full subway within residential areas only and which includes a Metro Rail extension option and an automated rail transit option.

b. A mitigated light rail alternative with shallow trench/berm, deep-trench, and deep bore options through residential areas, and having at least a deep-trench along the "diagonal" segment in Van Nuys.

<u>Ventura Freeway Route</u>:

a. A mitigated aerial rail guideway alternative along the south side of the Ventura Freeway which would be in subway adjacent to residential areas and include a Metro Rail extension option and an automated rail transit option.

Further, each alternative was to be studied with an interim terminal near the 405 Freeway as a length/phasing option. The interim terminals were to include feeder bus provisions like the El Monte busway station. Monorail and magnetic-levitation technologies were also to be considered as options to the Metro Rail extensions. These recommendations were passed onto the LACTC for approval.

<u>March 1989:</u> at their March 8, 1989 meeting, the LACTC authorized staff to issue the Notice of Preparation for the following alternatives:

Southern Pacific Railroad-Burbank Branch Route:

a. An aerial/subway alternative which is in full subway within residential areas only and which includes a Metro Rail extension option and an automated rail transit option.

b. A mitigated light rail alternative which utilizes shallow trench/berm, deep trench, and deep bore options through residential areas and has at least a deep trench along the "diagonal" segment.

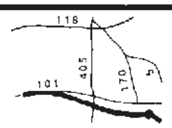
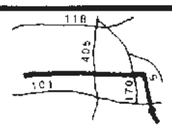
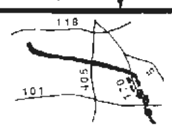
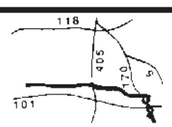
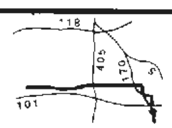
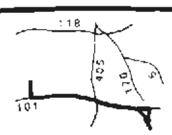
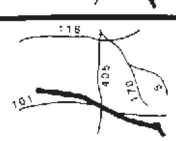
Ventura Freeway Route:

a. A mitigated aerial rail guideway alternative along the Ventura Freeway to include a Metro Rail extension option and an automated rail transit option.

b. An aerial/subway alternative which is in full subway within residential areas only and aerial elsewhere and is to be studied as a Metro Rail extension option and an automated rail transit option.

All alternatives are to be studied with interim terminals near the 405 Freeway as length/phasing options. The interim terminals are to include feeder bus provisions like the El Monte busway station. Monorail and magnetic-levitation technologies are also to be considered as options within the fully-grade separated alternatives.

At this meeting, the Commission also expressed its intention to complete environmental work on the San Fernando Valley, Pasadena and North Coast lines before making a decision on the next project or project segments to be built. This decision is expected to be made by no later than March 1990.

	'83	'84	'85	'86	'87	'88	'89
LACTC	1. LACTC adopts San Fernando Valley East / West corridor as priority corridor under Proposition A. 2. LACTC conducts preliminary route assessment - see alternatives' discussion below.		LACTC initiates route refinement study to analyze multiple alignments within Burbank Branch ROW.	In response to citizen concerns, LACTC expands route refinement study to include other route alternatives.	1. September: Conceptual engineering / environmental evaluation of LRT alternatives completed. 2. November: LACTC postpones EIR, seeks assistance from elected officials.	Based on Citizens' report, LACTC votes to prepare NOP - see alternatives below for description of alternatives.	1. January: LACTC Transit Committee recommends release of NOP. 2. January: LACTC defers action on NOP pending comments from city and public. 3. March: LACTC adopts resolution to release NOP with alternatives noted below. NOP to also study MOS's (phasing), monorail and magnetic levitation.
CITY OF L.A						City Council appoints San Fernando Citizens Panel on transportation solutions.	Chief Legislative Analyst requests: 1. Full subway and light rail be dropped, 2. Subway in residential areas on Burbank, 3. Assess ART technologies, 4. Assess interim terminal stations.
OTHER GROUPS				Substantial local opposition to Burbank Branch route emerges.	Public hearings are held to obtain citizen input.	Citizens panel prepares report entitled Transportation Solutions. Report recommends study of Metro Rail and alternatives below.	
ALTERNATIVES	LRT ROUTE ALTERNATIVES					TECHNOLOGY / PROFILE / PHASING ALTERNATIVES	
 Ventura Boulevard	Preliminary Assessment: 1. Access problems at stations. 2. Good ridership, 3. Significant acquisition of private commercial property.	Alternative is deleted from further consideration.					
 Sherman Way	Preliminary assessment : 1. Major construction within Van Nuys Tunnel, 2. Significant private property acquistion in Reseda CBD.	Alternative is deleted from further consideration.					
 San Fernando Rd.	Not considered as an alternative under preliminary assessment.				Not considered as alternative.	Citizens panel recommends study of route for commuter rail. City Council and LACTC adopt recommendation.	To be studied as commuter rail once study funding issue is resolved.
 SP Coast Mainline	Preliminary assessment : 1. Does not serve activity centers, 2. Would attract few riders, 3. Conflicts between freight and transit operations.				Evaluation Report: 1. Engineering: Many at-grade crossings and freight/transit conflicts, 2. Environmental: Limited residential impacts.	Alternative dropped from further consideration.	
 SP Burbank Branch	Preliminary assessment : 1. Minimal property acquistion, 2. Serves activity centers, 3. Good ridership.		Initial route refinement study undertaken.		Evaluation Report: 1. Engineering: Insignificant 2. Environmental: Significant residential impacts.	Route to be studied as: 1. Subway extension of Metro Rail, 2. Mitigated at-grade LRT, 3. Metro Rail extension using a combination of mitigation measures.	NOP to be issued to study route as: 1. At-grade mitigated LRT, 2. LRT in subway in residential areas, 3. Metro Rail extension in subway in residential areas, 4. ART in subway in residential areas.
 Victory Boulevard	Not considered as an alternative under preliminary assessment.				Evaluation Report : 1. Engineering: Closing of Victory to build aerial guideway, aerial crossing of Hollywood and San Diego Freeways, 2. Environmental: Significant residential impacts.	Alternative dropped from further consideration.	
 Ventura Freeway	Preliminary assessment : 1. Access to freeway would be difficult during construction, 2. Doesn't serve activity centers.				Evaluation Report 1. Engineering: Problems with freeway operations during construction. 2. Environmental: Significant residential impacts, large private property takes.	Route to be studied as aerial guideway extension of Metro Rail.	NOP to be issued to study route as: 1. Aerial configuration - ART and Metro Rail extension, 2. ART and Metro Rail extension in subway in residential areas, aerial elsewhere.
 L.A. River	Preliminary assessment : 1. Significant private property acquistion, 2. Difficult construction access, 3. Flood control in Basin may preclude aerial strucrures.				Evaluatio:: Report : 1. Engineering: Construction phasing problems in the Basin. 2. Impacts: Significant residential impacts.	Alternative dropped from further consideration.	

San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 2-3

Project Alternatives
Historic Development Process

Chapter 3

ENVIRONMENTAL SETTING

CHAPTER 3.0
ENVIRONMENTAL SETTING

In contrast to growth projections for the Southern California Association of Governments (SCAG) region as a whole, the San Fernando Valley is projected to show relatively moderate population growth in the next 20 years. Due to existing Valley constraints, however, this growth is expected to create a variety of different problems, many of which are related to transportation.

The purpose of this chapter is to present an overview of the existing Valley-specific environmental setting as it relates to the proposed project. Due to the dynamic nature of growth within the Southern California Region and the San Fernando Valley, the chapter also provides an overview of the environmental setting as it is expected to evolve in the future.

3.1 REGIONAL CONTEXT

The project is situated in the planning region of Southern California. This region is generally defined as the six counties in the Southern California Association of Governments (SCAG): Los Angeles, Orange, Riverside, San Bernardino, Ventura and Imperial. Collectively the region covers an area of over 38,500 square miles. The majority of the region's population lives in the Los Angeles Basin between the San Gabriel Mountains and the Pacific Ocean. The basin is divided by the Santa Monica Mountains which separate the San Fernando Valley from the rest of Los Angeles (Figure 3-1).

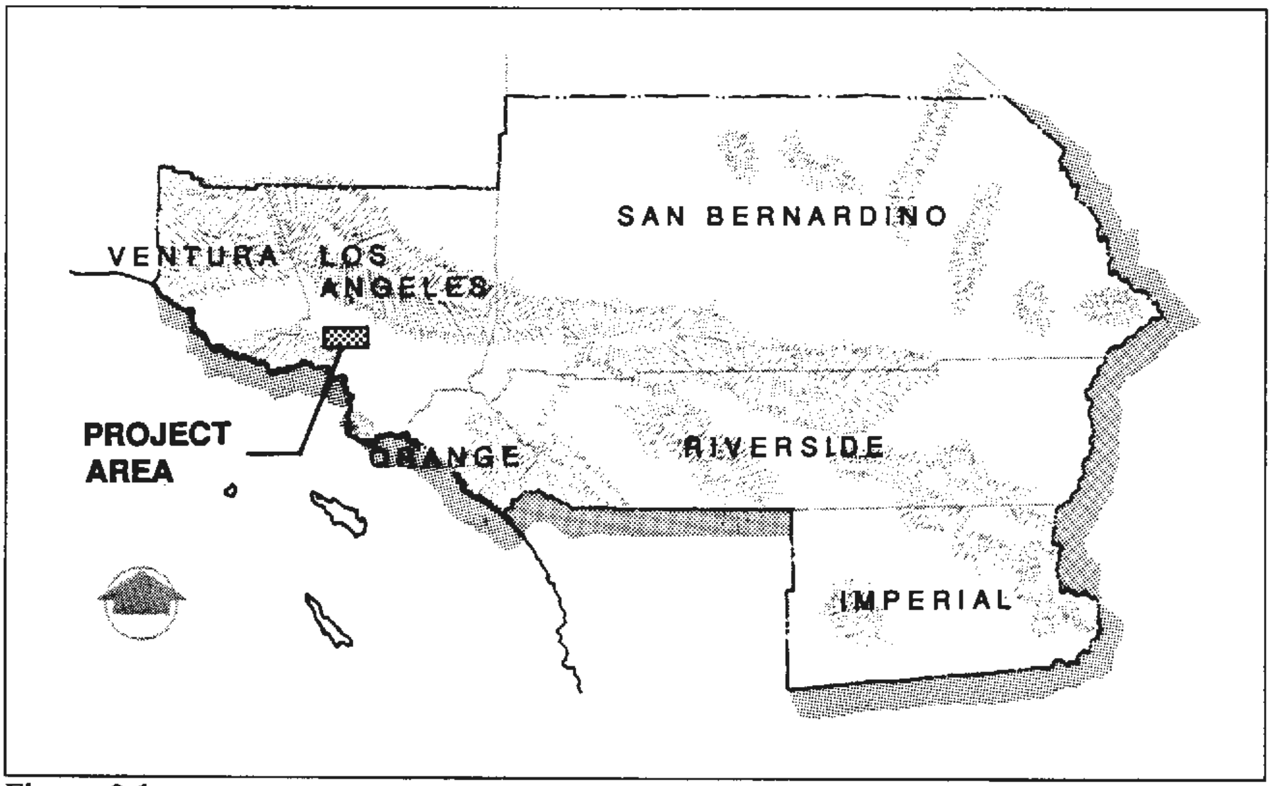


Figure 3-1
Southern California Planning Region

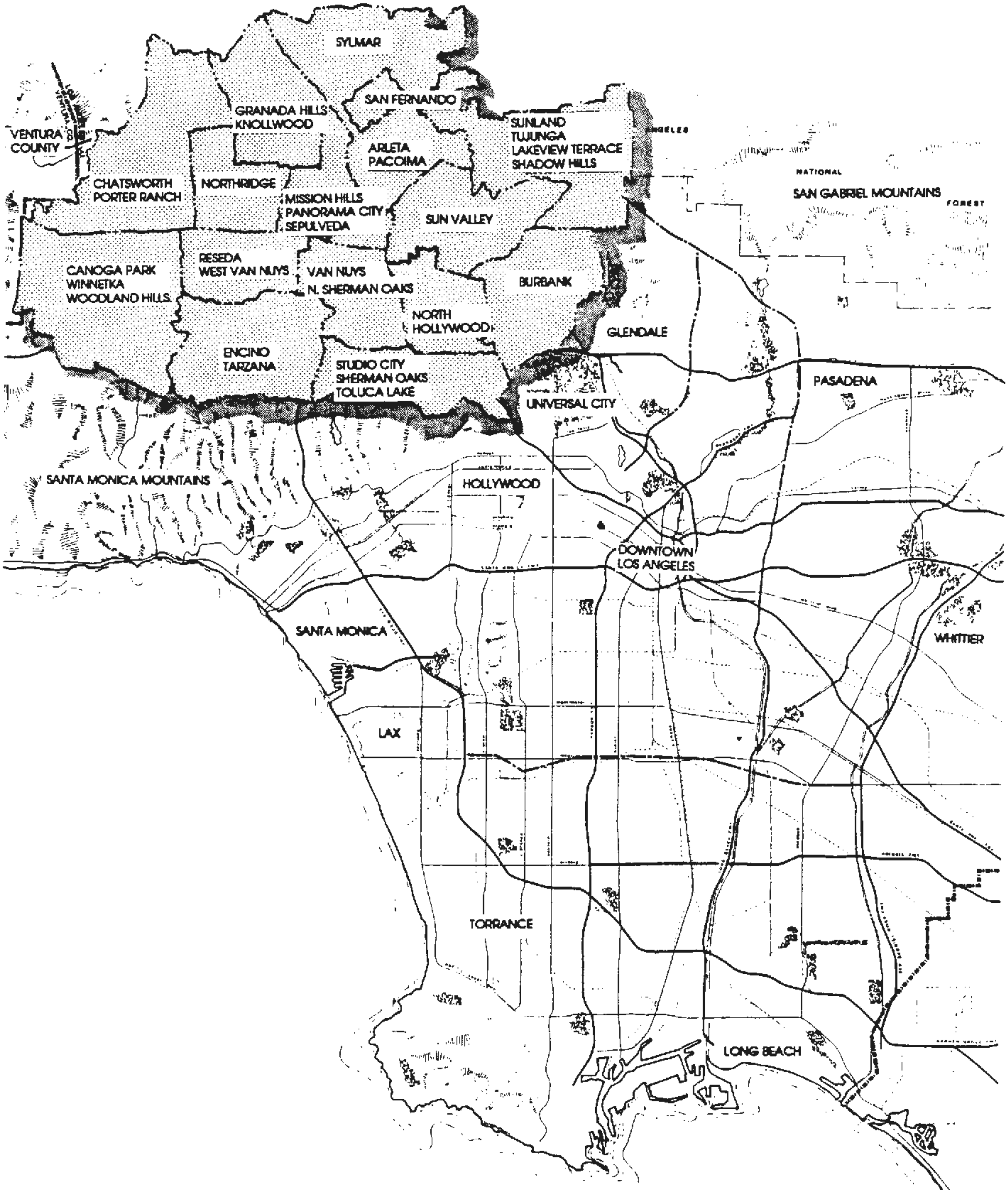
In 1940 the region had a population of 3.3 million inhabitants which increased to over 12.4 million by the year 1984. SCAG projects that the region will grow to over 18 million by the year 2010, a 47 percent increase over the 1984 figure. The greatest population increases in the region are projected for Los Angeles County. Regional employment, in like fashion, is expected to increase from the 1984 figure of 5.9 million to 9 million in 2010.

The San Fernando Valley is approximately 252 square miles in area. The Valley is separated from the Los Angeles coastal basin by the Santa Monica Mountains. The area is located northwest of Downtown Los Angeles (Figure 3-2). Local topography is relatively flat with the majority of the area sloping toward the Los Angeles River which cuts diagonally (northwest to southeast) through the Valley. Access to the Valley from the Los Angeles Basin through the Santa Monica Mountains is accomplished via the Sepulveda Pass, Cahuenga Pass and through a variety of canyon access routes (e.g., Coldwater and Laurel Canyons).

Both project route alternatives are influenced by drainage features in the Valley; the major surface drainage feature being the Los Angeles River. The 100-year floodplain limits of the river are largely contained within a lined concrete channel; the exception to this being the Sepulveda Basin where the river course and surrounding floodplain have been left in a natural state. The Basin is owned and operated by the U.S. Army Corps of Engineers as a major drainage facility. Both project route alignments pass through portions of the basin. Much of the basin has been leased to the City of Los Angeles for parks and recreation purposes and to Caltrans for the San Diego and Ventura Freeways. There are a number of smaller water courses that bisect the Valley from north-south and outfall into the river (i.e., Chatsworth Creek, Arroyo Calabasas, Bull Creek, Browns Canyon Wash, Bull Creek, Aliso Canyon Wash, Limekin Canyon Wash, and Tujunga Wash.) These water courses are typically conveyed in lined channels or pipes. Due to their north-south orientation, these watercourses present a variety of engineering problems for the construction of the proposed project.

There are no significant landforms within the San Fernando Valley. Predominant soil types include Tujunga-Soboba, Hansford and Yolo Associations, which are generally alluvial in nature. From a seismic standpoint, a number of faults and geologic features have been identified in the Valley. These faults run in a northwest to southeast direction and are generally concentrated in the northern third of the Valley.

The San Fernando Valley is a highly developed urban environment. Nonetheless, the Valley does support significant plant and animal life in the Sepulveda Basin and in other sensitive natural areas located at the perimeter of the Valley in the Foothills and mountains.



San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 3-2

San Fernando Valley;
District Plan Areas in Citywide Context

3.2 LAND USE

The majority of the San Fernando Valley lies within the corporate limits of the City of Los Angeles. Other jurisdictions within the Valley include Los Angeles County (Universal City), the City of San Fernando, and the City of Burbank. Those areas which fall within the City of Los Angeles encompass 14 community plan areas or districts including Chatsworth-Porter Ranch; Northridge; Granada Hills-Knollwood; Mission Hills-Panorama City; Sylmar; Arleta-Pacoima; Sunland-Tujunga; Sun Valley; Canoga Park-Winnetka-Woodland Hills; Reseda-West Van Nuys; Encino-Tarzana; Van Nuys-North Sherman Oaks; Studio City-Sherman Oaks-Toluca Lake; and North Hollywood.

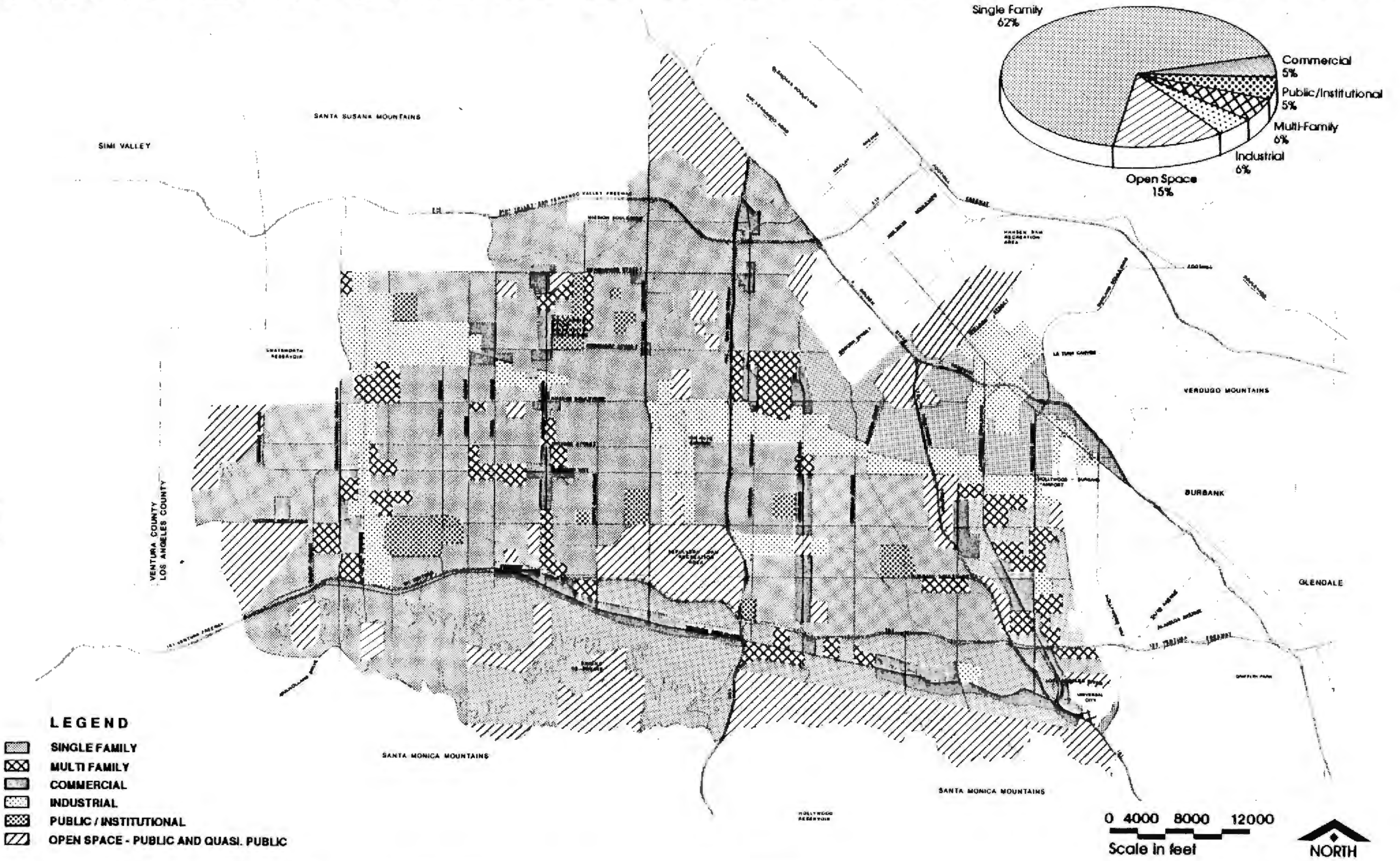
Figure 3-3 illustrates the generalized land use pattern in the San Fernando Valley. According to SCAG, approximately 68 percent of the land in the Valley is devoted to residential use. The next largest category is open space (15 percent); whereas public, industrial and commercial constitute approximately 5-6 percent each.

The residential character of the San Fernando Valley varies depending on location. Generally speaking, the southern half of the Valley is a combination of lower density, single family homes with enclaves of apartments and condominiums. The northern portion of the Valley is characterized as being predominantly single family neighborhoods.

Major industrial land uses in the Valley follow Southern Pacific (SP) railroad lines. The largest concentration of industrial uses is found along the SP Mainline that runs diagonally (northwest to southeast) through the Valley. Other concentrations of industrial development can be found along eastern portions of the SP Burbank Branch line. There are also major industrial areas surrounding the Van Nuys Airport. Commercial development is generally older lower density strip commercial along major arterials; although a number of new shopping centers (e.g., Topanga Plaza, Northridge, Fallbrook) have more recently been developed.

Major higher density, mixed use centers have developed in Sherman Oaks, Van Nuys, Panorama City, Universal City, North Hollywood, Chatsworth, Warner Center in Woodland Hills and in Burbank's Media District. Concentrations of high-rise office developments are found in Universal City, Warner Center, along Ventura Boulevard and in the Burbank Media District.

The Valley has experienced significant growth and development in the last decade. In particular there have been large increases in single family development in the Chatsworth-Porter Ranch area, and large increases in the number of apartments in the North Hollywood and Van Nuys areas. Commercial and office development along Ventura Boulevard has expanded greatly, along with the continued build-out of the Universal City and Warner Center office areas. Rapid growth in some areas has, however, resulted in a variety of land use conflicts and impacts. Within the City of Los Angeles, these impacts have engendered development moratoria in selected locations. Currently two specific plans, six moratoria and twelve interim control ordinances have been adopted by the Los Angeles City Council to address growth-related issues and concerns. Similarly, the City of Burbank is nearing the adoption of the Media District Specific Plan to address growth and development in the studio area in the southwest portion of the city.



San Fernando Valley East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 3-3

San Fernando Valley Generalized Land Use

According to SCAG's San Fernando Valley Area Study (Phase II), future changes in land use for the Valley are expected to reflect regional trends. In particular, residential and non-residential densities are projected to rise as a result of increased construction of multi-family dwelling units (apartments/condominiums) as well as through greater concentrations of employment locating in the Valley.

3.3 DEMOGRAPHIC CHARACTERISTICS

3.3.1 Population and Housing

According to preliminary estimates prepared by SCAG, in 1987 the San Fernando Valley contained a population of approximately 1,300,000 people housed in just over 479,000 housing units (Figures 3-4 and 3-5). Approximately 53 percent of this population is located south of Roscoe Boulevard (typically defined as the geographic center of the Valley)[1]. The largest communities (over 100,000 persons each) include Canoga Park, Van Nuys, and North Hollywood. These three communities make up almost one third of the Valley's population. The communities with the greatest population density in the Valley include North Hollywood, Van Nuys, San Fernando, Arleta, Mission Hills and Reseda (Figure 3-1). Each of these communities has population densities greater than the city-wide average of approximately 6,400 persons per square mile. By the Year 2010 the proportion of the valley population located south of Roscoe is projected to increase to 56 percent.

Figure 3-4
Housing Distribution and Growth -- 1987 to 2010

	1987	2010	Change	Percent
Chatsworth	28,146	51,486	23,340	82.9%
Canoga/Woodland Hls	58,229	97,082	38,853	66.7%
Encino/Tarzana	28,209	42,503	14,294	50.7%
Granada Hills	18,456	27,680	9,224	50.0%
Northridge	20,850	30,501	9,651	46.3%
Sunland	19,318	25,554	6,236	32.3%
Reseda	32,202	42,401	10,199	31.7%
Mission Hills	33,577	43,871	10,294	30.7%
Burbank	37,815	48,058	10,243	27.1%
Sylmar	16,462	20,778	4,316	26.2%
Sherman Oaks	36,250	45,193	8,943	24.7%
Sun Valley	21,659	26,859	5,200	24.0%
Van Nuys	54,475	65,744	11,269	20.7%
Arleta	19,426	22,732	3,306	17.0%
N. Hollywood	48,353	52,905	4,552	9.4%
San Fernando	5,747	6,168	421	7.3%
Universal City	2	2	0	0.0%
Total	479,176	649,517	170,341	35.5%

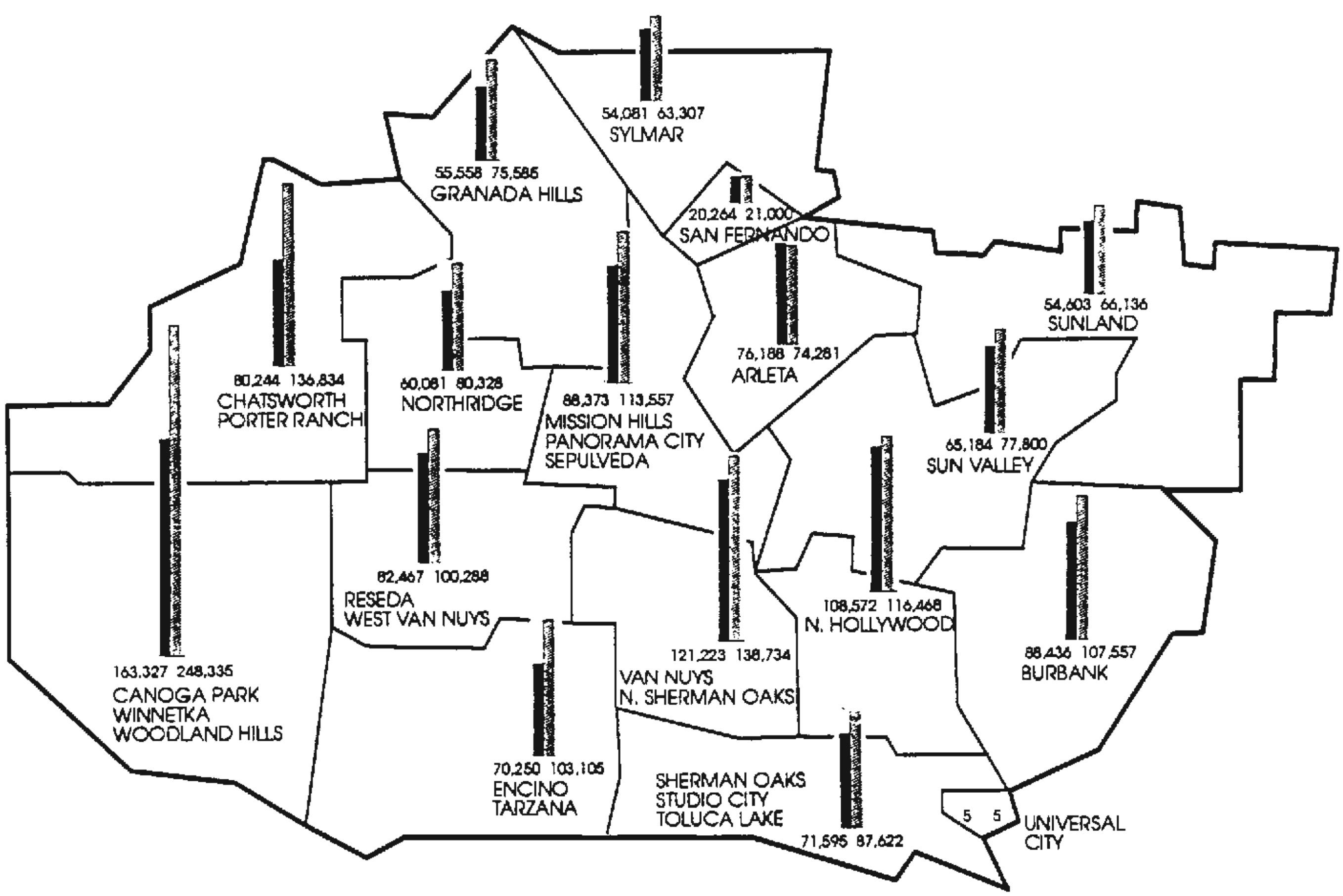
Source: SCAG 9/89 and Terry A. Hayes Associates

[1] Includes the communities of Burbank, North Hollywood, Sherman Oaks, Van Nuys, Reseda, Encino, Tarzana, Canoga Park, Woodland Hills, and Universal City.

Figure 3-5
Population Distribution and Growth -- 1987 to 2010

	1987		2010		Change	
Canoga Park	163,327	13.0%	248,335	15.4%	85,008	52.0%
Van Nuys	121,223	9.6%	138,734	8.6%	17,511	14.4%
N. Hollywood	108,572	8.6%	116,468	7.2%	7,896	7.3%
Burbank	88,436	7.0%	107,557	6.7%	19,12	121.6%
Mission Hills	88,373	7.0%	113,557	7.0%	25,184	28.5%
Reseda	82,467	6.5%	100,288	6.2%	17,82	121.6%
Chatsworth	80,244	6.4%	136,834	8.5%	56,590	70.5%
Arleta	76,188	6.0%	74,281	4.6%	(1,907)	-2.5%
Sherman Oaks	71,595	5.7%	87,622	5.4%	16,027	22.4%
Encino	70,250	5.6%	103,105	6.4%	32,855	46.8%
Sun Valley	65,184	5.2%	77,800	4.8%	12,616	19.4%
Northridge	60,081	4.8%	80,328	5.0%	20,247	33.7%
Granada Hills	55,558	4.4%	75,585	4.7%	20,027	36.0%
Sunland	54,603	4.3%	66,136	4.1%	11,533	21.1%
Sylmar	54,081	4.3%	63,307	3.9%	9,226	17.1%
San Fernando	20,264	1.6%	21,000	1.3%	736	3.6%
Universal City	5	0.0%	5	0.0%	0	0.0%
Total	1,260,451		1,610,942		350,491	27.8%

Source: SCAG 9/89 and Terry A. Hayes Associates



San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 3-5

Population Distribution and Growth: 1987 to 2010

3.3.2 Employment

The Valley had almost 670,000 jobs in 1987. Employment centers in the Valley, as identified by SCAG, include the following:

- Chatsworth (Industrial)
- Warner Center (Office/Commercial)
- Ventura Boulevard (Office/Commercial)
- Van Nuys (Office/Commercial/Government)
- Panorama City (Industrial/Commercial)
- San Fernando (Industrial)
- Burbank Airport Area (Industrial/commercial)
- Burbank Media/Downtown (Office/Commercial)
- Universal City (Office/Commercial)

Figure 3-6 indicates the estimated 1987 employment levels in the various Valley communities. As can be seen, the largest proportion of jobs is located in the Canoga Park area, which includes Warner Center. Other communities with large employment concentrations include the City of Burbank, Van Nuys, Mission Hills and Chatsworth.

Figure 3-6
Existing and Future Population and Employment Density (Per Square Mile)

	Population 1987	Population 2010	Employment 1987	Employment 2010
Universal City	11	11	44,879	48,574
Van Nuys	9,915	11,347	5,925	6,874
San Fernando	8,443	8,750	5,023	6,616
N. Hollywood	11,019	11,820	4,226	4,777
Canoga/Woodland Hls	6,307	9,590	4,102	4,506
Burbank	5,172	6,290	3,655	4,825
Reseda	6,429	7,818	3,417	3,921
Chatsworth	3,692	6,295	3,030	3,238
Sherman Oaks	5,259	6,436	2,952	3,629
Mission Hills	7,888	10,136	2,908	3,563
Sun Valley	3,993	4,765	2,650	2,972
Northridge	6,263	8,373	2,570	2,780
Encino/Tarzana	3,620	5,313	2,428	2,802
Arleta	8,016	7,815	1,776	2,224
Sylmar	4,332	5,071	1,116	1,431
Granada Hills	3,684	5,012	1,000	1,240
Sunland	2,885	3,495	383	462
Total	5,513	7,046	2,915	3,389

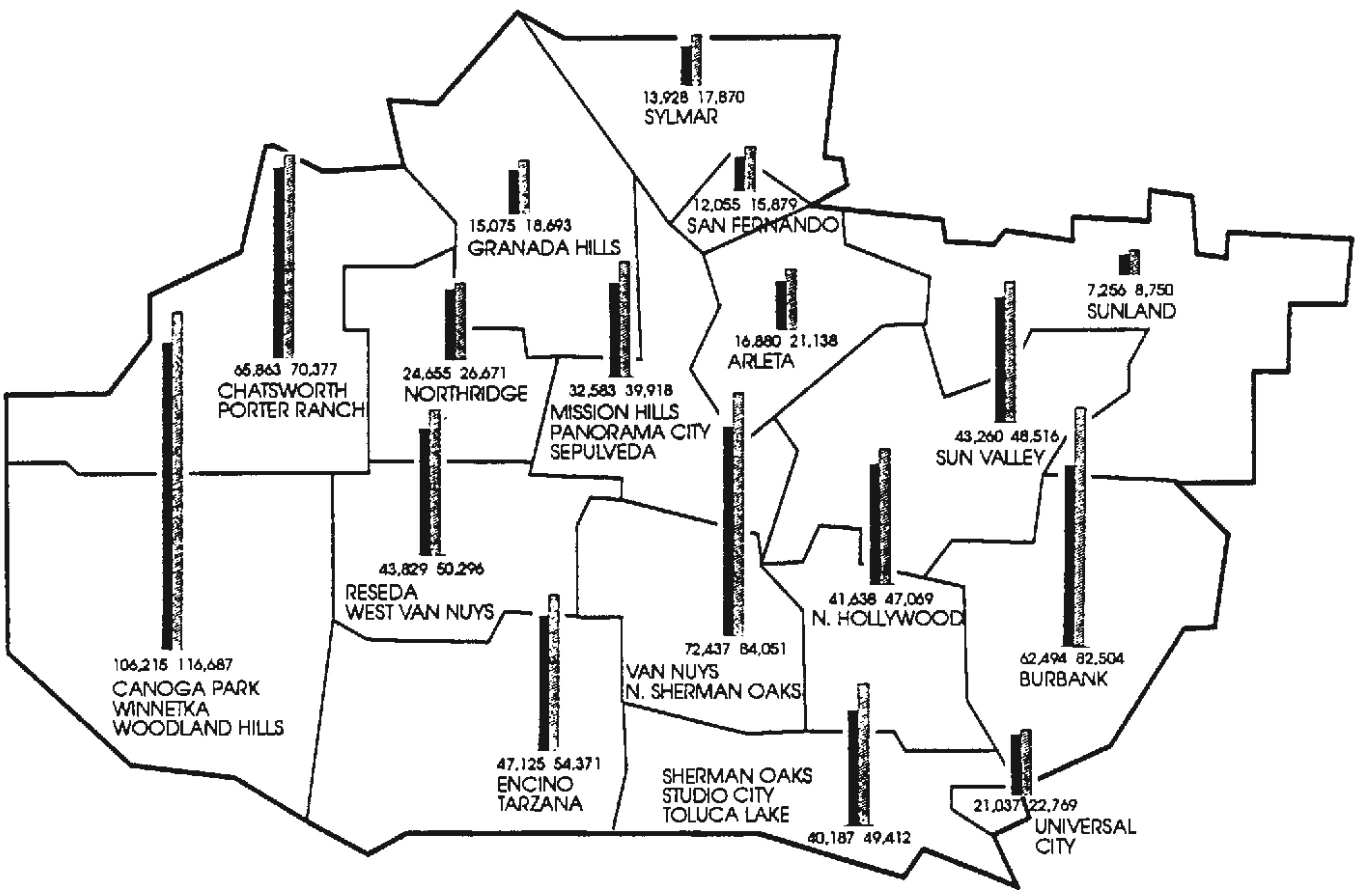
Source: SCAG 9/89, City of Los Angeles, Department of City Planning, and Terry A. Hayes Associates

Future employment densities (Year 2010) in the Valley are projected to increase by approximately 16 percent over current levels. SCAG predicts that employment densities will increase the most in San Fernando, Burbank, Sylmar, and North Hollywood (Figure 3-7). Densities in Universal City are currently the highest in the Valley, having nearly 45,000 employees per square mile which is projected to increase to 49,000 by the year 2010. Aside from Universal City, the greatest employment densities are projected for Van Nuys, San Fernando, North Hollywood, Canoga Park and Burbank by the year 2010.

Figure 3-7
Employment Distribution and Change -- 1987 to 2010

	1987		2010		Change	Percent
Canoga Park	106,215	15.9%	116,687	15.1%	10,472	9.9%
Van Nuys	72,437	10.9%	84,051	10.8%	11,614	16.0%
Chatsworth	65,863	9.9%	70,377	9.1%	4,514	6.9%
Burbank	62,494	9.4%	82,504	10.6%	20,010	32.0%
Encino	47,125	7.1%	54,371	7.0%	7,246	15.4%
Reseda	43,829	6.6%	50,296	6.5%	6,467	14.8%
Sun Valley	43,260	6.5%	48,516	6.3%	5,256	12.1%
North Hollywood	41,638	6.2%	47,069	6.1%	5,431	13.0%
Sherman Oaks	40,187	6.0%	49,412	6.4%	9,225	23.0%
Mission Hills	32,583	4.9%	39,918	5.2%	7,335	22.5%
Northridge	24,655	3.7%	26,671	3.4%	2,016	8.2%
Universal City	21,037	3.2%	22,769	2.9%	1,732	8.2%
Arleta	16,880	2.5%	21,138	2.7%	4,258	25.2%
Granada Hills	15,075	2.3%	18,693	2.4%	3,618	24.0%
Sylmar	13,928	2.1%	17,870	2.3%	3,942	28.3%
San Fernando	12,055	1.8%	15,879	2.0%	3,824	31.7%
Sunland	7,256	1.1%	8,750	1.1%	1,494	20.6%
Total	666,517		774,971		108,454	16.3%

Source: SCAG 9/89 and Terry A. Hayes Associates



San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 3-7

Employment Distribution and Change: 1987 to 2010

3.3.3 Jobs/Housing Balance

The term "jobs/housing balance" is a planning concept which implies that ideal planning areas are those which provide for approximately equal housing and employment opportunities. A balanced planning area in Southern California is technically defined as having an employment to housing ratio of 1.27 in 1984 and 1.20 in 2010 (the regional average). Job-rich subregions have ratios substantially greater than the regional average and housing rich subregions have ratios substantially lower than the regional average.

The jobs to housing ratio for the Valley is 1.39. This suggests that the San Fernando Valley has a relative balance between jobs and housing. However, on an individual community basis there are distinct job-rich and housing rich areas (Figure 3-8). The communities in the northern one-third of the Valley are housing rich and those of the southeastern quarter of the area are job rich. The central and southwest portions of the valley are close to the regional ratio of 1.27 and are assumed to be in relative balance. By 2010, SCAG projections suggest that there will be significant changes in various Valley communities. Chatsworth, Canoga Park, Encino, Reseda and Van Nuys will have ratios near the regional average. San Fernando, Sun Valley, and Burbank will continue to be job-rich, while Northridge, Mission Hills, Arleta, North Hollywood, Sylmar, Granada Hills, and Sunland will be imbalanced toward housing.

Figure 3-8
Jobs To Housing Ratios -- 1987 to 2010

	1987	2010
Universal City	5.00+	5.00+
Chatsworth	2.34	1.37
San Fernando	2.10	2.57
Sun Valley	2.00	1.81
Canoga/Woodland Hills	1.82	1.20
Encino/Tarzana	1.67	1.28
Burbank	1.65	1.72
Reseda	1.36	1.19
Van Nuys	1.33	1.28
Northridge	1.18	0.87
Sherman Oaks	1.11	1.09
Mission Hills	0.97	0.91
Arleta	0.87	0.93
North Hollywood	0.86	0.89
Sylmar	0.85	0.86
Granada Hills	0.82	0.68
Sunland	0.38	0.34
Total	1.39	1.19

Source: SCAG 9/89, and Terry A. Hayes Associates

The importance of the characterization of communities as job or housing-rich relates to the potential for increased trip lengths which affect traffic congestion and air pollution. The balance also has implications for future development options where it may be desirable to encourage housing construction in job-rich areas and vice versa.

3.4 TRANSPORTATION

According to SCAG's San Fernando Valley Area Study (Short Range Transportation Improvements, 1986), recent growth trends have transformed the Valley from a bedroom-type community into a more self-sufficient subregion which has achieved an overall balance between population and employment opportunities. A majority of the jobs in the Valley (63 percent) are occupied by workers that live within the Valley. Currently 40 percent of the working residents of the Valley hold jobs outside of the Valley.

In terms of commute trips destined outside of the Valley, the most significant destination is the large area in the Los Angeles basin west of downtown. This destination area includes Mid-Wilshire, Culver City, Beverly Hills, West Los Angeles, and Hollywood. This area attracts nearly 40 percent of all the work trips that leave the Valley. Other major destinations are downtown Los Angeles, Glendale, South Gate/East Los Angeles, and West Los Angeles/Santa Monica.

The local street system in the San Fernando Valley was planned in a grid pattern. The area is served by five freeways: the Ventura Freeway (US-101/SR134), the San Diego Freeway (I-405), the Hollywood Freeway (US-101/SR170), the Simi Valley Freeway (SR-118), and the Golden State Freeway (I-5). Except for SR-118 which serves only the northern portion of the Valley, these facilities provide the major connections to the Los Angeles metropolitan area south of the Santa Monica Mountains. All of the freeways through the Valley serve as major intra-state travel routes. State Routes 134 and 118 provide for east-west travel between Los Angeles and Ventura counties. I-5 and I-405 provide for the north-south travel.

During peak travel hours and occasionally during non-peak periods the freeway system serving the Valley experiences extreme congestion. High travel demand on the these facilities results in average speeds well below 35 miles per hour with resultant delays. SCAG studies indicate that the north-south arterials in the Valley are relatively less congested than the east-west arterials during the peak hours. Typical north-south arterial volumes on secondary arterials range from 10,000 to 22,000. On major arterials, the north-south volumes range from 25,000 to 55,000 vehicles daily. SCAG found the volume-to-capacity ratios for these north-south facilities to be 0.66. In comparison, the heaviest volumes on east-west arterials range from 20,000 to 30,000 vehicles daily. Volume-to-capacity ratios in the east-west direction of travel were found to be 0.73.

The 2010 transportation model for the Valley forecasts that 68 percent of the Valley residents will live and work in the Valley. Thirty-two percent will leave the Valley for work. In 2010, 29 percent of the employees in the Valley will reside outside of the Valley. The heaviest demand for work travel from outside areas will be to the following communities (in descending order):

- Burbank
- Van Nuys
- North Hollywood
- Sun Valley
- Panorama City
- Encino/Tarzana
- Studio City
- Chatsworth

The heaviest demand for work travel within individual communities (intracommunity work travel) will be within the following communities.

- Van Nuys
- Canoga Park/Woodland Hills
- Burbank
- Chatsworth
- Reseda
- Encino/Tarzana
- Panorama City

According to SCAG's transportation model forecast, work travel between communities will be greatest between the following pairs of communities:

- Panorama City to Van Nuys
- North Hollywood to Burbank
- Canoga Park to Woodland Hills
- Reseda to Van Nuys
- Canoga Park to Reseda
- Reseda to Encino
- Encino to Van Nuys
- Northridge to Chatsworth

According to SCAG, the growth in Valley population and employment and through trips is expected to outpace proposed capacity improvements on the transportation system. Specifically growth trends in population indicate that the areas west of the San Diego Freeway would likely be the most impacted by traffic growth, particularly the communities of Chatsworth and Woodland Hills. Considering the areas where heavy travel growth is projected, potential increases in congestion are expected for:

- Ventura Boulevard Corridor near Encino
- Sepulveda Pass
- Cahuenga Pass
- Ventura Freeway Corridor near Warner Center
- Ventura Freeway Corridor in Studio City
- Vicinity of Van Nuys Airport
- Golden State Freeway Corridor near City of San Fernando
- San Diego Freeway Corridor
- Universal City area

Heavy peak hour trip impacts are also predicted for the communities of Sherman Oaks, Van Nuys, Woodland Hills, and Panorama City, where the concentration of peak hour trips could potentially result in future capacity deficiencies.

3.5 AIR QUALITY

The project study corridors are located within the South Coast Air Basin (SCAB). The South Coast Air Basin is a 6,600-square mile area which encompasses all of Orange County, most of Los Angeles and Riverside counties, and the western portion of San Bernardino County. The region generally lies on the semi-permanent high pressure zone of the eastern Pacific Ocean. As a result the climate is mild and is tempered by cool sea breezes. The usually mild climatological pattern is interrupted periodically by periods of extremely hot weather, winter storms, or Santa Ana winds.

Under the provisions of the Clean Air Act, areas are classified by the U.S. Environmental Protection Agency as either attainment or non-attainment areas for pollutants such as carbon monoxide, sulfur dioxide, nitrogen oxides, ozone, hydrocarbons, total suspended particulates and lead. Attainment is based on whether the National Ambient Air Quality Standards (NAAQS) are being met. Los Angeles County is designated a non-attainment area for ozone, carbon monoxide, nitrogen oxide and particulates; but is classified as an attainment area for sulfur dioxide.

Figure 3-9 presents one-hour ozone concentrations as a general indicator of air quality conditions for selected South Coast Air Quality Management District (SCAQMD) monitoring stations. Air quality conditions in the San Fernando Valley are best represented by monitoring information from the Reseda and Burbank monitoring sites. According to the Source Receptor Areas as defined by SCAQMD, the Reseda Site generally covers the Valley area west of the San Diego Freeway and the Burbank covers the area east of the freeway.

Figure 3-9
Air Quality Indicators (Ozone) Comparison of Valley and SCAQMD Monitoring Stations
1984-1987

	Days State Ozone Standard Exceeded(1)			
	1984	1985	1986	1987
Valley				
Reseda	139	133	131	121
Burbank	127	141	142	130
Other County Areas				
Los Angeles	114	107	99	91
West Los Angeles	79	82	81	58
Lennox/Hawthorne	16	11	19	10
Long Beach	32	29	29	11
Whittier	108	95	82	71
Pasadena	169	173	166	150
Azusa	168	166	165	163
Glendora	160	187	191	180
Pomona	138	138	133	122
Pico Rivera	129	120	126	120
Lynwood	49	41	46	24
Newhall	132	141	128	129
Lancaster	110	106	108	105

(1) State standard is ozone concentrations greater than 0.10 ppm for a 1-hour period.

Source: South Coast Air Quality Management District. Annual Air Quality Summaries 1984-1987.

Data from these monitoring sites indicates that the Burbank site recorded levels that exceeded the State ozone standard of 0.10 ppm from 127 to 142 days during the 1984-88 period. Exceedances at the Reseda site are somewhat less, i.e., 121-139 days annually. Compared to the 15 monitoring sites in Los Angeles County, the Reseda site ranked sixth in 1988 and the Burbank site ranked seventh in terms of the number of days the standard was exceeded.

According to the Southern California Association of Governments, the projected growth in Southern California over the next 25 years will lead to continued postponement of attaining air quality standards unless more stringent controls are enacted. A case in point are the findings of SCAG's San Fernando Valley Area Study, prepared in 1988. This study indicates that by 2010 there would be:

- A 21 percent increase in vehicle miles traveled during the p.m. peak.
- A 98 percent increase in volume to capacity ratios greater than 1.0 for arterials and freeways.
- A 97 percent increase in severe congestion on arterials and freeways.
- A 49 percent increase in vehicle delay.
- A 13 percent decrease in average vehicle speed.

Taken together these factors will exacerbate pollution emissions from automobiles and other mobile sources in the San Fernando Valley.

Chapter 4

PROJECT ALTERNATIVES

CHAPTER 4.0
DESCRIPTION OF PROJECT ALTERNATIVES

4.0 INTRODUCTION

This chapter provides descriptions of project alternatives being evaluated in this EIR. Based on previous route refinement studies conducted by the LACTC (described in Chapter 2.0) and recommendations developed by the San Fernando Valley Citizens Panel on Transportation Solutions appointed by the Los Angeles City Council in 1987, two basic route alternatives were identified for environmental review (Figure 4-1, Route Alternatives). The two basic alternatives are:

- Southern Pacific (SP) Burbank Branch Route Alternative: This route alternative begins at Topanga Canyon Boulevard/Victory Boulevard. From this point the alignment proceeds along the north side of Victory Boulevard to Variel Avenue where it enters the SP Burbank Branch Right-of-Way (ROW). The alignment proceeds within this ROW to the North Hollywood Station. Optionally, the alignment may a) continue east within the SP ROW to Vineland Avenue and then proceed south to the Metro Rail University City Station, or b) upon reaching Lankershim Boulevard the alignment will join the adopted Metro Rail subway route to the Universal City Station.

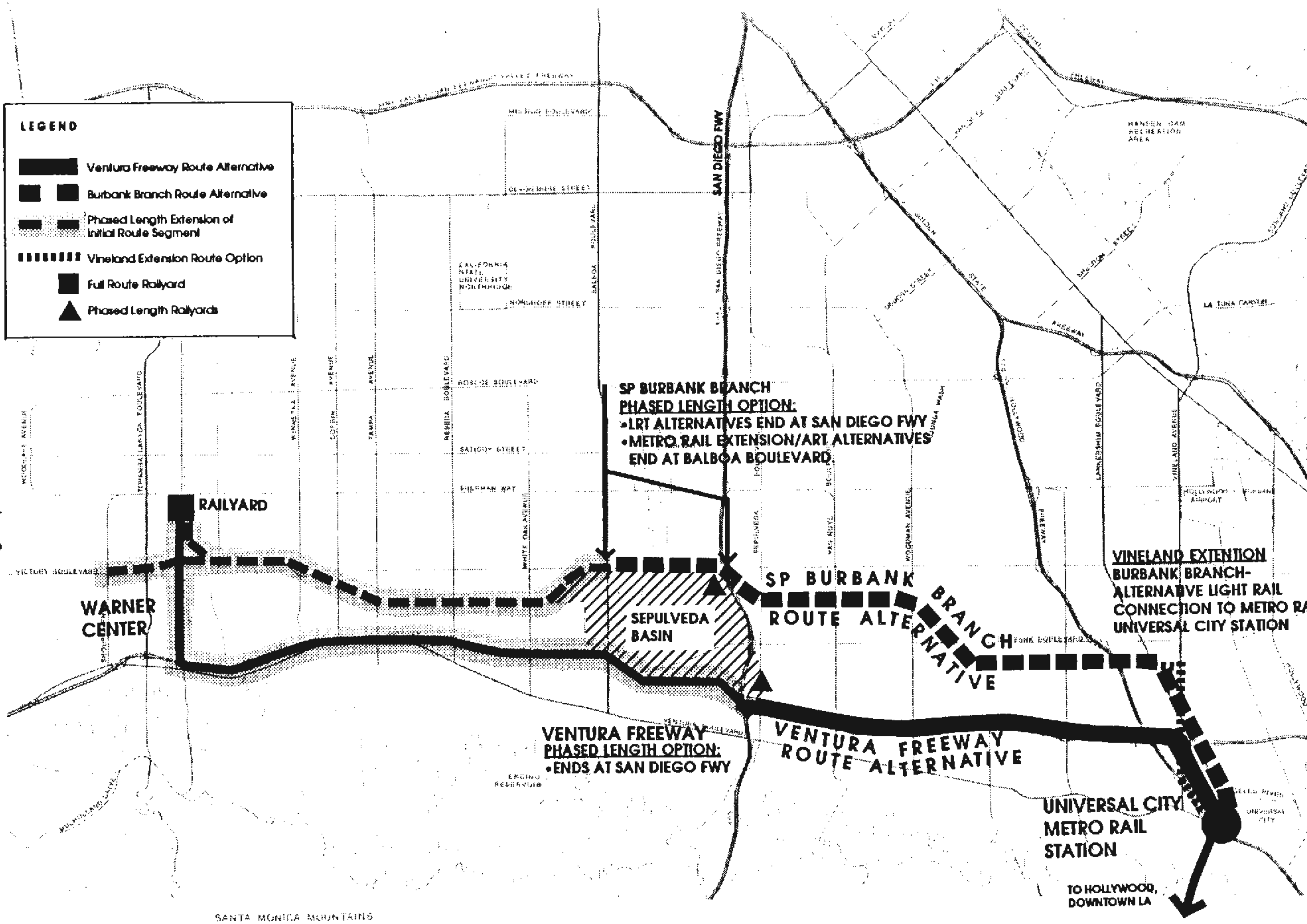
- Ventura Freeway Route Alternative: This route alternative begins at the intersection of Vanowen Street and Canoga Avenue. The alignment proceeds south in the median of Canoga Avenue to the Ventura Freeway, where it turns east along either the south or north side of the freeway to Lankershim Boulevard where it proceeds south to the Universal City Station of Metro Rail.

In addition to the basic route alternatives, profile, phasing and technology alternatives were identified for study. These include:

- Profile Alternatives: In addition to at-grade rail alignments, the EIR was to consider grade separated alignments including aerial,deep trench and subway configurations. For at-grade segments the EIR was to consider bermed sections in residential areas as well as flyovers at major street crossings.

- Phasing Alternatives: Because of the length of the route alternatives between Universal City, North Hollywood and Warner Center, Phased Length Options were to be studied. These are defined as shortened segments of the overall route which could be constructed as fully operational, phased segments of the overall route.

- Technology Alternatives: Three generic transit technologies were identified for study in the EIR: 1) Light Rail Transit (LRT), which is the system presently being developed for the Long Beach/Los Angeles Rail Transit Project, 2) Metro Rail, which is generically referred to as "heavy rail" and is currently being constructed in Downtown Los Angeles, and 3) Automated Rail Transit (ART), a driverless system similar to the LACTC Norwalk-El Segundo Green Line technology or the "Skytrain" system in Vancouver, Canada.



4 - 2

San Fernando Valley East/West Rail Transit Project

Figure 4-1

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Route Alternatives

In addition to the three primary technologies considered, Monorail and Magnetic-Levitation are evaluated for application potential along alignment alternatives #3b, #4b and #5b, described in Section 4.2 and 4.3 of this chapter. The alignment technology evaluations are provided in Section 4.6.

4.1 DEFINITION OF EIR PROJECT ALTERNATIVES

Based on the above set of criteria, Conceptual Engineering drawings were prepared for the SP Burbank and Ventura Freeway Route Alternatives. In total, five basic EIR project alternatives were defined to incorporate profile options. These five alternatives were identified in the Initial Environmental Study and Notice of Preparation (included in Appendix A and B of this report). For each of the alternatives, options were developed to incorporate route and technology variations. This has resulted in the following set of EIR project alternatives that have been evaluated in this report:

<u>Alternative 1a - SP Burbank LRT/Vineland</u>: defined as a light rail alignment located primarily at-grade. Berms would be constructed along the alignment in residential areas to provide buffering. Flyovers or crossing gates would be used at cross streets. The connection between North Hollywood and Universal City being located along Vineland Avenue. Riders would transfer from LRT to Metro Rail technologies at Universal City.

<u>Alternative #1b - SP Burbank LRT/Lankershim</u>: defined as Alternative #1a above with a subway connection between North Hollywood and Universal City located along the adopted Metro Rail Lankershim Boulevard subway route instead of the route along Vineland Avenue. Riders would transfer from LRT to Metro Rail technologies at North Hollywood.

<u>Alternative #2a - SP Burbank LRT-Deep Trench/Vineland</u>: defined as a light rail alignment utilizing a combination of deep trench and subway configuration in residential areas, with the connection between North Hollywood and Universal City being located along Vineland Avenue. All traffic intersections would be grade-separated. Riders would transfer from LRT to Metro Rail technologies at Universal City.

<u>Alternative #2b - SP Burbank LRT-Deep Trench/Lankershim</u>: defined as Alternative #2a above utilizing a combination of deep trench and subway configuration in residential areas, with a subway connection between North Hollywood and Universal City being located along the adopted Metro Rail Lankershim Boulevard subway route instead of the route along Vineland Avenue. Riders would transfer from LRT to Metro Rail technologies at North Hollywood.

<u>Alternative #3a - SP Burbank Metro Rail Extension</u>: defined as an extension of the approved Metro Rail Transit Project utilizing deep bore subway tunnels in residential areas and Metro Rail transit technology. Riders would not need to change technologies with this route option. They would be able to remain on the same transit vehicle through both the North Hollywood and Universal City Stations.

<u>Alternative #3b - SP Burbank ART</u>: defined as Alternative #3a above utilizing automated rail transit technology instead of Metro Rail technology. Riders would transfer between ART and Metro Rail technologies at the North Hollywood Station.

Alternative #4a - Ventura South Side Metro Rail Extension: defined as an extension of the approved Metro Rail Transit Project primarily configured on aerial guideway along the south side of the Ventura Freeway. Riders would not need to change technologies with this route option. They would be able to remain on the same transit vehicle through the Universal City Station. There would be no transit service to the approved North Hollywood Metro Rail Station under this alternative.

Alternative #4b - Ventura South Side ART: defined as Alternative #4a above utilizing automated rail transit technology instead of Metro Rail technology. Riders would transfer between ART and Metro Rail technologies at Universal City Station. No service would be provided to the approved Metro Rail North Hollywood Station under this alternative.

Alternative #5a - Ventura North Side Subway Metro Rail Extension: defined as an extension of the approved Metro Rail Transit Project in deep bore subway tunnels in residential areas and located beneath and to the north of the Ventura Freeway east of Reseda Boulevard. Riders would not need to transfer between technologies with this route option. They would be able to remain on the same transit vehicle through the Universal City Station. No service would be provided to the approved North Hollywood Metro Rail Station under this alternative.

Alternative #5b - Ventura North Side Subway ART: defined as Alternative #5a above utilizing automated rail transit technology in deep bore subway through residential areas and located beneath and to the north of the Ventura Freeway east of Reseda Boulevard. Riders would transfer between ART and Metro Rail technologies at Universal City Station. No service would be provided to the approved Metro Rail North Hollywood Station under this alternative.

As a part of the route refinement process, Plan and Profile drawings as well as Station Area Concept Plans were prepared at a scale of 1 inch=100 feet for each of the basic alternatives. Also, for each of the basic EIR project alternatives a Phased Length Option was defined from either Universal City or North Hollywood to the Sepulveda Basin-San Diego Freeway area. These segments could be constructed and operated either as phased portions of the total route or as shorter but complete lines in their own right. As such, separate railyard storage and maintenance facility sites were identified and evaluated for each of the Phased Length Options. These options are described in Section 4.5 of this report.

4.2 SP BURBANK BRANCH - PROFILE AND ALIGNMENT ALTERNATIVES

This section presents a discussion of the various profile and alignment alternatives being considered for the Southern Pacific Burbank Branch Route. The route is divided into six sub-areas that are described and illustrated through text and drawings. Cross-section drawings of typical segments of the route are cross-referenced to aerial photo maps, oblique aerial photos and the corresponding conceptual station site plan drawings for each potential station area.

All of the alternatives for the Southern Pacific Burbank Branch route follow the existing railroad right-of-way almost exclusively between Warner Center and North Hollywood Station, except for a short length along Victory Boulevard west of DeSoto Avenue. The route would extend for 13.9 miles to the North Hollywood Station and 16.5 miles to the Universal City Station. About 13.5 miles of the route would be located within the Southern Pacific right-of-way.

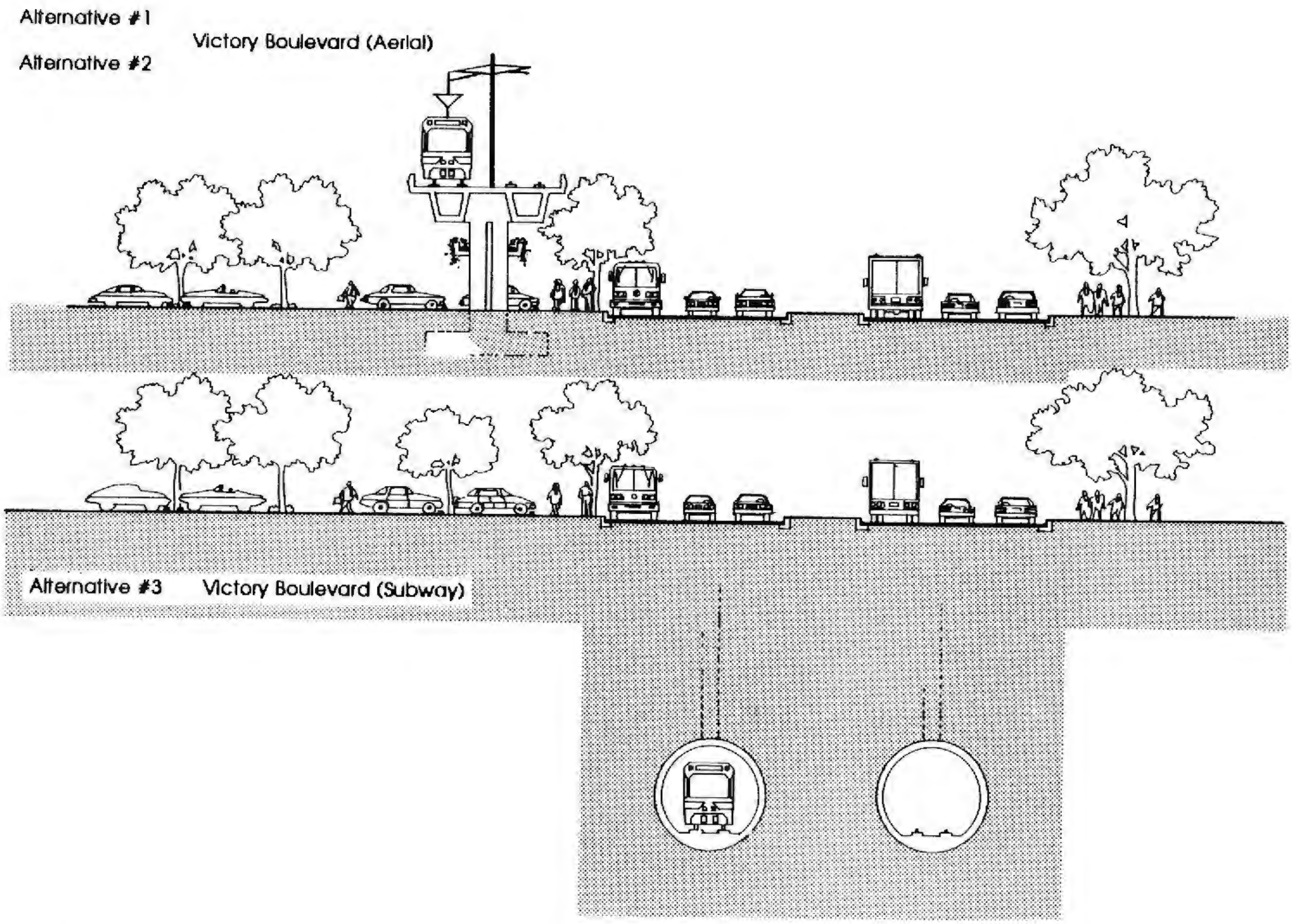
4.2.1 SP Burbank Branch Route Alternative Warner Center-Canoga Park Area **Figures 4-2 through 4-5** (see fold-out section for Figure 4-5)

The westernmost station of the SP Burbank Branch alignment is located on the north side of Victory Boulevard just west of Owensmouth Avenue. Alternatives 1 and 2 are located on aerial guideway within the existing parking lot of the Topanga Plaza Shopping Center while Alternative #3 is located in subway beneath Victory Boulevard.

The alignment proceeds east along Victory Boulevard in front of Rocketdyne, Warner Corporate Center and other commercial/industrial uses to a point just east of Variel Avenue, where the alignment enters the Southern Pacific Right-of-Way. Upon crossing DeSoto Avenue, the alignment proceeds within the 100 foot railroad corridor on the north side of Victory Boulevard. Alternative #1 would be located in a shallow depressed channel east of DeSoto with earthberms along the route to provide visual and acoustical buffering. Alternative #2 would be located in a deep channel or trench approximately 20 to 25 feet below grade in this segment. Alternative #3 would continue through this segment in deep bore subway, approximately 40 to 50 feet below ground level. Land uses in this segment of the route include single-family residential homes to the north of the alignments and Los Angeles Pierce College to the south of Victory Boulevard.

Winnetka Station would be grade-separated at Winnetka Avenue. Alternative #1 would be located on aerial guideway above Winnetka Avenue, while Alternatives #2 and #3 would cross beneath Winnetka Avenue. A large park-and-ride lot would be provided at Winnetka Station on the site of the existing Pierce College ballfields and Child Development Center. These uses would need to be relocated across Victory Boulevard to the main campus property.

Along Topham Street the route continues within the SP Right-of-Way on the north side of that street. Alternatives #2 and #3 would be located below grade in either deep trench or subway configuration. Alternative #1 would follow a rolling profile four to six feet below grade, rolling up to an at-grade crossing of Corbin Street.



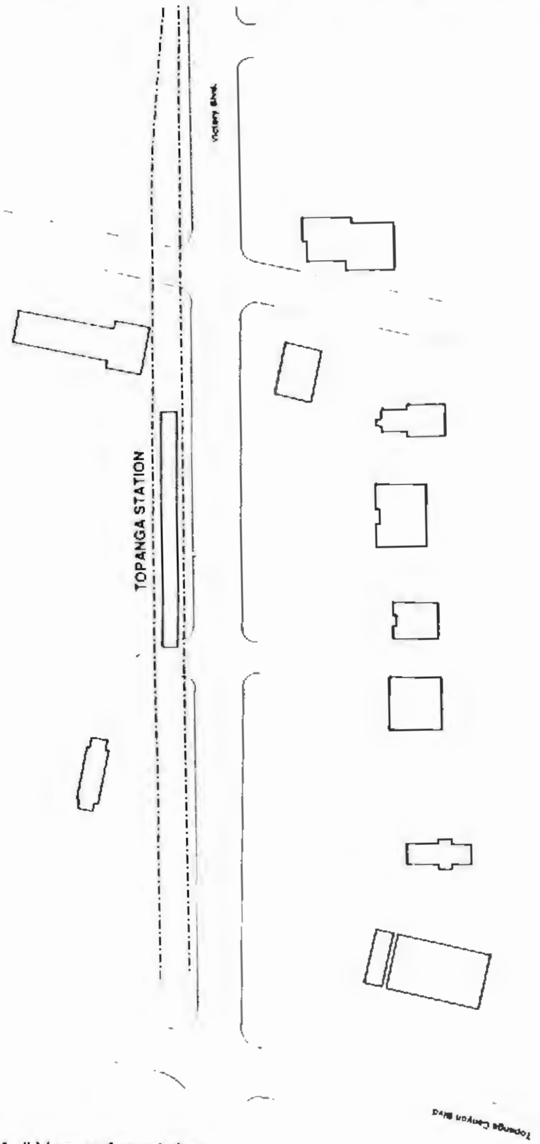
Source: Gannett Fleming/Gruen Associates

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-2

Burbank Branch Profile Alternative
Warner Center/Canoga Park Area



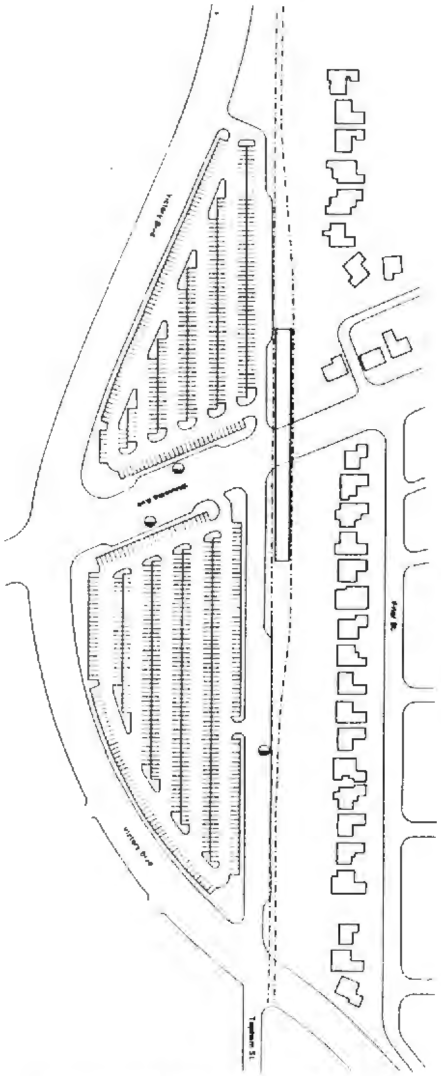
Source: Anil Verma Associates

Photo Date: 1989 LA Aerial Photography, Inc.

View looking East along Victory Boulevard at Topanga Station Area. Topanga Plaza Shopping Center is located on the left of the photo with Rocketdyne Corporation manufacturing operations in the upper left corner. The high-rise Warner Center developments are located to the right of the photo.

Figure 4-3

Burbank Branch Alternative Topanga Station Area



Source: Anil Verma Associates

Photo Date: 1989 LA Aerial Photography, Inc.

View looking West along Victory Boulevard/Topham Street at Winnetka Station Area. Los Angeles Pierce College is seen at the left of the photo. Warner Center high-rise buildings are seen at the top of the photo. Single-family residential neighborhoods are seen in the lower and right edges of the photo.

4.2.2 SP Burbank Branch Route Alternative Reseda-West Van Nuys Area
Figures 4-6 through 4-10 (see fold-out section for Figure 4-10)

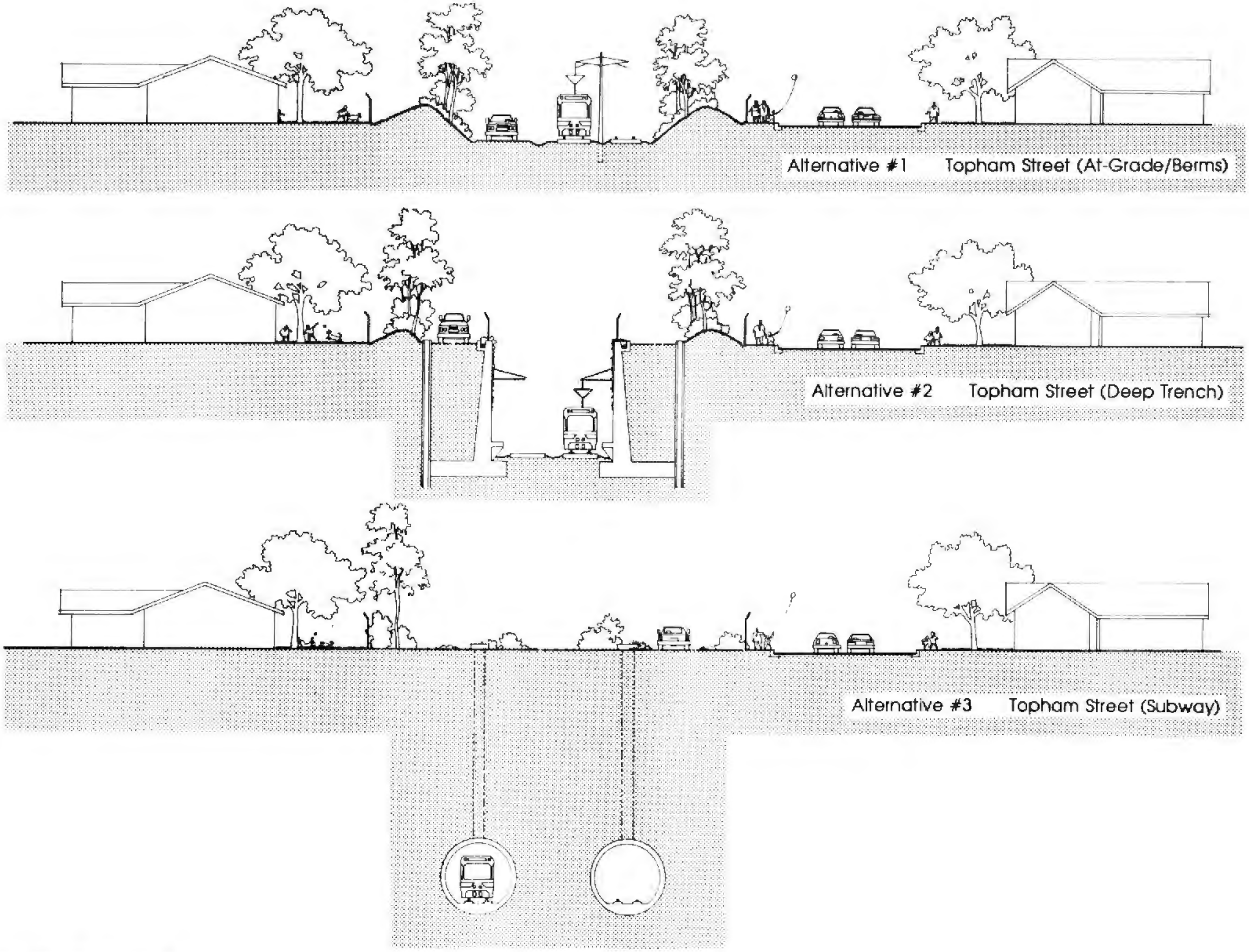
The route continues within the SP Right-of-Way along the north side of Topham Street. Alternative #1 would be a depressed rolling profile four to six feet below existing grade with berms on both sides of the mainline tracks. The alignment would be depressed in mid-block locations and roll up to cross Tampa Avenue, Wilbur Avenue, Lindley Avenue and White Oak Avenue. Alternatives #2 and #3 would be located below-grade in deep-trench and subway configurations.

Tampa Station is planned as a simple platform for pick-up and drop-off only. Alternative #1 would cross Tampa Street at-grade with crossing gates to allow signal pre-emption for the LRT trains. Alternatives #2 and #3 would be grade-separated and would pass beneath Tampa Street. No parking would be provided at this station.

At Reseda Station parking for 370 vehicles has been provided west of Reseda Boulevard. This parking would displace an existing lumber yard and several industrial structures. Alternative #1 would rise to an aerial configuration. Alternatives #2 and #3 would continue in depressed configurations and would pass beneath Reseda Avenue, with station platforms below ground.

At White Oak Station, parking for 475 cars would be provided. The profile for Alternative #1 would be at-grade with crossing gates to allow for signal pre-emption. Alternatives #2 and #3 would be located in subway with station platforms below ground.

Land uses in this segment of the route are predominantly single-family residential except near Reseda Boulevard where a mixture of industrial and commercial uses are clustered around the existing freight rail facilities.



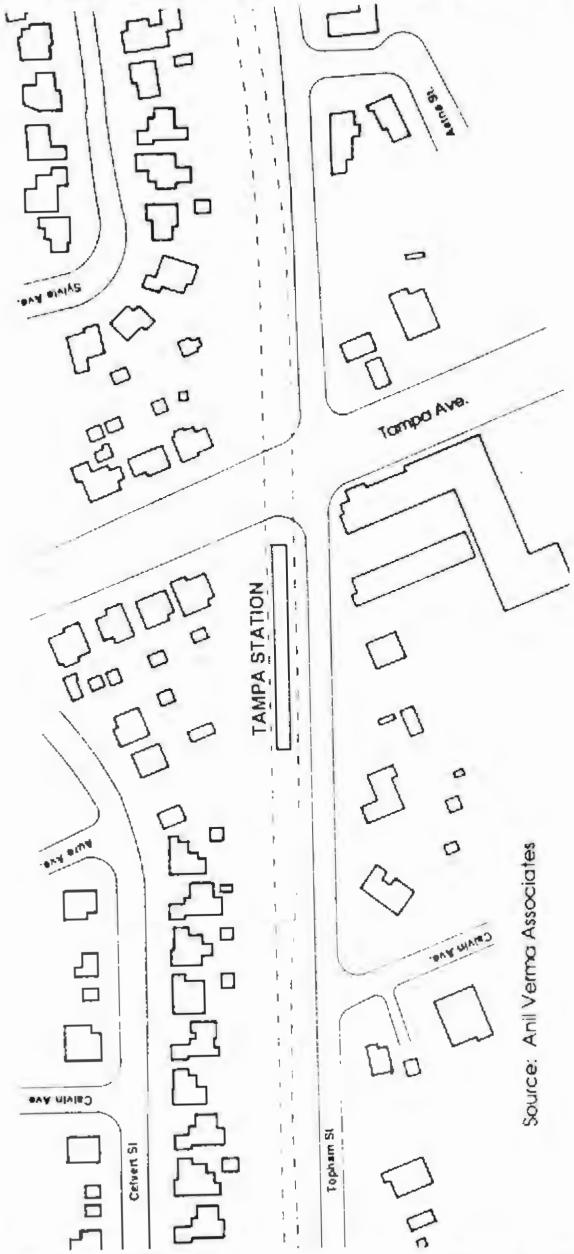
Source: Gannett Fleming/Gruen Associates

San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-6

Burbank Branch Profile Alternatives
Reseda/West Van Nuys Area



Source: Anil Verma Associates

Photo Date: 1989 LA Aerial Photography, Inc.

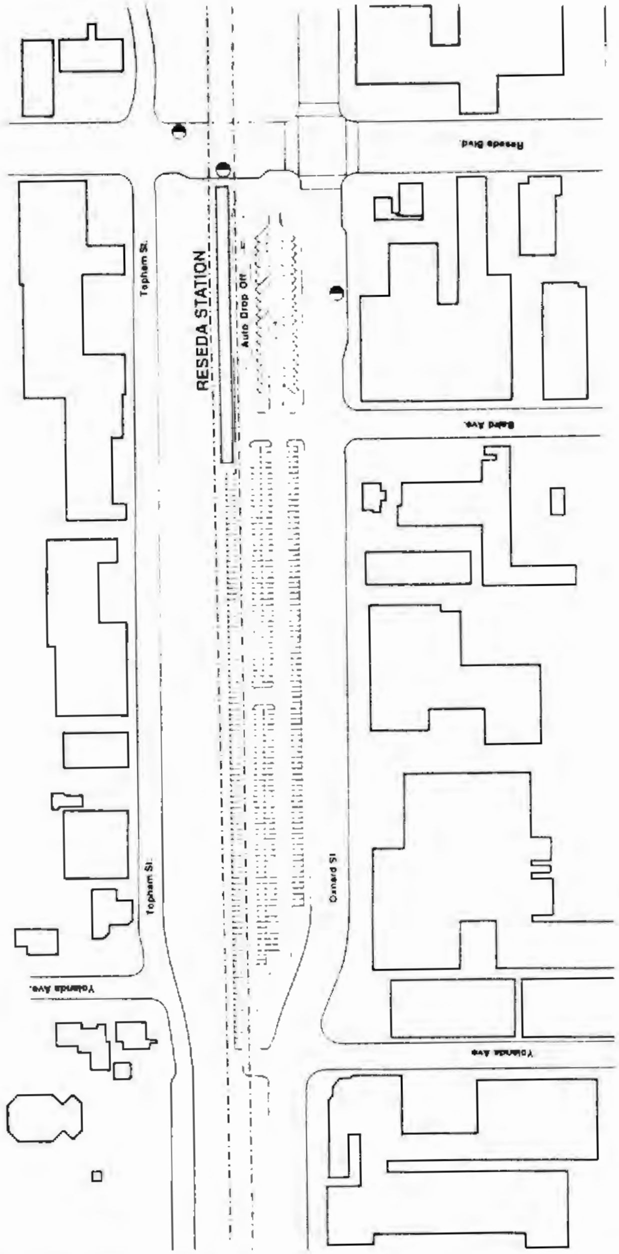
View looking East along Topham Street/SP right-of-way. The railroad right-of-way is 100 feet wide in this area. Homes to the left of the photo back onto the railroad alignment while homes to the right face onto Topham Street and other local roadways.

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-7

Burbank Branch Alternative
Tampa Station Area



Source: Anil Verma Associates

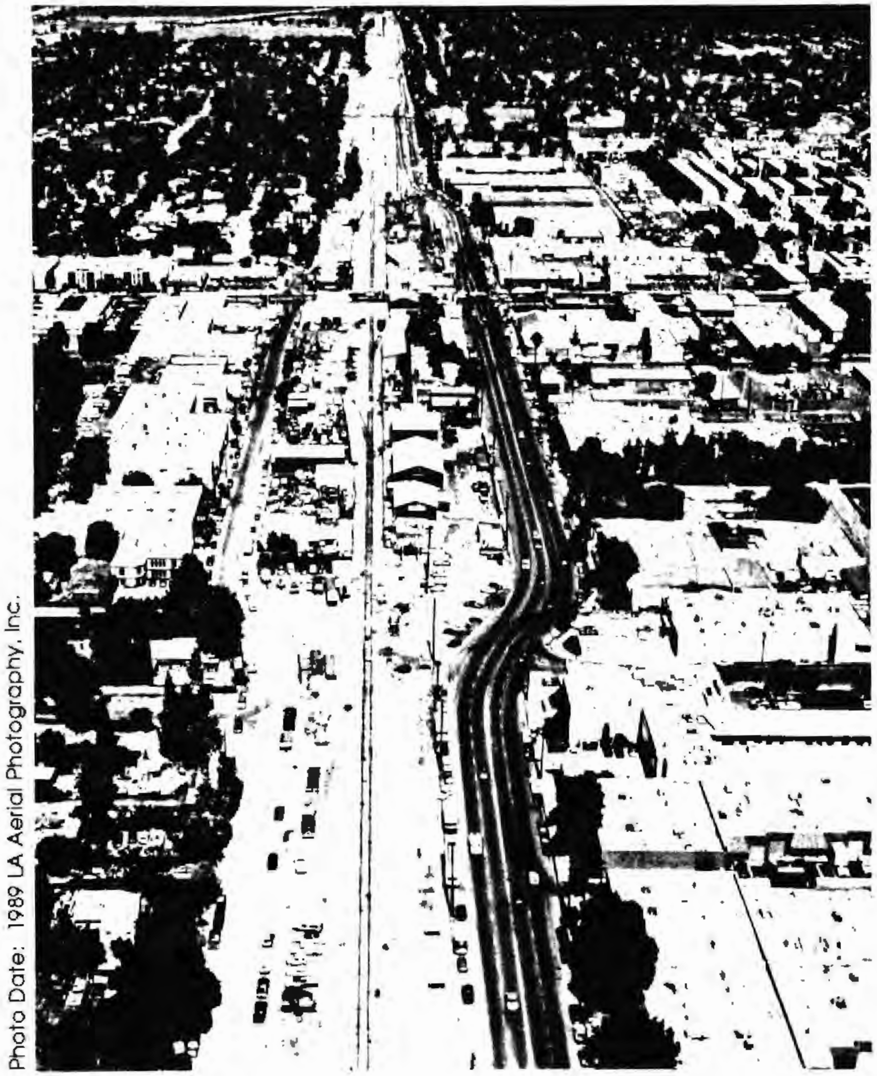


Photo Date: 1989 LA Aerial Photography, Inc.

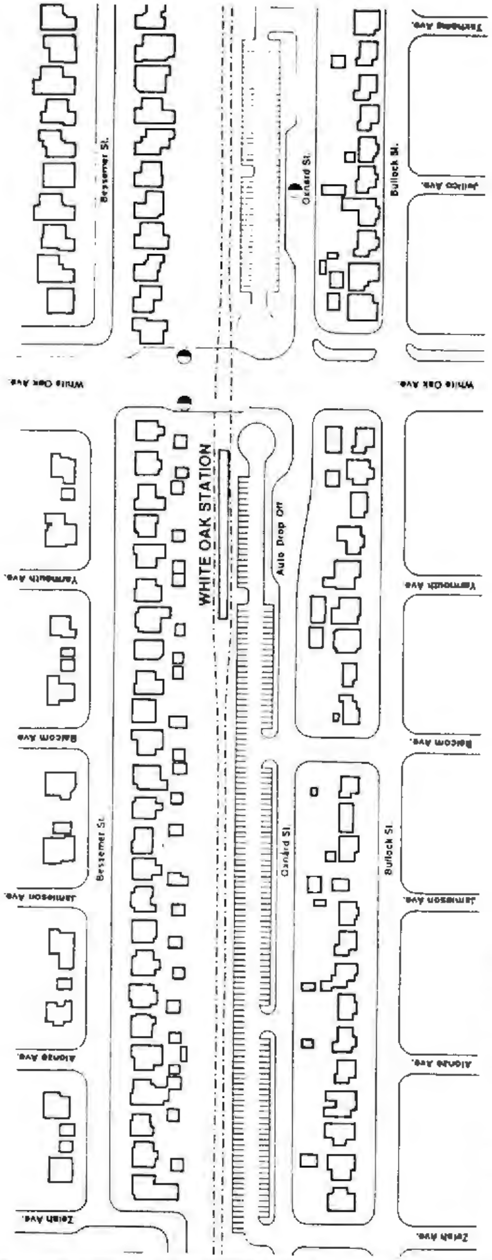
View looking East along Oxnard Street and Topham Street at Reseda Station. Some existing lumber yards and industrial uses would be displaced for station parking between Oxnard Street and Topham Street.

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-8

Burbank Branch Alternative
Reseda Station Area



Source: Anil Verma Associates

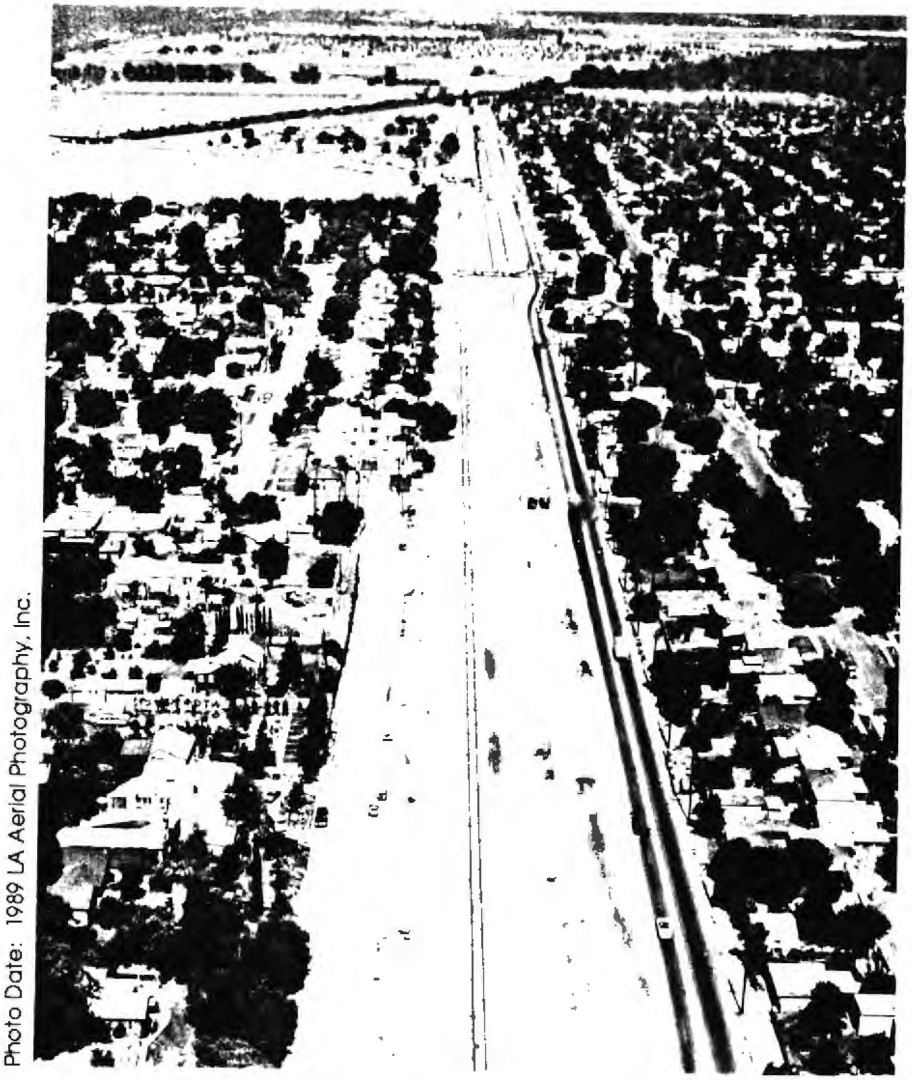


Photo Date: 1989 LA Aerial Photography, Inc.

View looking East along Oxnard Street/SP right-of-way at White Oak Station Area. Sepulveda Basin Recreation Area is seen at top of photo while single-family neighborhoods are located North and South of the alignment.

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-9

Burbank Branch Alternative
White Oak Station Area

4.2.3 SP Burbank Branch Route Alternative Sepulveda Basin Area
Figures 4-11 through 4-14 (see fold-out section for Figure 4-14)

To the east of White Oak Avenue the SP Right-of-Way enters the Sepulveda Basin Flood Control/Recreation Area. All of the alternative profiles are at-grade west of Balboa Boulevard where the SP Right-of-Way crosses the Los Angeles River Flood Control Channel. A new bridge approximately 350 feet in length would be constructed for this crossing.

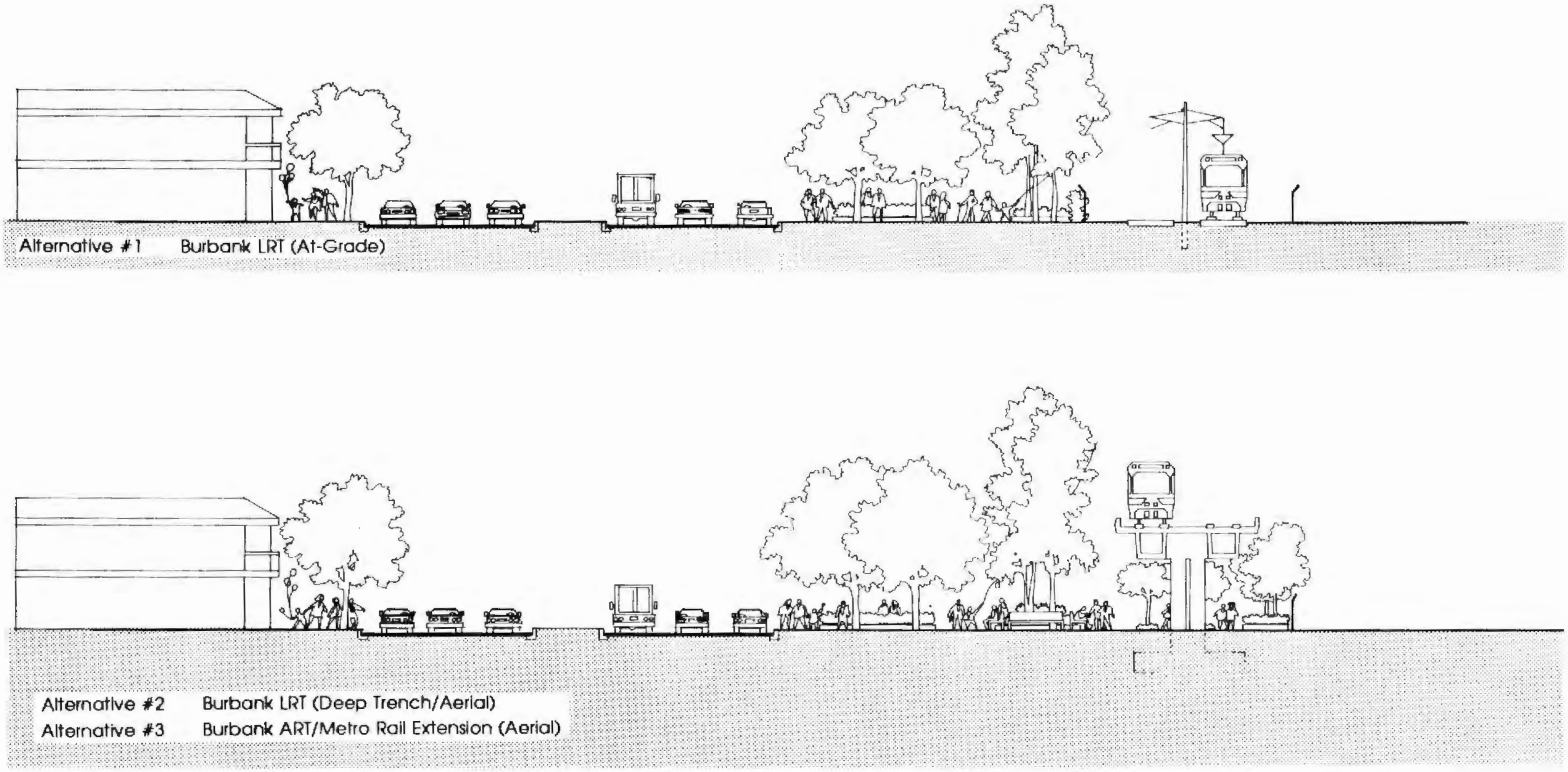
At Balboa Station all of the alternatives are located on aerial guideway to grade-separate the crossing of Balboa Boulevard and to minimize earthwork in the Sepulveda Basin. Parking would be provided for 400 cars.

Between Balboa Station and Woodley Station the aerial configuration would continue for Alternatives #2 and #3, while it would return to at-grade for Alternative #1. Existing bicycle and pedestrian pathways would be maintained beside the rail transit alignment to provide access to Sepulveda Basin Recreation Area facilities.

Woodley Station would be located at-grade for Alternative #1 and elevated for Alternatives #2 and #3. Parking would be provided for 440 vehicles.

East of Woodley Station all alignments would exit the Sepulveda Basin in an at-grade configuration. The alignment would continue within the existing SP Right-of-Way to cross beneath the San Diego Freeway utilizing the existing underpass.

Land uses adjacent to the route in this area are located entirely in the Sepulveda Basin Recreation Area to the south of the alignment. These uses include the Navy and Marine Corps Reserve Center, the planned Bull Creek Park Recreational Lake and Arts Park, the City of Los Angeles Valley Region Headquarters, the US Army Reserve Center, the California Air National Guard and the Tillman Water Reclamation Plant.



Source: Gannett Fleming/Gruen Associates

San Fernando Valley
East/West Rail Transit Project

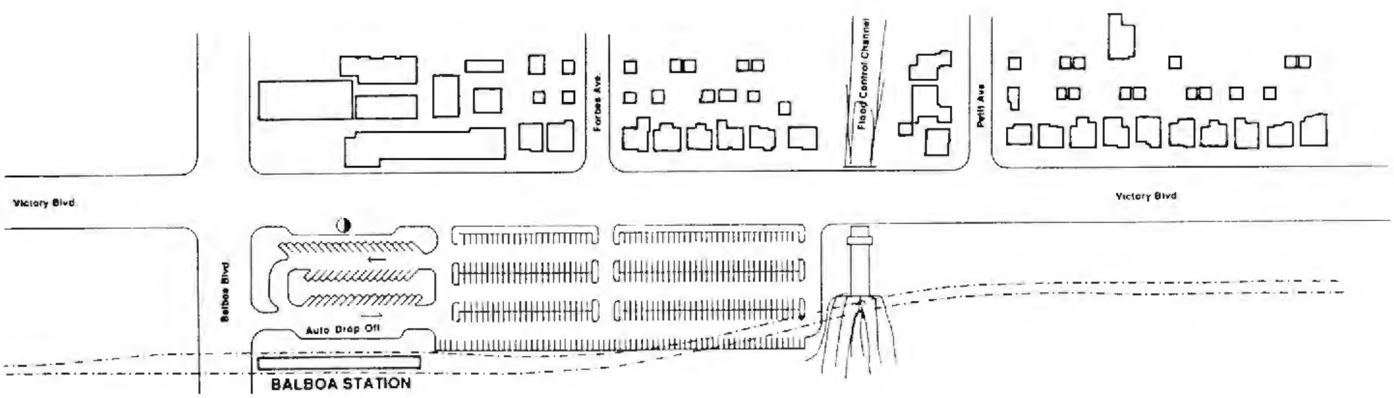
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-11

Burbank Branch Profile Alternatives
Sepulveda Basin Area

Photo Date: 1989 LA Aerial Photography, Inc.

View at Balboa Boulevard and Victory Boulevard looking Northwest. Birmingham High School and a new commercial office complex are seen at the top of the photo. The vacant land in the lower left corner is planned as the Sepulveda Recreation Area Arts Park.



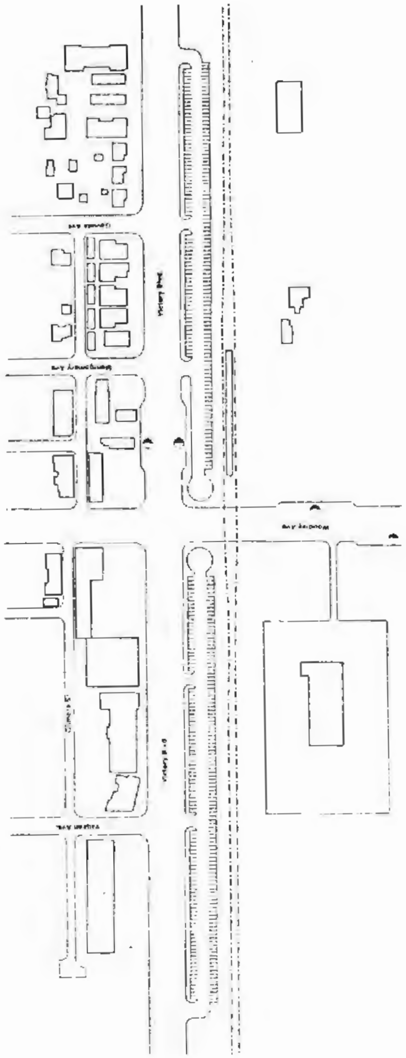
Source: Anil Verma Associates

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-12

Burbank Branch Alternative
Balboa Station Area



Source: Anil Verma Associates

Photo Date: 1989 LA Aerial Photography, Inc.

View looking East along Victory Boulevard/SP right-of-way at Woodley Avenue. The U.S. Army Reserve and California Air National Guard are located in the Sepulveda Basin at the right of the photo. Mixed commercial and multi-family residential uses are located across Victory Boulevard from the proposed alignment.

Figure 4-13

Burbank Branch Alternative
Woodley Station Area

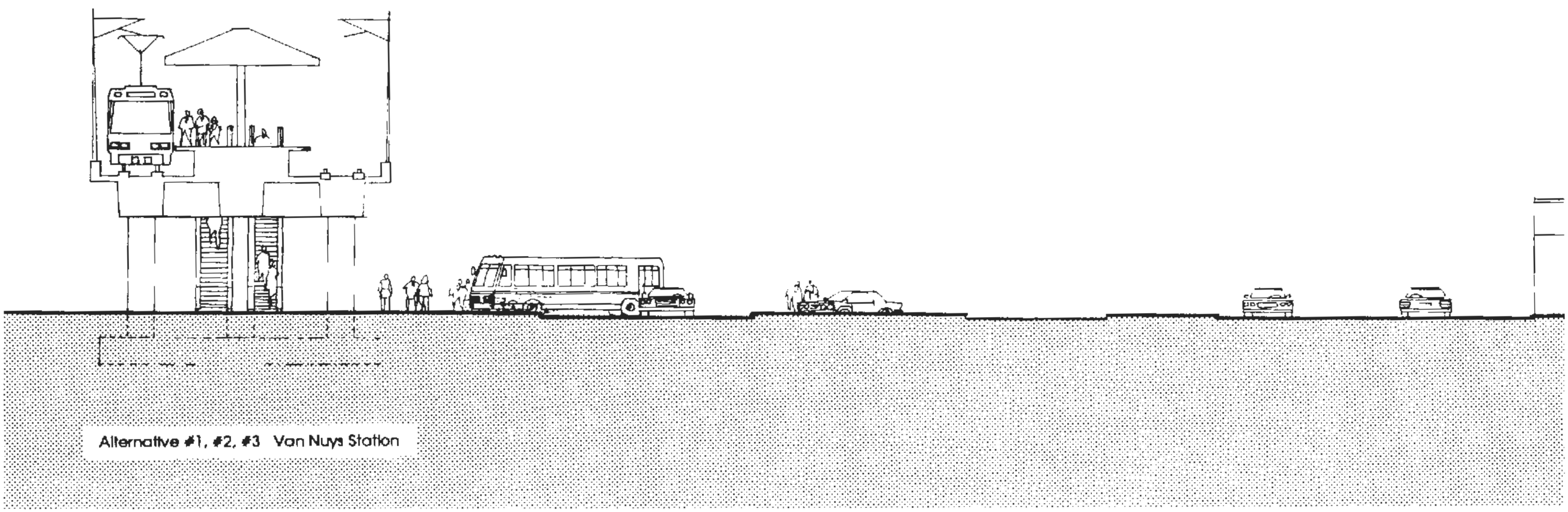
4.2.4 SP Burbank Branch Route Alternative Van Nuys-North Sherman Oaks Area **Figures 4-15 through 4-18** (see fold-out section for Figure 4-18)

Because of high traffic volumes along Sepulveda and Van Nuys Boulevards, the alignment alternatives in this area are grade-separated above these two street crossings. Alternative #1 returns to grade for about 2000 feet between Sepulveda and Van Nuys Boulevards to cross Kester Avenue at street level with crossing gates to allow for signal pre-emption. Alternatives #2 and #3 remain on aerial guideway for the full mile between Sepulveda and Van Nuys Boulevard.

Land uses in this area are principally commercial and industrial. At Sepulveda Station, an existing Drive-In Movie Theater would be displaced for a station Park and Ride Lot. The location of this parking lot, immediately adjacent to the San Diego Freeway would allow for possible future direct ramp connections between the freeway and the transit station. At Van Nuys Station, low rise automotive and industrial structures along Oxnard Street give way to mid-rise governmental structures comprising the Van Nuys Civic Center Administrative Complex two blocks north of the alignment.

East of Van Nuys Station, commercial and industrial land uses continue to Hazeltine Avenue where they transition to residential uses. South of the alignment are two to three story multi-family apartments that face towards Oxnard Street. North of the alignment, single-family residences face away from the alignment toward Bessemer Street.

Because of sensitive residential land uses east of Hazeltine Avenue, the profile of the alternatives in this area are depressed below grade in this area. Alternative #3 transitions from an aerial guideway at Van Nuys Station to a subway configuration at Hazeltine Avenue. Alternatives #1 and #2 are configured in a deep trench to pass beneath Woodman Avenue approximately 20 to 25 feet below grade.



Source: Gannett Fleming/Gruen Associates

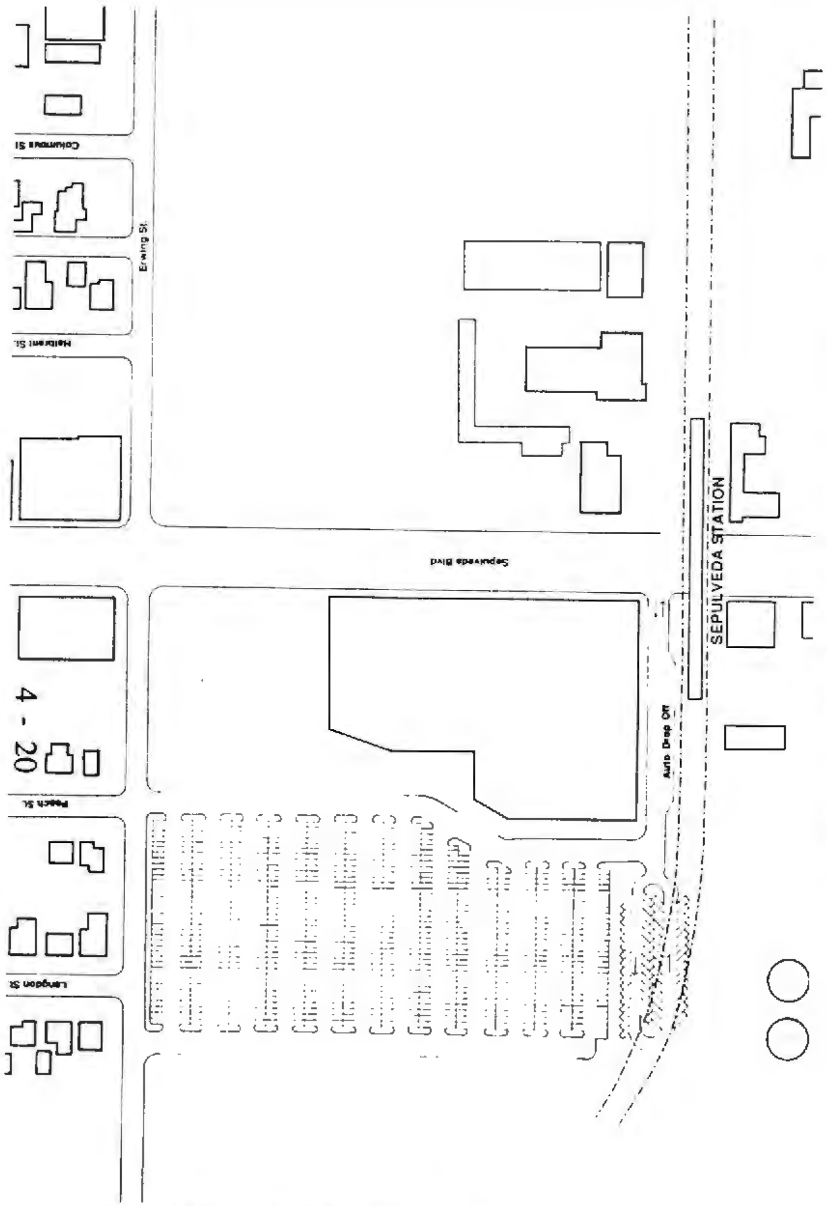
San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

LACTC

Figure 4-15

Burbank Branch Profile Alternative
Van Nuys/North Sherman Oaks Area



Source: Anil Verma Associates

Photo Date: 1989 LA Aerial Photography, Inc.

View looking Northeast at the San Diego Freeway in the vicinity of Sepulveda Boulevard. The existing Drive-In Theatre would be displaced for station parking. Other uses located at Sepulveda Boulevard include a new multi-level commercial storage facility at the left of the photo, a Wickes Furniture Showroom, a Costco Retail Outlet, a commercial office complex and an industrial plant.

San Fernando Valley
East/West Rail Transit Project

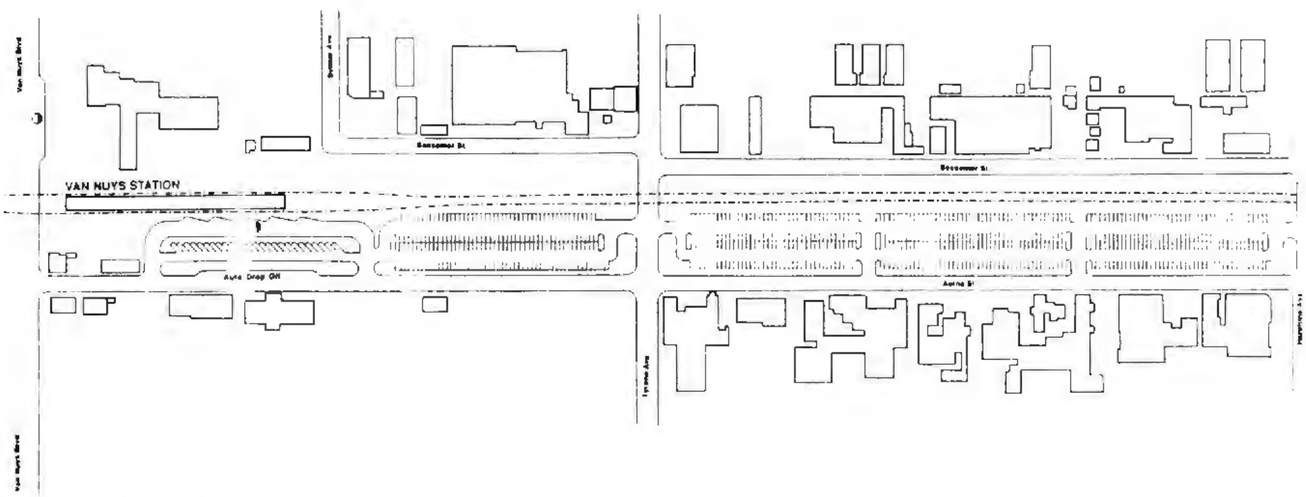
LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-16

Burbank Branch Alternative
Sepulveda Station Area

Photo Date: 1989 LA Aerial Photography, Inc.

This view looks East in the vicinity of Van Nuys Station. Several leaseholds within the SP right-of-way would be displaced for station parking. North of the station are the governmental structures of the Van Nuys Civic Center Complex. South of the station along the right side of the photo are the automotive and commercial uses that line Oxnard Street.



Source: Anil Verma Associates

San Fernando Valley East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-17

Burbank Branch Alternative
Van Nuys Station Area

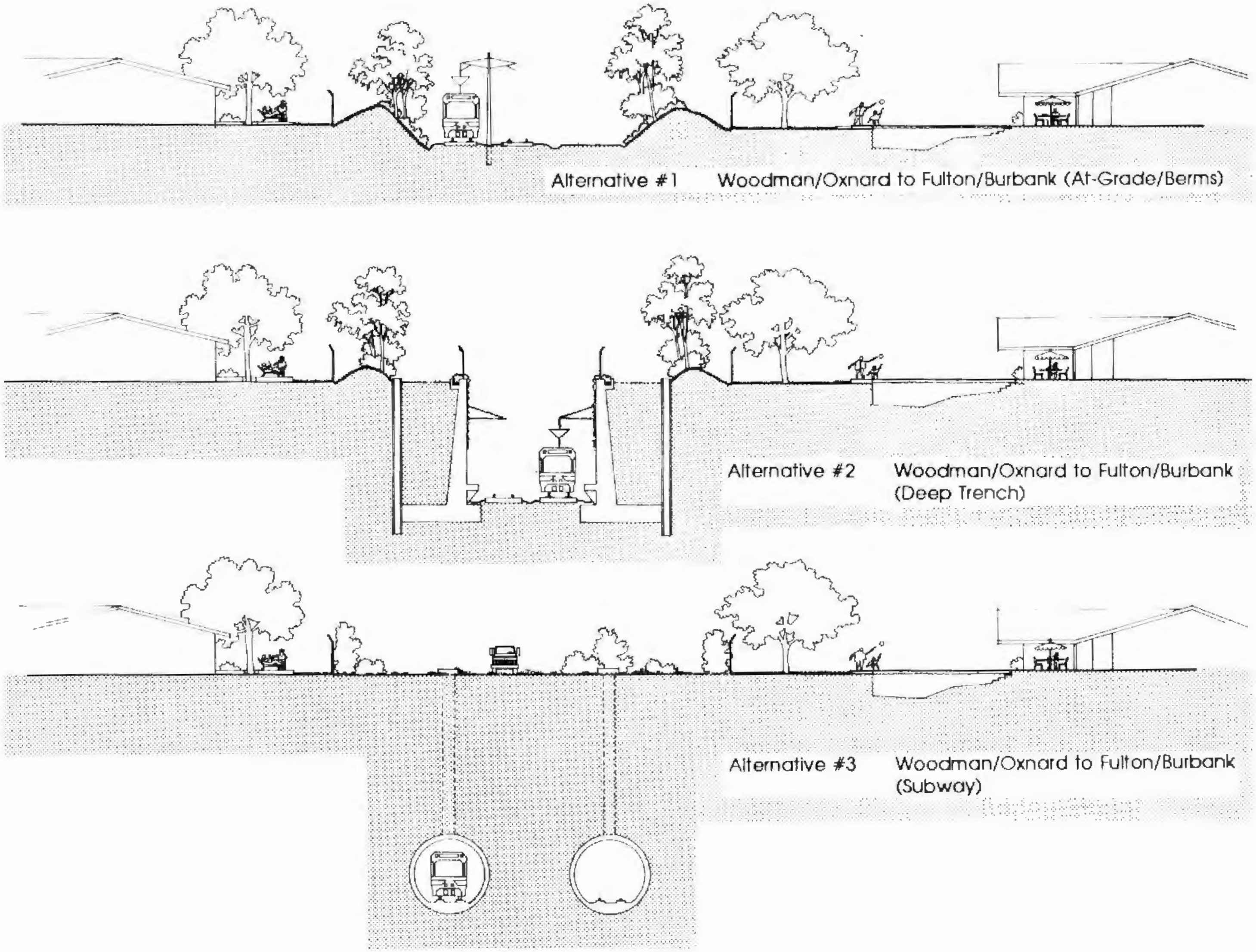
4.2.5 SP Burbank Branch Route Alternative North Hollywood Area
Figures 4-19 through 4-22 (see fold-out section for Figure 4-22)

Through the diagonal segment of the route between Woodman/Oxnard and Fulton/Burbank intersections, the SP Right-of-Way passes through a predominantly residential area with a mix of institutional and commercial land uses. The Los Angeles Valley College is the largest single land use and a Fulton-Burbank Station has been planned to serve this facility. As this would be principally a destination station for students, faculty and employees of the college, no parking has been planned as a part of this station. Other uses along the route in this area include mixed single-family and multi-family residential that back onto the alignment and mixed commercial/institutional uses along Burbank Boulevard. Portions of an existing lumber yard and building supply operation would be displaced for construction of the Fulton-Burbank Station. Alternatives #1 and #2 are located in deep trench configuration approximately 20 to 25 feet below existing grade. Alternative #1 rolls up to a partially depressed bermed segment for the mid-portion of the diagonal segment, while Alternative #2 remains in deep trench through the entire segment. Alternative #3 would be located in subway configuration 40 to 50 feet below existing grade.

After crossing under the Fulton/Burbank intersection, Alternative #1 would return to existing grade to cross the Tujunga Wash Flood Control Channel into the center median of Chandler Boulevard. Between Fulton-Burbank Station and North Hollywood Station this alternative would proceed in a bermed configuration. Crossing gates would be used for the intersections at Coldwater Canyon, Whitsett Avenue, Laurel Canyon and Colfax Avenue. Crossings at Bellaire and Corteen Avenues would be closed. Alternatives #2 and #3 would cross under the Tujunga Wash in subway and remain below grade through the Chandler Boulevard segment of the route. All existing roadway crossings of Chandler Boulevard would be maintained under Alternatives #2 and #3.

Laurel Canyon Station would be located at-grade with Alternative #1 and below-grade with Alternatives #2 and #3. No parking would be provided at this station.

Land uses in this route segment include a mixture of single-family and multi-family residential as well as institutional and commercial uses. North Hollywood High School is the single largest institutional use along the route. However, several other schools and religious institutions, including the Valley Cities Jewish Community Center, Emek Hebrew Academy, Shaarey Zedek Talmud Torah, and the Chandler Convalescent Hospital, are located along the south side of Chandler Boulevard.



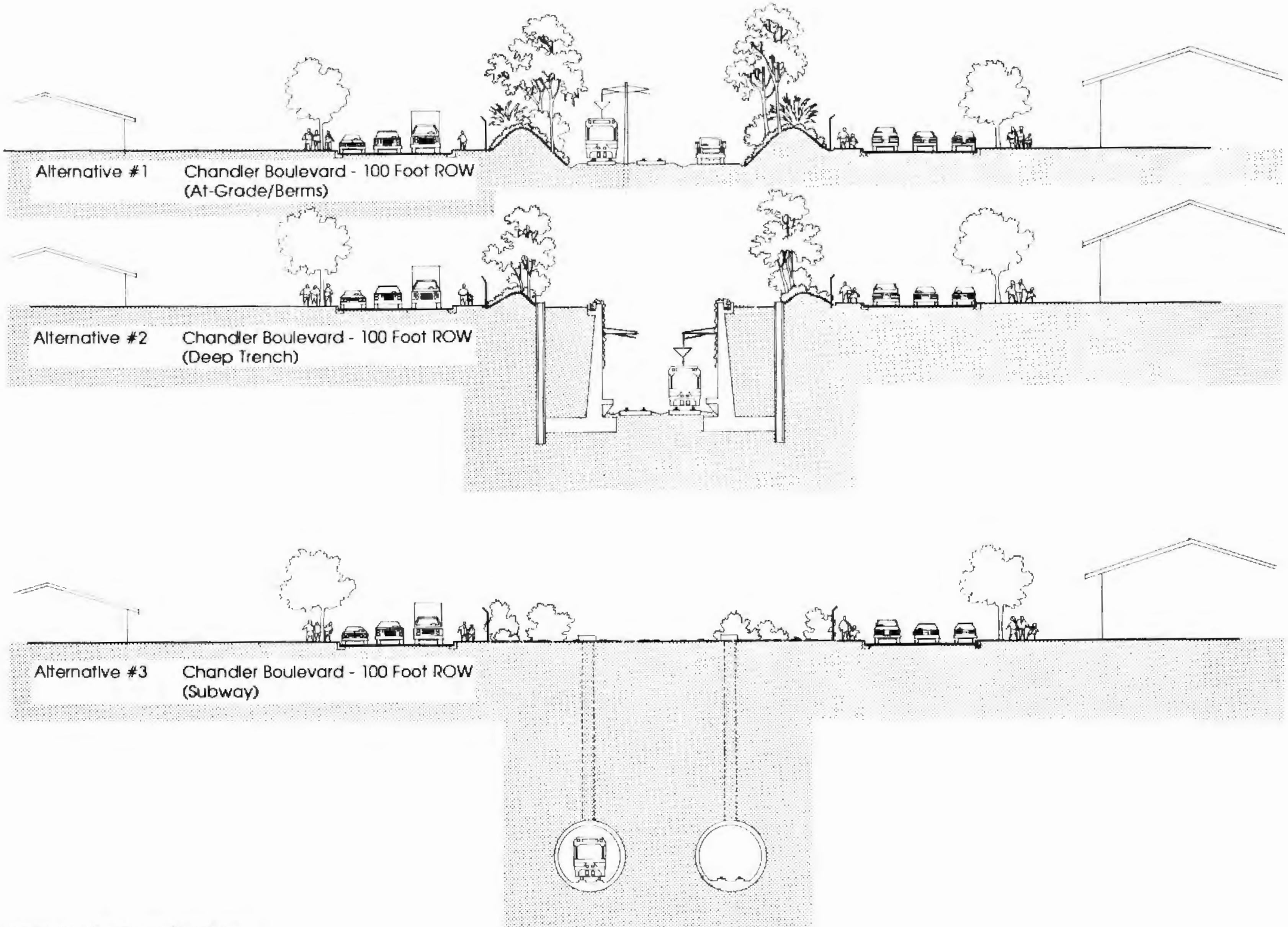
Source: Gannett Fleming/Gruen Associates

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-19a

Burbank Branch Profile Alternatives
North Hollywood Area



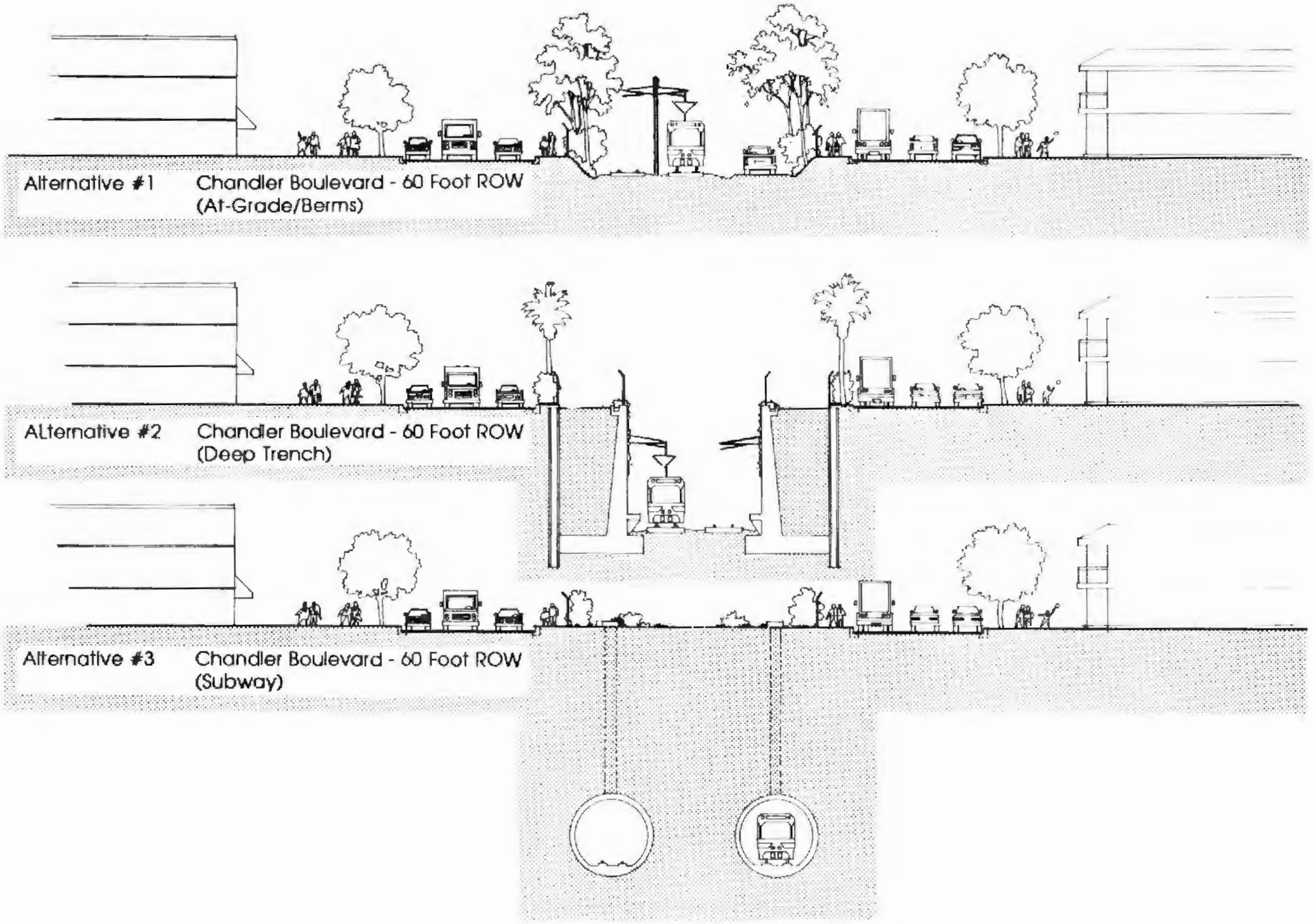
Source: Gannett Fleming/Gruen Associates

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-19b

Burbank Branch Profile Alternatives
North Hollywood Area



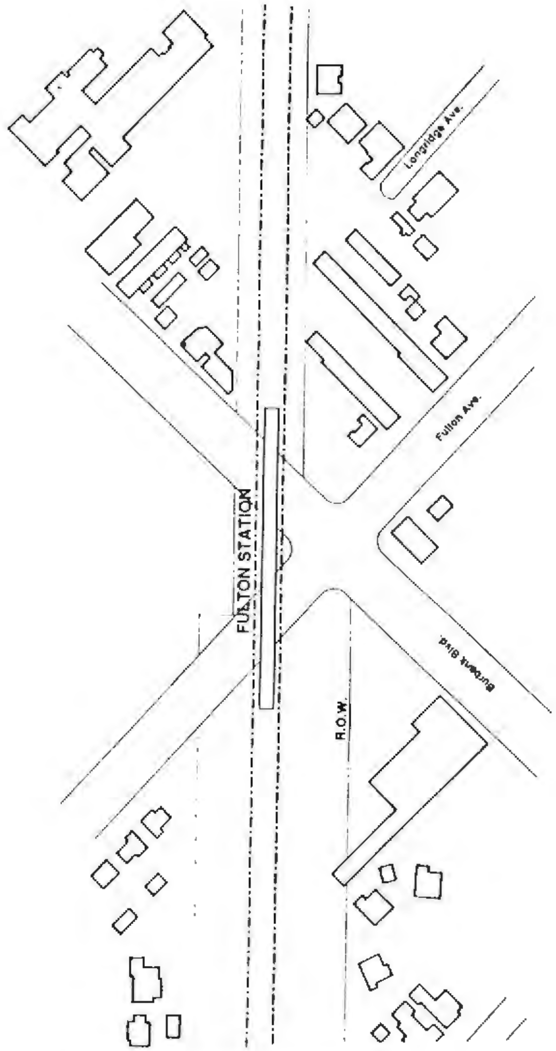
Source: Gannett Fleming/Gruen Associates

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

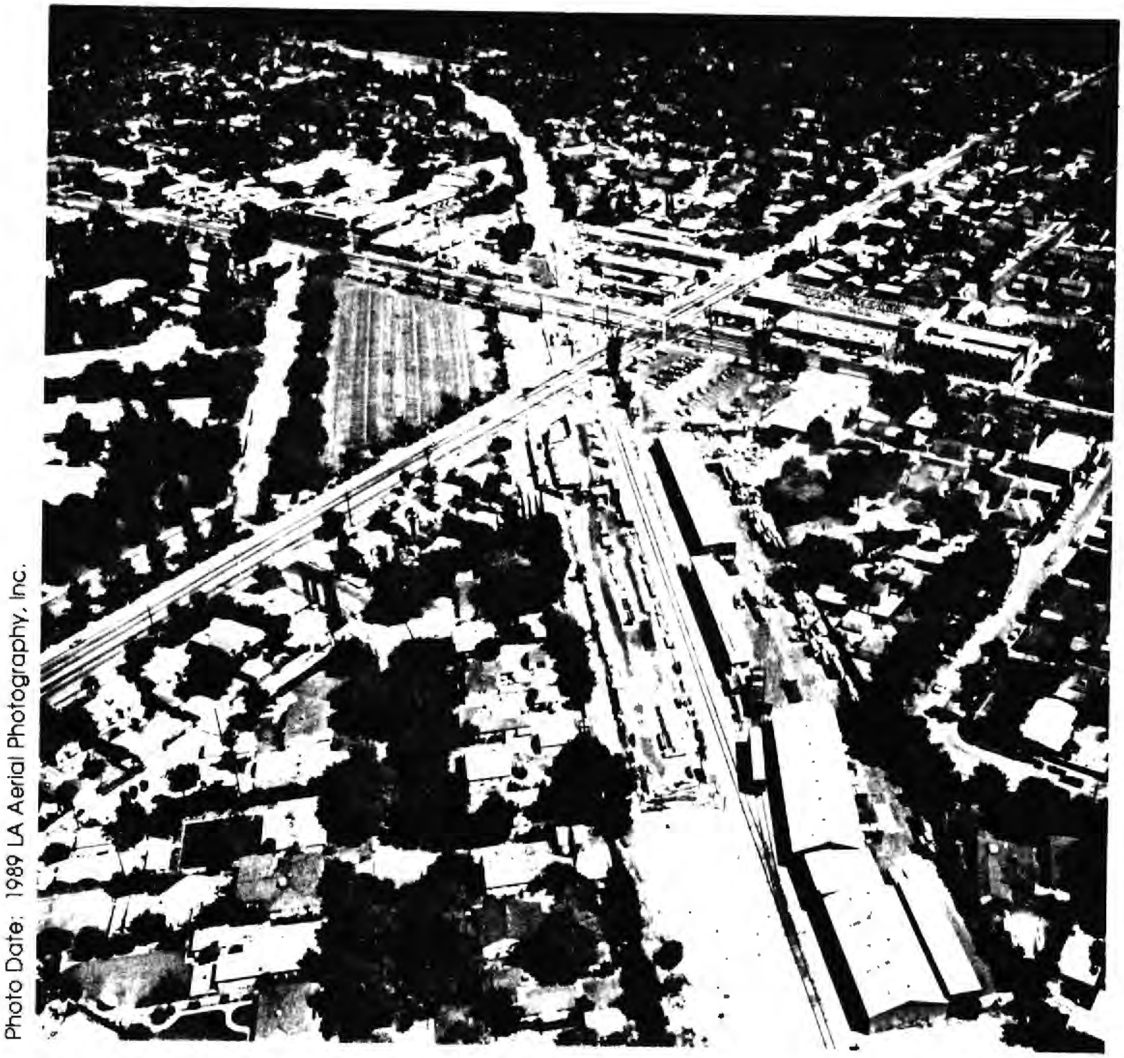
Figure 4-19c

Burbank Branch Profile Alternatives
North Hollywood Area



Source: Anil Verma Associates

Photo Date: 1989 LA Aerial Photography, Inc.



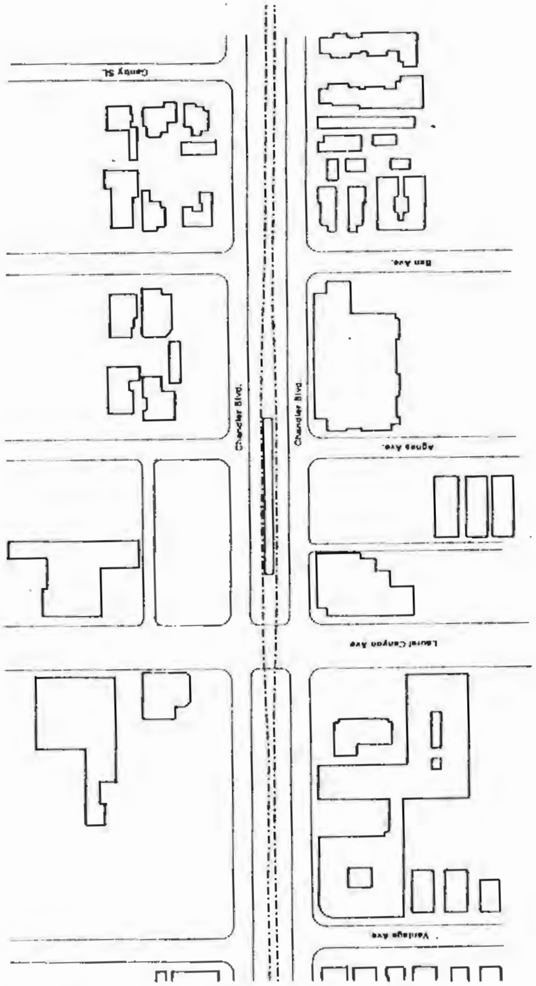
View looking Southeast at the proposed Fulton/Burbank Station. Several industrial structures within the SP right-of-way would be displaced for a station at this site. Los Angeles Valley College is seen at the left of the photo.

San Fernando Valley East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-20

Burbank Branch Alternative
Fulton/Burbank Station Area



Source: Anil Verma Associates

Photo Date: 1989 LA Aerial Photography, Inc.

View looking East along Chandler Boulevard at the proposed Laurel Canyon Station Site. The Chandler Convalescent Hospital and a Chief Auto Parts Store are located on the Southwest corner of this intersection. A shopping center and restaurant are located on the Northeast and Northwest corners while Gibraltar Savings Bank is located on the Southeast corner. Chandler Boulevard is divided into two one-way streets in this area, with a 60 foot wide SP right-of-way in the street median.

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-21

Burbank Branch Alternative
Laurel Canyon Station Area

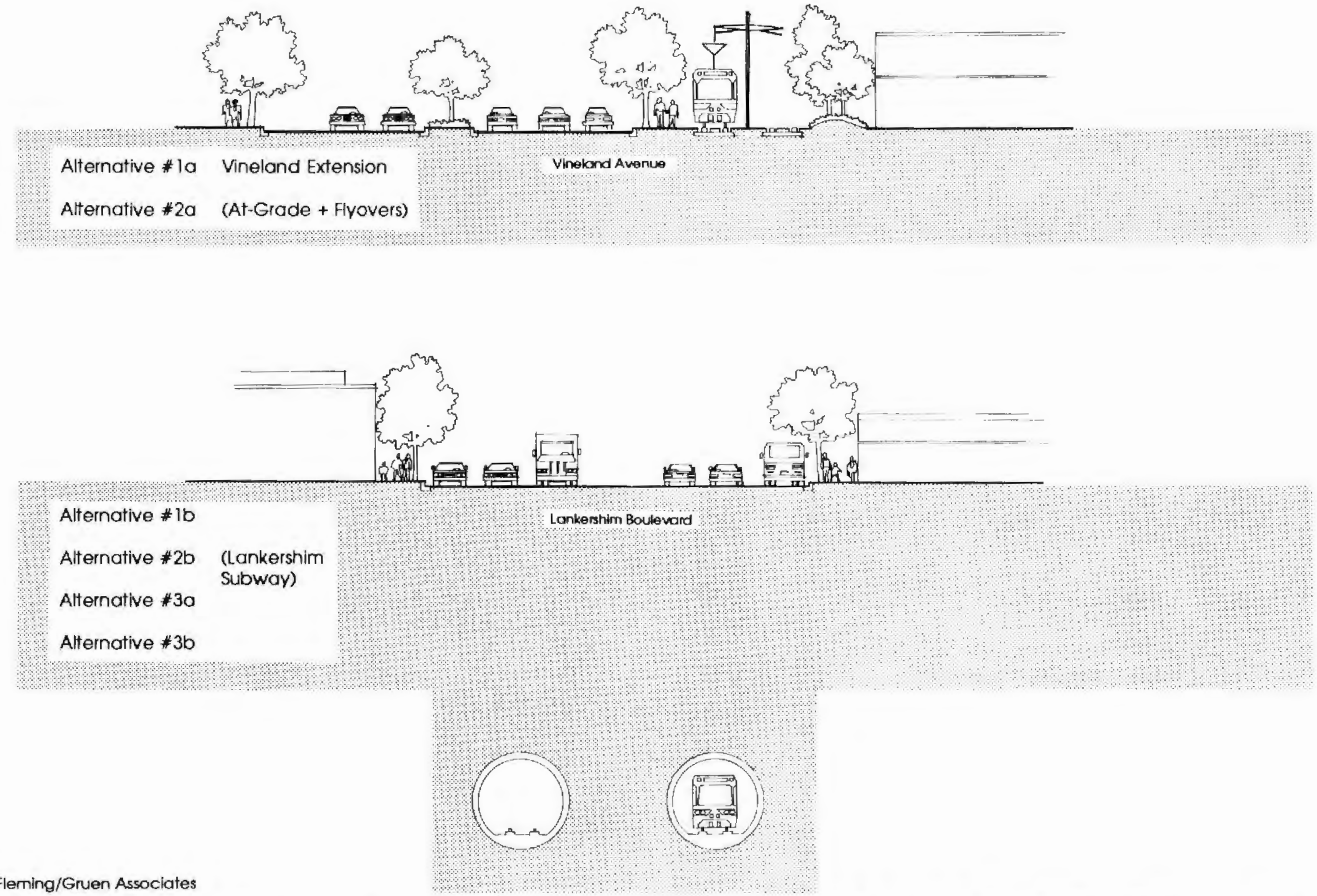
4.2.6 SP Burbank Branch Route Alternative North Hollywood to Universal City Area Figures 4-23 through 4-27 (see fold-out section for Figure 4-27)

Two route options exist between North Hollywood Station and Universal City Station. The baseline case utilizes the adopted Metro Rail subway alignment along Lankershim Boulevard. Under this option, the SP Burbank Branch Route Alternative would stop at North Hollywood Station and passengers would change to Metro Rail at this point.

An alternate to the Metro Rail Lankershim alignment utilizes an existing utility corridor along Vineland Avenue for an predominantly at-grade light rail connection between North Hollywood and Universal City. Under this second option, passengers would continue on the Burbank Branch Route between North Hollywood and Universal City and would change to Metro Rail at Universal City.

Under either option a station would be provided at North Hollywood to serve the commercial core of the North Hollywood Redevelopment Area. Parking for approximately 1000 cars has been planned as a part of the Metro Rail Station Area Plan prepared by the Los Angeles Community Redevelopment Agency and the City Planning Departments. Because the adopted station location along Lankershim Boulevard is located at Chandler Boulevard, any Metro Rail Extension would require a curve distance to make a transition onto Chandler Boulevard west of the North Hollywood Station. The alignment would curve north of Chandler Boulevard for about 1000 feet under existing homes to make this transition. An alternative to this alignment would be to shift the North Hollywood Station south to Magnolia Boulevard, allowing a transition into a Chandler Boulevard east-west alignment which does not cross under several blocks on single-family homes.

Land uses in the vicinity of the North Hollywood Station are mixed commercial and industrial. Lankershim Boulevard itself is principally commercial while Vineland Avenue is bordered by a mix of residential, commercial, industrial and institutional land uses. The Vineland Option would require the taking of approximately 1.3 acres from Weddington Park in the area just north of Universal City.



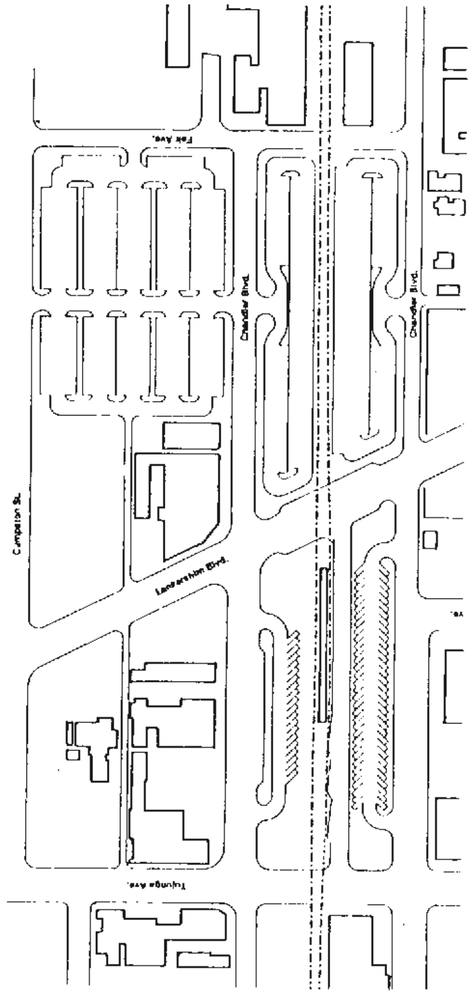
Source: Gannett Fleming/Gruen Associates

San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

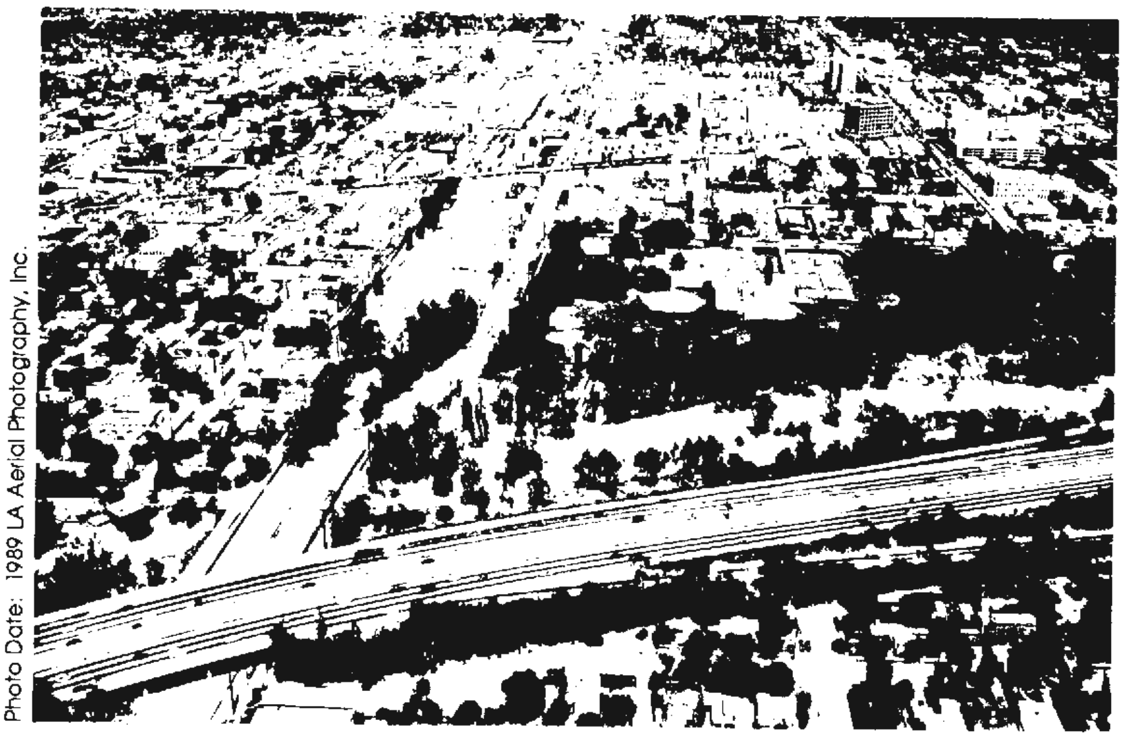
Figure 4-23

Burbank Branch Profile Alternatives
North Hollywood/Universal City Area



Source: Anil Verma Associates

Photo Date: 1989 LA Aerial Photography, Inc.



This view looks East at the proposed North Hollywood Station. The alignment crosses under the Hollywood Freeway seen in the lower portion of the photo. To the right of the photo, the line passes North Hollywood Park before reaching Lankershim Boulevard. Two route options exist at this station. Alternatives #1A and #2A continue in the SP right-of-way to cross above Lankershim Boulevard before turning South at Vineland Avenue. Alternatives #1B, #2B and #3B end at Lankershim Boulevard where passengers would change to Metro Rail. Alternative #3A, Metro Rail Extension would require a hook segment to allow for a direct connection between the Chandler Boulevard alignment and the adopted Metro Rail North Hollywood Station at Chandler/Lankershim.

Figure 4-24

Burbank Branch Alternative
North Hollywood Station Area

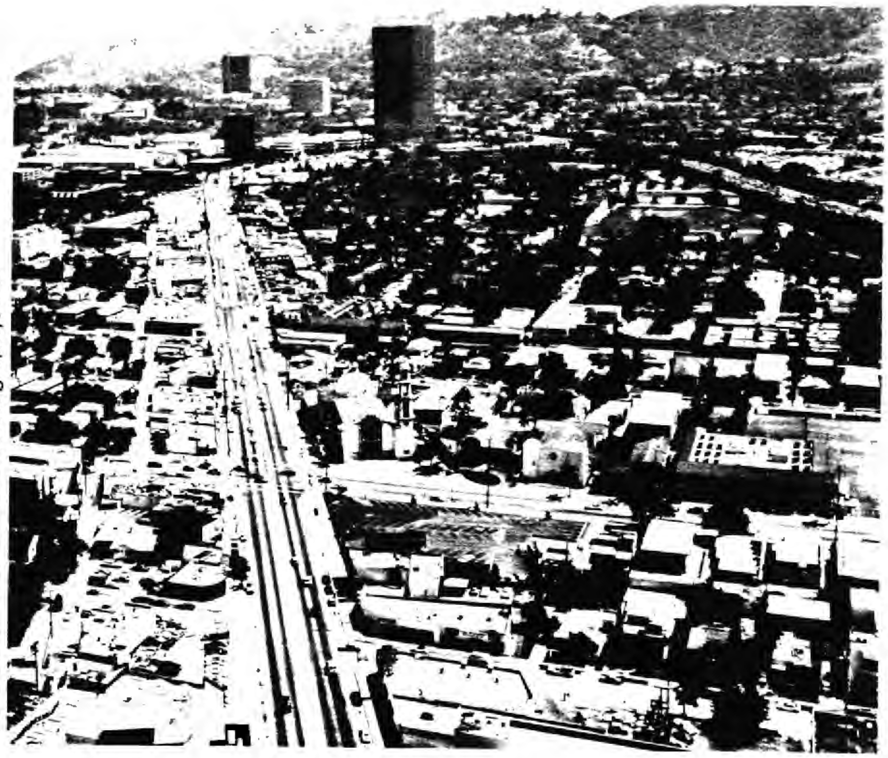


Photo Date: 1989 LA Aerial Photography, Inc.

Lankershim Boulevard Option:

Alternatives #1B, #2B, #3A, #3B follow the adopted Metro Rail subway alignment along Lankershim Boulevard between North Hollywood and Universal City. This view looks South near the intersection of Lankershim Boulevard and Moorpark Street. St. Charles Borromeo Church is seen at the center of the photo while the high rise structures of Universal City can be seen at the top of the photo.

Photo Date: 1989 LA Aerial Photography, Inc.

Vineland Avenue Option:

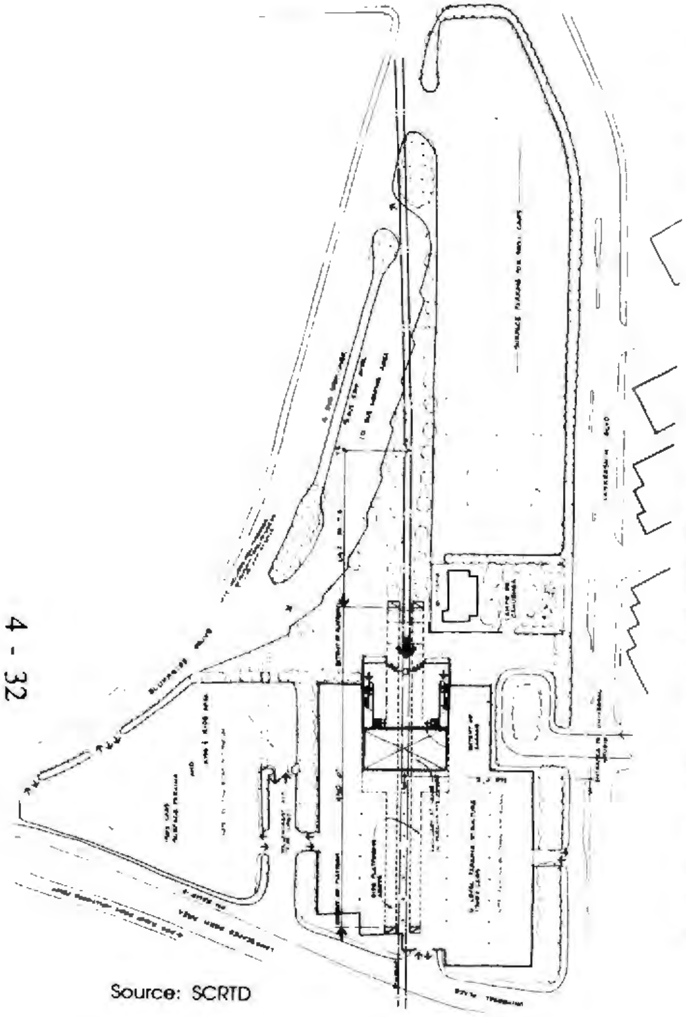
Alternatives #1A and #2A follow Vineland Avenue between North Hollywood and Universal City. Under this option, Metro Rail would stop at Universal City and passengers would transfer to a predominantly at-grade LRT route along Vineland Avenue between Universal City and North Hollywood. This view looks South along Vineland Avenue. The diagonal street is Lankershim Boulevard while overpasses of the Ventura and Hollywood Freeways can be seen in the distance.

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-25

Burbank Branch Alternative
Vineland/Lankershim Options



Source: SCRTD

Photo Date: 1989 LA Aerial Photography, Inc.

This view looks North along Lankershim Boulevard at the site of the Universal City Metro Rail Station. Ventura Boulevard and the Hollywood Freeway are seen at the lower portion of the photo. The adopted Metro Rail alignment would proceed North along Lankershim Boulevard to the North Hollywood Station. The Vineland Avenue Option would exit Universal City in subway beneath Bluffside Drive, proceeding along the edge of the Hollywood Freeway to Vineland Avenue where it would proceed North to North Hollywood Station.

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-26

Burbank Branch Alternative
Universal City Station Area

4.3 VENTURA FREEWAY - PROFILE AND ALIGNMENT ALTERNATIVES

This section presents a discussion of the various profile and alignment alternatives being considered for the Ventura Freeway Route Alternative. The route is subdivided into six sub-areas that are described and illustrated through text and drawings. Cross-section drawings of typical segments of the route are cross-referenced to aerial photo maps, oblique aerial photos and the corresponding conceptual site plan drawings for each station area.

All of the alternatives for the Ventura Freeway route follow alongside the freeway for the majority of their routes, except for the two end segments. At the west end, the route runs north and south along Canoga Avenue in Warner Center. At the east end, the alignment departs from the Ventura Freeway at the Hollywood Freeway interchange to proceed under Riverside Drive, joining the approved Metro Rail project route along Lankershim Boulevard. The total length of the alignment is 16.5 miles, of which 1.8 miles are along Canoga Avenue, 13.4 miles are along the Ventura Freeway and 1.3 miles follow Riverside Drive and the planned Metro Rail subway alignment along Lankershim Boulevard to Universal City.

Based on conclusions of the Initial Alternatives Evaluation Report (September 1987), discussions with the California Department of Transportation, property valuation data and research into major utility constraints, a preferred alignment configuration was developed to the level of Conceptual Engineering Design. The preferred alignment configuration generally follows an edge-of-freeway placement for aerial sections and is typically within the overall confines of the Caltrans right-of-way when in subway configuration. Only in places where placing the alignment within the freeway right-of-way was infeasible due to widening or other engineering factors, was the rail transit alignment shifted out of the freeway right-of-way and onto privately owned property. The route alternative profile configurations are based on the following criteria:

- No encroachment into the planned widening of the Ventura Freeway by Caltrans. This ultimate widening project anticipates ten 12-foot traffic lanes, a 22-foot median and 10-foot roadway shoulders.
- Aerial or at-grade segments would be placed along the south side of the freeway only due to predominantly residential land uses along the north side of the freeway.
- The alignment should not cross above the freeway path in an aerial configuration.
- All subway construction beneath the main freeway travelled way would be by bored tunnel.
- Any on-ramps or off-ramps requiring extended closure during construction would be replaced by temporary ramps, and later restored to their original configuration.
- In general, design speeds for the rail project would follow the criteria for the Metro Rail project, except in cases where extremely high property

displacement and acquisition costs could be significantly reduced through lower operational speeds in the immediate vicinity of station areas.

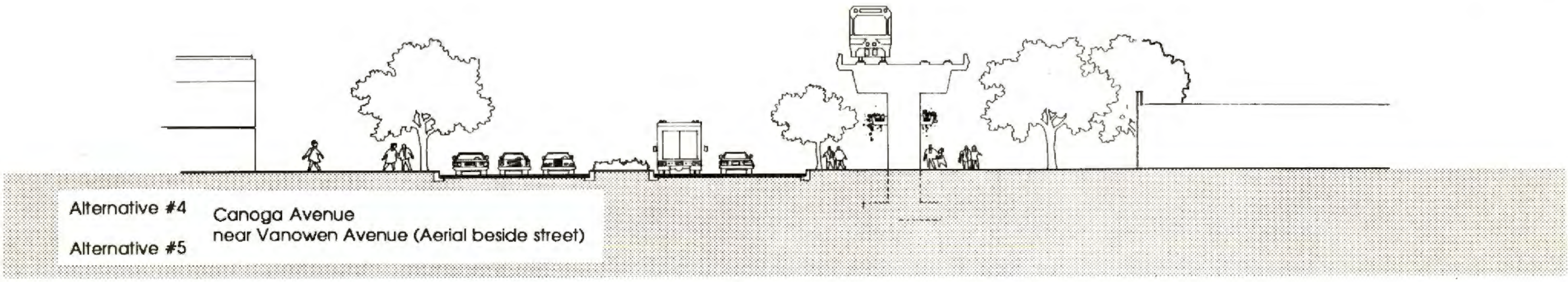
- For underground construction, bored tunneling construction methods would be utilized. This was for both cost effectiveness as well as the advantages of passing below major utilities. Station shells and pocket tracks however would generally be constructed using the cut-and-cover method, maintaining minimum depths.

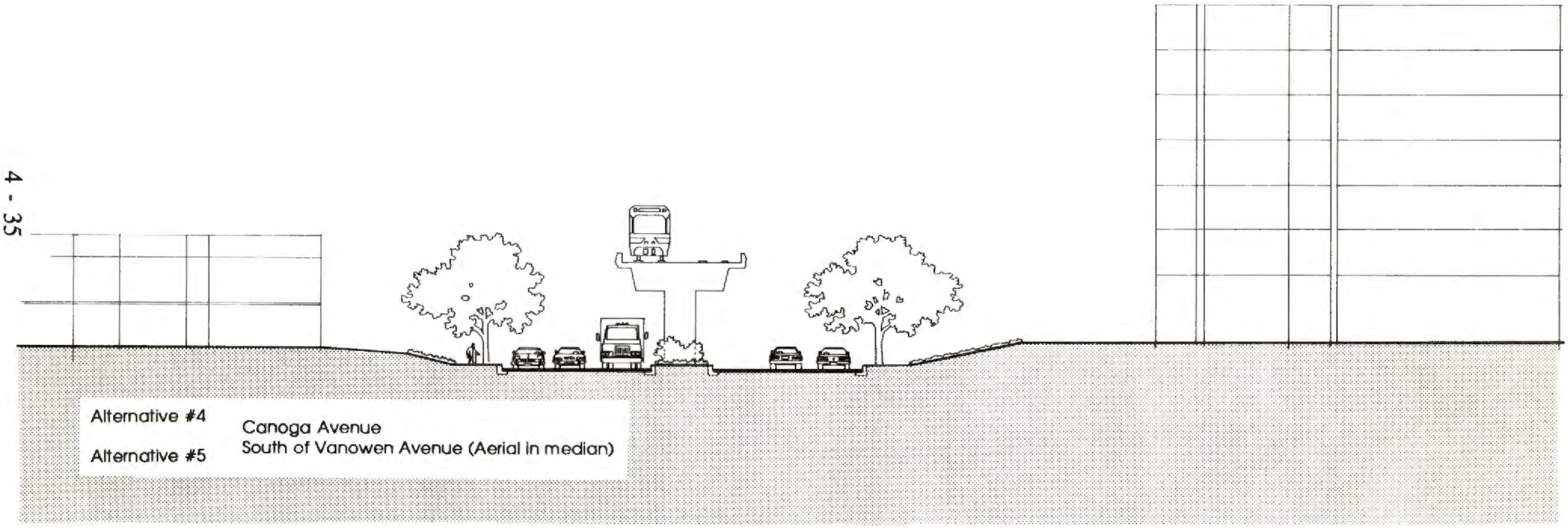
4.3.1 Ventura Freeway Route Alternative Warner Center-Woodland Hills Area **Figures 4-28 through 4-33** (see fold-out section for Figure 4-33)

This section runs along Canoga Avenue from the proposed Rail Storage & Maintenance Yard to the Ventura Freeway. The line transitions from an at-grade configuration in the rail yard to an aerial guideway just north of Vanowen Street. Between Vanowen Street and Victory Boulevard, the aerial structure curves into the center median of Canoga Avenue, and continues in this configuration to just south of Burbank Boulevard, where it curves easterly away from Canoga Avenue passing through the Litton Corporation parking lot. The guideway would require the elimination of some parking spaces in the Litton lot, however most of the lot will remain intact and fully usable after completion of the line. As the rail line approaches the Ventura Freeway, the profile descends to pass beneath the freeway in bored tunnel, proceeding to a subway station at DeSoto Avenue.

The aerial guideway structure along Canoga Avenue would utilize a dual box girder system set on single piers spaced 90 to 120 feet apart. Since the support columns for the structure would occupy about 8 feet of street width in Canoga Avenue, the columns are able to be placed within the existing median of the street with some street widening at intersections required to accommodate left-turn traffic movements.

Stations in this segment are located at Vanowen Street, Victory Boulevard, Oxnard Street and DeSoto Avenue. The Vanowen Station is a center platform aerial structure located on the east side of Canoga Avenue. Parking for approximately 600 vehicles could be provided on an industrial parcel next to the Los Angeles River Flood Channel. The stations at Victory Boulevard and Oxnard Street are side platform aerial structures located over the center median of Canoga Avenue. As these stations are intended to serve the high density employment concentrations at Warner Center, no parking is planned at either the Victory or Oxnard Stations. The DeSoto Station, by contrast, is intended to serve as the westernmost station on the Ventura Freeway. As such, a large Park and Ride Lot for approximately 900 vehicles has been planned above this subway station. Land requirements for this parking would require the taking of an existing Target Department Store and an office complex.





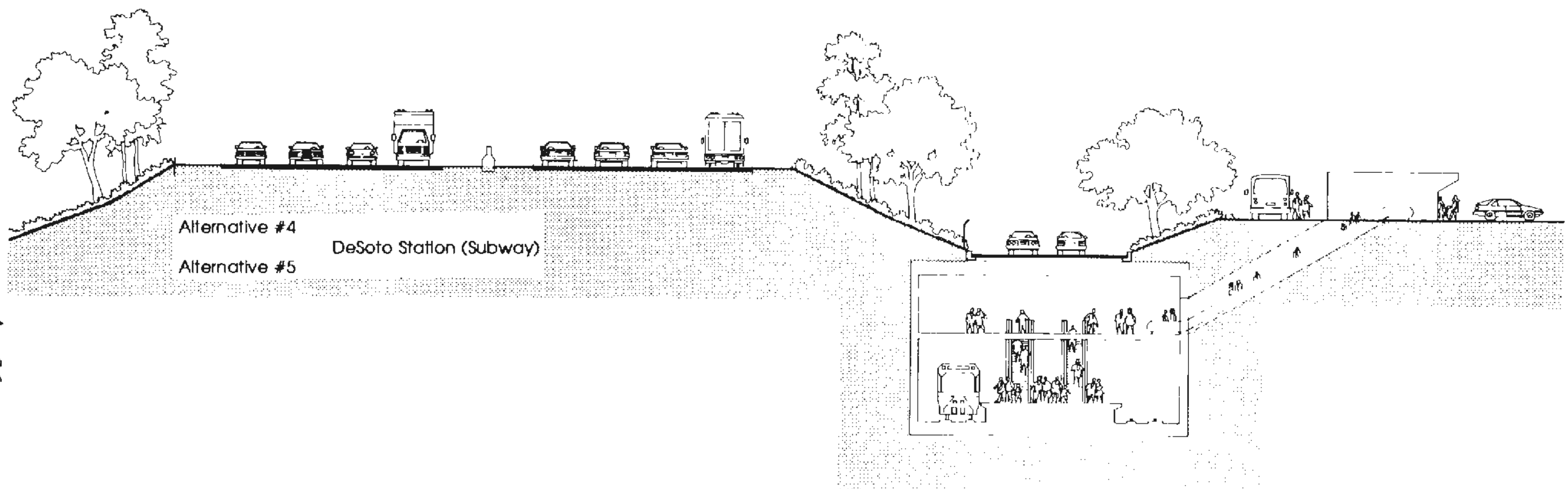
Source: Benito A. Sinclair & Associates, Gruen Associates

San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-28a

Ventura Freeway Profile Alternatives
Warner Center/Woodland Hills Area



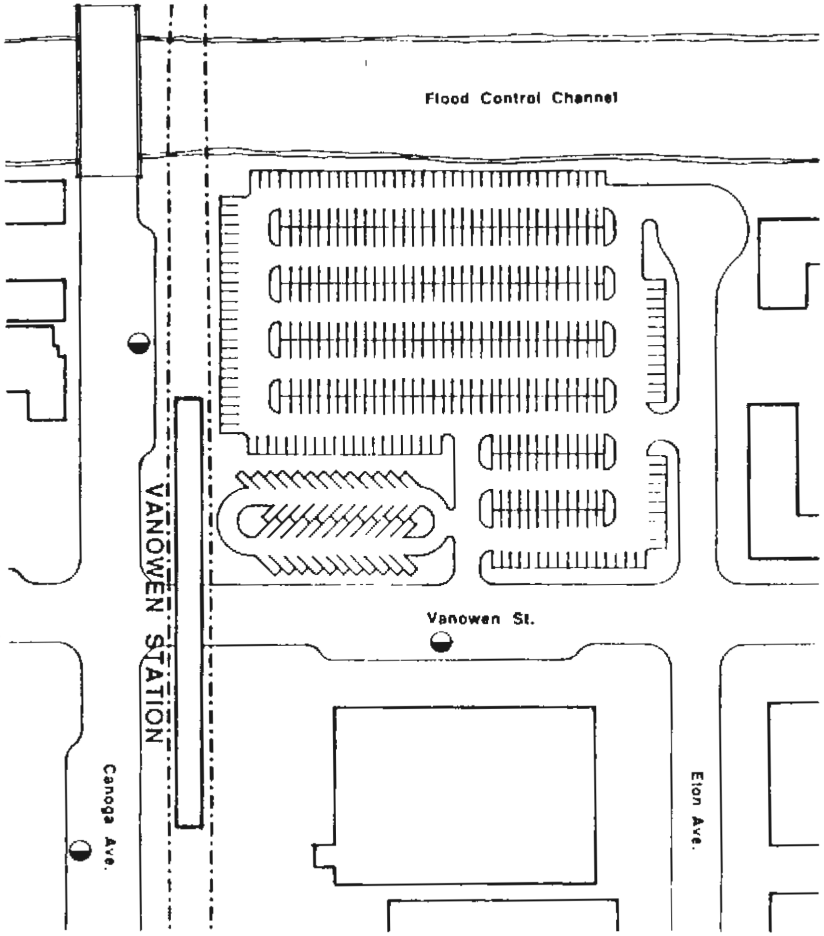
Source: Benito A. Sinclair & Associates, Gruen Associates

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-28b

Ventura Freeway Profile Alternatives
Warner Center/Woodland Hills Area



Source: Anil Verma Associates

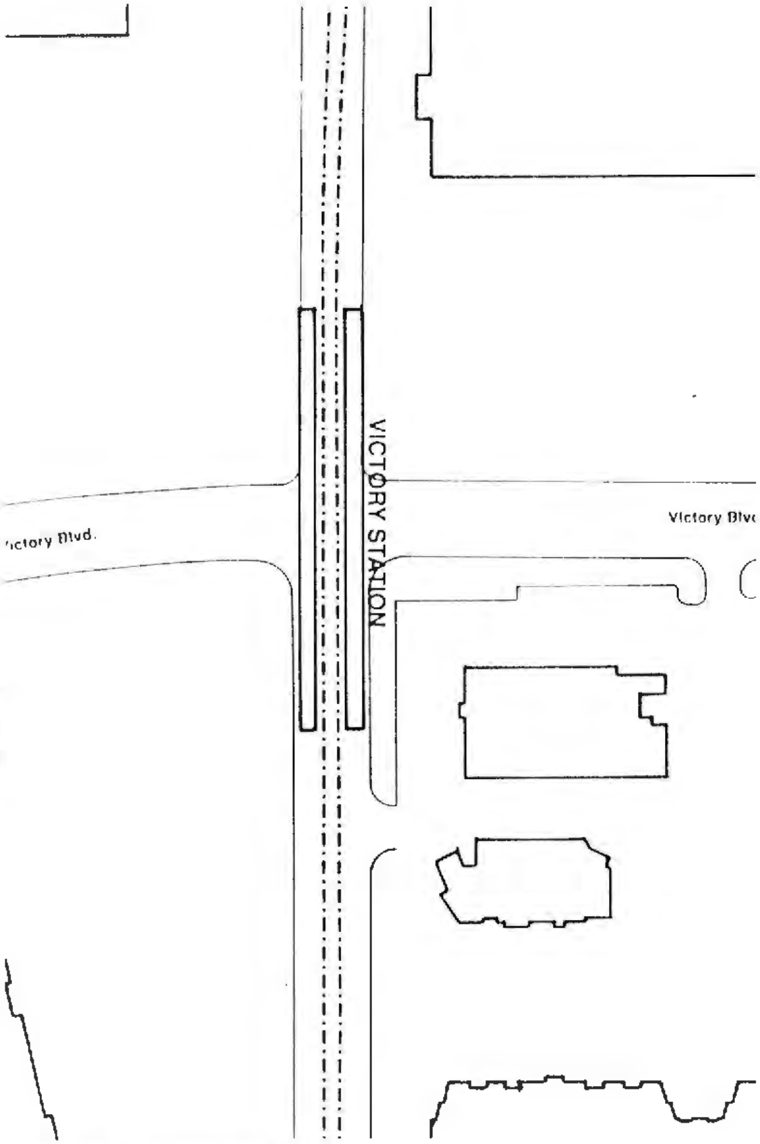
View looking North along Canoga Avenue in the vicinity of the proposed Vanowen Station and the end-of-line Canoga Railyard. The site is located between Vanowen Street and the Los Angeles River Flood Channel, located in the center of the photo. A storage facility is under construction on the site.

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-29

Ventura Alternative
Van Owen Station Area



Source: Anil Verma Associates

Photo Date: 1989 LA Aerial Photography, Inc.

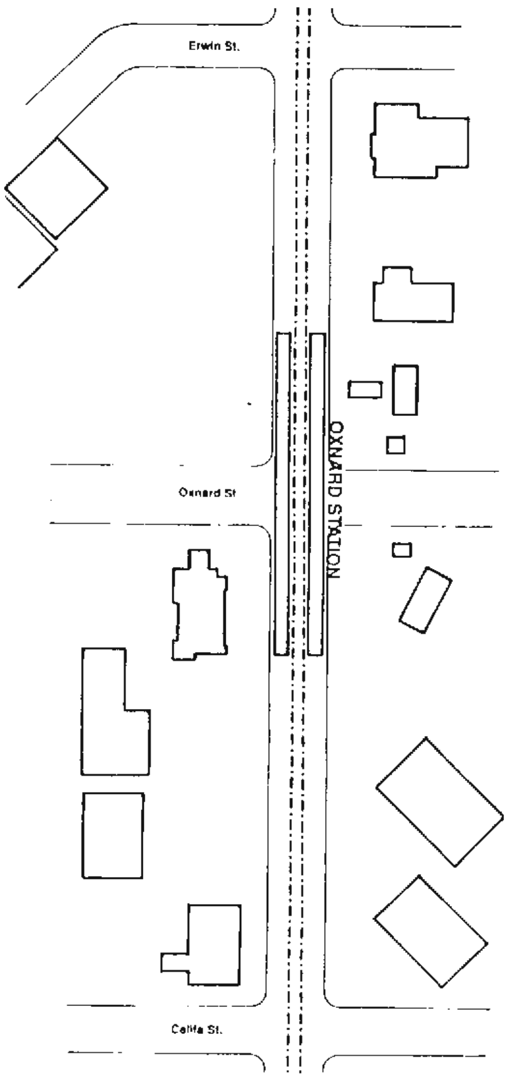
View looking North along Canoga Avenue at the intersection of Victory Boulevard. Rocketdyne Corporation and other industrial land uses are located North of Victory Boulevard while higher density office and retail land uses that comprise Warner Center are located South of Victory Boulevard.

San Fernando Valley East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-30

Ventura Alternative
Victory Station Area



Source: Anil Verma Associates

Photo Date: 1989 LA Aerial Photography, Inc.

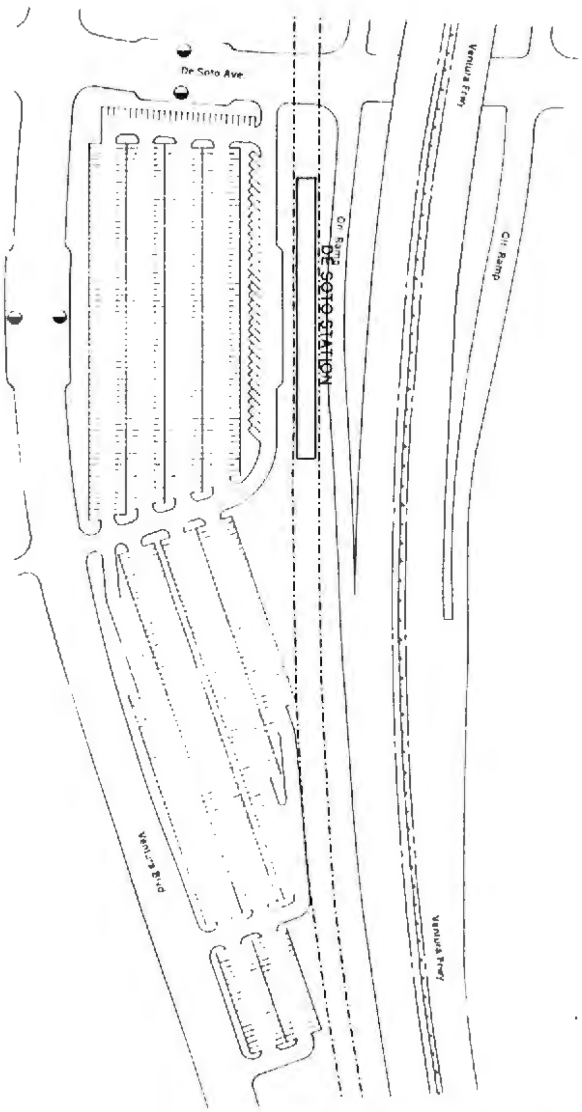
View looking North along Conoga Avenue at Oxnard Street. Gas stations are located on the Northeast and Southeast corners of this intersection while a commercial bank is located on the Southwest corner. The heavily landscaped area on the Northwest corner is part of the Blue Cross office complex seen at the left of the photo. This station site is near to the geographic center of the Warner Center high-rise development area.

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-31

Ventura Alternative
Oxnard Station Area



Source: Anil Verma Associates

Photo Date: 1989 LA Aerial Photography, Inc.

View looking West at the proposed DeSoto Station. Located between Ventura Boulevard on the left of the photo and the Ventura Freeway on the right, the station would provide almost 900 parking spaces to serve park and ride commuters from points West on the Ventura Freeway. The proposed park and ride lot would displace an existing Target Store as well as an office complex and retail center.

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

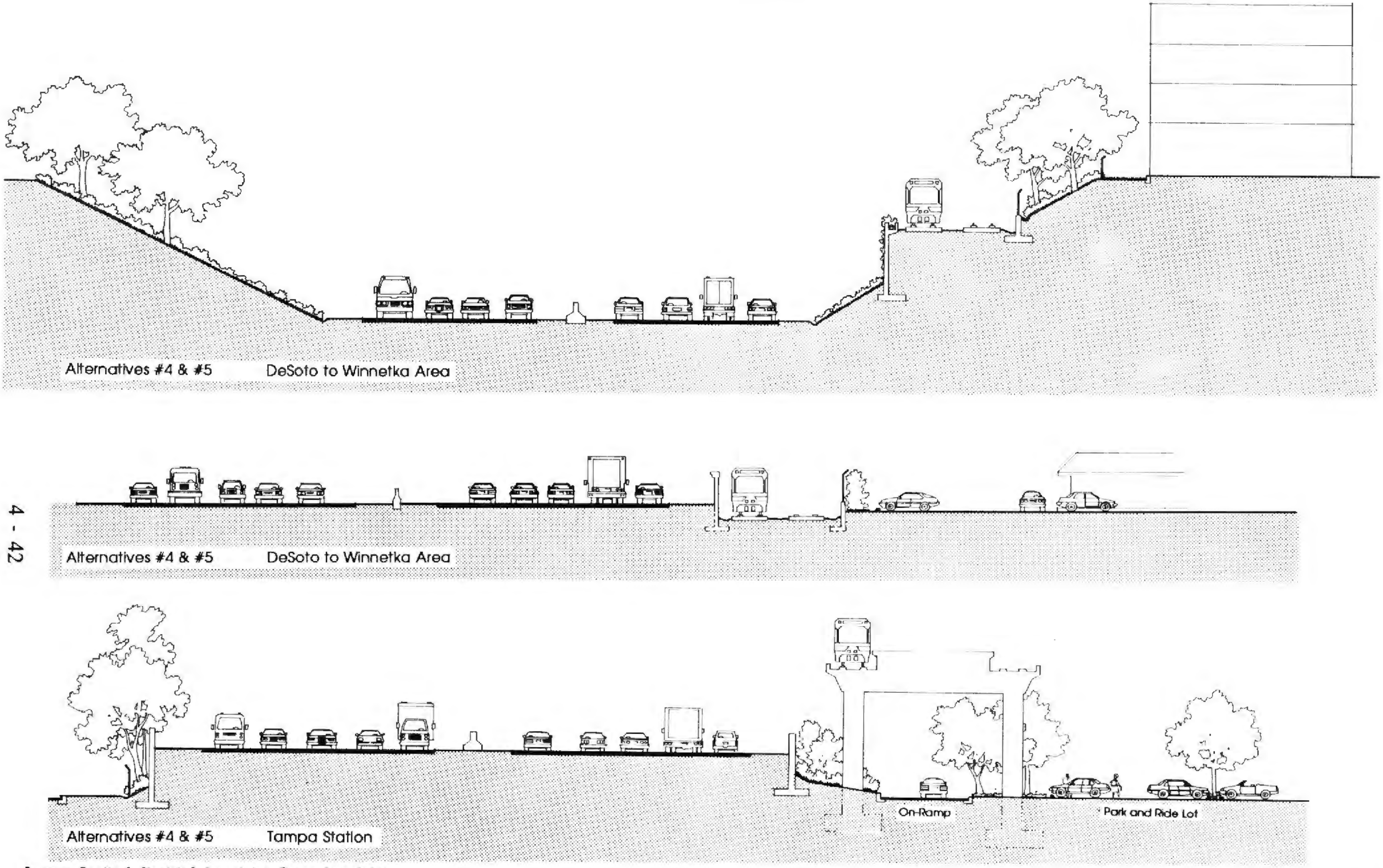
Figure 4-32

Ventura Alternative
DeSoto Station Area

4.3.2 Ventura Freeway Route Alternative Woodland Hills-Tarzana Area Figures 4-34 through 4-38 (see fold-out section for Figure 4-38)

Between DeSoto and Reseda Stations, the Ventura Freeway Route Alternative is located on aerial guideway along the south side of the freeway. Because of the close spacing between Ventura Boulevard and the Ventura Freeway in this area, the rail transit guideway will pass behind many of the retail and office uses that front onto Ventura Boulevard. In some cases, because structures are built with little or no setback from the freeway right-of-way, building takings would be required. In other cases, displacements are made necessary in order to accommodate station parking requirements.

Proposed stations serving this area are located at Winnetka, Tampa and Reseda Avenues. All stations would be aerial with center platforms reached from parking areas below. Lot sizes would be relatively small; 220 spaces are provided at Winnetka Station, 145 spaces are provided at Tampa Station, while 120 spaces are provided at Reseda Station. Displacements required for station construction include several office and retail uses at Winnetka and Tampa Stations as well as several residential structures at Reseda Station.



Source: Benito A. Sinclair & Associates, Gruen Associates

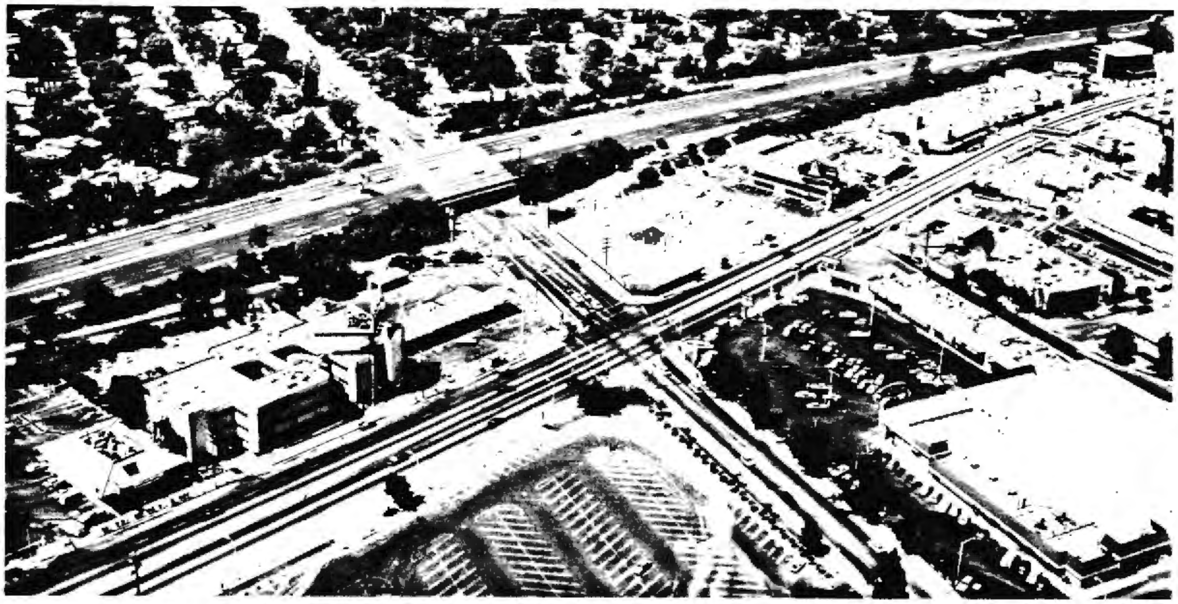
San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

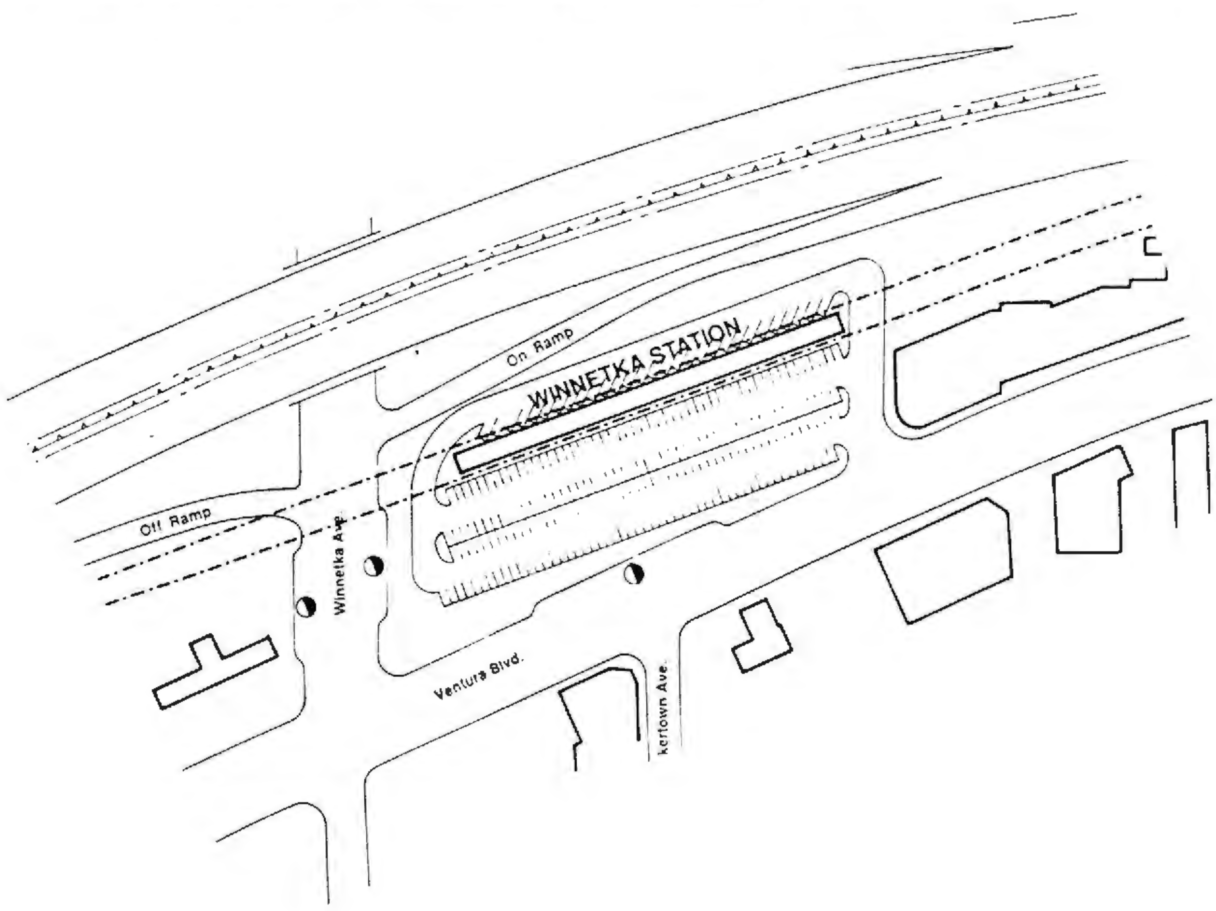
Figure 4-34

Ventura Freeway Profile Alternatives
Woodland Hills/Tarzana Area

Photo Date: 1989 LA Aerial Photography, Inc.



View looking Northeast at the intersection of Winnetka Avenue and Ventura Boulevard. The planned station parking area would be located on the Northeast corner of the intersection and would displace an existing auto dealership, an office complex and a new commercial complex presently under construction.



Source: Anil Verma Associates

San Fernando Valley
East/West Rail Transit Project

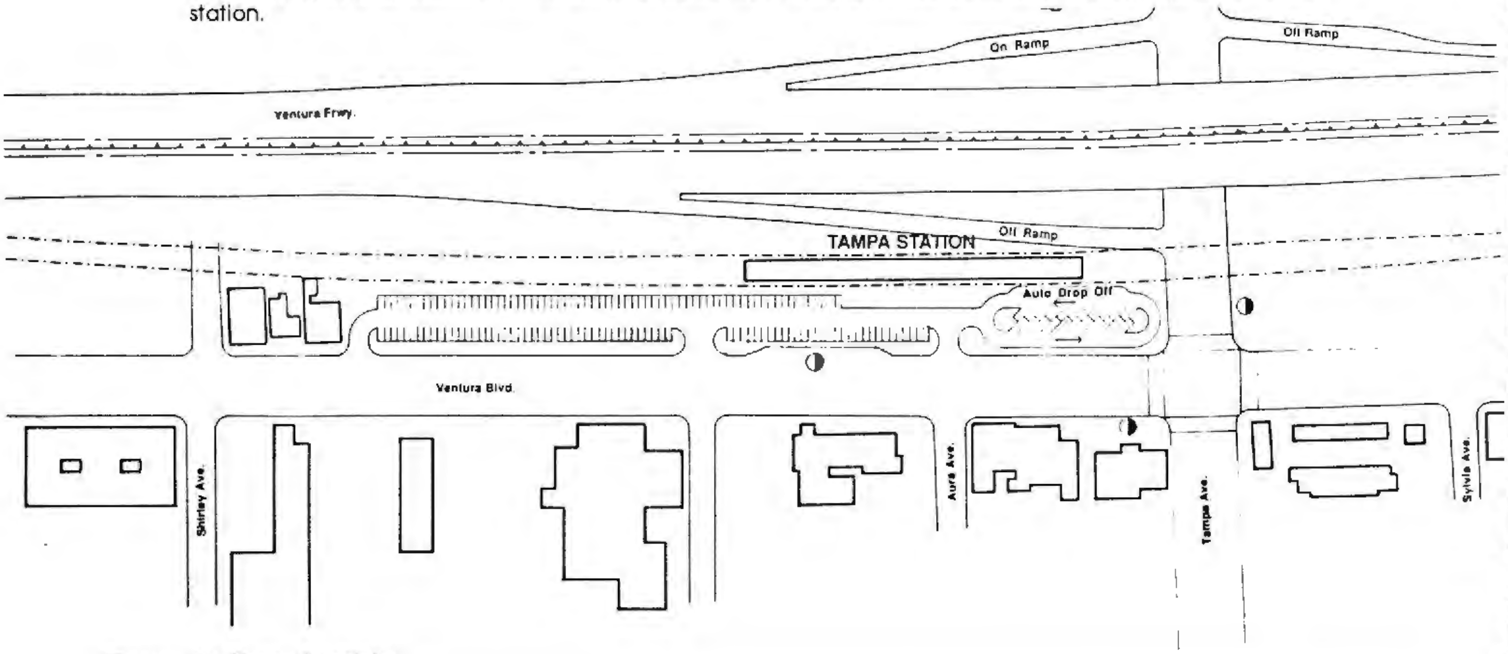
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-35

Ventura Alternative
Winnetka Station Area

Photo Date: 1989 LA Aerial Photography, Inc.

View looking Northwest at the intersection of Ventura Boulevard and Tampa Avenue. Because of the close spacing between Ventura Boulevard and the Ventura Freeway in this area, Station parking would require the displacement of several commercial projects. In addition to the Leon Building (offices) and an existing mini-mall, four other retail businesses, a motel, an auto repair facility and an office building would be displaced for this station.



Source: Anil Verma Associates

San Fernando Valley
East/West Rail Transit Project

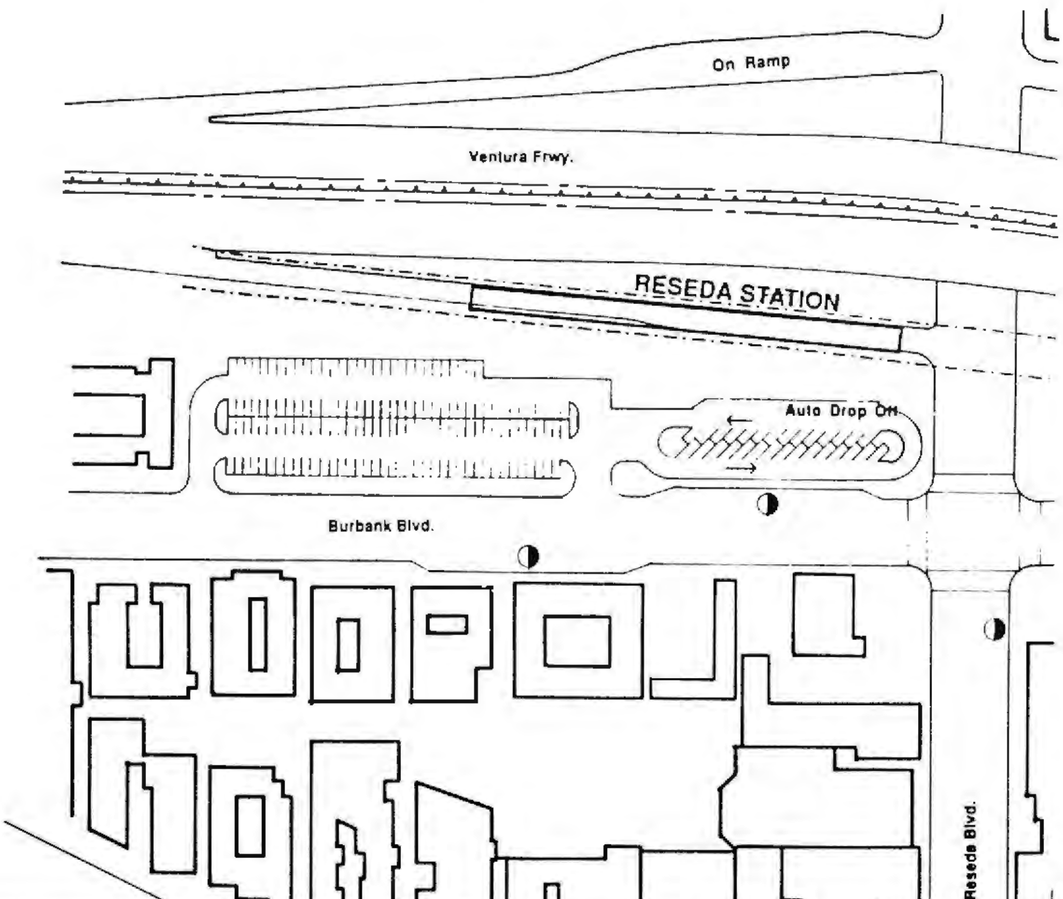
LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-36

Ventura Alternative
Tampa Station Area

Photo Date: 1989 LA Aerial Photography, Inc.

View looking North at the intersection of Reseda Boulevard and Burbank Boulevard. Because this area is fully built out, the development of a park and ride lot at this station would displace three apartment buildings, a gas station and a retail center.



Source: Anil Verma Associates

San Fernando Valley East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

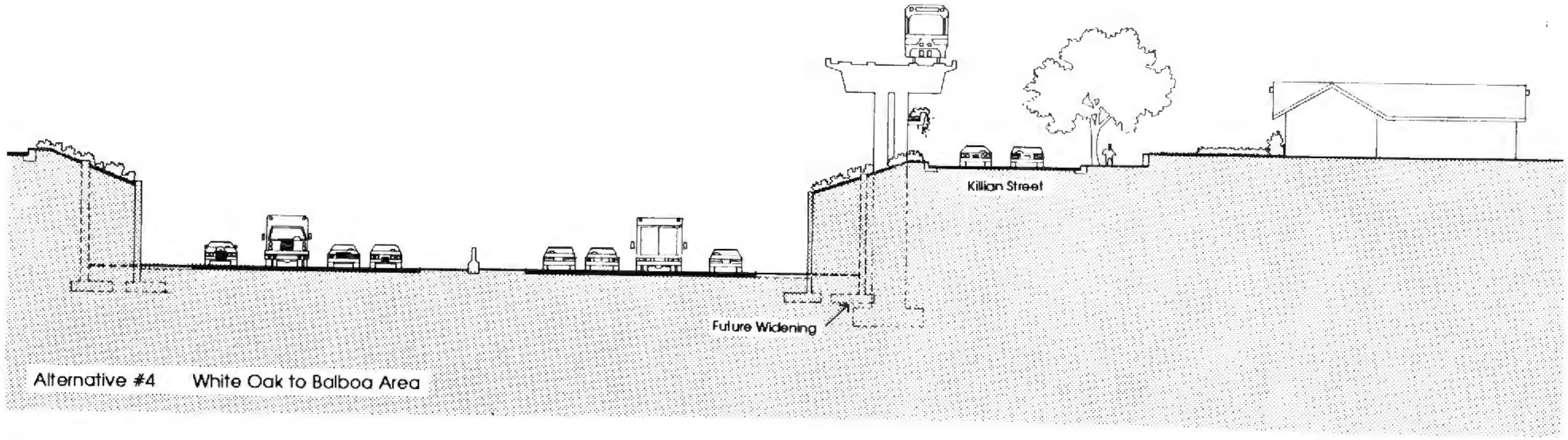
Figure 4-37

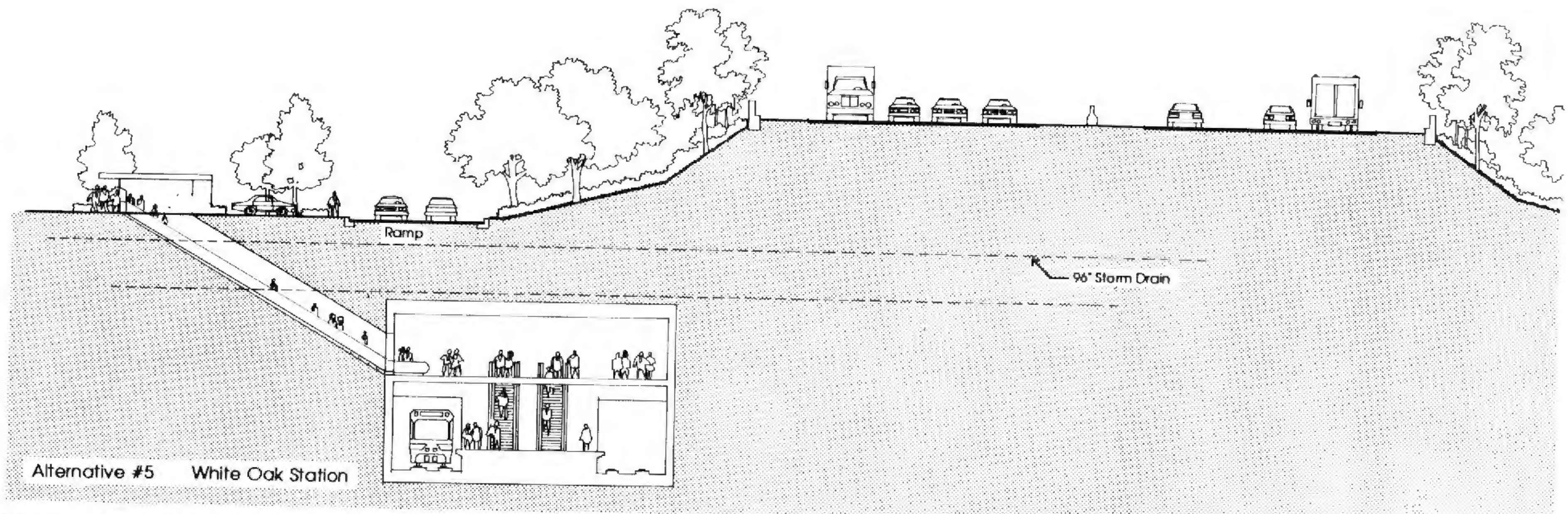
Ventura Alternative
Reseda Station Area

4.3.3 Ventura Freeway Route Alternative Tarzana-Encino Area
Figures 4-39 through 4-44 (see fold-out section for Figure 4-44)

East of Reseda Station, two alternative route alignments exist for the Ventura Freeway Alternative. The south side alignment (Alternative #4) continues on aerial guideway along the south side of the freeway. The north side alignment (Alternative #5) descends into a bored tunnel just east of Reseda Station to cross under the freeway near to the location where Burbank Boulevard makes the same transition from south to north. The north side alignment then continues in subway for the remainder of the route except for the segment in the Sepulveda Basin where an aerial configuration is maintained.

Because alignments exist on both the north and south sides of the freeway in this area, concept station plans have been developed for either alternative. At White Oak Station, parking is provided for 400 cars at both the north or south station sites. Displacement would be required of some multi-family condominiums and apartments for the south side alternative while the north side alternative would require the displacement of a gas station and two small commercial uses. At Hayvenhurst Station, both the north and south alternatives are located within the Sepulveda Basin Recreation Area. Land planned for station and parking areas at Hayvenhurst Station is presently vacant on the north side and partially vacant on the south side. A portion of the south side station parking area is presently used as a park-and-ride lot.





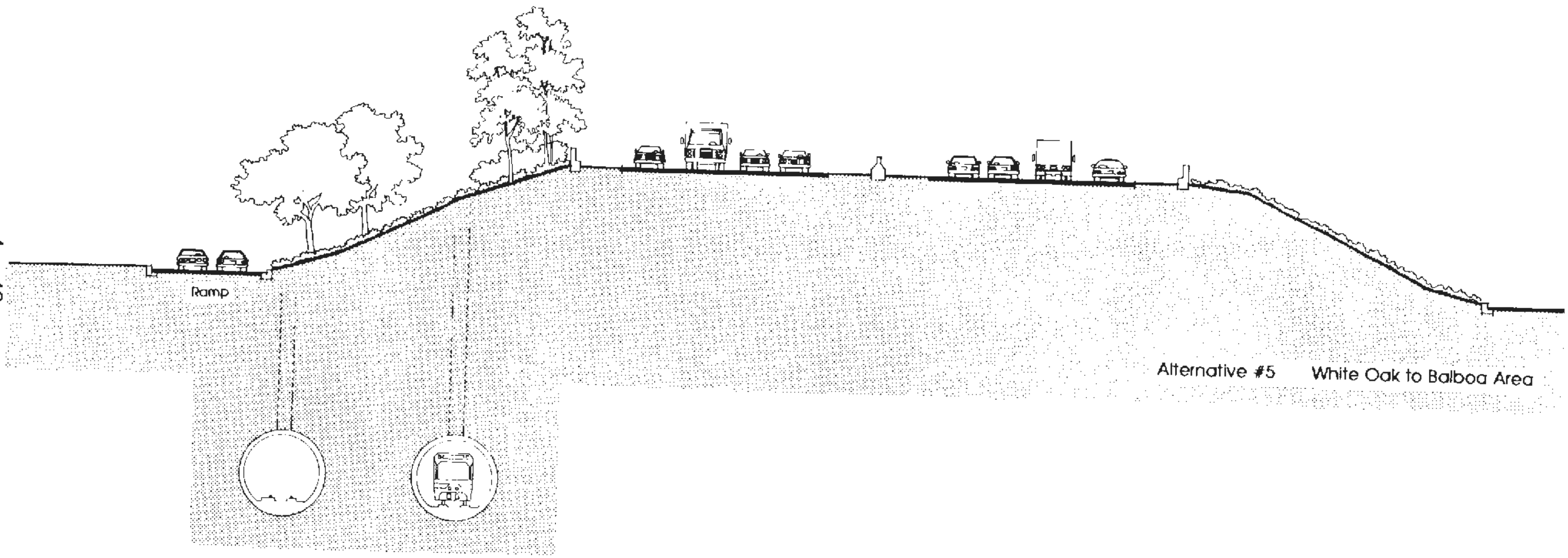
Source: Benito A. Sinclair & Associates, Gruen Associates

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-39a

Ventura Freeway Profile Alternatives
Tarzana/Encino Area



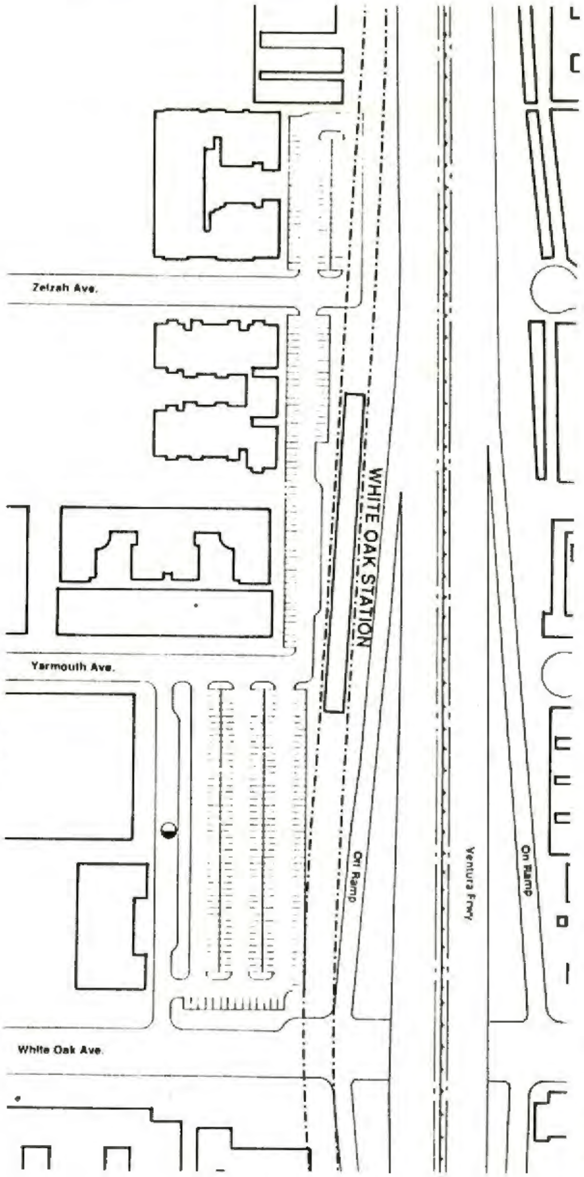
Source: Benito A. Sinclair & Associates, Gruen Associates

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-39b

Ventura Freeway Profile Alternatives
Tarzana/Encino Area



Source: Anil Verma Associates

Photo Date: 1989 LA Aerial Photography, Inc.

View looking West along the Ventura Freeway at White Oak Avenue. Alternative #4 would be located on aerial guideway along the South side of the Ventura Freeway in this area. Land uses along the South side of the freeway are densely developed apartments and condominiums. Consequently, the development of station parking would displace 210 apartment units and 12 condominiums for this alternative.

San Fernando Valley
East/West Rail Transit Project

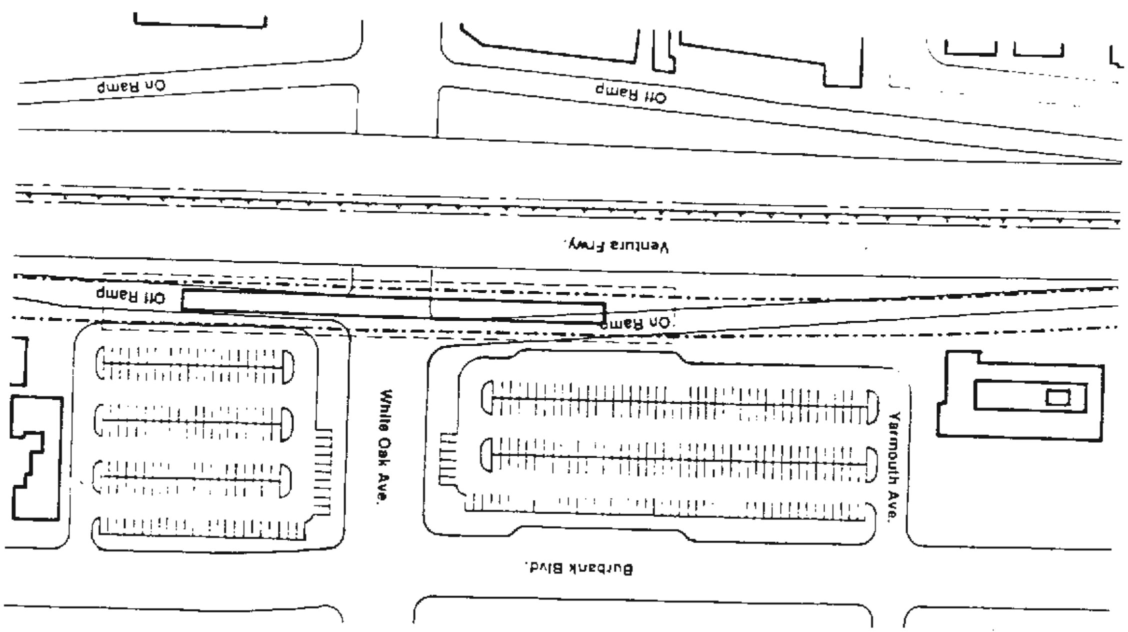
LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-40

Ventura Alternative
White Oak (South) Station Area

Photo Date: 1989 LA Aerial Photography, Inc.

View looking South at the intersection of White Oak Avenue and Burbank Boulevard. Land uses along Burbank Boulevard and multi-family residential with commercial uses at major intersections. Although Alternative #5 would be in subway along the North side of the Venturo Freeway at this location, in order to provide station parking, two gas stations, three retail businesses and a 52 unit apartment building would be displaced.



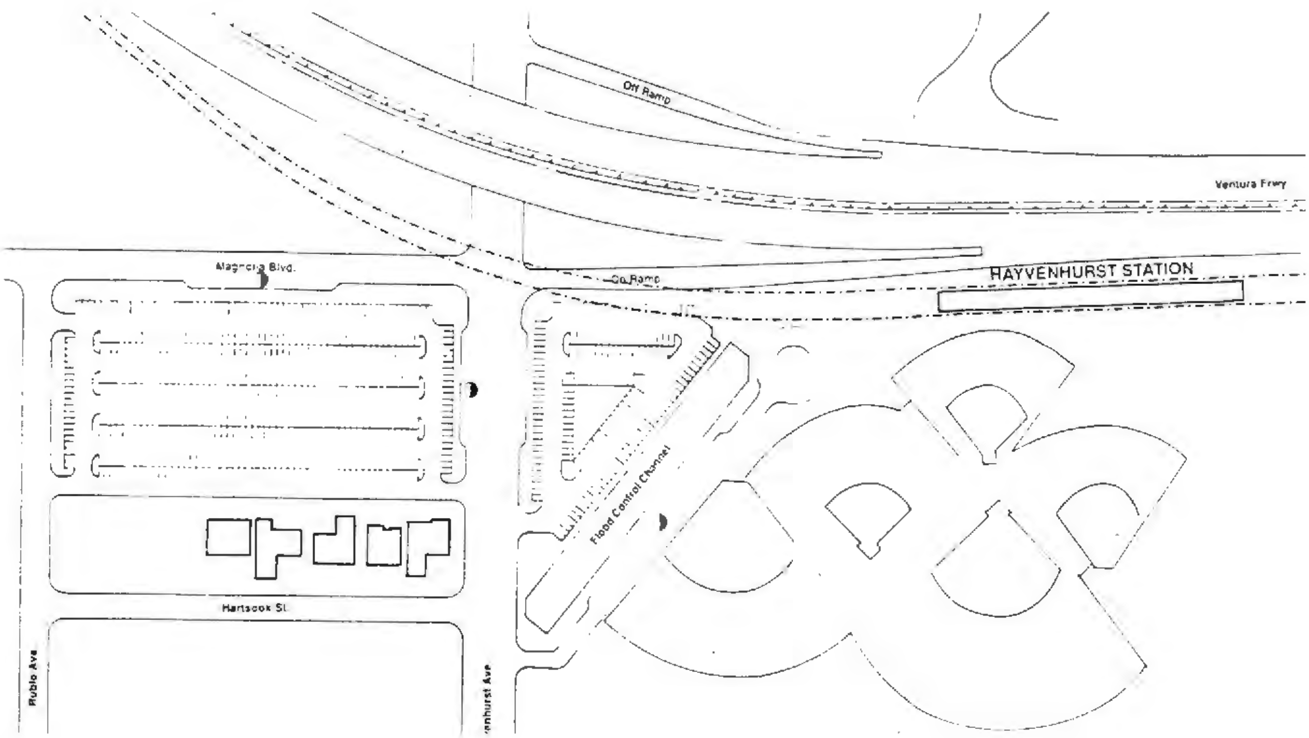
Source: Anil Verma Associates

Figure 4-41

Ventura Alternative
White Oak (North) Station Area

Photo Date: 1989 LA Aerial Photography, Inc.

View looking North along Hayvenhurst Avenue near Burbank Boulevard. Alternative #4 follows the South side of the Ventura Freeway on aerial guideway. Station parking would be provided at an existing park and ride lot and on an adjacent vacant parcel. Both of these sites are located within the boundaries of the Sepulveda Basin Recreation Area.



Source: Anil Verma Associates

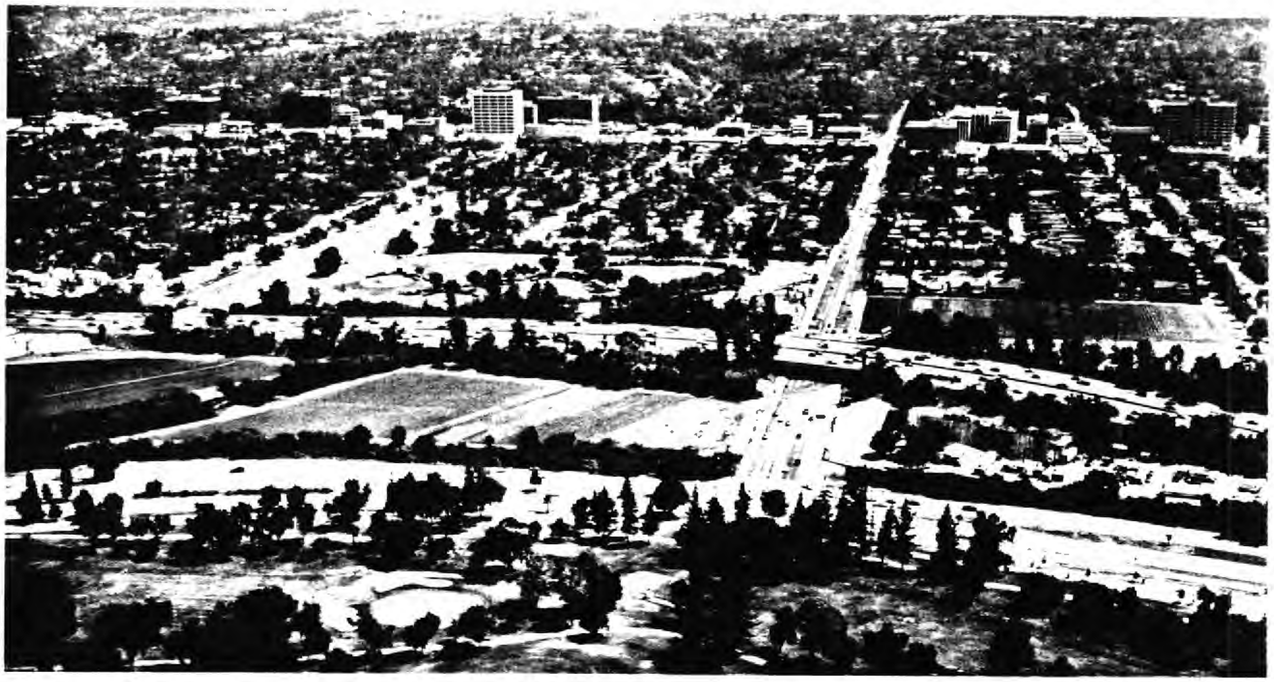
San Fernando Valley East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-42

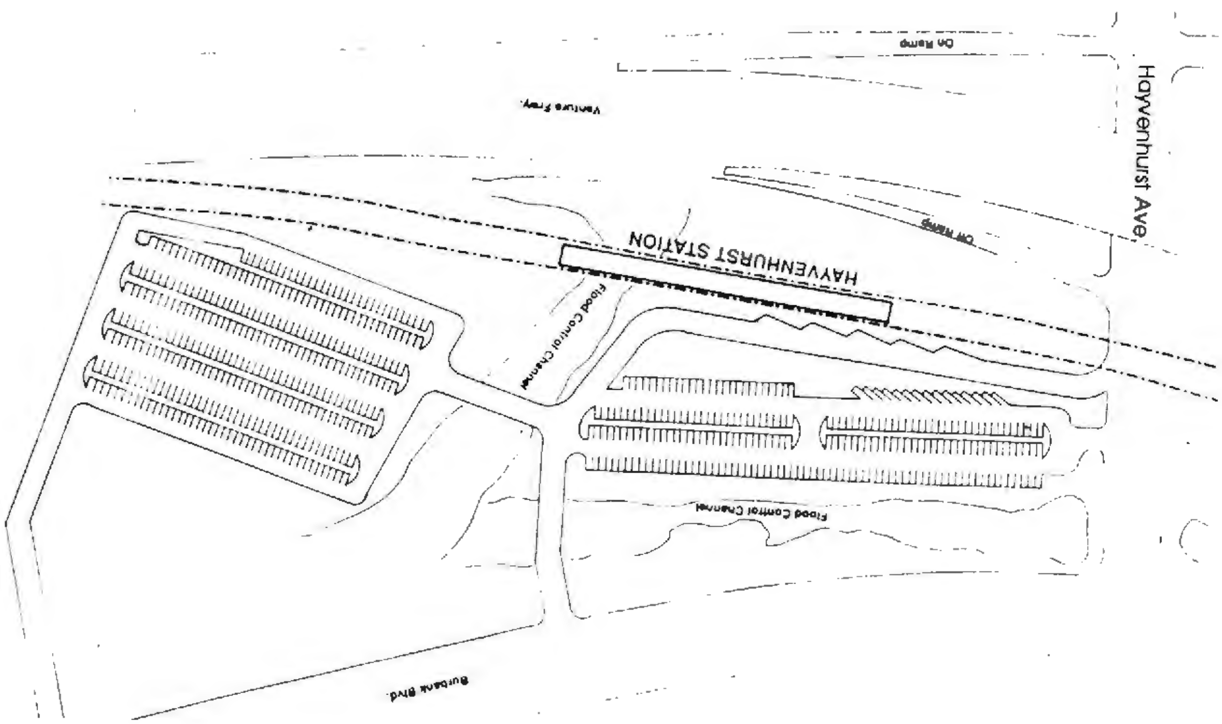
Ventura Alternative
Hayvenhurst (South) Station Area

Photo Date: 1989 LA Aerial Photography, Inc.



View looking South along Hayvenhurst Avenue from above the Sepulveda Basin. Alternative #5 would run on aerial guideway on the North side of the Ventura Freeway in this area. Station parking has been designed to avoid wetland areas in the basin.

Source: Anil Verma Associates



San Fernando Valley East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-43

Ventura Alternative
Hayvenhurst (North) Station Area

4.3.4 Ventura Freeway Route Alternative Encino-Sherman Oaks Area
Figures 4-45 through 4-49 (see fold-out section for Figure 4-49)

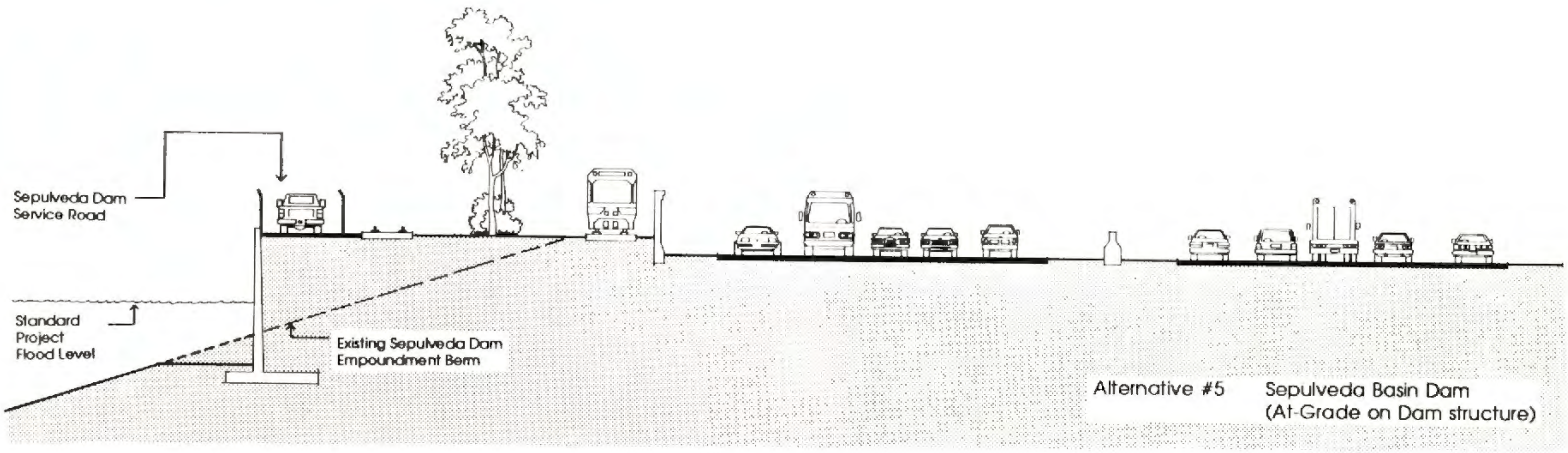
East of Hayvenhurst Avenue, the two alternative route alignments proceed above ground on the north and south sides of the Ventura Freeway before transitioning into a subway alignment to pass beneath the San Diego-Ventura Freeway Interchange.

Alternative #4 is located on aerial guideway along the south side of the Ventura Freeway. The cross-section for this alternative is similar to Figure 4-50 Studio City-North Hollywood Profile Alternative, in which the aerial guideway is located on the freeway sideslope area between the freeway and a local residential street. Alternative #5 is located on a fill section added to the Sepulveda Dam Impoundment Berm. As shown in Figure 4-45 Encino-Sherman Oaks Area Profile Alternatives, a retaining wall would be constructed on the inside of the existing impoundment berm in order to provide additional right-of-way alongside the Ventura Freeway for the rail transit line. The retaining wall would be constructed to maintain the existing water storage capacity within the Sepulveda Basin for the Standard Project Flood Level.

Sepulveda Station under both alternatives is located below ground in subway. For Alternative #4 (Figure 4-46) the station is located between the eastbound on-ramp and La Maida Street. The displacement of several single-family homes would be necessary to provide station parking. Alternative #5 is located on the north side of the freeway in a subway configuration. As shown in Figure 4-47 Sepulveda (North) Station Area, station parking is located above the subway alignment on both sides of the Los Angeles River Flood Control Channel. Traffic access to this station would be from Sepulveda Boulevard and Magnolia Boulevard. The site would also be used as a Rail Storage Yard for the Ventura Freeway Phased Length Route Option. Under this alternative, the area north of the LA River that is presently occupied by Fire Station #88 and the US Army Reserve Training Center would be used to provide the end-of-the-line storage yard for the route length option that ends at Sepulveda Station.

East of Sepulveda Station, Alternative #4 proceeds along the south side of the Ventura Freeway next to a predominantly residential area. The cross-section for this area is similar to Figure 4-50, with the aerial guideway located between the freeway and a local residential street. Alternative #5 continues in subway under and alongside the north side of the freeway.

Van Nuys Station is located on the south side of the freeway for both alternatives. Alternative #4 would be configured on aerial guideway while Alternative #5 would be configured in subway. Station parking would be the same for both alternatives with required displacements including a gas station, an office building and several residential structures.



4 - 54

Source: Benito A. Sinclair & Associates, Gruen Associates

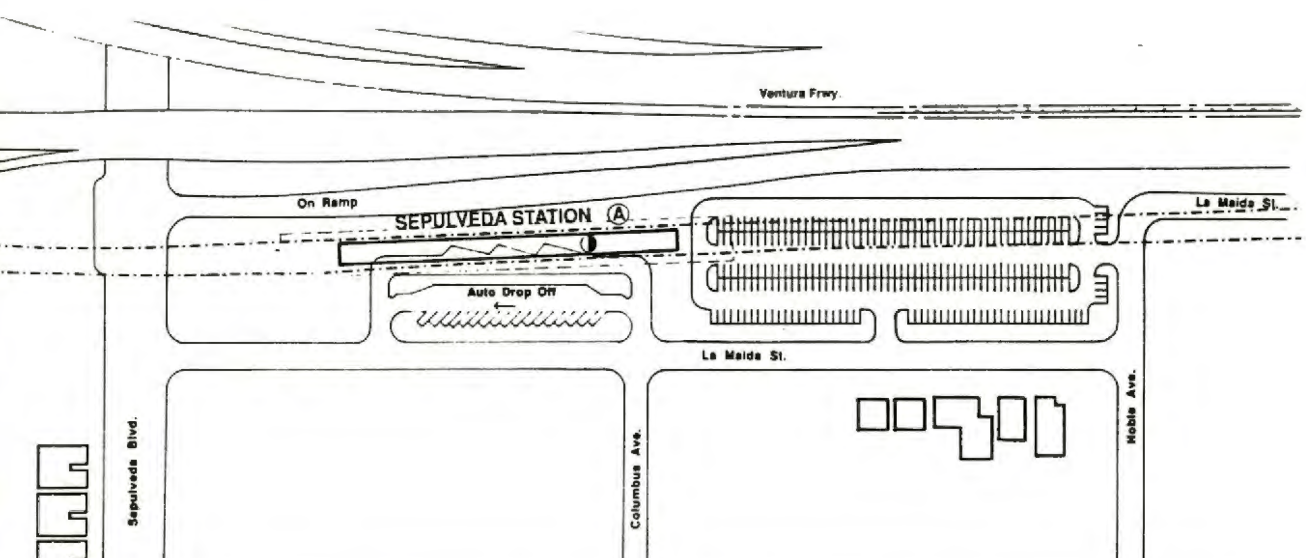
Figure 4-45

Ventura Freeway Profile Alternatives
Encino/Sherman Oaks Area

Photo Date: 1989 LA Aerial Photography, Inc.

View looking North along Sepulveda Boulevard in the vicinity of the interchange between the San Diego and Ventura Freeways. Alternative #4 would cross beneath this area in subway along the South side of the Ventura Freeway. The station site would displace 23 residences and an apartment complex to provide for station parking.

Source: Anil Verma Associates



San Fernando Valley East/West Rail Transit Project

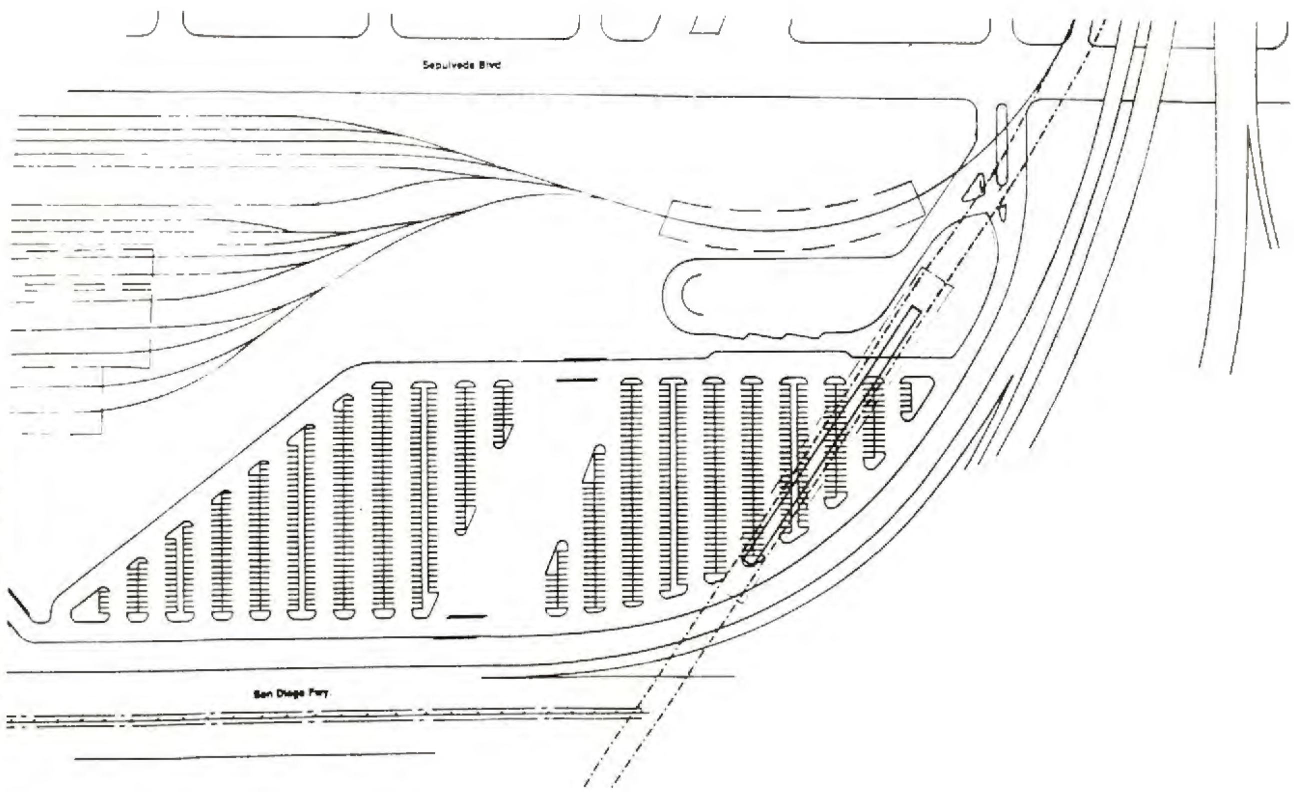
LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-46

Ventura Alternative
Sepulveda (South) Station Area

Photo Date: 1989 LA Aerial Photography, Inc.

View looking East along the Ventura Freeway at the interchange with the San Diego Freeway. Alternative #5 would pass beneath the freeway interchange in subway with a station located in the parcel of land between Sepulveda Boulevard, the Ventura Freeway and the Los Angeles River Flood Channel. Under the Ventura Freeway Phased Length Option, this site would also be used as a rail storage yard. Displacements include the Malibu Castle Amusement Park, a Pacific Bell facility, Fire Station #88, a U.S. Army Reserve Training Center and three office structures.



Source: Anil Verma Associates

San Fernando Valley
East/West Rail Transit Project

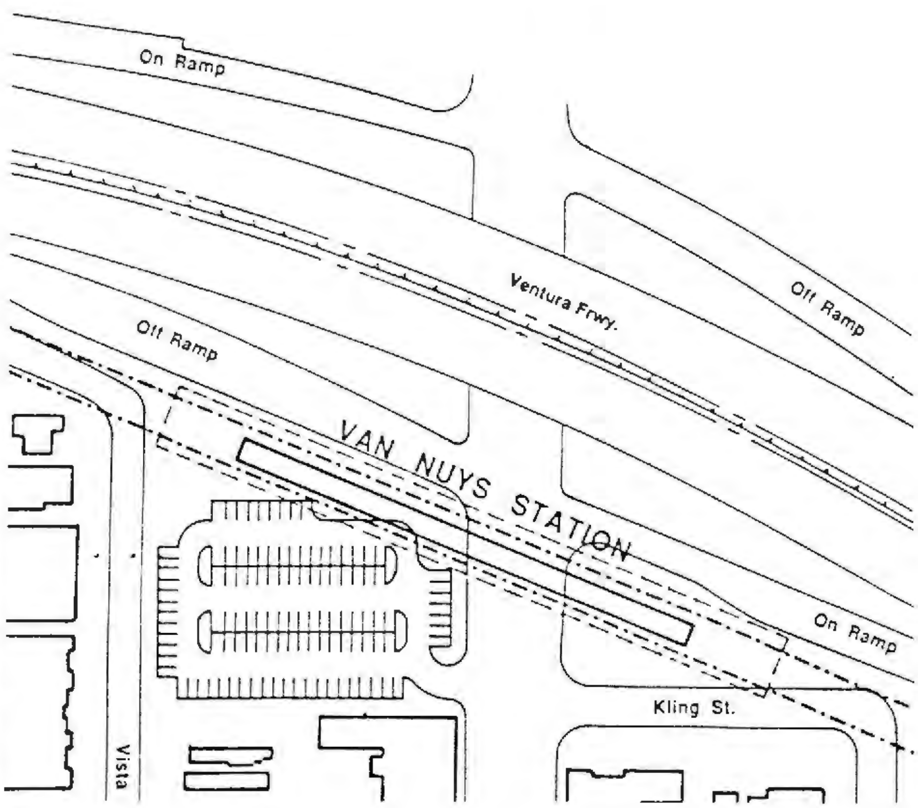
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-47

Ventura Alternative
Sepulveda (North) Station Area

Photo Date: 1989 LA Aerial Photography, Inc.

View looking North along Van Nuys Boulevard at the Ventura Freeway. Both Alternatives #4 and #5 would be located along the South side of the freeway in this area. Alternative #4 would be on an aerial guideway while parking would be identical for each alternative and would include an office building, a gas stration and several residential structures.



Source: Anil Verma Associates

San Fernando Valley East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-48

Ventura Alternative
Van Nuys Station Area

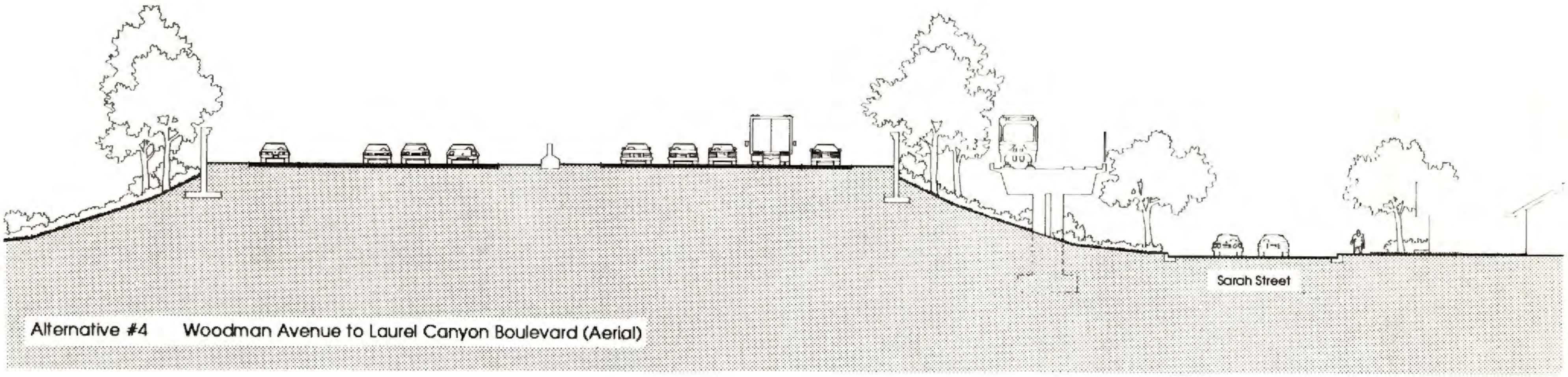
4.3.5 Ventura Freeway Route Alternative Studio City-North Hollywood Area **Figures 4-50 through 4-57** (see fold-out section for Figure 4-57)

East of Van Nuys Station the two route alternatives continue along the north and south sides of the Ventura Freeway. Alternative #4 is configured on aerial guideway on the shoulder of the freeway while Alternative #5 travels under the freeway in deep bore subway. Because the freeway has several curves in this area, the subway would be able to follow a straighter course under the freeway between stations, and would therefore cross from one side of the freeway to the other.

Woodman Station would be located on either the north or south side of the freeway depending upon the route alternative selected. Alternative #4 would utilize a parcel of land between the LA River Channel and the freeway that is presently used as a car wash. Alternative #5 would be located in the parking area of the Fashion Square Shopping Center. In order to maintain parking capacity at the shopping center, the Woodman (North) Station would use a parking structure adjacent to the rail transit station platform.

Coldwater Canyon Station would also be located on either the north or south sides of the freeway depending on the route alternative selected. The station for Alternative #4 would be located along Kling Street in a predominantly residential neighborhood. Twelve single-family homes and five apartment buildings would be displaced in order to provide station parking. The station for Alternative #5 would be located on the north side of the freeway between the freeway on-ramp and Riverside Drive. Station parking would displace an existing gas station and several retail stores.

Laurel Canyon Station would also be located on either the north or south side of the freeway depending on the route alternative selected. The station for Alternative #4 would be located between the LA River Channel on a site presently occupied by the Campbell Hall School. Because the main buildings of this campus were located so close to the freeway off-ramp it was not possible to fit the guideway and station parking area in this area without displacing a substantial portion of the school buildings and property. For this reason, the entire school property has been considered as a taking for this alternative. The station for Alternative #5 would be located on the north side of the freeway between the on and off-ramps and Riverside Drive. Station parking would displace three apartment buildings and a gas station.



Source: Benito A. Sinclair & Associates, Gruen Associates

San Fernando Valley
East/West Rail Transit Project

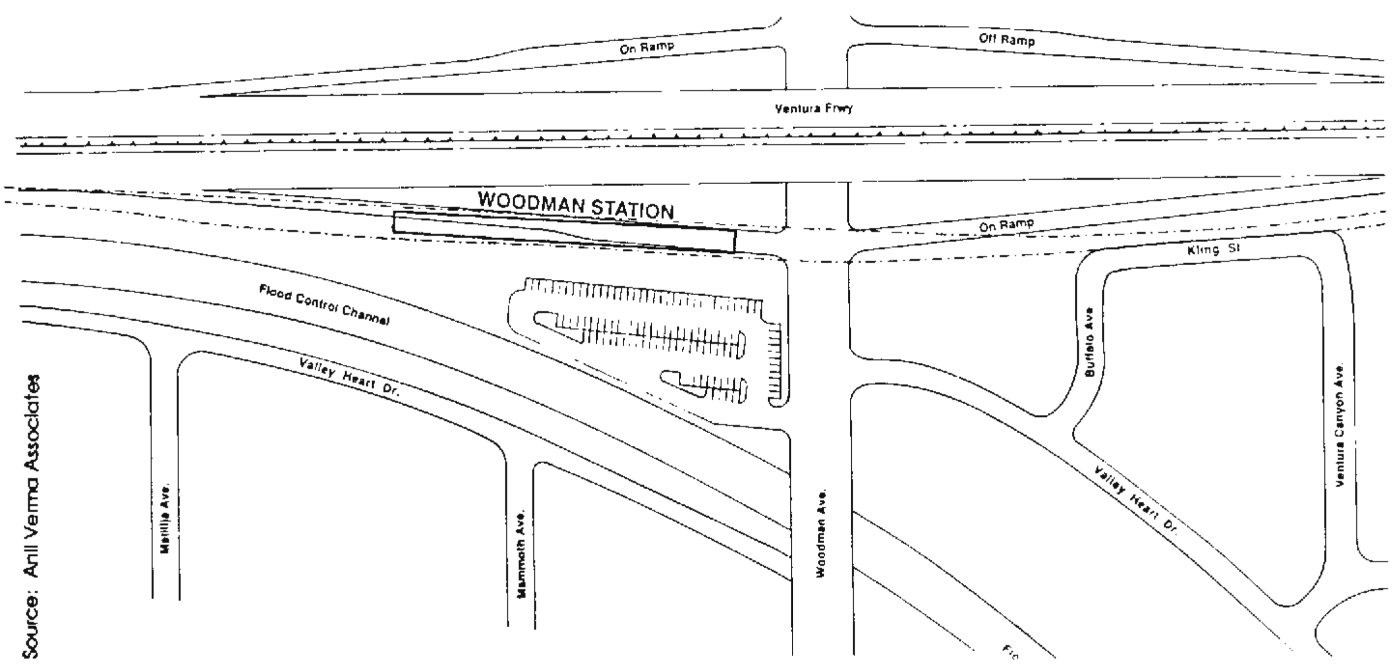
LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-50

Ventura Freeway Profile Alternatives
Studio City / North Hollywood Area

Photo Date: 1989 LA Aerial Photography, Inc.

This view looks Northwest in the area of the proposed Woodman Station. Alternative #4 runs along the South side of the freeway on aerial guideway. The parking area would displace an existing car wash/gas station in the triangle of land bordered by Woodman Avenue, the Ventura Freeway and the Los Angeles River Flood Control Channel.



Source: Anil Verma Associates

San Fernando Valley East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-51

Ventura Alternative
Woodman (South) Station Area

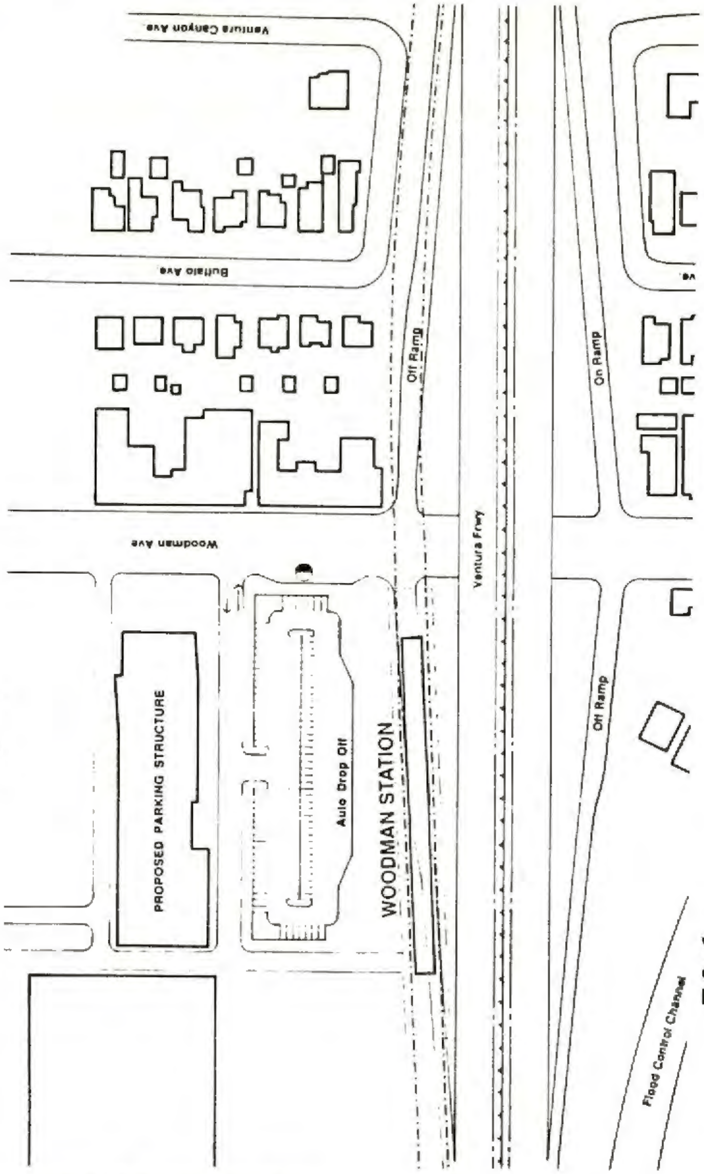


Photo Date: 1989 LA Aerial Photography, Inc.

View looking East along the Ventura Freeway at Woodman Avenue. Alternative #5 would be in subway configuration on the Northside of the freeway. A parking structure for 400 cars would be used to provide station parking in what is now surface parking lots for the Fashion Square Shopping Center, seen along Riverside Drive on the left of the photo.

Source: Anil Verma Associates

Figure 4-52

Ventura Alternative
Woodman (North) Station Area

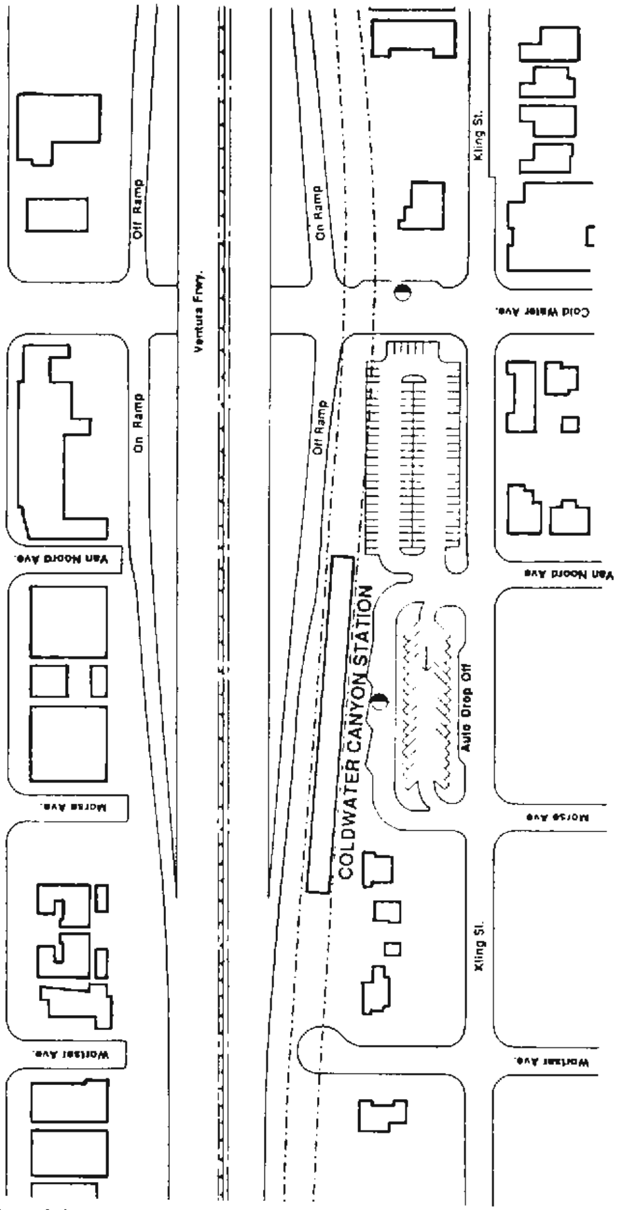
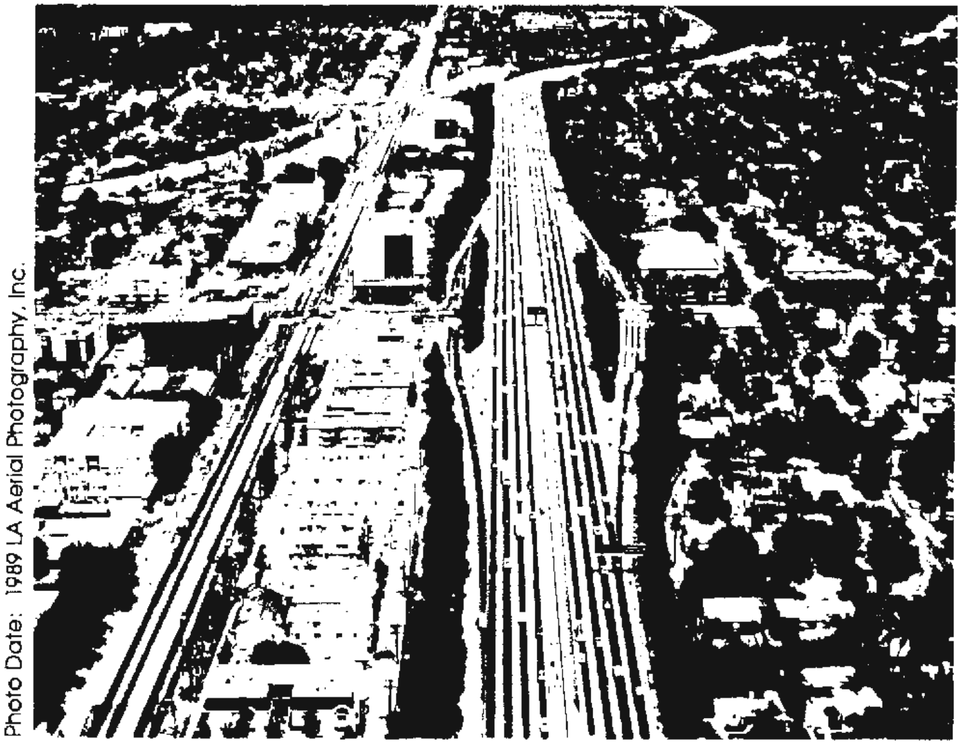


Photo Date: 1989 LA Aerial Photography, Inc.



View looking East along the Ventura Freeway at Coldwater Canyon Boulevard. Alternative #4 would be located on aerial guideway along the South (right) side of the freeway in a predominantly single-family neighborhood. Station parking requirements would displace five apartment buildings and twelve residences.

Source: Anil Verma Associates

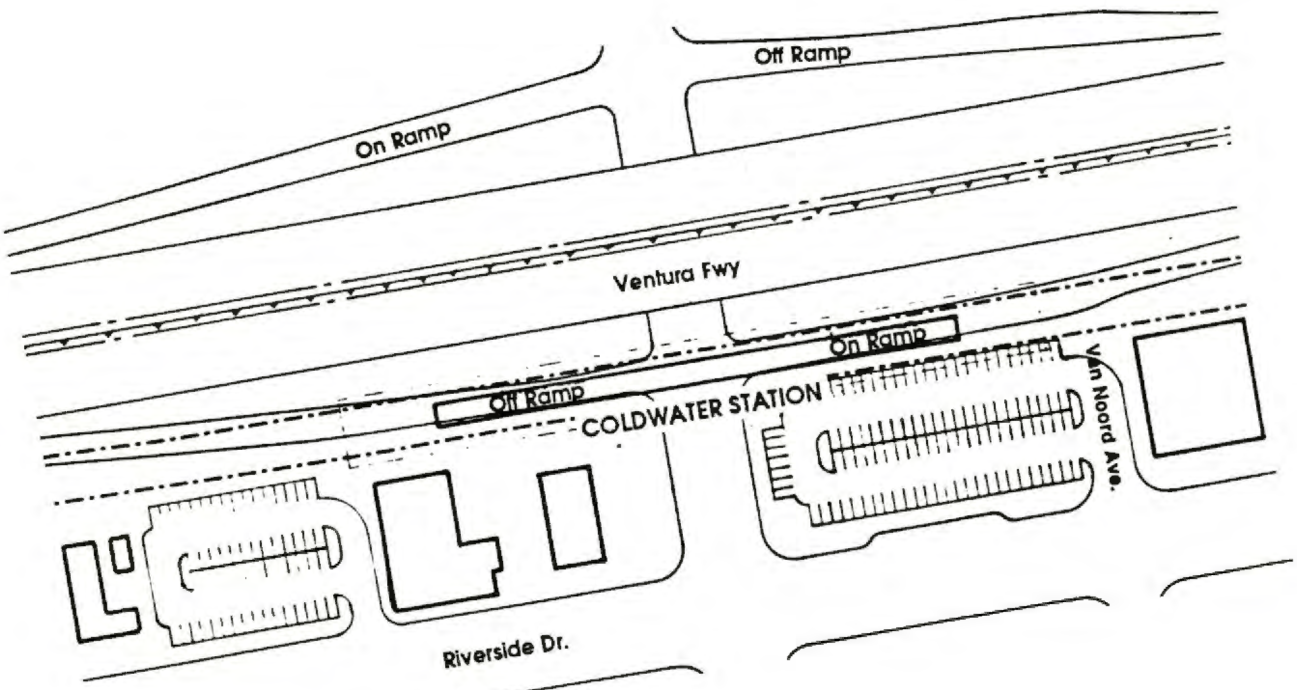
San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-53

Ventura Alternative
Coldwater Canyon (South) Station Area

View looking Southwest at Coldwater Canyon Boulevard and Riverside Drive. Alternative #5 would be located in subway beneath the freeway ramps in this area. Station parking would displace an existing gas station and several retail stores.



Source: Anil Verma Associates

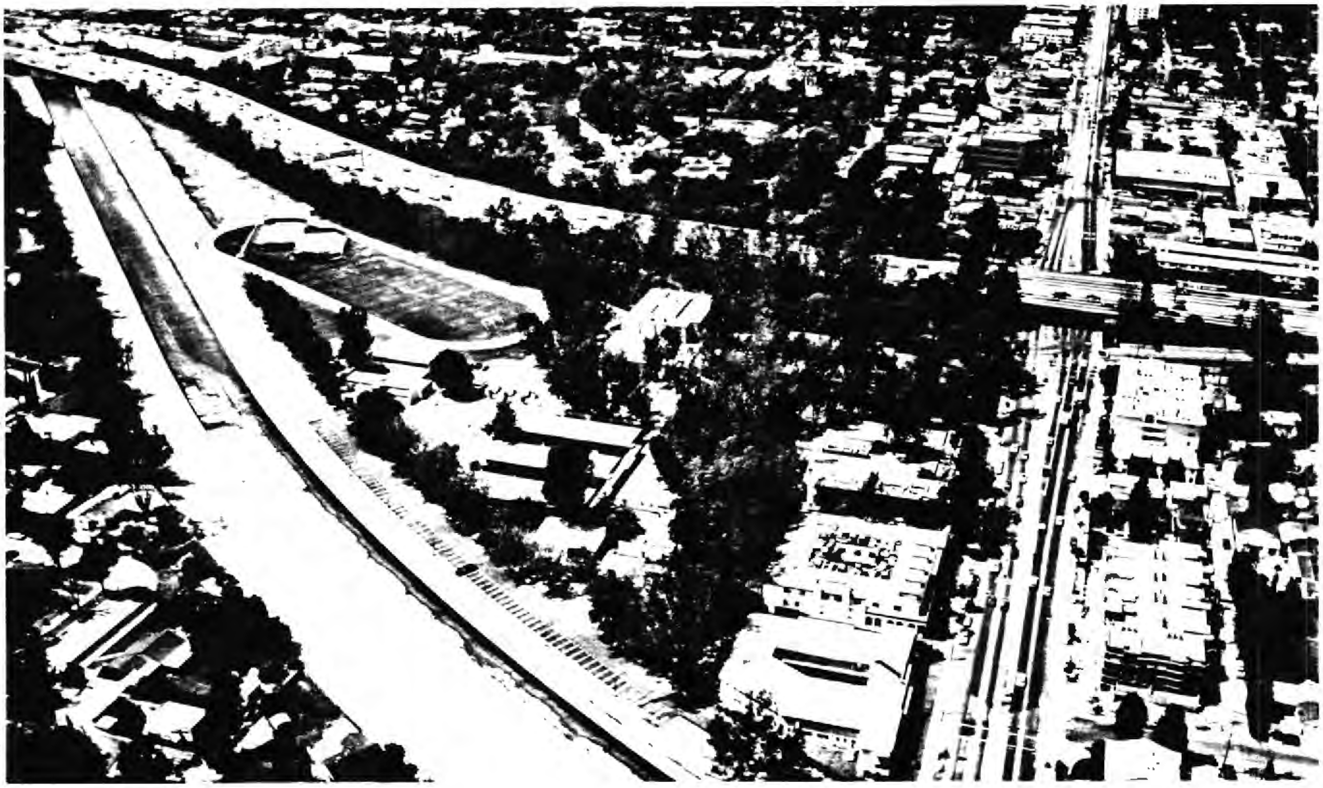
San Fernando Valley East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

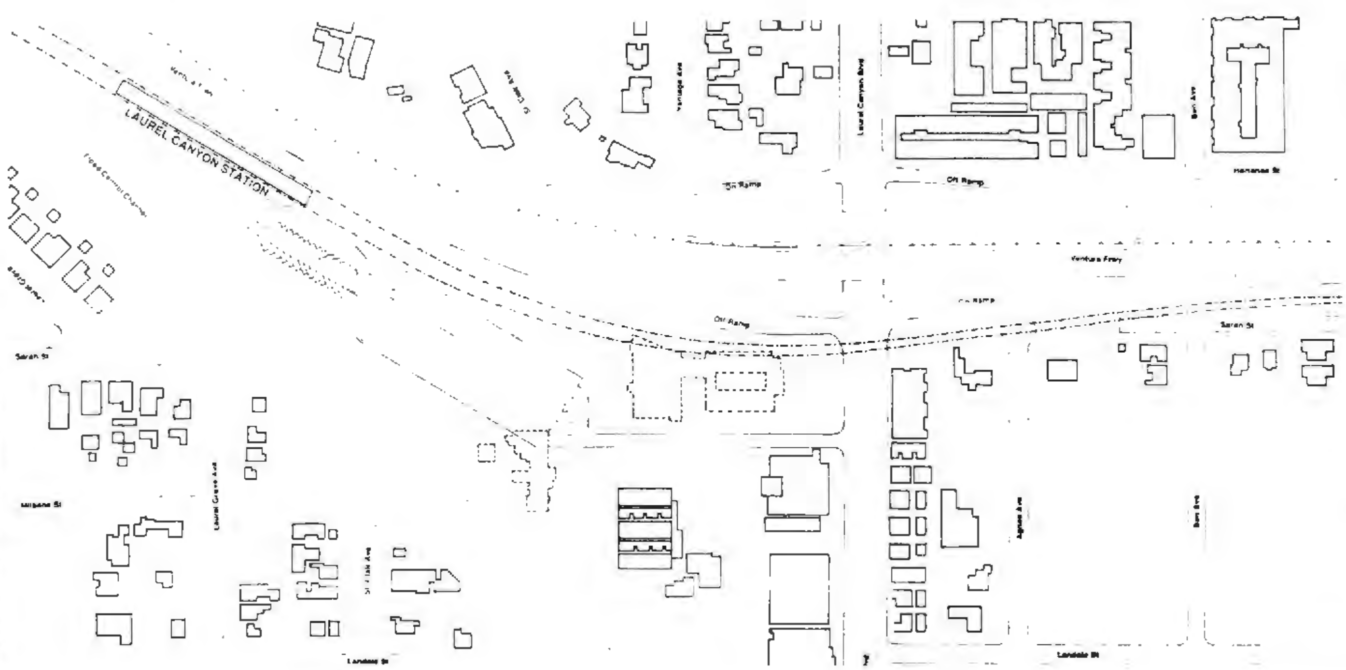
Figure 4-54

Ventura Alternative
Coldwater Canyon (North) Station Area

Photo Date: 1989 LA Aerial Photography, Inc.



View looking North along Laurel Canyon Boulevard at the Ventura Freeway. Alternative #4 would be located along the Southside of the freeway on aerial guideway. Because of the close proximity of buildings to the freeway off-ramp, as well as the need for station parking, the Campbell Hall School would be displaced under Alternative #4. Residential structures along Laurel Canyon Boulevard would not be displaced.



Source: Anil Verma Associates

San Fernando Valley East/West Rail Transit Project

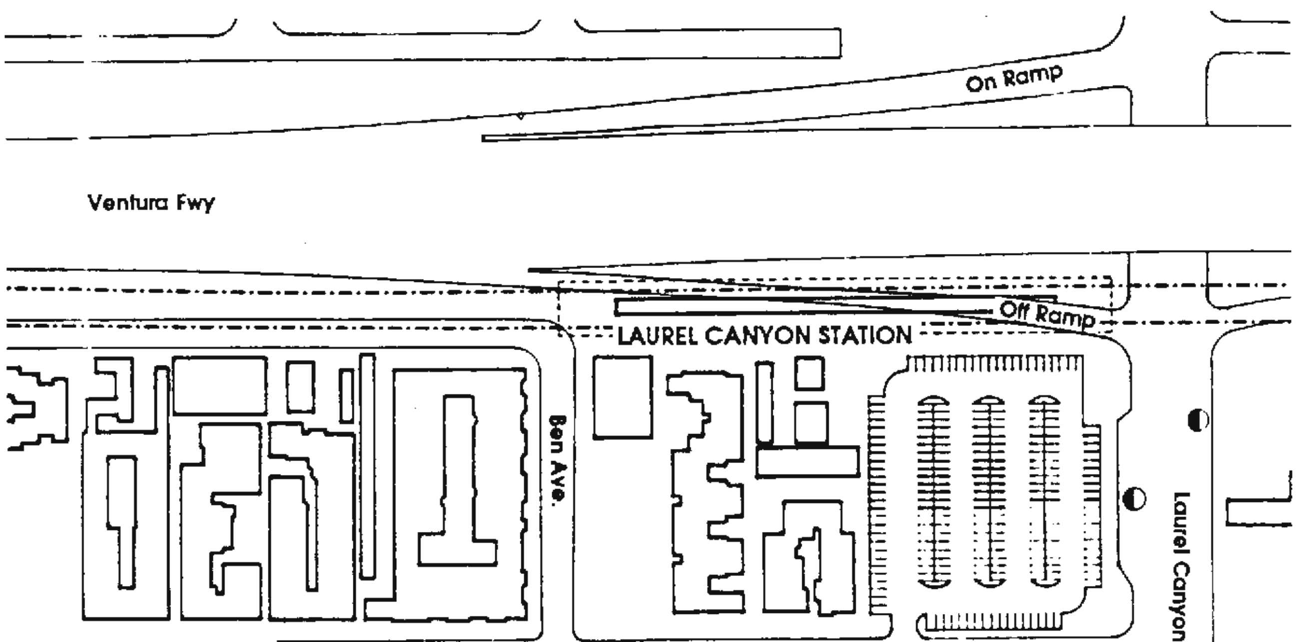
LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-55

Ventura Alternative
Laurel Canyon (South) Station Area

Photo Date: 1989 LA Aerial Photography, Inc.

View looking South along Laurel Canyon Boulevard at the Ventura Freeway. Alternative #5 is located in subway beneath the freeway ramps at this location however due to the need for station parking, three apartment buildings and a gas station would be displaced.



Source: Anil Verma Associates

San Fernando Valley East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

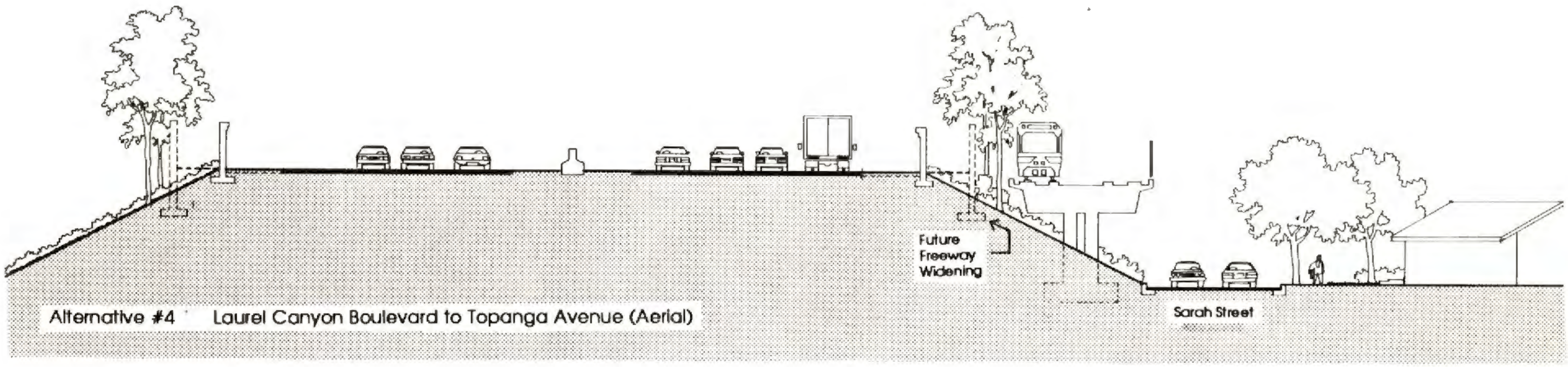
Figure 4-56

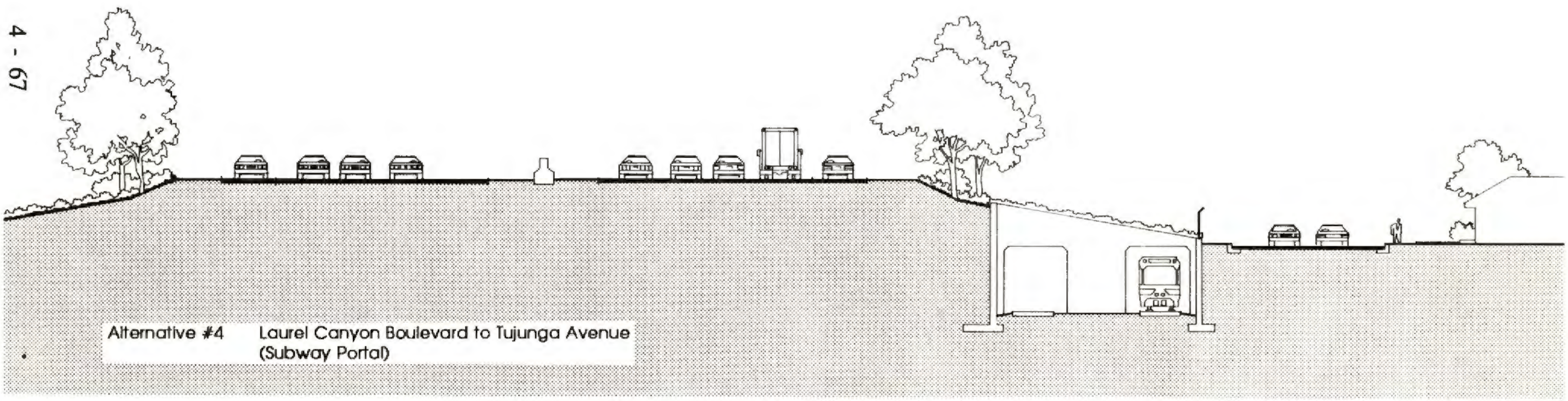
Ventura Alternative
Laurel Canyon (North) Station Area

4.3.6 Ventura Freeway Route Alternative Studio City/Universal City Area Figures 4-58 through 4-59 (see fold-out section for Figure 4-59)

There are no rail transit stations planned between the Laurel Canyon and Universal City Stations. Both alignment alternatives cross under the Hollywood Freeway/Ventura Freeway Interchange in subway configuration; Alternative #4 transitions from an aerial guideway along the side of the Ventura Freeway to subway at a point east of Colfax Avenue. Alternative #5 continues in subway configuration throughout this entire route segment.

Both route alternatives merge into a single alignment along Riverside Drive to the east of the Hollywood Freeway/Ventura Freeway Interchange. This single alignment then curves south at Lankershim Boulevard to join the adopted alignment of Metro Rail. The alignment then proceeds south under Lankershim Boulevard to the Universal City Metro Rail Station. Under alternatives #4a and #5a, Metro Rail Extensions, the adopted Universal City Metro Rail Station shell would be utilized. Transit riders would be able to continue through Universal City Station to points further south on the system without the need to change trains. Under Alternatives #4b and #5b, ART technology would be used in the San Fernando Valley instead of Metro Rail technology and transit riders would need to change trains at Universal City. In this instance, preliminary design indicates that transit riders could utilize a cross-platform transfer between ART and Metro Rail trains at Universal City.





Source: Benito A. Sinclair & Associates, Gruen Associates

San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-58

Ventura Freeway Profile Alternatives
North Hollywood/Universal City Area

4.4 STATION ALTERNATIVES

Concept station site plans as illustrated in Sections 4.2 and 4.3 were developed as a part of the Route Refinement Process for each of the Alternative Route Alignments considered in this EIR. Preliminary station site diagrams were prepared which located the station platform and parking on each site as well as defining possible vehicle access locations. Additional study and consultation refined parking design, evaluated exact station platform location, incorporated additional engineering and traffic studies, and defined specific pedestrian and vehicular access points. The station site plans included in this report were then generated on the basis of this work.

4.4.1 Station Siting and Location

To the extent possible, stations were located to reinforce existing and planned activity centers. Station location was also influenced by the need to minimize property takings,especially residential uses, wherever possible. Street entrances were sized and located to leave sufficient sidewalk space and to provide smooth transitions to building entrances and driveways. The number of entrances and dimensions were sized to reflect anticipated patronage levels and frequency of service.

Key land use factors used in the evaluation of potential station parking sites included:

- Available vacant land which could absorb at least 50 cars
- Compatibility of potential station with adjacent and prevailing land uses
- Types and intensity of residential, commercial and industrial activity
- Underdeveloped land in the immediate vicinity
- Right-of-Way/site acquisition needs
- Existing improvements which could affect site development: e.g. drainage channels, informal use of vacant land, planned roadways and other traffic and transportation improvements, and proximity to major thoroughfares

Key parking and circulation factors considered in the evaluation of potential station parking sites included:

- Safety of entry and exit locations
- Visibility of the site from adjacent streets
- Traffic control through traffic signals or stop signs
- Turning movements included left-turn pockets and turns in the vicinity of other adjacent intersections and driveways
- Traffic impacts from alignments in traffic center medians
- Levels of pedestrian activity
- Number of parking spaces possible
- Existing observed levels of traffic congestion
- Potential alternate site locations
- Ease and safety of potential pedestrian access

4.4.2 Station Platform Configurations

Two basic types of station platform design exist for transit systems considered in this EIR; side platform and center platform. In a side platform configuration, two platforms are provided on the outside edges of the track. One track is provided for each direction of travel. In contrast, the center-platform configuration is located between the two tracks, thus providing transit patrons with access to trains moving in either direction. In general, center platform stations are preferred to side-platform stations due to the greater convenience afforded to transit riders and the reduced costs that accrue from not having to provide duplicate sets of vertical circulation elements such as escalators, elevators and stairways.

Specific platform configurations used for station design in this report include the following:

- At-Grade Center: In this type of platform pedestrians cross at least one set of tracks to enter the center platform at either or both of its ends. The use of this station type is used for at-grade LRT alignments only.

- At-Grade Side: As side platforms serve trains moving in one direction only, passengers must choose the platform for their intended direction of travel. Cross transfers on side platforms are not possible and require passengers to cross tracks at the ends of the platforms. This station type is used for at-grade LRT alignments only.

- Aerial Center and Side Configurations: Access to aerial station configurations requires vertical circulation devices and sometimes pedestrian access bridges. Aerial stations located within public streets pose challenges to pedestrian access. The most efficient technique of providing this access is through the use of a center-platform station. Access is provided by escalators, elevators and stairs which pierce the center platform from below. When the system runs in the middle of a street, column cross-sections within a pedestrian island may create difficulty in providing safe and convenient access to the vertical circulation elements. The center street columns and pedestrian islands may also restrict turning movements and traffic flow without the provision of additional lane width and/or turning pockets. A response to this problem is to use side platforms reached by a pedestrian bridge for each platform. This eliminates the need for a mezzanine.

- Subway Configuration: In the center platform type of configuration a mezzanine level for access under the streets is generally used. Mezzanines may be eliminated in areas where above-ground right-of-way is available for station pedestrian access and circulation.

4.4.3 Station Bus and Parking Considerations

Access to the station platform is an important consideration at modal transfer stations where transit riders would change from automobiles or buses to rail transit vehicles. Particular concerns to facilitate this change include:

- Bus Locations: Bus stops indicated in the diagrams reflect convenient locations for direct access to station entries, and not necessarily the present locations. Bus stops are only located on streets served by the Southern California Rapid Transit District and on major arterials likely in the future to be served by bus transit. On-site bus circulation is proposed is some of the larger station areas.

- Parking Proximity to Station: Park and Ride and Kiss and Ride Facilities were located as close as possible to the station. Pedestrian access from the parking lots to the platform should be direct, simple and straightforward as possible. Generally, kiss and ride parking is placed closest to the station due to the short-term pick up and drop off nature of these types of parking spaces. Parked patrons are afforded direct view of the platforms wherever possible.

4.4.4 Summary of Station Characteristics and Parking

Based on the above criteria, the station plans shown in Section 4.2 and 4.3 of this Chapter were developed. Total parking provided at these stations ranged in total from 3,785 to 4,845. Figure 4-60 provides a summary of the characteristics of these stations for each of the Route Alternatives and Phased Length Options.

Figure 4-60
San Fernando Valley Rail Transit Summary of Station Characteristics
Burbank and Ventura Freeway Route Alternatives

Burbank Branch	Alternate #1 Burbank LRT	Alternate #2 LRT Deep Trench	Alternate #3 ART/Metro Rail Ext.
1. Topanga Cyn	Aerial 0	Aerial 0	Subway 0
2. Winnetka	Aerial 1,160	D.Trench 1,160	Subway 1,160
3. Tampa	At-Grade 0	D.Trench 0	Subway 0
4. Reseda	Aerial 370	D.Trench 370	Subway 370
5. White Oak	At-Grade 475	Subway 475	Subway 475
6. Balboa	Aerial 400	Aerial 400	Aerial 400 (400)
7. Woodley	At-Grade 440	Aerial 440	Aerial 440 (440)
8. Sepulveda	Aerial 675 (675)	Aerial 675 (675)	Aerial 675 (675)
9. Van Nuys	Aerial 325 (325)	Aerial 325 (325)	Aerial 325 (325)
10. Fulton/Burbank	D.Trench 0 (0)	D.Trench 0 (0)	Subway 0 (0)
11. Laurel Cyn	At-Grade 0 (0)	D.Trench 0 (0)	Subway 0 (0)
12. N. Hollywood	Aerial 1,000 (1,000)	Subway 1,000 (1,000)	Subway 1,000 (1,000)
Total Parking Spaces (Phased Length Option)	4,845 (2,000)	4,845 (2,000)	4,845 (2,840)

Ventura Alternative	Alternate #4 Ventura South Side	Alternate #5 Ventura North Side
1. Vanowen	Aerial 585	Aerial 585
2. Victory	Aerial 0	Aerial 0
3. Oxnard	Aerial 0	Aerial 0
4. Desoto	Subway 890	Subway 890
5. Winnetka	Aerial 220	Aerial 220
6. Tampa	Aerial 145	Aerial 145
7. Reseda	Aerial 120	Subway 120
8. White Oak	Aerial 400	Subway 400
9. Hayvenhurst	Aerial 650	Aerial 650
10. Sepulveda	Subway 240 (750)	Subway 500 (750)
11. Van Nuys	Aerial 85 (85)	Subway 85 (85)
12. Woodman	Aerial 95 (95)	Subway 400 (400)
13. Coldwater Cyn	Aerial 160 (160)	Subway 160 (160)
14. Laurel Cyn	Aerial 195 (195)	Subway 195 (195)
Total Parking Spaces	3785 (1285)	4350 (1590)

Source: LACTC/Gruen Associates.

4.5 RAILYARDS AND PHASING OPTIONS

A rail storage and maintenance yard is required to service the San Fernando Valley Rail Transit Project. A single yard would preferably be located near to the end of the line to allow for the overnight storage of vehicles that would then be available for morning commute service back towards the center of the city. If the full-length rail project is constructed between Warner Center and Universal City, then a storage facility near or in Canoga Park would be necessary to service the line. If, however, a shorter route length is constructed, then a shift in the railyard location to a point closer to the end of the shortened alignment would be necessary.

This section describes shortened "Phased Length Options" which are possible in the event that the full length route to Warner Center is not adopted. It then provides descriptions of the various railyards that have been designed to accommodate these options.

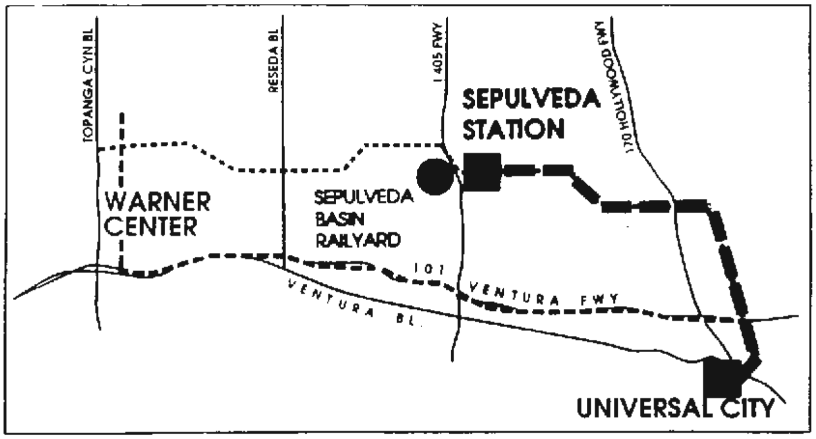
4.5.1 Phased Length Options

Three alternative Phased Length Options have been developed to provide shortened versions of the five full length route alternatives. These alternative route lengths are shown in Figure 4-61. Phased Length Options are defined as minimum route segments that can be constructed as practical transit operations on their own, regardless of whether the lines are ever to be extended in the future. All Phased Length Options would run between Universal City and the Sepulveda Basin. This recreational area is located approximately halfway between Universal City and Warner Center and provides convenient access from the San Diego Freeway for both route alternatives. Phased Length Options include the following:

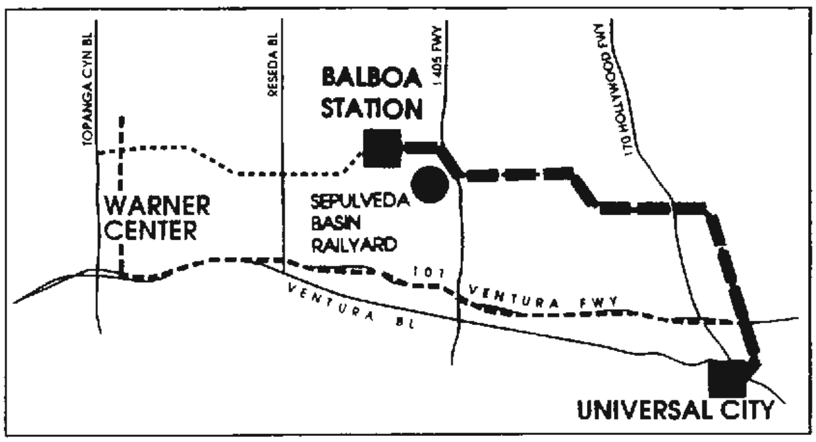
- Alternative #1 and #2 Phased Length Option: The SP Burbank Branch LRT options run between Universal City and Sepulveda Station with all intermediate stations including North Hollywood, Laurel Canyon, Fulton-Burbank and Van Nuys. The line measures 8.1 miles in length and is serviced by a railyard located in the Sepulveda Basin adjacent to the San Diego Freeway south of Victory Boulevard.

- Alternative #3 Phased Length Option: The Metro Rail Extension and ART options run between Universal City and Balboa Boulevard with all intermediate stations including North Hollywood, Fulton-Burbank, and Van Nuys. The line measures 10.2 miles in length and is serviced by a railyard located in the Sepulveda Basin adjacent to the San Diego Freeway south of Victory Boulevard.

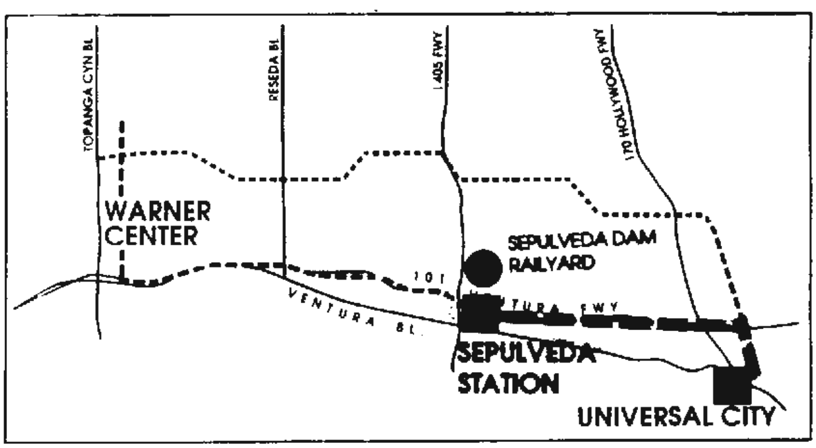
- Alternative #4 and #5 Phased Length Option: The Ventura Freeway options run between Universal City and Sepulveda Station with all intermediate stations including Laurel Canyon, Coldwater Canyon, Woodman and Van Nuys. The line measures 9.7 miles in length and is serviced by a railyard located adjacent to the spillway area of the Sepulveda Dam, between Sepulveda Boulevard and the San Diego Freeway.



Alternatives #1 & #2 Phased Length Option



Alternative #3 Phased Length Option



Alternatives #4 & #5 Phased Length Option

San Fernando Valley
East/West Rail Transit Project

Figure 4.5-1

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Phased Length Options

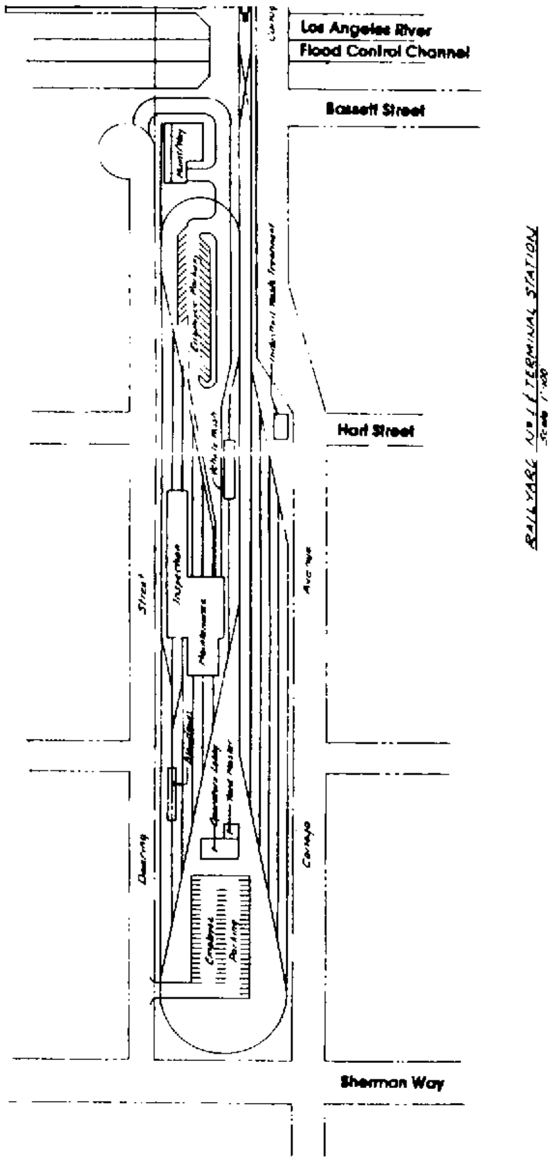
4.5.2 Alternative Railyard Sites

Conceptual plans for three alternate railyard sites have been developed to accommodate the various route alternative and phased length options. If the full length project were constructed from Warner Center to Universal City, then the Canoga Yard would be used for either the Burbank or Ventura Route Alternatives. Should a Phased Length Route Alternative be selected, then a railyard closer to the San Diego Freeway would be required. The Burbank Phased Length Option Yard and the Ventura Phased Length Option Yard have been designed to accommodate these shorter route length requirements:

- Canoga Yard (Figure 4.62 and 4-5): This site is designed for use as a small maintenance repair facility. It has a storage capacity of 37 cars and has full operational capabilities including a turnaround loop and no dead end tracks. This yard can be utilized by either the Ventura Freeway or SP Burbank Branch Route Alternatives.

- Burbank Phased Length Option Yard (Figure 4.63 and 4-18): This site is designed to accommodate the SP Burbank Branch Route Alternative in the event that the full length route to Warner Center were not constructed. This site is located in the Sepulveda Basin, between the San Diego Freeway and the Tillman Water Treatment Plant. The site is designed as a full maintenance, repair and inspection facility. The storage capacity of the yard is 67 cars with full operational capabilities. The location of the yard near the end of the line station at Balboa Boulevard would serve as an excellent storage yard to provide on-line vehicles ready for the morning rush hour.

- Ventura Freeway Phased Length Option Yard (Figure 4.63 and 4-49): This site is designed as a rail storage yard for the Ventura Freeway Route Alternatives. It can be accessed from route alternatives located on either the north or south sides of the Ventura Freeway. Rail transit vehicles would ascend from subway to cross over the LA River Flood Channel above the existing sidewalls. Storage capacity would be 62 cars in a dead end configuration. No loop track was possible at this site due to the small size of the site. No structures are planned for this site with the exception of the daily inspection building.



Source: Gannett Fleming

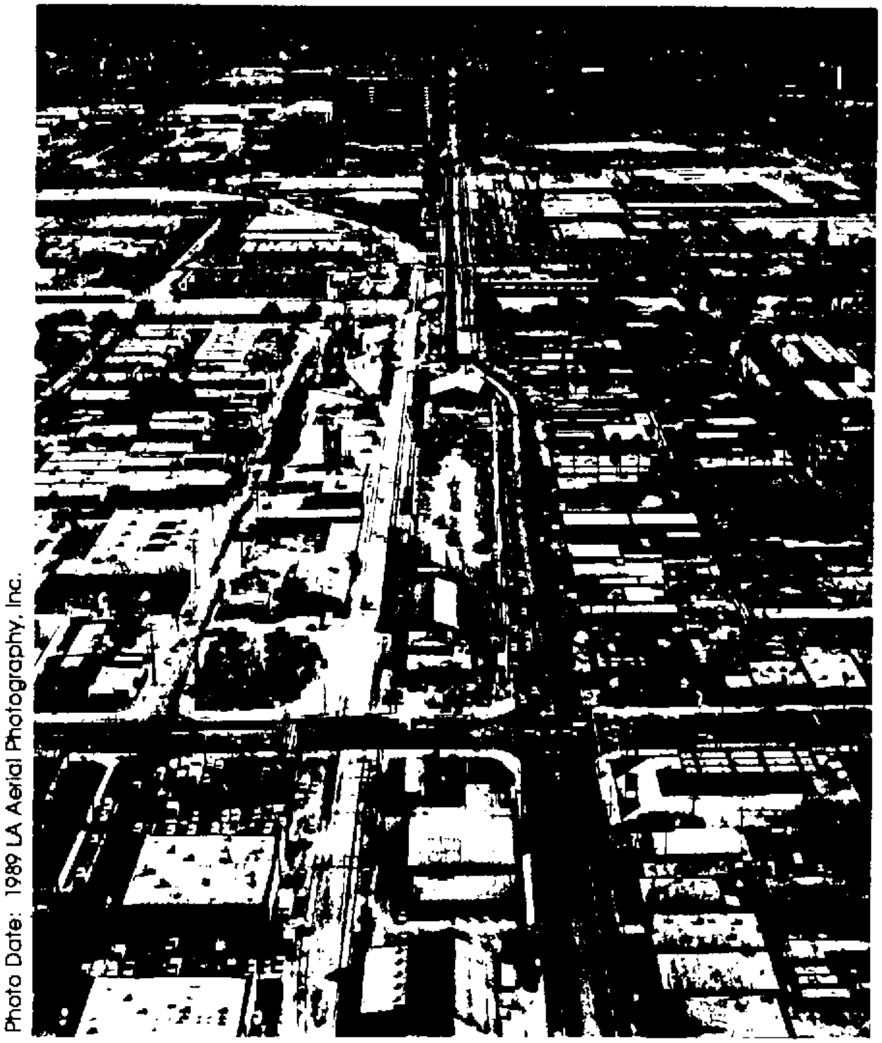


Photo Date: 1989 LA Aerial Photography, Inc.

San Fernando Valley East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

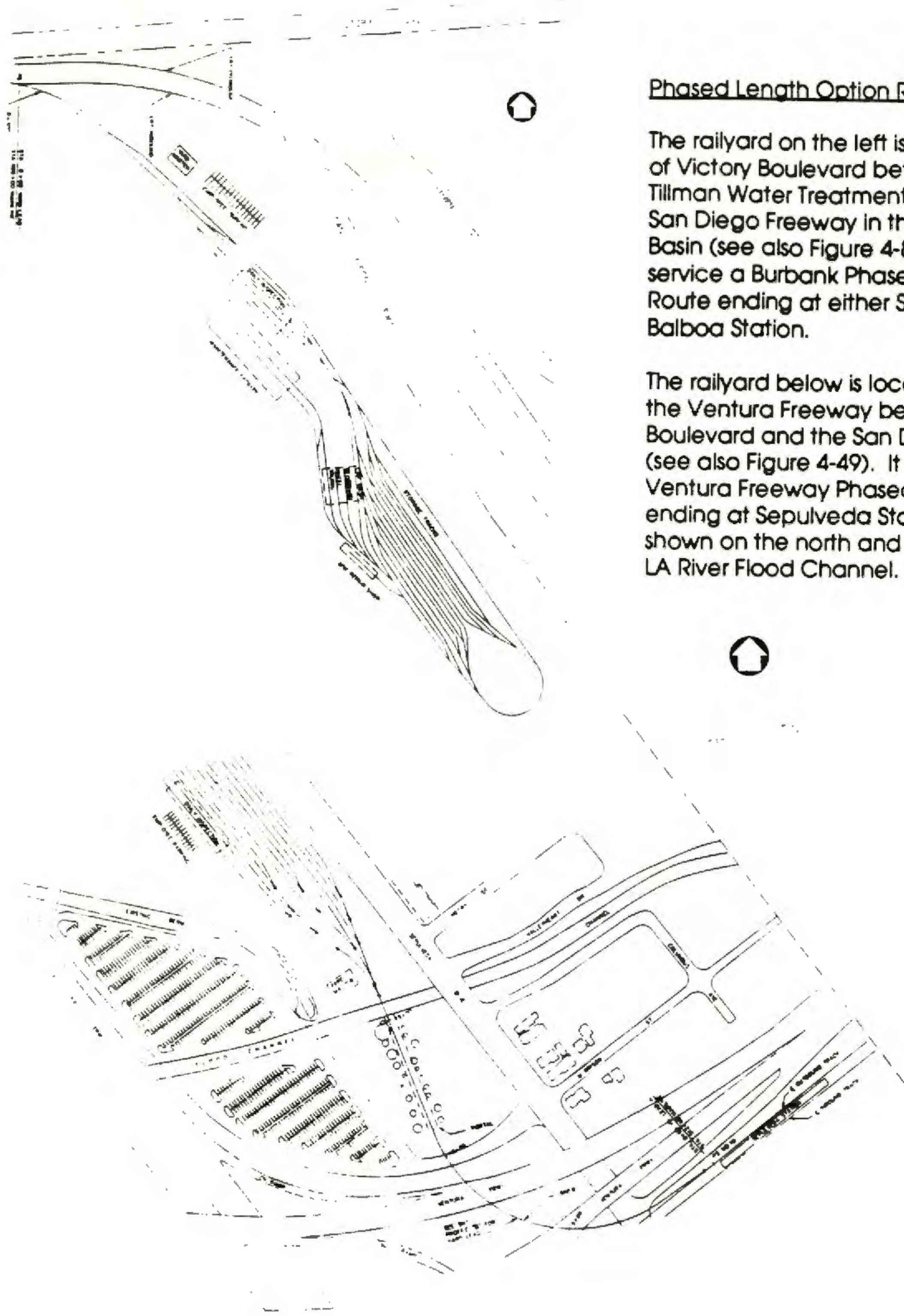
Figure 4.5-2

Canoga Railyard Site

Phased Length Option Railyard

The railyard on the left is located south of Victory Boulevard between the Tillman Water Treatment Plant and the San Diego Freeway in the Sepulveda Basin (see also Figure 4-8). It would service a Burbank Phased Length Option Route ending at either Sepulveda or Balboa Station.

The railyard below is located north of the Ventura Freeway between Sepulveda Boulevard and the San Diego Freeway (see also Figure 4-49). It would service a Ventura Freeway Phased Length Option ending at Sepulveda Station. Parking is shown on the north and south sides of the LA River Flood Channel.



Source: Gannett Fleming

San Fernando Valley East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4.5-3

Phased Length Option Railyards

THIS PAGE INTENTIONALLY LEFT BLANK

4.6 COST SUMMARY

This section summarizes the estimated total project costs for the five alignment alternatives, both in current dollars ($1989) and at two possible mid-points of construction ($1994 and $1997). These two mid-points are presented to show a range of effects from inflation; the 1994 figure is based on proceeding immediately with design and construction, whereas the 1997 figure is based on timing the project for concurrent completion with the planned Metro Rail Red Line to the Valley. Total project costs include the following elements:

- Construction (guideways, structures, facilities, stations, electrification, trackwork, yards, utility relocations, etc.)
- Transit Vehicles
- Testing and Operations (Start-up)
- Right-of-way Acquisition
- Professional Services (design, construction management, project administration, affirmative action, community involvement, etc.)
- Owner's Insurance
- Special Programs (such as arts program)

Once these elements are estimated, a construction contingency and project reserve account are added. Figure 4-64 presents a summary of the current year ($1989) and mid-point of construction ($1994 and $1997) total estimated costs for each of the alternative alignments. Construction costs have been estimated using quantity takeoffs from the conceptual plans and profiles which are contained in the separately bound Appendix of this EIR. Also, a 4.5 percent annual cost escalation has been used to estimate the 1994 and 1997 costs.

In reviewing the costs contained in Figure 4-64, the reader should primarily focus on the appropriate costs for the East-West Route Segments (shown in bold type), since these are generally the project alternatives covered by this EIR. The one exception is the inclusion of the Vineland LRT Extension for Alternatives 1a, 1b and 2a. This North Hollywood to Universal City light rail connection is presented as a possible cost-savings alternative, recognizing that Metro Rail is committed to reach North Hollywood by the year 2000. For comparative purposes only, estimated costs for this Metro Rail link from Universal City to North Hollywood are included in Figure 4-64 (herein referred to as Lankershim Metro Rail Extension). For reference purposes, cost estimates are also provided for phased length options of each alternative (consistent with the description contained in Section 4.5).

Figure 4-64
Summary of Estimated Total Project Costs ($ Millions)

	Alternative Alignment	**East-West Route Segment**	Vineland LRT Extension	Lankershim Metro Rail Extension[1]	Total Cost
1A.	SP Burbank Branch LRT + Vineland Extension:				
	$ 1989	**850**	197	N/A	1,047
	$ 1994	**1,060**	245	N/A	1,305
	$ 1997	**1,210**	280	N/A	1,490
	Phased Length Option:				
	$ 1989	**450**	197	N/A	647
	$ 1994	**561**	245	N/A	806
	$ 1997	**641**	280	N/A	921
1B.	SP Burbank Branch LRT + Lankershim Extension:				
	$ 1989	**816**	N/A	542	1,358
	$ 1994	**1,017**	N/A	675	1,692
	$ 1997	**1,161**	N/A	771	1,932
	Phased Length Option:				
	$ 1989	**414**	N/A	542	956
	$ 1994	**516**	N/A	675	1,191
	$ 1997	**589**	N/A	771	1,360
2A.	SP Burbank Branch LRT Deep Trench + Vineland Extension:				
	$ 1989	**1,929**	197	N/A	2,126
	$ 1994	**2,403**	245	N/A	2,648
	$ 1997	**2,743**	280	N/A	3,023
	Phased Length Option:				
	$ 1989	**958**	197	N/A	1,155
	$ 1994	**1,194**	245	N/A	1,439
	$ 1997	**1,363**	280	N/A	1,643
2B.	SP Burbank Branch LRT Deep Trench + Lankershim Extension:				
	$ 1989	**1,895**	N/A	542	2,437
	$ 1994	**2,361**	N/A	675	3,036
	$ 1997	**2,695**	N/A	771	3,466
	Phased Length Option:				
	$ 1989	**922**	N/A	542	1,464
	$ 1994	**1,148**	N/A	675	1,823
	$ 1997	**1,311**	N/A	771	2,082
3A.	SP Burbank Branch Metro Rail Extension/Lankershim Extension: [2]				
	$ 1989	**2,335**	N/A	542	2,877
	$ 1994	**2,908**	N/A	675	3,583
	$ 1997	**3,320**	N/A	771	4,091
	Phased Length Option: [3]				
	$ 1989	**1,047**	N/A	542	1,589
	$ 1994	**1,305**	N/A	675	1,980
	$ 1997	**1,489**	N/A	771	2,260

Figure 4-64 (Continued)

	Alternative Alignment	East-West Route Segment	Vineland LRT Extension	Lankershim Metro Rail Extension[1]	Total Cost
3B.	SP Burbank Branch ART/Lankershim Extension:				
	$ 1989	**2,229**	N/A	542	2,771
	$ 1994	**2,777**	N/A	675	3,452
	$ 1997	**3,170**	N/A	771	3,941
	Phased Length Option:				
	$ 1989	**1,001**	N/A	542	1,543
	$ 1994	**1,247**	N/A	675	1,922
	$ 1997	**1,423**	N/A	771	2,194
4A.	Ventura Freeway Metro Rail Extension/Via South Side Aerial: [2]				
	$ 1989	**1,815**	N/A	N/A	1,815
	$ 1994	**2,260**	N/A	N/A	2,260
	$ 1997	**2,580**	N/A	N/A	2,580
	Phased Length Option:				
	$ 1989	**887**	N/A	N/A	887
	$ 1994	**1,105**	N/A	N/A	1,105
	$ 1997	**1,261**	N/A	N/A	1,261
4B.	Ventura Freeway ART/Via South Side Aerial				
	$ 1989	**1,727**	N/A	N/A	1,727
	$ 1994	**2,152**	N/A	N/A	2,152
	$ 1997	**2,457**	N/A	N/A	2,457
	Phased Length Option:				
	$ 1989	**850**	N/A	N/A	850
	$ 1994	**1,058**	N/A	N/A	1,058
	$ 1997	**1,208**	N/A	N/A	1,208
5A.	Ventura Freeway Metro Rail Extension/Via North Side Subway: [2]				
	$ 1989	**2,845**	N/A	N/A	2,845
	$ 1994	**3,544**	N/A	N/A	3,544
	$ 1997	**4,046**	N/A	N/A	4,046
	Phased Length Option:				
	$ 1989	**1,470**	N/A	N/A	1,470
	$ 1994	**1,831**	N/A	N/A	1,831
	$ 1997	**2,091**	N/A	N/A	2,091
5B.	Ventura Freeway ART/Via North Side Subway:				
	$ 1989	**2,710**	N/A	N/A	2,710
	$ 1994	**3,376**	N/A	N/A	3,376
	$ 1997	**3,854**	N/A	N/A	3,854
	Phased Length Option:				
	$ 1989	**1,392**	N/A	N/A	1,392
	$ 1994	**1,734**	N/A	N/A	1,734
	$ 1997	**1,979**	N/A	N/A	1,979

1 Part of approved Metro Rail Project from Universal City to North Hollywood.
2 ART initial costs would be somewhat lower than Metro Rail (See Section 4.7).
3 Since issuance of the NOP, a revised version of the Alternative 3A phase length option has been proposed which deletes planned stations at Woodley, Sepulveda and Laurel Canyon; and is essentially at-grade along the northern edge of the Sepulveda Basin. The above costs reflect this revised option.

THIS PAGE INTENTIONALLY LEFT BLANK

4.7 TECHNOLOGY ALTERNATIVES

Five technology alternatives are studied in this EIR. Three of the technologies are presently being constructed in other Los Angeles County rail transit corridors; LRT is the technology chosen for the Los Angeles-Long Beach Rail Transit Project (Blue Line); Metro Rail technology is being used for the 4.4 mile starter subway line in Downtown Los Angeles (Red Line); and ART is being developed for the Norwalk-El Segundo Corridor (Green Line). The other two technologies are not presently being implemented on any of the LACTC rail corridors. These other technologies include Monorail and Magnetic Levitation (Mag-Lev).

This section of the EIR provides descriptions of the basic technology options available for the San Fernando Valley Rail Transit Project. LRT, Metro Rail and ART are briefly summarized while Monorail and Mag-Lev technologies are described in greater depth. The section describes the Monorail and Mag-Lev technology options; evaluates the technologies against specific route alternatives, discusses system planning implications of the technologies, and presents a qualitative discussion of potential capital and operating cost impacts.

4.7.1 Technology Descriptions

The options discussed below are based on specific, available technologies. These have both physical and operational characteristics that are important to the planning and implementation process. Illustrations of a few of these technologies are provided in Figure 4-66, Photos of Alternative Technology Options. Figure 4-65, Technology Categories and Characteristics, provides tabular comparison of the differences between these systems. The technology alternatives include the following:

- LRT: Light Rail Transit is the current term for what originally was known as the trolley car or interurban. It is a steel wheel, steel rail system powered by rotary electric motors receiving electricity from overhead catenary lines. This combination allows at-grade operation in streets. Operation in exclusive rights-of-way is also possible, either at-grade, aerial or subway. Usually, a driver on board the vehicle is used rather than more advanced computerized operation. LRT has recently been constructed in cities using both 4-axle and 6-axle articulated (bend in the middle) vehicles. The 6-axle system is being implemented in Los Angeles on the Long Beach line (Blue Line).

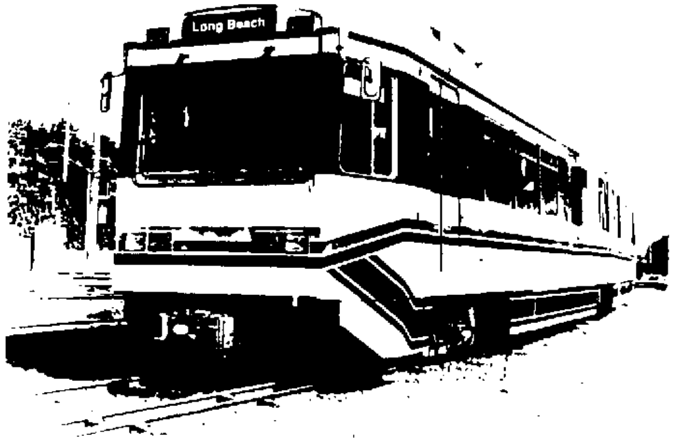
- Metro Rail: Metro Rail is LACTC's rapid rail system (Red Line). Rapid rail, frequently referred to as Subway, provides high speed, high capacity operations to meet line haul transportation demand. It can be located at-grade, on aerial guideway or in subway but requires a totally separated right-of-way. The exclusive right-of-way is necessary because of the third rail that is located near ground level that provides power to the rotary electric motors that propel the vehicles. The system generally requires an on-board driver.

Figure 4-65
Vehicle Categories and Characteristics

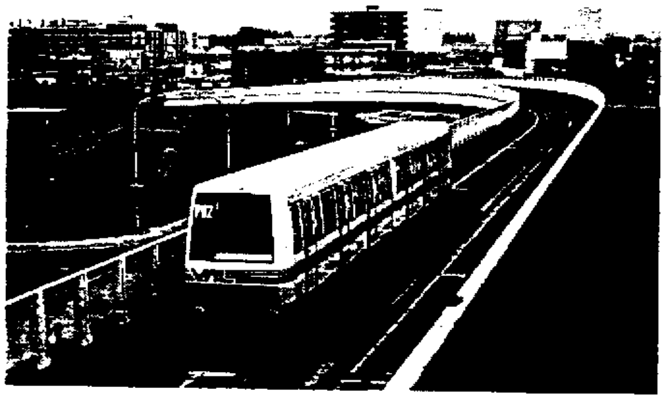
	Metro Rail	LRT	ART***	Monorail Medium	Monorail High	MagLev
Vehicle Size (feet)						
- Length	75.0	90.0	87.0	41.4*	46.9**	37.8
- Width	10.5	8.7	8.7	8.4	9.5	8.2
- Height	12.5	12.0	12.0	7.4	11.9	9.6
Platform Length Typical (ft.)	450	300	300	230	210	125
Right-of-Way Width (feet)						
- Single Lane	18.0	15.7	15.7	11.4	14.8	8.9
- Double Lane	32.0	29.5	29.5	24.8	26.9	17.7
Passenger Capacity Per Car						
- Design	180	108	108	50	120	80
- Maximum	220	161	161	79	182	116
Vehicle Weight (empty)	80,000	98,000	90,000	18,700	57,200	22,020
Maximum Speed	70	55	65	50	50	50
Maximum Grade	6%	6%	6%	7%	7%	10%
Min. Turning Radius (ft.)	1000	82	82	175	148	166
Electrification	Third Rail	Catenary	Catenary	Third Rail		Third Rail
Control System ****	Operator	Operator	Automated	Operator or Automated		Automated

* A car; B car = 30.2; minimum consist A-B-A = 113 feet
** Minimum consist 2 cars = 102 feet
*** Norwalk - El Segundo Vehicle

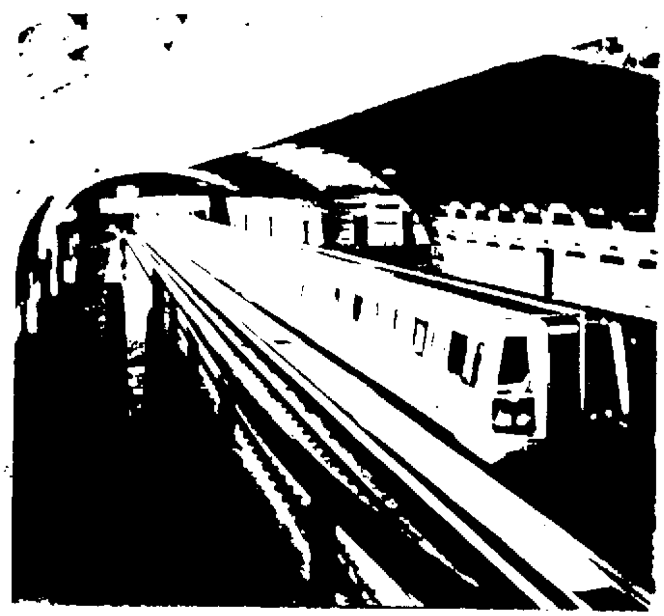
Source: Gannett Fleming Transportation Engineers



LRT - This technology is being implemented in Los Angeles for the Long Beach Rail Transit Project (Blue Line). The car shown is planned to be in operation in Sumnmer 1990.



ART - This automated technology is being implemented in the Norwalk-El Segundo Green Line in Los Angeles and will have vehicles which are very similar to the Long Beach- Los Angeles cars shown above. ART systems have been used in many cities including Vancouver, Miami, Detroit and many European cities, including Lille, France shown in this illustration.



Metro Rail - Also known as heavy rail transit, or just "subway", this technology is being developed in Downtown Los Angeles for the Red Line, planned to open in 1994. This technology has wide spread application including BART in San Francisco and WMATA (shown at left) in Washington DC.

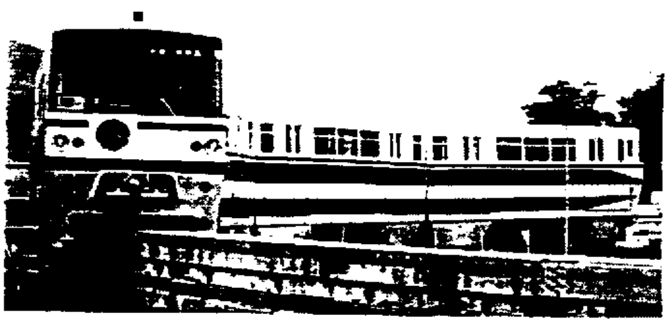
San Fernando Valley East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4.6-1a

Technology Alternatives

Mag-Lev - This technology is more experimental than other alternatives and has not yet been constructed in an American city. The technology has been used on a limited basis in European cities. Shown at the left is the M-Bahn, Magnetic Transit of America, prototype vehicle.



Monorail - The Monorail technology has evolved in recent years with developments that previously hindered the application of this technology such as capacity constraints and operational switching. Shown at left is the Hitachi Monorail which is being operated at nine locations in Japan with approximately 47 route miles in service. The Hitachi system represents high capacity monorails.
Shown below is the TGI " M" series monorail application at Disneyworld which is representative of medium capacity systems.

- ART: Automated Rail Transit represents a class of systems that are comparable to the LRT in passenger carrying capacity but utilize vehicles that operate automatically (no on-board drivers) at shorter headways (time between successive trains) than are possible with manual systems. ART typically uses third rail power for either rotary or linear induction motor propulsion. They must use exclusive rights-of-way and can be either rubber tired or use steel wheels on steel rails. The proposed Norwalk-El Segundo (Green Line) system will be a steel wheel/steel rail system, with power supplied by an overhead catenary system.

- Mag-Lev: Magnetic Levitation, or Mag-Lev, refers to a transportation system where vehicle support is provided by a magnetic field rather than by steel wheels or rubber tires. Mag-Lev vehicles literally "float on air" and there is no physical contact between the vehicle and guideway unless there is a malfunction, in which case the vehicles settle on the guideway. Some systems have back-up rubber tire suspensions while others utilize metallic skids.

  To take advantage of the fact that there is no physical support provided by the guideway to the vehicle, propulsion is provided by linear induction electric motors. While most transit vehicles use rotary electric motors with many moving parts, linear induction motors have no moving parts, instead utilizing a moving electric field to provide both acceleration and deceleration. Part of this motor is on the vehicle (rotor) and part is on the guideway (stator), in contrast to the rotary electric motor which is totally on the vehicle.

  Currently, there are two basic categories of Mag-Lev systems in use or development: low speed and high speed. Low speed systems, operating at a top speed of approximately 50 mph, are currently in use in England at the Birmingham airport, in West Berlin as a shuttle, and under construction in Las Vegas. Low speed mag-lev utilizes third rail power pickup (actually three smaller power rails located below the running surface) for auxilliary propulsion power (e.g., air conditioning and door operation). High speed systems have been tested at speeds of approximately 250 miles per hour in both Japan and Germany but have not been implemented at this time. At these high speeds, there is no physical power pickup by the vehicle, energy being provided by on-board batteries and inductive pickup from the guideway. These high speed systems are suited toward travelling long distances with few stops, and therefore are not appropriate for application in the San Fernando Valley. Thus, the low speed systems are used in the analysis. Important system characteristics are provided in Figure 4-65. Metro Rail, Monorail, ART and LRT characteristics are provided for comparative purposes.

- Monorail: Monorail systems employ vehicles that are supported by a single beam (or girder). The vehicles either ride on top of the beam (bottom supported) or hang from a beam. Systems currently under study for potential implementation in the San Fernando Valley corridor are of the bottom supported category because the available hanging systems are low capacity systems that are not suited for line haul service in the San Fernando Valley. The bottom supported monorails are also termed overriding monorails because they ride on rubber tires on top of the supporting surface (top of beam) and actually surround the sides of the beam. This allows horizontal wheels on the vehicles to stabilize the vehicle and provide lateral guidance, much like the flanges on the wheels of rail vehicles. These lateral wheels can be of rubber or steel, depending on the system manufacturer.

  Propulsion is provided by standard rotary electric motors and braking by pneumatic or hydraulic brakes. Vehicle power pickup is also from guideway mounted power rails. Over 47 miles of monorail are currently in use in Japan and over 12 miles at theme parks in the United States. Representative monorail system characteristics are provided in Figure 4-65 for medium and high capacity monorail systems. The TGI "M" series monorail is representative of a medium capacity monorail and the Hitachi Kitakyushu is representative of a high capacity monorail.

4.7.2 Significant Characteristics of Mag-Lev and Monorail Technologies

Three characteristics of both the Mag-Lev and monorail technologies are important when making comparisons with LRT technology: minimum curve radius, operational switching, and mixed traffic operation.

The minimum curve radii of the alternative technologies are both in excess of 140 feet. This tends to make it difficult to fit these systems within many existing urban intersections without the purchase of adjacent properties or the acquisition of easements or air rights. Because of the nature of the support, guidance and propulsion subsystems of these technologies, switching of the vehicles from one "track" to another for either normal operation or failure response strategies requires the movement of sections of the guideway. This is a fairly cumbersome operation requiring additional supporting structure and time to assure fail safe operation. The time requirement may constrain peak period system capacity (if the switching time approaches the minimum operating headway) by reducing the number to trains that can safely traverse a given point in the system.

Operation in mixed traffic, or allowing at-grade cross traffic, provides the opportunity to reduce system costs by avoiding either aerial structures or subway construction. The running surfaces and propulsion characteristics of Mag-Lev and monorail systems require that they operate in exclusive right-of-way. Their "at-grade" operation still requires some nominal structure, with the overriding monorail requiring approximately 4 to 6 feet from existing grade level to the running surface of the support beam. The Mag-Lev structure could be somewhat lower in elevation, approximately 3 to 4 feet. If the systems are automatically controlled (driverless) complete grade separation and fencing of the right-of-way is required for safety reasons.

4.7.3 Route Evaluation for Monorail and Mag-Lev Technologies

These technology options are evaluated within the context of the existing route alternatives to see how they compare with respect to alignments, operations, stations, maintenance facilities and order of magnitude cost estimates. The alignments and profiles already agreed upon within the EIR process have been used for comparison purposes (Alternatives 3b, 4b and 5b representing the Burbank Branch, Ventura Freeway South Side Aerial, and Ventura Freeway, North Side Subway options, respectively).

Alignment: Alignment plans and profiles developed for the LRT and Metro Rail/ART technologies were also applied to the other technologies. The LRT and Metro Rail profiles are essentially the same with minor differences resulting from the station platform length requirements for the two systems (450 feet for Metro Rail and 300 feet for LRT). At this level of comparative analysis, any technology differences that could be used to modify the alignments would yield only secondary effects on either operations, costs, or the environment. Preliminary and final engineering would be performed in the future for a specific technology and set of operating requirements. These engineering tasks would attempt to optimize system performance in all critical areas of concern.

Operations: One way to compare the operation of alternative system technologies is to look at the passenger carrying capacity of the system and its ability to meet projected peak period demand. The Metro Rail option is very different from that of the other technologies because the extension is jointly defined by existing service requirements from Universal City to downtown and by the additional patronage generated in the San Fernando Valley. Therefore, the peak line load in the peak period is significantly higher for Metro Rail than for the other options with respect to requirements within the San Fernando Valley. The peak link load (the highest number of persons carried between any two stations on the line) defines maximum vehicle requirements and platform lengths because it is time consuming and awkward to lengthen or shorten trains and is therefore only performed when absolutely necessary. For example, it would not be prudent to attach two 3-car trains together at Universal City for cost and travel delay reasons, plus the potential for passenger injury exposure during the operation.

The peak link loads (one-way) for Metro Rail Alternatives 3a, 4a and 5a are 8,129, 7,988 and 7,910 persons, respectively. At 6 minute headways (time between trains) with 6-car trains, the system capacity is 8,820 persons (using 147 passengers per car for normal operations). Although more passengers can fit in a "crush load," this capacity should not be used for planning purposes and should only be used for unusual circumstances such as failure response strategies.

All of the other technology options include the use of a transfer station at either Universal City or North Hollywood. Either transfer station would be designed to accommodate direct cross-platform transfers between the modes to make it as convenient as possible for the passenger. Also, the schedules would have to be coordinated and synchronized to allow this transfer to occur with no or minimal delay. Frequently, additional schedule time is provided for both modes, which could result in additional equipment requirements.

The LRT peak link loads are 3,750 for the Vineland extension and 2,520 for the Lankershim extension. This demand can be served by 3-car trains operating at seven minute headways, assuming a nominal capacity of 145 passengers per vehicle (per the operations planning report) [1], or 3,728 passengers in the peak link.

The ART alignment alternatives 3b, 4b and 5b were also used to evaluate monorail and Mag-Lev. The peak link load requirement is 3,600 passengers. Using two minute headways, each of the alternative automatic systems could carry between 50 and 120 people and would require one to three car trains to meet the demand requirement. Single vehicle operation would not meet peak period demand (except for high capacity monorail); but, because automatic trainlining (coupling or decoupling of vehicles) is possible, train length could be more economically tailored to actual demand for the other alternatives.

Stations: The operation of any technology but Metro Rail west of Universal City will entail construction of a transfer station. This would be the case for LRT, ART, monorail or Mag-Lev. This is operationally more complex from the system operators point of view because the operating schedules of the two systems must be carefully coordinated and because the station construction is more complicated and expensive. It is also less convenient from the point of view of a patron who has to exit one vehicle, cross the station platform and find a seat on another vehicle. Instead of a simple entry to a single platform, the patron must select the correct platform. This would probably also entail a change in level using either stairs, elevator, or escalator.

Station platform length is another area of comparison. Metro rail platforms are designed to accommodate 6-car trains for a total length of 450 feet. All of the other technologies could be implemented with shorter stations, potentially reducing property acquisition requirements, costs and community impacts.

Maintenance Facilities: At present, there are three technologies identified for implementation in LACTC corridors. They are Metro Rail, LRT and ART. Each of these systems has a maintenance facility and a vehicle storage yard to support system operations. Implementation of any technology other than Metro Rail in the San Fernando Valley would require the construction of another maintenance facility and a yard, whereas Metro Rail would only require an overnight storage facility. A major advantage of using an already established technology would be that trained personnel will be on hand to staff critical managerial and technical positions at the new facility. In addition, the storage of spare parts could be rationed so that critical but rarely used parts could be stocked at only one of the locations, avoiding expensive duplication. Further, maintenance strategies could be reviewed to allow more "remove and replace" operations for failed components or subsystems and the use of specialists for the repair of the parts at one rather than two locations.

General Cost Differentials: Using the LRT technology as a base, order of magnitude unit cost estimate comparisons of major elements have been developed for monorail and mag-lev. Major cost elements focus on guideway and stations.

Guideway costs (including catenary or power rails only) were compared using the LRT as the base. The percentage comparisons are shown in Figure 4-67. Each of the LRT profiles is shown as 1.0 for comparison purposes. (It should be recognized that, regardless of technology, at-grade construction is much less expensive than aerial construction and

[1] San Fernando Valley Rail Transit Project, Manuel Padron & Associates, 1989

aerial construction is much less expensive than subway construction, under most circumstances).

Figure 4-67
General Cost Differentials
LRT versus Alternate Technologies

Track	LRT	Monorail Med	Monorail High	Mag-Lev
At-Grade	1.0	1.1	1.4	1.1
Aerial	1.0	0.75	0.95	0.90
Subway	1.0	0.95	1.3	1.1

It should be emphasized that the cost comparisons have been simplified to assume circular tunnels and similar construction complexity for all of the systems. Several construction options would normally be considered during detailed design which could yield more optimal designs for a cost estimate comparison basis. Therefore, small differences in cost factors should be considered as only preliminary indications of differences among potential technologies.

At-grade construction for the monorail requires essentially the same structure (beams and foundations) as for aerial construction and could be very similar to at-grade LRT, depending on the size of the system. Aerial structures could be between five and twenty-five percent less expensive than aerial LRT. Subway construction could save about five percent for medium monorail or cost an additional thirty percent combining the effects of tunnel construction and the usage of essentially the same beams and supports as for at-grade construction.

Mag-Lev comparisons for the three profiles follow a rationale similar to that for the medium capacity monorail. While the at-grade Mag-Lev comparison is not available because an at-grade implementation has not been designed by the manufacturer, a 10 percent penalty compared to LRT is assumed. Aerial structures could be about ten percent less than aerial LRT, primarily because of vehicle weights and geometric cross sections comparable to the medium capacity monorail but slightly more complex. Subway construction combines a smaller Mag-Lev subway with at-grade guideway requirements. Although this design is also not available, it may be marginally more costly (a 10 percent penalty assumed) than the medium monorail subway costs due to the higher guideway complexity.

The station cost comparisons are based primarily on the platform lengths required for the programmed train consists for each technology. Because individual station usage is relatively constant for each alternative, station common areas and vertical circulation elements (stairs, elevators and escalators) will remain the same for costing purposes.

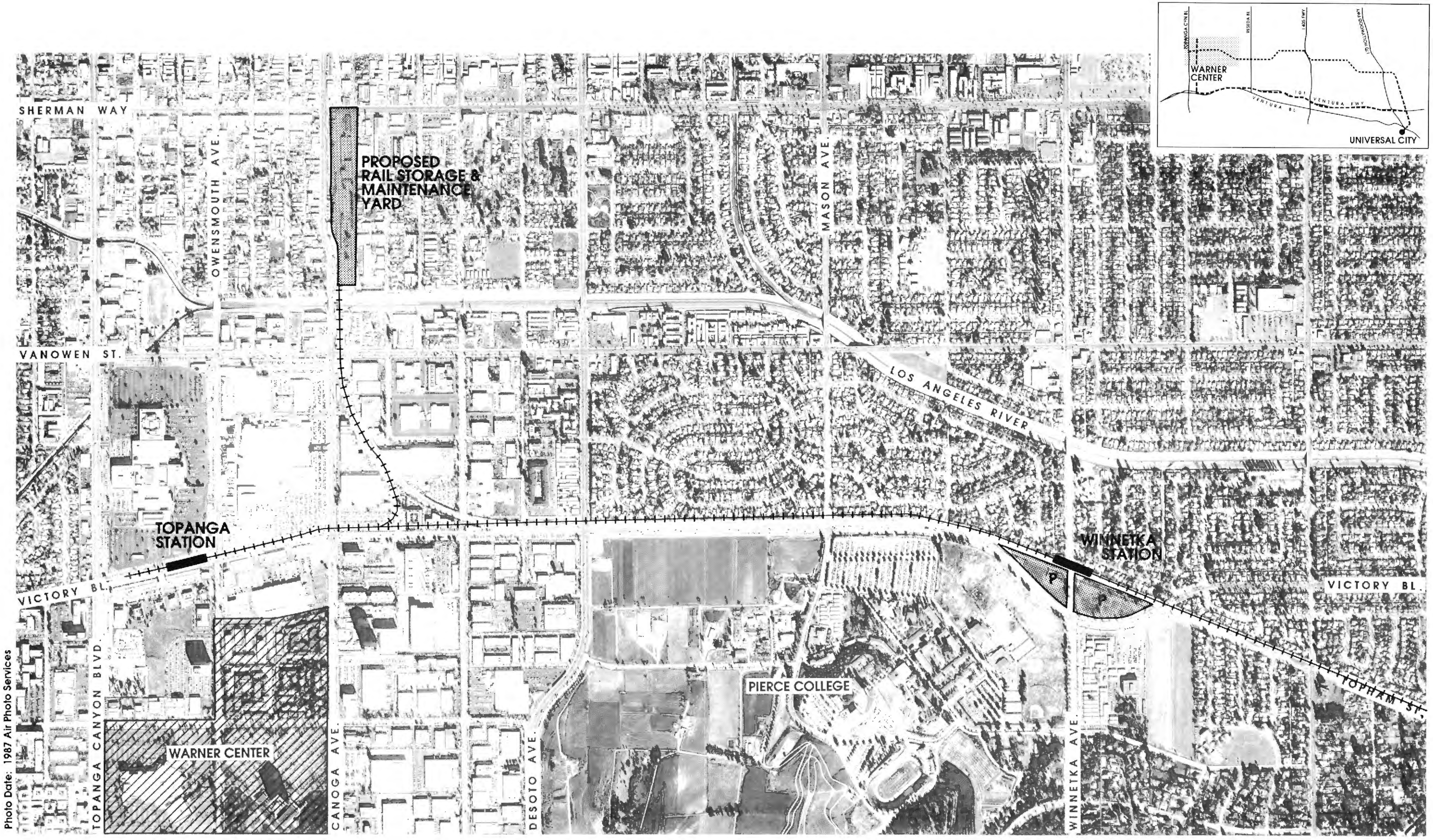
Station platform costs for at-grade stations represent the full station cost, excluding parking. Therefore, if LRT has a 300-foot platform, the monorail at 210 to 230 feet, and the Mag-Lev 125 feet, savings of twenty-three percent to fifty-eight percent could result with the use of shorter platforms. Savings for aerial and subway stations would be lower, because the fixed cost of vertical circulation elements can represent thirty to forty percent of total station costs.

Using the ratios in Figure 4-67, the station cost discussion and construction cost estimates derived from the conceptual plans and profiles, total project cost estimates have been developed for monorail (both medium and high capacity) and Mag-Lev. These estimates, which are presented in current (1989) and future year (1994 and 1997) dollars in Figure 4-68, Summary of Alternative Technology Estimated Total Costs, can be compared with the estimates previously presented in Figure 4-64. For this exercise, the Ventura Freeway Alternative #4 was used. As can be seen in such a comparison the Alternative #4a Metro Rail and Alternative #4b ART construction costs are greater than the medium-capacity monorail and mag-lev costs, but lower than the high-capacity monorail costs.

Figure 4-68
Summary of Alternative Technology
Estimated Total Costs ($ Million)
Based on Ventura Freeway Southside Aerial Alternative

Alternative	Total Cost ($ Million) 1989	1994	1997
Ventura Freeway Medium-Capacity Monorail/Via South Side Aerial	$1,680	$2,093	$2,389
Ventura Freeway High-Capacity Monrail/Via South Side Aerial	$1,850	$2,305	$2,631
Ventura Freeway Meg-Lev Via South Side Aerial	$1,681	$2,094	$2,391

Operating costs for the various systems are highly dependent on maintenance philosophy, local wage structure and size and application of the system. In general terms, more complex systems may require higher levels of preventive maintenance but offer opportunities to reduce the number of operating personnel. Also, the skill levels of employees required to perform the maintenance on complex systems are higher than for many typical, more traditional, transit operations. Within a given geographic area, the higher the number of different technologies, the higher the average cost of maintenance. This is because of having to stock different spare parts at different locations and a reduced opportunity to obtain the benefits of larger scale maintenance operations. These factors could be outweighed, however, by the advantages of applying systems that could more effectively meet the characteristics of the forecasted passenger demand. This is particularly true when looking at the different requirements of line haul, circulator and distribution type applications. Level of demand, peaking characteristics and growth projections all impact the applicability of specific technology options and associated operating costs.



North

Scale: 1" = 1000'

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-5

Burbank Branch Route Alternatives
Warner Center/Canoga Park Area

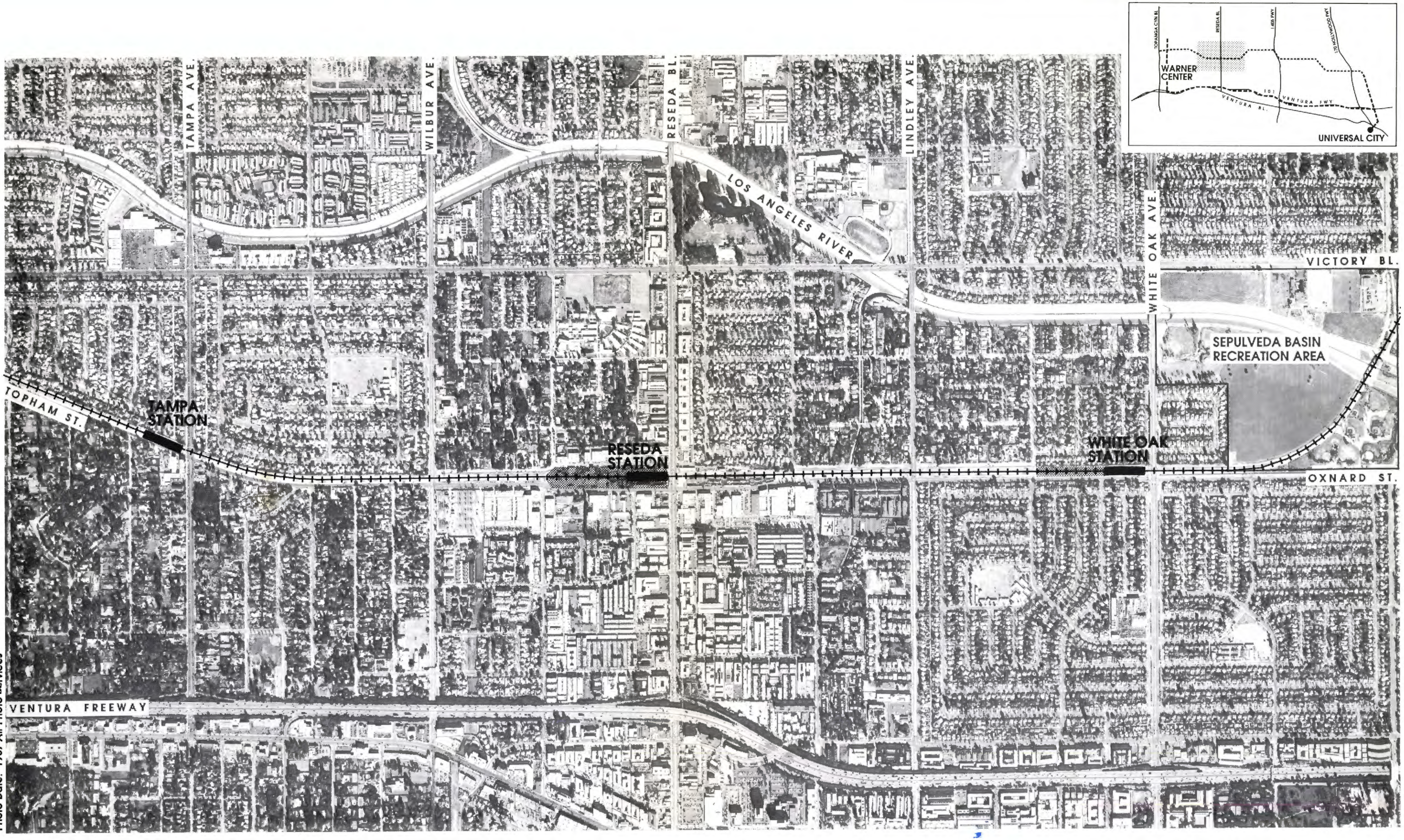


Photo Date: 1987 Air Photo Services

North ↑ Scale: 1" = 1000'

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-10

Burbank Branch Route Alternatives
Reseda/West Van Nuys Area

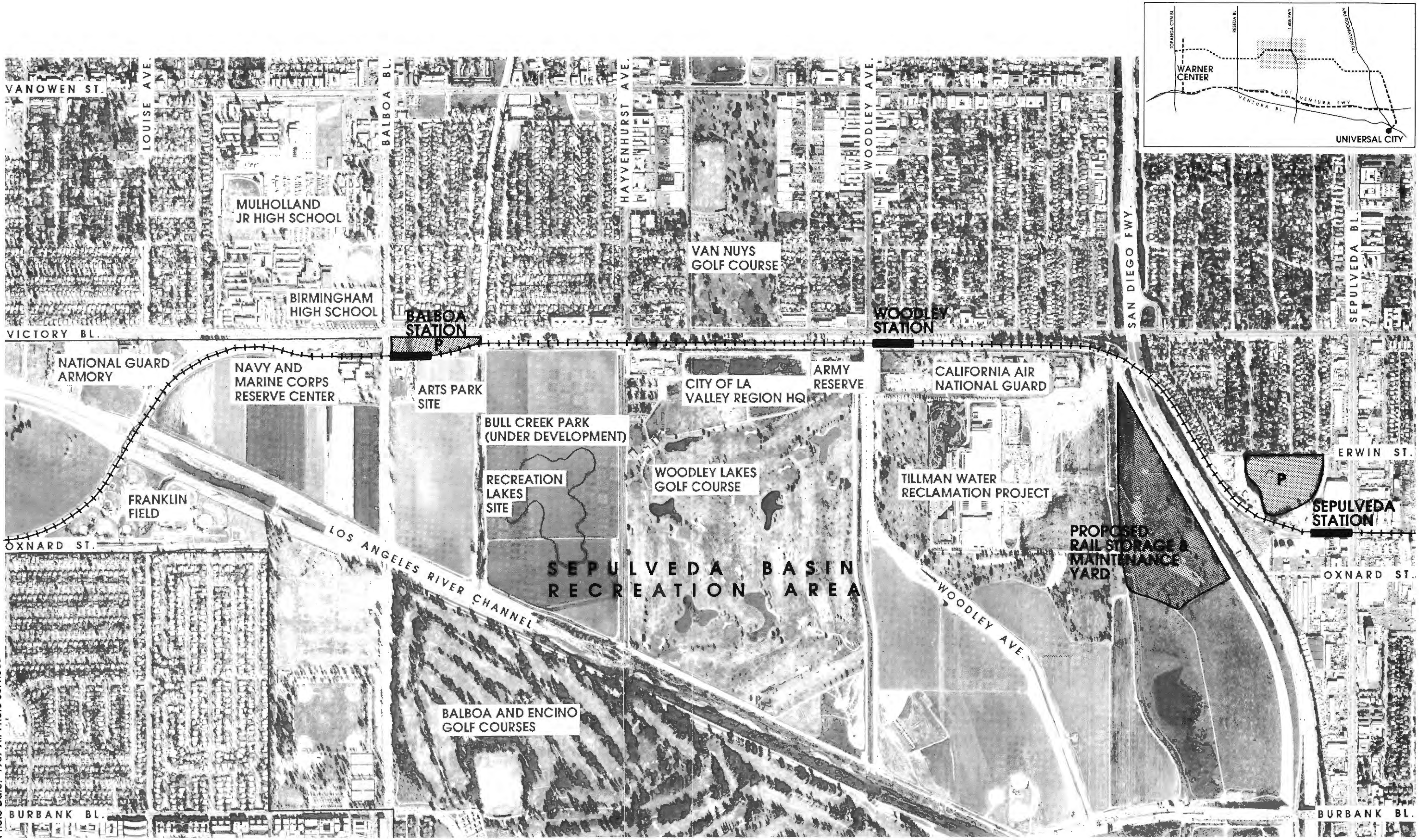


Photo Date: 1987 Air Photo Services

North ↑ Scale: 1" = 1000'

San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-14

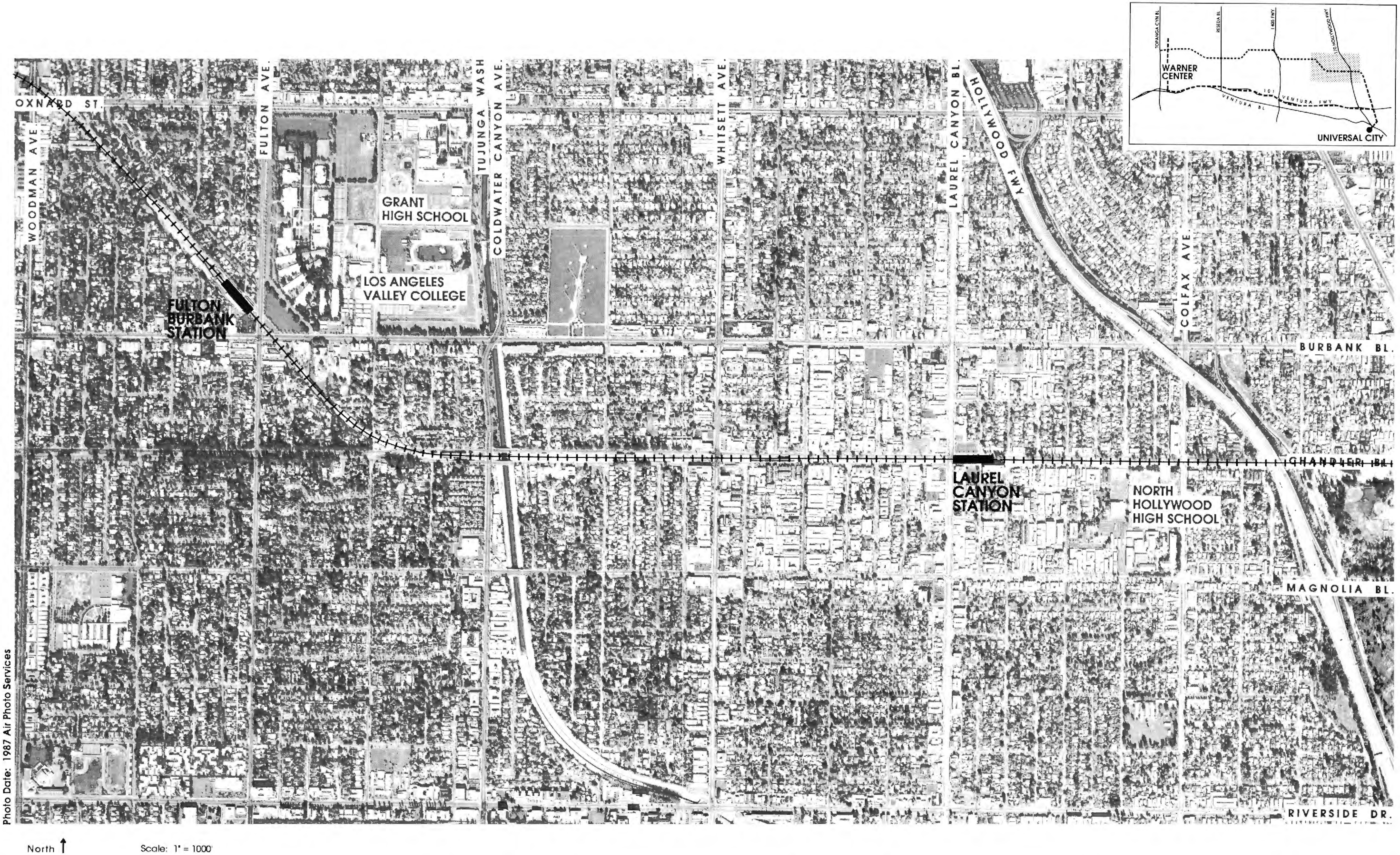
Burbank Branch Route Alternatives
Sepulveda Basin Area

San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-18

Burbank Branch Route Alternatives
Van Nuys/North Sherman Oaks Area

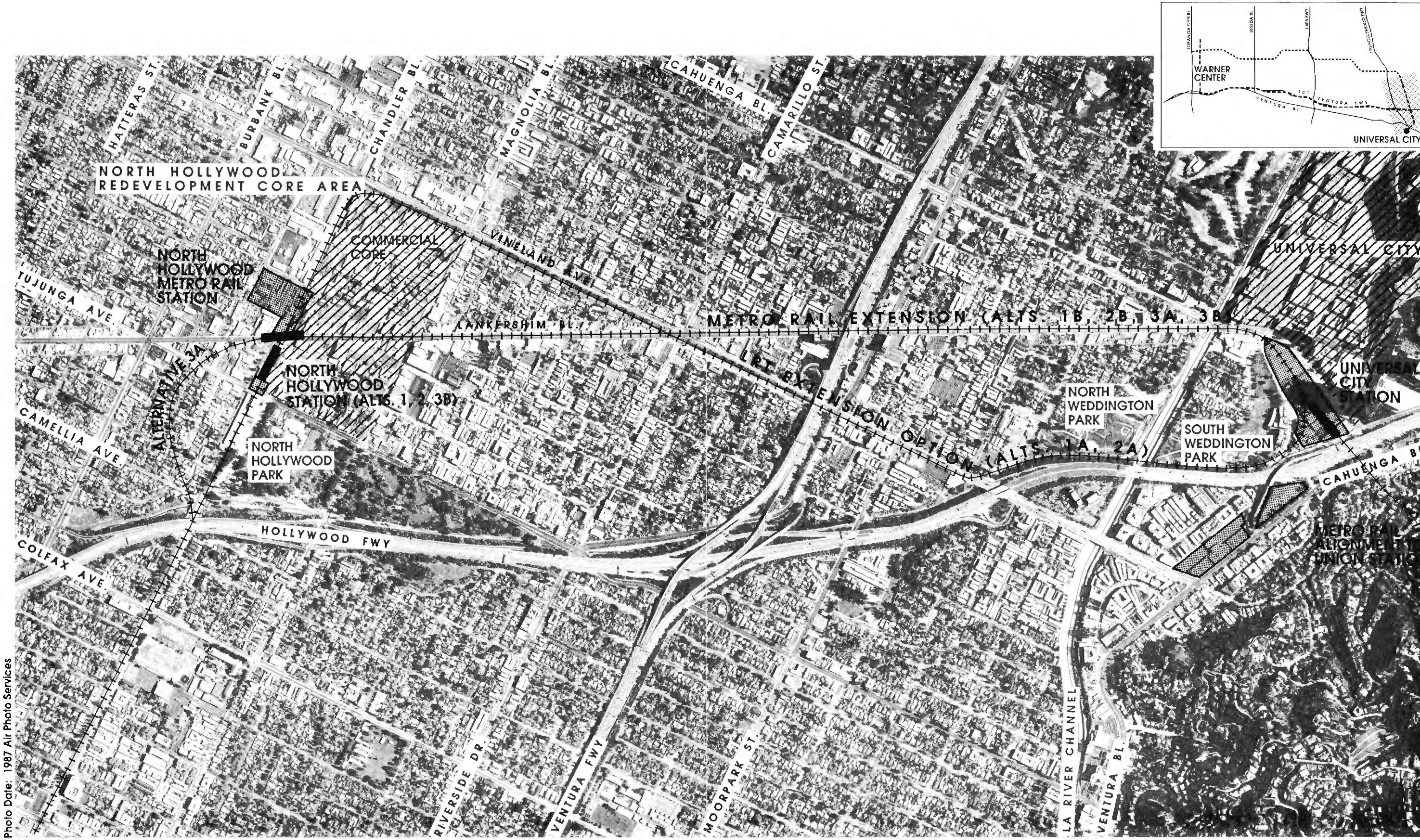


San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-22

Burbank Branch Route Alternatives
North Hollywood Area



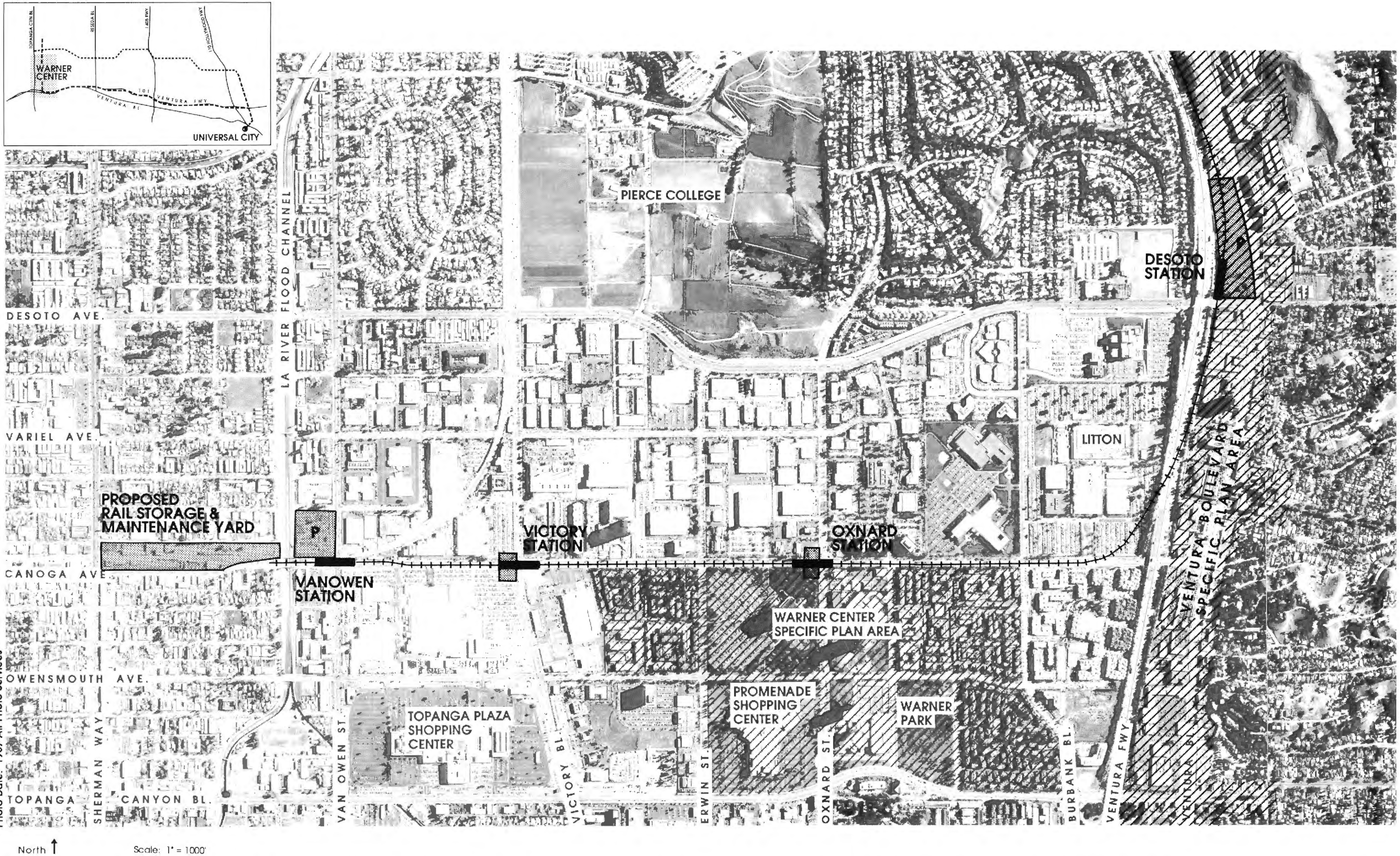
North ↑ Scale: 1" = 1000'

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-27

Burbank Branch Route Alternatives
Lankershim/Vineland Options

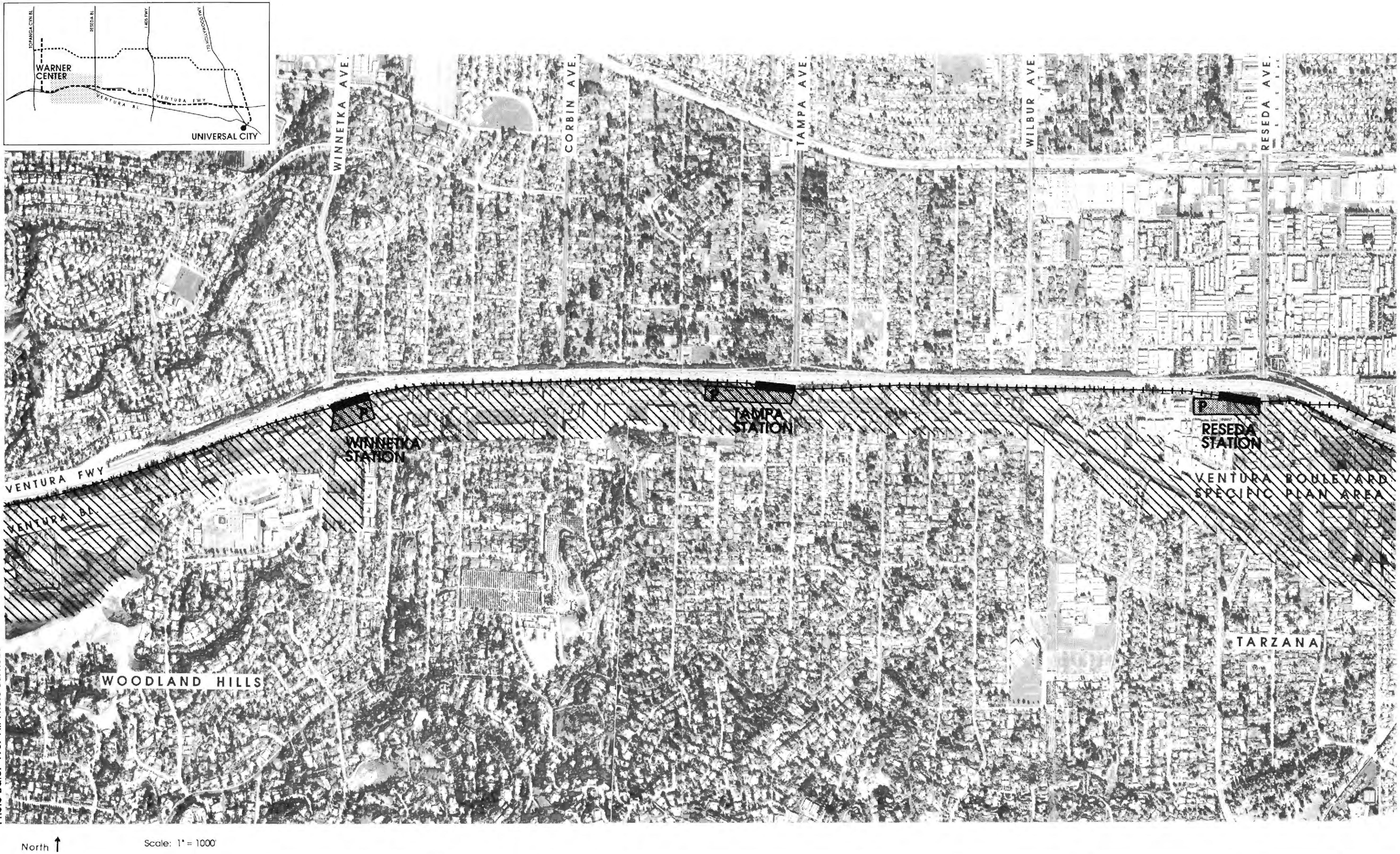


San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-33

Ventura Freeway Route Alternative
Warner Center/Woodland Hills Area



San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-38

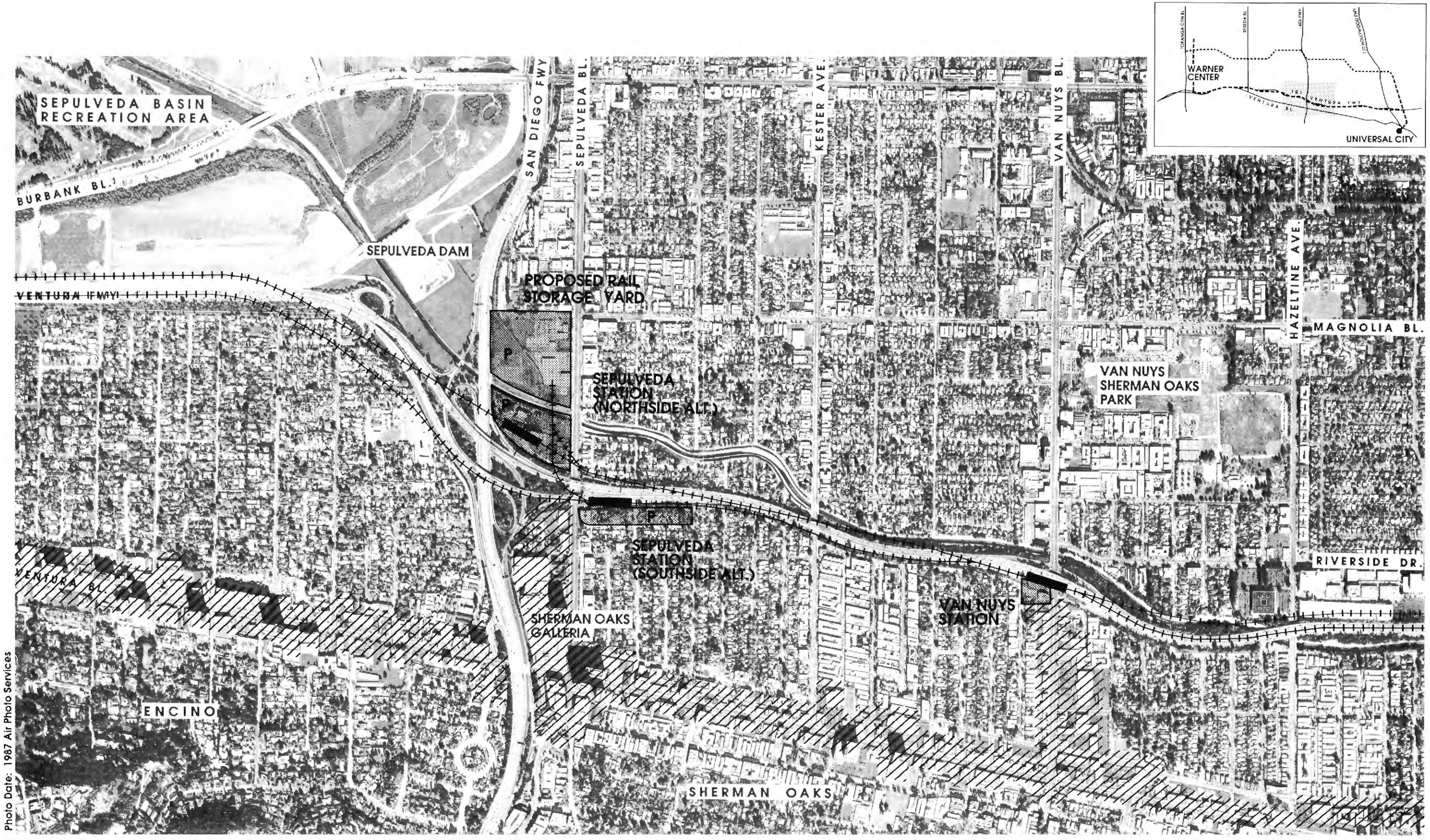
Ventura Freeway Route Alternatives
Woodland Hills/Tarzana Area

San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-44

Ventura Freeway Route Alternative
Tarzana/Encino Area



North ↑ Scale: 1" = 1000'

San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-49

Ventura Freeway Route Alternative
Encino/Sherman Oaks Area

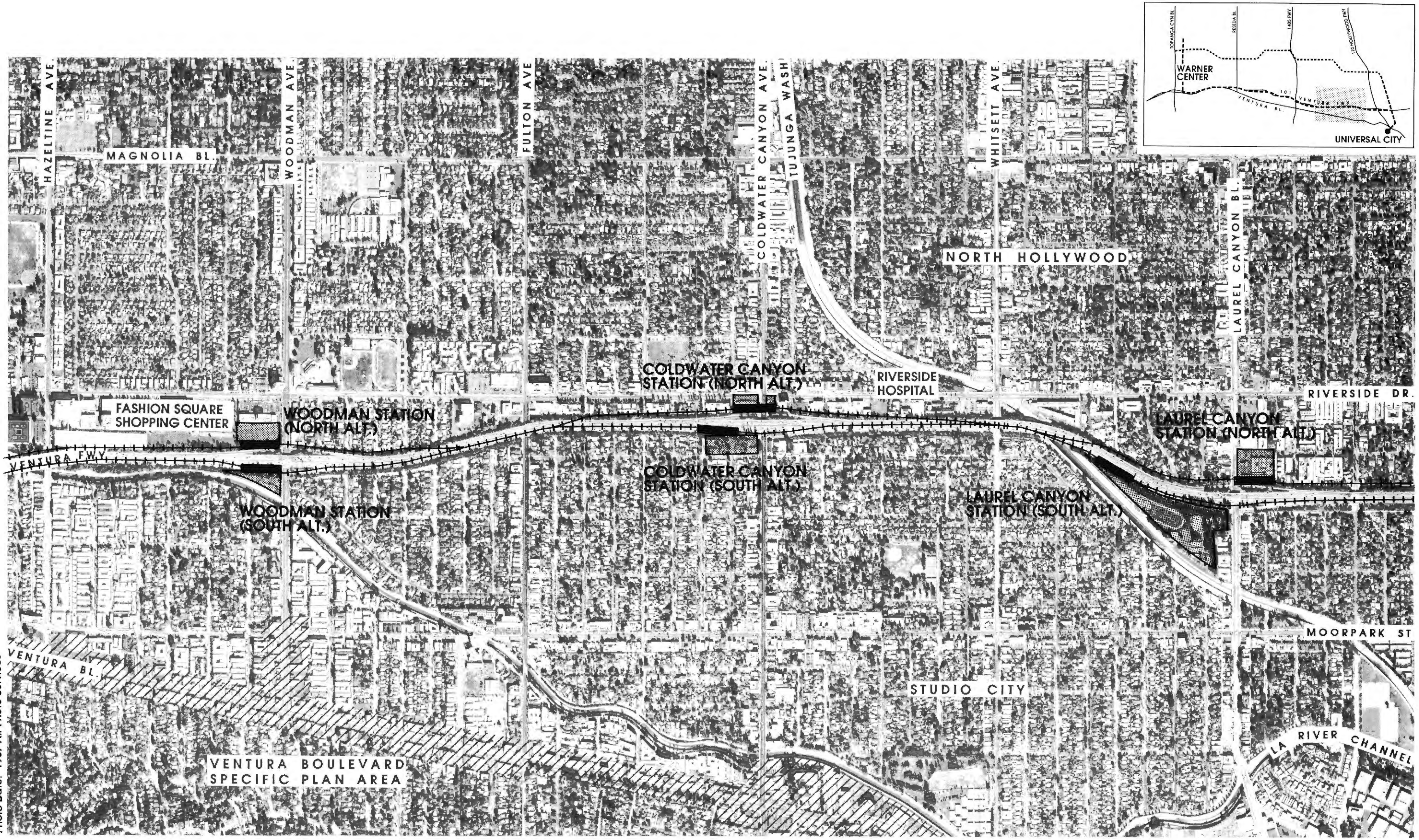


Photo Date: 1987 Air Photo Services

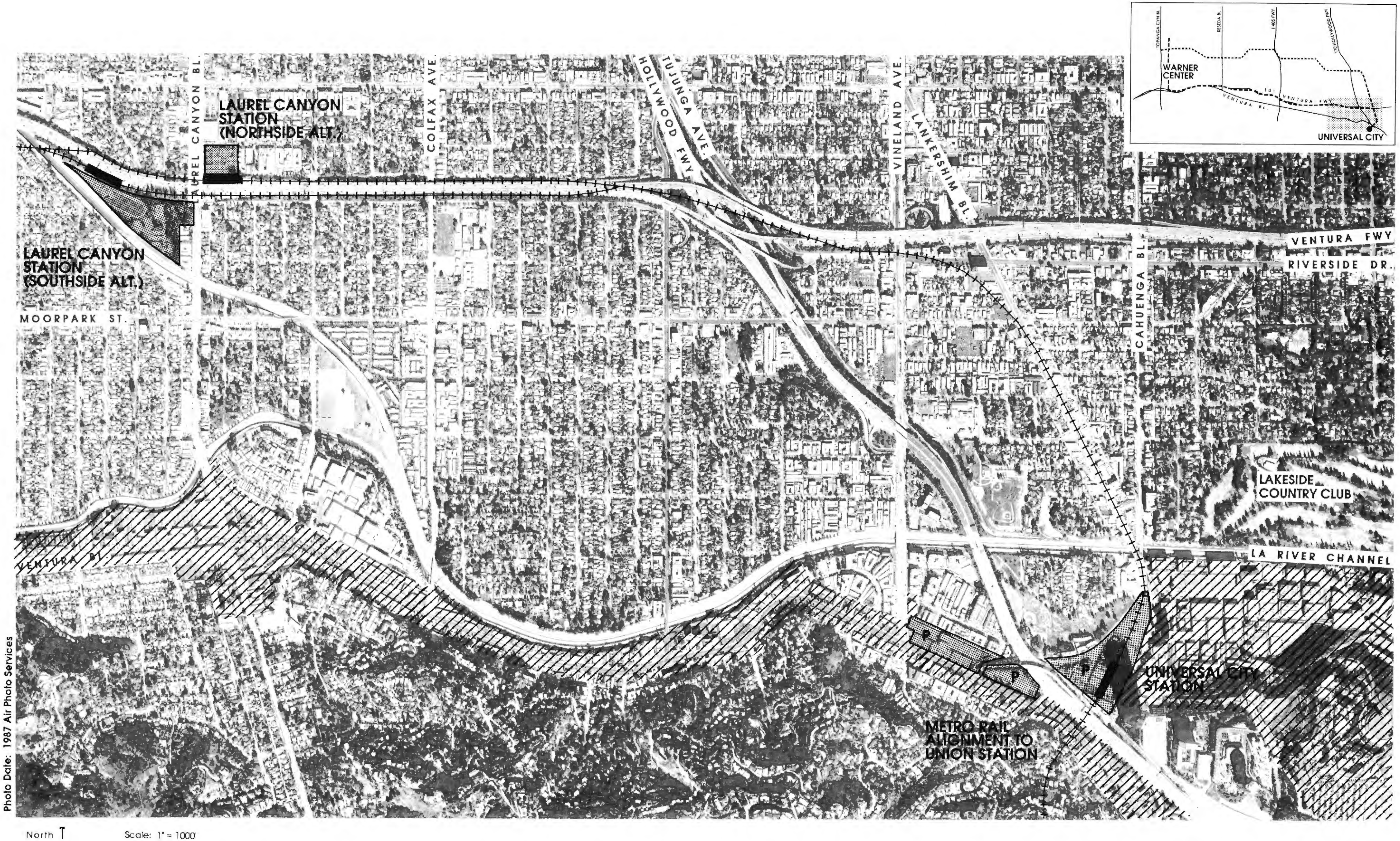
North ↑ Scale: 1" = 1000'

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-57

Ventura Freeway Route Alternatives
Studio City/North Hollywood Area



San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 4-59

Ventura Freeway Route Alternatives
North Hollywood/Universal City Area

Chapter 5

ENVIRONMENTAL IMPACTS

CHAPTER 5.0
ENVIRONMENTAL IMPACTS

The categories of environmental impacts to be studied in this Draft EIR are set by the California Environmental Quality Act (CEQA), Public Resources Code section 21000 et seq., and the State CEQA Guidelines as promulgated by the State of California Secretary of Resources. Under the CEQA Guidelines, there are 20 categories of potential environmental impact and a related list of Mandatory Findings of Significance. Projects are screened against these impact categories in an Initial Environmental Study, and those categories found to be potentially significant are carried forward for analysis in the Draft and Final Environmental Impact Reports.

The San Fernando Valley Rail Transit Project Initial Environmental Study was released in April 1989. That report is reproduced in the Appendix of this document, along with letters of response received from public officials, agencies and the general public. Figure 5-1 identifies the environmental categories against which the project was screened and the results of that evaluation. In total, ten categories were found in which there would be an impact on the environment, eight categories were found in which there might be an impact and two categories were found in which no impact would occur.

This chapter presents an analysis of each of the impact categories found to either have, or potentially have, an impact. Each impact section consists of an impact-specific setting, an identification and description of the environmental impacts, and proposed mitigation measures to address the impacts.

Figure 5.1-1
Initial Environmental Checklist

	Impact Category (Section of EIR)	Potential for Impact: Yes	Maybe	No
1.	Earth (5.7)	X		
2.	Air (5.6)		X	
3.	Water (5.7)		X	
4.	Plant Life (5.8)		X	
5.	Animal Life (5.8)		X	
6.	Noise (5.3)	X		
7.	Light and Glare (Visual - 5.4)	X		
8.	Land Use (5.1)	X		
9.	Natural Resources			X
10.	Risk of Upset (5.7)		X	
11.	Population (5.11)		X	
12.	Housing (5.11)		X	
13.	Transportation (5.2)	X		
14.	Public Services (5.9)	X		
15.	Energy (5.12)	X		
16.	Utilities (Construction - 5.5)	X		
17.	Human Health			X
18.	Aesthetics (Visual - 5.4)	X		
19.	Recreation (5.8)	X		
20.	Cultural Resources (5.10)		X	
21.	Mandatory Findings of Significance (5.13)		X	

5.1 LAND USE

The construction of the rail transit facility in either the SP Burbank Branch or Ventura Freeway corridors will create certain land use impacts: 1) incompatibilities with adopted local area plans and policies, 2) displacement of existing uses, and 3) effects on property values. These impacts vary considerably between the two route alternatives. This section provides a description of existing land uses along both route alternatives and then discusses impacts in each of the areas listed above. Mitigation measures are then proposed to alleviate anticipated negative impacts.

5.1.1 Existing Land Uses

Burbank Branch Route Alternative: Land uses of the Burbank Branch route alternative can be characterized as follows (see previous section, Figure 4.2 through 4-27):

- Topanga Canyon Boulevard to Winnetka: this portion of the route consists principally of commercial land uses commencing with Topanga Plaza and proceeding to strip retail types of facilities as one proceeds east along Victory Boulevard. Multi-family residential land uses lie to the north of the route at the northwest corner of the transit ROW and DeSoto Avenue. From DeSoto to Winnetka single family residential lies to the north and Pierce College lies to the south.

- Vanowen Street/Canoga Avenue Intersection to Victory Boulevard: this route segment serves as a connecting branch line to the layover yard at Vanowen/ Canoga. Land uses in this segment are a mix of commercial and industrial.

- Winnetka Avenue to White Oak Avenue: this portion of the route is principally single family residential to both the north and south. In most locations the transit ROW is paralleled on either one or both sides by streets (Topham or Oxnard Street).

- White Oak Avenue to San Diego Freeway: in this area the route passes through the Sepulveda Basin for much of its length. Victory Boulevard parallels the route to the north from Balboa Avenue to the freeway. Land uses are either recreational/open space (within the Basin), or a mix of retail/single family/multi-family to the north of Victory Boulevard.

- San Diego Freeway to Hazeltine Avenue: this portion of the route lies to the rear of commercial and industrial properties.

- Hazentine Avenue to the junction with Chandler Boulevard: this route segment passes almost in its entirety along the backyards of single family residences.

- Chandler Boulevard Junction to the Hollywood Freeway: the transit route in this area is down the median of Chandler Boulevard. A mix of single and multi-family residences lie to the north and south. Commercial uses are located at the major intersection of Chandler and Laurel Canyon Boulevards.

- Hollywood Freeway to Lankershim: this portion of the route continues down the median of Chandler with primarily commercial uses to either side and then proceeds down either Lankershim (commercial uses) or Vineland (mix of commercial and residential).

Ventura Freeway Route Alternative: Land uses of the Ventura Freeway route alternative can be characterized as follows (see previous section, Figure 4.28 through 4-59):

- Vanowen Street/Canoga Avenue to Ventura Freeway: this portion of the route, which begins at the layover yard at Vanowen and Canoga, follows Canoga Avenue and is characterized principally by a mix of office and retail land uses.

- Ventura Freeway to Burbank Boulevard crossing: this section of the route is paralleled by either Ventura or Burbank Boulevard. Land uses along the segment consist principally of commercial uses.

- Burbank Boulevard crossing to Balboa Boulevard: this route segment passes through an area characterized by a mix of commercial and multi-family residential land uses with the commercial predominating.

- Balboa Boulevard to Sepulveda Boulevard: this portion of the route travels primarily through single family residential areas and open space (Sepulveda Basin east of Hayvenhurst), then to a mix of commercial and multi-family with multi-family predominating.

- Sepulveda Boulevard to the Hollywood Freeway: this portion of the route travels primarily through single family neighborhoods with a mix of multi-family and commercial land uses occurring in some locations. Commercial land uses predominate at major street crossings.

- Hollywood Freeway to Universal City: the transit route in this area follows the east side of the Hollywood Freeway. Land uses are either the freeway itself, vacant land adjacent to the freeway, and a neighborhood park near Bluffside Drive.

5.1.2 Compatibility with Local Area Plans

As noted previously in this report, with the exception of the Universal City area (an unincorporated Los Angeles County "island"), the rail transit alternatives under consideration pass through areas within the City of Los Angeles. As shown in Figure 5.1-2, the City portions, for purposes of planning, are divided into 14 community or district planning areas. Of these, one or both of the rail transit routes traverse the following six planning areas:

- Canoga Park-Winnetka-Woodland Hills
- Encino-Tarzana
- North Hollywood
- Reseda-West Van Nuys
- Sherman Oaks-Toluca Lake-Studio City
- Van Nuys-North Sherman Oaks

The community areas each have an established land use plan and accompanying policies and implementation programs. Where development pressures and community concerns have mounted, the City has also undertaken other land use control options. Specific Plans (which contain more design and development controls) have been adopted for the Warner Center in Canoga Park, and Ventura Boulevard in Encino. In addition, the City currently is considering the Ventura Boulevard Cahuenga Specific Plan which will address development along Ventura and Cahuenga Boulevards from Warner Center to Universal City. As short-term land use control measures, City of Los Angeles has also adopted Interim Control Ordinances (ICO's) for a number of communities throughout the Valley. In general, these ICO's address design, site planning, density, and parking. The ICO's function as moratoria and/or place specific conditions under which development projects can proceed.

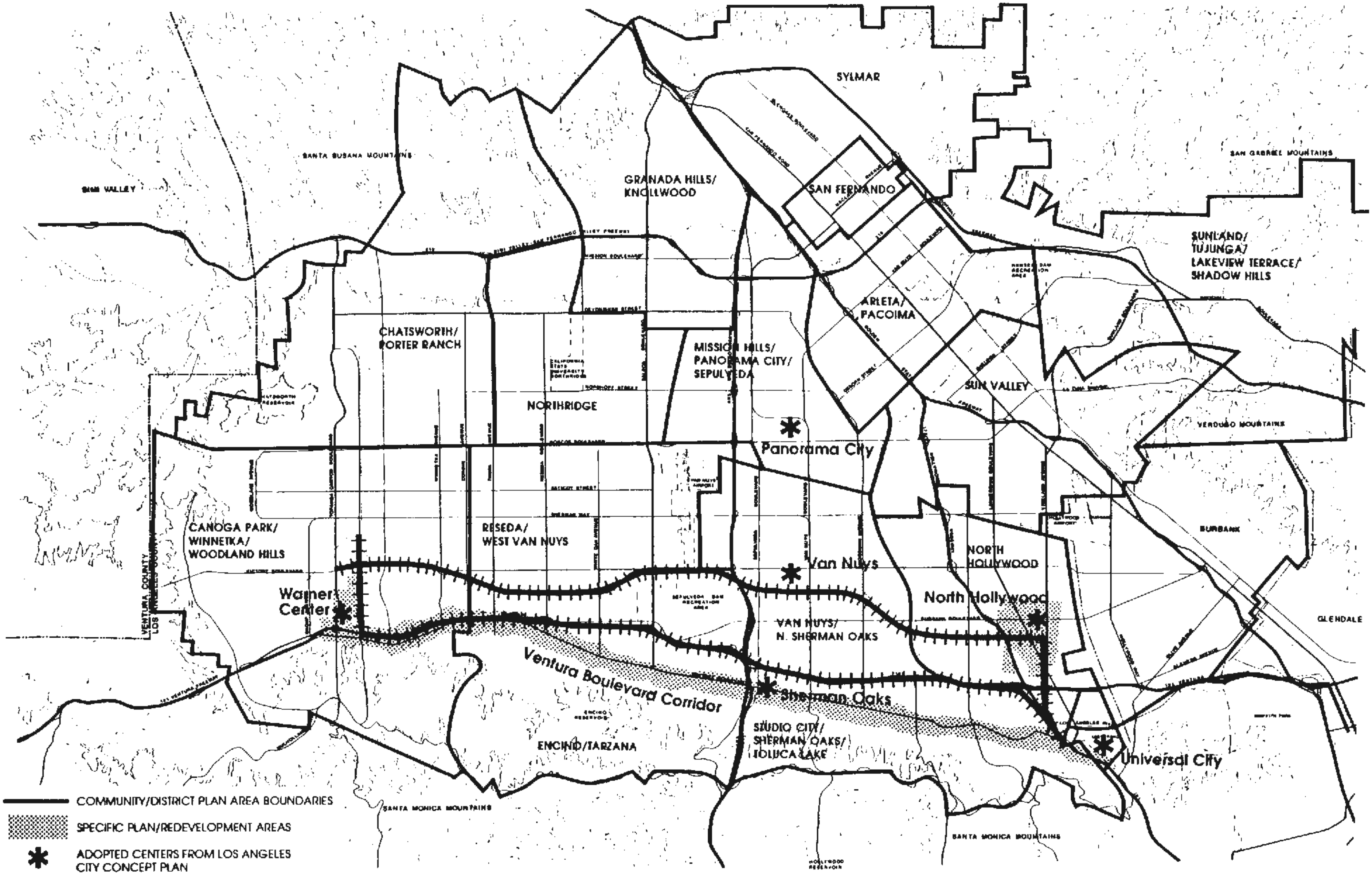
Other public agencies also have adopted plans within various portions of the Valley. With respect to the southern half of the Valley, the Community Redevelopment Agency of the City of Los Angeles (CRA) has established and adopted the North Hollywood Redevelopment Project. The plan focuses on business and residential revitalization within a 740-acre area centered on the intersection of Lankershim Boulevard and Magnolia Boulevard. In response to the development of Metro Rail, the CRA has also adopted a North Hollywood Station Master Plan which addresses land uses and development potentials in the area surrounding the proposed rail transit station. Further to the west, the U.S. Army Corps of Engineers has adopted a Sepulveda Basin Master Plan, which addresses portions of the Sepulveda Basin under their jurisdiction. Key features of the Basin Master Plan include a lake (currently under construction) and the development of an "arts park" near the Balboa and Victory intersection (southeast quadrant).

<u>Impacts on Local Plans</u>: In assessing the impact of the proposed rail alternatives on local plans, it should be recognized that these plans were developed in the late 1970's and early 1980's at a time when the extension of Metro Rail to the San Fernando Valley was public planning concern. However, other valley-specific rapid transit options and/or routes came under public discussion, particularly potential actions to be taken by the Los Angeles County Transportation Commission. Thus, when a specific rail transit alternative is ultimately adopted, then local plans are likely to be reconsidered. The Community Plan Revision Program being initiated by the City of Los Angeles, Department of City Planning anticipates the district plans would be revised every 5 years to address new circumstances. The discussion below compares current plans with the two route options.

<u>SP Burbank Branch Impacts on Local Plans</u>: The Burbank Branch Route alternatives would pass through the following five community plan areas.

- Canoga Park-Winnetka-Woodland Hills
- Encino Tarzana
- Reseda-West Van Nuys
- Van Nuys-North Sherman Oaks
- North Hollywood

In addition, the Route would pass through the Warner Center Specific Plan, Sepulveda Basin Master Plan, North Hollywood Redevelopment Plan and the North Hollywood Metro Rail Station Master Plan areas. It should also be noted that the route would pass through the southern part of the area recently considered by the Los Angeles Design Action Planning Team (LADAPT) in the Van Nuys Civic Center area ("Vision Van Nuys" report).



San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.1-2

Route Alternatives in Relation to Community Planning Area

- Canoga Park-Winnetka-Woodland Hills District Plan and Warner Center Specific Plan

  Transit Policy: No specific rapid transit policy objectives are identified in the plan. The district plan and the Warner Center Specific Plan do, however, identify the location of Owensmouth and Oxnard Street in Warner Center as a rapid transit station. The proposed station near Topanga Canyon Boulevard and Victory Boulevard would be located several blocks north of the transit station shown in the District Plan. This inconsistency with the proposed Burbank Branch Route station location is significant because the District Plan ties greater land use development intensity to an area 1,300 feet from the Owensmouth/Oxnard location.

  Railroad Right-of-Way: The portion of the Southern Pacific Railroad right-of-way within the Plan area is designated in the plan as privately owned open space. No recreational uses are proposed for the right-of-way. The western portion of the proposed route that does not use the railroad right-of-way would pass through land designated for industrial and regional commercial use. For this portion of the route there would be no inconsistencies with the district plan.

- Encino Tarzana District Plan

  Rapid Transit Policy: The district plan states that the community will continue to be served by a system of buses. However, "when the citywide rapid transit system is constructed, buses shall provide secondary or feeder service to transit stations located in or near the District..." The plan does not identify potential rail transit locations. In this context, the Burbank Branch Alternative would not be inconsistent or in conflict with objectives of the District Plan.

  Railroad Right-of-Way: The plan designates the portion of the railroad right-of-way within the district as open space. The district plan explicitly states that the railroad right-of-way constituting the northern boundary of the District should be improved with trees, shrubs and appropriate ground covers. In addition, the plan states that "a program should be undertaken in collaboration with the owner(s) of the railroad to consider use of the rights-of-way for hiking, bicycle and equestrian trails." In this regard, the construction of rail transit in the railroad right-of-way would not pre-empt any of the objectives stated in the plan. In fact, the proposed rail transit improvement would include landscaping improvements.

- Sepulveda Basin Master Plan: As noted above, the U.S. Army Corps of Engineers has jurisdiction over the Los Angeles River and floodplain area in the Sepulveda Basin. The Corps has recently adopted a Master Plan for the area to create a lake in the northern part of the basin near the Victory Boulevard and Balboa intersection. In addition, an "arts park" is also proposed to adjoin the lake in this location. The lake portion of the master plan is currently under construction. The Burbank route options would not be in conflict with or pre-empt this planning and development. Moreover, the proposed location of a transit station at Balboa and Victory would be supportive of the Corps Master Plan since access to this recreational amenity would be enhanced.

- Reseda-West Van Nuys District Plan

  Rapid Transit Policy: The district plan explicitly identifies the Southern Pacific Railroad right-of-way as a "rapid transit study route." Moreover, the plan states that planning and development of the public transportation system for the District by the

Southern California Rapid Transit District, Los Angeles County Transportation Commission and other concerned agencies should be initiated and/or continued. The proposed Burbank Branch Route would be entirely consistent with these objectives.

Railroad Right-of-Way: The railroad right-way along the southern boundary of the district has a variety of land use designations. From Corbin to a point just east of Tampa the right-of-way is shown as a continuation of a low density residential use. From this point to Reseda Boulevard, there is no land use designation for the right-of-way. At Reseda the northeast quadrant of the right-of-way near the intersection is designated for industrial use. East of this point to White Oak the right-way is shown as low density residential. Through the Sepulveda Basin to a point just west of Balboa, the right-of-way is shown as open space. At Balboa, the right-of-way is shown as industrial. From the point where Bull Creek crosses the railroad, there is no land use designation for the right-of-way. While segments of the right-of-way offer varying degrees of compatibility with rail transit, the right-of-way in general is shown in the district plan as a rapid transit study route.

- <u>Van Nuys-North Sherman Oaks District Plan</u>
  Rapid Transit Policy: Similar to the Reseda District Plan, the Van Nuys District Plan includes the Southern Pacific Railroad right-of-way within a "transit study corridor." The plan specifically indicates that a transit corridor connecting Van Nuys to Central Los Angeles should be initiated, including a potential location of a transit station adjacent to the Van Nuys Business District (location of the station is not specifically identified on the plan map). Based on these objectives, the Burbank Branch route options would be consistent with the community plan.

  Railroad Right-of-Way: The plan proposes that the railroad rights-of-way in the community be landscaped as buffering from adjacent non-residential uses. As noted above, landscaping would be included as part of the proposed Burbank Branch options, consistent with the Van Nuys plan's objectives.

- <u>Vision Van Nuys Report, Los Angeles Design Action Planning Team</u>: This 4-day project funded by the National Endowment for the Arts and staffed by professional planners and architects on a volunteer basis identified the location of a light rail transit station at Van Nuys Boulevard and the railroad right-of-way as a distinct opportunity to be considered further. The proposed location of a station at Van Nuys as part of the Burbank Branch alternatives is entirely consistent with this objective.

- <u>North Hollywood District Plan</u>
  Rapid Transit Policy: The plan generically states that "rapid transit serve the North Hollywood Center." No additional details regarding rapid transit are provided. In this regard the proposed terminal station location near Chandler boulevard and Lankershim would be consistent with this objective.

  Railroad Right-of-Way: For the railroad segment from Tujunga Wash to the Hollywood Freeway, the North Hollywood Plan Map designates the right-of-way for open space use including bicycle and equestrian trails. None of the Burbank Branch vertical profile options would preclude the use of the remaining portions of the right-of-way for these types of recreational activities.

- North Hollywood Redevelopment Plan/Station Area Master Plan: The Los Angeles Community Redevelopment Agency in coordination with the Los Angeles City Planning Department has developed detailed guidelines for this area that anticipate a future Metro Rail Station located at Chandler Boulevard/Lankershim Boulevard. All of the SP Burbank Branch alternatives would provide for a station at this location. The Ventura Freeway Alternatives would not serve this center with a rail transit station, and would therefore not be supportive of the major redevelopment component of these plans.

Ventura Freeway Route Impacts on Local Plans: The Ventura Freeway Route alternatives would pass through the following five community plan areas:

- Canoga Park-Winnetka-Woodland Hills
- Encino Tarzana
- Van Nuys-North Sherman Oaks
- Sherman Oaks-Studio City-Toluca Lake
- North Hollywood

The affected district plans generally identify the freeway right-of-way as a open space or quasi-public use. No joint use of the right-of-way is proposed for recreational activities such as bicycling, hiking or equestrian. Typically, other proposed land uses are extended to the freeway right-of-way limits. Designated freeway-adjacent land uses for each planning district are as follows:

- Canoga Park-Winnetka-Woodland Hills: In this area, both Alternatives #4 and #5 are located on the south side of the Ventura Freeway. While the freeway right-of-way is shown as open space, the south side of the freeway is designated entirely commercial use and as a result aerial alignments would be compatible with planned land uses.

  It should also be noted that the proposed stations within the Canoga Park/Warner Center area would be located along Canoga Avenue, and similar to the Burbank route alternatives, a transit station would not be located at the Oxnard-Owensmouth intersection as envisioned in the Canoga Park District and Warner Center Specific Plans.

- Encino-Tarzana: Land uses north of the freeway are typically designated single family residential in the segment from Corbin to Reseda. On the south side of the freeway in this same segment most land uses are designated commercial. Thus, aerial alignments on the south side of the freeway would be more consistent with these proposed non-residential land uses. In the segment between Reseda and Balboa, proposed land uses on either side of the freeway are generally residential. Aerial alignments in this segment would not be consistent the community land uses. East of Balboa to the San Diego Freeway, generally open space land uses are on the north side of the freeway. In comparison, residential uses adjoin the south side of the freeway, thus, suggesting that any aerial alignment on the north side would be in less conflict of planned land uses.

- Sherman Oaks-Studio City-Toluca Lake District Plan: The Ventura Freeway generally forms the northern boundary of the Sherman Oaks community. With the exception of commercial uses designated adjacent to major north-south arterials, the majority of the designated land uses at the freeway's southern edge are residential and as a result, aerial alignments along this perimeter would not be consistent.

- North Hollywood District Plan: In North Hollywood the majority of the land uses on the southern edge of the freeway are designated for single family and multi-family residential use. Aerial configurations of the proposed alternatives would not be consistent with these residential use designations.

- North Hollywood Redevelopment Plan/Station Area Master Plan: The Los Angeles Community Redevelopment Agency in coordination with the Los Angeles City Planning Department have developed detailed guidelines for this area that anticipate a future Metro Rail station located at Chandler Boulevard and Lankershim Boulevard. The Ventura Freeway Route Alternatives would not serve this center with a rail transit station, and would therefore not be supportive of a major redevelopment component of these plans.

- Ventura Boulevard/Cahuenga Corridor Specific Plan: The essential purpose of the Ventura Boulevard/Cahuenga Corridor Specific Plan currently under consideration by the Department of City Planning is to bring land use development and transportation infrastructure capacity into balance for the corridor area stretching from near Warner Center to Universal City. Towards this end, the plan seeks to constrain the number of additional trips created by land uses within the corridor. For the Ventura Freeway alignment options, several proposed station areas would be located within the specific plan corridor limits. These station areas would include Topanga Canyon, Winnetka, Tampa, Reseda, Sepulveda and Van Nuys. Each of the these station areas would generate trips during the p.m. peak hour that is the critical concern of the specific plan. As presently drafted, the specific plan does not address land uses within the corridor devoted solely to transit use.

Mitigation Measures: The following measures would be appropriate, once a selected alternative has been identified:

- The Community Plan Revision Program currently being initiated by the Department of City Planning should specifically incorporate rail transit alternatives in terms of 1) designation within the circulation element, 2) identifying compatible adjacent land uses, and 3) target policy objectives.

- Where appropriate, due to development opportunities or anticipated growth pressures, the Department of City Planning should prepare a specific plan for all station areas along the designated rail transit route. Such a specific plan should address allowable densities, parking and design. Should the Ventura Freeway corridor routes be selected, then Caltrans should be included as a participant in the specific plan process.

- To enhance the open space character of the railroad right-of-way alluded to in a number of the City of Los Angeles District Plans, landscaping of the unused portion of the right-of-way should be considered for the Burbank Branch route options. Where feasible, more active recreational uses (bicycling, hiking, equestrian) of the unused portion of the right-of-way should also be considered.

- Should the Ventura Freeway route be selected, stations located on within the Ventura/Cahuenga Specific Plan Corridor will need to mitigate traffic-related intersection and trip generation impacts in conformance with the provisions of the specific plan. Coordination will likely be required between the Department of City Planning, Department of Transportation and the LACTC regarding specific requirements for land uses that function solely for transit purposes.

Unavoidable Adverse Impacts: The Ventura Freeway Route Alternatives #4 and #5 would not provide service to the approved Metro Rail North Hollywood Station at Chandler Boulevard and Lankershim Boulevard. Metro Rail service to North Hollywood is an adopted component of the North Hollywood Redevelopment Area Plan and the Metro Rail North Hollywood Station Area Master Plan. Not providing service to this area is a significant adverse impact on adopted redevelopment plans for North Hollywood.

5.1.3 Land Acquisition and Displacements

The removal of existing land uses would be required for construction of any of the alternatives under study in this EIR. Wherever possible, alignments have been laid out to take advantage of publically-owned corridors such as the Caltrans right-of-way along the Ventura and Hollywood Freeways, utility corridors, or the Southern Pacific Railroad rights-of-way. In areas where no such public or quasi-public right-of-way is available, private property takings will be required. LACTC would either acquire such land or obtain easements from the owners as outlined in the California Public Utilities Code Section 30600. The exercise of the right of eminent domain would also need to comply with the requirements of the California Eminent Domain Law (Code of Civil Procedure Section 1230.010 et seq.). This section provides an inventory of the homes, businesses and public uses that would need to be displaced in order to construct each of the Route Alternatives.

<u>Methodology</u>-In order to estimate displacement, project preliminary engineering plan drawings were overlaid on City Tax Assessor Parcel Maps. Affected parcels were listed and field checked as of September 1989, to verify improvements and recent construction. Building square footage estimates were developed from City of Los Angeles and Damar Corporation Real Estate Information Systems Databases in coordination with the LACTC Real Estate Section. Persons and jobs displaced were computed using a factor of three residents per single-family home, two residents per multi-family home, one employee per 500 square feet for retail uses and one employee per 200 square feet for office, restaurant and public buildings. Industrial buildings were estimated after removing portions of buildings used for warehousing and other non-active use areas.

<u>SP Burbank Branch Route Displacement Impacts</u>: Approximately 13.5 miles of the 13.9 miles between Warner Center and North Hollywood are located within the Southern Pacific Railroad (SPRR) Right-of-Way. Because of this, the majority of displacements for this route alternative are industrial leaseholds within the railroad property. LACTC would acquire the entire railroad right-of-way if this route alternative were selected.

Figure 5.1-3, SP Burbank Branch Summary of Displacements, provides a listing of number of acres and building types that would be required to construct either Alternative #1 and #2 or Alternative #3. In total, the following would be required to construct the Burbank Branch Alternatives between Warner Center and North Hollywood:

<u>Alternatives #1 and #2</u>:

- 84 separate parcels (23 are in SP ownership)
- 203 acres (167 acres are in SP ownership)
- No homes or apartments
- 113 businesses (43 are SP leaseholds)
- 381,000 square feet of office and industrial buildings (255,000 square feet are in SP leaseholds)
- 285 parking spaces
- Approximately 802 jobs (344 are in SP leaseholds)

AFFECTED AREAS BY CANDIDATE ALIGNMENT	LAND TAKING			IMPROVEMENT TAKING											
				RESIDENTIAL			PUBLIC	COMMERCIAL/INDUSTRIAL							
									NUMBER OF ESTABLISHMENTS						
	# OF PARCELS	PARCEL SIZE ACRES (SF)	TAKING ACRES (SF)	SINGLE FAMILY UNITS	MULTI-FAMILY UNITS	NUMBER OF RESIDENTS	SCHOOLS PARKS ETC.	PARKING SPACES	RETAIL	RESTARNT.	OFFICE	INDUST.	TOTAL	BUILDING S.F.	ESTIMATED EMPLOY-MENT
• CANOGA RAILYARD *Yardlead*	9 4	11 18.4	11 4.5									9 2	9 2	27,000 3,800	45 10
• TOPANGA CYN STATION[6] *Topanga Cyn to Winnetka* [5]	1 6	62.3 59.7	1.8 9.6					200 85	15	1	41		57	78,000	367
• WINNETKA STATION *Winnetka to Tampa*	3 1	9.2 9.4	9.2 9.4				1[1]		1				1	4,200	6
• TAMPA STATION *Tampa to Reseda*	1 1	0.5 9.2	0.5 9.2												
• RESEDA STATION *Reseda to White Oak*	7 5	6.7 13.0	6.7 13.0									7 4	7 4	58,400 40,000	40 30
• WHITE OAK STATION *White Oak to Balboa*	1 2	0.5 15.6	0.5 15.6				Park[3]								
• BALBOA STATION *Balboa to Woodley*	2 1	2.6 10.3	2.6 10.3				Park[2]								
• WOODLEY STATION *Woodley to Sepulveda*	1 1	0.5 12.4	0.5 12.4												
• SEPULVEDA STATION *Sepulveda to Van Nuys*	2 1	13.0 11.9	13.0 11.9						1				1		15
• VAN NUYS STATION *Van Nuys to Fulton/Burbank*	10 2	9.2 16.0	9.2 16.0									9 1	9 1	59,900 15,000	40 5
• FULTON/BURBANK STATION *Fulton/Burbank to Laurel Cyn*	3 2	3.9 15.9	3.9 15.9									2 1	2 1	18,800 4,000	30 10
• LAUREL CYN STATION *Laurel Cyn to North Hollywood*	1 1(4)	0.4 6.7	0.4 6.7												
• N. HOLLYWOOD STATION	16	9.0	9.0						8	1	2	1	19	71,900	204
• **TOTAL** - *to North Hollywood* [6]	**84**	**327.3**	**202.8**	**0**	**0**	**0**	**1 Park**	**285**	**25**	**2**	**43**	**43**	**113**	**381,000**	**802**
Vineland Extension	**10**	**4.9**	**4.0**	**0**	**0**	**0**	**Park[2]**	**0**	**0**	**0**	**2**	**1**	**3**	**77,000**	**40**
Lankershim Extension	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
• **TOTAL** - *to Universal City with Vineland Extension* [6]	**94**	**332.2**	**206.8**	**0**	**0**	**0**	**2 Parks**	**285**	**25**	**2**	**45**	**44**	**116**	**458,000**	**842**

(1) Pierce College Child Development Center, Baseball Fields

(2) Sepulveda Basin Recreation Area (2.7 Acres in addition to SP ROW)

(3) South Weddington Park (1.3 Acres)

(4) Subterranean Easements for 21 homes and 5 businesses would be required for Alternative #3a, Metro Rail Extension

(5) Alternative #3 is in subway in this area and would have no displacements. Displacements in this area apply to Alternatives #1 and #2 only.

(6) Displacement totals are for Alternatives #1 and #2. Alternative #3 displacements are somewhat less and can be computed by subtracting areas denoted in footnote (5). See text for alternative #3 totals.

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.1-3

SP Burbank Branch Route Alternatives
Summary of Displacements

Alternative #3:

- 77 separate parcels (23 are in SP ownership)
- 192 acres (167 acres are in SP ownership)
- No homes or apartments
- 56 businesses (43 are SP leaseholds)
- 303,000 square feet of office and industrial buildings (255,000 square feet are in SP leaseholds)
- No parking spaces
- Approximately 435 jobs (344 are in SP leaseholds)

Because the Lankershim Boulevard connection between North Hollywood and Universal City is in subway beneath that street, no displacements would be required. The Vineland Extension between North Hollywood and Universal City, because it is at-grade, would displace 3 businesses, a portion of South Weddington Park and 4.0 acres of land.

A summary of properties displaced by the SP Burbank Branch Alternatives includes the following:

Canoga Railyard: SPRR industrial leaseholds - Portland Cement Company (Concrete Batch Plant), Hull Brothers Building Materials, Canoga Park Redwood, Canoga Builders Supply, Sommers Towing and Vista Sun Auto Body.

Canoga Rail Yardlead: Two SPRR industrial leaseholds - Miller Equipment Rentals and Jacobi Building Supply as well as an aerial easement through the parking lot of Rockwell International.

Topanga Canyon Station: A portion of the Topanga Plaza Shopping Center Parking Lot along Victory Boulevard, including the taking of approximately 2 acres and approximately 200 parking spaces.

Topanga Canyon to Winnetka: Five private parcels along Victory Boulevard including portions of two Rockwell International parking lots comprising approximately 85 parking spaces, the Warner Executive Office Building, Warner Square Retail and Office Complex, a retail complex at 21045 Victory Boulevard and approximately 4.8 acres of SPRR right-of-way.

Winnetka Station: Pierce College Child Development Center and Pierce College Little League Ball Fields would be displaced for station parking and would therefore need to be relocated.

Winnetka to Reseda: Approximately 19 acres of SPRR right-of-way.

Reseda Station: Seven SPRR industrial leaseholds - Tarzana Lumber Company, Terry Companies Administrative Center, Reseda Feed & Saddlery, Lefevre Company Offices, Pride of LA Carpet & Upholstery Cleaners and Tarzana Garden Equipment.

Reseda to White Oak: Four SPRR industrial leaseholds including Terry Lumber Company, Valley Cable TV, Cedar Shingle & Shake and Tarzana Car Wash, plus 8.8 acres of SPRR right-of-way.

White Oak Station to Sepulveda Station: Approximately 39 acres of SPRR right-of-way and 2.7 acres of vacant land within the Sepulveda Basin Recreation Area (If the Burbank Branch Phased Length Option were selected, another 28 acres of the Sepulveda Basin Recreation Area located between the San Diego Freeway and the Tillman Water Treatment Plant would be required for a railyard site).

Sepulveda Station: Drive-In Theater plus 0.5 acres of SPRR right-of-way.

Sepulveda to Van Nuys: Approximately 12 acres of SPRR right-of-way.

Van Nuys Station: Nine SPRR industrial leaseholds including Y&C Towing, Marlo Furniture Warehouse, Aetna Lumber Company, Christophers Restaurant Equipment, Active Recycling Center, Heetland Roofing Company, Century Cable TV, Shell Oil Company storage tanks, Johns Manville Building Supply Center, and McKay Lumber Company.

Van Nuys to Fulton/Burbank: Approximately 16 acres of SPRR right-of-way and a Lumber City warehouse (SPRR leasehold).

Fulton/Burbank Station: Two SPRR leaseholds including Lumber City and George's Restaurant.

Fulton/Burbank to Laurel Canyon: Approximately 15.7 acres of SPRR right-of-way and one private parcel, Alcala's Auto Repair at 13244 Burbank Boulevard.

Laurel Canyon Station to North Hollywood: Approximately 7 acres of SPRR right-of-way in the median of Chandler Boulevard. Should Alternative #3a, the Metro Rail Extension Alignment, be selected, subterranean easements beneath 21 homes and 5 businesses would be required in order to make the transition from the North Hollywood Metro Rail Station and a subway alignment along Chandler Boulevard (see Section 4.0).

North Hollywood Station: Eleven SPRR leaseholds - Hendricks Building Supply, Buds Red Hots, Aztec Rent-a-Car, Terry Builders Supply and five retail uses at 11130 Chandler. Also taken would be eight other properties, including Pep Boys, Chandler Cleaners, an SCRTD yard, three parking lots and five small industrial structures.

Vineland Extension: Should the Vineland Extension Route Alternative be selected, takings would be required at 11047 Chandler (ACI Glass), 5321 and 5265 Vineland as well as 0.3 acres that are currently landscaped along the edge of the Magnolia Towers property. In addition, 1.7 acres of SPRR right-of-way and approximately 1.3 acres of South Weddington Park would be required to construct this alternative.

Ventura Freeway Route Impacts: Approximately 13.4 miles of the 16.5 miles between Warner Center and Universal City are located alongside the Ventura Freeway. Alternative #4 runs continuously along the south side of the freeway on aerial guideway, while Alternative #5 is identical to Alternative #4 in the segment of the route west of Reseda Station but runs as a subway on the north side of the freeway east of Reseda Station.

The design rationale for each of the Ventura Freeway Alternatives was to remain within the Ventura Freeway right-of-way as much as possible in order to minimize private property displacements. Where this was impossible due limited right-of-way, freeway ramps or other obstacles, the rail transit line was located outside of the freeway right-of-way. In locations where this resulted in high displacement of homes and businesses, the line was relocated or reconfigured wherever it was possible to do so, in order to minimize displacement. In all cases the greatest effort was made to minimize residential displacements or intrusion of above ground segments into existing residential areas.

Figure 5.1-4, Ventura Freeway Summary of Displacements, provides a listing of number of acres and building types that would be required to construct either Alternative #4 or #5. In total, the following would be required to construct either of the Ventura Freeway Alternatives between Warner Center and Universal City:

Alternative #4
- 178 separate parcels
- 174 acres of land
- 70 single-family homes and 429 multi-family homes, displacing approximately 1,078 residents
- 98 businesses
- 403,800 square feet of commercial and industrial buildings
- 680 parking spaces
- Approximately 1,123 jobs

Alternative #5
- 143 separate parcels
- 178 acres of land
- 2 single-family homes and 212 multi-family homes, displacing approximately 430 residents
- 133 businesses
- 546,100 square feet of commercial and industrial buildings
- 690 parking spaces
- Approximately 1,489 jobs

A summary of properties displaced by the Ventura Freeway Route Alternatives includes the following:

Western Segment (Common to both Alternatives #4 and #5)

Canoga Railyard: Nine SPRR industrial leaseholds - California Portland Cement Company (Concrete Batch Plant), Hull Brothers Building Materials, Canoga Park Redwood, Canoga Builders Supply, Somers Towing and Vista Sun Auto Body.

Vanowen Station: Two SPRR industrial leaseholds - Miller Equipment Rentals and Jacobi Building Supply. Also, one Public Storage Warehouse currently under construction (not included in displacement tabulations).

Canoga Avenue Segment: Between Vanowen Station and the Ventura Freeway, the alignment runs on aerial guideway in the median of Canoga Avenue. No displacements would be required except for transition segments at the north and south ends of Canoga Avenue and station drop off zones along the sidewalk at the planned Victory and Oxnard Stations. These displacements include: an aerial easement of approximately 0.5 acres through the Rockwell International parking lot along Canoga Avenue south of Vanowen, taking of two segments of Rockwell International parking lots on the northeast and northwest corners of Victory and Canoga displacing approximately 170 parking spaces, Exxon Gas Station at Canoga and Oxnard, approximately 0.5 acres from the Blue Cross/Blue Shield property at Canoga and Oxnard, and the taking of approximately 4.3 acres from Litton Corporation at Canoga Avenue at the Ventura Freeway. This taking from Litton Corporation would be necessary to provide a subway portal under the Ventura Freeway and would displace approximately 500 employee parking spaces from that facility. Approximately half of these employee parking spaces could be returned on completion of construction.

DeSoto Station: Shopping Center at 20833-20855 Ventura Boulevard, Target Department Store, Office Complex at 20631-20635 Ventura Boulevard, and a vacant parcel of approximately 1.3 acres (site of former restaurant).

DeSoto to Winnetka: Office Complex at 20121 Ventura Boulevard, Gas Station at Ventura/Winnetka, and two vacant parcels comprising approximately 1.5 acres.

Winnetka Station: Paris Audio Retail Shopping Complex, Woodland Hills Nissan, and one commercial lot currently under construction as a shopping complex (not counted in displacement tabulations).

Winnetka to Tampa: Seven private parcels - four vacant lots, an auto service garage at 19951 Ventura Blvd, a kennel at 19967 Ventura Blvd, and one store/residence at 19963 Ventura Blvd.

AFFECTED AREAS BY CANDIDATE ALIGNMENT	LAND TAKING			IMPROVEMENT TAKING											
				RESIDENTIAL			PUBLIC	COMMERCIAL/INDUSTRIAL							
									NUMBER OF ESTABLISHMENTS						
	# OF PARCELS	PARCEL SIZE ACRES (SF)	TAKING[1] ACRES (SF)	SINGLE FAMILY UNITS	MULTI-FAMILY UNITS	NUMBER OF RESIDENTS	SCHOOLS PARKS ETC.	PARKING SPACES	RETAIL	RESTARNT.	OFFICE	INDUST.	TOTAL[1]	BUILDING S.F.	ESTIMATED EMPLOY-MENT
WESTERN SEGMENT (ALT. 4 & 5)															
• CANOGA RAILYARD *Canoga to Vanowen*	9	11.0	11.0									9	9	27,000	45
• VANOWEN STATION *Vanowen to Victory*	3 2	5.5 0.9	5.5 0.9					10				3	3	3,800	10
• VICTORY STATION *Victory to Oxnard*	2	1.0	1.0					170							
• OXNARD STATION *Oxnard to DeSoto*	2 1	1.4 60.9	1.4 4.3					500				1	1	4,200	8
• DESOTO STATION *DeSoto to Winnetka*	4 4	12.7 3.5	12.7 1.8						14		11		25	199,000	463
• WINNETKA STATION *Winnetka to Tampa*	3 7	2.4 1.6	2.4 0.9	1		3			2 2		1 --		3 2	27,100 5,000	96 9
SUBTOTAL	**37**	**100.9**	**41.9**	**1**		**3**		**680**	**18**		**12**	**13**	**43**	**266,100**	**631**
SOUTHSIDE OPTION (ALT. 4)															
• TAMPA STATION *Tampa to Reseda*	9 4	2.6 3.3	2.6 0.5	1		3			27	2	13		42	76,700	230
• RESEDA STATION *Reseda to White Oak*	6 1	2.7 0.6	2.7 0.3		70	150			5			1	6	16,200	37
• WHITE OAK STATION *White Oak to Hayvenhurst*	5 2	3.8 17.5	3.8 1.1	1	226	452 3	Park[2]								
• HAVENHURST STATION *Havenhurst to Sepulveda*	1 24	5.7 13.3	5.7 7.4	21		63	Park[2] School[3]								
• SEPULVEDA STATION *Sepulveda to Van Nuys*	25 10	3.8 2.4	3.8 2.4	23 9	12 17	93 61									
• VAN NUYS *Van Nuys to Woodman*	7 4	1.2 1.4	1.2 1.4	1	10 37	23 74			1		1 3	1	2 4	18,000 16,500	88 67
• WOODMAN *Woodman to Coldwater Cyn*	1 6	1.4 1.1	1.4 1.1	6		18						1	1	10,300	20
• COLDWATER CANYON *Coldwater Canyon to Laurel Cyn*	8 7	1.7 1.7	1.7 1.2	6	12 45	42 90									
• LAUREL CANYON *Laurel Canyon to Universal City*	1 20[5]	8.7 0.4	8.7 0.4	1		3	School[4]								50
SUBTOTAL SOUTHSIDE	**141**	**73.25**	**47.4**	**69**	**429**	**1,075**	**1 Park 2 Schools**	**0**	**33**	**2**	**17**	**3**	**55**	**137,700**	**492**
NORTHSIDE OPTION (ALT. 5)															
• TAMPA STATION *Tampa to Reseda*	9 9[5]	2.6 1.1	26 0.2					10	27	2	13		42	76,700	230
• RESEDA STATION *Reseda to White Oak*	6 5[5]	2.7	2.7		70	140			5				5	16,200	37
• WHITE OAK STATION *White Oak to Hayvenhurst*	6 5[5]	2.1 3.0	2.1 3.0		52	104	Park[6]		5				5	71,400	54
• HAVENHURST STATION *Havenhurst to Sepulveda*	1 1	15 4.5	15 4.5				Park[6] Park[6]								
• SEPULVEDA STATION *Sepulveda to Van Nuys*	5 3[5]	9.8	9.8				Park[6]				20	1	21	72,200	360
• VAN NUYS *Van Nuys to Woodman*	7 4	1.2 0.4	1.2 0.4	1	10	23					1 1	1	2 1	18,000 7,200	88 36
• WOODMAN *Woodman to Coldwater Cyn*	1 12[8]	31.4 0.2	2.9 0.2		4	8			1 0		1		2	2,000	8
• COLDWATER CANYON *Coldwater Canyon to Laurel Cyn*	4 1[5]	1.3	1.3						10			1	11	15,100	37
• LAUREL CANYON *Laurel Canyon to Universal City*	5 22[5]	2.1	2.1		76	152						1	1	1,200	8
SUBTOTAL NORTHSIDE	**106**	**77.4**	**48.0**	**1**	**212**	**427**	**1 Park**	**10**	**48**	**2**	**36**	**5**	**91**	**280,000**	**858**
TOTAL ALTERNATIVE #4 (Western Segment + Southside Option)	**178**	**174.2**	**89.3**	**70**	**429**	**1,078**	**1 Park 2 Schools**	**680**	**51**	**2**	**29**	**16**	**98**	**403,800**	**1,123**
TOTAL ALTERNATIVE #5 (Western Segment + Northside Option)	**143**	**178.3**	**89.9**	**2**	**212**	**430**	**1 Park**	**690**	**66**	**2**	**48**	**18**	**134**	**546,100**	**1,489**

(1) Includes leaseholds and property in Southern Pacific right-of-way.

(2) Sepulveda Basin Recreation - Alternative #4 taking of presently vacant land (6.1 acres).

(3) Partial take of Hesby Street School playground (0.3 acres) for construction. To be returned to school on completion of subway construction.

(4) Full taking of Campbell Hall School (8.7 acres).

(5) Includes parcels requiring subterranean easements.

(6) Sepulveda Basin Recreation Area - Alternative #5 taking of presently vacant land (28.2 acres).

South Side Option (Alternative #4 only):

Tampa Station: Nine parcels - Pool Supplies at 19433 Ventura Blvd., a retail/office building at 19419-19425 Ventura Blvd., Mark C. Bloome Tires at 19401 Ventura, a retail building at 19347-19355 Ventura Blvd., Monteleone's Restaurant, a Motel, Mini-Mall, and two office buildings including the Leon Building at 19301-19303 Ventura Blvd.

Tampa to Reseda Station: One single-family home at 5620 Yolanda, apartment buildings at 18545,18555 and 18569 Burbank Boulevard, a gas station and a retail store at 18525 Burbank Blvd.

Reseda to White Oak Station: An office building at 18455 Burbank Boulevard, four apartment buildings at 5505 Zelzah, 5464 Yarmouth, 5455, 5465 White Oak. Also taken would be 16 condominiums along Killion Street between Zelzah and Yarmouth.

White Oak to Hayvenhurst Station: One single-family home on Forbes Avenue at the Ventura Freeway, and approximately 6 acres of the Sepulveda Basin Recreation Area including an existing Park and Ride Lot on Hayvenhurst at the Ventura Freeway.

Hayvenhurst to Sepulveda: 21 single-family homes including 15702-15746 Magnolia, 15701-15711 Hartsook, 15528-15551 Otsego, and 15503-15521 Hesby. Also, displaced during the construction period would be approximately 0.7 acres of the playground of the vacant Hesby Street School. This playground area would be disrupted for construction of subway but could be returned to School District use after completion of construction activities.

Sepulveda Station: 23 single family homes located between 15103-15137 and 15202-15239 LaMaida, and 12 condominiums located at 15245 LaMaida.

Sepulveda to Van Nuys: 1 apartment building at 4750 Natick Avenue, and 9 single-family homes located at 4844 Noble, 4839-4846 Norwich, 4845 Lemona, 4755 Cedros, 4738 Tobias, 4728-4739 Vesper, and 4723 Vista del Monte.

Van Nuys Station: 2 apartment buildings at 4646 and 4708 Vista del Monte, single-family home at 4714 Vista del Monte, office building at 4717 Van Nuys, Mobil Gas Station and three vacant lots.

Van Nuys to Woodman: 2 apartment buildings at 4638 Tilden and 4625 Sylmar, 2 office buildings at 4710 Van Nuys and 14101 Valleyheart Drive.

Woodman Station: Car Wash and Auto Body Shop

Woodman to Coldwater Canyon: 6 single-family homes at 4716 Mary Ellen, 4718-4719 Ethel, 4718-4719 Wortser, and 4719 Morse.

Coldwater Canyon Station: 6 single-family homes at 4704,4712 Morse, 4704-4713 Van Noord and 1 apartment building at 4703 Coldwater Canyon Blvd.

Coldwater Canyon to Laurel Canyon: 4 apartment buildings at 4704 Coldwater and 12835-12847 Kling Street.

Laurel Canyon Station: Campbell Hall School.

Laurel Canyon to Universal City: 1 single-family home at 4558 Laurel Canyon, and subterranean easements beneath 20 parcels in the area bounded by Riverside Drive, Lankershim Boulevard, Moorpark Street and Vineland Avenue.

North Side Option (Alternative #5 only):

Tampa Station: Nine parcels including Pool Supplies at 19433 Ventura Blvd., a retail/office building at 19419-19425 Ventura Blvd., Mark C. Bloome Tires at 19401 Ventura Blvd., a retail building at 19347-19355 Ventura Blvd., Monteleone's Restaurant, a motel, mini-mall, and two office buildings including the Leon Building at 19301-19303 Ventura Boulevard.

Tampa to Reseda: 7 subterranean easements for portions of properties along Burbank Boulevard.

Reseda Station: 3 apartment buildings at 18545,18555 and 18569 Burbank Boulevard, gas station, retail store at 18525 Burbank Blvd.

Reseda to White Oak: 5 subterranean easements for residential parcels along Burbank Boulevard.

White Oak Station: 1 apartment building at 5550 Yarmouth, 3 retail complexes at 17720,17640 Burbank Boulevard and at 5528 White Oak. Also, Shell and Mobil Gas Stations.

White Oak to Hayvenhurst Station: 4 subterranean easements beneath residential properties east of White Oak, approximately 18 acres of vacant land within the Sepulveda Basin Recreation Area for station parking and guideway easements.

Hayvenhurst to Sepulveda: Approximately 4.5 acres of Sepulveda Basin Recreation Area land along the earthen Sepulveda Dam.

Sepulveda Station: 3 office complexes including 15355,15335 Morrison (Morrison Plaza),4925 Sepulveda (Outrigger Lodging Services). Also, a Pacific Bell switching facility at 4951 Sepulveda, and approximately 5.7 acres of the spillway area of the Sepulveda Dam (Should the Ventura Freeway Phased Length Option be selected, additional displacements would be necessary for a Phased Length Option Railyard including: Fire Station #88, the US Army Reserve Training Center and the Malibu Castle Amusement Park).

Sepulveda to Van Nuys Station: 2 apartment buildings at 4646 and 4708 Vista del Monte, single-family home at 4714 Vista del Monte, office building at 4717 Van Nuys, Mobil Gas Station and 3 vacant lots.

Van Nuys to Woodman: Office building at 4710 Van Nuys, and 3 subterranean easements beneath residential and commercial properties.

Woodman Station: Approximately 2.9 acres of the Fashion Square Shopping Center undeveloped area. A parking garage for 400 cars would be constructed on this site which could have potential shared use with the shopping center.

Woodman to Coldwater Canyon: 1 apartment building at 12944 Riverside Drive.

Coldwater Canyon Station: 3 retail buildings at 12912,12908 Riverside Drive, and 4745 Coldwater Canyon Blvd. Also a Chevron Gas Station.

Coldwater Canyon to Laurel Canyon Station: 4 apartment buildings at 4632,4636 Laurel Canyon and 12034, 12044 Kling Street. 1 subterranean easement.

Laurel Canyon to Universal City: 3 subterranean easements beneath homes on the north side of the Ventura Freeway at Radford, Morella and Colfax. 19 Subterranean easements beneath properties bounded by Riverside Drive, Lankershim Boulevard, Moorpark and Vineland Avenues.

Mitigation for Displacement Impacts: In the acquisition of real property by a public agency, California state law requires those agencies to 1.) ensure consistent and fair treatment for owners of real property, 2.) encourage and expedite acquisition by agreement in order to avoid litigation and relieve congestion in the courts, and 3.) promote confidence in public land acquisition. No person can be required to move from his or her home unless affordable, decent, safe, and sanitary replacement housing is available and not generally less desirable with regard to public utilities, public & commercial facilities and other uses, than the home from which they are being displaced.

Unavoidable Adverse Impacts: Although homeowners would receive fair-market compensation plus relocation assistance for their propoerties and renters would receive relocation assistance, the substantial number of properties displaced would constitute a significant adverse impact on the residents and the neighborhoods in which this displacement occurs.

The removal of parking spaces is also considered a significant, unavoidable adverse impact which cannot be successfully mitigated. LACTC would work with affected property owners once a route has been selected, to develop plans for either compensating or relocating such lost parking capacity.

5.1.4 Property Values

Residential property values in Southern California are influenced by a large number of variables which are difficult to quantify. Recent unforseen growth in property values is indicative of this fact. The identification of impacts to residential property values due solely to the San Fernando Valley Rail Project is equally if not more difficult to quantify.

Quantification of adverse impacts to residential property values due to construction of the proposed project cannot be determined in advance. An impact research analysis was therefore undertaken to identify potential residential property value impacts of the proposed project based on comparable transit projects . This section presents the results of this research. Commercial property value impacts were not assessed as research has almost universally shown that rail transit has a positive influence on commercial property values.

Comparative Residential Property Value Impact Assessment: The research effort undertaken to identify potential residential property value impacts evaluated data, when available, for several transit systems which have been constructed in the US and Canada. A listing of research publications which were reviewed and persons contacted is included in Appendix A of this report. A number of general statements can be made based on this research:

- Recent transit experience provides no evidence that any rapid transit improvements have led to net new urban economic or population growth.
- Evidence suggests that heavy rail and commuter rail lines, when coupled with explicit land use policy directives, have led to a significant intensification of land use. Evidence on light rail systems and busways is inconclusive.
- Development around transit stations is heavily dependent upon local land use policies.

Figure 5.1-5 presents a summary of residential property value impacts as derived from selected transit projects in the United States and Canada. Impacts to residential property values vary from one project to the next and are heavily dependent on the type of rail technology in use, the location of the property in question (i.e., on the rail line, near a station), local land use policies and regulations, and the demographic characteristics of the areas in which the rail line is located. Based on our research, no clear trends emerge from any of the studies conducted to date.

Figure 5.1-5
Residential Property Value Impacts Selected Rail Transit Facilities

Facility	Type	Residential Property Value Impacts
Calgary, Canada	LRT	5% of all households in study area were surveyed, 54% felt LRT had no impact on property values, 21% said there was an increase, 1% said there was a decrease, remainder had no opinion.
San Diego East Line Trolley	LRT	Preliminary survey constructed prior to opening of the line. Residential values increased in some areas near stations from 3.5-16%, areas on the track but not near a station decreased in value an average of 12.1%, areas on the track and near a station decreased by 1.8%.
San Francisco BART	Heavy Rail	Six stations were studied before and after BART. Impacts ranged from: 1) no appreciable effect, 2) appreciation greater than surrounding area, 3) small positive effect for areas close to station, 4) negative effects due perhaps to spillover parking.
Miami Metrorail	Heavy Rail	Analysis conducted for selected station areas. Residential property values increased but the increase was less than for commercial areas.
Chicago Skokie "Swift" Shuttle	LRT	Study carried out during two-year demonstration period found no significant acceleration of property values due to project.

Source: Gruen Associates, see bibliography to this report for references.

Property Value Impact Discussion: In discussing potential adverse residential property value impacts of the project a number of important points must be put forth; these being:

- The precise nature of the impacts of the project on residential property values is unknown at this time.

- Impacts may be attributable to other non-project influences including but not limited to the regional and/or local economy and market demand.

- Impacts will vary through time. That is, prior to construction the project may be viewed as having a negative impact, whereas after construction the project may be viewed as having a positive impact.

Complicating any property value impact analysis is the fact that the project also possesses the potential to create positive impacts. Various studies have been completed which indicate that the savings in a household's journey-to-work costs due to a transit line are capitalized as added value to residential property. The extent of this value added is variable. Nonetheless, based on these studies it is reasonable to assume that improved transit access provided by construction of the San Fernando Valley Rail Project may create a positive impact on residential property values.

Recognition of this positive impact is implicit in the concept of benefit assessment districts which are being applied on many transit systems nationwide. The concept is proposed to be instituted as a part of Metro Rail and has recently been recognized by the State Legislature with Senate Bill 1238, which authorizes SCRTD to initiate proposals for benefit assessment districts.

In regard to negative impacts, a number of factors have been identified during the research effort which may have negative influences on property values; these being:

- All alternatives may add to traffic congestion in and around station areas with associated noise, vibration and air quality impacts. This negative impact, however, is likely to be partially off-set by increased transit access for residential properties located near stations.

- All alternatives may create spillover parking into adjacent residential areas. This impact has been addressed via mitigation measures in Section 5.2 of this report.

- At station areas, the project may create growth pressures for higher density development with resulting disruption to the social environment of residential areas. It must be noted, however, that this impact potential is controlled by the discretionary action of the City of Los Angeles via its land use policies and regulations.

- The Ventura Freeway aerial alternatives may create adverse privacy and visual impacts which, per Section 5.4, Visual Impacts, constitute significant adverse impacts which cannot be mitigated.

- Alternative #1-Burbank LRT at-grade, may create adverse noise, light and glare impacts at street crossings. Various mitigation measures have been put forth to address this impact category (see Section 5.3 and 5.4, and it is therefore not anticipated that this impact will create adverse property value impacts.

- Temporary impacts may occur during construction of the project due to construction related activity. These are discussed in Section 5.5 of this report.

Negative property value impacts will not apply equally to all alternatives. Impacts of alternatives in subway configurations will be confined to station areas. Impacts of the Burbank at-grade LRT and the Ventura aerial alternatives could potentially occur along all line segments which are adjacent to residential areas.

Mitigation Measures: As noted previously in this section, precise adverse residential property value impacts of the project cannot be determined at this time. Nonetheless, based on similar experiences in the United States and Canada mitigation measures can be instituted beforehand to monitor impacts and decrease the likelihood of any impacts occurring. These mitigation measures are:

- Monitoring Program: this mitigation measure calls for LACTC to institute a program to monitor property value impacts before, during and after construction. The program would be instituted as a part of the overall monitoring program for the entire project. Via this program LACTC would be able to identify impacts and to take appropriate action to reduce or eliminate impacts.

- Land Use Policy: this measure calls for LACTC to encourage the City of Los Angeles to adopt specific land use policies and regulatory controls to limit development around stations which are located in residential areas.

5.2 TRAFFIC IMPACTS SECTION

The construction of a rail transit system in the San Fernando Valley has a primary purpose of relieving traffic congestion on freeways, arterials and local streets. Rapid transit has the singular beneficial traffic impact of removing drivers from their cars and putting them into transit vehicles. Each driver diverted from their car to transit helps to relieve heavy traffic congestion that exists today and is projected to significantly worsen during the next twenty years.

This section describes the transportation setting of the project (Section 5.2.1), documents existing traffic conditions in the project area (Section 5.2.2), projects future traffic conditions in the Year 2010 (Section 5.2.3), and predicts impacts at study area intersections that can be expected to occur as a result of traffic attracted to station sites (Section 5.2.4). In cases where traffic impacts are significant, mitigation is proposed to reduce these impacts to acceptable levels (Section 5.2.5).

In order to perform this traffic analysis, a database has been established for the study area to define existing transportation conditions and to provide the base for the technical analysis. The following data has been assembled for each alignment alternative:

- Functional classification of roadways, including general plan designation and number of lanes.
- Average daily traffic volumes on roadways.
- Peak hour traffic volumes on roadways,representing the worst case traffic scenario.
- PM peak hour turning movement traffic counts at key intersections, as a representation of worst case traffic conditions.
- Traffic signal characteristics, including type and phasing.
- Intersection geometrics, including lane configurations/widths and roadway curb-to-curb widths.
- Transit service information including existing bus routes and service frequencies.

This information was gathered from the City of Los Angeles Department of Transportation, the City of Los Angeles Department of City Planning, the Southern California Rapid Transit District, field observations and measurements, and traffic surveys conducted for this study.

San Fernando Valley East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.2-1

Functional Classification of Roadway System

5.2.1 Regional Setting

The San Fernando Valley is located north of the Santa Monica Mountains and 10 to 20 miles northwest of downtown Los Angeles. The region is served by several freeways which provide regional connections to neighboring communities and other parts of the Los Angeles metropolitan area.

Two freeways run north-south through the valley, the Hollywood (US-170) and the San Diego (I-405) Freeways. Both freeways connect north to the Golden State Freeway (I-5). The Hollywood Freeway runs through the eastern valley, and continues south of the interchange with the Ventura Freeway as US-101 to the central business district of Los Angeles. The San Diego Freeway runs through the center of the study area, south through the Santa Monica Mountains to connect to West Los Angeles, the Los Angeles International Airport and into Orange County.

Two freeways run east-west through the valley. The Simi Valley Freeway (SR-118) traverses the base of the Santa Susana Mountains from Simi Valley to the Foothill Freeway (I-210). The Ventura Freeway (US-101) traverses the south side of the valley and runs west to Ventura County. The Ventura (SR-134) Freeway also connects east of the interchange with the Hollywood Freeway, to Glendale and Pasadena.

The San Fernando Valley is served by an extensive system of local streets established on a grid system over much of the valley. In general, major roadways are located at one mile intervals as principal travel corridors. Secondary roadways are spaced at half-mile intervals, between the major roadways.

Functional Classification of Roadways: The current City of Los Angeles Community Plans define seven roadway types. These are: freeway, divided major highway, major highway, secondary highway, collector street, local street and scenic parkway. The Community Plans do not clearly define the criteria for this functional classification of roadways. However, for the street types of primary concern for this study (major and secondary highways), the City Bureau of Engineering defines facility type based on roadway width. Major highways have a total width of approximately 100 to 104 feet including sidewalks and are 80 to 84 feet wide curb-to-curb. Secondary highways are defined as roadways with 86 feet total width and 66 feet curb-to-curb.

The City Planning Department also utilizes general rule-of-thumb definitions for major and secondary highways in terms of daily roadway capacity. Secondary highways are generally defined as carrying roadway volumes up to 20,000 vehicles per day, while major highways carry roadway volumes over 20,000 vehicles per day (but limited to 30,000 vehicles per day for a four-lane roadway).

Figure 5.2-1, Functional Classification of Roadway System, displays the functional classification of the principal highway facilities in the study area, as shown in the current City of Los Angeles General Plan and Highways Designation Map.

It should be noted that some facilities currently have geometric or operational characteristics different from the functional classifications shown in the City of Los Angeles General Plan Streets and Highways Designation Map. For example, several facilities are listed as major highways, but are not currently built to the full width prescribed for those types of facilities.

Roadway Volumes: This section summarizes the principal arterial facilities in the study area by facility type and size, and current average daily traffic (ADT) volumes.

- Vanowen Street: Vanowen Street is a four-lane secondary arterial. The ADT generally ranges between 26,000 and 31,000 over much of its length, but drops to about 20,000 east of the Hollywood Freeway.

- Victory Boulevard: Victory Boulevard is a six-lane major arterial running through the entire valley and serving local and through traffic. The ADT generally ranges between 30,000 and 36,000 vehicles per day, up to 42,000 ADT near the San Diego Freeway, and almost 47,000 ADT near the Hollywood Freeway.

- Burbank Boulevard: Burbank Boulevard is classified as a major arterial east of Hayvenhurst Avenue, and a secondary arterial west of Hayvenhurst. Burbank Boulevard has six lanes east of Ventura Boulevard. West of DeSoto, Burbank is a four-lane street. Average daily traffic volume is between 21,000 and 26,000 vehicles over much of its length and about 38,000 vehicles per day near the San Diego Freeway.

- Ventura Boulevard: Ventura Boulevard runs along the entire southern margin of the San Fernando Valley. It is classified as a major arterial with four lanes total over much of its length. The ADT on Ventura Boulevard is about 31,000 vehicles, except near the San Diego Freeway where it increases to about 46,000 vehicles, and near Cahuenga Boulevard where it drops to about 12,000 vehicles. The high traffic volumes on Ventura Boulevard reflect its use by both through traffic and local traffic accessing the adjacent commercial land uses.

- Topanga Canyon Boulevard: Topanga Canyon Boulevard (State Route 27) is a major six-lane arterial that serves as a primary north-south route for the western San Fernando Valley. It carries an ADT of between 36,000 and 47,000 vehicles.

- Canoga Avenue: Canoga Avenue is classified as a major arterial between Ventura Boulevard and Victory Boulevard and as a secondary arterial north of Victory. Canoga has four lanes over much of its length. Canoga carries an ADT of between 31,000 to 36,000 vehicles near Victory Boulevard and about 23,000 vehicles north of Roscoe Boulevard.

- DeSoto Avenue: DeSoto Avenue is a major arterial that runs the length of the study area. The number of through lanes vary from a total of four near Plummer Street to six near Victory Boulevard. Average daily traffic volumes range between 31,000 and 44,000 vehicles.

- Winnetka Avenue: Winnetka Avenue is classified as a major artery with four-lane. The ADT varies from about 31,000 vehicles near Victory Boulevard to about 21,000 near Plummer Street.

- Tampa Avenue: Tampa Avenue is a major arterial with four lanes between Ventura Boulevard and Victory Boulevard, and six lanes north of Victory Boulevard. Average daily traffic volumes are between 31,000 and 36,000 vehicles.

- Reseda Boulevard: Reseda Boulevard is classified as a major arterial, with four lanes near Oxnard Street and six lanes near Roscoe Boulevard. Reseda Boulevard generally carries an ADT of between 36,000 and 42,000 vehicles per day and almost 50,000 vehicles per day just north of the Ventura Freeway.

- White Oak Avenue: White Oak Avenue is a discontinuous major arterial with a gap occurring at the SP Main Line. The ADT generally ranges between 21,000 and 26,000 over much of its length, except near the SP Main Line where, due to the gap, it drops to between 5,000 and 10,000. It has a total of four through lanes.

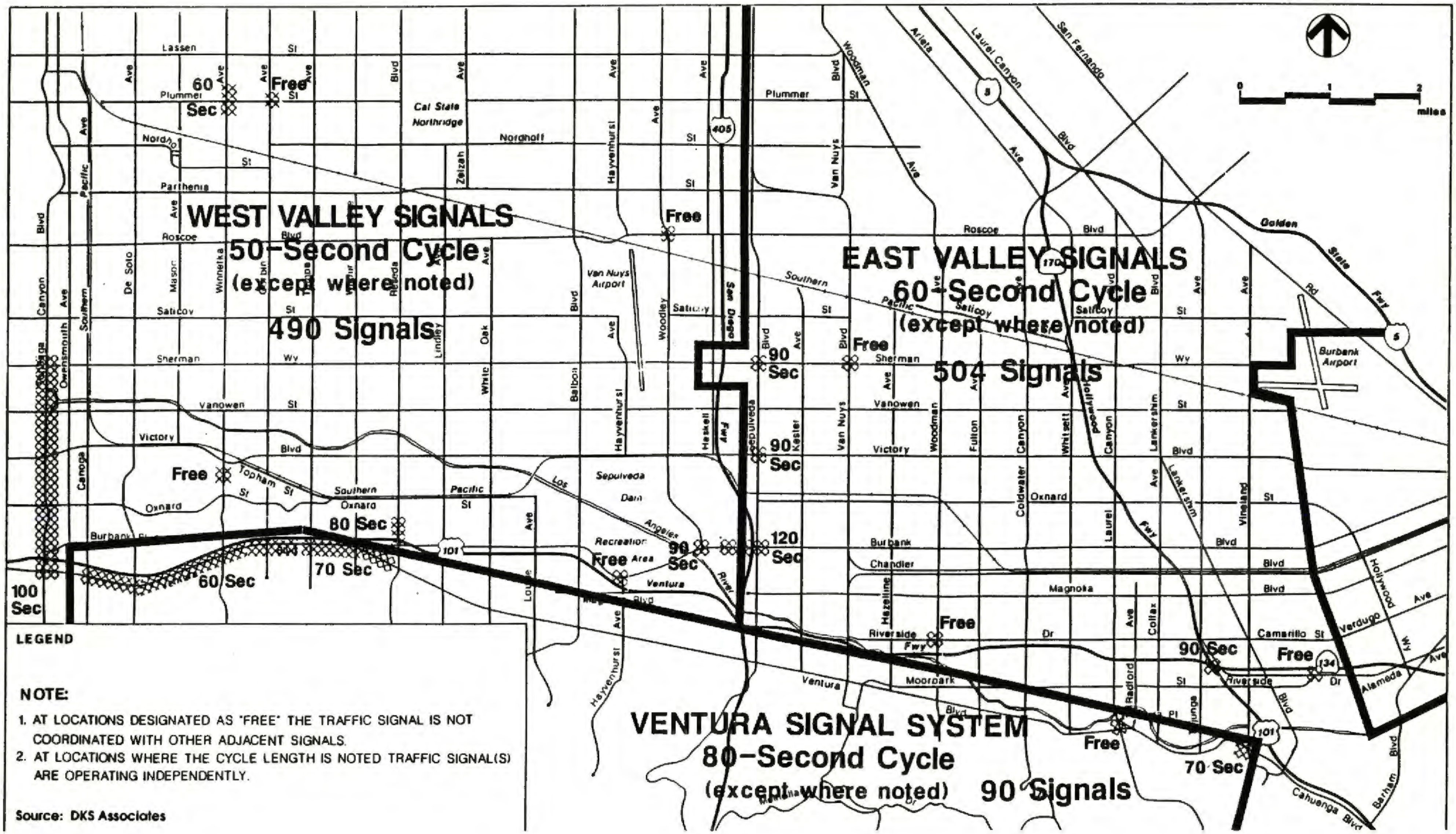
- Balboa Boulevard: Balboa Boulevard is a six-lane major arterial that runs the length of the valley. Average daily traffic volumes range up to 33,000 ADT, and are highest at Victory Boulevard (39,000 ADT).

- Woodley Avenue: Woodley Avenue is a four-lane major arterial that runs from Burbank Boulevard north through the study area into Granada Hills. The daily traffic volume on Woodley Avenue is about 21,000 vehicles.

- Sepulveda Boulevard: Sepulveda Boulevard is classified as a major arterial and has six through lanes with a continuous two-way left-turn lane. Sepulveda Boulevard provides regional connections via an interchange with the Hollywood Freeway and also runs south to West Los Angeles. Sepulveda Boulevard currently carries an ADT of between 36,000 and 47,000 vehicles.

- Van Nuys Boulevard: Van Nuys Boulevard is a major arterial and another principal north-south facility in the study area. From the Ventura Freeway to just south of Burbank Boulevard, Van Nuys Boulevard has four lanes. North of Burbank Boulevard, Van Nuys Boulevard has six lanes with a wide striped two-way left-turn lane, as far north as Valerio Street. Average daily traffic volumes are between 36,000 and 47,000 vehicles.

- Woodman Avenue: Woodman Avenue is a four-lane major arterial that generally carries between 27,000 and 33,000 ADT.



LEGEND

NOTE:

1. AT LOCATIONS DESIGNATED AS "FREE" THE TRAFFIC SIGNAL IS NOT COORDINATED WITH OTHER ADJACENT SIGNALS.
2. AT LOCATIONS WHERE THE CYCLE LENGTH IS NOTED TRAFFIC SIGNAL(S) ARE OPERATING INDEPENDENTLY.

Source: DKS Associates

San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.2-2

Traffic Signal Systems

- Coldwater Canyon Avenue: Coldwater Canyon Avenue is a four-lane secondary arterial, but is classified as a major arterial between Victory Boulevard and Sherman Way. Between Victory Boulevard and Magnolia Boulevard there is a continuous two-way left-turn median. South of the study area, it runs through the Santa Monica Mountains into Beverly Hills/West Hollywood. The ADT is about 31,000 vehicles near the Ventura Freeway and drops to about 21,000 vehicles or less north of Burbank Boulevard.

- Laurel Canyon Boulevard: Laurel Canyon Boulevard connects the study area to West Hollywood south of the Santa Monica Mountains and to the City of San Fernando to the north. It is a four-lane major arterial and carries an ADT of between 36,000 and 47,000 vehicles near the Ventura Freeway and 26,000 to 31,000 vehicles between Burbank Boulevard and Sherman Way.

- Lankershim Boulevard: Lankershim Boulevard is a four-lane major arterial that runs from Ventura Boulevard north through the study area into Sun Valley. The daily traffic volume on Lankershim Boulevard north of Ventura Boulevard is between 21,000 and 26,000 vehicles.

- Vineland Avenue: Vineland Avenue is a major arterial that has three lanes in each direction and a raised median from Ventura Boulevard north to Chandler Boulevard and two lanes in each direction north of Chandler Boulevard. The ADT on this arterial generally ranges between 21,000 and 26,000 vehicles per day.

Traffic Controls: Traffic signals within the Valley study area are grouped into three coordinated regions including the East Valley, the West Valley, and Ventura Boulevard. The extent of these systems is shown in Figure 5.2-2. Within each region, the majority of signals operate on a fixed cycle length, mostly with fixed time settings. The gridiron pattern of the Valley street system and the even spacing of the arterial and collector streets provides the opportunity for signal settings to be coordinated to provide good progression in both north-south and east-west directions. Arterial streets are spaced one-half mile apart, and collector streets are located about one-quarter mile from each arterial. These are ideal conditions to provide good signal progression.

The East Valley system coordinates signals east of the San Diego Freeway, that generally operate at a 60-second cycle length. The average progression speed is about 30 miles per hour. The West Valley system coordinates signals west of the San Diego Freeway, that generally operate at a 50-second cycle length and provide for an average progression speed of about 35 miles per hour. The Ventura Boulevard system operates at cycle lengths varying from 60 to 80 seconds, depending on location and time of day.

Typically throughout the valley, the intersections of arterial streets are controlled by a pre-timed two-phase signal, while the intersections of arterials with collector streets are controlled by a semi-actuated two-phase signal. While there is often a left-turn lane at the typical intersection in the San Fernando Valley, there is usually no left-turn phase (green arrow) provided. At certain intersections where high traffic volumes exist, there are exceptions to the general conditions identified above. These locations generally comprise left-turn phases, longer cycle lengths, or free running signals (no fixed cycle length). At these intersections, high traffic volumes require the exceptions. These measures improve the operations of the individual intersection, although it sacrifices coordination with neighboring signals and the rest of the system.

Transit Routes: Transit service in the Valley is provided by the Southern California Rapid Transit District (SCRTD) and the City of Los Angeles via Proposition A funding of peak hour commuter bus service. Regular SCRTD services include local lines that operate on city streets and express lines that operate on a combination of city streets and freeways. SCRTD's numbering of its bus routes reflects its county-wide grid system of north/south and east/west bus lines. The system designates service as follows:

- 1-99 are local routes to/from Downtown Los Angeles
- 100-299 are local routes in other areas
- 300-399 are limited stop routes
- 400-499 are express routes to/from Downtown Los Angeles
- 500-599 are express routes in all other areas
- 600-699 are special service routes

This part of the San Fernando Valley is served by 34 bus lines (24 local and 10 express), providing service within the Valley and to neighboring communities.

Local service is provided throughout the communities of Encino, North Hollywood, Reseda, Sherman Oaks, Studio City, Tarzana, Van Nuys, Winnetka, Canoga Park, Chatsworth, Northridge and Woodland Hills within the study area. The community of Van Nuys, which is the administrative center of the San Fernando Valley, has the densest network of SCRTD bus lines. Local service is also provided to the adjacent communities of Burbank, Glendale, Granada Hills, Hollywood, Lakeview Terrace, Mission Hills, Panorama City, San Fernando, Sunland and Sun Valley.

Express transit service connects this area of the San Fernando Valley to many neighboring and outlying communities. Express service is available to the Los Angeles Central Business District via the Hollywood and Golden State Freeways, to Hollywood via the Hollywood Freeway, to Culver City via the San Diego Freeway, and to Thousand Oaks via the Ventura Freeway.

Typically, bus lines run on major arterials and east-west secondary arterials. There are very few instances of bus lines on north-south secondary arterials. Principal transit routes (those streets carrying 3 to 5 bus lines) are:

Topanga Canyon Boulevard	Roscoe Boulevard
Van Nuys Boulevard	Sherman Way
Lankershim Boulevard	Victory Boulevard (Van Nuys Boulevard to
Ventura Freeway	to Laurel Canyon Boulevard)

Bus frequency was obtained directly from schedules for the routes. Typically there are two to four buses per hour running on most streets in the study area during the peak hour. The principal bus corridors (Van Nuys Boulevard, Topanga Canyon Boulevard, Ventura Boulevard, and part of Victory Boulevard) typically carry 10 to 15 buses during the evening peak hour.

5.2.2 Existing Traffic Conditions

Existing traffic conditions along each rail corridor are depicted by the Level of Service (LOS) at selected critical intersections.

The concept of Level of Service, Figure 5.2-4, is used to describe the operating conditions which drivers would experience under each LOS classification which range from A to F. It also shows the corresponding V/C ratio which stands for volume/capacity ratio which is described below. As can be seen from the figure, LOS A represents an excellent operating standard whereas F represents complete congestion of the intersection. For planning purposes a LOS of A, B or C is regarded as acceptable with only minor delays being experienced by motorists. Level of Service D represents below average or fair operating conditions where drivers occasionally have to wait through more than one signal cycle to proceed through the intersection. Level of Service E represents unstable traffic flow conditions where minor increases in traffic can lead to serious delays. Level of Service F represents jammed conditions. The city of Los Angeles Department of Transportation considers LOS D or better to be an acceptable operating condition.

In addition to the Level of Service concept described above, another measure of traffic operating conditions called the Volume/Capacity Ratio (V/C) is also used. This is simply the number of vehicles on any given road or intersection divided by the maximum number of vehicles which that road or intersection can carry under ideal conditions. Thus a V/C ratio of 0.90 means that the road is carrying 90 percent of its maximum capacity and therefore only has 10 percent spare capacity. A V/C ratio of 0.20 means that the road or intersection is carrying only 20 percent of its potential carrying capacity and therefore has 80 percent spare capacity available. When the V/C ratio is greater than 1.00 it means that the facility is overloaded (i.e., demand exceeds capacity).

Sixty-four key intersections were chosen as the basis for the Level of Service analysis for this EIR. The intersections chosen for evaluation are those that are either heavily travelled, or would be directly impacted by a nearby rail station or at-grade rail operation. The locations of these intersections are illustrated in Figure 5.2-3, Study Intersections.

<u>Burbank Branch Alternatives</u>: There are 31 study intersections along the Burbank Branch alignment of which all but two are signalized. The two unsignalized locations are the intersections of Topham Street at Victory Boulevard and Corteen Place at Chandler Boulevard. All the study intersections were analyzed for the pm peak hour.

Analysis of the 29 signalized intersections showed that seventeen currently operate at LOS C or better and another seven intersections operate at LOS D. Unacceptable levels of service currently exist at five intersections: the intersections of Topanga Canyon Boulevard at Victory Boulevard, Woodley Avenue at Victory Boulevard, and Vineland Avenue at Moorpark Street are operating at LOS E; and the intersections of Winnetka Avenue at Victory Boulevard and Balboa Boulevard at Victory Boulevard are at LOS F. These results are shown in Figure 5.2-6. The locations of the intersections and the LOS and V/C ratios are shown in Figure 5.2-5.

San Fernando Valley East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

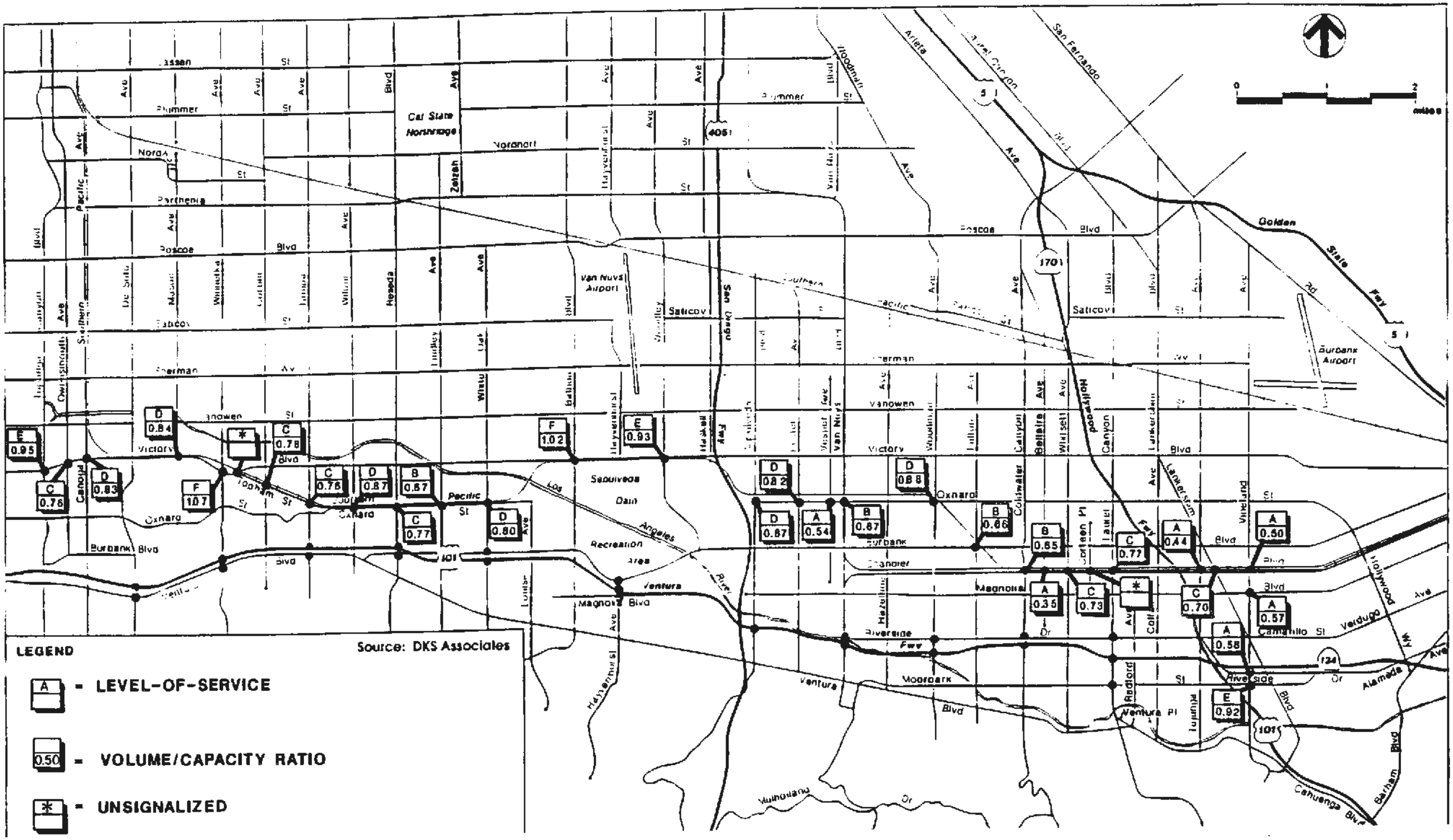
Figure 5.2-3

Study Intersections

Figure 5.2-4
Level of Service Interpretation

Level of Service	Volume to Capacity Ratio	Description
A	0-.59	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.
B	.60-.69	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.
C	.70-.79	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.
D	.80-.89	Fair operation. Cars are sometimes required to wait more than 60 seconds during short peaks. There are no long-standing traffic queues. *This level is typically associated with design practice for peak periods.*
E	.90-.99	Poor operation. Some long-standing vehicular queues develop on critical approaches to intersections. Delays may be up to several minutes.
F	Over 1.00	Forced flow. Represents jammed conditions. Backups from 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.

Source: *Highway Capacity Manual*, Highway Research Board, Special Report No. 87, Washington, DC, 1965 and the update of the manual.



San Fernando Valley East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

LACTC

Figure 5.2-5

Burbank Branch Alternative
Existing Traffic Conditions

Figure 5.2-6
Burbank Branch Alignment Conditions (PM Peak Period)
Level of Service at Study Intersections

	Existing Conditions	
Intersection	V/C	LOS
Topanga Canyon/Victory	0.95	E
Owensmouth/Victory	0.76	C
Canoga/Victory	0.83	D
Mason/Victory	0.84	D
Winnetka/Victory	1.07	F
Topham/Victory	Unsignalized	
Corbin/Topham	0.78	C
Tampa/Topham	0.76	C
Wilbur/Oxnard	0.87	D
Reseda/Oxnard	0.77	C
Lindley/Oxnard	0.67	B
White Oak/Oxnard	0.80	D
Balboa/Victory	1.02	F
Woodley/Victory	0.93	E
Sepulveda/Oxnard	0.87	D
Kester/Oxnard	0.82	D
Vesper/Oxnard	0.54	A
Van Nuys/Oxnard	0.67	B
Woodman/Oxnard	0.88	D
Fulton/Burbank	0.66	B
Coldwater Canyon/Chandler	0.65	B
Bellaire/Chandler	0.35	A
Whitsett/Chandler	0.73	C
Corteen/Chandler	Unsignalized	
Laurel Cyn/Chandler	0.77	C
Tujunga/Chandler	0.44	A
Lankershim/Chandler	0.70	C
Vineland/Chandler	0.50	A
Vineland/Magnolia	0.57	A
Vineland/Riverside	0.58	A
Vineland/Moorpark	0.92	E

Analysis of the two stop-sign controlled intersections is summarized below:

1. Topham Street/Victory Boulevard

Topham Street:	NB Left = LOS F NB Right = LOS C
Victory Boulevard:	WB Left = LOS D

These results indicate that motorists attempting to make a northbound left from Topham Street to Victory Boulevard would experience significant delays, which is quite common at unsignalized intersections.

2. Corteen Place/Chandler Boulevard

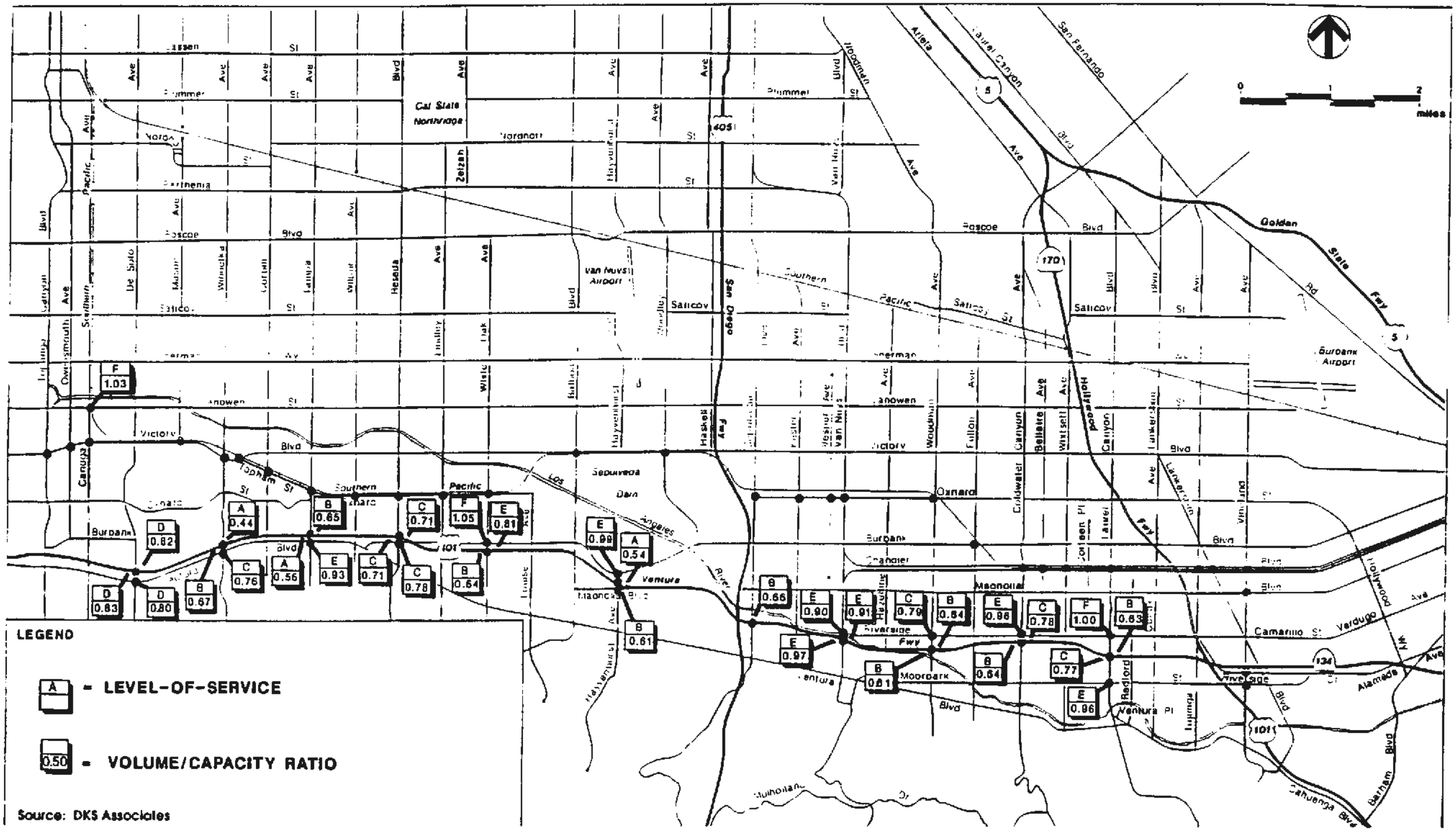
Corteen Place:	NB Left = LOS E NB Through = LOS E NB Right = LOS A SB Left = LOS E SB Through = LOS E SB Right = LOS A
Chandler Boulevard:	EB Left = LOS B WB Left = LOS A

These results show the left and through movements from Corteen Place to be significantly impacted during the PM peak period due to the heavy east-west flow on Chandler Boulevard, as can be expected at an unsignalized minor street crossing a major arterial.

Ventura Freeway Alternatives: There are thirty-three study intersections along the Ventura Freeway alignment. Ventura Freeway interchanges were considered as two separate intersections if there was both an eastbound and westbound off ramp. All the study intersections are signalized. Currently, intersections operate at LOS C or better and four of the intersections currently operate at LOS D. Seven of the intersections currently operate at LOS E. These are Tampa Avenue at Ventura Boulevard, Hayvenhurst Avenue at Burbank Boulevard, Van Nuys Boulevard at Riverside Drive, Van Nuys Boulevard at the Ventura Freeway eastbound and westbound off ramps, Coldwater Canyon Avenue at Riverside Drive, and Laurel Canyon at Moorpark Street. Three intersections operate at LOS F including Canoga Avenue at Vanowen Street, White Oak Avenue at Burbank Boulevard, and Laurel Canyon Boulevard at Riverside Drive. These results are shown in Figure 5.2-7 and 5.2-8.

Figure 5.2-7
Ventura Freeway Alignment - Existing Conditions (PM Peak Period)
Levels of Service at Study Intersections

	Existing Conditions	
Intersection	V/C	LOS
Canoga Avenue/Vanowen Street	1.03	F
Desoto Avenue/U.S.101 EB OFF	0.83	D
Desoto Avenue/U.S.101 WB OFF	0.82	D
Desoto Avenue/Ventura Boulevard	0.80	D
Winnetka Avenue/U.S. 101 EB OFF	0.67	B
Winnetka Avenue/U.S. 101 WB OFF	0.44	A
Winnetka Avenue/Ventura Boulevard	0.76	C
Tampa Avenue/U.S. 101 EB OFF	0.56	A
Tampa Avenue/U.S. 101 WB OFF	0.65	B
Tampa Avenue/Ventura Boulevard	0.93	E
Reseda Boulevard/U.S. 101 EB OFF	0.71	C
Reseda Boulevard/U.S. 101 WB OFF	0.71	C
Reseda Boulevard/Burbank Boulevard	0.78	C
White Oak Avenue/Burbank Boulevard	1.05	F
White Oak Avenue/U.S. 101 EB OFF	0.64	B
White Oak Avenue/U.S. 101 WB OFF	0.81	D
Hayvenhurst Avenue/Burbank Boulevard	0.99	E
Hayvenhurst Avenue/Magnolia Boulevard	0.61	B
Hayvenhurst Avenue/U.S. 101 WB OFF	0.54	A
Sepulveda Boulevard/U.S. 101 WB OFF	0.66	B
Van Nuys Boulevard/Riverside Drive	0.90	E
Van Nuys Boulevard/U.S. 101 EB OFF	0.97	E
Van Nuys Boulevard/U.S. 101 WB OFF	0.91	E
Woodman Avenue/Riverside Drive	0.79	C
Woodman Avenue/U.S. 101 EB OFF	0.61	B
Woodman Avenue/U.S. 101 WB OFF	0.64	B
Coldwater Canyon/Riverside Drive	0.96	E
Coldwater Canyon/U.S. 101 EB OFF	0.64	B
Coldwater Canyon/U.S. 101 WB OFF	0.78	C
Laurel Canyon/Riverside Drive	1.00	F
Laurel Canyon/U.S. 101 EB OFF	0.77	C
Laurel Canyon/U.S. 101 WB OFF	0.63	B
Laurel Canyon/Moorpark Street	0.96	E



San Fernando Valley East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.2-8

Ventura Freeway Alternative
Existing Traffic Conditions

5.2.3 FUTURE TRAFFIC CONDITIONS

For the purpose of this study, year 2010 was chosen as the design year in which future traffic conditions with and without the project are assessed.

Assumptions and Methodology: A background traffic growth was developed for each alignment based upon regional traffic projections developed by the Southern California Association of Governments. The first step in the calculation of the traffic growth rates was to divide the regions along each of the rail alignments into a series of smaller zones. This was done so that individual north, south, east and west growth factors for each zone could be assessed separately. The regions along each alignment were divided into an average of 17 zones, with each zone being between one and two miles square. The size of the zones was chosen so that each one contained two to three north-south and east-west arterials. It was assumed that the use of individual zonal growth factors as described would better predict future traffic conditions than the use of a global growth factor for the entire study area.

The next step was to calculate directional traffic growth factors for each individual arterial link within each zone. This was done by dividing the future directional traffic volume for each link by the existing directional traffic volume. Thus, each link would have two growth factors, one for each direction. Existing (1984-1987) PM peak hour traffic volumes were obtained from the Los Angeles Department of Transportation (LADOT) and supplemented with field counts by DKS Associates. Future traffic volumes were obtained from the Southern California Association of Government (SCAG) study titled *Baseline Projection* which contained projected future arterial link volumes for the San Fernando Valley for the year 2010.

Once the directional traffic growth factor for each individual arterial link was calculated, directional growth factors for each zone were calculated by averaging the individual directional growth factors for each line within the zone. The zonal growth factors were then plotted on a map, and any inconsistencies in growth factors between neighboring zones were "smoothed out".

In the "smoothing process", if the future volume to capacity (V/C) ratio at a study intersection was projected to be either less than or not much greater than 1.00, then no change was made to the growth factors at that intersection. However, if the future V/C ratio at the study intersection was projected to be significantly greater than 1.00, then the parallel arterials were checked to determine if some of the excess growth on the study intersection arterial could be redistributed to them. All traffic redistribution was kept to the general vicinity of the study intersection. This process prevents one facility from being completely overloaded and another from being under utilized and more closely replicates the travel behavior of motorists that travel demand forecast models do not always accomplish.

<u>Burbank Branch Route Alternatives</u>: The future base conditions are those operating conditions projected to exist in the year 2010 if the light-rail transit line is not built. This provides a "Do Nothing" base case to compare with the various rail transit scenarios. In this way, it is possible to isolate where rail related traffic is likely to have a significant impact on future traffic conditions. Future projected intersection turning volumes were calculated by applying growth factors to existing turning volumes for each of the study intersections. Because the local element of the traffic growth varies for groups of intersections, a number of different growth factors were used depending on the location of the intersection.

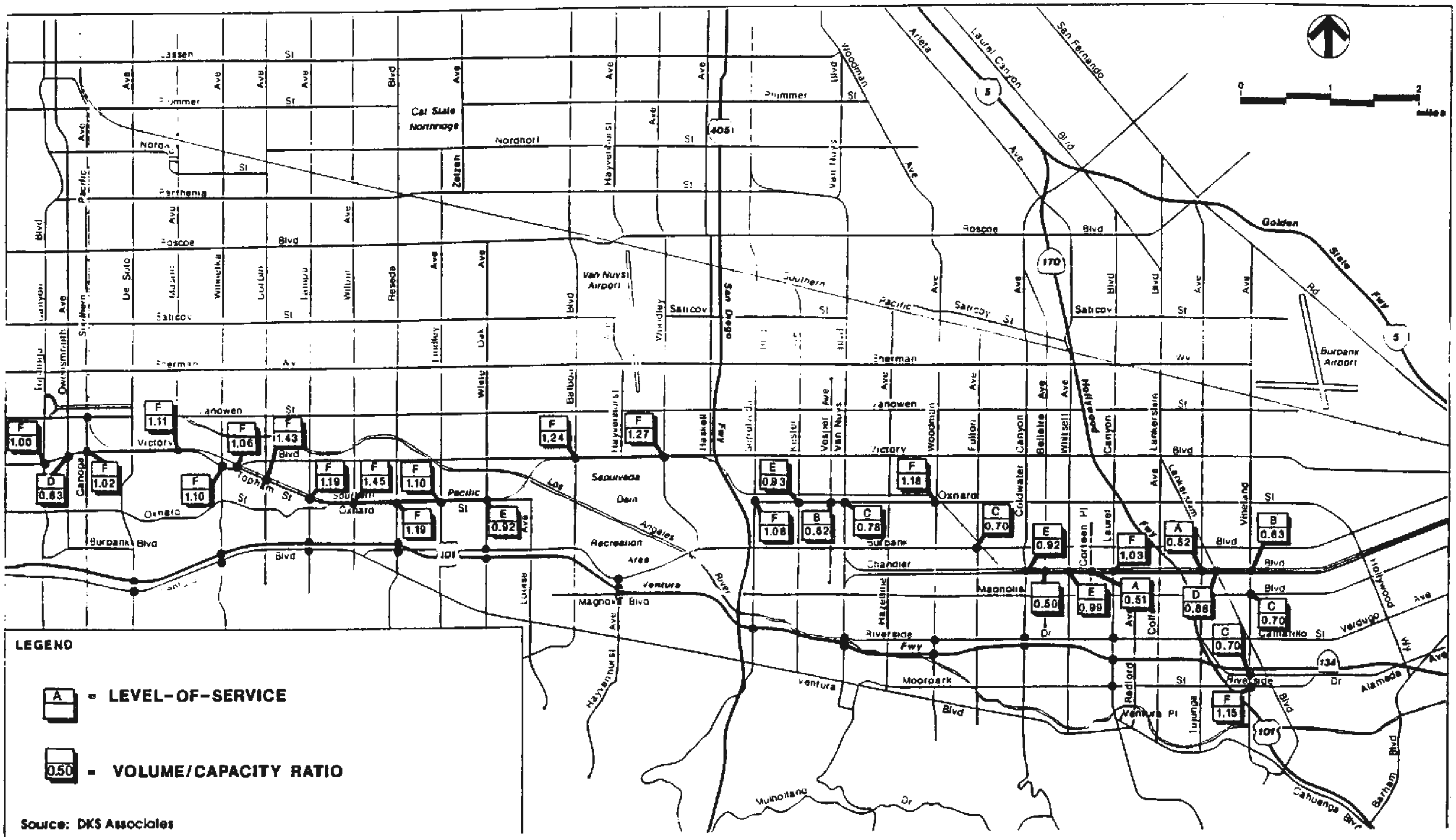
ATSAC (Automated Traffic Surveillance And Control) was assumed to be in operation in the San Fernando Valley by the horizon year of 2010. ATSAC consists of a central computer system which monitors traffic flows through detectors. It improves traffic flow through signalized intersections by providing adjustments to signal timing, and by notifying City staff of problems with traffic or with signal equipment so that they may be promptly handled. ATSAC is being installed by the Los Angeles Department of Transportation in various areas throughout the City. It is currently in operation in the Coliseum area and in the Central Business District. For purposes of this study, the increased efficiency of traffic flow due to ATSAC was represented by increasing future intersection capacity to seven percent, as researched by LADOT. In addition, roadway improvements identified in the Ventura Boulevard Specific Plan were also assumed to be in place by 2010.

For this future base case all the thirty-one study intersections were assumed to be signalized. It is projected that by the year 2010, only nine of the study intersections would be operating at LOS C or better during the evening peak period and two of the study intersections are projected to operate at LOS D. Twenty study intersections are expected to be at an unacceptable level of service in the future base condition: four at LOS E and sixteen at LOS F. This is a substantial change from current conditions of only five at LOS E/F.

Figure 5.2-10 shows the LOS and V/C for each of the thirty-one study intersections for the future base scenario. The locations, LOS, and V/C ratios of these intersections are shown in Figure 5.2-9.

Figure 5.2-9
Burbank Branch Alignment - Future Base Conditions (without rail project)
Levels of Service at Study Intersections

Intersection	Existing Conditions V/C	LOS	Future Conditions V/C	LOS
Topanga Canyon/Victory	0.95	E	1.00	F
Owensmouth/Victory	0.76	C	0.83	D
Canoga/Victory	0.83	D	1.02	F
Mason/Victory	0.84	D	1.11	F
Winnetka/Victory	1.07	F	1.10	F
Topham/Victory	Unsignalized		1.06	F
Corbin/Topham	0.78	C	1.43	F
Tampa/Topham	0.76	C	1.19	F
Wilbur/Oxnard	0.87	D	1.45	F
Reseda/Oxnard	0.77	C	1.19	F
Lindley/Oxnard	0.67	B	1.10	F
White Oak/Oxnard	0.80	D	0.92	E
Balboa/Victory	1.02	F	1.24	F
Woodley/Victory	0.93	E	1.27	F
Sepulveda/Oxnard	0.87	D	1.08	F
Kester/Oxnard	0.82	D	0.93	E
Vesper/Oxnard	0.54	A	0.62	B
Van Nuys/Oxnard	0.67	B	0.78	C
Woodman/Oxnard	0.88	D	1.18	F
Fulton/Burbank	0.66	B	0.70	C
Coldwater Canyon/Chandler	0.65.	B	0.92	E
Bellaire/Chandler	0.35	A	0.50	A
Whitsett/Chandler	0.73	C	0.99	E
Corteen/Chandler	Unsignalized		0.51	A
Laurel Cyn/Chandler	0.77	C	1.03	F
Tujunga/Chandler	0.44	A	0.52	A
Lankershim/Chandler	0.70	C	0.88	D
Vineland/Chandler	0.50	A	0.63	B
Vineland/Magnolia	0.57	A	0.70	C
Vineland/Riverside	0.58	A	0.70	C
Vineland/Moorpark	0.92	E	1.15	F



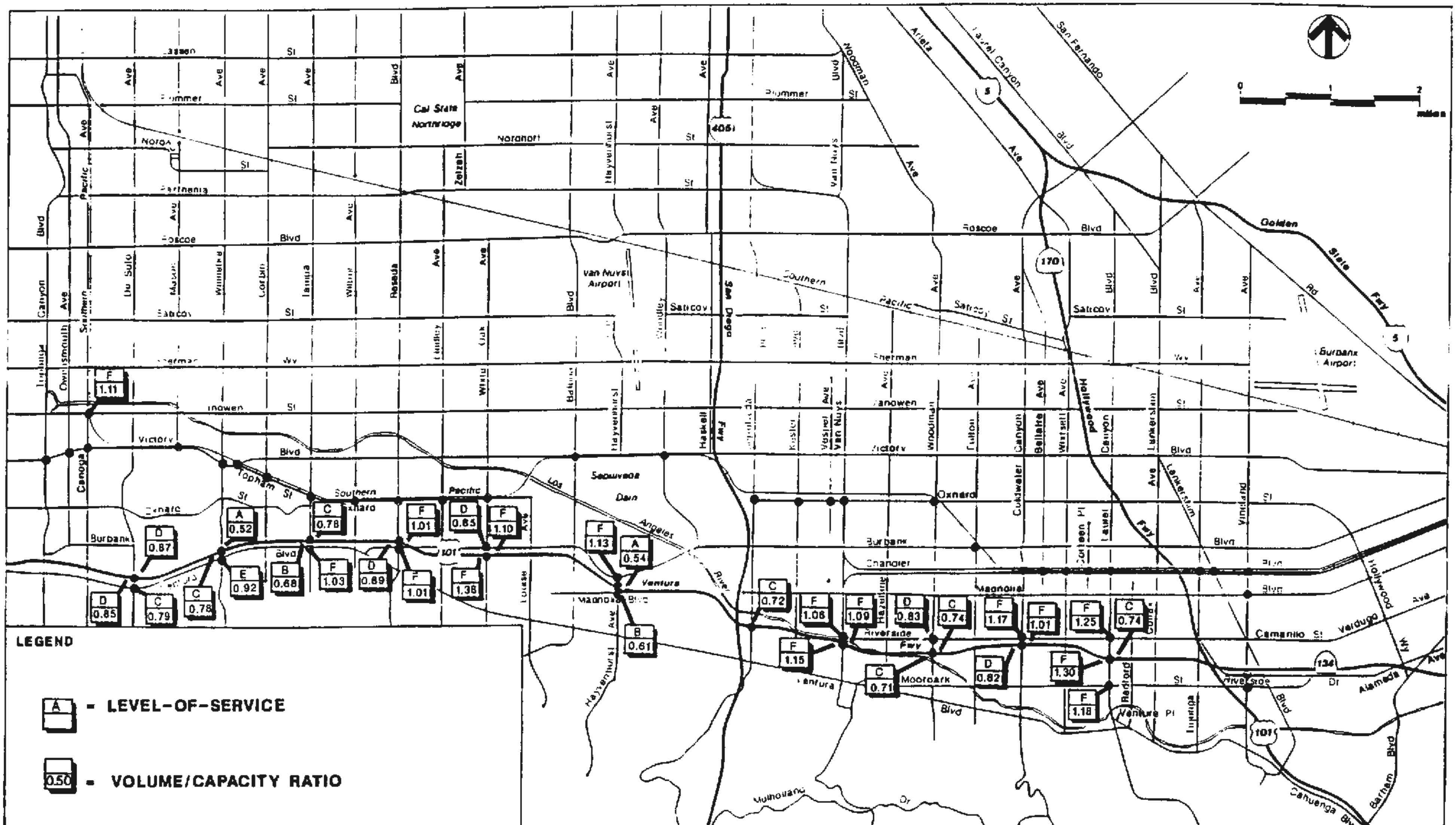
San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.2-10

Burbank Branch Alternative
Future Base Conditions (2010)

Ventura Freeway Route Alternatives: Similar to level of service the Burbank Branch scenario, a future base case was developed for each projected intersection levels of service assuming the rail transit line is not built. Future intersection volumes were calculated using a similar methodology as that discussed previously under the Burbank Branch scenario. Analysis of the thirty-three intersections with this future traffic indicated that eleven of the intersections would operate at LOS C or better, and six of the study intersections are projected to operate at LOS D. Sixteen study intersections will be at an unacceptable level of service in the future base condition: one at LOS E and fifteen at LOS F. Thus, similar to the Burbank Branch Routes, intersections adjacent to the Ventura Freeway are likely to worsen significantly due to basic growth without the presence of rail transit. The results of this analysis are shown in Figure 5.2-11. The locations, LOS and V/C ratios of these intersections are shown in Figure 5.2-12.



Source: DKS Associates

San Fernando Valley
East/West Rail Transit Project

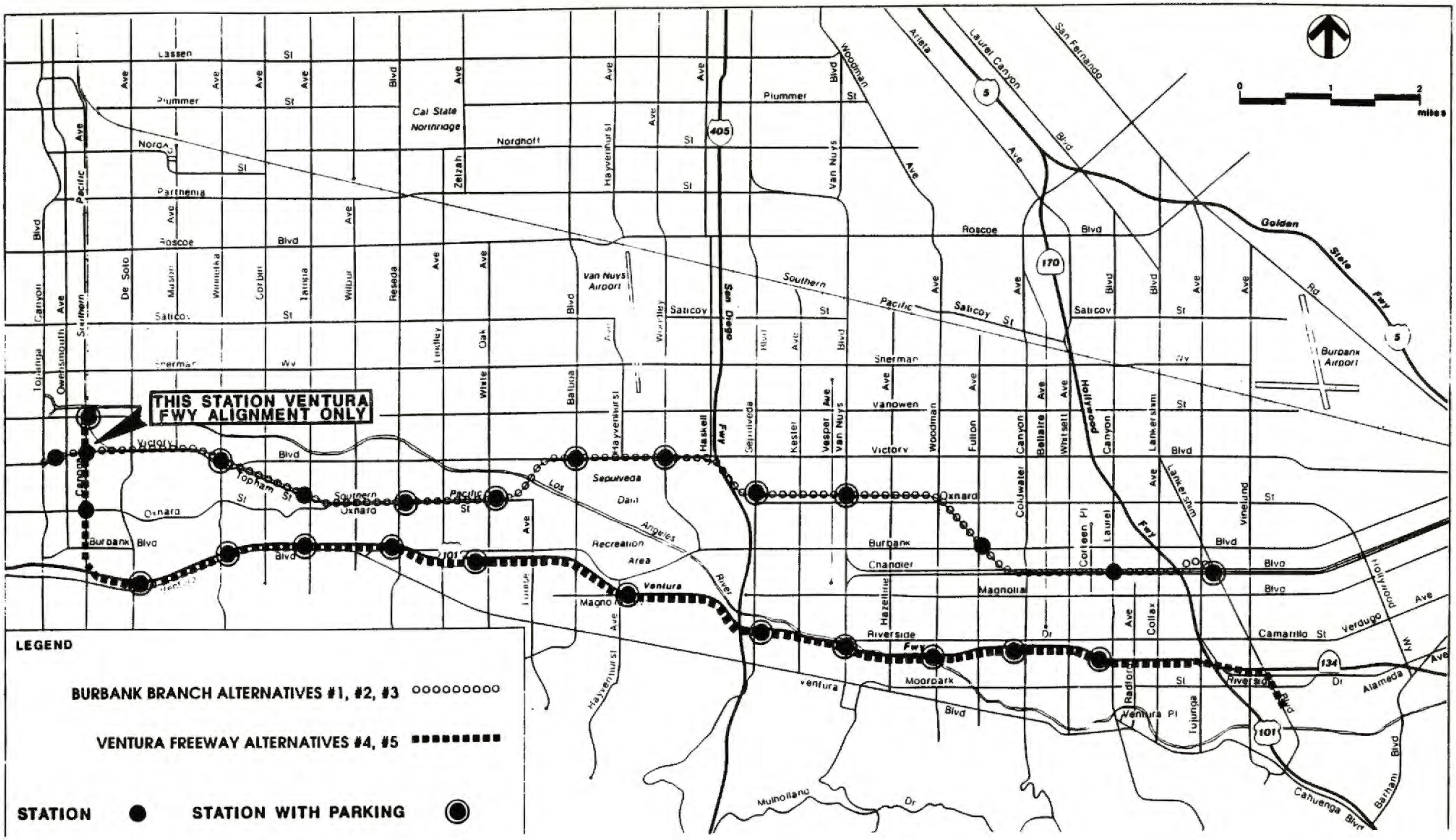
LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.2-11

Ventura Freeway Alternative
Future Base Conditions (2010)

Figure 5.2-12
Ventura Freeway Alignment - Future Base Conditions (without rail project)
Level of Service at Study Intersections

Intersection	Existing Conditions V/C	Existing Conditions LOS	Future Conditions V/C	Future Conditions LOS
Canoga Avenue/Vanowen Street	1.03	F	1.11	F
Desoto Avenue/U.S.101 EB OFF	0.83	D	0.85	D
Desoto Avenue/U.S.101 WB OFF	0.82	D	0.87	D
Desoto Avenue/Ventura Boulevard	0.80	D	0.79	C
Winnetka Avenue/U.S. 101 EB OFF	0.67	B	0.78	C
Winnetka Avenue/U.S. 101 WB OFF	0.44	A	0.52	A
Winnetka Avenue/Ventura Boulevard	0.76	C	0.92	E
Tampa Avenue/U.S. 101 EB OFF	0.56	A	0.68	B
Tampa Avenue/U.S. 101 WB OFF	0.65	B	0.78	C
Tampa Avenue/Ventura Boulevard	0.93	E	1.03	F
Reseda Boulevard/U.S. 101 EB OFF	0.71	C	0.89	D
Reseda Boulevard/U.S. 101 WB OFF	0.71	C	1.01	F
Reseda Boulevard/Burbank Boulevard	0.78	C	1.01	F
White Oak Avenue/Burbank Boulevard	1.05	F	1.38	F
White Oak Avenue/U.S. 101 EB OFF	0.64	B	0.85	D
White Oak Avenue/U.S. 101 WB OFF	0.81	E	1.34	F
Hayvenhurst Avenue/Burbank Boulevard	0.99	E	1.13	F
Hayvenhurst Avenue/Magnolia Boulevard	0.61	B	0.61	B
Hayvenhurst Avenue/U.S. 101 WB OFF	0.54	A	0.54	A
Sepulveda Boulevard/U.S. 101 WB OFF	0.66	B	0.72	C
Van Nuys Boulevard/Riverside Drive	0.90	E	1.06	F
Van Nuys Boulevard/U.S. 101 EB OFF	0.97	E	1.15	F
Van Nuys Boulevard/U.S. 101 WB OFF	0.91	E	1.09	F
Woodman Avenue/Riverside Drive	0.79	C	0.83	D
Woodman Avenue/U.S. 101 EB OFF	0.61	B	0.71	C
Woodman Avenue/U.S. 101 WB OFF	0.64	B	0.74	C
Coldwater Canyon/Riverside Drive	0.96	E	1.17	F
Coldwater Canyon/U.S. 101 EB OFF	0.64	B	0.82	D
Coldwater Canyon/U.S. 101 WB OFF	0.78	C	1.01	F
Laurel Canyon/Riverside Drive	1.00	F	1.25	F
Laurel Canyon/U.S. 101 EB OFF	0.77	C	1.30	F
Laurel Canyon/U.S. 101 WB OFF	0.63	B	0.74	C
Laurel Canyon/Moorpark Street	0.96	E	1.18	F



San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.2-13

Station Locations

5.2.4 FUTURE TRAFFIC CONDITIONS WITH RAIL PROJECT

This section discusses the traffic impacts associated with each rail alignment. The patronage forecasts were developed by the Southern California Association of Government (SCAG) under contract to LACTC.

Beneficial Regional Effects: Traffic modelling done by SCAG indicates that the construction of the rail transit project in the San Fernando Valley will have a beneficial effect on region-wide traffic congestion by reducing the number of daily automobile trips. Estimates of trip reductions (vehicle miles travelled or VMT) are based on projected rail transit patronage on each alternative alignment and include the following:

Auto Trip Reduction With Rail Transit Project

- Alternatives #1, #2 - 410,500 VMT/day
- Alternative #3 - 440,000 VMT/day
- Alternative #4 - 424,000 VMT/day
- Alternative #5 - 418,000 VMT/day

Assumptions and Methodology for Local Area Impact Analysis: The SCAG Regional Forecasting Model was used to estimate patronage and mode of arrival at each rail station. In brief, the mode split-model yields a table of zone-to-zone home-work transit trips occurring on a typical weekday in the forecast year (2010). The transit assignment component of the model loads these trips onto the transit network, resulting in passenger boardings at each station of a transit line and the loadings on each link of the transit line. In the forecast model, rail patronage is constrained by the number of parking spaces at each station. Thus, through an iterative process the model assumes parking demand via increased travel time on those links that would be utilized for station access. After four iterations, the assignment process is considered complete and the final passenger loadings at each station are determined.

Figure 5.2-14
Burbank Branch Alternative
Proposed Parking Supply

Topanga Canyon Blvd.	0
Winnetka Avenue	1,160
Tampa Avenue	0
Reseda Boulevard	370
White Oak Avenue	475
Balboa Boulevard	400
Woodley Avenue	440
Sepulveda Boulevard	675
Van Nuys Boulevard	325
Fulton Avenue	0
Laurel Canyon Blvd.	0
North Hollywood	1000
	4,845

Figure 5.2-14 shows the number of proposed parking spaces at each station on the Burbank Branch Alignment. Figure 5.2-15 shows the number of proposed parking spaces at each station on the Ventura Freeway Alignment. The Burbank Branch alternative would provide a total of 4,845 off-street parking spaces. The Ventura Freeway Alignment would provide 3,785 or 4,350 off-street parking spaces. The locations of the Park-and-Ride Stations are illustrated in Figure 5.2-13.

The SCAG modeling process balances passenger boardings to station parking supply and transit access. Thus, a worst case scenario assumes all parking spaces are 100 percent utilized during the peak hour.

In order to estimate the total trip generation for each station the following equation was derived:

Trips Generated at Rail Station (Peak Hours) = Park/Ride Trips+Kiss/Ride Trips

In the above equation, it is assumed that the number of park-and-ride trips generated at a station is equal to the number of parking spaces provided. This is equivalent to assuming that all parking spaces are taken up during the peak hour.

The estimation of the number of kiss-and-ride trips during the peak hour is based on kiss-and-ride usage statistics at rail stations in the other cities in California:

Number of kiss/ride trips = k x station boarding
k = empirical factor
= 0.25 in residential area
= 0.10 in commercial area

In summary, therefore, the number of peak hour trips generated at each LRT station is estimated by the following equation:

Number of peak hour trips generated = Number of parking spaces + k x (No. of peak hour boardings)

Figures 5.2-16 and 5.2-17 summarize the total number of vehicle trips generated during the PM Peak period on the Burbank Branch and Ventura Freeway Alignments.

These trips were then distributed onto the street network based upon the population distribution surrounding each station and then added to the street system to determine the traffic impacts at each study intersection.

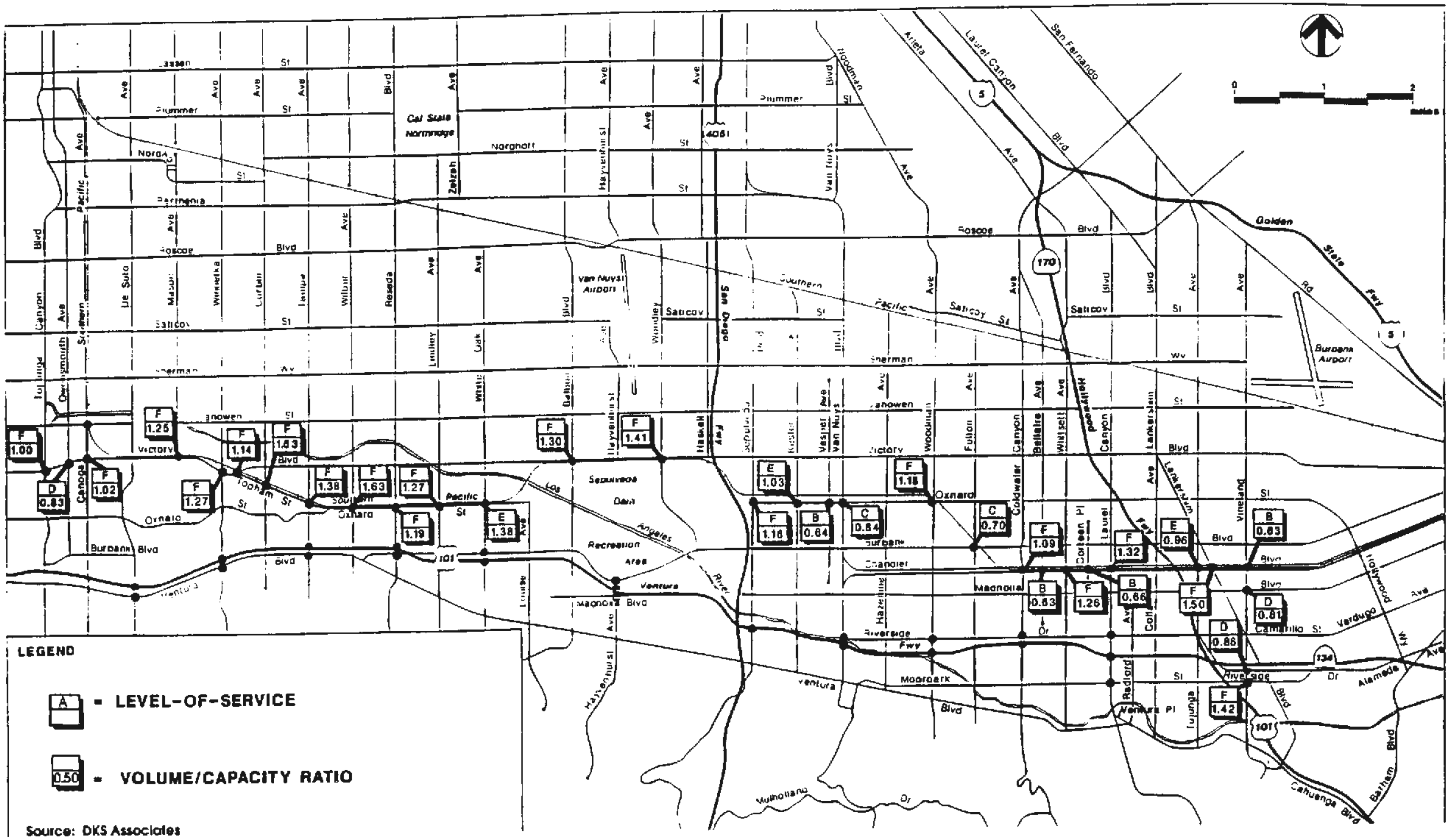
Figure 5.2-15
Ventura Freeway Alternative
Proposed Parking Supply

	Alt #4	Alt #5
Vanowen/Canoga Ave.	585	585
Victory/Canoga Ave.	0	0
Oxnard/Canoga	0	0
Desoto Avenue	890	890
Winnetka Avenue	220	220
Tampa Avenue	145	145
Reseda Boulevard	120	120
White Oak Avenue	400	400
Hayvenhurst Avenue	650	650
Sepulveda Boulevard	240	500
Van Nuys Boulevard	85	85
Woodman Avenue	95	400
Coldwater Canyon Blvd.	160	160
Laurel Canyon Blvd.	195	195
	3,785	4,350

Figure 5.2-16
Burbank Branch Alignment
Trips Generated at Park/Ride Stations

	PM Peak Hour Trips
Winnetka Avenue	1321
Reseda Boulevard	510
White Oak Avenue	560
Balboa Boulevard	472
Woodley Avenue	490
Sepulveda Boulevard	798
Van Nuys Boulevard	569
North Hollywood	1406

According to City of Los Angeles guidelines, a project is deemed to significantly impact the roadway system if there is an increase in the V/C ratio of an intersection of 0.02 or more, with a final V/C ratio of more than 0.90 (LOS E or worse). As an example, if the Future Base V/C ratio is 0.89 (LOS D) and the addition of project traffic results in the V/C ratio worsening to 0.91 (LOS E) then this is a significant impact. Similarly, if the V/C ratio is 1.15 (LOS F) in the Future Base case and 1.17 with project traffic, then this is also a significant impact. Those intersections which are significantly impacted by the project are required to be mitigated so that the V/C ratio drops back to no more than the Future Base V/C ratio.



5 - 53

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.2-18

Burbank Branch Alternative #1 (LRT At-Grade)
Future Conditions with Project (2010)

Parking Spillover Impacts: Although spillover parking impacts cannot be quantified from the patronage model, overflow parking can be expected to occur under two conditions along the alignments. The first is when the off-street parking lots overflow due to excess parking demand. The second is when there is no off-street parking provided at all and transit riders park on the streets surrounding these stations.

Figure 5.2-17
Ventura Freeway Alignment
(Aerial and Subway)
Trips Generated at Park/Ride Stations

	PM Peak Hour Trips
Vanowen St./Canoga Ave.	715
De Soto Avenue	974
Winnetka Avenue	234
Tampa Avenue	249
Reseda Boulevard	224
White Oak Avenue	470
Havenhurst Avenue	722
Sepulveda Boulevard	309
Van Nuys Boulevard	328
Woodman Avenue	181
Coldwater Canyon Blvd.	242
Laurel Canyon Boulevard	328

Under the Ventura Freeway Alternative, all but two of the stations will have off-street parking. The two stations without off-street parking are Victory Station and Oxnard Station. At these two locations on-street parking is currently not permitted due to the intense development of Warner Center and the need for all available roadway capacity on the surrounding arterials. On the Ventura Freeway portion of the alignment, the rail line would pass through a mix of residential and commercial areas.

At the DeSoto, Winnetka and Tampa Stations, the potential impact of spillover parking is greatest north and south of Ventura Boulevard where residential neighborhoods dominate the environs and ample on-street parking is available. East of Tampa Station the alignment continues to follow the Freeway. Here the spillover problem could again impact residential neighborhoods on both sides of the freeway due to the abundant supply of free on-street parking.

On the Burbank Branch alignment off-street parking would be provided at all but four stations for each rail alternative. These stations are Topanga Canyon, Tampa, Fulton-Burbank, and Laurel Canyon. All of these stations are located in the middle of residential neighborhoods. Thus they are the locations where spillover parking in residential neighborhoods would be most likely to occur. Should ridership demand exceed projections, excess parking demand at these and other stations could result in negative neighborhood parking impacts.

On both alignments these negative impacts would consist of cars parked on the streets surrounding stations throughout the day leaving residents and commercial establishments with little or no on-street parking capacity for local uses. In addition, the excess parking demand could result in additional adverse traffic impacts. Thus, a number of strategies can and should be considered to offset any potential neighborhood impacts.

Mitigation Measures:

The following measures should be adopted to monitor and control the impacts from station spillover parking:

- A program which monitors rail patronage and parking demand systemwide to identify where demand exceeds system projections.

- A policy of maintaining free or low cost station parking fees would discourage on-street parking (and remove the incentive to look for on-street parking). Other sources of off-street parking such as shared uses with shopping and commercial developments that may have excess parking capacity should be identified. Emphasis should be upon increasing transit service to each station. Finally, should on-street station related parking result in adverse conditions in the surrounding neighborhoods, consideration will have to be given to protecting these areas via the implementation of neighborhood parking permit programs.

<u>Burbank Branch Route Alternative #1, LRT At-Grade</u>: This scenario considers the impacts of the at-grade light rail alternative of the Burbank Branch alignment. This alignment will cross fourteen study intersections at-grade:

Mason Avenue and Victory Boulevard
Corbin Avenue and Topham Street
Tampa Avenue and Topham Street
Wilbur Avenue and Oxnard Street
Lindley Avenue and Oxnard Street
White Oak Avenue and Oxnard Street
Woodley Avenue and Victory Boulevard
Kester Avenue and Oxnard Street
Coldwater Canyon Boulevard and Chandler Boulevard
Whitsett Avenue and Chandler Boulevard
Laurel Canyon Boulevard and Chandler Boulevard
Vineland Avenue and Magnolia Boulevard
Vineland Avenue and Riverside Drive
Vineland Avenue and Moorpark Street

At these intersections, the light rail vehicles will preempt the traffic signal so that all traffic which would cross the tracks will be given a red light when a light rail vehicle passes through the intersections. Furthermore, railroad gates would prevent cars from blocking the tracks to account for this impact, volumes for moves which would be blocked by gates were inflated by 20 percent. This adjustment is based on light rail headways of six minutes. Other intersections where signal pre-emption may be necessary but were not part of this analysis include Colfax/Chandler, Vineland/Weddington, Vineland/McCormick, and Vineland/Hesby. Two at-grade intersections under this alternative would be closed. They are Bellaire Avenue/Chandler Boulevard and Corteen Avenue/Chandler Boulevard.

In this scenario seven intersections are projected to operate at LOS D or better. Twenty-two study intersections are projected to operate at LOS E or worse as compared to twenty intersections in the Future Base Case (without rail transit). Thus, the project causes two intersections to change from an acceptable level of service to an unacceptable level of service. These results are shown in Figure 5.2-19 which also lists the LOS and V/C ratios for the Future Base case for comparison. According to the City of Los Angeles definition of a significant impact as described above, eighteen of the thirty-one study intersections are forecasted to be significantly impacted by both the additional park-and-ride station related traffic and delays due to the light rail preemption of signals at the at-grade crossings. The locations, LOS and V/C ratios of these intersections are shown in Figure 5.2-19.

Figure 5.2-19
Burbank Branch Alignment - Light Rail At-Grade (Alternative #1)
Comparison With Future Base Levels of Service

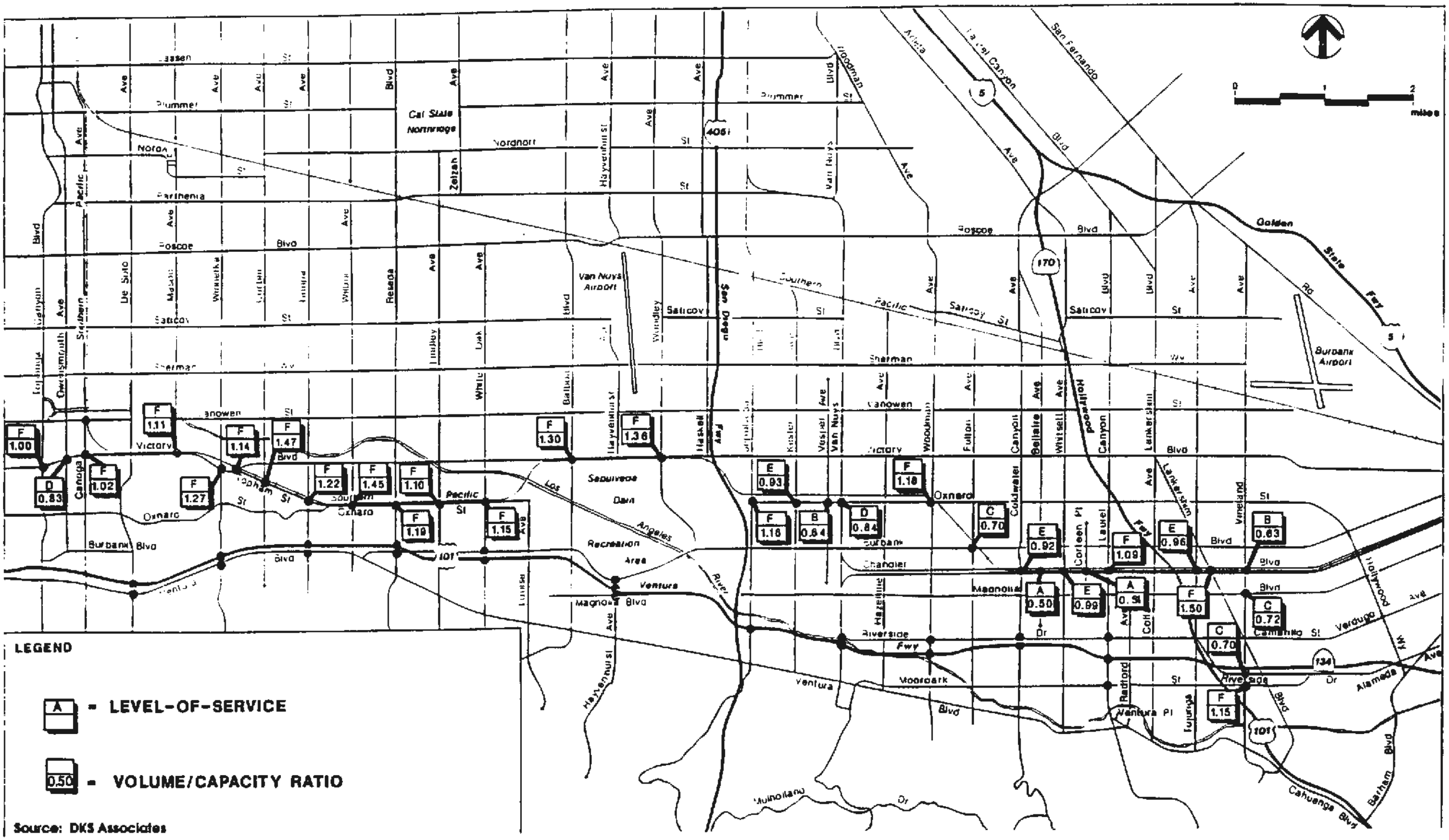
Intersection	Future Base V/C	Future Base LOS	Light Rail At-Grade V/C	Light Rail At-Grade LOS
Topanga Canyon/Victory	1.00	F	1.00	F
Owensmouth/Victory	0.83	D	0.83	D
Canoga/Victory	1.02	F	1.02	F
Mason/Victory	1.11	F	1.25	F *
Winnetka/Victory	1.10	F	1.27	F *
Topham/Victory	1.06	F	1.14	F *
Corbin/Topham	1.43	F	1.63	F *
Tampa/Topham	1.19	F	1.38	F *
Wilbur/Oxnard	1.45	F	1.63	F *
Reseda/Oxnard	1.19	F	1.19	F
Lindley/Oxnard	1.10	F	1.27	F *
White Oak/Oxnard	0.92	E	1.38	F *
Balboa/Victory	1.24	F	1.30	F *
Woodley/Victory	1.27	F	1.41	F *
Sepulveda/Oxnard	1.08	F	1.16	F *
Kester/Oxnard	0.93	E	1.03	F *
Vesper/Oxnard	0.62	B	0.64	B
Van Nuys/Oxnard	0.78	C	0.84	D
Woodman/Oxnard	1.18	F	1.18	F
Fulton/Burbank	0.70	C	0.70	C
Coldwater Canyon/Chandler	0.92	E	1.09	F
Bellaire/Chandler	0.50	A	0.63	B
Whitsett/Chandler	0.99	E	1.26	F
Corteen/Chandler	0.51	A	0.66	B
Laurel Cyn/Chandler	1.03	F	1.32	F
Tujunga/Chandler	0.52	A	0.96	E * +
Lankershim/Chandler	0.88	D	1.50	F * +
Vineland/Chandler	0.63	B	0.63	B
Vineland/Magnolia	0.70	C	0.81	D
Vineland/Riverside	0.70	C	0.86	D
Vineland/Moorpark	1.15	F	1.42	F *

* Intersection impacted by project, according to V/C standard.
\+ Change from acceptable to unacceptable level of service.

Burbank Branch Route Alternatives #2 and #3 LRT Deep Trench and ART/Metro Rail Extension: This scenario considers the traffic impacts of both the Metro Rail extension alternative and the subway/deep trench alternative on the Burbank Branch Alignment. For purposes of traffic analysis both alternatives would have the same impacts on the adjacent roadway system. Traffic from the park-and-ride lots was distributed to the adjacent roadway system at each station and added to the projected 2010 intersection turning volumes discussed previously. The LOS and V/C ratios for this alternative is compared with the Future Base scenario.

In this scenario, nine of the study intersections would operate at LOS D or better. Twenty-two intersections are projected to operate at LOS E or worse, compared to the Future Base Case (without rail transit) which projects twenty intersections at LOS E or worse. Hence, the project causes two intersections to change from an acceptable level of service to an unacceptable level of service.

While the project causes minimal changes in levels of service, impacts must be mitigated if the project changes the volume/capacity ratio by 0.02 or more, given the V/C is 0.90 or greater. Using this standard, eleven intersections are significantly impacted by the project. Figure 5.2-21 shows the LOS and V/C ratio for the study intersections for both the Future Base case and the Burbank Branch Metro Rail/Subway alternative. Figure 5.2-20 shows the locations, LOS and V/C ratios of these intersections.



San Fernando Valley East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

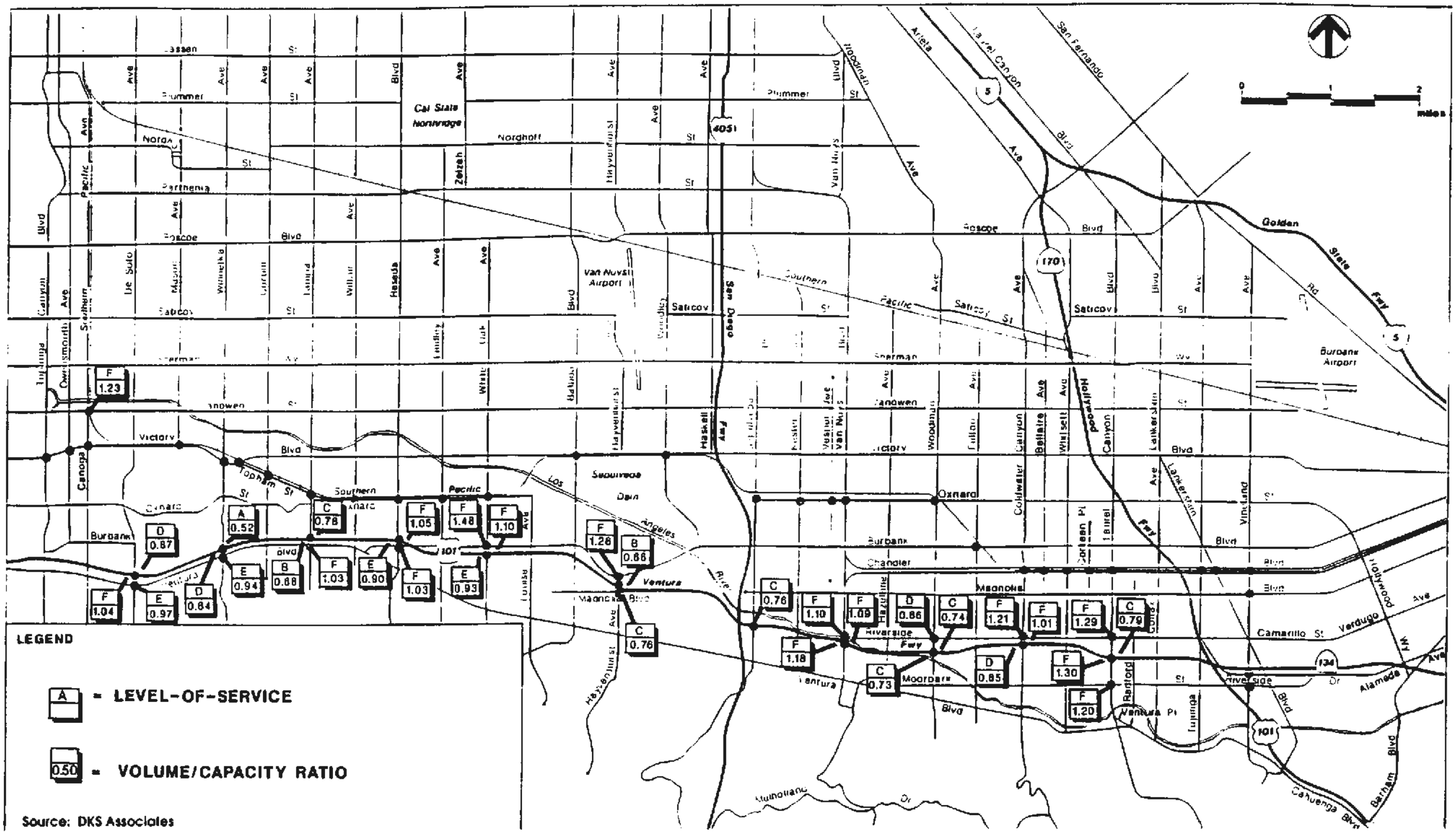
Figure 5.2-20

Burbank Branch Alternatives #2, #3
Future Conditions with Project (2010)

Figure 5.2-21
Burbank Branch Alignment - Metro Rail/Subway (Alternatives #2, #3)
Comparison With Future Base Levels of Service

	Future Base		Metro Rail/Subway	
Intersection	V/C	LOS	V/C	LOS
Topanga Canyon/Victory	1.00	F	1.00	F
Owensmouth/Victory	0.83	D	0.83	D
Canoga/Victory	1.02	F	1.02	F
Mason/Victory	1.11	F	1.11	F
Winnetka/Victory	1.10	F	1.27	F *
Topham/Victory	1.06	F	1.14	F *
Corbin/Topham	1.43	F	1.47	F *
Tampa/Topham	1.19	F	1.22	F *
Wilbur/Oxnard	1.45	F	1.45	F
Reseda/Oxnard	1.19	F	1.19	F
Lindley/Oxnard	1.10	F	1.10	F
White Oak/Oxnard	0.92	E	1.15	F *
Balboa/Victory	1.24	F	1.30	F *
Woodley/Victory	1.27	F	1.36	F *
Sepulveda/Oxnard	1.08	F	1.16	F *
Kester/Oxnard	0.93	E	0.93	E
Vesper/Oxnard	0.62	B	0.64	B
Van Nuys/Oxnard	0.78	C	0.84	D
Woodman/Oxnard	1.18	F	1.18	F
Fulton/Burbank	0.70	C	0.70	C
Coldwater Canyon/Chandler	0.92	E	0.92	E
Bellaire/Chandler	0.50	A	0.50	A
Whitsett/Chandler	0.99	E	0.99	E
Corteen/Chandler	0.51	A	0.51	A
Laurel Cyn/Chandler	1.03	F	1.09	F *
Tujunga/Chandler	0.52	A	0.96	E *
Lankershim/Chandler	0.88	D	1.50	F *
Vineland/Chandler	0.63	B	0.63	B
Vineland/Magnolia	0.70	C	0.72	C
Vineland/Riverside	0.70	C	0.70	C
Vineland/Moorpark	1.15	F	1.15	F

* Intersection impacted by project, according to V/C standard.
\+ Change from acceptable to unacceptable level of service.



San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.2-22

Ventura Freeway Alternative #4
Future Conditions with Project (2010)

Ventura Freeway Route Alternative #4 (South Side Aerial): This analysis considers the impacts of the south side aerial alternative of the Ventura Freeway Alignment. Like the Burbank Branch section above, this analysis is based upon a comparison between the future conditions at the study intersections both with and without the Metro Rail line.

The analysis shows that thirteen of the intersections would operate at LOS D or better. Twenty of the intersections are projected to operate at LOS E or worse which causes a significant change from acceptable to unacceptable levels of service for three study intersections when compared to the future base case without rail transit. According to City of Los Angeles guidelines for the determination of a significant impact, fourteen of the study intersections are significantly impacted by this project alternative.

This analysis is shown in Figure 5.2-23. The figure also shows the LOS and V/C for the Future-Base case for comparison. The locations, LOS and V/C ratios of these intersections are shown in Figure 5.2-22.

Figure 5.2-23
Ventura Freeway Alignment - Alternative #4
Comparison With Future Base Levels of Service

Intersection	Future Base V/C	Future Base LOS	Aerial Alignment V/C	Aerial Alignment LOS
Canoga Avenue/Vanowen Street	1.11	F	1.23	F *
Desoto Avenue/U.S.101 EB OFF	0.85	D	1.04	F * +
Desoto Avenue/U.S.101 WB OFF	0.87	D	0.87	D
Desoto Avenue/Ventura Boulevard	0.79	C	0.97	E * +
Winnetka Avenue/U.S. 101 EB OFF	0.78	C	0.84	D
Winnetka Avenue/U.S. 101 WB OFF	0.52	A	0.52	A
Winnetka Avenue/Ventura Boulevard	0.92	E	0.94	E *
Tampa Avenue/U.S. 101 EB OFF	0.68	B	0.68	B
Tampa Avenue/U.S. 101 WB OFF	0.78	C	0.78	C
Tampa Avenue/Ventura Boulevard	1.03	F	1.03	F
Reseda Boulevard/U.S. 101 EB OFF	0.89	D	0.90	E
Reseda Boulevard/U.S. 101 WB OFF	1.01	F	1.05	F *
Reseda Boulevard/Burbank Boulevard	1.01	F	1.03	F *
White Oak Avenue/Burbank Boulevard	1.38	F	1.48	F *
White Oak Avenue/U.S. 101 EB OFF	0.85	D	0.93	E * +
White Oak Avenue/U.S. 101 WB OFF	1.10	F	1.10	F
Hayvenhurst Avenue/Burbank Boulevard	1.13	F	1.26	F *
Hayvenhurst Avenue/Magnolia Boulevard	0.61	B	0.76	C
Hayvenhurst Avenue/U.S. 101 WB OFF	0.54	A	0.66	B
Sepulveda Boulevard/U.S. 101 WB OFF	0.72	C	0.76	C
Van Nuys Boulevard/Riverside Drive	1.06	F	1.10	F *
Van Nuys Boulevard/U.S. 101 EB OFF	1.15	F	1.18	F *
Van Nuys Boulevard/U.S. 101 WB OFF	1.09	F	1.09	F
Woodman Avenue/Riverside Drive	0.83	D	0.86	D
Woodman Avenue/U.S. 101 EB OFF	0.71	C	0.73	C
Woodman Avenue/U.S. 101 WB OFF	0.74	C	0.74	C
Coldwater Canyon/Riverside Drive	1.17	F	1.21	F *
Coldwater Canyon/U.S. 101 EB OFF	0.82	D	0.85	D
Coldwater Canyon/U.S. 101 WB OFF	1.01	F	1.01	F
Laurel Canyon/Riverside Drive	1.25	F	1.29	F *
Laurel Canyon/U.S. 101 EB OFF	1.30	F	1.30	F
Laurel Canyon/U.S. 101 WB OFF	0.74	C	0.79	C
Laurel Canyon/Moorpark Street	1.18	F	1.20	F *

* Denotes Significant Impact, according to V/C standard.
\+ Change from acceptable to unacceptable level of service.

Ventura Freeway Alternative #5, North Side Subway: This analysis considers the impacts of the subway alternative of the Ventura Freeway Alignment. For traffic analysis purposes, the only difference between this alternative and the previous alternative is the location of the park-and-ride lots at five of the stations. The five stations with a different park-and-ride lot location are at White Oak Avenue, Hayvenhurst Avenue, Woodman Avenue, Coldwater Canyon, and Laurel Canyon.

Like the other future scenarios this analysis compares the future traffic conditions with and without the light-rail line. The analysis shows that the intersection levels of service projected for this alternative are almost identical to those of the Aerial Alternative. The only exception is at White Oak Avenue/Ventura Freeway eastbound off ramp where the LOS is D for the Subway alternative as opposed to E for the Aerial Alternative. Although a number of the V/C ratios change, there is no corresponding change in LOS classification.

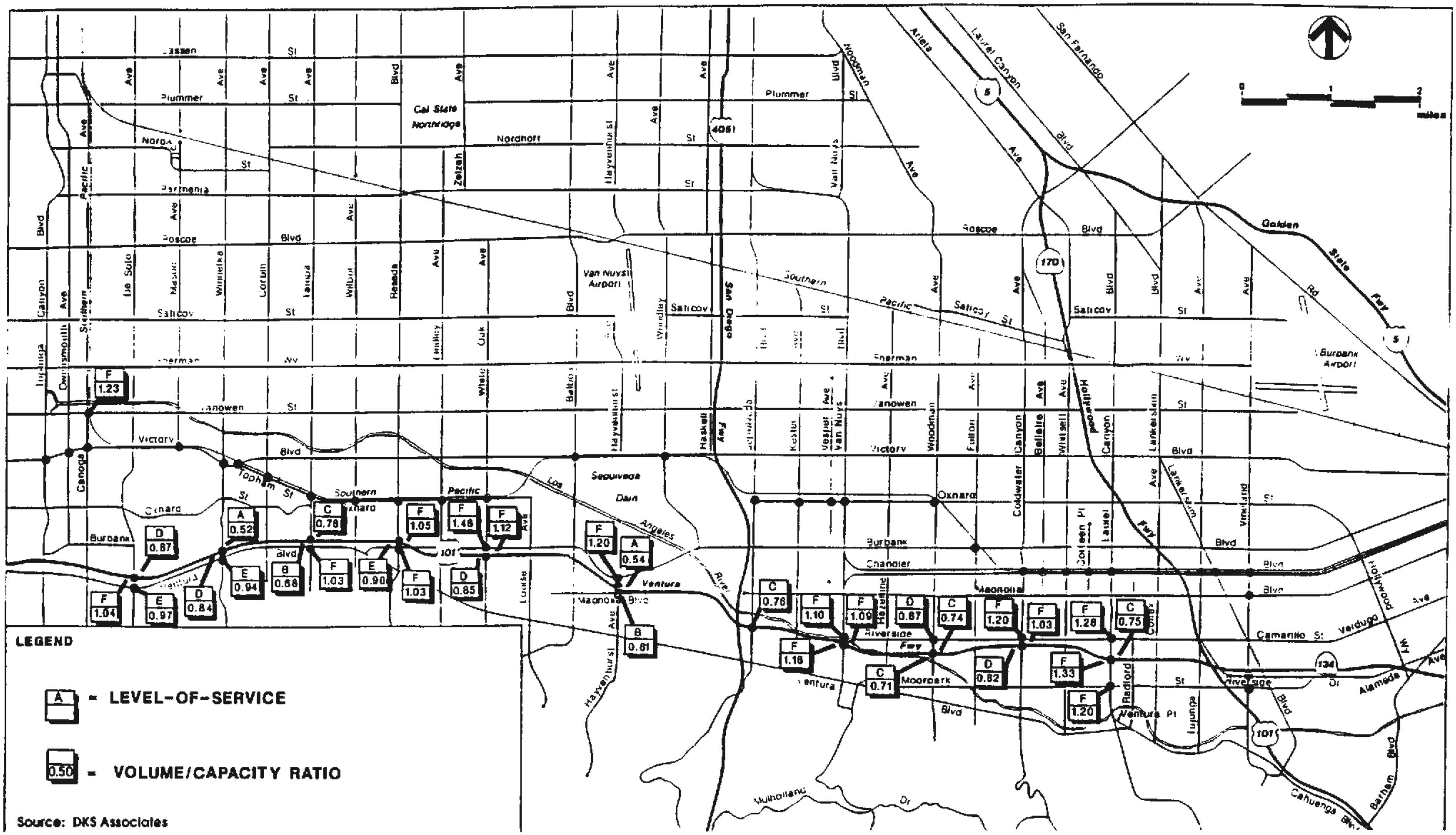
Fourteen of the intersections are projected to operate at LOS D or better; nineteen study intersections would operate at LOS E or worse. Thus, two intersections have a significant change from acceptable to unacceptable levels of service when compared to the Future Base Case without rail transit. Using the V/C analysis, fifteen of the study intersections are significantly impacted by this project alternative.

This analysis is shown in Figure 5.2-25. The figure also shows the LOS and V/C for the Future-Base case for comparison. The locations, LOS and V/C ratios of these intersections are shown in Figure 5.2-24.

Phased Length Option: This scenario considers the impacts of a Phased Length Option segment for each of the five rail alternatives. Under this option, the rail line would terminate near the Sepulveda Basin rather than further west at Warner Center. Rail patrons would use express buses to get to points farther west. Each of the five alternatives would terminate at the station location listed below:

Burbank Branch At-Grade	Sepulveda Boulevard with 750 parking spaces (same as full extension of line).
Burbank Branch Subway/Deep Trench	Sepulveda Boulevard with 750 parking spaces (same as full extension of line).
Burbank Branch Metro-Rail Extension	Balboa Boulevard with 400 parking spaces (same as full extension of line). There would be no station at Woodley.
Ventura Freeway Aerial	Sepulveda Boulevard with 750 parking spaces.
Ventura Freeway Subway	Sepulveda Boulevard with 750 parking spaces.

No further analysis was needed for the three Burbank Branch alternatives, since there was no change to the terminal station (the total number of parking spaces at the Sepulveda and Balboa stations did not change). The fact that there would be no stations farther west would not change the total number of vehicles leaving the station during the evening peak period that would travel north, south, or east.



San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.2-24

Ventura Freeway Alternative #5
Future Conditions with Project (2010)

Figure 5.2-25
Ventura Freeway Alignment - Alternative #5
Comparison With Future Base Levels of Service

	Future Base		Subway Alignment	
Intersection	V/C	LOS	V/C	LOS
Canoga Avenue/Vanowen Street	1.11	F	1.23	F *
Desoto Avenue/U.S.101 EB OFF	0.85	D	1.04	F * +
Desoto Avenue/U.S.101 WB OFF	0.87	D	0.87	D
Desoto Avenue/Ventura Boulevard	0.79	C	0.97	E * +
Winnetka Avenue/U.S. 101 EB OFF	0.78	C	0.84	D
Winnetka Avenue/U.S. 101 WB OFF	0.52	A	0.52	A
Winnetka Avenue/Ventura Boulevard	0.92	E	0.94	E *
Tampa Avenue/U.S. 101 EB OFF	0.68	B	0.68	B
Tampa Avenue/U.S. 101 WB OFF	0.78	C	0.78	C
Tampa Avenue/Ventura Boulevard	1.03	F	1.03	F
Reseda Boulevard/U.S. 101 EB OFF	0.89	D	0.90	E
Reseda Boulevard/U.S. 101 WB OFF	1.01	F	1.05	F *
Reseda Boulevard/Burbank Boulevard	1.01	F	1.03	F *
White Oak Avenue/Burbank Boulevard	1.38	F	1.48	F *
White Oak Avenue/U.S. 101 EB OFF	0.85	D	0.85	D
White Oak Avenue/U.S. 101 WB OFF	1.10	F	1.12	F
Hayvenhurst Avenue/Burbank Boulevard	1.13	F	1.20	F *
Hayvenhurst Avenue/Magnolia Boulevard	0.61	B	0.61	C
Hayvenhurst Avenue/U.S. 101 WB OFF	0.54	A	0.54	B
Sepulveda Boulevard/U.S. 101 WB OFF	0.72	C	0.76	C
Van Nuys Boulevard/Riverside Drive	1.06	F	1.10	F *
Van Nuys Boulevard/U.S. 101 EB OFF	1.15	F	1.18	F *
Van Nuys Boulevard/U.S. 101 WB OFF	1.09	F	1.09	F
Woodman Avenue/Riverside Drive	0.83	D	0.87	D
Woodman Avenue/U.S. 101 EB OFF	0.71	C	0.71	C
Woodman Avenue/U.S. 101 WB OFF	0.74	C	0.74	C
Coldwater Canyon/Riverside Drive	1.17	F	1.20	F *
Coldwater Canyon/U.S. 101 EB OFF	0.82	D	0.82	D
Coldwater Canyon/U.S. 101 WB OFF	1.01	F	1.03	F *
Laurel Canyon/Riverside Drive	1.25	F	1.28	F *
Laurel Canyon/U.S. 101 EB OFF	1.30	F	1.33	F *
Laurel Canyon/U.S. 101 WB OFF	0.74	C	0.75	C
Laurel Canyon/Moorpark Street	1.18	F	1.20	F *

* Intersection impacted by the project, according to V/C standard.
\+ Change from acceptable to unacceptable level of service.

Under the Phased Length Option scenario, the impacts at the terminal station for Alternative #4, Ventura Freeway Aerial Alignment, would actually be less at the study intersections of Sepulveda Boulevard and the Ventura Freeway off ramps. This is because two park-and-ride lots are planned at the Sepulveda station; one with 510 parking spaces to the north of the Ventura Freeway, and one with 240 parking spaces to the south of the Freeway. Since there would be a park-and-ride lot to both the north and south of the Freeway off ramps, patrons bound for the station in the morning would be able to park at a lot without having to pass the off ramps, regardless of the direction they came from. Similarly, during the evening peak period, patrons leaving the two park-and-ride lots would not pass the intersections of Sepulveda and the Freeway off-ramp on their way home.

The Phased Length Option segment for Alternative #5, Ventura Freeway North Side Subway alignment, would also have a total of 750 parking spaces at the Sepulveda Station, but there would only be one parking lot. This lot would be located to the north of the Ventura Freeway. Projected station related traffic would not have any significant impacts on the study intersection of Sepulveda Boulevard and the Ventura Freeway off-ramp. The projected future base LOS is C and would remain so with the addition of station related traffic.

5.2.5 MITIGATION MEASURES

Mitigation measures have been developed to offset the impacts of park and ride station related traffic. In addition to physical roadway improvements, the project itself acts as a mitigation measure to future traffic congestion by diverting travellers from auto and bus trips onto transit vehicles. Based on the Southern California Association of Government's mode choice distribution model for the year 2010, transit ridership with the project would increase by 1/2 percent in the Valley while single occupant auto trips would decline by 4 percent in the Valley.

In this study, transit station areas where adjacent intersections suffered a deterioration in V/C ratio of 0.02 or more beyond 0.90 (LOS E) were considered to be significantly impacted by the project and in need of mitigation work. This could take the form of either a re-striping/removal of parking of the existing lane configuration at the intersection or the widening (within the Public right-of-way) of one or more of the approaches to accommodate the increased traffic volumes. The aim of the mitigation measures is to reduce the V/C ratio to the level shown for the Future Base case without rail transit. The following sections will describe the mitigations for each project alternative.

Burbank Branch Alternative #1, At-Grade LRT: In this alternative, there were eighteen intersections which required mitigation. These intersections and the specific mitigation measures which were applied to each are shown in Figure 5.2-26. The figure shows the level of service and V/C ratio, and the geometric layout at the intersection both before and after mitigation. The measures needed at each of the intersections are described below.

1. Mason Avenue/Victory Boulevard: The project traffic caused the V/C ratio to worsen to 1.25 (LOS F) from the Future Base V/C of 1.11 (LOS F). The westbound approach would need widening and restriping to provide a right turn only lane. On the eastbound approach widening and restriping to provide a double left turn lane would be necessary. The northbound approach would need widening to provide for a right turn lane. The resultant V/C ratio after this mitigation is 1.09 (LOS F).

2. Winnetka Avenue/Victory Boulevard: The project traffic caused the V/C ratio to worsen to 1.27 (LOS F) from the Future Base V/C of 1.10 (LOS F). The southbound approach would need restriping to allow for double left turn lanes. The eastbound approach would need widening and restriping to accommodate an exclusive left turn lane with right turn overlap. The westbound approach would need to be widened and restriped to allow for double left turn lanes. These mitigation measures reduce the V/C ratio to 1.10 (LOS F).

3. Topham Street/Victory Boulevard: The project traffic results in a worsening of the V/C ratio to 1.14 (LOS F) from the Future Base V/C of 1.06 (LOS F). This intersection is assumed to be signalized prior to year 2010. The northbound approach would need to be restriped to allow for an exclusive left turn lane and a left/right turn lane. The eastbound approach would need to be restriped to include a right turn lane. These measures would decrease the V/C ratio to 0.90 (LOS E).

4. Corbin Avenue/Topham Street: The additional project traffic at this intersection causes the V/C ratio to increase to 1.63 (LOS F) from a Future Base V/C of 1.43 (LOS F). The eastbound approach would need restriping to allow for one through and one left

turn lane. The westbound approach would need widening and restriping to allow for a left-turn lane. This would result in the V/C ratio dropping to 1.25 (LOS F).

5. Tampa Avenue/Topham Street: The project traffic results in a worsening of the V/C ratio to 1.38 (LOS F) from the Future Base V/C of 1.19 (LOS F). This is mitigated by restriping the northbound approach to accommodate a right turn lane and by widening and restriping the westbound approach to allow for a right-turn lane. This would reduce the V/C to 1.18 (LOS F).

6. Wilbur Avenue/Oxnard Street: Project traffic causes a worsening of the V/C ratio to 1.63 (LOS F) for the Future Base V/C of 1.45 (LOS F). This can be mitigated by widening Oxnard Street to its full classification standard. The westbound approach would need to be restriped to accommodate one left turn lane, two through lanes and one right turn lane. The eastbound approach should be restriped to allow for one left turn lane and two through lanes. These measures result in an improvement in the V/C to 0.95 (LOS E).

7. Lindley Avenue/Oxnard Street: The project traffic results in a worsening of the V/C ratio to 1.27 (LOS F) from the Future Base level of 1.10 (LOS F). The southbound approach would need widening and restriping to allow for a right turn lane. The westbound approach should be widened and restriped to add a right turn lane. The eastbound approach needs widening to accommodate a left turn lane. This results in a V/C ratio of 1.00 (LOS F).

8. White Oak Avenue/Oxnard Street: The project traffic results in a worsening of the V/C ratio to 1.38 (LOS F) from the Future Base V/C of 0.92 (LOS E). The north and southbound approaches would need widening to accommodate three through lanes and one exclusive left turn lane. The eastbound approach would need to be widened and restriped to accommodate double left-turn lanes and one-through lane. In addition, the westbound approach also requires a right-turn lane. These measures result in a V/C ratio of 0.92 (LOS E).

9. Balboa Boulevard/Victory Boulevard: The addition of project traffic at this intersection results in a worsening of the V/C ratio to 1.30 (LOS F) from the Future Base V/C of 1.24 (LOS F). The northbound approach should be widened and restriped to accommodate an additional right-turn lane. In addition the westbound approach needs restriping to accommodate an additional right-turn lane. These mitigations result in a V/C ratio of 1.17 (LOS F).

10. Woodley Avenue/Victory Boulevard: The additional project traffic at this intersection results in a worsening of the V/C ratio to 1.41 (LOS F) from the Future Base V/C of 1.27 (LOS F). The northbound approach should be restriped to accommodate a right-turn lane. The southbound approach requires widening and restriping to allow for a right-turn lane. These measures result in a V/C ratio of 1.27 (LOS F).

11. Sepulveda Boulevard/Oxnard Street: This intersection V/C ratio worsens to 1.16 (LOS F) with the addition of the project traffic from a Future Base V/C ratio of 1.08 (LOS F). The southbound approach needs widening and restriping to accommodate a second left-turn lane. This measure results in a V/C ratio of 1.05 (LOS F).

12. Kester Avenue/Oxnard Street: The additional project traffic results in a worsening of the V/C ratio to 1.03 (LOS F) from the Future Base V/C of 0.93 (LOS E). The westbound approach should be restriped to allow for a right-turn lane. This results in a V/C ratio of 0.93 (LOS E).

13. Coldwater Canyon Avenue/Chandler Boulevard: The project traffic results in a worsening of the V/C ratio to 1.09 (LOS F) from the Future Base V/C of 0.92 (LOS E). The eastbound and westbound approaches should be widened and restriped to allow for a left-turn lane in each direction. This results in a V/C ratio of 0.88 (LOS D).

14. Whitsett Avenue/Chandler Boulevard: The addition of project traffic to this intersection results in a worsening of the V/C ratio to 1.26 (LOS F) from the Future Base V/C of 0.99 (LOS E). The northbound approach should be restriped to add a right-turn lane. The westbound approach requires widening and restriping to allow for a left-turn lane. The eastbound approach requires similar widening and restriping to allow for double left-turn lanes. These measures result in a V/C ratio of 0.97 (LOS E).

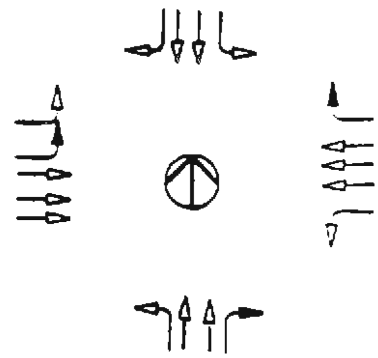
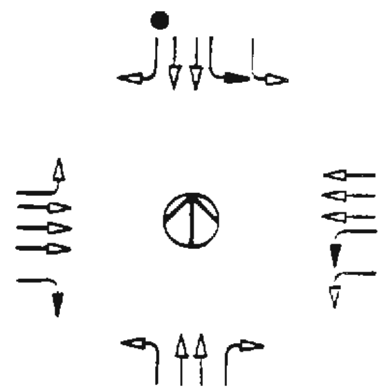
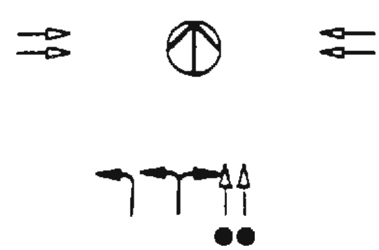
15. Laurel Canyon Boulevard/Chandler Boulevard: The additional project traffic results in a worsening in the V/C ratio to 1.32 (LOS F) from the Future Base V/C ratio of 1.03 (LOS F). The north and southbound approaches both need to be widened and restriped to accommodate three through lanes. In addition, all approaches should be widened to accommodate double left-turn lanes. This results in a V/C ratio of 0.99 (LOS E).

16. Tujunga Avenue/Chandler Boulevard: The project traffic results in a worsening of the V/C ratio to 0.96 (LOS E) from the Future Base case of 0.52 (LOS A). The east and westbound approaches should be restriped to accommodate left-turn lanes. This results in a V/C ratio of 0.86 (LOS D).

17. Lankershim Boulevard/Chandler Boulevard: The addition of the project traffic to this intersection results in a worsening of the V/C ratio to 1.50 (LOS F) from the Future Base case V/C ratio of 0.88 (LOS D). The eastbound approach needs to be widened and restriped to accommodate double left turns, one through lane, and one right-turn lane. The westbound approach needs widening and restriping to allow for one left-turn lane, one through lane, and one right-turn lane. Both the north and southbound approaches should be restriped to provide three through lanes. This results in a V/C ratio of 0.87 (LOS D).

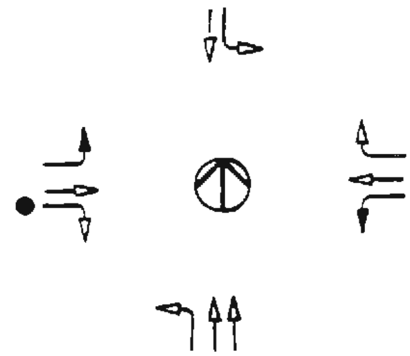
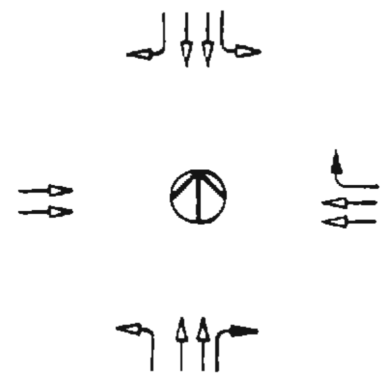
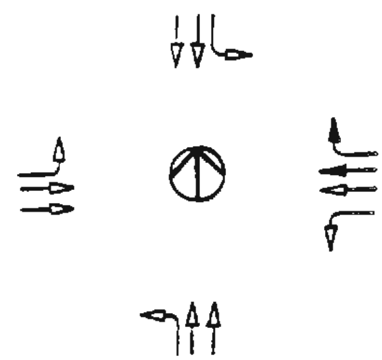
18. Vineland Avenue/Moorpark Street: The addition of the project traffic results in a worsening of the V/C ratio to 1.42 (LOS F) from the Future Base case V/C ratio of 1.15 (LOS F). The east and westbound approaches should be restriped to allow for an exclusive left-turn lane. The southbound approach should be restriped to accommodate a right-turn lane. These mitigations result in a V/C ratio of 1.13 (LOS F).

19. Closure of Bellaire Avenue and Corteen Place: In order to preserve pedestrian access in these communities, a grade separated pedestrian overcrossing shall be provided across the tracks.

STUDY INTERSECTION	V/C AND LOS BEFORE MITIGATION		V/C AND LOS AFTER MITIGATION		CHANGES TO MITIGATE IMPACTS*
MASON AVE/ VICTORY BLVD	1.25	F	1.09	F	
WINNETKA AVE/ VICTORY BLVD	1.27	F	1.10	F	
TOPHAM ST/ VICTORY BLVD	1.14	F	0.90	E	

* Solid lane movements are additional or modified movements.
● Lane removed for mitigation.

Source: DKS Associates

STUDY INTERSECTION	V/C AND LOS BEFORE MITIGATION		V/C AND LOS AFTER MITIGATION		CHANGES TO MITIGATE IMPACTS*
CORBIN AVE/ TOPHAM ST	1.63	F	1.25	F	
TAMPA AVE/ TOPHAM ST	1.38	F	1.18	F	
WILBUR AVE/ OXNARD ST	1.63	F	0.95	E	

* Solid lane movements are additional or modified movements.
● Lane removed for mitigation.

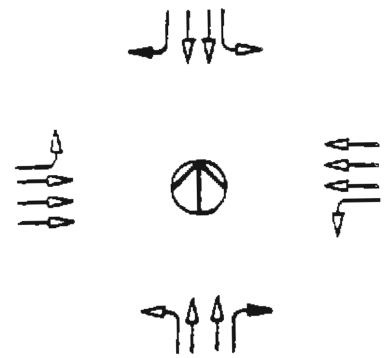
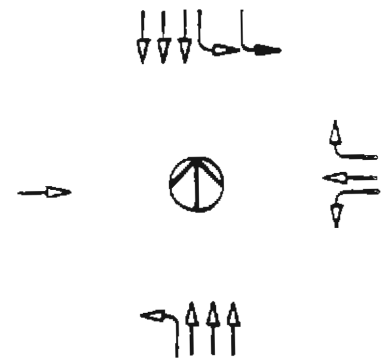
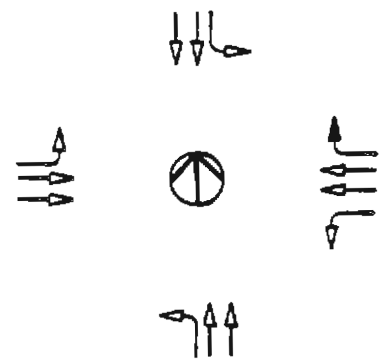
Source: DKS Associates

San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

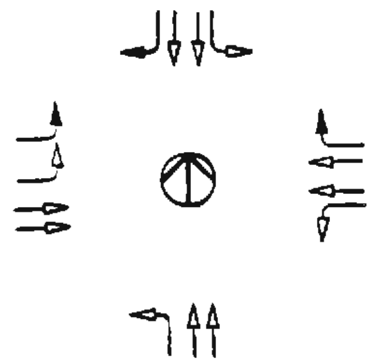
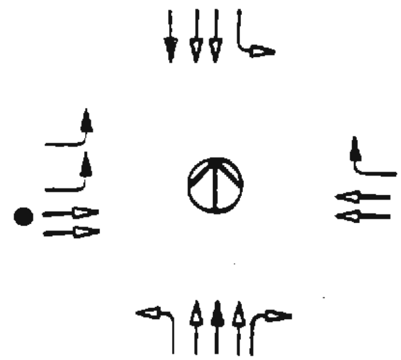
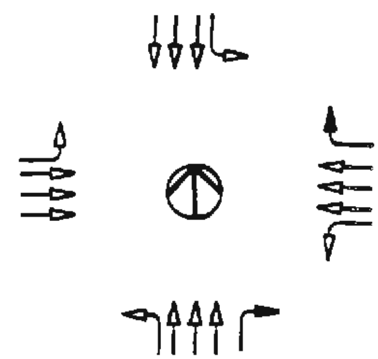
Figure 5.2-26

Burbank Branch - At-Grade LRT
Project Mitigations

STUDY INTERSECTION	V/C AND LOS BEFORE MITIGATION	V/C AND LOS AFTER MITIGATION	CHANGES TO MITIGATE IMPACTS*
WOODLEY AVE/ VICTORY BLVD	1.41 F	1.27 F	
SEPULVEDA BLVD/ OXNARD ST	1.16 F	1.05 F	
KESTER AVE/ OXNARD ST	1.03 F	0.93 E	

* Solid lane movements are additional or modified movements.

Source: DKS Associates

STUDY INTERSECTION	V/C AND LOS BEFORE MITIGATION		V/C AND LOS AFTER MITIGATION		CHANGES TO MITIGATE IMPACTS*
LINDLEY AVE/ OXNARD ST	1.27	F	1.00	F	
WHITE OAK AVE/ OXNARD ST	1.38	F	0.92	E	
BALBOA BLVD/ VICTORY BLVD	1.30	F	1.17	F	

* Solid lane movements are additional or modified movements.
● Lane removed for mitigation.

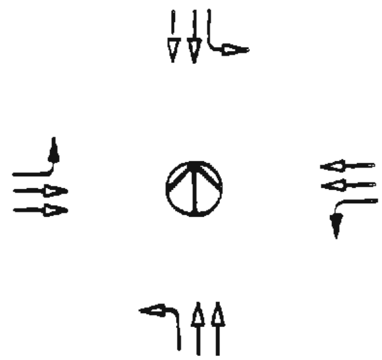
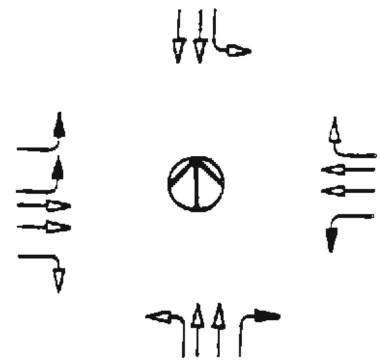
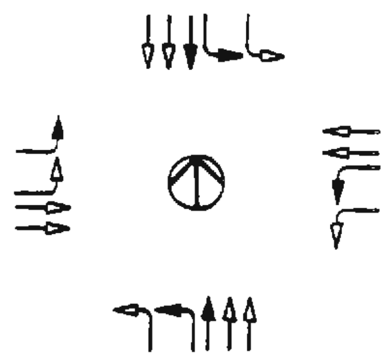
Source: DKS Associates

San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.2-26

Burbank Branch - At-Grade LRT
Project Mitigations

STUDY INTERSECTION	V/C AND LOS BEFORE MITIGATION		V/C AND LOS AFTER MITIGATION		CHANGES TO MITIGATE IMPACTS*
COLDWATER CANYON/ CHANDLER BLVD	1.09	F	0.88	D	
WHITSETT AVE/ CHANDLER BLVD	1.26	F	0.97	E	
LAUREL CANYON/ CHANDLER BLVD	1.32	F	0.99	E	

* Solid lane movements are additional or modified movements.

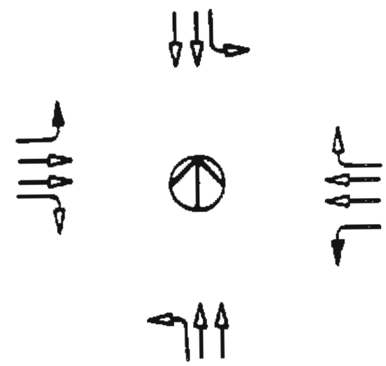
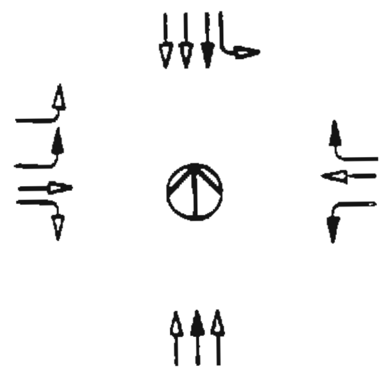
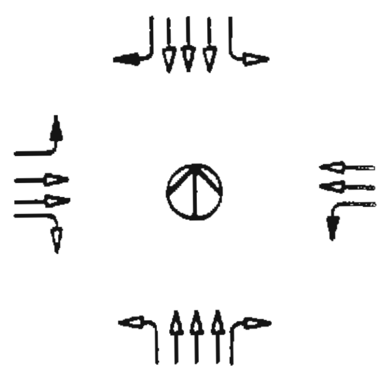
Source: DKS Associates

San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.2-26

Burbank Branch - At-Grade LRT
Project Mitigations

STUDY INTERSECTION	V/C AND LOS BEFORE MITIGATION		V/C AND LOS AFTER MITIGATION		CHANGES TO MITIGATE IMPACTS*
TUJUNGA AVE/ CHANDLER BLVD	0.96	E	0.86	D	
LANKERSHIM BLVD/ CHANDLER BLVD	1.50	F	0.87	D	
VINELAND AVE/ MOORPARK ST	1.42	F	1.13	F	

* Solid lane movements are additional or modified movements.

Source: DKS Associates

San Fernando Valley East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.2-26

Burbank Branch - At-Grade LRT Project Mitigations

Burbank Branch Alternative #2, #3, ART/Metro Rail Extension: The before and after mitigation V/C ratios and geometric layouts are shown in Figure 5.2-27. All of the mitigation measures proposed for the Burbank Branch Alternative #1, At-Grade LRT also apply to this alternative with changes for the following five intersections:

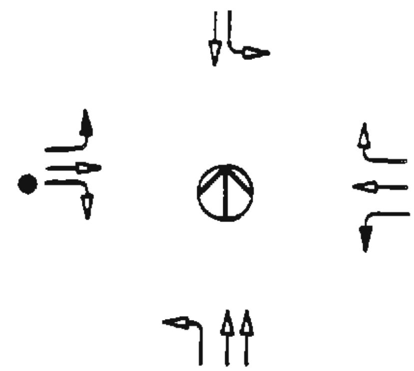
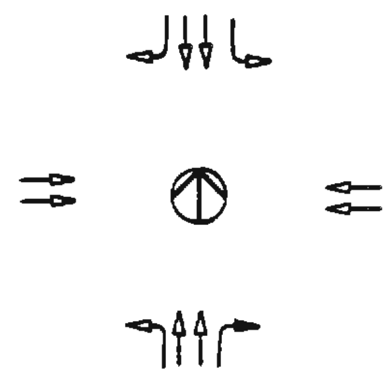
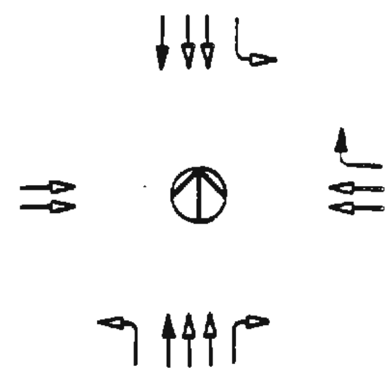
1. Corbin Avenue/Topham Street: The westbound approach needs to be restriped to accommodate one left, one through lane. The eastbound approach needs to be restriped to accommodate one left-turn lane and one through lane. This results in a V/C ratio of 1.30 (LOS F).

2. Tampa Avenue/Topham Street: The northbound approach needs widening and restriping to accommodate 1 right-turn lane. This results in a V/C ratio of 1.17 (LOS F).

3. White Oak Avenue/Oxnard Street: The northbound and southbound approaches should be widened and restriped to accommodate three through lanes. In addition, the westbound approach also requires a right-turn lane. This results in a V/C ratio of 0.91 (LOS E).

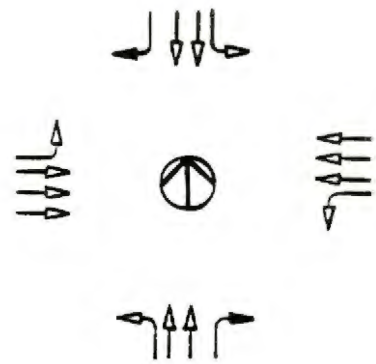
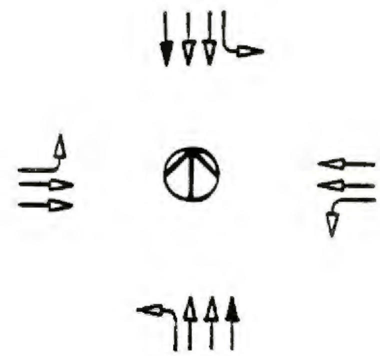
4. Woodley Avenue/Victory Boulevard: The additional project traffic at this intersection results in a worsening of the V/C ratio to 1.41 (LOS F) from the Future Base V/C of 1.27 (LOS F). The northbound approach should be restriped to accommodate a right-turn lane. The southbound approach requires widening and restriping to allow for a right-turn lane. These measures result in a V/C ratio of 1.27 (LOS F).

5. Laurel Canyon Boulevard/Chandler Boulevard: The north and southbound approaches both need to be widened and restriped to accommodate three through lanes. This results in a V/C of 0.91 (LOS E).

STUDY INTERSECTION	V/C AND LOS BEFORE MITIGATION		V/C AND LOS AFTER MITIGATION		CHANGES TO MITIGATE IMPACTS*
CORBIN AVE/ TOPHAM ST	1.47	F	1.30	F	
TAMPA AVE/ TOPHAM ST	1.22	F	1.17	F	
WHITE OAK AVE/ OXNARD ST	1.15	F	0.91	E	

* Solid lane movements are additional or modified movements.
● Lane removed for mitigation.

Source: DKS Associates

STUDY INTERSECTION	V/C AND LOS BEFORE MITIGATION		V/C AND LOS AFTER MITIGATION		CHANGES TO MITIGATE IMPACTS*
WOODLEY AVE / VICTORY BLVD	1.36	F	1.27	F	
LAUREL CANYON/ CHANDLER BLVD	1.09	F	0.91	E	

* Solid lane movements are additional or modified movements.

Source: DKS Associates

San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.2-27

Burbank Branch - Metro Rail
Project Mitigations

Ventura Freeway Alternative #4, South Side Aerial: The following describes the mitigation measures required at impacted study intersections for the Ventura Freeway Alignment (Aerial alternative). These data are summarized in Figure 5.2-28 which show before and after mitigation V/C ratios and geometric layout.

1. Canoga Avenue/Vanowen Street: The addition of the project traffic to this intersection results in a worsening of the V/C ratio to 1.23 (LOS F) from the Future Base V/C of 1.11 (LOS F). The westbound approach requires widening and restriping to accommodate the addition of a right-turn lane. This results in a V/C ratio of 1.09 (LOS F).

2. DeSoto Avenue/US 101 EB Off Ramp: The additional project traffic results in a V/C ratio of 1.04 (LOS F) from the Future Base V/C of 0.85 (LOS D). To mitigate this the eastbound off ramp should be restriped to allow for double left-turn lanes. This would result in a V/C ratio of 0.91 (LOS E).

3. DeSoto Avenue/Ventura Boulevard: The addition of the project traffic results in a worsening of the V/C ratio to 0.97 (LOS E) from the Future Base V/C ratio of 0.79 (LOS C). The westbound approach should be widened and restriped to allow for double right-turn lanes. This results in a V/C of 0.86 (LOS D).

4. Winnetka Avenue/Ventura Boulevard: The additional project traffic at this intersection results in the V/C ratio worsening to 0.94 (LOS E) from the Future Base V/C of 0.92 (LOS E). The westbound approach would need restriping to allow for a right-turn lane. This would result in a V/C ratio of 0.82 (LOS D).

5. Reseda Boulevard/US-101 WB Off-Ramp: The addition of project traffic at this intersection results in the V/C ratio worsening to 1.05 (LOS F). The westbound off-ramp should be restriped to accommodate one right, one right-through, and one left-turn lane. This results in a V/C ratio of 0.96 (LOS D).

6. Reseda Boulevard/Burbank Boulevard: The addition of the project traffic to this intersection results in a worsening of the V/C ratio to 1.03 (LOS F) from the Future Base case of 1.01 (LOS F). The northbound approach should be restriped to accommodate one left, three through lanes and one right-turn lane. This would result in a V/C ratio of 0.96 (LOS E).

7. White Oak Avenue/Burbank Boulevard: The additional project traffic results in a worsening of the V/C ratio to 1.48 (LOS F) from the Future Base case of 1.38 (LOS D). The northbound approach should be widened to accommodate a right-turn lane. This would result in a V/C ratio of 1.35 (LOS F).

8. White Oak Avenue/US 101 EB Off-Ramp: The addition of the project traffic to this intersection results in a worsening of the V/C ratio to 0.93 (LOS E) from the Future Base V/C ratio of 0.85 (LOS F). The northbound approach needs to be widened and restriped to accommodate three through lanes and a right-turn lane. This results in a V/C ratio of 0.82 (LOS D).

9. Hayvenhurst Avenue/Burbank Boulevard: The addition of the project traffic to this intersection results in a worsening of the V/C ratio to 1.26 (LOS F) from the Future

Base case of 1.13 (LOS F). The westbound approach should be restriped to accommodate a second left-turn lane. This results in a V/C ratio of 1.11 (LOS F).

10. Van Nuys Boulevard/Riverside Drive: The additional project traffic results in a worsening of the V/C ratio to 1.10 (LOS F) from the Future Base case V/C ratio of 1.06 (LOS F). This can be mitigated by widening and restriping the northbound approach to accommodate an exclusive right-turn lane. This would result in a V/C ratio of 0.97 (LOS E).

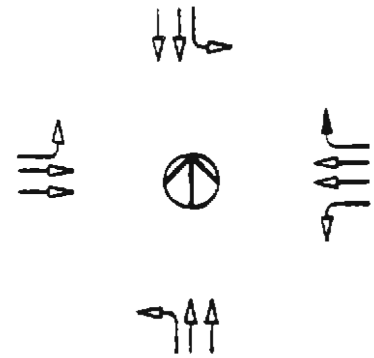
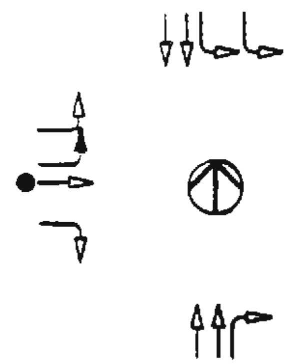
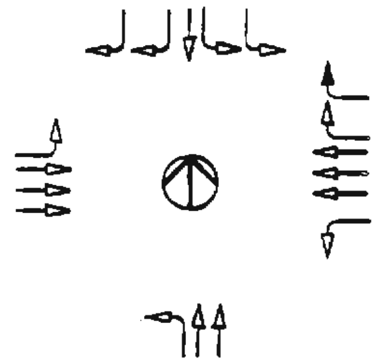
11. Van Nuys Boulevard/US 101 EB Off-Ramp: The addition of the project traffic to this intersection results in a worsening of the V/C ratio to 1.18 (LOS F) from the Future Base V/C ratio of 1.15 (LOS F). The eastbound off ramp should be restriped to allow for double left-turn lanes and one right-turn lane. The left-turn movement should be protected. This would result in a V/C ratio of 1.15 (LOS F).

12. Coldwater Canyon Avenue/Riverside Drive: The additional project traffic at this intersection results in a worsening in the V/C ratio to 1.21 (LOS F) from the Future Base V/C ratio of 1.17 (LOS F). The eastbound and northbound approaches should be restriped to allow for right-turn lanes. This results in a V/C ratio of 1.11 (LOS F).

13. Laurel Canyon Boulevard/Riverside Drive: The project traffic results in a worsening of the V/C ratio at the intersection to 1.29 (LOS F) from the Future Base V/C of 1.25 (LOS F). The eastbound approach should be restriped to allow for the addition of a right-turn lane. This measure would result in a V/C ratio of 1.24 (LOS F).

14. Laurel Canyon Boulevard/Moorpark Street: The additional project traffic at this intersection results in a worsening of the V/C ratio to 1.20 (LOS F) from the Future Base V/C ratio of 1.18 (LOS F). The eastbound approach should be restriped to allow for a right-turn lane. This would result in a V/C ratio of 1.16 (LOS F).

15. Canoga Avenue Median Reconfiguration: The placement of the aerial guideway in the median of Canoga Avenue will require restriping of the travel lanes with flaring of intersections at Victory, Erwin, Oxnard, and Burbank Boulevards. Such reconfiguration would maintain Future Base Capacities of these intersections.

STUDY INTERSECTION	V/C AND LOS BEFORE MITIGATION		V/C AND LOS AFTER MITIGATION		CHANGES TO MITIGATE IMPACTS*
CANOGA AVE/ VANOWEN ST	1.23	F	1.09	F	
DESOTO AVE/ US 101 EB OFF	1.04	F	0.91	E	
DESOTO AVE/ VENTURA BLVD	0.97	E	0.86	D	

* Solid lane movements are additional or modified movements.
● Lane removed for mitigation.

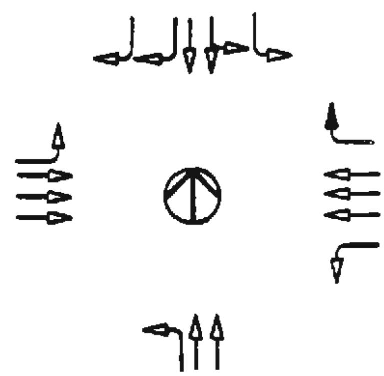
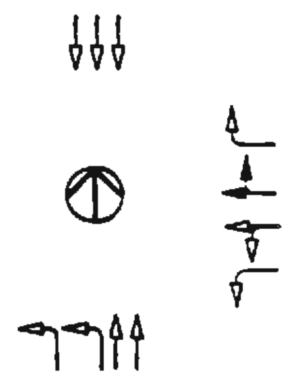
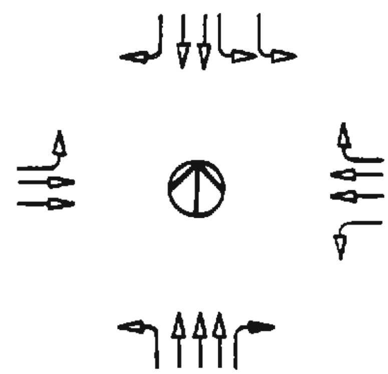
Source: DKS Associates

San Fernando Valley East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.2-28

Ventura Freeway - Aerial Alternative Project Mitigations

STUDY INTERSECTION	V/C AND LOS BEFORE MITIGATION		V/C AND LOS AFTER MITIGATION		CHANGES TO MITIGATE IMPACTS*
WINNETKA AVE/ VENTURA BLVD	0.94	E	0.82	D	
RESEDA BLVD/ US 101 WB OFF	1.05	F	0.96	E	
RESEDA BLVD/ BURBANK BLVD	1.03	F	0.96	E	

* Solid lane movements are additional or modified movements.
● Lane removed for mitigation.

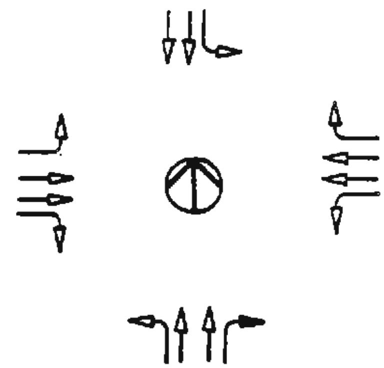
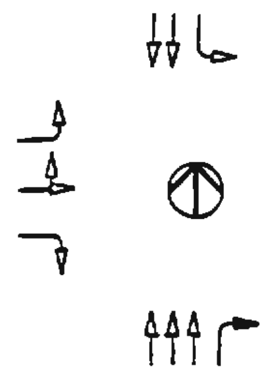
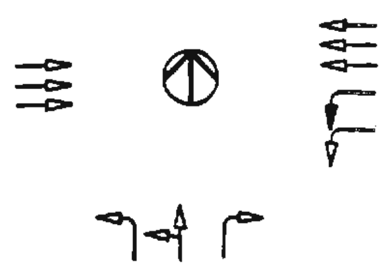
Source: DKS Associates

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.2-28

Ventura Freeway - Aerial Alternative Project Mitigations

STUDY INTERSECTION	V/C AND LOS BEFORE MITIGATION		V/C AND LOS AFTER MITIGATION		CHANGES TO MITIGATE IMPACTS*
WHITE OAK AVE/ BURBANK BLVD	1.48	F	1.35	F	
WHITE OAK AVE/ US 101 EB OFF	0.93	E	0.82	D	
HAYVENHURST AVE/ BURBANK BLVD	1.26	F	1.11	F	

* Solid lane movements are additional or modified movements.
● Lane removed for mitigation.

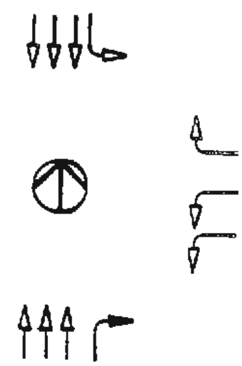
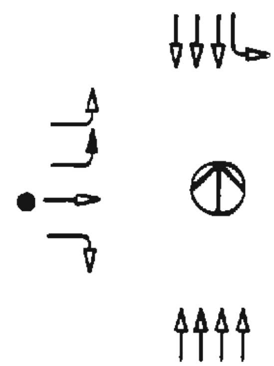
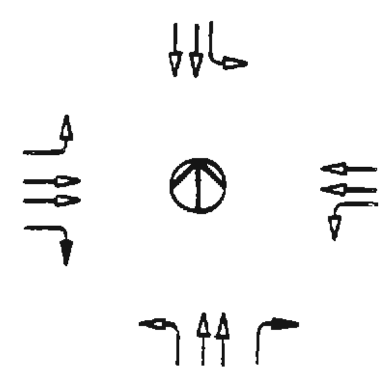
Source: DKS Associates

San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.2-28

Ventura Freeway - Aerial Alternative
Project Mitigations

STUDY INTERSECTION	V/C AND LOS BEFORE MITIGATION		V/C AND LOS AFTER MITIGATION		CHANGES TO MITIGATE IMPACTS*
VAN NUYS BLVD/ RIVERSIDE DR	1.10	F	0.97	E	
VAN NUYS BLVD/ US 101 EB OFF	1.18	F	1.15	F	
COLDWATER CANYON/ RIVERSIDE DR	1.21	F	1.11	F	

* Solid lane movements are additional or modified movements.
● Lane removed for mitigation.

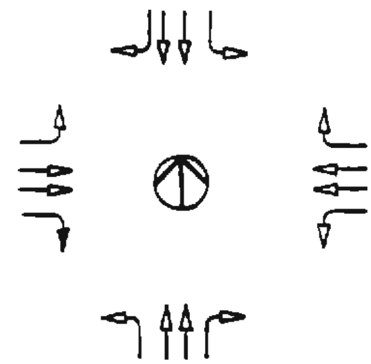
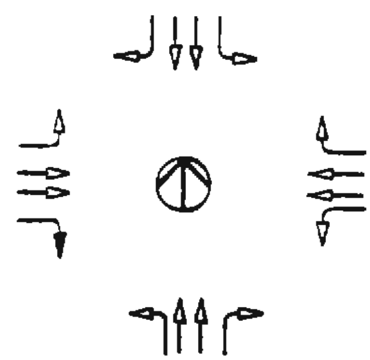
Source: DKS Associates

San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.2-28

Ventura Freeway - Aerial Alternative
Project Mitigations

STUDY INTERSECTION	V/C AND LOS BEFORE MITIGATION		V/C AND LOS AFTER MITIGATION		CHANGES TO MITIGATE IMPACTS*
LAUREL CANYON/ RIVERSIDE DR	1.29	F	1.24	F	
LAUREL CANYON/ MOORPARK ST	1.20	F	1.16	F	

* Solid lane movements are additional or modified movements.

Source: DKS Associates

Ventura Freeway Alternative #5, North Side Subway: All of the mitigations proposed for the Aerial Alternative also apply to this alternative with the following exceptions:

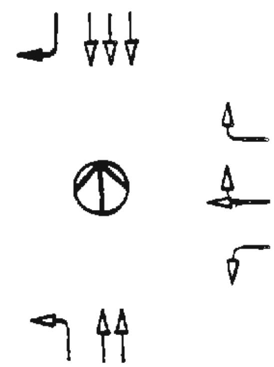
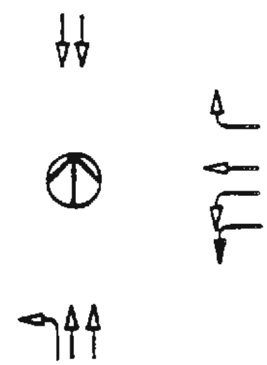
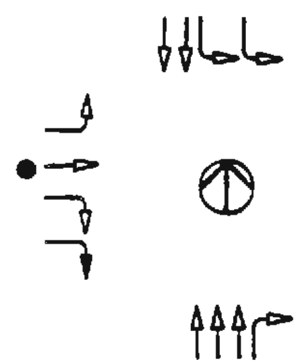
1. White Oak Avenue/US 101 WB Off-Ramp: The southbound approach should be restriped to allow for a right-turn lane. This results in a V/C ratio of 1.01 (LOS F).

2. Coldwater Canyon Avenue/US 101 WB Off-Ramp: The westbound off ramp should be restriped to allow for double left-turn lanes and a right-turn with overlap. This results in a V/C of 0.99 (LOS E).

3. Laurel Canyon Boulevard/Moorpark Street: The eastbound approach should be restriped to allow for a double right-turn lane. This would allow for a V/C ratio of 1.17 (LOS F).

4. Canoga Avenue Median Reconfiguration: The placement of the aerial guideway in the median of Canoga Avenue will require restriping of travel lanes with flaring of intersections at Victory, Erwin, Oxnard and Burbank Boulevards. Such reconfigurations would maintain Future Base Capacities at these intersections.

The above data is summarized in Figure 5.2-29.

STUDY INTERSECTION	V/C AND LOS BEFORE MITIGATION	V/C AND LOS AFTER MITIGATION	CHANGES TO MITIGATE IMPACTS*
WHITE OAK AVE/ US 101 WB OFF	1.36 F	1.01 F	
COLDWATER CANYON / US 101 WB OFF	1.03 F	0.99 E	
LAUREL CANYON/ US 101 EB OFF	1.33 F	1.17 F	

* Solid lane movements are additional or modified movements.
● Lane removed for mitigation.

Source: DKS Associates

San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.2-29

Ventura Freeway - Subway Alterntive Project Mitigation

5.3 NOISE AND VIBRATION IMPACTS

This section summarizes the noise and vibration impact assessment that has been performed for the five San Fernando Valley Rail Project Alternatives. This summary briefly outlines the criteria used to define impact, the procedures used to project the noise and vibration levels, and the overall level of noise and vibration impact for each alternative. As discussed below, noise and vibration impact will be avoided by including proper noise and vibration mitigation measures, except in some localized areas.

5.3.1 Noise and Vibration Impact Criteria

In the past, typical problems with criteria used to evaluate transit projects have been the under-estimation of the effects of warning bells at grade-crossings and the sensitivity of residents in quiet neighborhoods to the annoyance that can be caused by late night or early morning train service. The noise and vibration criteria that have been used for this project were recently developed by Harris Miller Miller and Hanson, Inc., as part of an Urban Mass Transportation Administration (UMTA) contract to develop standard procedures for evaluating the noise and vibration impact of all types of transit projects. The criteria are based on existing criteria, such as those in UMTA Circular C 5620.1[1] and the American Public Transit Association (APTA) design guidelines[2], and existing research into human response to community noise and building vibration. The recommended criteria are detailed in the draft "UMTA Guidance Manual for Transit Noise and Vibration Impact Analysis."[3] Since the Guidance Manual is still in the draft stage, these criteria have not been formally adopted by UMTA. It should be noted, that these criteria are significantly stricter than those presently used by the LACTC and have been used in an effort to provide a very conservative approach to assessing noise impacts.

Noise Criteria: The noise impact criteria are based on comparisons of existing and future noise environments. They are designed such that, on average, the percent of people who are annoyed by noise from a transit project will be the same regardless of the existing ambient noise levels. Ambient noise is defined using the Community Noise Equivalent Level (CNEL), which is an integrated measure of noise over a 24-hour period.[4] CNEL incorporates penalties to account for the greater sensitivity of people to noise during in the evening and nighttime hours.

---

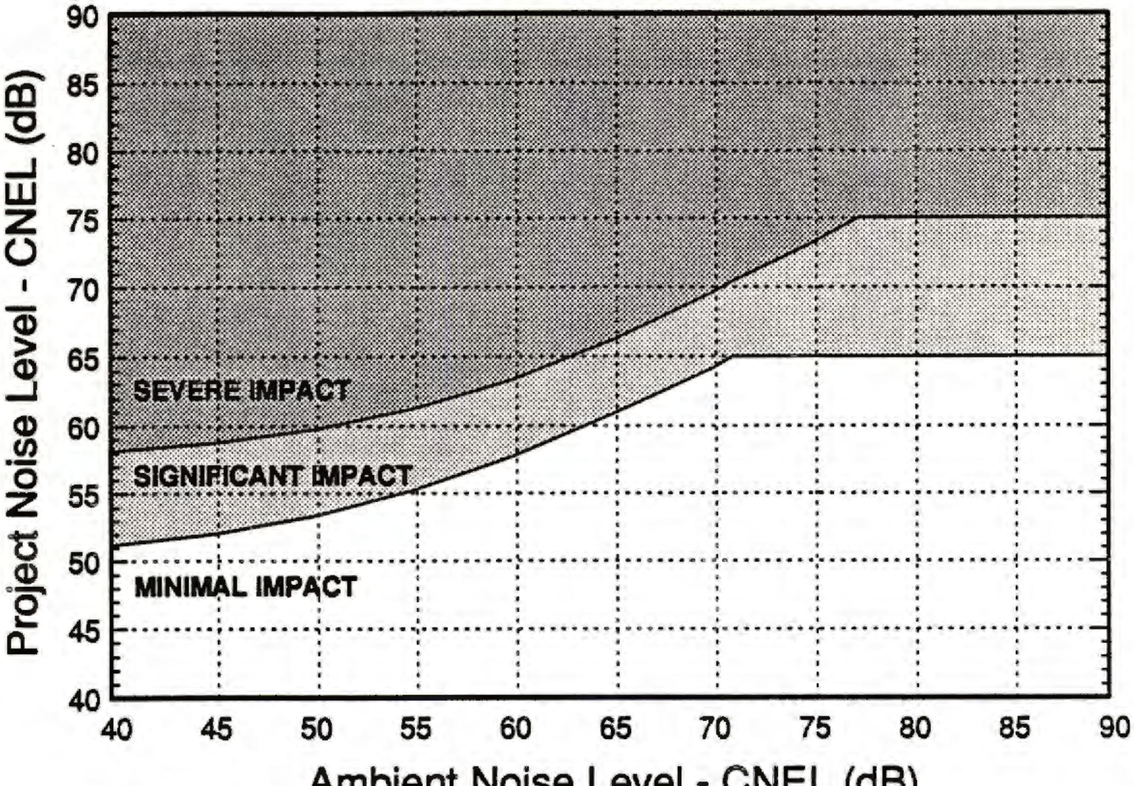
[1] Guidelines for Preparing Environmental Assessments, Circular UMTA C5620.1, Department of Transportation Urban Mass Transportation Administration, October 16, 1979.

[2] Guidelines for the Design of Rail Transit Facilities, American Public Transit Association, 1981.

[3] Urban Mass Transportation Manual for Transit Noise and Vibration Impact Assessment: HMMH Report 280280, Harris Miller Miller & Hanson Inc., Draft Report submitted to UMTA, June 1989.

[4] 1981 Guidelines for Design of Rail Transit Facilities, American Public Transit Association.

Figure 5.3-1
Draft UMTA Noise Impact Criteria
Based on Project Versions Ambient CNEL



The noise criteria include three ranges of impact:

1. Severe Impact: When noise levels will be in this range, noise mitigation must be included in the project.

2. Significant Impact: This range represents sufficient impact that noise mitigation should be included in the project if practical and cost effective.

3. Minimal Impact: In this range the transit system may be audible, but it is considered to create a minor change in the community noise.

The procedure for assessing impact is to determine the pre-project ambient noise level and the project noise level at a given site, both in terms of CNEL, and to plot these levels on the noise criterion curve shown in Figure 5.3-1. The location of the plotted point in one of the above three ranges of impact is an indication of the severity of the impact.

The curves in Figure 5.3-1 were developed based on results of many social surveys concerning annoyance due to transportation noise. These surveys determined that for the same increase in ambient noise level due to a project, there is a greater increase in the number of people highly annoyed at high noise levels than at low noise levels. In other words, relative noise impact varies with the existing background noise level.

The starting point for the development of the impact criteria is the research finding that there are essentially no people highly annoyed at a CNEL of 50dB, and about 2% highly annoyed at 55dB. Consequently, a project noise level that increases a community noise level from CNEL 50dB to CNEL 55dB is considered to cause a significant impact. It takes a project noise level of 53dB to cause an increase from 50dB to 55dB. As total noise goes up, it takes a smaller and smaller increment to attain the same 2% increase in highly annoyed people. The shape of the curve at other noise levels is based on maintaining the same increase in annoyance. As a result, while a 5dB noise increase is allowed for an existing noise level of 50dB, an increase of only 1dB is allowed for an existing noise level of 70dB.

It is important to keep in mind that it is the combined noise, project plus ambient, that causes people to be highly annoyed. This accounts for the unexpected result that project noise, expressed in terms of CNEL, less than existing ambient can cause significant impact. An example is that a project noise level of 58dB CNEL, when added to an existing ambient of 60dB causes the same community reaction as a project CNEL of 55dB added to an ambient of 50dB.

The upper curve delineating the onset of severe impact was developed in a similar manner, except that it was based on a total noise level corresponding to a higher degree of impact.

Ground-Borne Vibration Criteria: A common concern is that when ground-borne vibration can be felt there is the potential for the vibration to cause damage to the building foundation or structure. Ground-borne vibration from rail transit systems rarely exceeds a peak particle velocity of 0.05 inches per second most criteria for building damage are 1.0 to 2.0 inches per second. Because ground-borne vibration in residential areas will create annoyance long before building damage becomes a real possibility, the vibration criteria are primarily associated with human annoyance.

The vibration criteria in the draft Guidance Manual are very similar to the design goals of the APTA Guidelines, which have been used for the environmental assessments of previous transit projects. The primary variation is that impact is defined to occur when vibration velocity levels at residential locations exceed 72dB[5]. There is no adjustment for existing ground-borne vibration since it is rare for the existing vibration to be perceptible. Because of the limited research regarding human annoyance caused by low-amplitude building vibration, the vibration criteria are based more on professional experience than formal research. This experience suggests that 72dB is a relatively conservative criterion for residential vibration and that many people will not be annoyed until building vibration exceeds 75 to 77dB.

---

[5] All vibration levels in this report are in terms of the vibration velocity level in decibels relative to 1 micro-inch per second.

5.3.2 Airborne Noise Projections

The projections of train noise are based on the noise specifications for the Metro Rail and Los Angeles-Long Beach LRT vehicles, proposed track configurations, and projected operating conditions using the plans developed by Manuel Padron & Associates.[6] The ART vehicles are assumed to have the same acoustical characteristics as the LRT vehicles. The projection procedures are based on equations in the "Handbook of Urban Rail Noise and Vibration Control."[7]

The projections indicate that, when all other conditions are equal, the noise impact will be lowest with the Metro Rail option and highest with the ART option. The reasons for this are:

- The specifications for the Metro Rail vehicle have lower noise limits than the specifications for the LRT vehicle. As a result, the noise projections show less noise impact for the Metro Rail options. If the vehicle supplier is to achieve the Metro Rail noise limits, it will probably be necessary to include some special noise abatement measures. The LRT noise specification is consistent with the vehicles that have been delivered to San Diego, Sacramento, Portland and other cities with relatively new LRT systems and should not require any special measures by the vehicle supplier.

- Because a major consideration of ART is its ability to operate more frequently, the ART operating plan includes more nighttime trains than the LRT plan. Since CNEL is very sensitive to nighttime noise, the CNEL for ART operations is approximately 2dBA higher than for LRT operations.

5.3.3 Ground-borne Vibration Projections

The ground-borne vibration projections are based on measurements at existing transit properties, tests with several different transit vehicles at the Transportation Test Center in Pueblo, Colorado, and a series of vibration propagation tests at representative locations in the San Fernando Valley. It has been assumed that the LRT, ART and Metro Rail vehicles will all create similar levels of ground-borne vibration. Although it is intuitive to expect that a heavy rail vehicle will create higher vibration levels than light rail vehicles, experience indicates that the vehicle suspension is a much more important factor than whether the vehicle is designated as a light or heavy rail vehicle.

Because of the large number of uncertainties related to generation and propagation of ground-borne vibration, a 5dB range has been projected instead of a single number. The low end represents the average expected vibration level and the high end represents the maximum expected vibration. This means that if a range of 71 to 76dB is projected, there is approximately 50% chance that the vibration will be lower than 71dB and very little

---

[6] <u>San Fernando Valley Rail Transit Project Operating Plans for Alternative Alignments</u>, Manuel Padron & Associates and G. Kambles, two reports; November 1987 and June 1989.

[7] <u>Handbook of Urban Rail Noise and Vibration Control, UMTA Report #UMTA-MA-06-0099-82-1</u>, H.J. Saurenman, J.T. Nelson, G.P. Wilson, October 1982.

chance that the vibration will exceed 76dB. Three levels of impact have been defined using the 5dB prediction range:

1. Impact Unlikely: The upper level does not exceed the criterion.

2. Impact Possible: The upper level exceeds the impact criterion but the lower level is below the criterion. More detailed projections of the vibration levels should be performed during the final design to ensure that the impact criterion will not be exceeded.

3. Impact Probable: The lower level exceeds the impact criterion. Although more detailed projections should be performed during the final design, adverse impact from ground-borne vibration is likely unless vibration mitigation is incorporated in the final trackwork design.

For example, considering a projected range of 71 to 76dB and the residential impact threshold of 72dB, there is a significant chance that the vibration will not exceed the criterion. This is defined as "Impact Possible." More detailed projections of the vibration level during the final design using specific geologic data or a site specific propagation test should be performed before specifying vibration control measures. However, if the projected range is 74 to 79dB, it is very likely that the impact limit will exceed 72dB. Impact is "Probable," and it can be assumed that vibration control measures will be required in order to mitigate vibration to acceptable levels.

5.3.4 Noise/Vibration Impacts and Mitigation

The potential noise and vibration impacts and the measures required to mitigate the impacts are summarized for the five alternatives in Figures 5.3-2 and 5.3-3. The overall conclusion is that with proper mitigation, the noise impact will be limited to between 9 and 38 buildings depending upon the alternative selected, and the vibration impact can be eliminated. The most severe impacts are projected to result from high noise levels where the Ventura Freeway aerial structure will be located very close to buildings. An overview of the impact and mitigation for each route follows.

Alternative #1-SP Burbank Branch LRT: As shown in Figure 5.3-4, most of the potential noise impact for this route is controlled by the shallow trench/berm configuration that has been specified in the majority of residential areas. With an additional 27,900 feet of berm or barrier primarily along at-grade sections of track leading to grade crossings, only two single-family residences remain in the Significant Impact Zone along normal line sections of the track. However, there will still be a significant level of noise impact because of the noise from the warning bells at the grade crossings.

To be an effective safety device, the warning bells at grade crossings must cut through the background noise. Because of the distinctive sound of the bells, they can be particularly annoying in residential areas. To account for the higher potential annoyance level, the bell noise has been analyzed as if it were 5dB louder than it actually is. This is a relatively standard approach when analyzing the potential annoyance of rattles, shrill sounds, and other distinctive noises. Two mitigation approaches have been evaluated for the grade crossings:

1. Adjust the operating plan such that the train speed in the areas with grade crossings will be less than 35 mph during the nighttime hours (10 pm to 7 am): Crossing gates and warning bells are not required at these speeds. This approach reduces the CNEL near grade crossings by approximately 3dB and will significantly reduce the level of noise impact. However, there will still be approximately 33 residences in the Significant Impact Zones and five residences in the Severe Impact Zones near grade crossings.

2. Use lower sound level bells: Further mitigation is possible if quieter bells can be used without compromising safety. The purpose of the bells is to alert pedestrians. Audible warning devices are available for pedestrians which are far more quiet. Presently the California Public Utilities Commission requires these bells. As a mitigation, LACTC proposes to work closely with the CPUC to redesign the audible warning devices to be less intrusive.

   Assuming no bells at night and bells that are 5dB quieter than normal during other periods, the impact near grade crossings is reduced to five residences in the Significant Impact Zone and no residences in the Severe Impact Zone. In specific cases it may be possible to design baffles for the warning bells that will reduce the noise at the closest residences without reducing he noise on the street.

Most of the potential for impact from ground-borne vibration along this route occurs at two double crossovers located in residential areas. The higher vibration levels are caused by wheel impacts at the switches and frogs of special trackwork. One mitigation measure is to relocate the crossovers so they are not as close to vibration sensitive areas. Otherwise, controlling vibration impact will require vibration isolation systems designed to function with ballast-and-tie surface track. Treatment of the special trackwork will eliminate all areas of Probable Vibration Impact. In addition, approximately 4300 feet of track should be evaluated in the final design phase to determine if additional vibration treatment is required.

<u>Alternative #2-SP Burbank LRT/Deep Trench</u>: Because this route is almost entirely subway or deep channelized guideway, there is very little potential for noise impact. The only exception is the aerial section along Victory Boulevard at the west end of the route where 900 feet of barrier is required to eliminate the noise impact.

The potential for vibration impact is very similar to Alternative #1, with all of the Probable Impact due to three double crossovers. Relocation or treatment of the special trackwork will eliminate the Probable Impact and most of the Potential Impact. In addition, approximately 2400 feet of track should be evaluated in the final design phase to determine if vibration treatment is required.

Figure 5.3-2
Noise Impact and Mitigation Summary

Alternative	Transit Mode	Noise Mitigation: Barriers or Berms[a]	Noise Mitigation: Grade Crossings	Impact with Mitigation	Severe	Significant	Comments
1. Burbank Branch	LRT	27,900 ft[b]	6[c]	SF	5	33	All impact is due to grade-crossing warning bells except for two SF residences near a grade crossing.
			6[d]	SF	0	9	
2. Burbank Branch Subway/Trench	LRT	900 ft	--	--	--	--	Barrier is needed on aerial section before start of subway/trench.
3. Burbank Branch Subway	Metro ART	--	--	--	--	--	No surface sections.
4. Ventura Fwy Aerial	ART	32,830 ft	--	SF	3	10	Severe Impact is caused by aerial structure being located very close to buildings. The Severe Impact is same for both modes and both require the same length of noise barrier.
				MF	1	4	
				Office[e]	1	1	
	Metro	32,830 ft	--	SF	3	6	
				MF	1	0	
				Office[e]	1	1	
5. Ventura Fwy Subway	Metro	2,420 ft	--	--	--	--	Barrier required for part of aerial section.
	ART	2,420 ft	--	--	--	--	

SF = Single-family residence MF = Multi-family residential building

a Total length of barrier/berm.
b Most of barrier length (approximately 20,000 ft) consists of extending berms and/or barriers at grade crossings to the edge of the roadway.
c Option 1 is for mitigating grade-crossing noise is to reduce train speed in the nighttime hours (10 pm - 7 am). This will eliminate the requirement for grade-crossing during the period when people are most sensitive to community noise.
d Option 2 is to install 5 dBA quieter warning bells in addition to not using grade-crossing gates at night.
e Aerial structure will be very close to affected office buildings. Severe Impact can be eliminated by adjusting location of double crossover.

Alternative #3-SP Burbank ART/Metro Rail Extension: Because Alternative #3 is almost entirely subway, there is no need for noise mitigation. The potential for vibration impact is very similar to Alternatives #1 and #2. Treatment of the special trackwork at one double crossover and one pocket track will eliminate all of the Probable Impact. In addition, approximately 2750 feet of track should be evaluated in the final design phase to determine if vibration treatment is required.

Alternative #4-Ventura Freeway South Side Aerial: Although there is a different level of noise impact for each of the transit modes evaluated for Alternative #4, the amount of sound barrier required to mitigate the impact is the same for both modes. As shown in Figure 5.3-5, most of the potential noise impact can be controlled with sound barriers on the in-bound side of the aerial structure (side facing away from the freeway). With the barriers, 12 to 20 buildings are still projected to be within the noise impact zones. Most of these buildings are very close to the aerial structure or are located near crossovers. The wheel impacts at crossovers increase the noise levels by approximately 6dBA. Further mitigation of noise impact will require detailed study of the specific buildings and their relationship to the aerial structure. Other mitigation options are:

- Use higher noise barriers. This will not work for any building where the upper levels of the building are high enough to look over the barrier.

- Relocate crossovers. When crossover noise contributes to the noise, relocating the crossover may reduce the impact.

- Treat the building. In some cases the most cost effective method of reducing noise impact is to improve the sound insulating properties of the building. This usually requires replacing the existing windows with acoustically-rated laminated glass or double-glazed windows. Such mitigation could effectively mitigate noise to acceptable levels for these buildings.

The vibration projections indicate Probable Impact for 11 single-family residences and Possible Impact for 14 single-family residences. Most of the affected buildings will be within 50 feet of retained fill or ballast and tie track sections. Treatment of one crossover and 1000 feet of track will eliminate all of the Probable Impact. Eliminating the Possible Impact could require treatment of up to 4,500 feet of normal welded tie-and-ballast track.

Figure 5.3-3
Ground-Borne Vibration Impact and Mitigation Summary

Alternative	Transit Mode	Potential Impact[a]			Vibration Treat.		Comments
			Probable	Possible	Max.[b]	Min.[c]	
1. Burbank Branch	LRT	SF MF Church	6 1 	14 17 1	4300 ft	800 ft	
2. Burbank Branch, Subway/Trench	LRT	SF MF Church	5 2 	14 5 1	2,400 ft	1,200 ft	
3. Burbank Branch, Subway	Metro ART	SF MF Church	4 - 	16 2 1	2,750 ft	600 ft	
4. Ventura Freeway, Aerial	ART Metro	SF	11	14	4,500 ft	1,600 ft	Impact is same for all three transit modes.
5. Ventura Freeway, Subway	Metro ART	SF MF Med Bld[d] Conv. Hos.	5 12 	32 30 1 1	13,300 ft	4,050 ft	Significant potential impact when alignment goes under, or almost under, a number of buildings.

SF = Single-family residence MF = Multi-family residential building

a Number of buildings impacted with each alternative without any vibration mitigation measures.
b Length of track that must be treated to eliminate all potential for impact from ground-borne vibration.
c Minimum length of track that must be treated to eliminate probable impact.
d Ground-borne vibration may affect vibration sensitive equipment, such as high-powered microscopes, in medical building.

Alternative #5-Ventura Freeway North Side Subway Option: This alternative is subway through most of the noise sensitive areas and has been evaluated for either a Metro Rail or ART system. The only noise sensitive surface section is at the western end along Canoga Avenue where the alignment is the same as Alternative #4. A 2,420-foot barrier on the in-bound side of the aerial structure (side facing away from the freeway) will control the potential noise impact.

Because of the number of buildings that this alignment is directly under, or almost under, this alternative has significantly more potential for impact from ground-borne vibration than the other four alternatives. Without treatment, Probable Impact is projected for 12 multi-family buildings and five single-family residences. Possible Impact is projected for 30 multi-family buildings, 32 single-family residences, one medical building and a convalescent hospital.

Eliminating the vibration impact will require treatment at four crossovers, the pocket track, the yard turnout at Sepulveda Boulevard, and between 2,000 and 9,000 feet of continuously welded track in bored tunnel.

Figure 5.3-4
Projected Noise Levels Along Burbank Branch LRT Route
Alternative #1
(1 of 3)

Location	Land Use	Track Type	Typ. Dist to Track (ft)	Train Speed (mph)	Exist. CNEL (dBA)	Impact Limits (dBA)	PROJ. CNEL Normal (dBA)	PROJ. CNEL With Migatn (dBA)	Type of mitigation and comments
Victory Blvd. East of De Soto [BB-1]	SF	Aerial/ Transition	100	55	65	61/66	62	56	Marginally over impact threshold
Mason Ave. grade crossing, houses north of Victory	SF	At-grade	110	55	65	61/66	66	63	Without grade-crossing bells at night, 2 houses remain in Significant Impact Zone.
Victory west of Winnetka [BB-2]	SF	At-grade	80	55	59	58/63	61	55	Barrier on OB side
North and south of Victory flyover	SF	Aerial	80	55	60	58/63	64	56	Barrier on OB side
Between Victory and Corbin Ave.	SF	Aerial	70	55	60	58/63	62	56	Barrier, both sides
Corbin Avenue grade crossing	SF	At-grade	115	55	60	58/63	65	63	Without grade-crossing bells at night, 4-6 houses remain in Significant Impact Zone.
Topham Ave. east of Tampa Station [BB-3]	SF	At-grade	90	55	62	59/64	61	55	Berm. If speed is 40 mph or less, no houses will be in impact zone
Tampa Ave grade crossing	SF	At-grade	100	40	62	59/64	66	63	Without grade-crossing bells at night, 3-5 houses remain in Significant Impact Zone
Transition west of Wilbur Ave grade crossing [BB-4]	SF	At-grade/ berm	70	55	62	59/64	57	–	No impact
Wilbur Ave grade crossing	SF	At-grade	130	55	62	59/64	64	61	Without grade-crossing bells at night, 4-6 residences remain in Significant Impact Zone
Bessmer St. between Canby Ave and Etiwanda Ave.	SF	Aerial	100	55	62	59/64	63	55	Barrier on north side of aerial structure
Lindley Ave. grade crossing	SF	At-grade	100	55	58	57/62	67	64	Without grade-crossing bells at night, two residences remain partially in Severe Impact Zone

Figure 5.3-4
Projected Noise Levels Along Burbank Branch LRT Route
Alternative #1
(2 of 3)

Location	Land Use	Track Type	Typ. Dist to Track (ft)	Train Speed (mph)	Exist. CNEL (dBA)	Impact Limits (dBA)	PROJ. CNEL Normal (dBA)	PROJ. CNEL With Migatn (dBA)	Type of mitigation and comments
Topham Ave between Lindley Ave and Zelzah Ave. [BB-5]	SF	Trench/ Berm	70	55	58	57/62	56	--	No impact
At-grade transition west of White Oak Station	SF	At-grade	90	40	58	57/62	58	53	Continue berm to station
White Oak Avenue grade crossing	SF	At-grade	80	40	58	57/62	67	64	No grade-crossing bells at night; several houses remain in Severe Impact Zone
At-grade section east of White Oak Station	SF	At-grade	70	55	58	57/62	62	57	Continue berm to White Oak Station
Victory Blvd at Pettit Ave [BB-6]	SF	Aerial	230	55	70	65/69	58	--	No impact
South of Victory east of San Diego Fwy [BB-7]	SF	At-grade	100	55	72* (65)	66/71 (61/66)	60	--	No impact
Bessemer St. east of Hazeltine [BB-9]	SF	Trench/ Berm	70	55	56	56/62	56	--	No impact
On diagonal south of Oxnard St. [BB-10]	SF	Trench/ Berm	60	55	57	57/62	57	--	No impact
On diagonal, south of Burbank Blvd. [BB-11]	SF/MF	Deep trench	50	55	63	60/65	53	--	No impact
		Transition	50	55	63	60/65	57	--	No impact
		At-grade	50	55	63	60/65	63	58	Berm along at-grade track
Grade crossing, Coldwater Canyon Ave.	SF/MF	At-grade	100	55	65	61/66	67	64	No mitigation: two MF build at Severe Impact boundary. With mitigation: two MF buildings partially within Significant Impact Zone.
Chandler Blvd, east of Coldwater Canyon [BB-12]	SF	At-grade	100	55	65	61/66	60	--	No impact

* If noise barrier is installed on San Diego Freeway, existing CNEL will be reduced to approximately 65 dBA.

Figure 5.3-4
Projected Noise Levels Along Burbank Branch LRT Route
Alternative #1
(3 of 3)

Location	Land Use	Track Type	Typ. Dist to Track (ft)	Train Speed (mph)	Exist. CNEL (dBA)	Impact Limits (dBA)	PROJ. CNEL Normal (dBA)	PROJ. CNEL With Migatn (dBA)	Type of mitigation and comments
Chandler Blvd, east of Coldwater Canyon [BB-13]	Synagogue/ School	Trench/ Berm	120	55	65	61/66	53	–	No impact
Chandler Blvd, Whitsett Ave grade crossing	MF	At-grade	70	55	65	61/66	69	66	No mitigation: two MF build at Severe impact boundary. With mitigation: four MF buildings remain partially within Significant Impact Zone.
Chandler Blvd, east of Whitsett Ave. [BB-14]	SF/MF	Berm/ Trench	100	55	65	61/66	54	–	No impact
Chandler Blvd, east of Laurel Canyon Station	MF	At-grade	80	55	65	61/66	61	–	No impact
Chandler Blvd, west of Laurel Canyon Station [BB-15]	SF	Trench/ Berm	80	55	65	61/66	55	–	No impact
Chandler Blvd, west of Hollywood Freeway	MF/ school	At-grade	80	55	65	61/66	61	–	No impact
Chandler Blvd, at Hollywood Freeway	MF	At-grade (pocket track)	100	55	65	61/66	64	59	Mitigation options: berms on both sides or move pocket track east.
Vineland Ave, north of Lankershim Blvd [VA-1]	MF/ comm	At-grade	35	40	65	61/66	62	56	Berm or barrier on IB side.
Vineland Ave, north of Ventura Freeway [VA-2]	MF/ comm	Aerial	120	40	65	61/66	60	–	No impact

Figure 5.3-5
Projected Noise Levels Along Ventura Freeway Aerial Route
Alternative #4
(1 of 2)

Location	Land Use	Track Type	Typ. Dist to Track (ft)	Train Speed (mph)	Exist. CNEL (dBA)	Impact Limits (dBA)	PROJ. Normal (dBA)	CNEL With Migatn (dBA)	Type of mitigation and comments
Canoga Ave. north of Erwin Street	MF	Aerial	70	50	65	61/66	ART 66 Metro 62	58 54	Barrier IB side.
Canoga Ave. south of Califa	MF	Aerial/ crossover	80	50	65	61/66	ART 71 Metro 69	63 61	Barrier IB side. Parts of two buildings remain in ART Significant Impact Zone.
Canoga Ave north and south of Burbank Blvd [VF-1]	MF	Aerial	60	50	65	61/66	ART 67 Metro 63	59 51	Barrier IB side.
Philiprimm St east of Wilbur	MF	Aerial/ pocket track	60	60	68	63/68	ART 74 Metro 71	66 63	Barrier on IB side. One MF build remains in Significant Impact Zone.
Philiprimm St west of Yolanda Ave [VF-2]	SF/MF	Aerial	60	60	68	63/68	ART 69 Metro 64	61 56	Closest building will be 20 ft from guideway. With barrier, most of buildings are outside Significant Impact Zone.
Burbank Blvd east of Reseda Blvd.	Office	Aerial	10	60	68	63/68*	ART 74* Met 70*	66* 62*	Barrier on IB side. Only works for floors where line-of-site to train wheels is broken.
Killion St., Etiwanda Ave to Yarmouth Ave.	SF	Aerial	70	60	65	61/66	ART 68 Metro 64	60 56	Barrier IB side.
Killion St west of Louise Ave.	School	Aerial	50	60	65	61/66	ART 69 Metro 65	61 57	Barrier IB side.
Killion St, Louise Ave to Genesta Ave.	SF	Aerial	70	60	65	61/66	ART 68 Metro 64	60 56	Barrier IB side.
West of Balboa Blvd	Office	Aerial	20	60	68	63/68*	ART 72* Met 69*	64* 61*	Barrier is effective only for offices where line-of-sight to the train wheels is broken.
East of Balboa Blvd.	Office	Aerial/ crossover	20	60	68	63/68*	ART 78* Met 75*	70* 67*	Barrier on IB side. Severe impact even with barrier.
Magnolia Blvd west of Woodley Ave.	SF	Aerial	70	60	65	61/66	ART 68 Metro 63	60 55	Barrier IB side

* Peak hour L_{eq}

Figure 5.3-5
Projected Noise Levels Along Ventura Freeway Aerial Route
Alternative #4
(2 of 2)

Location	Land Use	Track Type	Typ. Dist to Track (ft)	Train Speed (mph)	Exist. CNEL (dBA)	Impact Limits (dBA)	PROJ. CNEL Normal (dBA)	With Migatn (dBA)	Type of mitigation and comments
Magnolia Blvd east of Woodley Ave.	SF	At-grade	70	60	65	61/66	ART 65 Metro 61	59 55	Barrier IB side.
Kester Ave.	MF	Aerial/ crossover	30	50	65	61/66	ART 76 Metro 74	68 66	Barrier IB side. Part of building west of Kester remains in Severe Impact Zone.
East of Kester Ave.	MF/SF	Aerial	70	50	65	61/66	ART 67 Metro 63	59 55	Barrier IB side.
West of Hazeltine Ave.	MF/SF	At-grade	100	60	65	61/66	ART 63 Metro 59	57 53	Barrier IB side. Need for noise mitigation only with ART.
Hazeltine Ave	MF	Aerial	110	60	65	61/66	ART 66 Metro 62	58 54	Barrier IB side. Need for mitigation is marginal with Metro noise levels.
Kling St east of Woodman Ave.	MF	Aerial	30	60	65	61/66	ART 71 Metro 67	63 59	Barrier IB side. Closest residences are still in Significant Impact Zone.
Kling St west of Fulton	SF	At-grade	20	60	65	61/66	ART 70 Metro 66	64 60	Barrier IB side. Closest residences still within Significant Impact Zone.
Kling St west of Fulton	SF	Aerial/ crossover	30	60	65	61/66	ART 77 Metro 75	69 67	Barrier IB side. Closest residences still within Severe Impact Zone.
East of Coldwater Station	SF	Aerial	30	60	65	61/66	ART 71 Metro 67	63 59	Barrier IB side. Closest residences still within Significant Impact Zone.
West of Coldwater Station	SF	At-grade	30	60	65	61/66	ART 68 Metro 64	62 58	Barrier IB side. With ART, closest buildings remain marginally within Significant Impact Zone.
Sarah Street east of Radford Ave [VF-6]	SF	Aerial/ crossover	80	60	65	61/66	ART 72 Metro 69	64 61	Barrier IB side. Two to four residences remain within Significant Impact Zone, ART only.

Figure 5.3-6
Summary of Noise Mitigation Requirements
(1 of 4)

Location	Mitigation	Station	Impact with Mitigation
ALTERNATIVE 1, BURBANK BRANCH LRT			
Victory Blvd east of De Soto	Sound barrier OB side	51+00 - 60+00	Marginally over noise impact threshold without barrier
Mason St grade crossing	1. No warning bells during nighttime hours. 2. Quieter than normal warning bells and no nighttime warning bells.	72+00	1. Two residences remain in Significant Impact Zone. 2. No impact.
Transition to aerial structure west of Winnetka Station	Sound barrier or berm on OB side	96+00 - 103+00	No impact
Winnetka Station area	Sound barrier on OB side of aerial structure	103+00 - 118+20	No impact
Victory Blvd to Corbin	Sound barrier or berm, both sides	118+20 - 134+00	No impact
Corbin Ave grade crossing	1. No bells at night 2. Quieter than normal warning bells and no nighttime warning bells.	135+00	1. Four to six residences in Significant Impact Zone 2. One residence partially within Significant Impact Zone.
At-grade section east of Corbin Ave	Sound barrier or berm, both sides	135+50 - 141+00	No impact
Crossover east of Corbin Ave	Berm included in design	142+00	Two houses partially within Significant Impact Zone
West approach to Tampa Ave grade crossing	Continue berms to Tampa Ave	151+00 - 163+00	No impact
Tampa Ave grade crossing	1. No bells at night 2. Quieter than normal warning bells and no nighttime warning bells.	164+00	1. Four to six residences in Significant Impact Zone 2. No impact
East approach to Tampa Ave grade crossing	Continue berms to Tampa Ave	164+50 - 169+40	No impact
West approach to Wilbur Ave grade crossing	Continue berms to Wilbur Ave	185+00 - 190+50	No impact

Figure 5.3-6
Summary of Noise Mitigation Requirements
(2 of 4)

Location	Mitigation	Station	Impact with Mitigation
ALTERNATIVE 1, BURBANK BRANCH LRT (continued)			
Wilbur Ave grade crossing	1. No bells at night	191+00	1. Five residences in Significant Impact Zone
	2. Quieter than normal warning bells and no nighttime warning bells.		2. No impact
East of Wilbur Ave	Berm/barrier for at-grade track, OB side	192+00 - 205+70	Marginal requirement. No impact with berm.
Aerial structure east of Reseda Station	Barrier on OB side	218+00 - 226+80	No impact
Transition to bermed guideway east of Reseda Station	Berm/Barrier on OB side	226+80 - 238+00	No impact
West approach to Lindley Ave grade crossing	Continue berms to Lindley Ave	237+00 - 243+50	No impact
Lindley Ave grade crossing	1. No bells at night	244+00	1. Two residences remain in Severe Impact Zone, 4 in Significant Impact Zone
	2. Quieter than normal warning bells and no nighttime warning bells.		2. Two to three residences remain in Significant Impact Zone
East approach to Lindley Ave grade crossing	Continue berms to Lindley Ave	245+00 - 250+60	No impact
West approach to White Oak Station	Continue berms to station platform	259+00 - 270+50	No impact
White Oak grade crossing	1. No bells at night	271+00	1. Three residences in Severe Impact Zone, 9 in Significant Impact Zone
	2. Quieter than normal warning bells and no nighttime warning bells.		2. Three residences in Significant Impact Zone
East approach to White Oak grade crossing	Continue berms to White Oak Ave.	271+50 - 280+00	No impact
Transition from retained cut to at-grade west of Coldwater Canyon grade crossing	Berms from retained-cut section to Coldwater Canyon Ave.	607+00 - 624+00	No impact

Figure 5.3-6
Summary of Noise Mitigation Requirements
(3 of 4)

Location	Mitigation	Station	Impact with Mitigation
ALTERNATIVE 1, BURBANK BRANCH LRT (continued)			
Coldwater Canyon grade crossing	No warning bells at night	625+00	Two buildings partially within Significant Impact Zone with no warning bells during nighttime hours.
Whitsett Ave grade crossing	1. No bells at night 2. Quieter than normal warning bells and no nighttime warning bells.	650+00	1. Four MF buildings remain in Significant Impact Zone 2. No impact
Crossover east of Laurel Canyon Station	Extend bermed guideway east to include double crossover.	683+00 - 689+00	No impact if crossover is entirely in bermed guideway section
Pocket track at Hollywood Freeway	1. Berms on both sides 2. Shift pocket track 300 ft east	710+00 - 712+00	1. No impact 2. No impact
Vineland Ave north of Lankershim Blvd	Barrier/berm on IB side	766+00 - 788+00	No impact
ALTERNATIVE 2, BURBANK BRANCH LRT SUBWAY/DEEP TRENCH			
Victory Blvd east of De Soto	Sound barrier OB side	51+00 - 60+00	Marginally over noise impact threshold without barrier
ALTERNATIVE 4, VENTURA FREEWAY AERIAL			
Canoga Ave north of Erwin St.	Sound barrier on IB side	33+50 - 45+00	No impact
Canoga Ave south of Oxnard St.	Sound barrier on IB side	60+30 - 88+00	With ART traffic, two MF buildings remain partially within Significant Impact Zone.
Phillprimm St east of Wilbur	Sound barrier on IB side	254+00 - 275+00	With ART traffic, two MF buildings remain partially within Significant Impact Zone.
Burbank Blvd east of Reseda Blvd	Sound barrier on IB side	284+00 - 290+50	One office building very close to track may have line-of-sight view over barrier.
Killion St west of White Oak	Sound barrier on IB side	297+50 - 331+00	No impact
Killion St east of White Oak	Sound barrier on IB side	335+50 - 349+00	No impact
Killion St, Louise Ave to Balboa Blvd	Sound barrier on IB side	354+00 - 400+00	Office building on east side of Balboa Blvd is within Severe Impact Zone because of crossover noise.
Magnolia Blvd, Woodley Ave to Densmore Ave	Sound barrier/berm on IB side	439+50 - 464+70	No impact

Figure 5.3-6
Summary of Noise Mitigation Requirements
(4 of 4)

Location	Mitigation	Station	Impact with Mitigation
ALTERNATIVE 4, VENTURA FREEWAY AERIAL (continued)			
Kester Ave to Van Nuys Blvd	Sound barrier on IB side	529+00 - 561+00	One MF building at Kester Ave partially within Severe Impact Zone because of crossover noise.
Van Nuys Blvd to Hazeltine Ave	Sound barrier on IB side	567+00 - 597+00	No impact
Hazeltine Ave to Woodman Ave	Sound barrier on IB side	597+00 - 612+00	No impact. Needed only for ART noise.
Woodman Ave to Coldwater Canyon Station	Sound barrier on IB side	618+00 - 663+60	Three residences closest to double crossover at station 638-639 remain in Severe Impact Zone, 2 in Significant Impact Zone
Coldwater Canyon Station to Laurel Canyon Blvd	Sound barrier on IB side	668+00 - 677+10	Four SF remain in Significant Impact Zone, ART only
Laurel Canyon Blvd to Portal	Sound barrier on IB side	726+50 - 753+20	Two to four residences remain within Significant Impact Zone at crossover (Station 743). Barrier from 753+20 to 759+00 may not be necessary.
ALTERNATIVE 5, VENTURA FREEWAY SUBWAY			
Canoga Ave north of Erwin St.	Sound barrier on IB side	33+50 - 45+00	No impact
Canoga Ave south of Oxnard St.	Sound barrier on IB side	60+30 - 88+00	With ART traffic, two MF buildings remain partially within Significant Impact Zone at crossover.

Figure 5.3-7
Summary of Ground-Borne Vibration Impact
(1 of 3)

Location	Track Type	Impact Probable	Impact Possible	Station Number	Comments
ALTERNATIVE 1, BURBANK BRANCH LRT					
East of Corbin Ave.	Shallow Trench/Berm, Crossover	3 SF	8 SF	140+00 - 145+00	
Diagonal south of Oxnard Street	Retained Cut Guideway		1 MF	561+00 - 564+00	
Diagonal, Burbank Blvd. to Chandler Blvd.	Retained Cut Guideway, At-Grade		4 SF 1 Church	604+00 - 611+00	
Chandler Blvd. east of Laurel Canyon Blvd.	At-Grade Crossover	1 MF 3 SF	4 MF 2 SF	683+00 - 687+00	
Chandler Blvd. at Hollywood Freeway	At-Grade, west end of Pocket Track		7 MF	710+00 - 712+00	Shifting pocket track east 300 ft will eliminate impact
Vineland Ave. north of Lankershim Blvd.	At-Grade		6 MF	761+00 - 782+00	Apartment buildings along Vineland are within 35 ft of IB track centerline
ALTERNATIVE 2, BURBANK BRANCH LRT, SUBWAY/DEEP TRENCH					
East of Corbin Ave.	Channelized Guideway, Crossover	4 SF	5 SF	138+00 - 142+00	
East of Reseda Station	Cut-and-Cover Subway, Pocket Track		3 SF	225+00 - 227+00 233+00 - 235+00	
Topham Ave at Zelzah Ave.	Cut-and-Cover Subway, Crossover	1 SF	4 SF	255+00 - 259+00	Moving crossover 500 ft west will reduce potential impact to one SF possible
Diagonal south of Oxnard Street	Channelized Guideway		1 MF	559+50 - 562+50	
Diagonal, Burbank Blvd. to Chandler Blvd.	Channelized Guideway		2 SF 1 Church	603+00 - 612+00	
Chandler Blvd. at Whitsett Ave.	Channelized Guideway, Crossover	2 MF	4 MF	650+00 - 654+00	
ALTERNATIVE 3, BURBANK BRANCH METRO RAIL EXTENSION (SUBWAY)					
East of Corbin Ave.	Cut-and-Cover Subway, Crossover	2 SF	4 SF	138+00 - 142+00	
Topham Ave. east of Zelzah Ave.	Cut-and-Cover Subway, Pocket Track	2 SF	6 SF	257+00 - 259+00 265+00 - 267+00	

Figure 5.3-7
Summary of Ground-Borne Vibration Impact
(2 of 3)

Location	Track Type	Impact Probable	Impact Possible	Station Number	Comments
ALTERNATIVE 3, BURBANK BRANCH METRO RAIL EXTENSION (continued)					
Bessemer St. between Hazeltine Ave. and Woodman Ave.	Bored Tunnel		1 MF 3 SF	526+50 - 528+50 539+50 - 541+00 548+00 - 550+00	Only buildings closest to tunnel are within Possible Impact Zone.
Diagonal south of Oxnard St.	Bored Tunnel		1 MF	560+00 - 563+00	
Diagonal, Burbank Blvd. to Chandler Blvd.	Bored Tunnel		3 SF 1 Church	603+50 - 611+50	
Chandler Blvd. east of Bellaire Ave.	Cut-and-Cover Subway, Crossover		6 SF	638+00 - 642+00	
ALTERNATIVE 4, VENTURA FREEWAY SOUTHSIDE, AERIAL					
Magnolia Blvd., Woodley Ave. to Gloria Ave.	Retaining wall, Tie and Ballast		3 SF	448+00 - 464+00	Several residences marginally within Possible Impact Zone.
Hortense St., Sylmar Ave. to Calhoun Ave.	Retaining Wall, Tie and Ballast	2 SF	2 SF	575+00 - 578+00 571+00 - 575+00	Stations 575 to 578, residences within 35 ft of track centerline
Kling St. west of Fulton Ave.	Retaining Wall, Tie and Ballast	2 SF	3 SF	631+00 - 638+00	Two residences within 35 ft of track centerline
Kling St., west of Fulton Ave.	Retaining Wall, Tie and Ballast, Crossover	4 SF	3 SF	638+00 - 640+00	
Kling St east of Coldwater Canyon Ave.	Retaining Wall, Tie and Ballast	3 SF	3 SF	681+00 - 691+00 691+00 - 692+00	Between stations 687 and 691, three residences are within 35 ft of near track centerline.
ALTERNATIVE 5, VENTURA FREEWAY NORTHSIDE, SUBWAY					
Philiprimm St. east of Wilbur Ave.	Bored Tunnel		1 MF	254+50 - 258+00	
Philiprimm St. east of Wilbur Ave.	Cut-and-Cover Subway, Pocket Track	1 MF	1 MF 3 SF	259+00 - 261+00 267+50 - 269+50	
West of Reseda Station	Bored Tunnel		2 MF	269+50 - 275+00	
North of Ventura Freeway, Burbank Blvd. to Lindley Ave.	Bored Tunnel	5 MF		292+00 - 305+00	
North of Ventura Freeway, Lindley Ave. to White Oak Blvd.	Bored Tunnel		5 MF	318+00 - 330+50	

Figure 5.3-7
Summary of Ground-Borne Vibration Impact
(3 of 3)

Location	Track Type	Impact Probable	Impact Possible	Station Number	Comments
ALTERNATIVE 5, VENTURA FREEWAY NORTHSIDE, SUBWAY (continued)					
White Oak Ave. to Balboa Blvd.	Bored tunnel		1 MF	349+00 - 353+50	
White Oak Ave. to Balboa Blvd.	Bored tunnel, Crossover	2 MF	2 MF	355+00 - 361+50	
Magnolia Blvd. at Haskel Ave.	Bored Tunnel		2 SF	472+00 - 475+00	
Sepulveda Ave., Yard Lead	Bored Tunnel	1 SF	1 SF	505+50 - 506+50	
West of Kester Ave.	Bored Tunnel, Crossover	2 SF	6 SF	525+00 - 531+00	Moving crossover 400 ft east will mitigate potential impact.
West of Van Nuys Ave.	Bored Tunnel		4 MF	552+00 - 557+00	
East of Van Nuys Ave.	Bored Tunnel	1 MF	2 MF	564+00 - 568+00	Multi-family building directly above tunnel
East of Woodman Ave.	Bored Tunnel		1 MF 4 SF	614+00 - 626+50	
West and East of Fulton Ave.	Bored Tunnel	2 SF	5 SF	634+50 - 647+00	
West of Coldwater Canyon Station	Bored Tunnel		5 MF 1 SF	654+00 - 659+00	
West of Coldwater Canyon Station	Cut-and-Cover Subway, Crossover	2 MF	1 MF	659+00 - 665+00	
East of Coldwater Canyon Station	Cut-and-Cover Station		1 Medical Build.	669+00 - 671+00	Only problem is vibration sensitive equipment is used in building
East of Coldwater Canyon Station	Bored Tunnel		1 Convel -esant Hospital	674+50 - 677+50	
St. Clair Ave./ Vantage Ave.	Bored Tunnel		3 SF	712+00 - 720+00	
East of Laurel Canyon Station	Bored Tunnel		4 MF 2 SF	728+00 - 736+50	
East of Laurel Canyon Station	Cut-and-Cover Subway, Crossover		3 SF	737+50 - 743+50	
East of Colfax Ave.	Bored Tunnel	1 MF	1 MF	747+50 - 750+00	One multi-family building directly above subway.
Beck Ave./Carmellita Ave.	Bored Tunnel		2 SF	761+00 - 764+50	

5.4 VISUAL QUALITY IMPACTS

Visual quality impacts of route alternatives in the San Fernando Valley would be focused along two distinct corridors. The first corridor, the Burbank Branch alignment runs primarily along the Southern Pacific (SP) Railroad right-of-way between Warner Center and Universal City. A mixture of older industrial and newer residential and commercial uses are found along this right-of-way. The second corridor, the Ventura Freeway alignment travels principally in a heavily travelled transportation corridor along the Ventura Freeway, one to two miles south of the Burbank Branch alignment.

Because the major visual impacts of these alignments can be expected to occur in the above-ground segments of each route, this section analyzes the proportion of each route that is in either aerial, at-grade, shallow-trench, deep-trench or subway configuration. These profile alternatives are then compared to adjacent land uses along each of the routes in order to provide a comparison of the degree to which each of the route alternatives is in close proximity to visually sensitive land uses. For the purpose of this EIR, visually sensitive land uses have been defined to include all residential uses, schools, religious institutions, other public buildings, and passive outdoor uses including parks, playgrounds, and recreation areas.

This section also discusses other measures of visual impact including changes in views, light and glare potential, loss of landscaping, as well as the impact and compatibility of the rail transit guideway and other major structural components with the existing scale and spatial characteristics of adjacent land uses. Mitigation measures for impacts are proposed and finally, five typical views along the alignments are illustrated with before photos and after sketches.

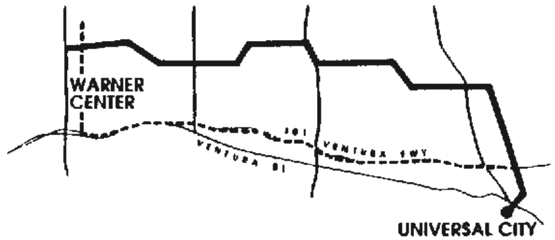
5.4.1 Visual Setting

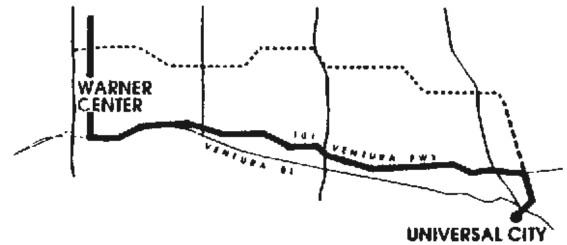
<u>SP Burbank Branch Visual Setting</u>: The Southern Pacific right-of-way establishes a strong visual context for the Burbank Branch route. The right of way varies between 60 and 100 feet wide (up to 220 feet at particular rail stations) and passes next to seven general land use adjacency categories. Although the exact profile along the Burbank Branch varies for Alternative #1, #2 and #3, each of the alignments will travel adjacent to the same land uses. As shown in the table on Figure 5.4-1, Adjacent Land Uses by Route Alternative, a breakdown of adjacent land uses between Warner Center and Universal City includes the following:

- 44 percent residential (35 percent single-family, 9 percent multi-family)
- 30 percent commercial
- 6 percent industrial
- 14 percent parks/open space
- 4 percent public/schools (including government and religious)
- 2 percent freeway adjacent

<u>Ventura Freeway Alternative Visual Setting</u>: Unlike the Burbank Branch route, the Ventura Freeway alignment uses very little of the Southern Pacific right-of-way between Warner Center and Universal City. Instead, both route alternatives are parallel to the Ventura Freeway on either the northern or southern edges. The routes are primarily combinations of aerial and subway profiles. While subway profiles create virtually no visual impacts to the surrounding land uses, the aerial guideway profiles are highly visible and can often been seen for some distance from the guideway structure.

	SP Burbank Branch (Alt. #1, #2, #3)		Ventura Freeway (Alt. #4, #5)			
	Warner Center to Universal City		Alternative #4 Warner Center to Universal City		Alternative #5 Warner Center to Universal City	
	MILES	(%)	MILES	(%)	MILES	(%)
Residential (SF)	11.5	(35%)	7.0	(21%)	2.2	(7%)
Residential (MF)	3.0	(9%)	2.0	(6%)	3.0	(9%)
Commercial	10.0	(30%)	8.5	(25%)	8.1	(24%)
Industrial	2.0	(6%)	1.0	(3%)	1.0	(3%)
Parks	4.5	(14%)	0.5	(2%)	2.0	(6%)
Public	1.4	(4%)	0.5	(2%)	0.2	(1%)
Freeway Adjacent	0.6	(2%)	13.5	(41%)	16.5	(50%)
TOTAL (Both Sides)	**33.0**	**(100%)**	**33.0**	**(100%)**	**33.0**	**(100%)**





San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.4-1

Adjacent Land Uses by Route Alternative

Specifically, the Ventura alignment, along the southern edge of the freeway is approximately 80 percent aerial guideway. These guideways traverse through residential communities which comprise 25 percent of the land use adjacencies along the route. Of the 25 percent, two thirds of the land use is single-family residential.

As shown in Figure 5.4-1, Adjacent Land Uses by Route Alternative, a breakdown of adjacent land uses between Warner Center and Universal City for Alternative #4, the Ventura Freeway South Side Aerial Option, includes the following:

- 27 percent residential (21 percent single-family and 6 percent multi-family)
- 25 percent commercial
- 3 percent industrial
- 2 percent parks/open space
- 2 percent public/schools (including government and religious uses)
- 41 percent freeway adjacent

A breakdown of adjacent land uses between Warner Center and Universal City for Alternative #5, the Ventura Freeway North Side Subway Option, includes the following:

- 16 percent residential (7 percent single-family and 9 percent multi-family)
- 24 percent commercial
- 3 percent industrial
- 6 percent parks/open space
- 1 percent public/schools (including government and religious uses)
- 50 percent freeway adjacent

5.4.2 Visual Impact Criteria

Visual impact criteria used in the evaluation of the two route alternatives were selected to consider both the rail transit line profile configuration (aerial guideway, subway, etc.,) as well as the visual proximity of the entire system to adjacent land uses.

The four visual impact measures that were used in this evaluation are:

- Significant changes in views, general setting and appearance of the existing street facade
- Light and glare
- Loss of landscaping
- Compatibility of the rail components with the existing scale and spatial characteristics of adjacent land uses

These measures were considered particularly significant when above-ground segments of the routes were located next to land uses that were categorized as being sensitive to changes in the visual setting. These four land use adjacencies that were considered highly sensitive included single-family residential, multi-family residential, public/schools and parks/open space.

Wherever these sensitive land uses typically occurred along the routes, photographic reconnaissance was conducted and drawings to scale were prepared and evaluated for particularly sensitive cases to further study and mitigate the visual impacts.

ALIGNMENT 16.5 MILES ONE WAY 33 MILES ROUND TRIP* *% ROUNDED TO NEAREST TENTH	AERIAL SINGLE FAMILY	MULTI-FAMILY	PUBLIC/SCHOOL	PARK/OPEN SPACE	AT•GRADE SINGLE FAMILY	MULTI-FAMILY	PUBLIC/SCHOOL	PARK/OPEN SPACE	SHALLOW TRENCH SINGLE FAMILY	MULTI-FAMILY	PUBLIC/SCHOOL	PARK/OPEN SPACE	DEEP TRENCH SINGLE FAMILY	MULTI-FAMILY	PUBLIC/SCHOOL	PARK/OPEN SPACE	SUBWAY SINGLE FAMILY	MULTI-FAMILY	PUBLIC/SCHOOL	PARK/OPEN SPACE	TOTAL % SENSITIVE LAND USE % BASED ON 33 MILE ROUND TRIP
1a. SP Burbank Branch LRT+ Vineland Extension	5%	2.1%	1.5%	4.6%	15%	7%	1.7%	7%	13.7%	4%	1.3%	0.4%	0.3%	0.3%	0.5%	0%	0%	0.6%	0%	0%	
	13.2%				28.7%				19.4%				1.1%				0.6%				63%
1b. SP Burbank Branch LRT+ Lankershim Extension	4%	0%	1.26%	1.72%	15.1%	5.8%	1.52%	8.71%	13.53%	3.89%	1.06%	0%	.298%	.298%	0.45%	0%					
	7.0%				31.1%				18.5%				1.0%				0%				57.6%
2a. SP Burbank Branch LRT Deep Trench + Lankershim Extension	2.9%	3%	.13%	8.57%	1.4%	2.1%	0%	4%	3.1%	0%	.76%	.68%	14.63%	7.18%	3.53%	0%	11.3%	1.68%	0%	0.6%	
	14.6%				7.5%				4.5%				25.3%				13.6%				65.5%
2b. SP Burbank Branch LRT Deep Trench + Lankershim Extension	2.3%	.89%	.12%	5.69%	1.4%	.87%	0%	4.45%	3.1%	0%	.76%	.24%	14.74%	7.18%	3.53%	0%	11.7%	1.08%	0%	0%	
	9%				6.7%				4.1%				25.4%				12.8%				58%
3a. SP Burbank Branch Metro Rail Extension Lankershim	1.24%	0.7%	0%	6.17%	2.57%	0.2%	0%	3.6%									31.1%	9.07%	4.26%	0%	
	8.1%				6.4%				0%				0%				44.4%				58.9%
3b. SP Burbank Branch ART Subway + Lankershim Metro Rail Extension	1.24%	0.7%	0%	6.17%	2.57%	0.2%	0%	3.6%					.48%	.48%	0%	0%	28.63%	9.25%	4.2%	.98%	
	8.1%				6.4%				0%				1.0%				43%				58.5%
4a. Ventura Freeway Metro Rail Extension via Southside Aerial	18.14%	6.71%	1.36%	1.6%													2.75%	0%	0%	0%	
	27.8%				0%				0%				0%				2.7%				30.5%
4b. Ventura Freeway ART via Southside Aerial	18.14%	6.71%	1.36%	1.6%													2.75%	0%	0%	0%	
	27.8%				0%				0%				0%				2.7%				30.5%
5a. Ventura Freeway Metro Rail Extension via Northside Subway	0%	2.11%	.114%	2.26%	0%	0%	0%	1.36%									6.73%	7.51%	.43%	1.2%	
	4.5%				1.3%				0%				0%				15.9%				21.7%
5b. Ventura Freeway ART via Northside Aerial	0%	2.11%	.114%	2.26%	0%	0%	0%	1.36%									6.73%	7.51%	.43%	1.2%	
	4.5%				1.3%				0%				0%				15.9%				21.7%

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.4-2

Selected Adjacent Land Uses by Profile Configuration

5.4.3 Visual Impact Assessment

SP Burbank Branch Visual Impacts: The Southern Pacific (SP) right of way establishes the visual character of Alternatives #1, #2 and #3. Currently, almost all portions of the right of way remain at grade, even when crossing major vehicular intersections.

An analysis of the proposed Burbank Branch alternatives, Figure 5.4-2, Selected Adjacent Land Uses by Profile Configuration, reveals that approximately two thirds of each route will travel through sensitive land uses. Alternative #3, the ART/Metro Rail Extension would create the least visual impact since over 40 percent of the profile will be in subway.

Alternative #2 will have approximately one fourth of its profile in deep trench and 12 percent on aerial guideway when adjacent to sensitive land uses. The visual impact of the deep-trench profile will most closely resemble subway, while the aerial guideways will have the most significant visual impact. Grade separations along major vehicular thoroughfares as well as aerial stations near sensitive land uses warrant particular attention for their potential impact on adjacent uses.

Alternative #1 would create the highest visual impact since portions of the train and its overhead catenary wires will be visible. Approximately two thirds of the alignment will be either in shallow trench (19 percent), at grade (28 percent) or aerial profile (13 percent) when adjacent to identified sensitive land uses. Since the entire right of way will be above ground and visible, the visual setting requires particular attention.

Ventura Freeway Alternative Visual Impacts: The wide expanse of the Ventura Freeway establishes the visual character of Alternatives #4 and #5. The high landscaped embankment immediately adjacent the freeway will be the primary right of way. Since this right of way is quite narrow in most locations, most of the landscaping will need to be removed to accommodate aerial segments. Regardless of the amount of landscaping replaced, the scale and mass of the aerial guideways would cause changes to the visual setting for a great many of the land uses adjacent to the freeway. The length of each profile configuration in relation to identified sensitive land uses is shown in Figure 5.4-2. In particular, Alternative #4, the South Side Aerial Option, would have a significant negative visual impact on adjacent land uses, since more than 25 percent of the route would travel on aerial guideway next to single-family and multi-family residential uses.

Impact Discussion by Profile Configuration: General visual assessment of profile conditions for both alignments are listed below:

- Subway Profile: Subway profiles would least impact the visual setting along any selected route alternative. Typical deep bore tunnels located approximately forty to fifty feet below the existing finish ground line would not impact the viewshed. Ventilation shafts would be required to breach the ground line between stations to allow maintenance access to the train tunnels. A maintenance road secured within a fence would be required at these ventilation shaft openings.

  Subway stations would require a paved vehicular park and ride lot with bus transfer accommodations. These stations will include weather shelters and landscape buffering. Several structures to provide clear movement to the underground platform will be required, and will cause some impact to the viewshed of existing adjacent buildings.

- Deep Trench Profile: Deep trench profiles, while neither covered nor as deep as the subway profile, will still have a minimal visual effect on existing adjacent land uses. Deep trench profiles will typically be thirty feet below existing finish grade and open to the sky. Catenary poles and overhead guideway wires for the LRT system will not exceed the overall height of the trench walls. The actual LRT guideway for the trains will be typically 32 feet wide whereas the entire right of way will vary between 60 feet and 100 feet in width. Fifteen foot wide maintenance roads enclosed by an eight foot high chain link fence on the outer edges of the right of way will flank the deep trench along the entire route.

  When viewing the trench from existing adjacent land uses, virtually no impact on single story structures will occur. Multi-story structures will have some instances of visual impact in terms of shadow with intermittent light and glare as the height of the building will increase the viewer's angle of inclination into the deep trench.

  Deep trench stations will need to provide pedestrian access to the system from a central platform located between the trains. Deep-trench stations will typically be 48 feet wide. New structures will be required to straddle the deep trench and allow pedestrians to descend to the train platform thirty feet below existing grade. At these stations, the visual impact will be slightly more significant than at subway stations because the trench remains open. Additional structures will need to accommodate movement into the deep trench.

- Shallow Trench/Bermed Profile Configurations: The shallow trench is the first profile to allow the trains to breach the existing finish grade level. A typical shallow trench is approximately 32 feet wide, which is located in the center of the alignment right of way varying from sixty to one hundred feet in width. Approximately six to eight feet of the LRT car and 12 feet of the overhead catenary poles and supports will be visible, predominately during daylight hours.

  Riders looking out of the train cars will have their visual focal length foreshortened by safety fencing near the outside of the right-of-way; and second by a planted landscape berm which will usually be contoured to exceed the height of the train. Motorists and pedestrians on adjacent streets will have limited views of the train because of these same two features.

  Fixed land uses, such as multi-floor buildings and some single story structures will have their views changed by both the shallow trench profile and the landscape berm. There are no proposed shallow trench stations, therefore, the visual impact for this profile condition is not applicable.

- At-Grade Profile Configurations: At grade profiles, which run for the most part along the Burbank Branch/Southern Pacific right of way, would result in visual incompatibility in certain sensitive land use areas. The 24 foot high LRT catenary support poles, spaced 100 to 130 feet on center would be the most visible impact along the route. This impact would be lessened in locations where existing utility poles and overhead wires along the route are to remain. Security fencing would parallel the right of way throughout the length and increase the visibility to passersby.

Where at-grade street crossings occur, the security fence should allow clear, visual access across the right of way to adjacent land uses. A maintenance road would run alongside the trackbed and would add to the visual width of the right of way. Residential and other sensitive land uses would be screened at street level by raised landscaped berms. These landscaped berms would be sloped at a gradient not to exceed 2:1 and would include placement of screen trees and shrubs to minimize the visual impacts from and to the train.

Stations located at grade will add visual impacts to sensitive land use adjacencies due to the full presence of the train both in motion and at rest. Light and glare will cause intermittent visual disruptions as the train enters and leaves the station area, primarily in evening and early morning hours.

- Aerial Configurations: Aerial profiles would create the most significant types of visual impact along both of the route alternatives. The aerial structure would be a dominant visual element whose impact would vary according to its context. Typically, the elevated guideway structure would rise from the existing ground level to approximately 22 feet at the top of rail. The underside of the guideway platform would need to provide 16 feet of clearance underneath the guideway structure to allow for the passage of vehicles. Guideway widths would vary from 24 feet at a typical midway point between stations to 40 feet at aerial stations. The guideway would be supported by 5 to 7 foot diameter piers spaced at 80 foot intervals. Catenary poles (where applicable), at 120 foot intervals and overhead wires would extend another 25 feet above the guideway.

In commercial and industrial areas, the visual impact of aerial guideways would be minimized by the presence of existing mid-rise buildings, which would either obscure views of, or provide a backdrop for, the guideway. In addition, many segments along the routes have areas of non-sensitive adjacent uses such as freeways that would mitigate any impact. Guideways that are located within a median or to one side of existing divided thoroughfares would likewise have lessened visual impacts.

The most adverse visual setting impacts occur when the guideways cross over existing roadways in a perpendicular configuration. At these locations, the visual setting of the intersection would be permanently changed, by not only the addition of the guideway, but by the creation of ambient sun and shadow transitions for pedestrians and motorists (much like a freeway overpass). As users move under the guideway structure, light and glare will create undesirable reflections and shadows.

Where aerial guideways parallel a roadway along one side, pedestrian street space will be restricted. The guideway will shade the street beneath it throughout the year as mid-morning and late afternoon shadows would shade the sidewalk. During the warm summer months, this condition may be considered a positive influence.

Aerial stations potentially will create a prominent visual focal point both for train riders as well as adjacent land uses. Additional escalators, elevators and stairways will be required to bring passengers from ground level to the platform level. In non-sensitive urban settings, this visual element will not create adverse impacts due to the mixed scale of buildings. Aerial stations may, in fact, create an element around which further development can be clustered to strengthen future visual site lines.

However, aerial stations located near sensitive land uses will need to respond to each station location on a case by case basis in order to address and mitigate the functional considerations of each site. Aerial stations within residential areas need to respond to specific issues of privacy, security and ambient night lighting in order to remain compatible with the surrounding land uses. In addition, judicious use of landscaping will be of special importance to bring the visual scale of aerial stations into proportion with its context.

- Station Visual Impacts (General): Station locations along either of the major routes, regardless of the specific profile will create many unique and permanent changes in the visual environment, both positive and negative. Some existing structures would be removed or modified to accommodate parking lots. In total, between 3,785 and 4,845 stalls will be provided depending on the particular route selected. Landscaping, utility relocations, lighting, transit connections and the addition of more prominent structures will permanently alter the viewsheds adjacent to all land uses.

5.4.4 Visual Impact Mitigation

Figures 5.4-3 through 5.4-7 provide examples of visual mitigation techniques that can be applied to particularly sensitive areas along each of the routes. Following are descriptions of visual mitigation measures which can be incorporated into the project.

In general, mitigation measures which recommend high landscape berms with continuous planting of trees throughout the selected alignment, can be viewed as a mitigation measure that does not take full advantage of the visual potential of the rail transit system. For instance, from the outset, aerial guideway sections may result in visual incompatibilities in certain areas. Yet in some locations, where a visual environment has been established, aerial guideways and subway stations may actually enhance the visual quality by integrating and accentuating the rail system with its surrounds. Along Canoga Boulevard in Woodland Hills (Figure 5.4-6), the aerial guideway actually may increase the visual importance of the corporate business corridor image that has been established in the area. In several locations within an urban/ suburban context, aerial guideway design and the architectural treatment of the system would result in a dramatic "gateway" visual element for users crossing the area and transit patrons arriving and departing station locations.

Aerial guideways can also act as an organizing element to contain the edge of a visual setting. The proposed Sepulveda Basin Arts Park can benefit from the sculptural nature of the guideway by the use of imaginative architectural detailing and low maintenance landscape planting that will invite users across the street and create shade locations (under aerial portions) which are compatible with park activities (see Figure 5.4-4).

On the other hand, sun and shadow may not always be perceived as a desirable visual impact. Aerial segments that are perpendicular to adjacent roadways will result in shadowing of the street and sidewalk. This condition would be an unavoidable adverse impact which cannot be mitigated. The Lankershim Boulevard flyover (see Figure 5.4-5) along the Burbank Branch alternatives would permanently change the visual setting and character of the roadway by creating light and glare upon pedestrians and motorists. Area and guideway lighting fixtures and standards should incorporate directional shielding where necessary, to avoid the intrusion of unwanted ambient light.

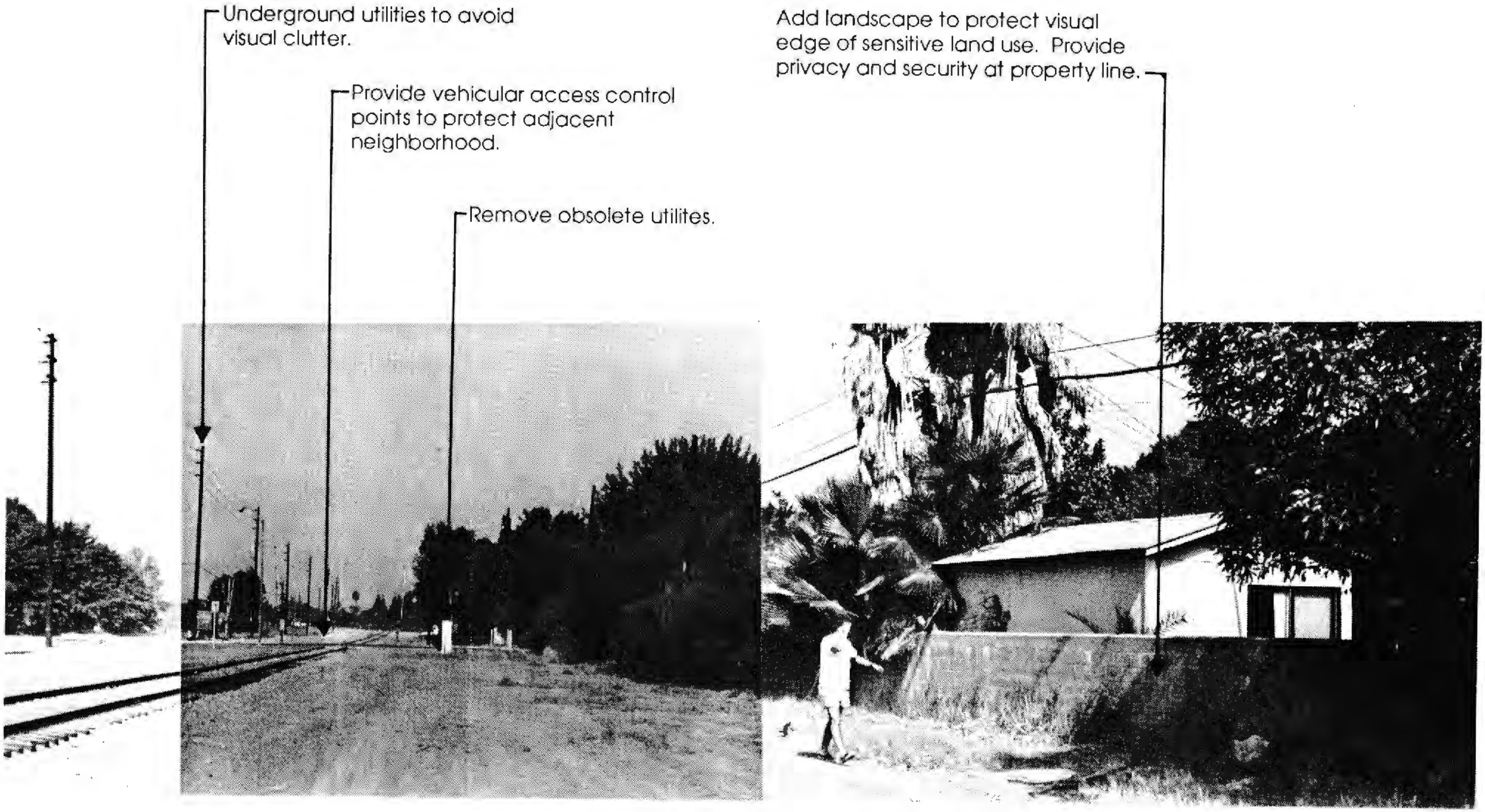
In many locations along the major route alternatives, in which the train will be adjacent to sensitive land uses, views of chain link fence, catenary support poles (where applicable) and station parking lots are generally considered negative visual impacts. At these locations, especially near residential uses, negative visual impacts should be obscured to a practical extent by the use of low maintenance landscape berms. In addition, placement of trees along the right of way property line (as close to residential property as possible) will foreshorten undesirable views while insuring privacy to the neighborhood (see Figure 5.4-1). Overall, the visual appeal of the landscape should create a pleasant view and appearance for the transit patron and for adjoining land uses. Adequate sight distance at street intersections, particularly in street medians, should be maintained or improved. Crosswalks, waiting areas, bus stops and kiss and ride areas should be visually open for security reasons (see Figure 5.4-6).

Lighting intensity at the platform level, especially at aerial conditions, should be coordinated with the train car illumination so that visual incompatibilities (during the evening hours) do not disrupt adjacent sensitive land uses.

Finally, urban design standards should be developed to define and mitigate each specific visual impact associated with the train system and the relationship to surrounding communities prior to full operation.

<u>Unavoidable Adverse Impacts</u>: Alternative #4, the Ventura Freeway South Side Aerial Alignment would be located in aerial configuration next to residential land uses for approximately four and a half miles. Several hundred homes in these areas would experience unavoidable adverse visual impacts if this alternative were selected. Alternative #1, the SP Burbank Branch At-Grade LRT alignment would be configured on aerial guideway next to residential neighborhoods for approximately 0.7 miles due to the need for guideway flyover structures at major cross streets. Twenty-five to 30 homes immediately adjacent to these flyover crossings would experience unavoidable adverse visual impacts if this alternative were selected.

Each of the alternatives locates some stations in areas that are in or adjacent to residential areas. The SP Burbank Branch Route Alternative has stations located in residential areas at five proposed station sites. The Ventura Freeway Route Alternative #4 is located in residential areas at six locations, and the Ventura Freeway Route Alternative #5 is located in residential areas at three locations. Each of these stations, however well buffered by landscaping and setbacks, will alter the character of the immediate surroundings and have adverse visual impacts for residents in homes immediately adjacent to the stations.

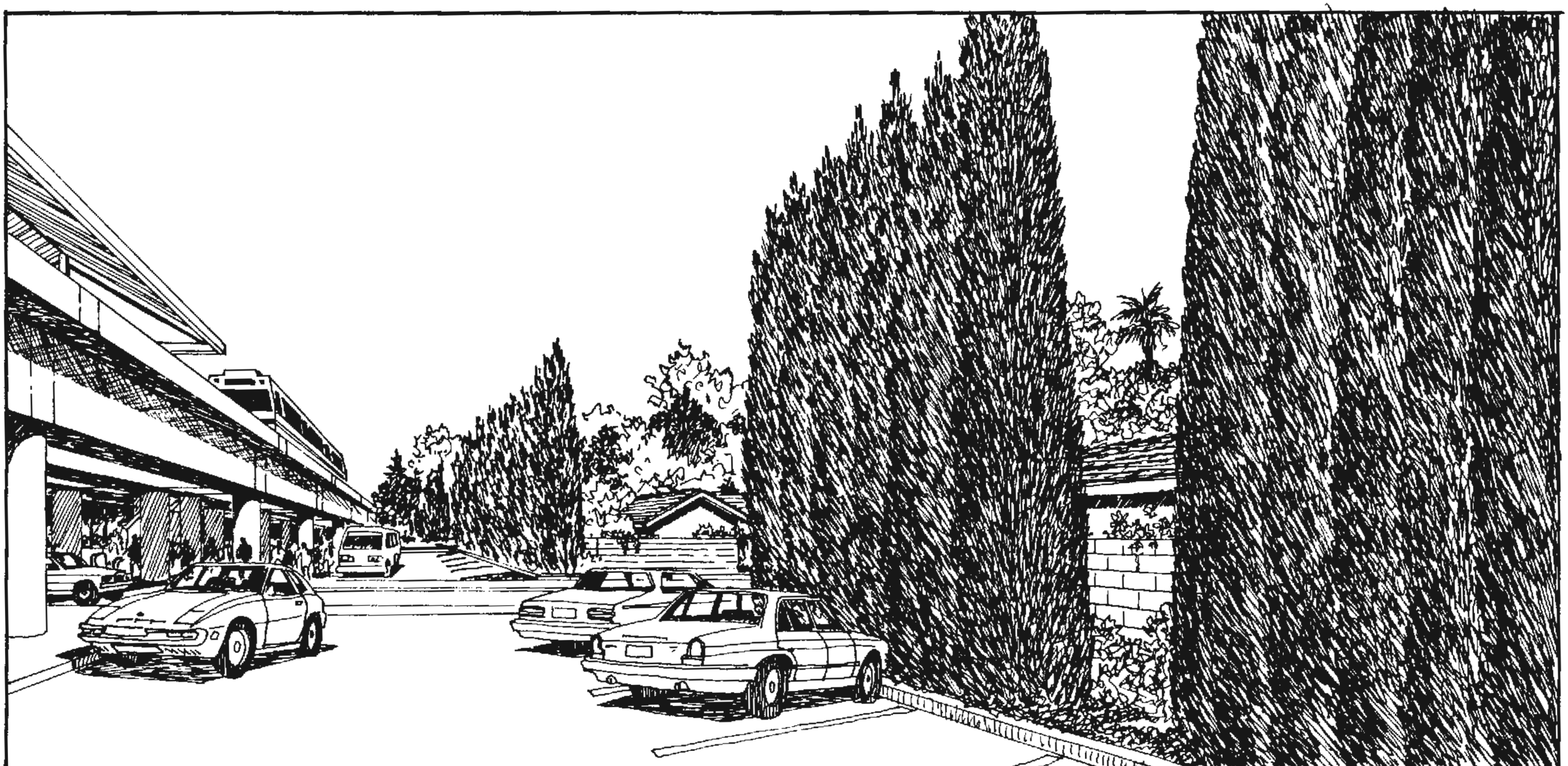


San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.4-3a

SP Burbank Branch Winnetka Station
Visual Setting - Before



Source: Gruen Associates

Looking west along Southern Pacific right-of-way towards Winnetka Avenue (OPPOSITE) and after construction of aerial station proposed by Burbank Branch #1 alignment. Vertical, evergreen screen trees would separate and protect adjacent residential homes. Low level light sources would reduce visual incompatibilities. Parking stalls and kiss and ride facilities would be developed to accomodate approximately 1,160 cars.

5 - 121

San Fernando Valley East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.4-3b

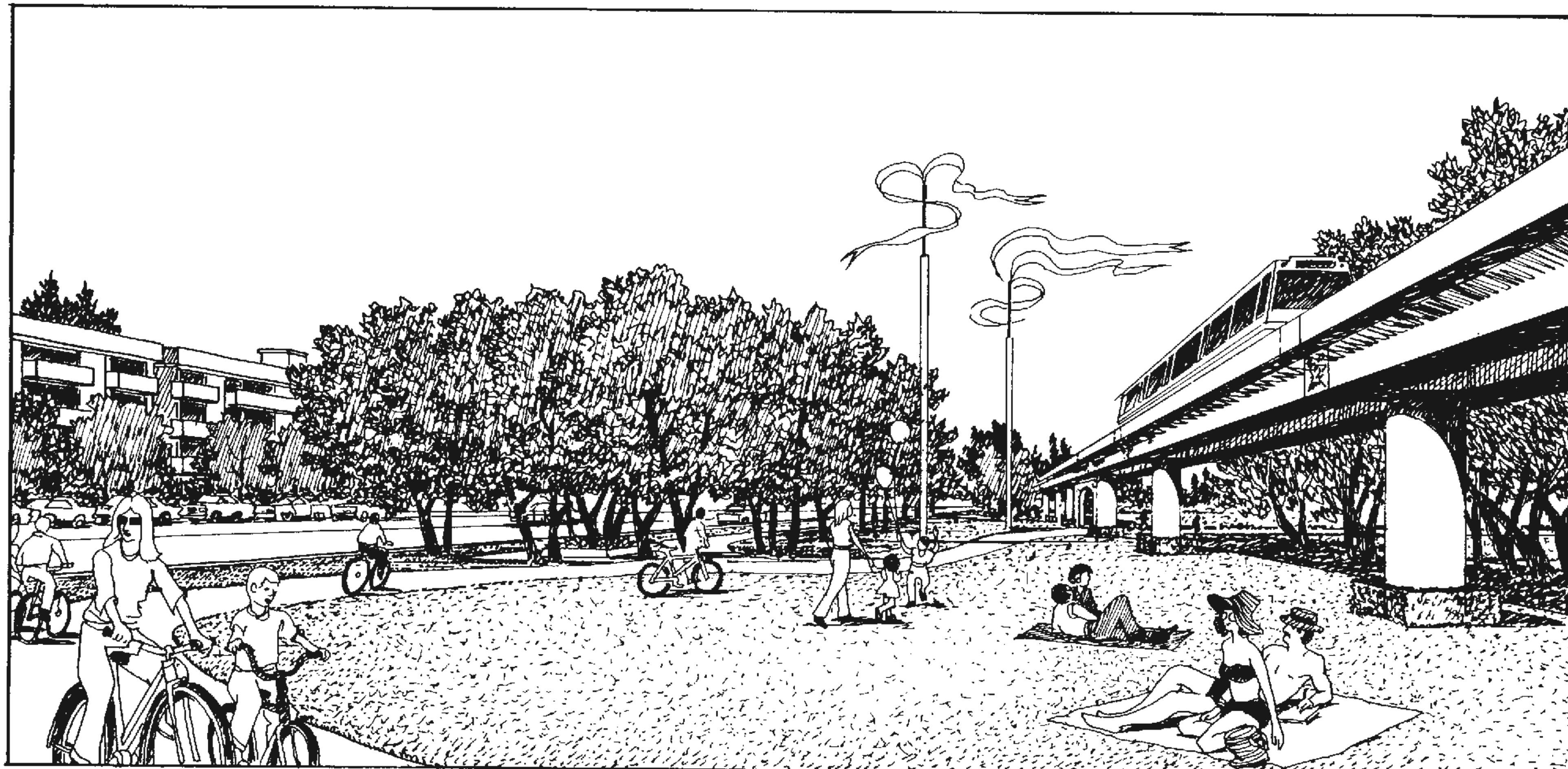
SP Burbank Branch Winnetka Station Visual Setting - After

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.4-4a

SP Burbank Branch Sepulveda Basin Area
Visual Setting - Before



Source: Gruen Associates

Looking east along the Southern Pacific right-of-way which borders the edge of the future Sepulveda Basin Art Park (OPPOSITE). After construction, the aerial guideway proposed with the Burbank Branch #2 and #3 alignments, will add a festive, inviting edge to the park that can provide fun and easy access to all of the park's amenities. Areas of sun and shade will be created under the guideway which is compatible with passive park uses.

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.4-4b

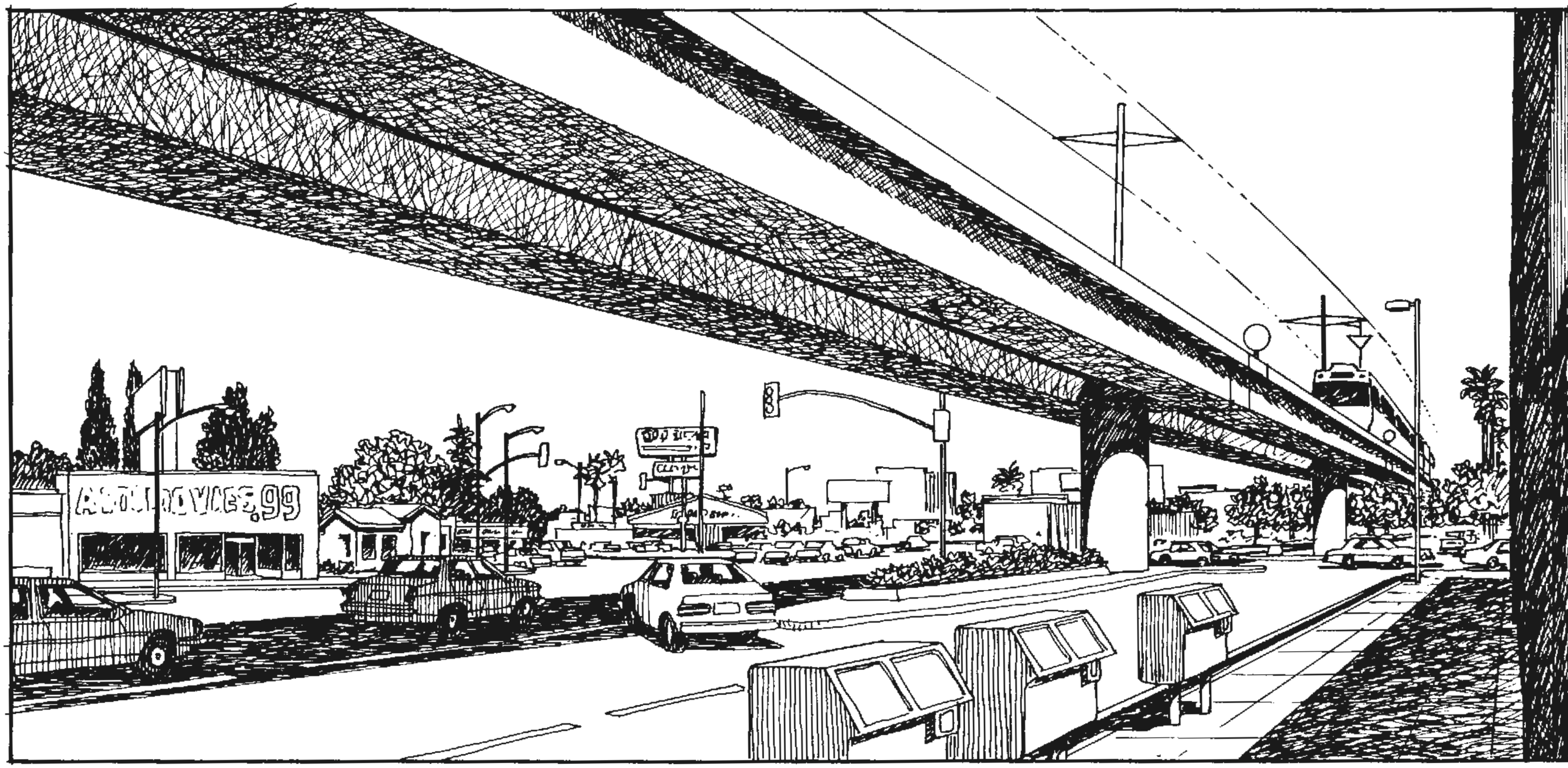
SP Burbank Branch Sepulveda Basin Area
Visual Setting - After

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.4-5a

SP Burbank Branch Vineland Extension
Visual Setting - Before

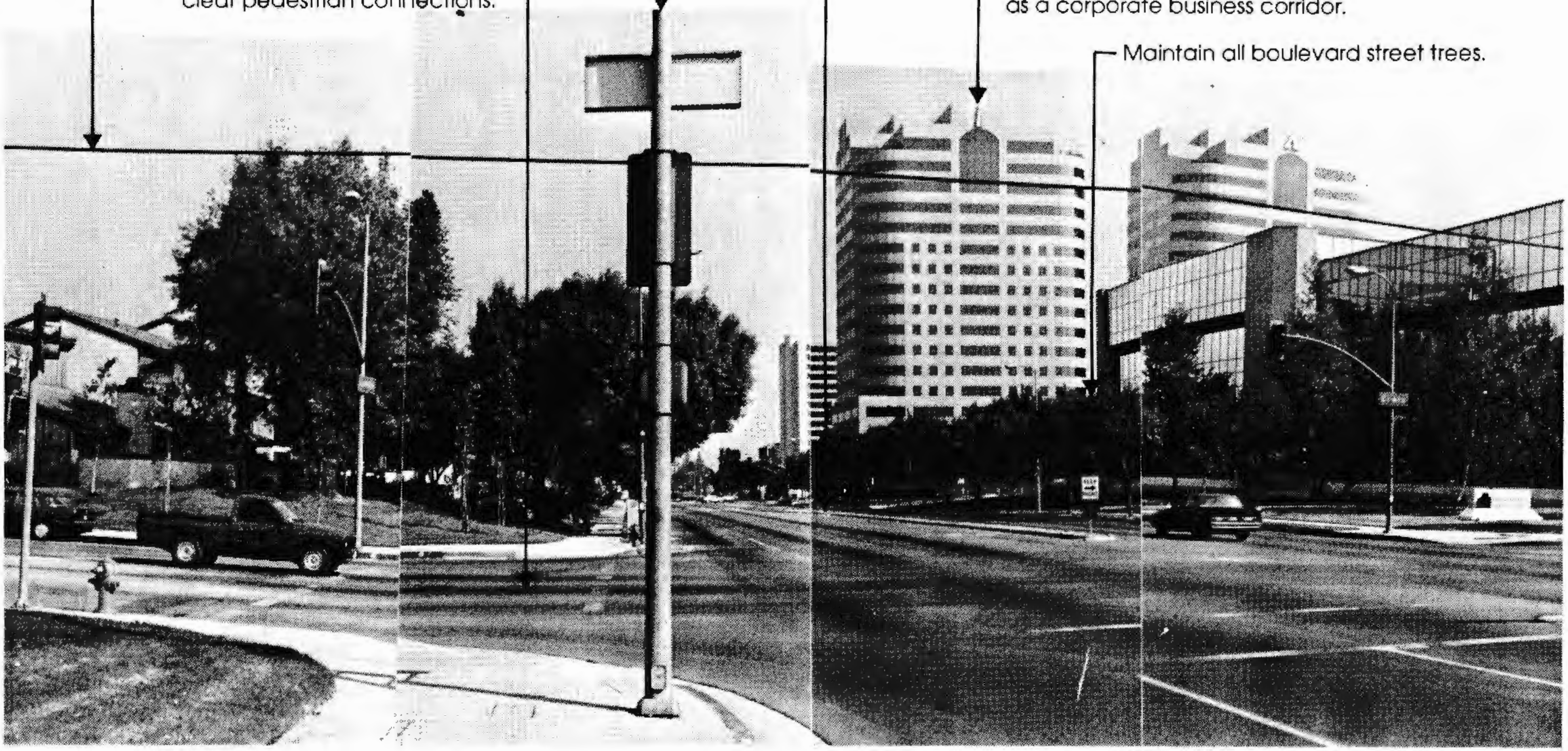


Source: Gruen Associates

Looking south along Vineland Avenue at the Lankershim Boulevard intersection (OPPOSITE) and after construction of Burbank Branch Alternative #1A or #2A. The guideway would be located within the Vineland median on the west side of the street. Pedestrian and vehicular traffic would encounter frequent transitions of light, shadow and glare while traveling in the proximity of this aerial structure.

Figure 5.4-5b

SP Burbank Branch Vineland Extension
Visual Setting - After

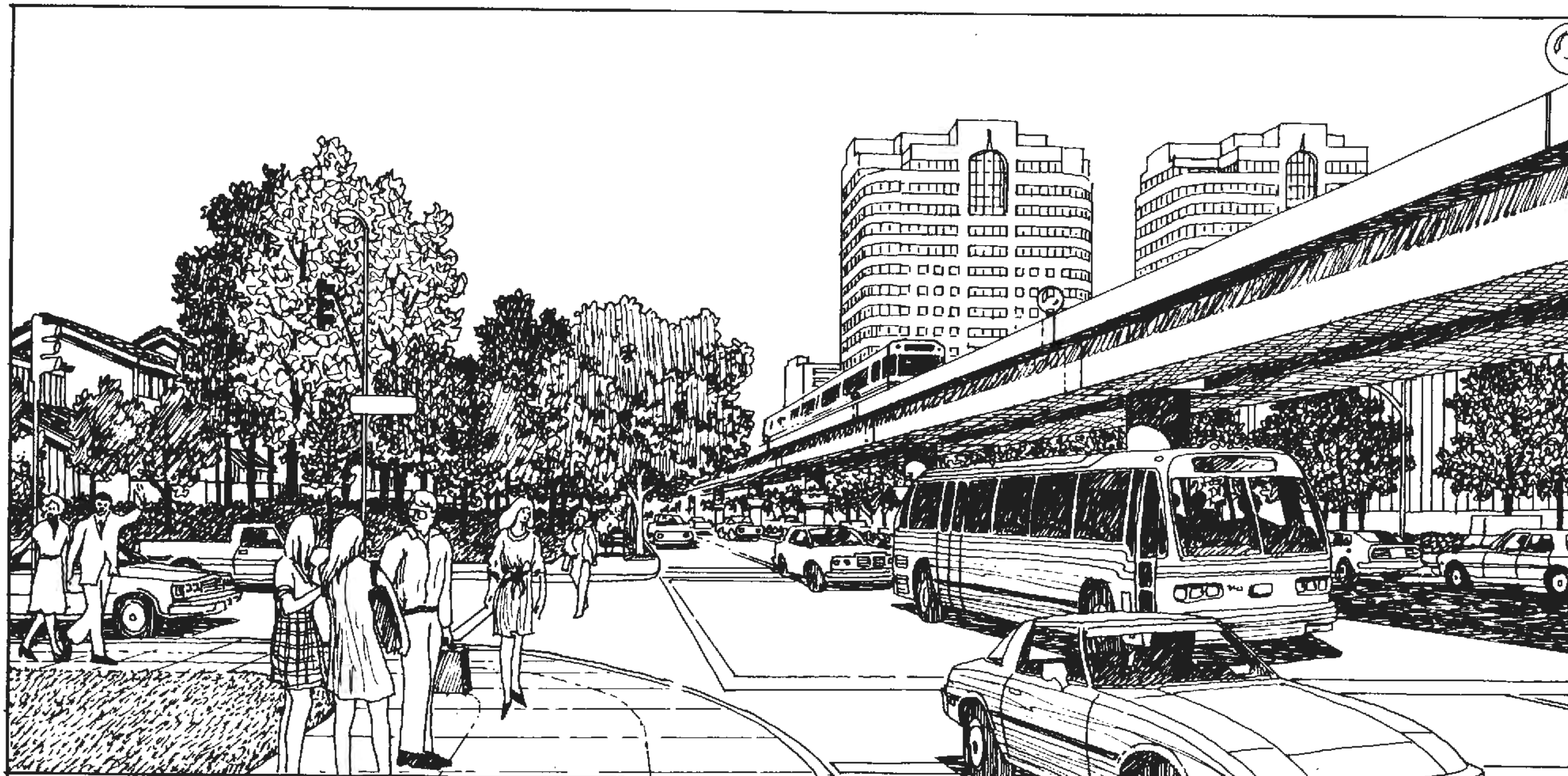


San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.4-6a

Ventura Freeway Canoga Avenue
Visual Setting - Before



Source: Gruen Associates

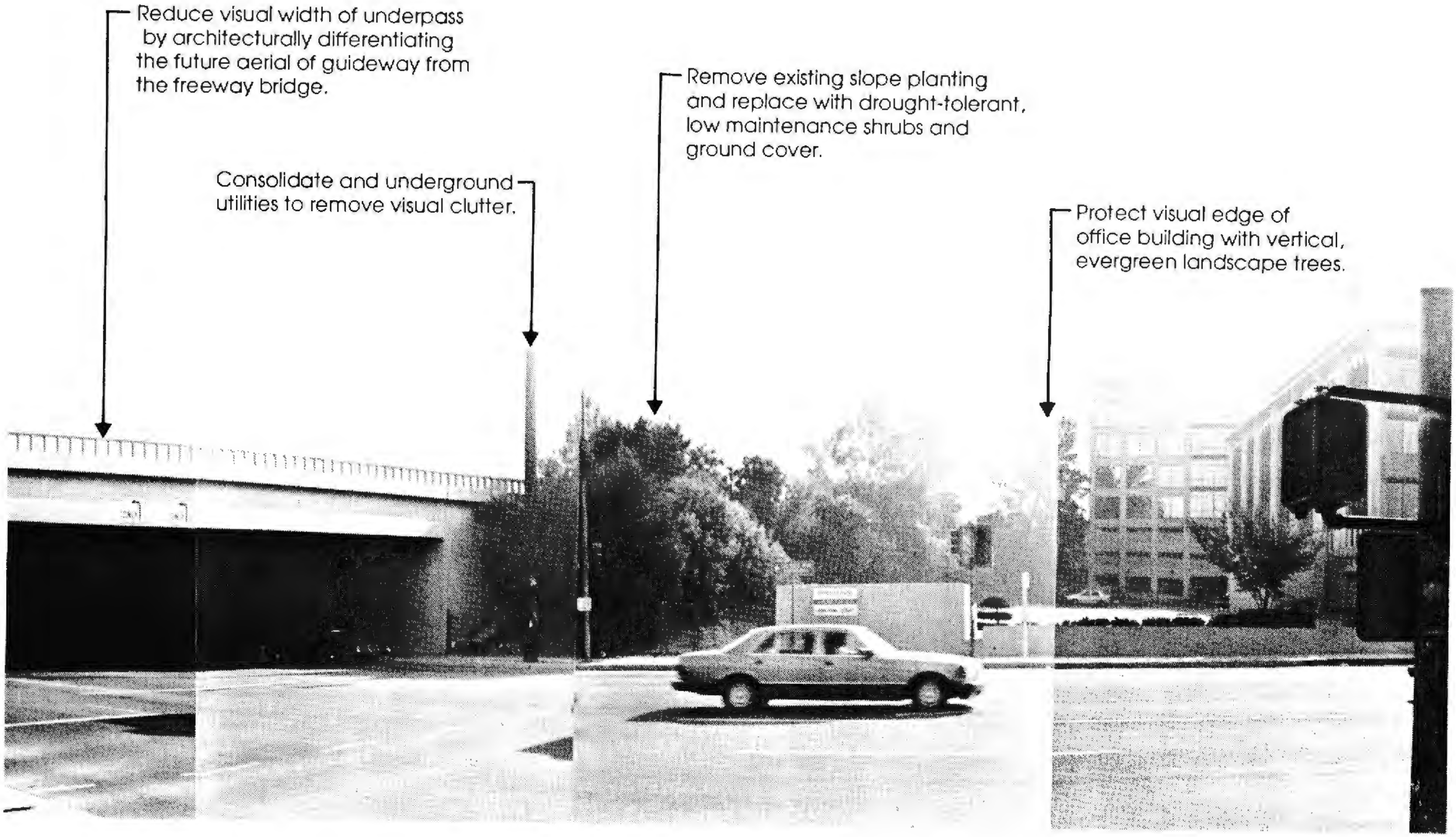
Looking north along Canoga Avenue towards the Trillium office towers and the proposed railyard terminus (OPPOSITE) and after construction. Both of the major route alternatives, Burbank Branch and Ventura, will overlap in this area. The proposed guideway is compatible with the future of this Woodland Hills area and will provide a significant, positive visual impact.

San Fernando Valley
East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.4-6b

Ventura Freeway Canoga Avenue
Visual Setting - After

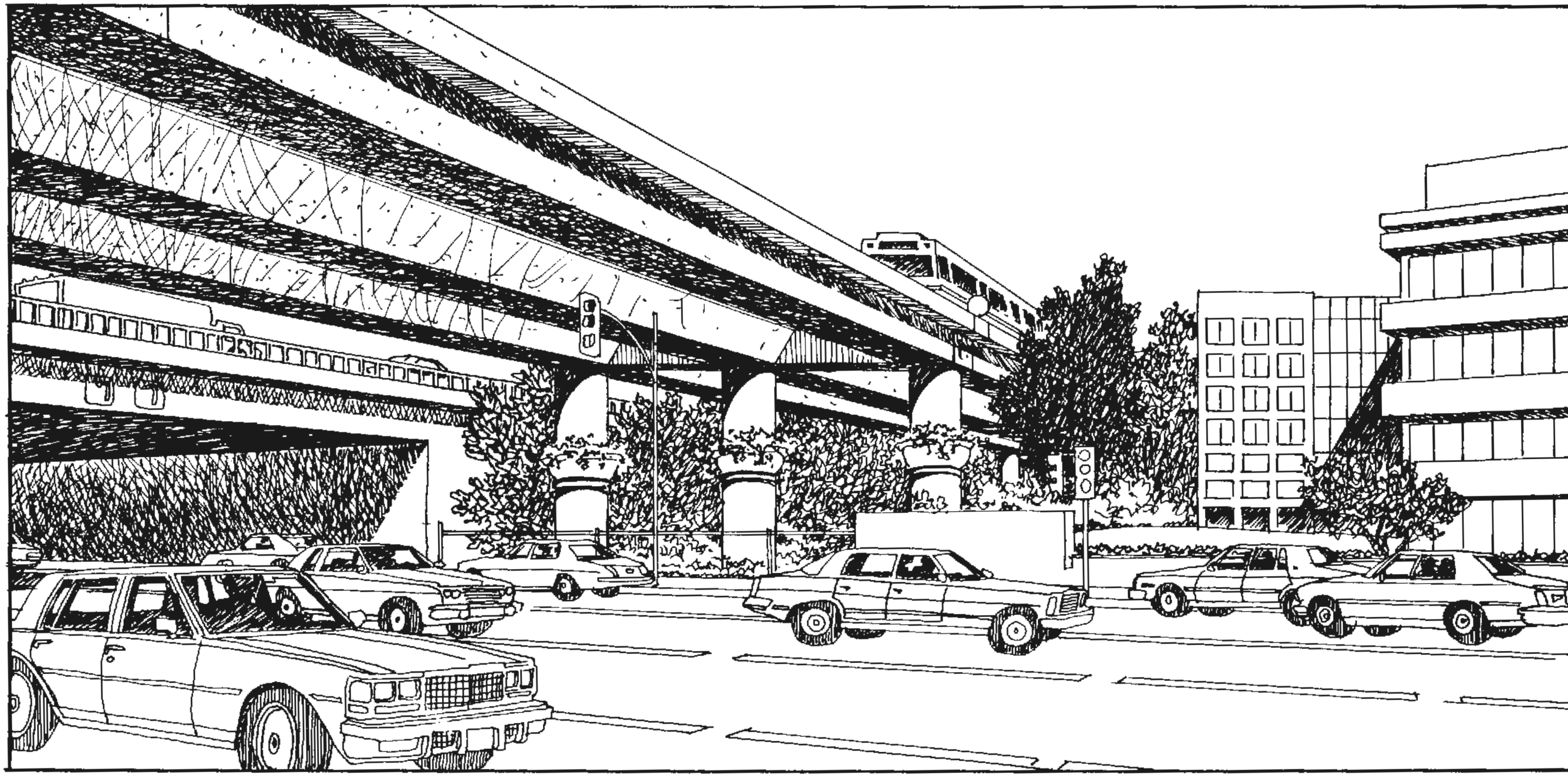


San Fernando Valley East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.4-7a

Ventura Freeway Reseda Station Area Visual Setting - Before



Source: Gruen Associates

Looking east across Reseda Avenue from the Ventura Freeway off-ramp (OPPOSITE) and after construction of Ventura #4 alignment. The rail line would be located adjacent to the freeway and between existing land uses. In many cases though, single family homes further east will need to be displaced to accommodate the aerial guideway.

San Fernando Valley East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.4-7b

Ventura Freeway Reseda Station Area Visual Setting - After

5.5 CONSTRUCTION IMPACTS

This section examines the impacts that can be expected to occur as a result of the construction of the rail transit project. The various construction methods to be used for each of the alternatives are discussed, impacts from these activities are described and mitigations are proposed. Key impact areas include utility relocations, circulation detours, noise/vibration and dust, business disruption and visual impacts. It should be stressed that these impacts are temporary, as opposed to the long term impacts from the operation of the system.

5.5.1 Types of Construction Activity

The methods of construction differ substantially between the route alternatives. In general, at-grade construction is the quickest and least disruptive of the alternatives under consideration. Aerial segments require longer construction periods and often require traffic diversions to allow for construction sites around bridges and guideway structures. Deep-bore and cut-and-cover subway segments are generally the most difficult and time consuming to construct due to the need for excavation, hauling of earth, heavy equipment, and construction below ground level. The following is a summary of the various types of construction activity:

- At-Grade Construction: Along Alternative #1, SP Burbank Branch LRT, the majority of the route would be at-grade or in shallow trench configuration. Construction of these segments could proceed rapidly along the existing freight rail trackbed. Excavation for the shallow trenches would be used to create earthberms along the sides of the rail line. For a typical one-mile segment construction would take approximately 8-12 weeks.

- Aerial Guideway Construction: Flyover structures along Alternative #1 and longer aerial segments of other alternatives would be required. These structures generally carry each track independently on precast prestressed concrete box or T-beams, which are in turn supported by cast-in-place reinforced concrete piers. The pier foundations consist of pilings or spread footings, depending on loads and soil conditions. A typical construction sequence for aerial guideways would involve three phases of activity; foundation installation, installation of guideway supports, and installation of guideway sections. For a typical one-mile segment, the three major construction phases would take from 8 to 12 months.

- Deep-Bore Subway Construction: Cut-and-cover subway construction is generally the most disruptive of construction methods being considered for the San Fernando Valley Project. Deep-bore tunneling generally has less impact on surrounding land uses than cut-and-cover construction because most of the construction activity takes place underground between construction staging areas rather than as a continuous open cut along the length of the alignment.

  For deep-bore segments, construction staging areas would be established along the alignment (most probably at future station sites) and all truck traffic and heavy equipment would be located at these sites. Excavation down to the level of the tunnels would take place at these staging areas. Excavated materials would be removed through isolated construction shafts or at these cut-and-cover station/staging areas. In soft ground areas such as the San Fernando Valley, two circular tunnels bored side-by-side would probably be used. Tunnels would be constructed using full-face tunnel boring or digger arm machines mounted inside shields in order to hold the ground in place and prevent surface settlement. Precast concrete or steel tunnel lining would then be placed inside the excavated area.

Typical soft ground tunneling rates experienced on the Metro Rail Project are approximately 60-100 feet per day. Additionally, time must be added for tunnel lining, station construction, ventilation, and other requirements. In total, a typical one-mile segment of deep-bore subway would take from 3 to 4 years for construction.

- Deep Trench Construction: This construction method is similar to cut-and-cover techniques and is the most disruptive to surrounding land uses of the alternatives under consideration. This construction technique generally begins by opening the ground surface to an adequate depth to permit support of existing utility lines and to set piles or other means of retaining the excavation. After the surface opening is covered with temporary decking at crossings so pedestrian and vehicular circulation can continue, excavation proceeds to the necessary depth (20-25 feet in most areas). Concrete structures are then built, backfill of some excavated materials occurs, and permanent street crossings are completed. Because of the large amount of excavation required, heavy truck traffic to and from the construction site occurs throughout the duration of the construction period. For a typical one-mile segment of deep-bore construction, 3 to 4 years would be expected for construction.

5.5.2 Duration of Construction Activities

The following figures summarize the areas along each route where the various construction methods would be utilized and the expected duration of construction. It should be noted that multiple, simultaneous construction contracts are generally let for the more complex construction segments, and general exposure of any one neighborhood can be as little as 6 to 8 weeks for some of the easier at-grade segment along the existing SP rail line, to as much as 3 to 4 years for the more difficult subway segments.

5.5.3 SP Burbank Branch Construction Impacts

As shown on the figures above, construction of Alternative #1, the SP Burbank Branch At-Grade LRT, would have the shortest period of construction impact when compared to the other four route alternatives being considered in this EIR. The right-of-way for the route has for the most part already been cleared and only minor site preparation activities would be required. Shallow trench segments would balance earthwork by using excavated materials to form berms alongside the trackbed in residential areas. Aerial flyover segments at major street crossings would have greater impact on surrounding land uses due to the need for heavier construction equipment required for the construction of bridge structures.

Figure 5.5-1
Estimated Construction Duration by Route Segment

Segment	Distance (feet)	Rate (time/distance)	Estimated Construction Time (years)
Alternative #1 - SP Burbank LRT			
Topanga to DeSoto (Aerial)	5700	24 wks/2000 ft	1.3
DeSoto to Winnetka (Bermed)	3900	12 wks/5000 ft	0.2
Winnetka to Victory (Aerial)	2900	24 wks/2000 ft	0.7
Victory to Reseda (Bermed)	7500	12 wks/5000 ft	0.4
Reseda Station (Aerial)	3200	24 wks/2000 ft	0.8
Reseda to White Oak (Bermed)	3500	12 wks/5000 ft	0.2
White Oak to Balboa (At-Grade)	5600	8 wks/5000 ft	0.2
Balboa Station (Aerial)	2200	24 wks/2000 ft	0.6
Balboa to Sepulveda (At-Grade)	9000	8 wks/5000 ft	0.3
Sepulveda Station (Aerial)	2700	24 wks/2200 ft	0.7
Sepulveda-Van Nuys (At-Grade)	2300	8 wks/5000 ft	0.1
Van Nuys Station (Aerial)	3000	24 wks/2000 ft	0.7
Van Nuys to Ranchito (Bermed)	2900	12 wks/5000 ft	0.2
Ranchito to Woodman (Cut/Cover)	2700	33 wks/1000 ft	1.8
Woodman to Sunnyslope (Bermed)	1000	12 wks/5000 ft	0.1
Sunnyslope to Chandler (D.Tr)	3500	30 wks/1000 ft	2.1
Chandler to Hollywood Fwy (Bermed)	9100	16 wks/5000 ft	0.6
Hollywood Fwy-N.Hwd (At-Grade)	1600	8 wks/5000 ft	0.1
N.Hwd to Vineland (Aerial)	3000	24 wks/2000 ft	0.7
Vineland-Camarillo (At-Grade)	3700	8 wks/5000 ft	0.2
Camarillo Flyover (Aerial)	2300	24 wks/2000 ft	0.5
Camarillo-Vent Fwy (At-Grade)	1300	8 wks/5000 ft	0.1
Vent Fwy-Univ Cty (Aerial)	3200	24 wks/2000 ft	0.8
Universal City (Subway)	1800	28 wks/1000 ft	1.0
Alternative #2 - SP Burbank LRT/Deep Trench			
Topanga to DeSoto (Aerial)	5700	24 wks/2000 ft	1.3
DeSoto to Melvin(Deep Trench)	8800	30 wks/1000 ft	2.6 a
Melvin to White Oak (Cut/Cover)	13900	33 wks/1000 ft	3.0 b
White Oak to Balboa (At-Grade)	5600	8 wks/5000 ft	0.2
Balboa to Woodley (Aerial)	9000	24 wks/2000 ft	2.1
Woodley-Sepulveda (At-Grade)	2400	8 wks/5000 ft	0.1
Sepulveda-Van Nuys (Aerial)	8300	24 wks/2000 ft	2.0
Van Nuys-Chandler (Deep Trench)	9600	30 wks/1000 ft	2.8 c
Chandler to Bellaire (C&C)	2400	33 wks/1000 ft	1.6
Bellaire to Hwd Fwy (Deep Trench)	7800	30 wks/1000 ft	2.3 d
Hwd Fwy to Tujunga (Cut & Cover)	1000	33 wks/2000 ft	0.7
Tujunga to North Hollywood (Subway)	3700	28 wks/1000 ft	0.5

Figure 5.5-1
Estimated Construction Duration by Route Segment
(Continued)

Segment	Distance (feet)	Rate (time/distance)	Estimated Construction Time (years)
Alternative #3 - SP Burbank ART/Metro Rail Extension			
Topanga-White Oak (Subway)	28200	28 wks/1000 ft	3.0 e
White Oak-LA River (Ret.Cut)	1300	30 wks/1000 ft	0.8
LA River-Balboa (At-Grade)	2500	8 wks/5000 ft	0.1
Balboa-Woodley (Aerial)	9200	24 wks/2000 ft	2.2
Woodley-Sepulveda (At-Grade)	2300	8 wks/5000 ft	0.1
Sepulveda-Van Nuys (Aerial)	8300	24 wks/2000 ft	2.0
Van Nuys-Hazeltine (Ret Cut)	700	30 wks/1000 ft	0.4
Hazeltine to N. Hollywood (Subway)	22200	28 wks/1000 ft	3.0 f
Alternative #4 - Southside Aerial			
Canoga Avenue (Aerial)	9100	24 wks/2000 ft	2.1
Freeway Underpass (Subway)	4500	28 wks/1000 ft	2.4
Freeway West (Aerial)	31900	17 wks/3000 ft	3.5
Sepulveda Basin (At-Grade)	2600	12 wks/1000 ft	0.6
1-405 Undercrossing(Subway)	4300	28 wks/1000 ft	2.3
Freeway East (Aerial)	18800	17 wks/3000 ft	2.1
Freeway East (At-Grade)	4800	12 wks/1000 ft	1.1
Freeway to Univ.Cty (Subway)	6500	28 wks/1000 ft	3.5
Alternative #5 - Northside Subway			
Canoga Avenue (Aerial)	9100	24 wks/2000 ft	2.1
Freeway Underpass (Subway)	4500	28 wks/1000 ft	2.4
Freeway West (Aerial)	10200	26 wks/3000 ft	1.1
Freeway West (At-Grade)	1000	18 wks/1000 ft	0.3
Freeway West (Subway)	25500	28 wks/1000 ft	3.4 g
Freeway Central (Aerial)	2700	26 wks/3000 ft	0.5
Freeway Central (At-Grade)	2600	10 wks/1000 ft	0.9
Freeway East (Subway)	36400	28 wks/1000 ft	3.3 h

Source: Gannett Fleming

a 8800 foot segment divided into two sub-segments at 4400 feet each
b 13900 foot segment divided into three sub-segments at 4600 feet each
c 9600 foot segment divided into two sub-segments at 4800 feet each
d 7800 foot segment divided into two sub-segments at 3900 feet each
e 28200 foot segment divided into five sub-segments at 5600 feet each
f 22200 foot segment divided into four sub-segments at 5500 feet each
g 25,500 foot segment divided into four sub-segments at 6,400 feet each
h 36,600 foot segment divided into six sub-segments at 6,100 feet each
(Construction time per sub-segment)

Alternatives #2 and #3, the SP Burbank Branch Deep Trench and Subway alignments, would have a much longer period of construction activity and would involve greater impact on the surrounding community. Following are the major impacts to be expected from the construction of the SP Burbank Branch Route Alternative:

Utility Relocations: During the Concept Engineering phase of this study existing utilities likely to be impacted were identified. This analysis indicated that utility impacts on the Ventura Freeway Alternatives, due to the aerial/subway configuration of that line, would be minimal. The Burbank Branch Alternatives, on the other hand, are crossed by a sizable number of large storm drainage structures which collect flood waters from the north of the line and direct these flood waters to the LA River (e.g., Bull Creek, Tujunga Wash). An assortment of electrical, gas, telephone, cable TV, water and sanitary sewer lines also cross this route alternative. The SP Burbank Branch Alternative #3, the Deep-Bore Subway Alternative, would not impact these utilities to any significant degree as it passes under these utilities. Alternative #1, the At-Grade LRT Alternative would also have minor impacts on these utilities as it would pass above the majority of them, except in channelized guideway segments between Hazeltine Avenue and Chandler Boulevard, where utilities at Woodman/Oxnard and Fulton/Burbank are affected as part of the required reconstruction of these intersections.

Alternative #2, the LRT Subway/Deep Trench Alignment would have the greatest impact on utilities of the alternatives being considered in this EIR. Because the Deep Trench alignment would require a cut through all major lines, the profile has been modified since the release of the Initial Environmental Study to include full subway segments at the Tujunga Wash and along Topham Boulevard between approximately Tampa and White Oak. This modification in the project alignment was necessary in order to avoid major north-south storm drains in this area. For other utility crossings along deep trench segments of the line, utilities would generally be reconstructed as a part of bridge structures constructed at all street crossings of the alignment.

Traffic Impacts: Aerial segments of Alternative #1 and #2 would require the temporary closure of up to two traffic lanes along the north side of Victory Boulevard from Topanga Canyon Boulevard to Winnetka Avenue for construction of the aerial guideway. In addition, all aerial spans over major north-south streets would have to be construction phased and traffic phased, requiring some temporary traffic rerouting during periods when guideway beams are placed upon the guideway supports over these intersections.

The Vineland Extension option in Alternatives #1a and #2a would require careful construction phasing at the Lankershim/Camarillo long span intersection where construction detours and special signaling would need to be instituted. Another area along the Vineland alignment would be at the intersection of Vineland Avenue and the Ventura Freeway Off-Ramp. At this location heavy equipment would need to access the area along the Hollywood Freeway between Vineland Avenue and the Universal City subway segment. The aerial guideway would be located between the freeway and the flood control channel/Weddington Park, and construction would need to access this area from the above mentioned area. Special traffic control measures would be required to control surface as well as freeway traffic in this area.

A significant traffic impact would be expected from Alternatives #2 and #3 due to the need for heavy truck traffic to and from excavation sites for subway and deep trench alternatives. As described in Section 5.7, Earth & Water Impacts, estimated earth removal requirements for each alternative would require heavy truck traffic to and from construction staging sites throughout the construction period. Initially, truck traffic would be necessary to haul away excavated materials from tunnel and cut-and-cover segments of the route. Later, backfill materials would be transported back into the construction sites for use at station areas and in deep trench segments. Finally, during construction of station shells, tunnel linings and retaining walls for deep trench sections, concrete trucks would be necessary to bring in concrete for continuous poured-in-place system components. In Section 5.7 it can be seen that Alternative #2 would create the greatest amount of excess earth material resulting in the heaviest generation of truck traffic to and from job sites. Alternative #3 would generate somewhat less, while Alternative #1 would not generate any excess truck traffic as a result of earth removal or other construction practices.

Light/Glare and Noise/Vibration: Visual and noise impacts would be of relatively short duration for Alternative #1, due to the at-grade alignment which requires much shorter construction times and fewer types of heavy equipment than in other types of construction.

Alternatives #2 and #3 would have greater impacts due to excavation activities and the need for heavier types of construction equipment required. Construction could take place during regular working hours and the 100 foot right-of-way would allow most construction related activity to be confined within the SP property. Because Alternative #3 would be constructed in deep-bore subway, construction activities would only be visible at construction staging areas located at the planned station areas. Alternative #2, because it would be constructed in deep trench configuration, would be visible for the entire length of the route during the construction phase.

Noise and Vibration impacts would be felt from the unusually high noise levels generated by heavy construction equipment. Noise sources include bulldozers, pavement busters, backhoes, cranes, heavy trucks and rollers. Where noise and vibration impacts are particularly sensitive, caissons could be utilized in lieu of pile driving equipment.

Unavoidable Adverse Impacts: Noise, vibration, dust and traffic impacts,although temporary, would constitute a significant adverse daytime impact throughout the residential areas along this route.

5.5.4 Ventura Freeway Construction Impacts

Construction of either of the Ventura Freeway Route Alternatives would create construction impacts in areas along the freeway due to the high traffic volumes on the freeway itself and the tight spacing between the edge of the freeway and adjacent homes and businesses. Construction of aerial guideways, stations and subway sections would need to occur without removing lanes from the Ventura Freeway during the AM and PM rush hour periods. At the same time construction during weekend and evening periods is more difficult, costly, and has a greater impact on adjacent land uses along the route. Following are the major impacts to be expected from the construction of the Ventura Freeway Route Alternative:

Traffic Management: In order to move heavy construction equipment along the freeway to areas where construction would occur, a traffic management plan would need to be developed in coordination with Caltrans. Such a plan was implemented during the recently completed Ventura Freeway Widening Project. The plan would consider construction phasing, traffic diversions and motorist information programs that would be necessary for the construction of the rail transit system along the freeway right-of-way.

The placement of columns for the aerial guideway adjacent to the freeway would most probably involve the temporary reduction of lane widths from 12 feet to 11 feet, if the freeway widening project has been completed to its ultimate width. An interim freeway configuration of ten 11-foot lanes, an 8-foot median and slightly modified shoulders would provide enough room for construction activities associated with column construction and guideway erection. There would be periods outside of rush hour periods when temporary lane closures would be necessary.

Such a traffic management plan would also need to consider freeway ramp relocations that would be required for the construction of aerial and subway stations. On/off ramps at DeSoto Avenue, Tampa Avenue, and Reseda Boulevard would need to be temporarily reconfigured for either Ventura Freeway Route Alternatives #4 or #5. In addition, Alternative #4 would require the temporary reconfiguration of ramp(s) at White Oak Avenue, Hayvenhurst Avenue, and Woodman Avenue. Alternative #5 would require the temporary relocation of ramp(s) at White Oak Avenue, Van Nuys Boulevard, Woodman Avenue, Coldwater Canyon Avenue and Laurel Canyon Boulevard. The temporary reconfiguration and/or relocation of these on and off ramps would affect local traffic on surrounding streets including Ventura Boulevard (west of Reseda), Burbank Boulevard and Riverside Drive (east of Reseda). Temporary closure of two traffic lanes along Canoga Avenue in Warner Center would also be required during construction of aerial guidway segments along the median of that street.

<u>Light/Glare and Noise/Vibration</u>: Due to heavy traffic conditions on the Ventura Freeway, a substantial amount of construction activity for above-ground segments of the route would need to occur during weekend and nighttime hours. Lighting for such construction activities would be disruptive for residential areas along these segments of the routes. If Alternative #5, the Ventura Freeway Northside Subway, were selected, such impacts would be reduced in areas of subway construction where they would be confined to construction staging areas at future station sites.

Noise and Vibration impacts would be felt from the unusually high noise levels generated by heavy construction equipment. Noise sources include bulldozers, pavement busters, backhoes, cranes, heavy trucks and rollers. Where noise and vibration impacts are particularly sensitive, caissons could be utilized in lieu of pile driving equipment.

<u>Underground Construction</u>: Generally, deep-bore subway construction techniques would be used along Ventura Freeway Alternative #5. This construction technique is less disruptive than cut-and-cover construction, and reduces many of the impacts associated with subway construction activities. In some instances however, cut-and-cover construction would be necessary. Areas where cut-and-cover construction would be employed include station shells, pocket tracks, double crossovers, and in shallow tunnel segments. The only exception to this would be the double crossovers, located between Kester and Louise, where deep-bore techniques would be necessitated due to the location of the tunnels directly under the freeway mainline.

Utility Impacts: Major utility impacts are held to a minimum with either of the Ventura Freeway Route Alternatives due to the fact that aerial segments generally pass above utilities and deep-bore subway segments pass below them. Numerous minor utilities would be affected.

Unavoidable Adverse Impacts: Construction along the Ventura Freeway would have similar impacts as the SP Burbank Branch route except for the added impact of night construction in those areas where freeway ramp and lane closures would be required. Night construction would constitute a significant, although temporary, adverse impact of the Ventura Freeway Route Alternative.

5.5.5 Construction Impact Mitigation

In order to mitigate construction related impacts along the project route the following mitigation measures are proposed:

- Prior to the start of construction, traffic control plans, including detour plans shall be formulated with the City of Los Angeles and the California Department of Transportation. Unless unforseen circumstances dictate, no major roadways would be closed to pedestrian or vehicular traffic. In addition, sidewalks and delivery routes will stay open and storefronts will be kept as visible as possible.

- A public information campaign will be implemented that will provide prior notice to affected property owners and the public on specific dates and locations where construction would be taking place. Visible road signs will be provided for all detours or rerouting of travel patterns.

- Construction activities shall be programmed as expeditiously as possible to minimize disruptions to adjacent land uses.

- Noise specifications for subsequent inclusion in the construction documents shall be prepared to ensure compliance with local noise ordinances. Whenever construction-generated noise exceeds acceptable CNEL standards during night or weekend periods, affected residents will be offered free alternative lodging accommodations.

- The relocation and in-place support of utilities shall require coordination and careful design and construction phasing of the project. Each utility along the selected route shall be evaluated in detail to determine the exact mitigation measure. A process currently utilized in ongoing rail transit projects by LACTC will similarly be applied. This process calls for an identification of all potential conflicts with existing utilities and their operators, and an evaluation of their impact during the preliminary engineering phase. These specific findings become the basis of a cooperative agreement whose goal is to identify necessary utility rearrangements and responsible parties, and specify a manner resulting in the least interference to all concerned parties.

5.6 AIR QUALITY IMPACTS

The South Coast Air Basin (SCAB) is a 6,600 square mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east. The South Coast Air Basin, which comprises all of Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino Counties, has the worst air quality problem in the nation. Air pollution levels in the SCAB remain high compared to standards set forth to protect public health. There are six federally-regulated air pollutants. In 1987, four pollutants, carbon monoxide, nitrogen dioxide, ozone and PM10, exceeded the standards. Lead and sulfur dioxide concentrations met the standards.

5.6.1 Existing Air Quality Conditions in the San Fernando Valley

The San Fernando Valley is downwind of the daytime onshore flow and, therefore, experiences many more violations of clean air standards during the daytime, especially in summer. Existing ambient air quality levels and historical air quality trends in the City of Los Angeles are recorded and represented by air quality monitoring data compiled by the South Coast Air Quality Management District (SCAQMD) for Source/Receptor Areas No. 6 and 7, East San Fernando Valley (Burbank) and West San Fernando Valley (Reseda) respectively. Monitoring data from Burbank (228 West Palm Avenue) and Reseda Monitoring Stations (18330 Gault Street) is most representative of the boundaries of the San Fernando Rail Transit Project.

<u>Ozone</u>: Los Angeles Basin concentrations increase toward the valley which accounts for an average of 85 days per year exceedances of the one-hour federal ozone standard of 0.12 ppm for the Eastern San Fernando Valley station. First stage smog alerts (1 hour ozone concentrations greater than 0.20 ppm) are also at their maximum number in the eastern San Fernando Valley and taper off in the western valley.

<u>Carbon Monoxide</u>: The state standard of 0.20 ppm for Carbon Monoxide has been violated twice (1983 and 1985) for Burbank Monitoring stations while the 8-hour standard of 9 ppm was violated up to 23 times (16.6 ppm) for the Burbank monitoring station and up to 15 times (16.0 ppm) for the Reseda monitoring station.

<u>Nitrogen Oxides</u>: The one-hour state standard of 0.25 ppm has been exceeded an average of 1 time per year over the last six years (1983-1989) for the Burbank Monitoring Station. No violations were recorded for the Reseda Monitoring Stations.

<u>Sulfate</u>: In 1984, 14 out of 60 observations of the 24-hour state standard of 25ug/m3 were exceeded with a maximum 24 hour concentration level of 22.9 ug/m3. No standard was exceeded before 1984 or in the following years.

5.6.2 Air Quality Impacts

Consistency with the Air Quality Management Plan: The 1989 AQMP was adopted by the South Coast Air Quality Management District (SCAQMD) on March 17, 1989. The AQMP has been developed to provide the mechanisms necessary to attain the improved air quality conditions as stipulated in the Clear Air Act, as amended. The "attainment strategy" contained in the AQMP is divided into three tiers. Tier 1 includes those control measures that can be adopted in the next 5 years using currently available technological applications and management practices. Tier II measures include already-demonstrated control technologies and "on-the-horizon" technologies that require advancements which can reasonably be expected to occur in the near future. Finally, Tier III programs are designed to bring about major technological breakthroughs to further reduce emissions of reactive organic gases.[1]

With respect to the AQMP, transit improvements are contained within Tier I control measures. Specifically, a Proposition A funded rail transit system in the San Fernando Valley is considered as an element of the AQMP control program adding five light rail lines to the region in total.[2] The AQMP does not identify a specific alignment for the rail transit route. In this context, the Burbank Branch Route Alternatives and the Ventura Freeway Route Alternatives would both be considered consistent with the AQMP.

Effect on Regional Emissions: As part of the patronage forecasting process, the Southern California Association of Governments (SCAG) prepared comparative estimates of vehicle miles of travel with and without the development of rail transit in the San Fernando Valley. The overall estimate of vehicle miles is shown in Figure 5.6-1. Here, the Burbank Branch Route Alternatives and the Ventura Freeway Route Alternatives are compared with the no project alternative. The SP Burbank Alternatives #1 and #2 would result in a reduction of 409,000 daily vehicle miles of travel, the SP Burbank Alternative #3 would result in a reduction of 440,000 daily vehicle miles of travel, while the Ventura Freeway Alternatives #4 and #5 would reduce daily travel by 410,000 to 420,000 vehicle miles.[3]

These reductions in vehicle miles travelled would have a corresponding reduction in daily pollutant emissions. As shown in Figure 5.6-1, carbon monoxide would be reduced by between 3.2 and 3.5 tons/day with the SP Burbank Alternatives and by 3.3 tons/day for the Ventura Freeway Alternatives. These reductions appear modest when compared to total mobile emissions region-wide (less than two-tenths percent for either option). However, it is expected that the percentage of emission reductions in the San Fernando Valley would be 2 to 3 times higher if vehicle miles driven in the Valley only were taken into account. Within the Valley emission reductions stemming from Burbank Route Alternatives would

---

[1] South Coast Air Quality Management District and the Southern California Association of Governments, Air Quality Management Plan, South Coast Air Basin, Final, March 1989.

[2] Southern California Association of Governments, Air Quality Management Plan, Appendix IV-G, March 1989.

[3] No data is currently available that specifically breaks out vehicle miles of travel reduction in the San Fernando Valley. All SCAG projections of vehicle miles are based on an metropolitan area-wide freeway and street network.

range from 0.7 to 0.8 percent, while the Ventura Freeway route would likely achieve 0.7 percent reduction in emissions.[4]

Figure 5.6-1
Comparison of Regional Emissions Based on Vehicle Miles of Travel

	No Project	Burbank Branch Alt #1,#2	Burbank Branch Alt #3	Venture Freeway Alt #4,#5
Vehicle Miles Traveled (millions)	310.17	309.76	309.73	309.75
Daily Emissions: (Tons/Day) *				
Total Organic Gases	232.30	231.99	231.97	231.98
Carbon Monoxide	2,445.80	2,442.57	2,442.33	2,442.49
Nitrogen Oxides	454.30	453.70	453.66	453.68
Savings Compared to No Project: (Tons/Day)				
Total Organic Gases	--	0.31	0.33	0.32
Carbon Monoxide	--	3.23	3.47	3.31
Nitrogen Oxides	--	0.60	0.64	0.62

* Emissions based on EMFAC7PC computer program. Emissions are for 2010 at 30 mph.

Source: Southern California Association of Governments.

Figure 5.6-2
Potential Power Plant Emissions Resulting From Rail Transit Energy Consumption

Pollutant	Factor *	Daily Emissions **
Carbon Monoxide	0.20	4.40
Nitrogen Oxides	1.15	25.30
Sulfur Oxides	0.12	2.64
Particulates	0.04	0.88
Reactive Organic Gases	0.01	0.22

* Factors based on pounds per 1000 kwh. Source of factors is the SCAQMD Air Quality Handbook, Appendix G., Page G-1.

** Emissions are estimated in pounds per day.

[4] These conclusions regarding vehicle miles traveled reductions in the San Fernando Valley were based on preliminary SCAG estimates. Patronage Forecasts for the San Fernando Valley Light Rail Transit Alternatives, March 1988.

It should be noted that there would also be incremental regional increases in emissions. These increases would result from power plants supplying electrical energy to rail transit facilities. In general, the rail alternatives considered would consume approximately 22,000 kilowatt hours daily (see Energy Section 5.12 for details). Daily power plant emissions would be as shown in Figure 5.6-2. These emissions would not exceed the SCAQMD's threshold criteria for a significant impact.

Potential for Station "Hot Spots": While there is likely to be some regional reduction in pollutant emissions due to the implementation of the rail alternatives in the San Fernando Valley, it should be recognized that station areas, particularly those with large parking lots located adjacent to major intersections, would likely result in an incremental increase in localized emissions, particularly added concentrations of carbon monoxide. Added emissions would result from increased vehicle queues in parking lots as well as changes in intersection operations resulting from added buses, and kiss and ride activity.

Based on the California Line Dispersion Model (CALINE 4 7/89 Version) developed by the California Department of Transportation (CALTRANS), Figure 5.6-3, Peak Hour Carbon Monoxide Concentrations at Selected Intersections, illustrates the magnitude of carbon monoxide changes at selected intersections where rail stations with parking would be located. Assuming worst case conditions, the model prediction of CO concentrations suggests that the changes would typically be less than one part per million when the future "with project condition" is compared against future conditions "without the rail project." The largest increases (up to 0.8 ppm) are found at the DeSoto/Ventura and Vanowen/Canoga station areas on the Ventura Freeway route. Increases on the Burbank Branch route range from 0.1 to 0.4 ppm.

5.6.3 Mitigation Measures

As described above, the rail transit project is expected to have a beneficial positive impact to the South Coast Air Basin. At some of the larger parking lots at station areas, some localized air quality impacts would be expected due to the concentration of vehicles during the morning and evening rush hours. To reduce the negative impacts at these station areas, the following mitigation measures are proposed:

- Implementation of an effective station bus feeder system with a high level of service.

- Development of transit policies and an aggressive transit marketing program that focus on attracting new riders to the rail transit system, but also encourage access to transit stations via buses and other high occupancy vehicles.

- For major employment centers directly served by rail transit, coordinate with employer associations, merchant associations, to provide incentives for increased employee use of rail transit. Specifically, market employer rail transit support as a mechanism to comply with the requirements of SCAQMD Rule 15.

- Actively coordinate with the City of Los Angeles Department of City Planning to tie development approvals, as reflected in specific plans and/or interim control ordinances, to developer support for rail transit.

- Development of station design plans that minimize impacts to in-street traffic operations, such as providing on-site bus transfer points and pull-off areas for kiss-and-ride.
- Coordinate with the Los Angeles Department of Transportation to minimize queue lengths and reduce vehicle delay time, since idling is related to localized pollution.

Figure 5.6-3
Year 2010 Predicted Peak Hour Carbon Monoxide Concentrations
In Selected Intersections
(Parts Per Million, ppm) *

Intersection	Alternative	Existing	Future Without Project	Future With Project	Change In Future Conditions
Lankershim/Chandler	Burbank	17.0	17.8	18.0	0.2
Sepulveda/Oxnard	Burbank	18.3 **	17.8	18.0	0.2
White Oak/Oxnard	Burbank	17.9 **	17.1	17.3	0.2
White Oak/Oxnard	Burbank	17.9 **	17.1	17.6	0.5
Winnetka/Victory	Burbank	22.7 **	20.2	20.3	0.1
DeSoto/Ventura	Ventura	20.5 **	18.8	19.6	0.8
Hayvenhurst/Burbank	Ventura	22.8 **	21.1	21.5	0.4
Sepulveda/101 Off-ramp	Ventura	17.9 **	17.0	17.0	0.0
Vanowen/Canoga	Ventura	22.3 **	20.7	21.5	0.8

State Standard = 20 ppm Federal Standard = 35 ppm

* Peak hour estimates were prepared using the CALINE 4 July 1989 version distributed by Caltrans. Runs assumed worst case conditions as follows:
- Wind Speed = 1 meter per second
- Stability Class = F
- Worst case wind direction determined by model
- EMFAC7PC emission rates assuming 50 percent cold start an ambient temperature of 60 degrees. Mid-block link speeds of 30 mph and intersection approaches and queues at 5 mph.
- Ambient concentration is based on second highest one hour readings at the Burbank and Reseda air quality monitoring stations, i.e., 15 ppm.

** In some instances, future emissions are less than existing conditions. While traffic volumes increase in the future, this is more than offset by the influence of lower emissions factors in the future due to improved vehicle engine design.

Source: Terry A. Hayes Associates

5.7 EARTH AND WATER IMPACTS

Earth impacts are defined by CEQA to include the exposure of people or property to geologic hazards (such as earthquakes, landslides or ground failure), movement or disruption of soil and other geological forms, increases in wind or water erosion and changes in topography or ground surfaces. Water impacts applicable to the project are defined as changes in the course or direction of water movements, exposure of people or property to water related hazards such as flooding, and any project discharges into existing water supplies or groundwater tables. This section describes the geological and hydrological conditions in the San Fernando Valley and examines potential impacts that would result from construction of the rail transit project.

In addition to earth and water impacts, this section considers risk of upset potential. For rail transit projects this would include potential impacts to the public from underground toxic or gaseous materials. Such impacts could involve explosion, contamination or other public health and safety issues.

5.7.1 Geological Impacts

Setting: The San Fernando Valley is a part of the physiographic province generally referred to as the Los Angeles Basin. The Valley is bordered on the south by the Santa Monica Mountains, on the west and northwest by the Simi Hills and the Santa Susana Mountains and on the east and northeast by the San Gabriel Mountains.

The project area along the Valley floor was formed from coalescing alluvial fans deposited by streams from the hills and mountains surrounding the Valley. The drainage courses carried sediments down from the mountains, thereby creating the soft alluvial soils found on the Valley floor. General soil types include the Tujunga-Soboba, Hanford, and Yolo Associations along these alluvial plains, with a small section of Altamont-Diablo Association near Cahuenga Pass in the Universal City area.[1] The various drainages coalesce through several tributaries to form the Los Angeles River. The Los Angeles River runs in a west to east course through the Valley to Downtown Los Angeles and eventually to the ocean at Long Beach Harbor.

Elevations along the project routes range from a low of 570 feet at the planned Universal City Metro Rail Station, to 675 feet at the Sepulveda Dam, and 790 feet in Canoga Park at the site of the planned rail storage and maintenance facility. Mountains surrounding the Valley rise to an elevation of 3700 feet at Oat Mountain in the Santa Monica range.

Seismicity: The project is located in a seismically active region, approximately 40 miles west of the San Andreas fault, the principal active north-south earthquake fault in the state. In 1971, an earthquake with a magnitude of 6.5 occurred in the northern San Fernando Valley near Sylmar. Studies conducted following that earthquake indicate that an

---

[1] Soil Survey of Los Angeles County, San Fernando Valley Area, US Department of Agriculture Soil Conservation Service, 1980

earthquake of 7.7 magnitude may be expected at the northern edge of the San Fernando Valley in the future.[2]

Contact with the California Department of Conservation, Department of Mines and Geology, determined that the proposed project routes do not cross any identified active or potentially active fault rupture zones.[3] Active earthquake faults in the general vicinity of the project routes include the Northridge Hills Fault which runs in an east-west orientation north of Roscoe Boulevard, and the Verdugo Fault which runs near to Interstate 5, between Pacoima and Burbank. The Sepulveda Fault, classified as inactive, is located south of the Ventura Freeway in the foothills. This fault runs generally east to west between the San Diego Freeway and the Hollywood Freeway.

While neither the SP Burbank Branch nor the Ventura Freeway Route Alternatives cross any known major faults, seismic activity could affect construction or operation of the rail transit line. Numerous faults north and east of the project area may produce significant ground shaking. Liquefaction of soils could also occur in areas where the groundwater table is high.

Recent experience in San Francisco with an earthquake of 7.1 magnitude, provides support for the contention that transit systems can be designed to withstand major earthquake impacts. The BART System in the Bay Area continued running or a 24-hour basis following an earthquake that closed the San Francisco-Oakland Bay Bridge, and Interstate freeways in Alameda County.

Mitigation measures that would reduce the potential for adverse impacts in the event of a major earthquake include the following:

- All structures above and below ground should be constructed in anticipation of a major earthquake. Structures should be designed to withstand the maximum probable earthquake predicted for the area.
- All structures and facilities must conform to the City of Los Angeles Seismic Safety Plan. Emergency evacuation plans must be prepared to outline procedures to follow in the event of a major earthquake.
- Detailed geotechnical studies will be performed as a part of the design of the project. Special site-specific engineering studies will be conducted at all sites where there is a increased potential for seismic risk and liquefaction.

Earth Removal: Construction of at-grade segments and shallow trench/berm segments should not require significant export of soil from the construction site. Construction of subway and deep trench alignments, on the other hand, will require substantial excavation at station areas and along line segments. Such construction will require the export of earth from the construction area to other areas for disposal. Some of this exported material can

---

[2] Geologic Environment of the Van Norman Reservoir Area, US Department of the Interior Geological Survey Circular 691-A, 1974.

[3] Fault Rupture Hazard Zones in California, Alquist-Priolo Special Studies Zones Act of 1972, California Department of Conservation Division of Mines and Geology, Revised 1985.

be reimported to the site for use as backfill along deep trench segments of the route after retaining wall construction has taken place. The majority of the excess earth would need to be removed for disposal at other locations.

Figure 5.7-1 provides estimates of the amount of excess earth that would need to be removed for each of the project alternatives. As indicated on the figure, Alternatives #2, #3 and #5 would have the greatest impacts in terms of excavation.

Figure 5.7-1
Estimated Earth Removal by Alternative[4]
(Cubic Yards)

Alt	Deep Trench	Subway	Stations	Total
1a	72,000	24,000	30,000	127,000
1b	72,000	320,000	30,000	422,000
2a	1,333,000	341,000	210,000	1,884,000
2b	1,333,000	640,000	210,000	2,183,000
3a	0	1,493,000	800,000	2,293,000
3b	61,000	1,445,000	520,000	2,026,000
4a	0	434,000	200,000	634,000
4b	0	434,000	130,000	564,000
5a	0	1,300,000	800,000	2,100,000
5b	0	1,300,000	520,000	1,820,000

Inert soils that are removed from rail transit construction sites may be used on other construction projects in the region or taken to County operated Class 3 landfill sites. Class 3 landfills handle waste materials that include non-toxic natural alluvial material, asphalt, paving fragments and demolition materials including small amounts of wood, metal, glass and rubber. Two operating Class 3 landfill sites were identified in the San Fernando Valley:[5]

- Seldon-Arleta, Intersection of Hollywood Fwy/I-5
- Hewitt, 7425 Laurel Canyon Boulevard

In addition, sites exist at Sunshine Canyon in Sylmar and at Lopez and Bradley in the north-east Valley.

---

[4] Excavation quantities were calculated at a rate of 29,000 cubic yards per LRT deep trench station, 65,000 cubic yards per ART subway station, 100,000 cubic yards per Metro Rail subway station, 55,000 cubic yards/1000 feet of deep trench, and 24,000 cubic yards/1000 feet for deep bore subway.

[5] Source: County of Los Angeles Department of Public Works, Waste Management Division.

Estimated truck trips required to haul away excavated earth are estimated in Figure 5.7-2.

Unavoidable Significant Adverse Impacts: The large amount of earth that would need to be removed to construct Alternative #2, #3 and #5, the SP Burbank and Ventura Freeway Subway and Deep Trench Alternatives, would constitute a significant adverse impact on County landfill facilities.

Figure 5.7-2
Estimated Truck Trips By Alternative
Export of Excavated Materials

Alternative	Cubic Yards	Truck Trips @25 cu yd/trip
1a	126,000	5,040
1b	422,000	16,880
2a	1,884,000	75,360
2b	2,183,000	87,320
3a	2,293,000	91,720
3b	2,026,000	81,040
4a	634,000	25,360
4b	564,000	22,560
5a	2,100,000	84,000
5b	1,820,000	72,800

It is possible that some proportion of the earth removed for construction of the project will contain hazardous substances. These materials would need to be disposed of in accordance with EPA guidelines. As previously stated, inert materials could be taken to other construction projects or to County Class 3 Landfill sites. Any incremental decrease in landfill capacity is considered an adverse impact due to the fact that existing landfill capacities are limited and there is a shortage of suitable new sites.

5.7.2 Floodplains, Drainage & Hydrology

Setting: Since the early part of this century a countywide flood control system has served the Los Angeles Basin. Centered on the Los Angeles and San Gabriel Rivers, this system has operated utilizing upstream dams to capture and hold flood waters for release into these rivers that carry flood waters to the ocean.

In the San Fernando Valley, the Sepulveda Flood Control Dam, Flood Control Basin, the Los Angeles River Flood Control Channel, and the Tujunga Wash Flood Control Channel are the principal public works in the countywide flood control system serving the Los Angeles Basin. Other dams within the county flood control system include Hansen Dam, Lopez Dam, Whittier Narrows Dam, Santa Fe Dam and Devil's Gate Dam.

Flooding and drainage issues in the San Fernando Valley are under the authority of the Los Angeles Department of Public Works and the US Army Corps of Engineers. In addition the Federal Emergency Management Agency (FEMA) maintains mapping of 100 year and 500 year floodplains through the National Flood Insurance Program.

Floodplain Impacts (FEMA): Flood Insurance Rate Maps (FIRM Maps) were consulted to determine portions of the project that are within 100 year or 500 year floodplains. Mapping was generally available along the SP Burbank Branch alignment, but was not available along segments of the Ventura Freeway alignment. Updated maps for the San Fernando Valley are currently in preparation, but are not expected to be available until early 1991. In the absence of complete mapping, the following were the impacts identified along the SP Burbank Branch Route Alignment:

- 100 Year Floodplain: SP Right-of-Way along Topham Street between Melvin Avenue and Tampa Avenue.

- 500 Year Floodplain: SP Right-of-Way at planned Winnetka Avenue Station.

Floodplain Impacts (LACDA): Los Angeles County is currently preparing a Countywide Drainage Area Flood Control Study (LACDA).[6] That study is being jointly sponsored by the County and the Corps of Engineers to upgrade flood control facilities in the LA Basin. That study has determined that flood control improvements will be required to upgrade the countywide flood control system. Much of the current system was constructed in the 1930's and 1940's and development over the past 50 years has steadily increased floodwater runoff. New stormdrains serving this new development have discharged increased quantities of water into the flood control system and increased peak flows in the flood control channels. Also, trapped sediment flowing into the 20 reservoirs in the county has decreased their flood control capacity.

Preliminary results from the LACDA study indicate that drainage deficiencies exist along the Tujunga Wash in the project area that would be served by the SP Burbank Branch Route Alternatives.

Floodplain Impacts (Sepulveda Basin): The Sepulveda Dam is a compacted earthfill structure consisting of a rolled earth embankment with a concrete spillway outlet structure near the center. The dam is 15,444 feet long and the embankment has a maximum height of 57 feet, a top width of 30 feet, and a volume of 2,541,000 cubic yards. The reservoir has a storage capacity of 17,425 acre feet at the crest of the raised spillway gates, which are located at an elevation of 710 feet.

The history of peak flooding events in the Sepulveda Basin indicates a range from a low water-surface elevation of 678 feet in 1960 to a high of 705 feet in 1980. The project has never experienced a flood of the reservoir design magnitude. The maximum water-surface elevation of the Standard Project Flood or reservoir design flood is 713.5 feet.

---

[6] Los Angeles County Drainage Area Study, Los Angeles District, US Army Corps of Engineers and the Los Angeles County Department of Public Works, February 1989 Scoping Meeting Information Package for preparation of an Environmental Impact Statement (not yet released).

Both the SP Burbank Branch and the Ventura Freeway Route Alternatives pass through the Sepulveda Flood Control Basin. Alternatives #2, #3 and #4 are principally elevated on aerial structure through the Basin and would not be affected by project flooding. Alternatives #1 and #5, and the Alternative #3 Phased Length Option would have at-grade sections in the Basin. The following describes potential impacts for these alternatives:

- Alternative #1 and #3-Phased Length Option: The SP Burbank LRT and Metro Rail Phased Length Option alignments run along the northern edge of the Basin in an at-grade configuration. (See Figure 4-11) Elevations along this trackbed range from 716 to 725 feet. These elevations are above the level of the reservoir design flood.

- Alternative #5: The Ventura Freeway Northside alignment runs through the Basin in an at-grade configuration on the earthberm structure of the Sepulveda Dam adjacent to the Ventura Freeway (See Figure 4-45). The Corps of Engineers has reviewed this alignment and has determined that it would pose no threat to the structural integrity of the dam structure. The Corps did insist, however, that construction of a retaining wall for the rail transit line should be designed to not decrease flood capacity within the basin. Preliminary concept drawings have been prepared and approved in concept by the Corps of Engineers that show how this design can be achieved without the removal of any flood capacity within the Basin.

<u>Phased Length Railyard Floodplain Impacts</u>: Phased Length Option Railyards for both the SP Burbank Branch and Ventura Freeway Route Alternatives would be located within the boundaries of the Sepulveda Basin. The SP Burbank Phased Length Yard is located south of Victory Boulevard in the impoundment area of the Basin, between the San Diego Freeway and the Tillman Water Treatment Plant (See Figure 4-14). The Ventura Freeway Phased Length Yard is located in a portion of the spillway area below the Sepulveda Dam, in an area bordered by the San Diego Freeway, Sepulveda Boulevard, the Los Angeles River Flood Channel and Magnolia Boulevard. The site is currently leased for use by LA City Fire Station #88 and the US Army Reserve Training Facility (See Figure 4-49). Potential impacts from the location of these rail storage facilities include the following:

- SP Burbank Phased Length Railyard-This facility would comprise approximately 28 acres and would connect to the mainline track just west of the point where the SP right-of-way passes under the San Diego Freeway. The Haskell Channel forms a western boundary for the potential railyard and the Tillman Water Treatment Plant. Consultation with the Corps of Engineers has determined that the southern portion of this site lies within the standard project flood impoundment area of the basin. Design of a facility in this area would not be allowed to displace the overall reservoir holding capacity of the Basin. Therefore, any filling to raise affected portions of the railyard above flood levels would need to be balanced with an excavation of materials elsewhere in the Basin.

- Ventura Freeway Phased Length Railyard- This facility would comprise approximately 21 acres and would be located outside of the Basin impoundment area but partially within the spillway area of the Sepulveda Dam. This spillway area is currently vacant and is bermed so that in the event of the dam overflowing, waters would be directed into the LA River Flood Channel. Consultation with the Corps of Engineers has determined that because this area could potentially be flooded, no structures should be constructed that would impede the flow of floodwaters. For that reason, the area has been designed to accommodate station parking only. No permanent structures or buildings would be located within this spillway area.

Floodplain Mitigations: Upon the selection of an alignment for the San Fernando Valley Rail Project, more detailed coordination with the LA County Department of Public Works and the Corps of Engineers will be sought to establish flood design parameters for final design of the project.

5.7.3 Risk of Upset

Risk of upset is defined by CEQA as any risk of explosion or the release of hazardous substances in the event of an accident or natural disaster.

Toxic/Contaminated Soils: Federal, state and local agencies were contacted to obtain data relevant to the presence of subsurface contamination along both route alternatives. [7] Based solely on the review of these documents, no potentially hazardous waste sites were identified along either route alternative.

The potential exists for encountering contaminated soils in those alternatives which involve deep-trench, cut-and-cover, and subway types of construction. Because the SP Burbank Branch Alternatives are located along what has been an area of heavy industrial land uses for many years, it is quite probable that contaminated soils would be found at one or more locations along this alignment. A similar probability exists, but to a somewhat lesser degree, that contaminated soils would be found along the Ventura Freeway Route Alternative where several gas stations would be taken for construction of subway stations and/or station parking lots. Underground gasoline storage tanks are often a source of leaking underground soil contamination.

Underground Hydrocarbons: All of the alternatives would have underground segments where the potential for encountering methane gases, asphalt, tar or free oil would be possible. Alternatives #2, #3 and #5 would have the greatest proportion of subway or deep trench segments and would therefore have a higher potential of encountering such underground hydrocarbon accumulations.

In 1985 a methane gas explosion occurred in the Fairfax neighborhood of Los Angeles near Farmer's Market. Gaseous vapors had seeped up to the surface and collected inside of a retail store where they built up and were finally ignited. Subway construction in the Wilshire District was subsequently restudied and prohibited by Federal legislation adjacent to where the explosion occurred.

---

[7] National Priorities List Fact Book, U.S. Environmental Protection Agency, July, 1987.

Compensation and Liability Information System List (CERCLIS), U.S. Environmental Protection Agency, 1989.

Hazardous Waste Substance and Sites List, Office of Planning and Research, State of California, 1988.

Leaking Underground Storage Tank List (LUST), Regional Water Quality Control Board, State of California, 1988.

Metro Rail project engineers were contacted with regard to the subway segment of the Metro Rail Project between Universal City and North Hollywood. These engineers reported that geotechnical investigations for the Metro Rail Project had classified the area along Lankershim Boulevard as "potentially gassy." This category is considered less critical than the Wilshire District where greater risk of encountering underground hydrocarbons exists, and therefore no significant impact on the design of subway segments along Lankershim Boulevard is anticpated. More detailed geotechnical studies would be required along other route segments, once an alignment has been selected.

Mitigation Measures: Because of the potential for encountering underground hydrocarbons during construction and operation of underground rail transit segments, detailed geotechnical investigations will be performed as a part of the preliminary engineering phase of the project once an alignment has been adopted. These studies will provide more detailed data on the potential for upset. Nonetheless, mitigation measures which will be incorporated in the design of the project to reduce the potential for upset include:

- All underground structures be designed with adequate ventilation to allow dissipation of underground gas accumulations. Impermeable membranes shall be installed surrounding tunnel, deep trench and subterranean station structures.
- Relief wells be employed to remove underground methane gas where necessary.
- Gas sensing systems be employed to identify gas infiltration and allow for sealing of such infiltration.

5.8 BIOLOGICAL AND RECREATIONAL RESOURCES

The project route alternatives pass through densely urbanized corridors of the San Fernando Valley. Major drainage features such as the Los Angeles River and the Tujunga Wash are constructed as concreted lined flood control channels. Other drainage, topographic and natural open spaces are covered over with urban development. The single exception to this general condition is the portion of each route segment which passes through the Sepulveda Basin. This flood control dam and recreation area has been maintained and managed by the US Army Corps of Engineers in coordination with the City of Los Angeles and provides a habitat for many species of plants, animals and biological resources in the midst of dense urban development.

The impact analysis in this section focuses on impacts to recreational and biological resources within the Sepulveda Basin. The section also considers impacts to other recreational resources such as parks and playgrounds in other locations along the project alignments.

5.8.1 Sepulveda Basin Recreation Area

The Sepulveda Basin Recreation Area is owned by the U.S. Army Corps of Engineers who constructed the Sepulveda Flood Control Dam and Flood Control Basin in 1941. As set forth in the Flood Control Act of 1936, the primary purpose of the Sepulveda Basin is for flood control. The Flood Control Act of 1941 incorporated the Sepulveda Flood Control Dam into the comprehensive plan for controlling floods in the Los Angeles County drainage area. Subsequent acts of Congress (in 1944, 1946, 1954, 1960, 1962 and 1965) authorized a secondary project purpose -- development of the Sepulveda Basin for park and recreation purposes.

<u>Recreational Resources</u>: Today, the majority of the 2,150 acres within the basin are leased to the City of Los Angeles for use by the Department of Recreation and Parks. The master plan for the basin was updated in March of 1981 [1]; concurrently a final environmental impact report/statement was prepared [2]. In 1987, a sub-area Master Plan was developed for the Sepulveda Recreation Lake Project [3]. The main recreational uses within the Basin that were identified in those reports included the following:

• Golf Course (3 18-hole courses)	500 Acres
• Woodley Park	80 Acres
• Hjelte Park I	25 Acres
• Balboa Sports Center	80 Acres
• Wildlife Management	48 Acres
• Model Airfield	31 Acres

---

[1] <u>Sepulveda Basin Master Plan</u>, US Army Corps of Engineers, Los Angeles District, March 1981

[2] <u>Final Sepulveda Basin Master Plan Environmental Impact Report/Statement</u>, US Army Corps of Engineers, Los Angeles District, 1983.

[3] <u>Sepulveda Basin Recreation Lake Design Memorandum</u>, US Army Corps of Engineers, Los Angeles District, March 1987.

• Little League Fields		
	- Velodrome	N/A
	- Franklin Field	28 Acres
	- Victory Blvd Field	9 Acres
	- Hayvenhurst Field	13 Acres
	- Valley Christian League	23 Acres
• Garden Center		16 Acres
• Miniature Golf Concession		6 Acres
• Recreation Parking (Paved)		15 Acres
		874 Acres

Average annual visitation at the Sepulveda Basin over the period between 1981 and 1986 was listed at 1,329,600 persons. Such numbers exclude many activities such as bicycling, jogging and other activities where counts are not regularly maintained.

Biological Resources: As a human-controlled ecosystem, the Sepulveda Basin is described in the above-mentioned reports as having biological importance "as a large and relatively flat expanse of open space in a densely developed urban context." The open space provides habitat for a variety of small mammals, reptiles and birds. Agricultural fields provide forage for Canadian geese and raptors, various drainageways provide riparian habitat, and seasonal ponding of water attracts migratory waterfowl and shorebirds. Information provided by the US Fish and Wildlife Service and the California Department of Fish and Game indicates that the Basin supports cottontail rabbit, jackrabbit, raccoon, opossum, skunk, lizards, gopher snakes and more than 200 species of birds including waterfowl, songbirds and raptors. The earth-bottomed portion of the Los Angeles River that passes through the Basin also provides a habitat for fish.

No federally listed endangered and threatened species were identified within the Sepulveda Basin. The Endangered Species Office of the US Fish and Wildlife Service has listed one candidate species for the area, the tricolored blackbird (Agelaius phoeniceus). The Master Plan Report for the Sepulveda Recreation Lake Project reported that this species was observed foraging in the Basin north of the wildlife area in mixed flocks with red-winged blackbirds, though it was unlikely that the species breeds on the site due to the lack of extensive freshwater habitat. That report also identified the Least Bell's Vireo (Vireo bellii pusillus) as an endangered species that had been included on previous listings for the Sepulveda Basin, though it had not been recently sighted in the area.

The Sepulveda Basin Master Plan states that "one avian species, the Blue Grosbeak, is considered significant as a resource of concern in that the Los Angeles Audubon Society has cited local scarcity and high habitat selectivity of this species."[4] The report also noted that existing vegetation in the Basin consists principally of cropland (mainly corn). The Master Plan envisions the gradual phasing out of several of the agricultural uses as wildlife areas and recreational uses are developed. As evidence of this, a 60 acre extension was recently made to the existing wildlife area. Enhancement of this area is planned to include native plantings from the wooded wetland, oak woodland, grassland and coastal-sage scrub plant communities.

---

[4] Ibid, page V-9.

SP Burbank Alternative Land Taking Impacts: As shown in Figure 4-14, approximately 2.5 miles of the SP Burbank Branch Route Alternative follows the railroad right-of-way along the northern edge of the Sepulveda Basin. Approximately 32 acres of Southern Pacific right-of-way and approximately 2.7 acres of vacant land within the Sepulveda Basin would be taken for any of the SP Burbank Branch Alternative alignments in this area.

In the event that the Burbank Branch Phased Length Option were selected, an additional 28 acres of vacant land would be required south of Victory Boulevard between the San Diego Freeway and the Tillman Water Treatment Plant for the construction of a rail storage and maintenance yard (see Figure 4-14). This land is presently vacant and is designated in the Sepulveda Basin Master Plan as a future archery range.

The Victory Boulevard segment is physically separated from the basin by various institutional land uses. These include the City of Los Angeles Valley Region Headquarters, the California Air National Guard, Army Reserves, and the Navy-Marine Corps Reserve Center. The Burbank LRT alternative assumes an at-grade configuration through this portion of the basin, while both Alternatives #2 and #3 would be aerial from Balboa Avenue to Woodley Avenue and at-grade for the remainder. The Sepulveda Basin Master Plan includes the following uses to the south of Victory Boulevard:

- Arts Park: located at the southeast corner of Balboa Boulevard and the SP ROW, this area is proposed to be developed as a low-profile performing arts pavilion with 2,500 seats and two outdoor assembly areas for arts activities. The Arts Parks is bound on the east by Bull Creek Park and a proposed recreation lake.

- Franklin/Valley Christian/Senior Division Baseball Fields: these areas lie adjacent to the Burbank Branch ROW west of Balboa Boulevard and are presently developed as baseball fields. Construction of the rail transit line would not affect the operation of these facilities.

<u>Ventura Freeway Alternative Land Taking Impacts</u>: As shown in Figures 4-44 and 4-49, both Alternatives #4 and #5 would pass through a portion of the Sepulveda Basin along the south and north sideslopes of the Ventura Freeway. Following is a description of the anticipated land taking impacts:

- Alternative #4 would displace approximately 6.1 acres for the construction of a station at Hayvenhurst Avenue. A portion of this land is currently used as a Park and Ride Lot for the Ventura Freeway while the remainder is either freeway sideslope or within an agricultural area designated in the Sepulveda Basin Master Plan as a "garden center" which provides community garden plots for vegetable growing.

- Alternative #5 would displace approximately 22.5 acres for construction along the edge of the Ventura Freeway and for a station at Hayvenhurst Avenue. As shown in Figure 4-43, this site is presently vacant. Station parking has been planned to avoid existing drainage washes that traverse the site. On the south side of the freeway this drainage has been placed into a concrete channel. In station planning for the north side of the freeway, such drainage would be left in a natural state in keeping with policies stated in the Sepulveda Basin Master Plan.

In the event that the Ventura Freeway Phased Length Option were selected, an additional 21 acres of land would be required for the construction of a rail storage facility in the area bordered by the San Diego Freeway, the Ventura Freeway, Sepulveda Boulevard and Magnolia Boulevard. This land is located below the Sepulveda Dam Spillway along the Los Angeles River (see Figure 4.5-3) and is presently leased to other governmental agencies including the City of Los Angeles Fire Station #88 and the US Army for a reserve training center. These uses would need to be relocated if the Ventura Freeway Phased Length Option were constructed.

Biological Impacts: Agencies contacted for the impact analysis included the Audubon Society, the United States Fish and Wildlife Service, the Endangered Species Office of the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, and the California Department of Game and Fish. Agency contacts were augmented with field surveys.

Based on available information and the field surveys, it was determined that the operation of any of the project alternatives would pose no direct or indirect impacts to biological resources in the Sepulveda Basin. Construction impacts associated with the alternatives are not significant; Burbank Branch alternatives would be predominantly confined to existing SP ROW's, whereas the Ventura Freeway alternative would be on or adjacent to freeway side slopes. Parking areas would avoid riparian habitat along washes, drainage flows and creek. No specific unique, rare, or endangered species of plants or animals would be affected adversely by the project. The minor reductions of potential future parkland on either route alternative would not constitute a significant adverse biological effect as these areas do not presently serve as a habitat for any sensitive plant or animal species.

Mitigation Measures: Despite the fact that no adverse biological impacts were identified, the sensitive nature of the Sepulveda Basin indicates that attention be given to mitigating any potential biological impacts. The following mitigation measure is therefore recommended:

- When existing landscaping or natural ground cover is required to be removed in the basin for construction purposes, new landscaping or ground cover shall be established following construction. This landscaping or ground cover shall conform to the plant types and planting schemes outlined in the Sepulveda Basin Master Plan. Such work shall be carefully coordinated with the U.S. Army Corps of Engineers.

Unavoidable Adverse Impacts: The taking of parkland in the Sepulveda Basin would be considered a significant adverse impact for any of the project alternatives. The Phased Length Route Options, because of their need to construct a railyard storage facility within the Basin, would have the greatest parkland impact. The SP Burbank Phased Length Route Option would displace 28 acres. The Ventura Freeway Phased Length Route Option would displace 21 acres.

Of the full length route options, the SP Burbank Branch Alternatives would displace 2.7 acres, the Ventura Freeway Alternative #4 would displace 6.1 acres and the Ventura Freeway Alternative #5 would displace 22.5 acres.

5.8.2 Other Recreation Area Impacts

Portions of alignments outside of the Sepulveda Basin pass through existing park and recreation areas. These impacts include:

- Pierce College Baseball Fields: The SP Burbank Branch Route Alternative would displace 3 softball fields for the construction of the Winnetka Station. (see Figure 4-5).

- South Weddington Park: The Vineland Extension Option of the SP Burbank Branch Alternative would displace approximately 1.3 acres of this city park along the edge of the Hollywood Freeway. An existing baseball field and an existing parking lot would need to be reconfigured.

Unavoidable Adverse Impacts: Any taking of parkland and/or recreation facilities is considered a significant adverse impact. The above-mentioned takings would be considered a significant adverse impact of the SP Burbank Alternatives and the Vineland Extension Route Option.

Similar to parkland impacts in the Sepulveda Basin however, the LACTC would propose that new landscaping and groundcover shall be established following construction. This landscaping or groundcover shall conform to the plant types and planting schemes developed in park plans developed by the Los Angeles Department of Recreation and Parks. Such work shall be carefully coordinated with the Los Angeles Department of Recreation and Parks.

5.9 PUBLIC SERVICE IMPACTS

This section evaluates the rail transit project's impact on local public services including schools, police and fire service.

5.9.1 Schools

The Rail Transit Alternatives under study all lie within Administrative Region 'E' of the Los Angeles Unified School District. Public schools located within 1/4 mile of either route alignment are listed in Figure 5.9-1, with corresponding grade levels and operating enrollments. Figure 5.9-2 maps the locations of these schools. In total, 22 public schools were identified within 1/4 mile of the route alternatives including ten elementary schools, three junior high schools, three senior high schools and six special alternative schools. Enrollment figures provided by the school district dated October 1988 indicate that of the 22 schools affected, each school is enrolled at 80% or more of its operating capacity.

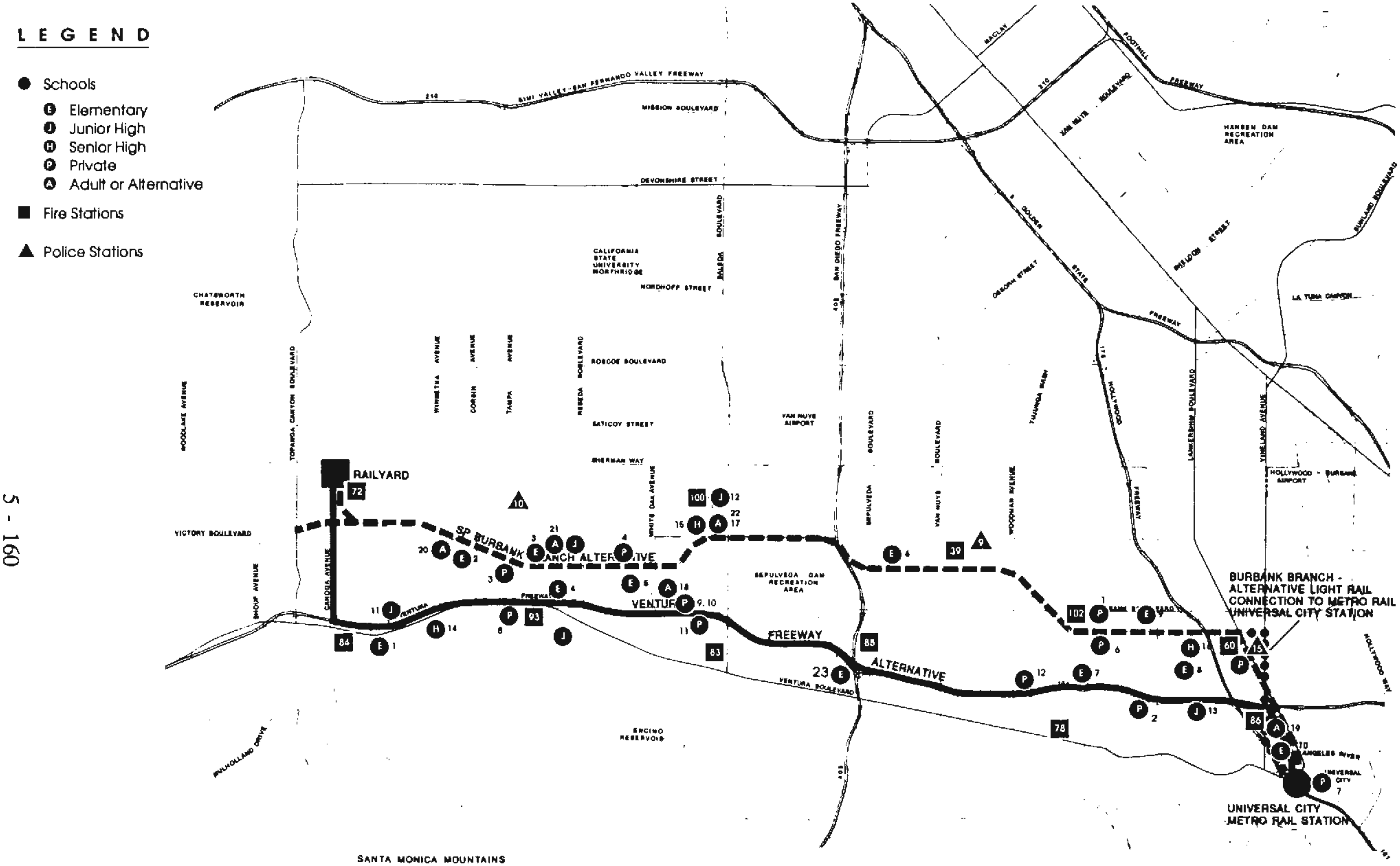
In addition to public schools, twelve private schools are located within 1/4 mile of the proposed route alternatives. Private schools within the project area provide educational services including day care facilities, nursery/pre-school supervision and preparatory training and instruction towards higher education.

School Displacement Impacts: As described in Section 5.1, Land Use Impacts, two schools would be directly impacted by the construction of Alternative #4, the Ventura Freeway Southside Aerial Alignment. These two schools are:

- Campbell Hall School, a private elementary to senior high school located on Laurel Canyon Boulevard between the Ventura Freeway and the Los Angeles River Flood Channel.

- Hesby Street School, a currently vacant public elementary school located on the south side of the Ventura Freeway between Hayvenhurst Avenue and the San Diego Freeway. This school is presently designated as an Administration Educational Support Center and does not have students on the site.

Campbell Hall School would be significantly impacted by the construction of a transit station and an aerial guideway on the northern portion of this campus. Although the total campus comprises approximately 8 acres, the main academic buildings are located along the northern edge of the property immediately adjacent to the eastbound off-ramp of the Ventura Freeway. Engineering design requirements involved with the crossing of the LA River on a curved segment and the placement of these buildings make it impossible to avoid either taking these structure or placing an aerial guideway immediately outside of classroom windows. In such a circumstance, the main academic building would need to either be taken or moved to a portion of the campus away from the guideway structure. Such a severe reconstruction or relocation of this school property would constitute a significant adverse impact for Alternative #4, the Ventura Freeway Southside alignment.



San Fernando Valley East/West Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5-9.2

Project Area Schools, Police and Fire Stations

Figure 5.9-1
Schools Within 1/4 Mile of Rail Transit Line

		Grades	Enrollment
Public Schools			
1.	Serrania Avenue Elementary	K-5	518
2.	Calvert Street Elementary	K-5	502
3.	Vanalden Avenue Elementary	K-5	512
4.	Tarzana Elementary	K-5	584
5.	Emelita Street Elementary	K-5	557
6.	Sylvan Park Elementary	K-6	768
7.	Riverside Drive Elementary	K-6	642
8.	Colfax Avenue Elementary	K-6	611
9.	Burbank Boulevard Elementary	K-6	367
10.	Rio Vista Elementary	K-6	550
11.	Parkman Jr. High	6-8	1443
12.	Mulholland Jr. High	6-8	1555
13.	Reed Jr. High	7-9	1911
14.	Taft Sr. High	9-12	3477
15.	Birmingham Sr. High	9-12	3390
16.	N. Hollywood Sr. High	10-12	2574
17.	W. Valley Spec. Ed. Center	AGES 3-13	N/A
18.	Lull Spec. Ed. Center	AGES 3-13	N/A
19.	Carlson Hospital School	K-12	N/A
20.	West Valley Occup. Center	ADULT ED.	N/A
21.	Sherman Oaks C.E.S	4-12	1553
22.	Valley Alternative	K-12	501
23.	Hesby Street Elementary	Ed.Support Ctr.	0
Private Schools			
1.	New School West The Help Group Los Angeles Center for Therapy and Education		
2.	Campbell Hall School		
3.	Woodcrest Prep. School		
4.	Child's World Pre School		
5.	Dixieland Day Care/Pre School		
6.	Emek Hebrew School		
7.	Bernice Carlson School		
8.	Pinecrest Kindergarden School		
9.	Bethel Nursery School		
10.	Bethel Lutheran School		
11.	Egremont School		
12.	Armenian Evangelical School		

Hesby Street School is likewise located in close proximity to the Ventura Freeway. The rail transit alignment for Alternative #4 would pass through the northern portion of this school site requiring approximately 0.3 acres of the school playground for construction of a cut-and-cover tunnel needed to pass under the San Diego Freeway which is located to the east of the school. Upon completion of the construction phase of the project, this playground could be restored to its present use.

Safety and Security: The safety of students and faculty are of prime concern in identifying the impacts of the Rail Transit Project on school campus boundaries. As most of the alternatives are grade-separated above or below street level, walking patterns to and from schools would not generally be affected. However, Alternative #1, the SP Burbank At-Grade LRT, would be predominantly at-grade. At several locations where school children walk across the existing railroad rights-of-way, students would be re-routed to designated crossing areas at major streets. Schools located along the railroad right-of-way that would have student walking patterns affected by this alternative would include Calvert Street School, Vanalden Avenue School, Sylvan Park School, Burbank Blvd School, Birmingham High School, North Hollywood High School, Woodcrest Prep School, and Emek Hebrew Academy.

All of the planned rail transit alignments will affect circulation patterns for school children walking or being driven to schools located near to planned station areas. Station area traffic will be more pronounced in mornings when school and commuter circulation coincide. Early afternoon, when school lets out, traffic impacts are lower since commuter traffic will not begin for several hours.

Noise Impacts: Schools which are directly adjacent to the rail line may experience by-pass noise from the operation of the rail system. In addition, short term ambient noise can be anticipated during the construction of the rail system which will temporarily impact adjacent school sites. Potential noise and vibration impacts along with recommended mitigation measures are discussed in Section 5.3 of this EIR.

School Impact Mitigation Measures: LACTC has developed safety criteria designed to protect students in rail transit project areas from rail lines, substations and construction activities. These criteria should be made available to schools adjacent to the rail project for distribution to students and teachers. In addition, several other safety measures can be taken to protect students during the construction and operation of the rail system:

- Construction sequencing should be coordinated with local community officials in order to minimize conflicts with school children walk routes, school buses and carpools.

- Pedestrian rights-of-way near the rail transit line should be clearly demarcated by the use of landscaping, fences, walks and curbing to help define clear circulation routes and minimize trespass and shortcut attractions. In the event that an at-grade alternative is selected (SP Burbank Alternative #1) a pedestrian overcrossing shall be constructed on Chandler Boulevard at locations where existing streets are to be closed (Bellaire and Corteen).

- Barriers and security guards should secure storage and maintenance areas during construction to prevent accidents from trespassing and vandalism.

- Conspicuously posted warning signs and barriers should be erected near overhead power sources, power substations, crossing areas and construction sites to deter unauthorized access.

5.9.2 Police and Law Enforcement

The rail transit operation will maintain a separate transit police network. However, since the rail operation is located within the incorporated boundaries of the City of Los Angeles, the Los Angeles Police Department (LAPD) will be called upon, as required, to respond to emergencies and to perform related police activities.

Los Angeles Police Department (LAPD): LAPD provides police services for the project area which is under the jurisdiction of the Police Department's Valley Bureau. Both proposed route alignments traverse three reporting districts within the Valley Bureau: North Hollywood Area, West Valley Area and Van Nuys Area. A total of 1,296 officers were assigned to the Valley Bureau in September 1989. The stations within the three reporting districts are responsible for crime prevention, investigation and law enforcement. The three police station serving the Valley Bureau are:

- Van Nuys Station, 6240 Sylmar Avenue
- West Valley Area, 19020 Van Owen Street
- North Hollywood Station, 11480 Tiama Street

The City of Los Angeles is divided into eighteen areas, each with it own police division. Based on a citywide deployment formula, officers are transferred between divisions, commensurate with the changing needs of each area, on monthly intervals. In view of current funding and deployment formula and in cooperation with the rail transit police, the LAPD will be able to maintain a level of service in the three areas affected by the proposed alignments, comparable to other portions of the city.

A review of past annual crime statistics for these areas indicate the area has a crime rate below the citywide average. Crimes most frequently reported within the project area involve burglary, robbery, burglary from vehicles and auto theft. Average response time for priority one calls, defined as life-threatening incidents or serious crimes in progress, is 7 minutes 46 seconds in the Valley Bureau. This is comparable to the citywide response time average of 7 minutes 30 seconds.

Police and Security Impacts: Since crime-related problems may arise in association with the rail transit facilities, transit police will be responsible for overall security along the rail project. Specific security responsibilities will involve insuring the safety of riders, attendants, fare patrons and unattended vehicles in station parking lots, as well as responding to emergencies which involve vehicles and pedestrians.

During off peak travel hours and evenings, trains will consist of single car configurations with an operator at the front. Passenger assistance telephones located in each rail car will allow direct communication between passengers and the train operator. The operator will be in radio contact with the central control facility at all times and will have access to a silent alarm which sets off flashing lights on top of the rail car roof. These lights will be readily visible to police on the ground and in helicopters above.

Fare inspectors riding the lines and monitoring station platforms will have walkie-talkies at all times and will be able to report problems to central control from any location along the system. Closed circuit cameras will monitor train platform access at station locations and relay images back to central control. Local police departments would be called upon only when back-up support is required.

Police and Security Mitigation Measures: The provision of a separate rail transit police force and the implementation of general safety and security measures for the rail system, should keep external law enforcement services and intervention to a minimum. Mitigation measures can be incorporated into the physical design of the rail system. Simple, highly visible signage and signals, well lit defined areas which avoid dark spaces and blind spots, as well as security telephones and pull box alarms will create and emphasize defensible spaces. In turn, transit riders and motorists will be able to assimilate to the rail system patterns and conventions in a familiar manner which will help insure safety.

Riders should also be protected from the train and the guideways by security fencing to help prevent unnecessary injuries as well as control pedestrian and vehicular access points along the rail system. In addition to the above, the following mitigations recommended by the Los Angeles Police Department will be implemented:

- Two-way voice and digital communications capability for Los Angeles Police Department personnel within the underground portion of the system should be provided.

- Parking areas should have limited access and be well illuminated and designed with minimum dead space to eliminate areas of concealment.

- Transit District Police should consider a substation along the rail line for faster response to emergencies along the line.

- Security guards should be used to monitor and patrol the parking areas.

- Upon completion of the project, concerned area commanding officers shall be provided with a diagram that includes access routes and any information that might facilitate police response.

5.9.3 Fire Protection

The rail transit operation lies within a developed urban setting and will traverse six City of Los Angeles Community Plan areas. Fire protection services also involve fire suppression, paramedic aid and fire prevention planning. Station design consultation, building review and inspection as it relates to fire safety is also considered the responsibility of the Los Angeles Fire Department.

Los Angeles Fire Department (LAFD): LAFD provides fire protection services for the project area which is under the jurisdiction of the LAFD's Division Three. Within Division Three, the proposed route alternatives travel through three reporting battalions. Battalions 10, 19 and 17 have ten existing fire stations located in close proximity of the rail system to provide initial response (Figure 5.9-3).

Response times for a given incident will vary along the route. All fire stations have a one minute or less response between the time an emergency call is received and when fire teams leave the station. Currently, that response time by the LAFD is usually 4 to 5 minutes throughout the city.

Fire Service Impacts: The Los Angeles Fire Department continually evaluates fire station placement and overall department services for the entire city. According to the LAFD, the implementation of the proposed transit system will have an adverse impact on fire flow, fire protection, emergency medical services, accessibility to the system, inspection loads and increased incidents of false alarms.

Increased concentrations of pedestrian and vehicular traffic within the proximity of the transit stations during commuter rush hours may lengthen response times by interfering with the movement of emergency fire vehicles. This impact would be heightened at locations where the street/track intersections are at grade. Of primary concern will be riders exiting the trains and stations as well as emergency access to all areas of the rail system.

The adequacy of fire protection for the rail system is based on required fire-flow response, distance from existing fire stations and the LAFD's judgement regarding the needs in the area. Fire-flow, or the quantity of water necessary for fire protection, will vary with the type of land use adjacencies, life hazard potential, occupancy and the degree of fire hazard. High voltage apparatus including catenary guideways, power substations and flammable material at storage and maintenance yards along the rail system, will require a minimum of one engine and one rescue unit at each fire station. Equipment and personnel needs would be determined by the LAFD upon the selection of a route and operations plan for the project.

Figure 5.9-3
Fire Stations Serving The Project Area

Station Number	Operation/Equipment	Personnel
Station No. 86 4305 Vineland Avenue	Single Engine Company	Staff 4
Station No. 60 Batt.#14 Headquarters 5320 Tujunga Avenue	Task Force Station Truck and Engine Co. Paramedic Ambulance	Staff 14
Station No. 102 13200 Burbank Blvd.	Task Force Station Truck and Engine Co.	Staff 10
Station No. 39 14415 Sylvan St.	Task Force Station Paramedic Ambulance Hazardous Materials Squad	Staff 18
Station No. 88 Div. III Headquarters 5101 N. Sepulveda Bl.	Task Force Station Truck and Engine Co.	Staff 12
Station No. 100 Div. III Headquarters 6751 Louise Ave.	Paramedic Engine Co.	Staff 8
Station No. 83 5001 Balboa Blvd.	Single Engine Co.	Staff 4
Station No. 93 19059 Ventura Blvd.	Task Force Station Truck and Engine Co. Paramedic Ambulance	Staff 4
Station No. 72 Batt.#17 Headquarters 6811 De Soto Ave.	Single Engine Co.	Staff 6
Station No. 105 6345 Fallbrook Ave.	Task Force Station Truck and Engine Co. Paramedic Ambulance	Staff 12

Fire Service Impact Mitigation Measures: A primary goal underlying all mitigation measures is the ability of the LAFD to provide emergency services within an acceptable response time based on community needs.

From the outset fire/life/safety criteria shall be established and used during preliminary engineering, final design, construction and operation of the rail transit system. Transit stations, power substations, storage and maintenance yards shall be designed and constructed in accordance with all applicable fire codes. Final plans will be reviewed by the fire department and inspections will be scheduled during construction and operation.

The following mitigation measures shall be implemented into the final design of the rail transit system:

- Fire lanes serving the rail stations should be a minimum of 28 feet clear to the sky or to the satisfaction of the LAFD. Access for fire equipment must be maintained at all times during construction and operation of the rail system.

- Adequate public and private fire hydrants shall be required and improvements made to provide the required fire-flow along the route.

- Smoke detectors, fire alarms and fire retardant materials shall be used in stations, on trains, and at power substations and storage areas.

- Installation of automatic sprinkler systems and the availability of hand held fire extinguishers will be at all stations and on all trains along the route.

- Clear access to telephones in stations and parking areas to report emergencies to the Fire Department.

5.10 CULTURAL RESOURCES

5.10.1 Archaeology

Cultural resources, for the purposes of this report, can be described as recorded archaeological and historic sites which will be affected by the construction and operation of the rail transit project.

An archival records search for cultural resources within a one mile radius of the two major route alignments was conducted in August 1989 by the Archaeological Information Center at the University of California at Los Angeles (UCLA). In addition, archaeological surveys conducted for the United States Army Corps of Engineers (Cottrell, et. al. 1985:87) were consulted.

The transit project area bisects three USGS 7.5' series quadrangle maps including Canoga Park quad, Van Nuys quad and Burbank quad. Within these boundaries, eight prehistoric sites, one historic site and ten surveys and/or excavations are within the one mile radius of the project area (Figure 5.10-1).

Prehistoric Resources: Archaeological records state that by 500 BC, Gabrielino tribes established early territorial settlements, called rancherias, throughout the Los Angeles County Basin area. The Gabrielino tribes were primarily hunters and gatherers, who used sharpened sticks and stones to acquire food. Two prehistoric sites, LAN-111 and LAN-345 area located within the study area in the Sepulveda Basin, just northwest of the Ventura Freeway alternative and adjacent to the Balboa Municipal Golf Course (Van Nuys quadrangle). UCLA archival documents indicate that these sites are probably no longer in existence. This statement is supported by archaeological records explaining that the significance and artifacts from the site have been destroyed by construction activities over time. (Cottrell, et. al. 1985:87). The latest field surveys for LAN-111 were performed in 1968 and for LAN-345 in 1977.

Historic Resources: Only one historic site, LAN-1418H, bounded between the Hollywood Freeway and the central branch of the Tujunga wash, is located in close proximity to the Ventura Freeway alignment. UCLA Archives historic 15' series maps -- Calabasas (1903), and Santa Monica (1896 and 1921) indicate that the project area has undergone extensive development during the last century. Yet, there are many structures noted on the 15' series maps associated with the Southern Pacific right-of-way which may have some historic significance to the region.

Previous Archaeological Investigations: Between 1976 and 1989, ten field investigations, including surveys and/or excavations, have been conducted within a one mile radius of the two major route alternatives.

Surveys L-384, L-657 and L-1037 border portions of one or both of the proposed routes. L-384 (Sepulveda Basin) includes parcels LAN-111 and LAN-345, which have been previously described. L-657 is within the Canoga Park quad located near the northeast corner of the Ventura Freeway at the Canoga Boulevard interchange. This 11.86-acre site was surveyed and is currently occupied by a large, modern apartment complex (Drews:1980). L-1037, located in the northeast corner of the Sepulveda Basin near the U.S. military reservation, bisects the Burbank Branch Route alternative. This site was surveyed for the construction of the east valley interceptor sewer unit #1 which is now in place (McIntyre:1976).

Environmental Impacts: Since many of the sites within the project area are extant above ground, the greatest potential for disruption of archaeological discoveries is in locations where excavation activities will occur. Extensive earth movement for foundation walls and footings for each rail profile will create an impact of potential discoveries. The most sensitive location of this work will occur within the Sepulveda Basin environs and along the Southern Pacific right-of-way.

Overall, the potential archaeological impacts are anticipated to be minimal since modern development in the project area has either destroyed or excavated many of the most significant cultural resources.

Mitigation Measures: Due to the existence of several known archaeologically sensitive sites within the Sepulveda Basin, it is recommended that the selected route alignment through the Sepulveda Basin be monitored by a qualified archeaological consultant during construction.

Furthermore, if the Burbank Branch Alternative should be selected as the final route, it is recommended that the Southern Pacific right-of-way be surveyed to identify historic cultural resources prior to the start of demolition or construction of the rail system. Few examples of early American structures remain in this area and any resources that may be discovered will provide important cultural and historic information worthy of preliminary consideration.

Last, construction documents and contract provisions for general contractors assigned to constructing the rail system route should be made aware of CEQA law and guidelines regarding unpredicted archaeological discoveries in order to minimize damage to potential cultural resources.

Figure 5.10-1
Archaeological Surveys in Project Area

L-377 1978 Ultrasystems project: Archaeological survey. Acres: 33

L-384 1977 Description and evaluation of the cultural resources within Haines Debris Basin, Hansen Dam, Lopez Dam, and Sepulveda Dam, Los Angeles County, California Particulars: Partial survey
Acres: 3663 Sites: CA-LAN-300, LAN-111, LAN-345, LAN-167

L-657 1980 An archaeological resource assessment for a 11.86 acre parcel of land in Woodland Hills, Los Angeles County, California
Particulars: Survey Acres: 12

L-664 1979 Historical report on the Encino Roadhouse-Privy
Particulars: Test evacuation Sites: CA-LAN-43

L-887 1980 Preliminary cultural resource reconnaissance, proposed distributing station 136 and alternatives. Particulars: Partial survey; Acres: 7

L-1037 1976 Assessment of the archaeological impact by the proposed development of the East Valley Interceptor Sewer-Unit 1 Particulars: Survey

L-1047 1977 Assessment of the archaeological impact of the proposed development of Lot 7, Block 9 of Tract 2955. Sites: CA-LAN-43

L-1058 1978 Archaeological-historical resources on the first financial group property located in the Encino Area of the City of Los Angeles
Particulars: Survey Acres: 9 Sites: CA-LAN 43

L-1258 1982 Cultural resource survey and impact assessment for a portion of the former Warner Ranch in Woodland Hills. Particulars: Survey

L-1817 1989 An archaeological and paleontological records search for the intersection of Topanga Canyon Road and Ventura Boulevard, Woodland Hills, Los Angeles County, California. Particulars: Record search

---

5.10.2 Historic Resources

Historic resources and monuments within a one mile radius of either of the two major transit route alternatives were identified to determine the potential impacts the rail system may have on the cultural resources of the area.

Environmental Setting: The Department of Planning, Engineering and Cultural Affairs of the City of Los Angeles and the City of Los Angeles Cultural Heritage Commission provided information and listings of historic resources within the project area. Currently, of the six historic resources identified to be within close proximity to the rail transit project, none are listed on the National Register of Historic Places or are potential candidates for the National Register.

Figure 5.10-2, lists the historic resources and their locations in the project area. Also, each reference is identified with the route alternative closest to the historic site.

Figure 5.10-2
Inventory of Historic Resources

Monument/Description	Address	Route Adjacency
A. Tower of Wooden Pallets (2000 brewery pallets stacked 22 feet high, in a 22-foot diameter circle.)	15357 Magnolia Blvd., Van Nuys	Ventura Alignment
B. Van Nuys Women's Club	14836 Sylvan Street, Van Nuys	Burbank Alignment
C. Valley Municipal Building (Van Nuys City Hall)	14410 Sylvan Street, Van Nuys	Burbank Alignment
D. Campo de Cahuenga	3919 Lankershim, Universal City	Ventura and Burbank
E. Dept. Water & Power Bldg.	5108 Lankershim Blvd., N.H.	Burbank
F. Amelia Earhart/N. Hollywood	5211 Tujunga Ave., N.Hollywood	Burbank
G. David Familian Chapel of Temple Adat Ariel	5540 Laurel Canyon Boulevard North Hollywood	Burbank

Environmental Impacts: No environmental impacts caused by the construction and operation of the rail transit system are anticipated to affect any of the four historic resources within the project area, since the monuments already exist within a developed urban context. In addition, existing landscape and surrounding structures will further buffer the historic resources from train profiles.

Mitigation Measures: No mitigation measures are required.

5.10.3 Religions Institutions and Hospitals

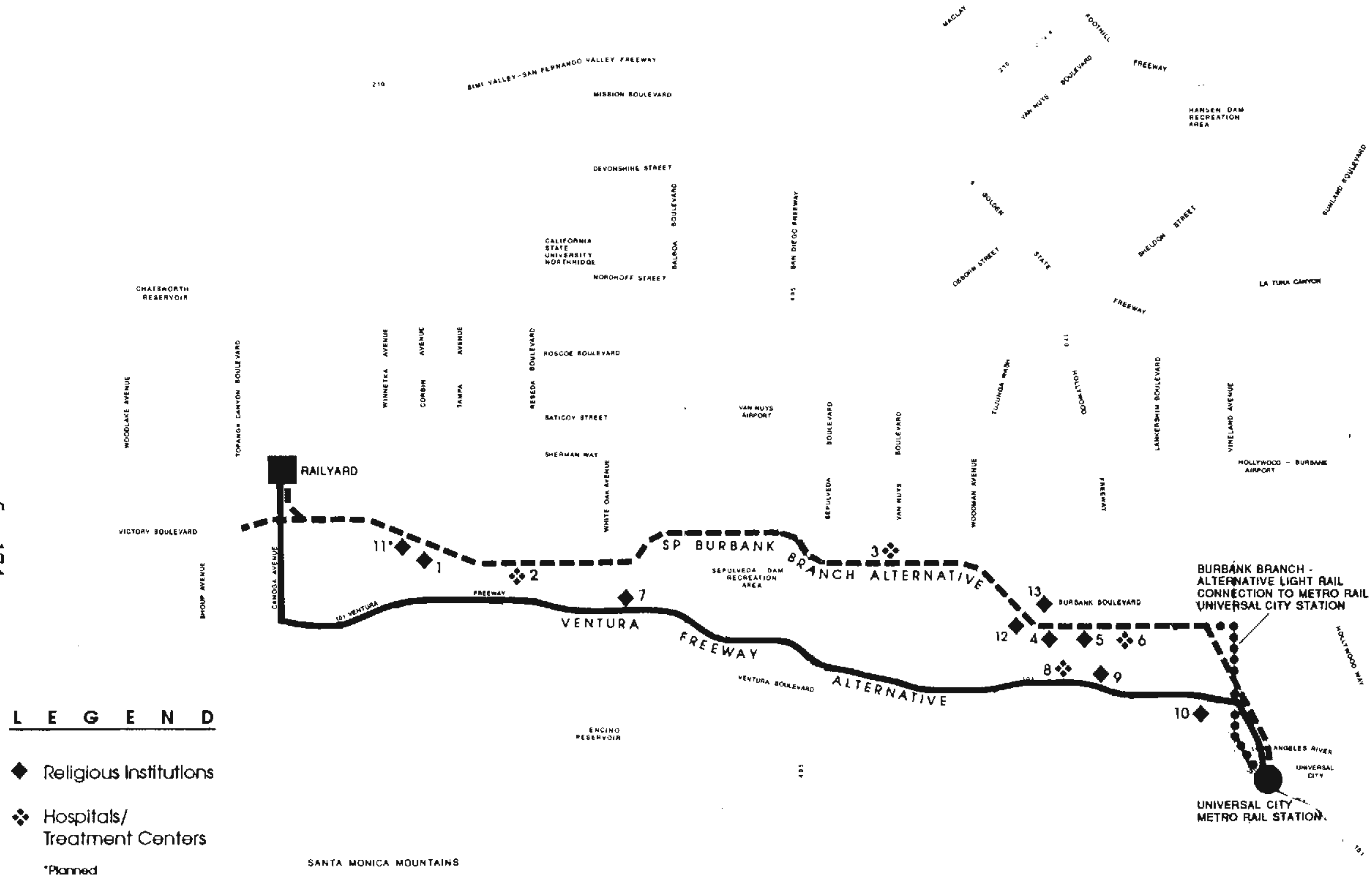
Numerous churches, synagogues, hospitals and other public institutional uses are found along each of the project alignments. Figure 5.10-3 lists these uses while Figure 5.10-4 illustrates their locations in relation to the project alternatives.

Figure 5.10-3
List of Project Area Religions Institutions And Hospitals

1. St. John's Lutheran Church
2. Tarzana Treatment Center & Erikson Center for Adolescent Advancement
3. Salvation Army Adult Rehabilitation Center
4. Shaarey Zedek Talmud Torah
5. Sephardic Congregation
6. Chandler Convalescent Hospital
7. Bethel Lutheran Church
8. Riverside Convalescent Hospital
9. Temple Beth Hillel
10. Saint Anne's Catholic Church
11. Shir Chadash New Reform Congregation (planned)
12. Chabad of North Hollywood
13. Valley Cities Jewish Community Center

Environmental Impacts: Impacts upon the operations and observances of the above-mentioned religious institutions and hospitals would be similar to the impacts discussed in Section 5.9, under school impacts. Noise impacts, traffic congestion and pedestrian walking patterns are prime concerns for the continued successful operation of these facilities.

No religious structures or hospitals would be displaced for the construction of the rail transit project.



San Fernando Valley
East/West Rail Transit Project

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5.10-3

Project Area
Religious Institutions and Hospitals

As discussed in the noise impact section, no noise impacts were identified after proposed mitigations have been implemented. Vibration impacts to religious institutions and hospitals were identified at one location along the SP Burbank Branch Route (Alternatives #1,#2 and #3), and at location along the Ventura Freeway Route Alternative #5. These impacts include:

- The Chabad of North Hollywood building at Ethel Avenue and Chandler Boulevard is located within 50 feet of the Burbank Branch alignment and is within the impact zone for either the deep trench or subway configuration proposed for that area.

- On the Ventura Freeway alignment, the Riverside Convalescent Hospital located on Riverside Drive east of Coldwater Canyon Avenue would be located above the proposed subway alignment for that area. In both of these areas, further testing would be required and, as summarized in the Noise and Vibration Impacts Section of this EIR, vibration impacts would be eliminated through proper vibration control measures incorporated into design of tunnels and trackbeds.

Walking patterns would be disrupted along the SP Burbank Branch Alternative #1 in those areas where pedestrians cross the Southern Pacific right-of-way. Such walking patterns would need to cross the at-grade rail line at street crossings or at pedestrian overpass(es) that would be constructed as a mitigation measure for previously identified school and traffic impacts.

Station area impacts such as traffic congestion, spillover parking, light & glare, and other impacts identified in previous sections would impact religious buildings located adjacent to the route. These impacts, although significant to those affected, should not be as noticible as for other uses due to the fact that peak use periods do not coincide for both uses at the same times. Religious institutions are generally used most heavily on weekends and holidays. Station areas generally experience peak demand during weekday morning and evening rush hours. Impacts to convalescent hospitals would be similar to residential impacts identified in previous sections.

<u>Mitigation Measures</u>: As described in other sections for traffic circulation and school impacts, LACTC has developed safety criteria to protect pedestrians in rail transit project areas from rail lines, substations, and construction activities. These criteria should be made available to religious institutions and hospitals for distribution. In addition, several other safety measures can be taken to protect the public during the construction and operation of the rail system.

- Construction sequencing should be coordinated with local community officials in order to minimize conflicts with walk routes, and automobile access routes.

- Pedestrian rights-of-way near the rail transit line should be clearly demarcated by the use of landscaping, fences, walks and curbing to help define clear circulation routes and minimize trespass and shortcut attractions. In the event that an at-grade alternative is selected (SP Burbank Alternative

#1) a pedestrian overcrossing shall be constructed on Chandler Boulevard at locations where existing streets are to be closed (Bellaire and Corteen).

- Barriers and security guards should secure storage and maintenance areas during construction to prevent accidents from trespassing and vandalism.
- Conspicuously posted warning signs and barriers should be erected near overhead power sources, power substations, crossing areas and construction sites to deter unauthorized access.

5.11 POPULATION AND HOUSING

CEQA defines population impacts to include changes to the location, distribution, density or growth rate of the human population. Housing impacts are defined as changes to existing housing or the creation of a demand for additional housing. This section considers impacts in these areas that could be expected as a result of the construction of the rail transit project.

5.11.1 Demographic Setting

According to recent estimates prepared by the City of Los Angeles, Department of City Planning, there were 3.2 million people in the city occupying 1.3 million housing units (2.5 persons per dwelling units) as of October 1988.[1] Thirty-four percent of the population resides in the San Fernando Valley (1.1 million persons). The Planning Department estimates that the Valley's housing stock is approximately 454,000 units. The persons per housing unit ratio for the Valley is quite similar to the overall city average, i.e. 2.49 persons per unit.

Within the San Fernando Valley, between 1980 and 1988 there has been an increase of 55,485 housing units (approximately 6,900 units have been produced annually). The rate of housing growth in the Valley (1980-1988) was 13.9 percent, compared with the citywide average of 9.6 percent. According to Planning Department statistics, the community areas that have experienced above average growth rates (greater than 1.55 percent annually) in housing stock have been North Hollywood, Arleta-Pacoima, Van Nuys, Mission Hills, Sylmar, Chatsworth and Sunland-Tujunga.

Of the 55,485 housing units produced in the valley over the 1980-88 period, approximately 53 percent have been constructed in communities such as Sherman Oaks, North Hollywood, Van Nuys, Canoga Park, Reseda and Encino-Tarzana where rail alternatives are being considered. Moreover, these communities account for a 267,175 of the 453,759 units currently estimated in the valley (approximately 59 percent). As shown in Figure 5.11-1, 1988 Housing Distribution in Communities Affected by the Rail Transit Project, approximately 54 percent of the units in these communities are multi-family. It should be noted however, that geographically the proportion of multi-family units decreases fairly dramatically as one moves from the southeast San Fernando Valley to the southwest San Fernando Valley. The clear majority of housing units in Canoga Park, Reseda, and Encino-Tarzana are single family.

While it may appear that the stock of housing is substantial, it should also be recognized that there is also a great demand for housing. The San Fernando Valley shares directly in the current "housing crisis" (particularly the lack of supply of affordable housing units) faced by the City of Los Angeles and surrounding areas. The relationship between supply of housing and demand is borne out by surveys conducted by the Federal Home Loan Bank. These zip code-based surveys indicate that vacancy rates for single family detached units range from 1.1 percent to 2.3 percent in the southeast and southwest valley. For attached single family homes, such as townhouses, the vacancy improves and ranges up to

---

[1] Source: City of Los Angeles, Department of City Planning, 1988 Population Estimate and Housing Inventory, August 18, 1989.

13 percent in the Woodland Hills area. For multi-family units in the same areas the vacancy rates ranges from 2.3 percent in Tarzana to 5.4 percent in Van Nuys. These vacancy percentages are typically indicative of tight market conditions (Figure 5.11-2).

5.11.2 Population and Housing Impacts

Burbank Branch Route Alternatives: As discussed in previous sections of this report, rail alternatives considered for the Burbank Branch Route would not result in the displacement of housing units. Thus, there would be no loss of housing stock.

Ventura Freeway Route Alternatives: In direct contrast to the Burbank Branch Route, rail options being considered for the Ventura Freeway route (with the exception of the segment from Canoga Boulevard to Tampa) would have significant affects on housing. In particular, Alternative #4, the South Side Aerial alignment option would displace 69 single family homes and 429 multi-family units in the segment between Tampa Street and Universal City. The bulk of the single family displacements would take place between Havenhurst and Van Nuys Boulevard, while multi-family displacements would be concentrated in the White Oak to Havenhurst segment.

Alternative #5, the North Side Subway, would have significantly less single family displacement than Alternative #4, however, loss of multi-family units (212) would still remain relatively high. In the case of either alignment, the loss of 212-429 units in the context of a tight housing market with a recognized lack for affordable housing must be considered a significant impact.

5.11.3 Mitigation Measures

All homeowners and tenants displaced would be eligible for relocation/payment benefits under the procedures adopted by the Los Angeles County Transportation Commission.

The loss of community housing stock is not directly mitigated by payments for real property or relocation benefits to homeowners and tenants. Should the Ventura Freeway Route Alternatives be adopted, then the LACTC should coordinate with the City of Los Angeles Community Development Department to design and implement a replacement housing program, focused on the replenishment of affordable units that would be displaced the alignment. The replacement program should consider elements such as the development of a replacement housing fund, the ratio of replacement-to-loss housing to be achieved, tenant eligibility and affordability criteria, and joint development opportunities in station areas or where there may be excess right-of-way. These program costs are separate from rail transit project funds which are limited to relocation payment benefits.

Unavoidable Adverse Impacts: Both of the Ventura Freeway Alternatives would displace housing stock in areas where shortages of housing exist. As such, both of these alternatives would have unavoidable adverse impacts on residents affected and on the neighborhoods in which the housing units are displaced.

Figure 5.11-1
1988 Housing Distribution In
Communities Affected By Rail Alternatives
(Number of Units)

Community	Total	Single Family	Multi-Family	Percent Single
Sherman Oaks	38,572	15,559	23,012	40.3%
North Hollywood	50,816	16,165	34,655	31.8%
Van Nuys	57,433	18,874	38,561	32.9%
Canoga Park	57,035	35,967	21,070	63.1%
Reseda	33,846	20,499	13,351	60.6%
Encino-Tarzana	29,473	15,398	14,075	52.2%
Total	267,175	122,462	144,724	45.8%

Source: City of Los Angeles, Department of City Planning, 1988 Population Estimate and Housing Inventory, August 18, 1989.

Figure 5.11-2
Vacancy Rates For Communities
Where Rail Alternatives Are Being Considered
(Percent Vacant)

Community	Total	Single Family	Multi-Family	Percent Single
Canoga Park	2.8	1.4	1.3	2.7
Reseda	3.4	2.3	2.7	5.2
Tarzana	2.2	2.2	0.0	2.3
Woodland Hills	2.5	1.4	12.8	4.3
Van Nuys	3.9	1.8	3.2	5.4
North Hollywood	2.1	1.1	2.3	2.9
LA County	2.0	1.5	2.7	2.8

Legend: SFU = single family unit; MFU = multi-family unit

Source: Federal Home Loan Bank Board, Los Angeles-Long Beach, CA PMSA Housing Vacancy Survey, Survey Date 3/08/89 through 6/02/89.

5.12 ENERGY

CEQA defines energy impacts as project characteristics that result in substantial additional use of existing sources of energy.

Transportation is a major consumer of energy in the Los Angeles region. Vehicle trips within the region are estimated to involve over 234 million miles of travel per day.[2] Fuel consumption from vehicle trips with origins or destinations in the region amounts to about 4.9 billion gallons of fuel per year.[3] About 89 percent of the fuel is gasoline and 11 percent is diesel.[4] Transportation energy consumption is equivalent to about 739 trillion Btu per year, or about 126 million barrels of oil.

This section describes the estimated energy consumption of the rail transit project within the context of energy conservation and CEQA guidelines.

5.12.1 Energy Impacts

Based on projections by the Southern California Association of Governments there would be 310.2 million miles of daily vehicle travel by the year 2010 in the Los Angeles region. This would result in the consumption of approximately 14.2 million gallons of fuel, equivalent to 2,030 billion Btu's. As noted previously in this report, implementation of rail transit in the San Fernando Valley would reduce vehicle miles of travel and would result in energy savings. For the Burbank Branch Route, approximately 410,000 vehicle miles would be saved by Alternatives #1 and #2, while approximately 440,000 vehicle miles would be saved by Alternative #3. As shown in Figure 5.12-1, Vehicle Miles Travelled and Energy Savings, this would result in a reduction of between 18,000 and 20,000 gallons of fuel (2.7 to 2.9 billion Btu's). SCAG predicts that the reduction which would result from the Ventura Freeway alignment alternatives (between 417,000 and 423,000 fewer vehicle miles traveled). In this case, approximately 19,000 gallons of fuel would be saved per day (2.7 to 2.8 billion Btu's).

Energy savings would be minimally offset by energy requirements for the rail transit system and associated stations. Figure 5.12-2, Energy Consumption for Stations and Traction Power, illustrates that the overall increase in consumption would be approximately 0.02 billion Btu's regardless of the alternative considered. The rail transit-related energy increases would reduce the potential energy savings in vehicle miles by about 1 percent. It should be recognized that there would also be additional energy consumption at power plants in the region that would be supplying the needed electrical energy. It is anticipated that these type of increases would be negligible.

---

[2] South Coast Air Quality Management District, Air Quality Management Plan 1988 Revision, Draft Appendix III-A, 1985 Emissions Inventory South Coast Air Basin, March 1988, Table IV-32.

[3] A fuel consumption rate of 17 miles per gallon is assumed.

[4] South Coast Air Quality Management District, AQMP, Appendix III-A, Table IV-32.

Figure 5.12-1
Vehicle Miles Traveled And Energy Savings
San Fernando Valley Rail Transit Alternatives

Alternative Routes	Reduced Daily Vehicle Miles Traveled	Daily Gallons of Fuel Savings	Billion Btu Equivalent
Burbank Branch Alt #1,#2	410,000	18,761	2.7
Burbank Branch Alt #3	440,000	20,108	2.9
Ventura Freeway Alt #4	423,000	19,377	2.8
Ventura Freeway Alt #5	417,000	19,098	2.7

Note: Fuel savings is based on a factor of 0.0457 gallons per vehicle mile (approximately 22 miles per gallon).

Figure 5.12-2
Energy Consumption Related To Stations And Traction Power

	Kilowatt Hours/Day			
Alternative Route	Station Usage *	Traction Usage **	Total Usage	Billion Btu Equivalent
Burbank Branch				
1a **	965	20,625	21,590	0.0216
2a **	1524	20,625	22,149	0.0221
3a **	1608	20,625	22,233	0.0222
Ventura Freeway				
4a **	1257	20,625	21,882	0.0219
5a **	1764	20,625	22,389	0.0239

* Consumption assumes 19.7 kwh/sf/year for at-grade stations. Energy consumption would be 120 percent greater for aerial stations and 150 percent greater for subway stations. Increases in energy requirements are directly related to the need for elevators, and heating, ventilating and air conditioning equipment at stations.

** Consumption rate is assumed to be 1,250 kilowatt hours per mile of track based on factors presented in the Pasadena Light Rail Alternatives EIR prepared by LACTC (Figure 4-39).

5.12.2 Mitigation Measures

Although the assessment indicates that rail transit would result in a net benefit in energy conservation for the region, the following measures should be employed to further limit the energy demands of the rail transit system:

- Regenerative transit vehicle braking improvements
- Signal and other systems improvements
- Implement station design features that would exceed the requirements of Title 24.

5.13 OTHER ENVIRONMENTAL EFFECTS/FINDINGS OF SIGNIFICANCE

5.13.1 Growth Inducement

At the regional scale, there is no evidence that institution of a rail transit system will foster a net increase in population growth or economic activity over the long term. However, the potential exists for the redistribution of growth and development within the region in response to the increased accessibility offered by a rail transit system.

In the case of the subject San Fernando East/West Rail Transit Project, all of the alternatives can be viewed as relatively high capacity feeder systems to the Metro Rail Project, ranging from light rail transit on the SP Burbank Branch to a Metro Rail extension or ART on either the Burbank Branch or the Ventura Freeway alignments.

The extent to which the potential for localized redistribution of growth and development will be realized is dependent upon the following factors:

- Supportive land use regulations
- Magnitude of public transit investment (e.g., light rail or Metro Rail)
- Transportation capacity of the transit system

With regard to the SP Burbank Branch corridor, Alternative #3 (Metro Rail/ART) would have a greater potential for redistribution of growth and development than the light rail option (Alternatives #1 and #2) by virtue of its greater estimated patronage <u>and</u> potential for future growth in patronage if development is redistributed.

The Ventura Freeway Metro Rail/ART options (Alternatives #4 and #5) would have somewhat less potential for redistribution of growth and development due to their lower estimated patronage. However, the magnitude of required right-of-way acquisition for Alternatives 4 and 5 would create an opportunity for significant redevelopment at selected station locations.

Under all of the alternatives, additional growth potential would be created at Universal City and Warner Center, while Alternatives #1,#2 and #3 would create growth potential within North Hollywood and Van Nuys; and Alternatives #4 and #5 would create growth potential in Sherman Oaks as well as along the Ventura Boulevard Corridor.

All of the preceding discussion addresses the potential for redistribution of future growth and development along the alternative corridors. However, it must be emphasized that the City of Los Angeles has sole responsibility for regulating land use in all affected areas except Universal City and the Sepulveda Basin. Current or proposed plans affecting these areas were previously discussed in Section 5.1.2.

In summary, substantial potential for redistribution of growth and development could be created by all of the alternatives under consideration. The degree to which such potential would be realized is dependent upon a complex interplay of actual pressure for development, existing/emerging growth controls, and local attitudes toward such growth. All of this discussion should be viewed against a general backdrop of more restrictive growth within the City of Los Angeles.

5.13.2 Cumulative Impacts

The long-term implications of the project in terms of transit patronage, traffic, air quality and energy use are based on the SCAG 2010 projections of population, housing and employment. As such, these projections represent the best current information for the expected cumulative growth over the next 21 years. Thus, to the best of our ability as a region to predict future growth, the information contained in this EIR covers all anticipated cumulative impacts.

In a more speculative vein, there are certain proposed transportation projects that could change the anticipated cumulative impacts of the project. These include:

- a possible Chatsworth rail transit extension from Canoga Park to the Simi Valley
- a possible HOV/Bus guideway along the northern edge of the Ventura Freeway
- a rail transit line linking Sylmar either with the Los Angeles International Airport (LAX) or the Los Angeles Central Business District.
- a San Fernando Road commuter rail line from Sylmar to Downtown Los Angeles.

With regard to a possible Chatsworth Extension, it is anticipated that implementation of such a system would increase patronage on the East/West Rail line and would therefore increase potential air quality and energy use savings compared to the project alone. Alternatively, institution of an HOV/Bus guideway along the north side of the Ventura Freeway might decrease patronage on the East/West Rail line (especially Alternatives #4 and #5). Long-term cumulative effects of such an HOV/bus facility in combination with the East/West Rail Project have not been modeled.

The proposed Sylmar to LAX rail line is part of the Los Angeles County Rail Transit Plan (see Figure 2-1) which would tie into the North Coast Line in the vicinity of Marina del Rey. The northern extension to Sylmar, which would generally parallel the I-405 Freeway, has recently been approved for route refinement study by LACTC in connection with the competition between Los Angeles and Orange counties to secure the southern terminus of the proposed high-speed rail line to Las Vegas. Implementation of the rail transit extension to Sylmar could substantially increase patronage on the east-west Rail Transit Project, especially on the link to the Metro Rail System (east of the I-405 Freeway at the proposed Sepulveda Station). If the Sylmar to LAX line were connected to the proposed Las Vegas high-speed rail line, patronage would expand even further, along with attendant energy/air quality benefits, as well as unknown economic development potentials at key intersections of the proposed rail systems.

The Sylmar to Downtown Los Angeles commuter rail line is also included in the Los Angeles County Rail Transit Plan as a potential future project. This project will be studied in the near future under a joint funding agreement between the City and County of Los Angeles. Transit patronage modelling must be performed to test how this line would affect ridership on the East-West Rail Transit Project.

5.13.3 Long Term Implications of the Proposed Project

Relationship Between Local Short-Term Uses and Long-Term Productivity

Construction of the San Fernando Valley East-West Rail Transit Project will entail short-term impacts which must be weighed against achievement of long-term objectives. The short-term impacts consist primarily of required property acquisition and displacement of current uses, construction-related impacts, and the possibility of creating pressure for land use changes in the vicinity of the project.

In the longer term, implementation of the project will further achievement of the Los Angeles Centers Concept, thereby focusing growth within designated centers and reducing pressure for intensification of low-density neighborhoods. Also, the project would be instrumental in furthering achievement of the regional air quality plan, lead to energy savings, and offer additional modes of transportation for the region's residents.

The project should be constructed now, rather than deferred, in recognition of the region's pressing transportation congestion problems, and as a valuable tool toward achieving air quality, energy and managed growth objectives.

Significant Irreversible Changes

The implementation of the San Fernando Valley East-West Rail Transit Project will require the long-term commitment of non-renewable resources to the construction and operation of the project, including land, manpower, energy, and construction materials. Most significant is the long-term commitment of right-of-way to transportation use.

5.13.4 Significant Unavoidable Adverse Impacts

Section 15382 of the CEQA Guidelines defines Significant Effects on the Environment to include "a 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". In those impact categories where significant impacts are identified, the government agency approving the project must make findings as to whether the significant effects have been reduced through mitigation to levels that are less than significant. Where particular impacts are found to be unavoidable, specific reasons why mitigation is not successful or feasible must be identified.

This EIR identifies a number of environmental impacts expected to result from the implementation of the San Fernando Valley Rail Transit Project. In cases where these impacts are negative, mitigation measures are identified that will be effective in reducing the degree of overall impact, although certain environmental impacts are still anticipated to exceed levels considered to be significant. Findings with regard to each significant effect and a statement of overriding considerations must be prepared by LACTC, the lead agency, prior to project approval. The unavoidable adverse impacts of the project are described in Section 5.0 of the EIR and are summarized in Figure 1-5, Summary of Environmental Impacts. The following impacts were found to be unmitigatible to levels that are less than significant:

Compatibility with Local Area Plans: The Ventura Freeway Route Alternatives would not be compatible with the adopted North Hollywood Redevelopment Area Plan and the adopted Metro Rail North Hollywood Station Area Master Plan, to the extent that service would not be provided to the designated station at Chandler Boulevard/Lankershim Boulevard. Redevelopment planning for this area has been predicated upon a Metro Rail Station located at the center of a high-density urban center to support densities called for in these plans. The removal of a station at this location in favor of other locations along the Ventura Freeway corridor would constitute a significant adverse impact on adopted redevelopment plans for North Hollywood.

Residential Displacement: The Ventura Freeway Route Alternative #4 would require the displacement of 499 housing units, requiring the relocation of approximately 1,078 residents.
The Ventura Freeway Alternative #5 would require the displacement of 212 housing units, requiring the relocation of approximately 430 residents. Although homeowners would receive fair-market compensation plus relocation assistance for their properties and renters would receive relocation assistance, the substantial number of properties displaced would constitute a significant adverse impact on these residents and the neighborhoods in which this displacement occurs, as well as a significant reduction in housing stock for the San Fernando Valley.

Business and Parking Displacement: Both the SP Burbank Branch and the Ventura Freeway Route Alternatives would displace existing businesses. Along the SP Burbank Branch Route, these businesses are principally located in Southern Pacific leaseholds. Many of these businesses would be allowed to remain until the expiration of their leaseholds. Others would receive compensation for damages resulting from early termination of their leasehold agreements. Along the Ventura Freeway Route, most of these businesses are in private ownership. Although fair-market compensation and business relocation benefits would be paid, the relocation and re-establishment of these businesses would constitute a significant adverse impact for many of these property owners. Loss of employee parking spaces would also constitute an adverse impact that would occur with Alternatives #1, #2, #4 and #5.

In all cases, LACTC has endeavored to locate rail transit alignments to avoid or minimize property displacements. Initial route studies located transit in the SP Burbank and Ventura Freeway corridors precisely because rights-of-way existed in which displacements could be minimized. In the Ventura Freeway corridor, heavy use of the freeway and safety requirements affecting the placement of rail transit along the edge of the freeway mandated that the rail transit line be located outside of the freeway right-of-way at station areas and at some sections of the line between stations. In cases where displacement was substantial, LACTC design speeds were lowered to allow tighter turning radii, which in turn avoided a significant amount of further displacement. Any further reduction in property displacements would require design changes that would affect the functional requirements of the rail system.

Visual/Aesthetics: The SP Burbank Branch Alternative #1 would locate aerial flyover structures adjacent to residential land uses at DeSoto, Winnetka, and Victory Boulevard crossings. Such structures would be screened and aesthetically designed, however some loss of privacy and blockage of view corridors for the rear and side yards of 25 to 30 homes would result. Such flyover structures are necessary to avoid at-grade crossings of major arterial streets.

The Ventura Freeway Alternative #4 would place an aerial guideway along the south side of the Ventura Freeway that would similarly pass adjacent to residential land uses. Approximately 4.5 miles of this route would be located next to homes and apartments. The guideway would be adjacent and visible to several hundred homes and apartments in these areas.

Construction: Because of the need to construct the Ventura Freeway Alternative along the edge of a highly used transportation facility, some construction activities would need to occur during nights and weekends to avoid impacting weekday rush hour traffic. Noise, air quality, traffic and visual impacts would therefore impact adjacent neighborhoods in time periods outside of normal working hours. These impacts, although temporary, would be a significant impact to the residents affected.

Earth & Water, Risk of Upset: All of the alternatives would require excavation and hauling of earth from construction sites to appropriate landfill facilities. The subway and deep-trench Alternatives #2,#3 and #5 would generate significant amounts of earth. Furthermore, the potential exists for encountering contaminated soils in those routes that involve deep-trench, cut-and-cover and subway types of construction. Because of the shortage of County Class I and Class III landfill sites, any substantial additional demand generated for these facilities is considered a significant adverse impact.

Recreation & Parks: All of the alternatives would displace planned, future park land in the Sepulveda Basin Recreation Area. The SP Burbank Branch Alternatives would displace 2.7 acres, the Ventura Freeway Alternative #4 would displace 6.1 acres, and the Ventura Freeway Alternative #5 would displace 22.5 acres. The SP Burbank Branch Phased Length Route Option would further displace 28 acres for a Rail Storage & Maintenance Yard while the Ventura Freeway Phased Length Route Option would displace 21 acres.

The SP Burbank Branch Route Alternatives would displace three ball fields for the Winnetka Station. The Vineland Extension Option of the SP Burbank Branch Alternative (Alternatives #1B and #2B) would displace approximately 1.3 acres of South Weddington Park.

Because of the scarcity of park and playground facilities in the Los Angeles Basin, any loss of existing or planned future park land is considered a significant adverse impact. Alternatives to the displacement of park land in the Sepulveda Basin would involve the displacement of existing homes and businesses in the surrounding neighborhoods. Although the loss of park land is significant, the park land displaced is adjacent to freeways and along railroad right-of-way at the edge of the Sepulveda Basin. The displacement of established homes and businesses was considered to be a more severe impact at these locations.

Schools: The Ventura Freeway Alternative #4 would displace the Campbell Hall School, a (a private, elementary to high school located on Laurel Canyon Boulevard at the Ventura Freeway). The siting of the main academic buildings of this campus immediately adjacent to the Ventura Freeway eastbound off-ramp make it impossible to locate the aerial guideway in such a way that would not either displace or very severely impact these

5.14 MITIGATION MONITORING PROGRAM

The introduction of fixed rail transit into existing urban settings is commonly met with opposition from local neighborhood groups. Citizens cite loss of privacy, depreciation of property values, creation of undesirable or different visual character, increased noise and vibration, increased levels of crime and traffic, and lack of adequate parking as concerns in neighborhoods where transit facilities are to be located.

These concerns have been expressed in public meetings on the proposed project, and in the report prepared by the San Fernando Valley Citizens Advisory Panel on Transportation Solutions. In response to these concerns the citizens panel report put forth the following recommendation: "That upon selection of a specific route for construction, the Los Angeles City Council appoint a citizen's oversight committee, independently funded ombudsman, and a specific budget, separate from design and construction funds, be designated for use by the citizen's oversight committee to implement community improvements or project enhancements."[5]

Recently passed state legislation, State Assembly Bill 3180 (Public Resources Code, Section 21081), which requires that agencies making findings in Environmental Impact Reports with respect to significant environmental effects and related mitigation measures adopt a reporting and monitoring program to ensure that mitigations incorporated into the project for the purpose of eliminating or substantially lessening significant impacts are carried out. The LACTC will establish such a program tailored to the selected alternative when adopted.

---

[5] San Fernando Valley Citizen's Advisory Panel, Transportation Solutions, Page 4, August 1, 1988.

Chapter 6

ALTERNATIVES TO THE PROJECT

CHAPTER 6.0
ALTERNATIVES TO THE PROJECT

CEQA requires that reasonable alternatives to the project be considered. Such alternatives should be able to "feasibly attain the basic objectives of the project." In addition to build alternatives, such as those studied in this document, a No Build Alternative should be considered as a base against which to measure the environmental impacts. This chapter presents a discussion of identified alternatives to the San Fernando Valley East-West Rail Transit Project as defined in Chapters 1.0 through 4.0 of this report.

6.1 NO PROJECT ALTERNATIVE

The No Project Alternative would mean that no San Fernando Valley rail transit improvement would be constructed and that Metro Rail would terminate at the North Hollywood station. In the absence of a rail transit improvement, the east-west bus routes in the base network, operating on Ventura Boulevard, Victory Boulevard, Sherman Way, Roscoe Boulevard, and Nordhoff Street, would provide local service similar to that of the east-west rail line. Since the rail transit line would have also served as a feeder to the Metro Rail line, then the express bus lines that connect various parts of the Valley to downtown Los Angeles would constitute a duplication of service. In the absence of rail transit in the San Fernando Valley, express buses would be retained in the No Project alternative.

Land Use Impacts: Compared to the rail transit alternatives under consideration, no displacements of residences and/or businesses would directly result from this option. Compared to the some particularly tight sections of both the Burbank Branch alignment and the Ventura Freeway alignment, this alternative would not result in adverse proximity impacts of transit vehicles and operations being directly adjacent to either single family homes and/or apartments.

It should be recognized, however, that continued surface street congestion would increase the likelihood that arterials would be widened to their ultimate functional classification right-of-way. These widenings may result in land takings. Similarly, continued traffic congestion, without the potential for a transit solution, would further increase the public's concern about growth and could result in mandated reductions to land use development potentials through specific plans with down zoning provisions and/or through the continued adoption of Interim Control Ordinances and moratoria by the City of Los Angeles for communities in the southeastern and southwestern portions of the San Fernando Valley.

Transportation Effects: The primary effect of this option would be that the potential savings of 215,000 to 440,000 vehicle miles of travel achieved by the rail transit alternatives would be lost. Transportation mobility and access problems projected and documented by the Southern California Association of Governments (SCAG)[1] would not be reduced or alleviated, including:

[1] Southern California Association of Governments, San Fernando Valley Area Study, Phase II - Long Range Mobility Plan, April 1988.

- Heavy travel growth and severe congestion in the Ventura Boulevard/Freeway Corridor.

- Continued congestion and circulation and access problems in work centers in the communities of Van Nuys, Burbank, Encino, Sherman Oaks, Woodland Hills and Universal City.

- Capacity problems on Interstates 5 and 405 (Golden State and San Diego Freeways)

Air Quality Effects: Failure to implement rail transit in the San Fernando Valley would mean that a key element in the Tier 1 Control Strategy of the Air Quality Management Plan would not be achieved. The no project alternative would not provide for the reduction of 0.2-0.3 tons/day in total organic gases. It would not provide for a 1.6-3.4 tons/day reduction in carbon monoxide, nor in a 0.3-0.6 tons/day reduction in nitrogen oxides that would result from rail transit-related savings to vehicle miles of travel in the region.

This alternative would also result in marginal improvements in carbon monoxide concentrations at those potential "hot spot" locations where transit stations and large parking facilities would have been located.

Noise Impacts: As noted above, the bus fleet would be used to provide the feeder service the North Hollywood Metro Rail Station and in some cases express bus service to the Los Angeles Central Business District would be continued. In general it is not anticipated that there would be an increase in the bus fleet, thus there is unlikely to be a discernible increase in bus-related noise, either on surface arterial streets or on freeways. Also it is likely that high vehicular traffic volumes in the valley will result in slower speeds. These reduced speeds may slightly lower street-traffic related noise levels in the area.

6.2 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Among the alternatives under consideration, the Alternative #3a SP Burbank Branch Metro Rail Extension is the "environmentallly superior alternative". This determination is based on the following factors:

- Alternative #3a is in subway through residential areas, thus effectively eliminating potential noise and visual impacts.

- As with all options along the Burbank Branch, no residential displacement is required for this alternative.

- The higher patronage potential of this alternative would lead to greater air quality and energy use benefits.

Alternative #3a is, however, among the most costly of all the alternatives.

6.3 PREVIOUSLY STUDIED ALTERNATIVES

As described in Section 2.0 of this EIR, a total of six other east-west alignments have been reviewed since 1983 for this project. These alignments were located along the following corridors:

- Ventura Boulevard
- Sherman Way
- San Fernando Road
- SP Coast Mainline
- Victory Boulevard
- Los Angeles River

The San Fernando Road alignment was recommended for study in 1988 by the Citizens Panel of Transportation Solutions, appointed by the Los Angeles City Council. LACTC has agreed to study this corridor as a commuter rail line that would operate in addition to the east-west rail transit project if funding for this study is provided by Los Angeles City and Los Angeles County. Each of the other alignments, for different reasons, have been eliminated from further consideration as the route for the San Fernando Valley East-West Rail Transit Project. The history of these decisions is described in Section 2.0.

6.4 TECHNOLOGY ALTERNATIVES

As discussed in Section 4.6, Mag-Lev and Monorail systems are being evaluated in addition to LRT, Metro Rail and ART. The purpose of this section is to contrast the significant impacts of these technology alternatives to the impacts of LRT, Metro Rail and ART, as presented in Chapter 5. The potentially significant impact categories are: (1) right-of-way acquisition; (2) noise/vibration; and (3) visual quality.

<u>Right-of-Way Acquisition:</u> Regardless of technology, a transit line introduced within the SP Burbank Branch is assumed to require acquisition of the entire SP right-of-way. While the right-of-way width required for Mag-Lev and Monorail is somewhat less than LRT and Metro Rail, it is concluded that displacement impacts along the Ventura Freeway would be essentially the same regardless of technology selected, given the required station/parking areas as well as the great number of "partial take" situations.

<u>Noise levels of different technologies on aerial structure:</u> Monorail trains tend to be quieter than steel-wheel trains because the shrouds on monorail systems shield the noise from the wheels and under car auxiliary equipment. With sound barriers, steel-wheel trains have similar noise levels to monorail.

Noise levels from Mag-Lev systems tend to be much lower than steel-wheel/steel-rail or rubber tire technologies. The primary exception is at switches where the guide wheels will contact the guideway. Data received from Magnetic Transit of America indicate that at switches, Mag-Lev and steel wheel/steel rail systems could have comparable noise levels. Magnetic Transit has stated that design improvements will reduce the noise at switches.

Ground-borne vibration: Rubber tire systems, such as bottom-supported monorail, have relatively low levels of ground-borne vibration because of the vibration isolation characteristics of rubber tires. Mag-Lev systems will not create significant levels of ground-borne vibration except at areas such as switches where the vehicle guide wheels contact the guideway. At locations where the guide wheels contact the guideway, the levels of ground-borne vibration for Mag-Lev systems could have magnitudes similar to steel-wheel/steel-rail systems.

Visual Quality: By virtue of their lesser weight, the Mag-Lev and medium capacity Monorail alternatives require a somewhat lighter and less bulky structure for an aerial guideway configuration. Thus, while the height of such aerial structures would be essentially the same as LRT or Metro Rail, the reduced bulk of the structure would somewhat reduce the impact of these systems on visual quality.

The above considerations, coupled with reduced noise/vibration potential, also present an opportunity for integrating such systems within buildings.

Chapter 7

LIST OF PREPARERS, PERSONS CONTACTED AND REFERENCES

CHAPTER 7.0
LIST OF PREPARERS, PERSONS CONTACTED AND REFERENCES

7.1 PREPARERS OF THE EIR

The following organizations and individuals participated in the preparation of this EIR:

Los Angeles County Transportation Commission
- Neil Peterson, Executive Director
- Richard Stanger, Director of Rail Development
- Susan I. Rosales, Manager of Rail Planning
- Stephen H. Lantz, Community Relations Manager

Gruen Associates
- Ki Suh Park, AICP, Principal-in-Charge
- John M. Stutsman, AICP, Project Manager
- David L. Mieger, AICP, Assistant Project Manager

- Research and Analysis:

Charles Campbell	Frederick S. Abelson
Robert Shum	Maria Quandt
Elizabeth Atwell	Guy Cass

- EIR Production:
  Barbara Riechers, Graphic Designer
  Michael DeChellis, Renderings
  Amirah Jordan ElNomrosy, Technical Editor

Gannett Fleming Transportation Engineers
- Walter Marriott III, P.E., Principal
- Don L. Steeley, P.E., Senior Project Engineer

Benito A. Sinclair & Associates
- Peter P. Zimmerman, P.E., Senior Project Engineer

DKS Associates, Inc.
- Joel Falter, Senior Transportation Engineer
- Ian J. Pari, Transportation Engineer

Harris Miller Miller & Hanson, Inc.
- Hugh Saurenman, Acoustical Engineer

Terry A. Hayes Associates
- Terry A. Hayes, AICP, Principal
- Soo Y. Oh, Planner

Anil Verma Associates
- Anil Verma, Principal

7.2 PERSONS AND AGENCIES CONTACTED

The following agencies and individuals were contacted during the course of the preparation of this Environmental Impact Report:

<u>Calgary Transit Authority</u>, Calgary, Alberta, Canada
- John Chadut, Transportation Planner

<u>California Department of Fish and Game</u>
- Fred Worthley

<u>California Department of Conservation</u>
- Herman Olilang, Division of Oil and Gas
- Shavonda Rhobes, Office of Mines and Geology

<u>California Department of Transportation</u> (Caltrans)
- Wallace Rothbart, Transportation Planning Branch
- Al Anatanaitis
- Dick Sommerhauser
- Ken Nelson

<u>California Regional Water Quality Control Board</u>
- Dan Lehman
- Rod Nelson

<u>California Office of Planning and Research</u>
- Robert Martinez

<u>Los Angeles Department of City Planning</u>
- Deuk Perrin, City Planner
- Dick Platkin
- Frank Parrello, Community Planner
- John Bowman, Community Planner

<u>Los Angeles Community Redevelopment Agency</u>
- Jerry Belcher, North Hollywood Redevelopment Area

<u>Los Angeles County Department of Public Works, Waste Management Division</u>
- Ken Swanson

<u>Los Angeles County Department of Regional Planning</u>
- George Malone, Population Research

<u>Los Angeles Department of Sanitation</u>
- David Nakagaki

<u>Los Angeles Fire Department</u>
- Robert Aaron, Bureau of Fire Prevention

Los Angeles Police Department

- John Herkowitz, Planning & Research Division

Los Angeles Unified School District

- Robert Niccum
- Elizabeth Harris

Southern California Association of Governments

- Murray Goldman, Patronage forecasting
- Michael Schwarzman, Patronage & Socio-economic forecasting
- Viggen Davidian, Transportation planning

US Army Corps of Engineers

- Lowell Flannery, Operations Branch
- Carl Enson, Construction-Operations Division
- Dave Weaver
- Terry Witherspoon
- Wanda Kiebala
- Boniface Bigornia
- Rick Glover
- Sheila Murphy
- Robert Stuart, Reservoir Regulation Section

US Department of the Interior, Fish and Wildlife Service

- Brooks Harper
- Nancy Kaufman

US Environmental Protection Agency

- Lynn Trujillo
- Ida Tolliver

University of California at Los Angeles, Institute for Archaeology

- Brian Glenn

7.3 REFERENCES

The following reports, documents and other resources were utilized in the preparation of this EIR:

Additional Evidence About the Impacts of Vancouver's Light Rail Transit System on Housing and Land Prices, paper by Michael A. Goldberg, University of British Columbia, Vancouver, British Columbia, December, 1988.

Analysis of Nonresidential Construction Activity in the Washington Region Before and After Metrorail, Metropolitan Washington Council of Governments, December, 1983.

Assessment of Changes in Property Values in Transit Areas, Rough Draft Report, Prepared for UMTA by the Joint Center for Urban Mobility Research, Rice Center, Houston, Texas, July, 1987.

Centers Definition Report, Los Angeles City Planning Department, 1983.

Century-El Segundo Extension Rail Transit Project, Final Environmental Impact Report, LACTC, November, 1986.

Century/El Segundo Technology Evaluation for Los Angeles County Transportation Commission, Booz-Allen and Hamilton, Inc., March, 1988.

CERCLIS, U.S. EPA Superfund Program, January, 1989.

Coastal Corridor Rail Transit Project, Northern Segment, Draft Environmental Impact Report, LACTC, January, 1989.

Commercial Construction Started in Metropolitan Washington, 1980-1986, Department of Metropolitan Development and Information Resources, Metropolitan Washington Council of Governments, October, 1987.

Concept Los Angeles, The Concept of the Los Angeles General Plan, City of Los Angeles Planning Department, April, 1974.

Cultural Resources Overview and Survey for the Los Angeles County Drainage Review Study, Archaeological Resource Management Corporation for the US Army Corps of Engineers, Los Angeles District, 1985.

Design and Performance Criteria, The Long Beach-Los Angeles Rail Transit Project, LACTC, 1985.

Double Decking the Ventura (Route 101) Freeway, A Feasibility Study, Caltrans, July 1988.

Encino-Ventura Specific Plan, Los Angeles City Planning Department, 1983.

Expenditure Plan for the Hazardous Substance Cleanup Bond Act of 1984, California Department of Health Services, January 1989.

Exploring the Land Use Potential of Light Rail Transit, Research Paper, Robert Cervero, Institute of Urban and Regional Planning, University of California-Berkeley, June, 1986.

Evaluation of Economic and Development Impacts of Major Transit Investments, Douglass B. Lee, paper, Transportation Research Record #820

Fault-Rupture Hazard Zones in California, Special Publication 42, Department of Conservation, Division of Mines and Geology, Revised 1985.

Hazardous Waste and Substances Sites List, Office of Permit Assistance, State of California, January, 1988.

Houston System Connector, Technology Assessment, Final Report, Houston Metropolitan Transit Authority, November, 1988.

Land Use Impacts of Rapid Transit, Final Report, U.S.Department of Transportation, August, 1977.

Long Beach-Los Angeles Rail Transit Project, Final Environmental Impact Report, LACTC, March 1985.

Los Angeles Rail Rapid Transit Project, Metro Rail, Draft Environmental Impact Statement, USDOT, UMTA, SCRTD, December, 1983.

Los Angeles Rail Rapid Transit Project, Metro Rail, Draft-Subsequent Environmental Impact Report, SCRTD, February, 1987.

Metrorail Area Planning, Metropolitan Washington Council of Governments, August, 1983.

Metro Rail, Station Area Master Plan, North Hollywood, Community Redevelopment Agency of the City of Los Angeles, undated.

National Priorities List Fact Book, U.S. Environmental Protection Agency, June, 1986.

1982 Transit Impact Monitoring Program, Annual Report, Atlanta Regional Commission, March, 1983.

Pasadena-Los Angeles Rail Transit Project, Draft Environmental Impact Report, LACTC, December, 1988.

Patronage Forecasts for the San Fernando Valley Light Rail Transit Alternatives, SCAG, March 1988.

Regional Mobility Plan, SCAG, April 1988.

San Fernando, California, Earthquake of 9 February 1971, California Division of Mines and Geology, Bulletin 196, 1975.

San Fernando Valley East-West Rail Transit Project; Initial Alternatives Evaluation Report, LACTC, September 1987.

San Fernando Valley Area Study, Short Range Transforation Improvements, SCAG, May, 1986.

Transportation Solutions, Report of the San Fernando Valley Citizens Advisory Panel, August 1988.

San Fernando Valley Ridesharing Analysis, Commuter Transportation Services Inc., April 1985.

Sepulveda Basin Recreation Lake, Feature Design Memorandum, US Army Corps of Engineers, Los Angeles District, March, 1987.

Sepulveda Basin Master Plan and Final Impact Report/Statement, US Army Corps of Engineers, Los Angeles District, March, 1981.

Soil Survey of Los Angeles County, California, West San Fernando Valley Area, United States Department of Agriculture, Soil Conservation Service, January, 1980.

The New Southern Pacific Burbank Branch Transit Light Rail Line, Valley Industry and Commerce Association, July 1988.

The Effects of a New Subway Line on Housing Prices in Metropolitan Toronto, Vladimir Bajic, paper, Urban Studies magazine #20, page 147, 1983.

The Impact of Rail Transit on Property Values: A Summary of Documented Research, prepared for LACTC by Manuel Padron Associates, August, 1986.

The New Southern Pacific Burbank Branch Transit Rail Line, Valley Industry and Commerce Association (VICA), July, 1988.

Transit Impact Monitoring Program, Overview and Findings, Atlanta Regional Commission, January, 1982.

Transportation Solutions, San Fernando Valley Citizens Advisory Panel, August, 1988.

2010 Projections, Population, Housing Employment, A Component the County of Los Angeles General Plan, County of Los Angeles, Department of Regional Planning, December, 1987.

Urban Design Advocacy in NW LRT Implementation-City of Calgary, TownFrame Urban Design Ltd., paper, March, 1988.

Ventura/Cahuenga Boulevard Corridor Specific Plan, Revised Preliminary Draft-Version 1, Los Angeles Department of City Planning, September 7, 1989.

7.4 LIST OF ACRONYMS

ADT	Average Daily Traffic
APTA	American Public Transit Association
ART	Automated Rail Transit
ATSAC	Automated Traffic Surveillance and Control
CBD	Central Business District
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivelant Level
CPUC	California Public Utilities Commission
dB	Decibel (also shown as "dBA")
DEIR	Draft Environmental Impact Report
EB	Eastbound (there is also WB, SB and NB)
EIR	Environmental Impact Report
LACTC	Los Angeles County Transportation Commission
LOS	Level of Service
LRT	Light Rail Transit
NOP	Notice of Preparation
ROW	Right-of-way
SCAG	Southern California Associates of Governments
SCRTD	Southern California Rapid Transit District
SP	Southern Pacific
SR	State Route
UMTA	Urban Mass Transportation Administration
VMT	Vehicle Miles Travelled

RAIL TRANSIT SYMBOLS

APPENDIX

NOTICE OF PREPARATION

SUBJECT: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE SAN FERNANDO VALLEY RAIL TRANSIT PROJECT

The Los Angeles County Transportation Commission (LACTC) will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know your views as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. If your agency has an action related to the project, it will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the probable environmental effects are contained in the attached Initial Study.

Please send your response to Steve Lantz, Community Relations Manager, at the address above. We need the name for a contact person in your agency.

Project Title: San Fernando Valley Rail Transit Project

Neil Peterson
Executive Director

Date: 4-21-89

Reference: California Administrative Code, Title 14, Sections 10582 (1), 15103, 15375

SAN FERNANDO VALLEY RAIL TRANSIT PROJECT
CALIFORNIA ENVIRONMENTAL QUALITY ACT
INITIAL STUDY

LOS ANGELES COUNTY TRANSPORTATION COMMISSION
403 WEST EIGHTH STREET, SUITE 500
LOS ANGELES, CALIFORNIA 90014
CONTACT: MR. STEVE LANTZ
(213) 236-9567

APRIL 1989

1.0 INTRODUCTION

BACKGROUND AND IDENTIFICATION OF ALTERNATIVES

In February of 1987, LACTC authorized the preparation of an Environmental Impact Report (EIR) for a rail transit project connecting the West San Fernando Valley to the Metro Rail subway in either North Hollywood or Universal City. The Commission selected five (5) alternative routes to be studied in the EIR in addition to the "no project" alternative. These alternatives were studied in a report entitled Initial Alternatives Evaluation Report (Gruen Associates, September, 1987) relative to key engineering and environmental issues.

On November 18, 1987, the Commission voted to defer further environmental study of the project and requested assistance from elected local officials to decide whether to continue with a rail transit project in the East/West San Fernando Valley corridor and, if so, where the project should be located. The Los Angeles City Council formed the San Fernando Valley Citizens Advisory Panel, which prepared a report entitled Transportation Solutions (August 1, 1988). That report recommended that the Commission proceed with an EIR for two alternative routes. In response to the citizens report and Los Angeles City Council action on September 28, 1988, the Commission authorized the resumption of the EIR process.

In January of 1989 the LACTC Transit Committee recommended to the Commission that the Notice of Preparation (NOP) for the EIR be released. At the January 25th LACTC meeting the Commission voted to defer issuance of the NOP pending staff review of additional comments received from the City of Los Angeles Chief Legislative Analyst, elected officials and members of the public. LACTC staff proceeded to review proposed project alternatives with these bodies as well as the LACTC Transit Committee and the Commission. On March 8, 1989, the LACTC approved issuance of the NOP for project alternatives along two basic routes, described below:

A. Southern Pacific (SP) Burbank Branch Route: This route alternative begins at Topanga Canyon Boulevard/Victory Boulevard and proceeds along the north side of Victory Boulevard in an easterly direction to Variel Avenue. The route continues eastward within SP rights-of-way (ROW) to North Hollywood. Depending on the alternative selected, the route then either links with the Metro Rail North Hollywood Station at Chandler and Lankershim, or proceeds from Chandler Boulevard to Vineland Avenue, then along the eastern edge of the Hollywood Freeway to connect with the Metro Rail Universal City Station.

B. Ventura Freeway Route: This route alternative begins at the intersection of Vanowen Street and Canoga Avenue. From that point it proceeds down Canoga Avenue to the Ventura Freeway, after which it proceeds east along or under the freeway to the Universal City station of Metro Rail.

A number of alternate profiles and technologies are to be studied for each of these two basic alignments.

A. On the SP Burbank Branch Route:

- o An aerial/subway alternative which is in full subway within residential areas only and which includes a Metro Rail extension option and an automated rail transit option ("Burbank Metro/ART").

- o A mitigated light rail alternative with shallow trenches/berms ("LRT"), deep trench ("LRT Trench"), and deep bore ("LRT Subway") options through residential areas, and having at least a deep trench along the "diagonal" segment.

B. On the Ventura Freeway Route:

- o A mitigated aerial rail guideway alternative along the Ventura Freeway; a Metro Rail extension option and an automated rail transit option will be studied ("Ventura Aerial Metro/ART").

- o An alternative which is in full subway within residential areas only and aerial elsewhere; a Metro Rail extension option and an automated rail transit option will be studied ("Ventura Subway Metro/ART").

Phasing alternatives are to be addressed for each alternative as Minimum Operable Segments (MOS's). MOS's are the minimum segments which can be built as practical and meaningful transit operations. MOS's will include study of interim terminal stations located near the 405 Freeway which will include parking, bus drop-offs and related facilities similar to those employed at the El Monte Busway Station.

All alternatives will include a rail yard. The purpose of the yard is to provide for maintenance and/or storage of transit cars. For full line alternatives the yard will be located at the northeast corner of Canoga Avenue and Vanowen Street. For MOS's, the yard will be located in the vicinity of Sepulveda Boulevard and either the Ventura Freeway or the Southern Pacific Burbank Branch ROW.

Technologies under study are defined as follows:

Light Rail Transit (LRT): is the same system that LACTC is developing for the Los Angeles/Long Beach line. Power is supplied via an overhead catenary system. The system is manually operated on non-exclusive rights-of-way (ROW).

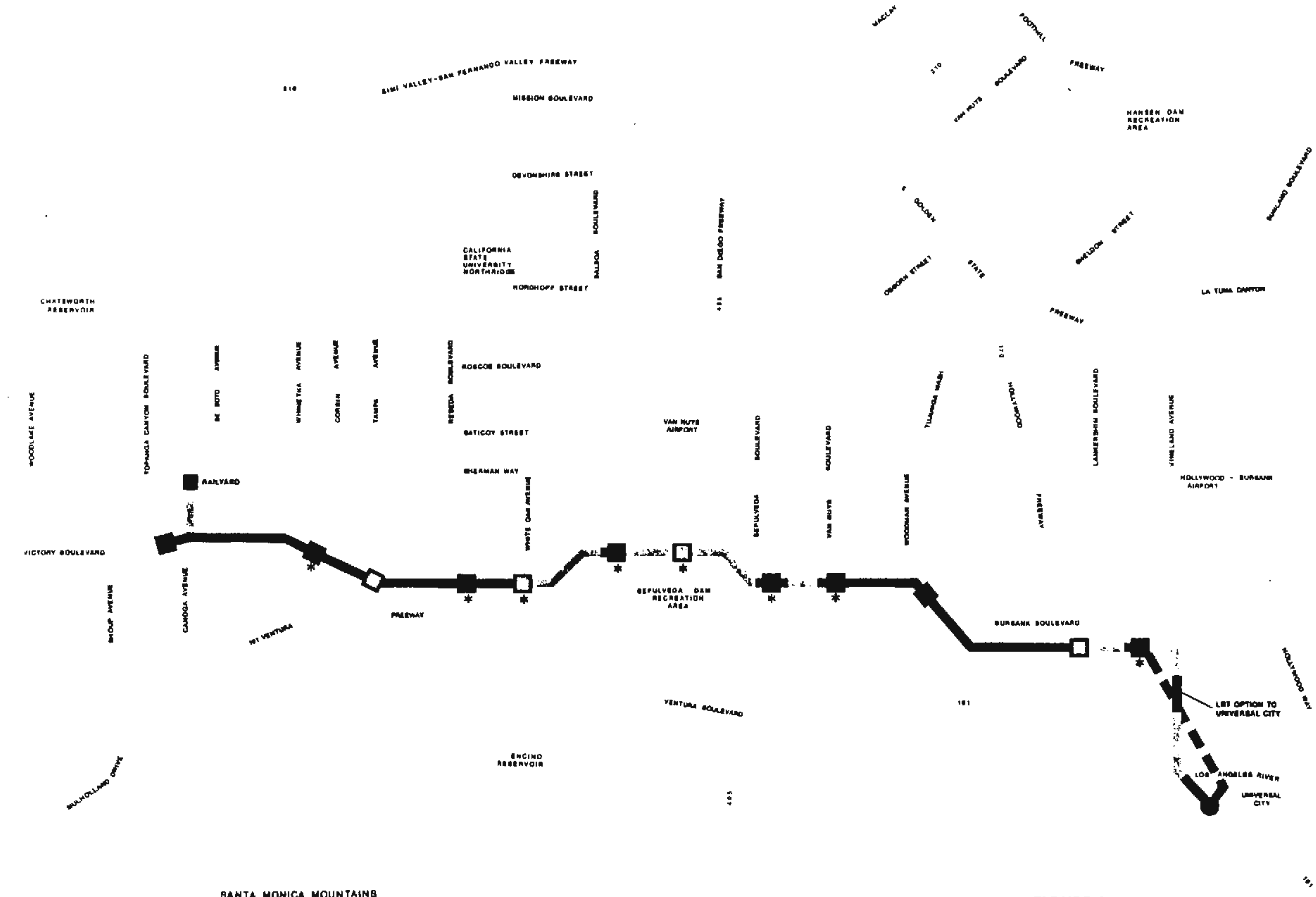
Automated Rail Transit (ART): will be similar to the system which LACTC is developing for the Century/El Segundo line. Power is supplied via a "third rail" rather than an overhead catenary system. The system is automated, meaning there are no drivers, and the system will operate on exlusive ROW's. Trains will be controlled at a central facility by a computer.

Metro Rail (Metro): a segment of this system is currently being built by SCRTD in downtown Los Angeles. The system is referred to generically as a heavy rail system. Power is supplied via a "third rail". This system will be operated both manually and by computer. The system operates on exclusive ROW's.

The EIR will also evaluate other technology options including monorail and magnetic levitation where appropriate on both route alternatives. Finally, the EIR will include a "No Project" Alternative for comparative purposes.

Figures 1 through 5 present the different approximate profile alternatives to be studied. The figures indicate the profiles proposed for each track segment by alternative and the station configuration. Table 1 provides a summary of the characteristics of each alternative profile to be studied. Table 2 provides a summary of the station characteristics of each alternative.

For the Ventura Freeway alternatives, the route varies along the freeway corridor according to the profile. The Ventura Aerial Metro/ART alternative remains along the south side of the freeway, whereas the Ventura Subway Metro/ART alternative is able to vary between the north and south side to optimize parking and access opportunities at stations along the route. These variations in locations are noted in Table 2.



San Fernando Valley Rail Transit Project

LACTC

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

LEGEND

- AT-GRADE (BERM AND TRENCH IF REQUIRED)
- AT-GRADE (BERM IF REQUIRED)
- DEEP-TRENCH
- CUT AND COVER
- AERIAL
- SUBWAY
- □ STATIONS
- * STATIONS WITH PARKING

FIGURE 1

BURBANK BRANCH

LIGHT RAIL ALTERNATIVE

0 4000 10000

Scale in feet

NORTH

4 - 4 - 1989

San Fernando Valley Rail Transit Project

LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION

NOTE: FOR LRT TRENCH ALTERNATIVE SUBSTITUTE DEEP TRENCH PROFILE FOR SUBWAY.

LEGEND

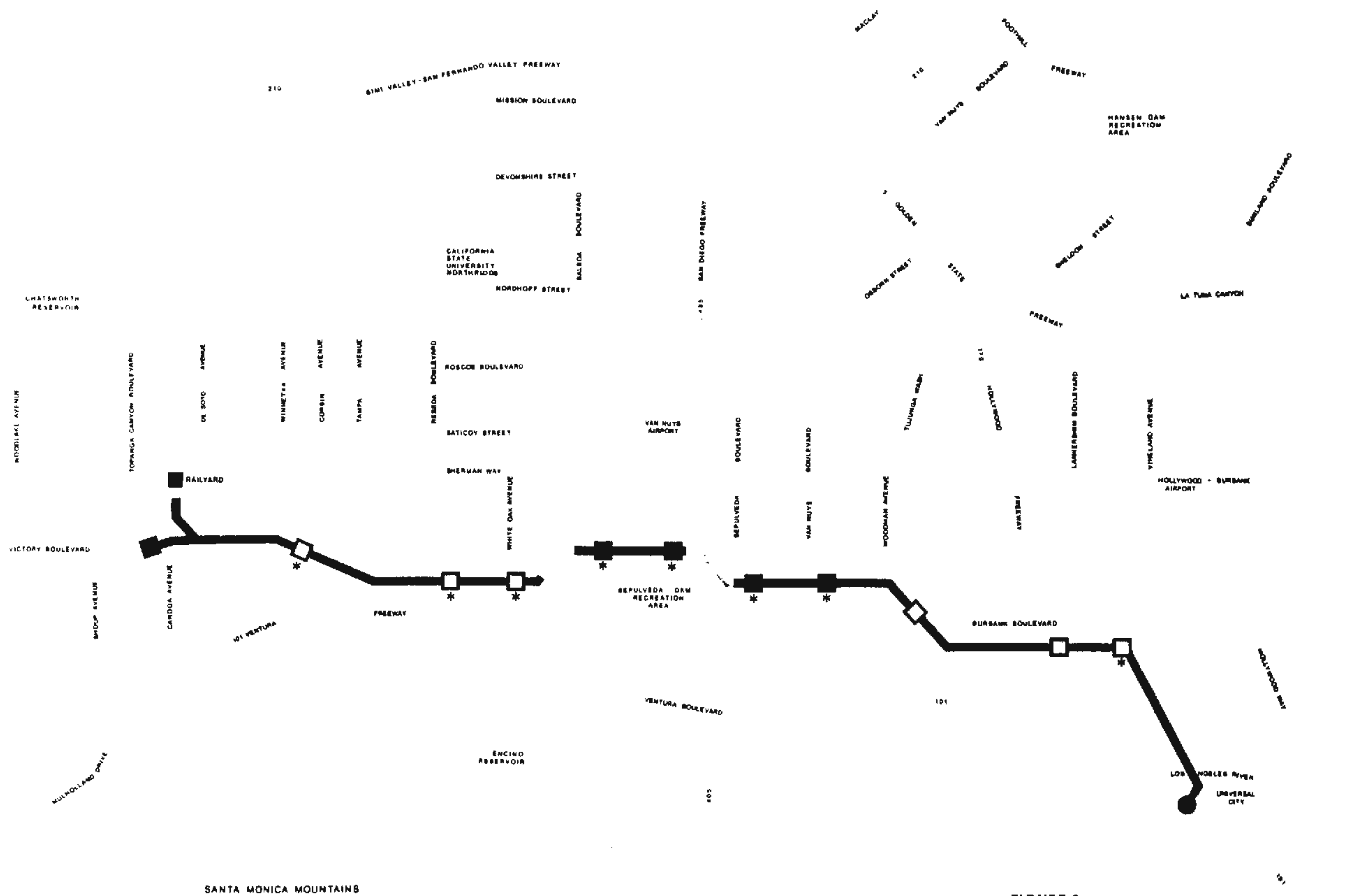
- AT-GRADE (BERM AND TRENCH IF REQUIRED)
- AT-GRADE (BERM IF REQUIRED)
- DEEP TRENCH
- CUT AND COVER
- AERIAL
- SUBWAY
- STATIONS
- * STATIONS WITH PARKING

FIGURE 2
BURBANK BRANCH
LIGHT RAIL SUBWAY ALTERNATIVE

0 4000' 10000'
Scale in feet

NORTH

4-4-1989



San Fernando Valley Rail Transit Project

LACTC

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

LEGEND

- AT-GRADE (BERM AND TRENCH IF REQUIRED)
- AT-GRADE (BERM IF REQUIRED)
- DEEP-TRENCH
- CUT AND COVER
- AERIAL
- SUBWAY
- STATIONS
- ATIONS ARKING

FIGURE 3

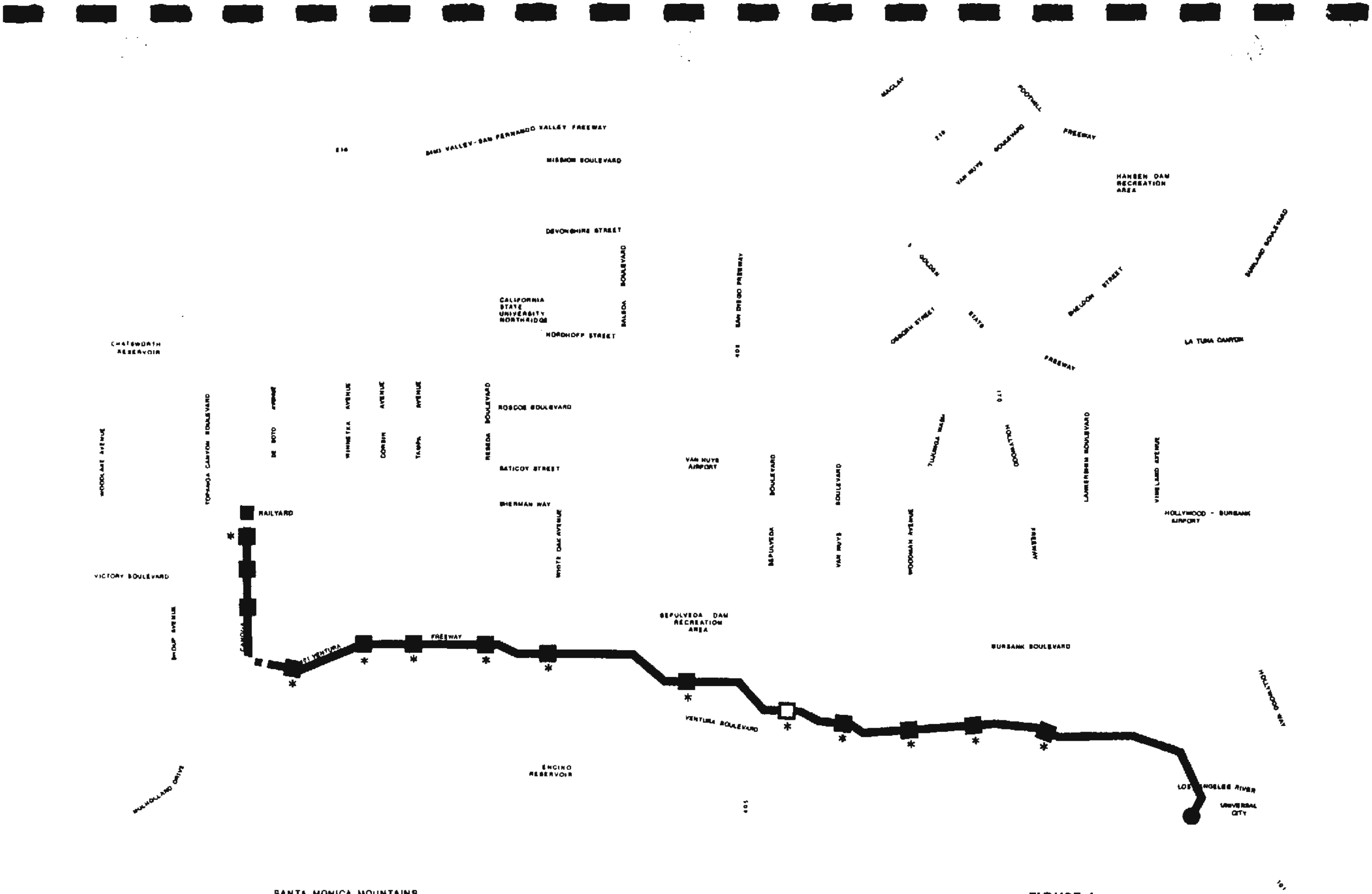
BURBANK BRANCH

METRO RAIL EXTENSION AND ART ALTERNATIVES

0 5000 10000

Scale in feet

NORTH



San Fernando Valley Rail Transit Project

LACTC

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

LEGEND

- AT-GRADE (BERM AND TRENCH IF REQUIRED)
- AT-GRADE (BERM IF REQUIRED)
- DEEP-TRENCH
- CUT AND COVER
- AERIAL
- SUBWAY
- STATIONS
- STATIONS WITH PARKING

FIGURE 4

VENTURA FREEWAY

METRO RAIL EXTENSION AND ART AERIAL ALTERNATIVES

0 4000' 10000'

Scale in feet

NORTH

4 - 4 - 1989

San Fernando Valley Rail Transit Project

LACTC

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

LEGEND

- AT-GRADE (BERM AND TRENCH IF REQUIRED)
- AT-GRADE (BERM IF REQUIRED)
- DEEP TRENCH
- CUT AND COVER
- AERIAL
- SUBWAY
- □ STATIONS
- * STATIONS WITH PARKING

FIGURE 5

VENTURA FREEWAY

METRO RAIL EXTENSION AND ART SUBWAY ALTERNATIVES

0 4000' 10000'

Scale in feet

NORTH

4 - 4 - 1989

TABLE 1
SAN FERNANDO VALLEY RAIL TRANSIT
COMPARISON OF ALTERNATIVES
BURBANK AND VENTURA FREEWAY ROUTE ALTERNATIVES (1)

ALTERNATIVE	PROFILE CHARACTERISTICS (IN MILES) SUBWAY	%	AERIAL	%	AT-GRADE	%	LAYOVER YARD	MAINTENANCE YARD
BURBANK								
METRO/ART	**11.02**	(68)	3.32	(21)	1.76	(11)	YES	NO/YES (2)
LRT	1.69	(10)	4.51	(27)	**10.28**	(63)	YES	YES
LRT-SUBWAY (3)	**9.22**	(56)	2.84	(17)	4.42	(27)	YES	YES
VENTURA								
SUBWAY-METRO/ART	**11.30**	(69)	5.00	(31)	-		YES	NO/YES (2)
AERIAL-METRO/ART	2.54	(16)	**13.76**	(84)	-		YES	NO/YES (2)

(1) Preliminary, subject to study.
(2) Metro does not require a maintenance yard, ART requires a maintenance yard.
(3) The LRT Trench alternative has the same profile as the LRT Subway alternative except deep trench is generally substituted for subway.
Source: LACTC/Gruen Associates.

TABLE 2
SAN FERNANDO VALLEY RAIL TRANSIT
SUMMARY OF STATION CHARACTERISTICS
BURBANK AND VENTURA FREEWAY ROUTE ALTERNATIVES (1)

STATION		PROPOSED PARKING	STATION CONFIGURATION			
BURBANK BRANCH			LRT	LRT SUBWAY	LRT TRENCH	METRO/ ART
1.	Topanga	NO	AERIAL	AERIAL	AERIAL	AERIAL
2.	Winnetka	YES	AERIAL	SUBWAY	DEEP T	SUBWAY
3.	Tampa	NO	AT-GRADE	-	-	-
4.	Reseda	YES	AERIAL	SUBWAY	C & C	SUBWAY
5.	White Oak	YES	AT-GRADE	SUBWAY	C & C	SUBWAY
6.	Balboa	YES	AERIAL	AERIAL	AERIAL	AERIAL
7.	Woodley	YES	AT-GRADE	AT-GRADE	AT-GRADE	AERIAL
8.	Sepulveda	YES	AERIAL	AERIAL	AERIAL	AERIAL
9.	Van Nuys	YES	AERIAL	AERIAL	AERIAL	AERIAL
10.	Fulton/Burbank	NO	SUBWAY	SUBWAY	DEEP T	SUBWAY
11.	Laurel Cyn	NO	AT-GRADE	SUBWAY	DEEP T	SUBWAY
12.	N. Hollywood	YES	(2)	(2)	(2)	SUBWAY

VENTURA FREEWAY		PARKING AERIAL	PARKING SUBWAY	METRO/ART SUBWAY (3)	METRO/ART AERIAL
1.	Vanowen	YES	YES	AERIAL	AERIAL
2.	Victory	NO	NO	AERIAL	AERIAL
3.	Oxnard	NO	NO	AERIAL	AERIAL
4.	DeSoto	YES	YES	AERIAL	AERIAL
5.	Winnetka	YES	YES	AERIAL	AERIAL
6.	Tampa	YES	YES	AERIAL	AERIAL
7.	Reseda	YES	YES	SUBWAY	AERIAL
8.	White Oak	YES	NO	SUBWAY	AERIAL
9.	Hayvenhurst	YES	YES	AERIAL/N	AERIAL
10.	Sepulveda	YES	YES	SUBWAY/N	SUBWAY
11.	Van Nuys	YES	YES	SUBWAY	AERIAL
12.	Woodman	YES	YES	SUBWAY/N	AERIAL
13.	Coldwater Cyn	YES	NO	SUBWAY/N	AERIAL
14.	Laurel Canyon	YES	NO	SUBWAY/N	AERIAL
15.	Universal City	YES	YES	SUBWAY	SUBWAY

(1) Preliminary, subject to revision pending continuing studies.
(2) Station may be aerial or at-grade depending on final route selection.
(3) Stations are located on the south side of the Ventura Freeway unless noted by 'N' in which case the station is on the north side.

Source: LACTC/Gruen Associates.

SETTING AND SCOPE OF THE EIR

The proposed project is located in the City of Los Angeles and forms a part of a larger regional transit system. This segment of the system would serve the San Fernando Valley, linking it with Metro Rail service to downtown Los Angeles and beyond.

The proposed project will traverse six City of Los Angeles community plan areas, including the communities of Canoga Park/Winnetka/Woodland Hills; Encino/Tarzana; Van Nuys/North Sherman Oaks; Reseda/West Van Nuys; North Hollywood; and Sherman Oaks/Studio City/Toluca Lake.

The entire project lies within a developed urban setting. As such it has the potential to create varying degrees of adverse environmental impacts. The following key impacts, as well as others which may be identified during the formal environmental process, will be assessed in the EIR for this project:

- Noise/vibration effects associated with rail transit operations.
- Circulation and parking effects, including cross-street traffic conflicts, loss of existing street capacity, station access and possible spillover of station-area parking demand into nearby areas.
- Visual effects related to vehicles, an overhead catenary system (Burbank Branch LRT only), aerial (elevated) guideway structures and stations, and potential privacy effects.
- Land use effects including community and business disruption, property acquisition, and potential pressure for land use changes and economic impacts.
- Safety and security effects including pedestrian and vehicular accident potential, on-board security, and station-area security.
- Recreation and parkland impacts, including potential partial acquisition or effects on adjacent recreation areas.
- Construction impacts, including the temporary closure of traffic lanes, utility relocations, and noise and dust associated with heavy construction.

Some of the probable impacts of these issues can be mitigated via the incorporation of specific design and/or operational features. The EIR will discuss such mitigation measures and their effectiveness in reducing the impacts.

EIR SCHEDULE

The anticipated environmental review schedule is as follows:

Issuance of Draft Environmental Impact Report (DEIR):
October 2, 1989

Public Review Period: October to Mid-November, 1989 (45 days)

Public Hearing: Mid-November, 1989

Final Environmental Impact Report (FEIR): February, 1990

2.0 ENVIRONMENTAL CHECKLIST

The following checklist of environmental issues complies with Section 15063 of the California Environmental Quality Act (CEQA) guidelines.

ENVIRONMENTAL CHECKLIST

I. **Background**

1. Name of Proponent Los Angeles County Transportation Commission

2. Address and Phone Number of Proponent 403 West Eighth Street, Suite 500, Los Angeles, CA 90014 (213) 626-0370

3. Date of Checklist Submitted April 25, 1989

4. Name of Proposal San Fernando Valley Rail Transit Project

II. **Environmental Impacts**
(Explanations of all answers are provided in Attachment A sheets.)

	Yes	**Maybe**	**No**
1. Earth. Will the proposal result in:			
a. Unstable earth conditions or in changes in geologic substructures?		X	
b. Disruptions, displacements, compaction or overcovering of the soil?	X		
c. Change in topography or ground surface relief features?			X
d. The destruction, covering or modification of any unique geologic or physical features?			X
e. Any increase in wind or water erosion of soils, either on or off the site?		X	
f. Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake?			X
g. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards?		X	

	Yes	Maybe	No
2. Air. Will the proposal result in:			
a. Substantial air emissions or deterioration of ambient air quality?		X	
b. The creation of objectionable odors?			X
c. Alteration of air movement, moisture, or temperature, or any change in climate, either locally or regionally?			X
3. Water. Will the proposal result in:			
a. Changes in currents, or the course of direction of water movements, in either marine or fresh waters?			X
b. Changes in absorption rates, drainage patterns, or the rate and amount of surface runoff?			X
c. Alterations to the course or flow of flood waters?			X
d. Change in the amount of surface water in any water body?			X
e. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity?			X
f. Alteration of the direction or rate of flow of ground waters?		X	
g. Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?		X	
h. Substantial reduction in the amount of water otherwise available for public water supplies?			X
i. Exposure of people or property to water related hazards such as flooding or tidal waves?			X

		Yes	Maybe	No
4.	Plant Life. Will the proposal result in:			
	a. Change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, and aquatic plants)?		X	
	b. Reduction of the numbers of any unique, rare or endangered species of plants?		X	
	c. Introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species?			X
	d. Reduction in acreage of any agricultural crop?			X
5.	Animal Life. Will the proposal result in:			
	a. Change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms or insects)?		X	
	b. Reduction of the numbers of any unique, rare or endangered species of animals?			X
	c. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals?			X
	d. Deterioration to existing fish or wildlife habitat?		X	
6.	Noise. Will the proposal result in:			
	a. Increases in existing noise levels?	X		
	b. Exposure of people to severe noise levels?		X	

		Yes	Maybe	No
7.	Light and Glare. Will the proposal produce new light or glare?	X		
8.	Land Use. Will the proposal result in a substantial alteration of the present or planned land use of an area?	X		
9.	Natural Resources. Will the proposal result in:			
	a. Increase in the rate of use of any natural resources?			X
10.	Risk of Upset. Will the proposal involve:			
	a. A risk of an explosion or the release of hazardous substances (including, but not limited to, oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions?		X	
	b. Possible interference with an emergency response plan or an emergency evacuation plan?			X
11.	Population. Will the proposal alter the location, distribution, density, or growth rate of the human population of an area?		X	
12.	Housing. Will the proposal affect existing housing, or create a demand for additional housing?		X	
13.	Transportation/Circulation. Will the proposal result in:			
	a. Generation of substantial additional vehicular movement?	X		
	b. Effects on existing parking facilities, or demand for new parking?	X		
	c. Substantial impact upon existing transportation systems?	X		
	d. Alterations to present patterns of circulation or movement of people and/or goods?	X		

	Yes	Maybe	No
e. Alterations to waterborne, rail or air traffic?			X
f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians?		X	
14. Public Services. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas:			
a. Fire protection?		X	
b. Police protection?		X	
c. Schools?		X	
d. Parks or other recreational facilities?	X		
e. Maintenance of public facilities, including roads?			X
f. Other governmental services?			X
15. Energy. Will the proposal result in:			
a. Use of substantial amounts of fuel or energy?	X		
b. Substantial increase in demand upon existing sources or energy, or require the development of new sources of energy?			X
16. Utilities. Will the proposal result in a need for new systems, or substantial alterations to utilities: (See response)	X		
17. Human Health. Will the proposal result in:			
a. Creation of any health hazard or potential health hazard (excluding mental health)?			X
b. Exposure of people to potential health hazards?			X

	Yes	Maybe	No
18. Aesthetics. Will the proposal result in the obstruction of any scenic vista or view open to the public, or will the proposal result in the creation of an aesthetically offensive site open to public view?	X		
19. Recreation. Will the proposal result in an impact upon the quality or quantity of existing recreational opportunities?	X		
20. Cultural Resources.			
a. Will the proposal result in the alteration of or the destruction of a prehistoric or historic archaeological site?			X
b. Will the proposal result in adverse physical or aesthetic effects to a prehistoric or historic building, structure, or object?			X
c. Does the proposal have the potential to cause a physical change which would affect unique ethnic cultural values?		X	
d. Will the proposal restrict existing religious or sacred uses within the potential impact area?		X	
21. Mandatory Findings of Significance.			
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?			X

	Yes	Maybe	No
b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time while long-term impacts will endure well into the future).	___	______	X
c. Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environment is significant).	___	______	X
d. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	___	X	___

III. **Discussion of Environmental Evaluation**
(Narrative description of environmental impacts).

See Attachment A

IV. **Determination**
(To be completed by the Lead Agency).

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. [ ]

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A NEGATIVE DECLARATION WILL BE PREPARED. [ ]

I find the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. [X]

[signature]

4-21-89

Date

Neil Peterson
Executive Director
Los Angeles County
Transportation Commission

Attachment A
SAN FERNANDO VALLEY RAIL TRANSIT PROJECT

ENVIRONMENTAL CHECKLIST FORM

Responses to "Yes", "Maybe", and "No" Answers:

1. Earth

a. Maybe. Portions of all alternatives would be built under properties and streets using both tunnel and cut-and-cover methods of construction. Rock and alluvium are expected to be encountered and removed during excavation. Tunnels and subsurface stations would change the geologic substructure. The EIR will examine the geotechnical impacts of the excavations, including substructure changes, slope stability, soil and rock removal and the potential for subsidence of surface soils over tunneling activity.

b. Yes: Alternatives that would be situated on an embankment or below existing grade would require earthwork and would constitute a disruption or displacement of the soil. Paving of undeveloped areas for parking lots would also represent a disruption.

c. No: Topographic or ground surface relief feature changes would be minor in sloped portions of the corridors, the insignificant changes need not be analyzed further in the EIR.

d. No: Construction of any of the rail transit alternatives would not involve destruction, covering, or modification of any unique geologic or physical features.

e. Maybe: Earthwork required for the construction of any alternative may create the potential for soil erosion during the construction period. The EIR will examine the erosion potential and recommend erosion control measures.

f. No: None of the rail transit alternatives would alter the deposition or erosion of beach sands, or change siltation, deposition or erosion which would modify a river or stream or bed of the ocean or bay, inlet or lake.

g. Maybe: There may be the potential for damage resulting from possible surface soil subsidence over those alternatives which involve tunneling. The EIR will examine the issue and recommend mitigation, if needed.

Attachment A (cont'd.)
SAN FERNANDO VALLEY RAIL TRANSIT PROJECT

ENVIRONMENTAL CHECKLIST FORM
Responses to "Yes", "Maybe", and "No" Answers:

2. Air

a. Maybe: The rail transit project would potentially create a beneficial impact to regional air quality by diverting vehicular trips to transit. However, any of the rail transit alternatives could potentially create localized "hot spots" around stations where slight increases in air emissions would occur. In addition, a temporary, construction-related increase in air emissions may occur from use of heavy construction equipment. Potential increases in dust emissions during construction activities are expected to be controlled by watering the soil.

b. No: None of the rail transit alternatives would create significant objectionable odors.

c. No: None of the rail transit alternatives would alter air movement, moisture, or temperature, or change climate, either locally or regionally.

3. Water

a. No: It is not anticipated that any of the rail transit alternatives would affect the direction of water movements.

b. No: The paving of undeveloped areas to create surface parking lots for any of the rail transit alternatives would insignificantly increase the impervious surface area.

c. No: Both of the route alternatives traverse portions of floodplains but none of the rail transit alternatives would alter the course or flow of floodwaters.

d. No: None of the rail transit alternatives would increase or decrease the amount of surface water in any water body.

e. No: The project does not include any element(s) that would be discharged into surface waters or that would alter surface water quality.

f. Maybe: The direction or rate of ground water flow could be altered by any alternative that would require significant cuts below grade in specific areas with a high water table.

Attachment A (cont'd.)
SAN FERNANDO VALLEY RAIL TRANSIT PROJECT

ENVIRONMENTAL CHECKLIST FORM
Responses to "Yes", "Maybe", and "No" Answers:

3. Water (cont'd)

g. Maybe: Subway alternatives could alter the quantity of ground waters through interception of an aquifer by cuts or excavations.

h. No: The project would not include any element(s) that would reduce the amount of water available for public water supplies.

i. No: Because the rail transit alternatives would not contain water and would not affect the flow of floodwaters, the project is not expected to expose people or property to water related hazards.

4. Plant Life

a. Maybe: Although all alternatives would be developed in an urban area, there may be some plant species along each route that would be disrupted or removed during construction. This is particulary applicable to the biological resources in Bull Creek east of Balboa Boulevard with the Burbank Branch alternatives.

b. Maybe: See response to 4a.

c. No: The project would introduce landscaping along portions of some of the routes but it is not anticipated that this vegetation would introduce new species of plants into an area.

d. No: None of the project alternatives would result in a reduction of acreage of any agricultural crop.

5. Animal Life

a. Maybe: See response to 4a.

b. No: There are no state or federally designated rare, threatened, or endangered animal species located along the route alternative corridors.

Attachment A (cont'd.)
SAN FERNANDO VALLEY RAIL TRANSIT PROJECT

ENVIRONMENTAL CHECKLIST FORM
Responses to "Yes", "Maybe", and "No" Answers:

5. Animal Life (cont'd)

c. No: The project would not include any element(s) that would introduce new species of animals into an area.

d. Maybe: See response to 4a.

6. Noise

a. Yes: Each of the rail transit alternatives would result in increases in existing noise levels at station locations, at at-grade crossings (Burbank LRT Alternative-depending on crossing controls), and along the entire route in areas particularly sensitive to noise such as residential neighborhoods.

b. Maybe: The use of certain types of construction equipment could potentially expose people adjacent to the construction site to substantial increases in noise levels during some construction periods. Such construction will adhere to City of Los Angeles ordinances affecting construction equipment noise and hours of operation. It is not anticipated that operation of the project, after incorporation of mitigation measures, would expose people to adverse noise levels.

7. Light and Glare

Yes: New sources of light and glare would be created by any of the rail transit alternatives for parking and operation of stations and by aerial sections and stations in residential areas.

8. Land Use

Yes: Rail transit alternatives would require the acquisition of property which would alter the present land use of the area. The potential also exists for rail transit to create potential land use changes; however, actual zoning changes can only be approved by the City of Los Angeles.

9. Natural Resources

a. No: The rate of use of any natural resource would not be increased significantly as a result of this project.

Attachment A (cont'd.)
SAN FERNANDO VALLEY RAIL TRANSIT PROJECT

ENVIRONMENTAL CHECKLIST FORM
Responses to "Yes", "Maybe", and "No" Answers:

10. Risk of Upset

a. Maybe: Safety measures would be implemented to reduce the likelihood of conflicts, but it is possible that conflicts could occur between rail transit and automobiles or other vehicles (as is currently the case at existing rail crossings) which could constitute a risk of upset.

b. No: No impacts to local emergency response or evacuation plans are anticipated.

11. Population

Maybe: Each of the rail transit alternatives could alter the location, distribution, density, or growth rate of the human population due to greater transportation access to the areas served by the selected route. The rail transit system, particularly in station areas, may encourage more intensive commercial and/or residential development. Many of these factors, however, are dependent on growth and land use planning policies of the City of Los Angeles.

12. Housing

Maybe: Some residential displacement may occur with construction of any of the rail transit alternatives.

13. Transportation

a. Yes: Each of the rail transit alternatives would generate additional vehicular movement in highly localized areas to and from station locations.

b. Yes: Each of the rail transit alternatives would create a demand for new parking facilities at rail transit stations.

c. Yes: Some increase in vehicular traffic can be expected around stations during peak periods and during construction of the rail transit system.

d. Yes: The proposed rail transit alternatives would alter the present pattern of circulation as a result of traffic traveling to and from station locations.

ENVIRONMENTAL CHECKLIST FORM
Responses to "Yes", "Maybe", and "No" Answers:

13. Transportation (cont'd)

e. No: It is assumed that the Burbank Branch line will be abandoned by Southern Pacific in the future.

f. Maybe: Safety criteria of agencies that have control over safety would be implemented at at-grade crossings associated with the Burbank Branch LRT Alternative (such as speed reductions, crossing gates, bells, and traffic signal lights). Despite these measures, it is possible for conflicts to occur between rail transit vehicles and pedestrians or motorists.

14. Public Services

a. Maybe: See 10a.

b. Maybe: Although transit security personnel would be available, existing police protection may have to be enhanced.

c. Maybe: The walking patterns of school children may be altered by the Burbank Branch LRT alternative. Such pedestrian routes would only be allowed at protected crossings of the rail line.

d. Yes: Parkland would be used in the following locations for rail transit right-of-way: Burbank Branch Alternatives would affect the little league fields north of Pierce College and portions of the Sepulveda Basin recreation area; Ventura Freeway Alternatives would affect portions of the Sepulveda Basin recreation area around Hayvenhurst Avenue.

e. No: None of the alternatives would affect maintenance of public facilities including roads.

f. No: None of the rail transit alternatives would affect any other governmental services.

Attachment A (cont'd.)
SAN FERNANDO VALLEY RAIL TRANSIT PROJECT

ENVIRONMENTAL CHECKLIST FORM
Responses to "Yes", "Maybe", and "No" Answers:

15. Energy

a. Yes: The project will result in the increased use of electrical energy. Gasoline consumption is expected to decrease from reduced automobile usage, which has the potential to offset the increased use of electricity needed to operate the transit system.

b. No: Operation of any of the rail transit alternatives may result in an increase in electrical use but the demand is not expected to be substantial nor is the demand expected to require the development of new sources of energy.

16. Utilities

Yes: Construction of any of the rail transit alternatives may require the relocation of utilities. Electrical utility substations will also be required to provide electric power to the transit system.

17. Human Health

a. No: The project would not include any element(s) that would create a health hazard or a potential health hazard.

b. No: The project would not include any element(s) that would expose people to potential health hazards.

18. Aesthetics

Yes: The introduction of the overhead catenary system with the Burbank Branch LRT Alternatives will create a new visual element for that route. Elevated guideways and stations of all alternatives will affect vistas, potentially create shadow effects on adjacent properties, and affect privacy of adjacent properties.

19. Recreation

Yes: See 14d.

Attachment A (cont'd.)
SAN FERNANDO VALLEY RAIL TRANSIT PROJECT

ENVIRONMENTAL CHECKLIST FORM
Responses to "Yes", "Maybe", and "No" Answers:

20. Cultural Resources

a. No: Based on a review of existing data, it is not expected that construction of any of the rail transit alternatives would affect undiscovered prehistoric or historic archaeological sites which may be present in the Sepulveda Basin. Coordination with the U.S. Army Corps of Engineers regarding this issue will be maintained throughout the environmental process.

b. No: It is not expected that any of the rail transit alternatives would affect the physical or aesthetic environment of a prehistoric or historic resource.

c. Maybe: Measures to facilitate pedestrian crossings of the Burbank Branch LRT Alternative transit tracks would be implemented at at-grade crossing locations. It is possible that implementation of the transit system, with the introduction of fenced right-of-way in some locations and the frequency with which the vehicles would pass, could still affect walking patterns of individuals during religious periods.

d. Maybe: The Burbank Branch Alternatives pass by religious institutions which may be affected by noise and/or vibration generated from the rail transit vehicles, as well as potential inconvenience in walking to religious services.

21. Mandatory Findings of Significance

a. No: None of the rail transit alternatives would reduce the number of rare or endangered plants or animals. It is also not anticipated that the project would substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, or eliminate important examples of the major periods of California history or prehistory.

b. No: While short-term impacts during construction may be significant, the project will assist in the long-term goal of creating a balanced transportation system, with attendant contributions to air quality, transportation choice, and possible energy savings.

c. No: The effects determined to be insignificant would not have the potential to cumulatively affect the environment in a significant manner.

Attachment A (cont'd.)
SAN FERNANDO VALLEY RAIL TRANSIT PROJECT

ENVIRONMENTAL CHECKLIST FORM
Responses to "Yes", "Maybe", and "No" Answers:

21. Mandatory Findings of Significance (cont'd)

d. Maybe: Each of the rail transit alternatives may produce environmental effects which could cause substantial adverse effects on human beings, either directly or indirectly.

STATE OF CALIFORNIA—OFFICE OF THE GOVERNOR GEORGE DEUKMEJIAN, Governor

OFFICE OF PLANNING AND RESEARCH
1400 TENTH STREET
SACRAMENTO, CA 95814

DATE: May 1, 1989

TO: Reviewing Agencies

RE: The County of Los Angeles' NOP for
San Fernando Valley Trai l Transit Project
SCH# 89050304

Attached for your comment is the County of Los Angeles' Notice of Preparation of a draft Environmental Impact Report (EIR) for the San Fernando Valley Trail Transit project.

Responsible agencies must transmit their concerns and comments on the scope and content of the EIR, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of this notice. We encourage commenting agencies to respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Steve Lantz
Los Angeles County
Transit Commission
403 W. 8th Street, Suite 500
Los Angeles, CA 90014

with a copy to the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the review process, call Garrett Ashley at 916/445-0613.

Sincerely,

David C. Nunenkamp
Chief
Office of Permit Assistance

Attachments

cc: Steve Lantz

SCH# 8? 950304

'S': Sent by Lead   ?: Sent by SCH

- [X] Bob Fletcher, Air Resources Board, 1102 Q Street, Sacramento, CA 95814, 916/322 8267
- [ ] Karen Cagle, Dept. of Boating & Waterways, 1629 S Street, Sacramento, CA 95814, 916/445 6281
- [ ] Gary L. Holloway, California Coastal Commission, 631 Howard Street, 4th Floor, San Francisco, CA 94105, 415/543 8555
- [ ] Eileen Allen, California Energy Commission, 1516 Ninth Street, Rm. 200, Sacramento, CA 95814, 916/324-3231
- [ ] Sandy Hesnard, Caltrans - Division of Aeronautics, P.O. Box 942874, Sacramento, CA 94274-0001, 916/324-1833
- [X] George Smith, Caltrans - Planning, P.O. Box 942874, Sacramento, CA 94274-0001, 916/445-5570
- [X] Dennis O'Bryant, Dept. of Conservation, 1416 Ninth Street, Room 1326-2, Sacramento, CA 95814, 916/322-5873
  - ( ) Div. of Mines and Geology
  - ( ) Div. of Oil and Gas
  - ( ) Land Resources Protect. Unit
- [ ] Vashek Cervinka, Dept. of Food and Agriculture, 1220 N Street, Room 104, Sacramento, CA 95814, 916/322-5227
- [ ] Douglas Wickizer, Dept. of Forestry, 1416 Ninth Street, Room 1516-2, Sacramento, CA 95814, 916/322 0128
- [ ] Robert Sleppy, Dept. of General Services, 400 P Street, Suite 3460, Sacramento, CA 95814, 916/324 0214
- [ ] Arlene Chance, Dept. of Health, 714 P Street, Room 1253, Sacramento, CA 95814, ?? 611
- [ ] Sgt. Jim Weddell, California Highway Patrol, Long Range Planning Section, Planning and Analysis Division, 2555 First Avenue, Sacramento, CA 95818, 916/445-1981
- [ ] William A. Johnson, Native American Heritage Comm., 915 Capitol Mall, Room 288, Sacramento, CA 95814, 916/322-7791
- [ ] Hans Kreutzberg, Office of Historic Preservation, P.O. Box 942896, Sacramento, CA 94296-0001, 916/322-9621
- [X] Mike Doyle, Dept. of Parks and Recreation, P.O. Box 942896, Sacramento, CA 94296-0001, 916/324 6421
- [X] George Hersh, Public Utilities Commission, 505 Van Ness Avenue, San Francisco, CA 94102, 415/557-1375 (8 597)
- [ ] Anna Leena Aronson, Reclamation Board, 1416 Ninth Street Room 204-8, Sacramento, CA 95814, 916/322-3740
- [ ] Norris Milliken, S.F. Bay Conservation & Dev't. Comm., 30 Van Ness Avenue, Room 2011, San Francisco, CA 94102, 415/557-3686
- [ ] Jeannie Blakeslee, Calif. Waste Management Board, 1020 Ninth Street, Room 300, Sacramento, CA 95814, 916/327-0434
- [ ] Ted Fukushima, State Lands Commission, 1807 - 13th Street, Sacramento, CA 95814, 916/322-7813
- [ ] Nadell Gayou, Dept. of Water Resources, 1416 Ninth Street, Room 215 4, Sacramento, CA 95814, 916/445-7416
- [ ] Reed Holderman, State Coastal Conservancy, 1330 Broadway, Suite 1100, Oakland, CA 94612, 415/464-1015
- [ ] DHS/TSCD:

Department of T[illegible]ation District Contacts

- [ ] Brent Soults, Caltrans, District 1, 1656 Union Street, Eureka, CA 95501, 707/445 6320 (8 538)
- [ ] Michelle Gallagher, Caltrans, District 2, 1657 Riverside Drive, Redding, CA 96001, 916/225 3259 (8 442)
- [ ] Brian J. Smith, Caltrans, District 3, 703 B Street, Marysville, CA 95901, 916/741 4277 (8 457)
- [ ] Gary Adams, Caltrans, District 4, P.O. Box 7310, San Francisco, CA 94120, 415/557 8371 (8 597)
- [ ] Jerry Laumer, Caltrans, District 5, P.O. Box 8114, San Luis Obispo, CA 93403 8114, 805/549 3161 (8 629)
- [ ] Nathan Smith, Caltrans, District 6, P.O. Box 12616, Fresno, CA 93778, 209/488 4088 (8 422)
- [X] Jeff Bingham, Caltrans, District 7, 120 South Spring Street, Los Angeles, CA 90012, 213/620 5335 (8 640)
- [ ] Guy Vlshal, Caltrans, District 8, 247 West Third Street, San Bernardino, CA 92403, 714/383 4557 (8 670)
- [ ] Andy Zellman, Caltrans, District 9, 500 South Main Street, Bishop, CA 93514, 619/872 0693 (8 627)
- [ ] Al Johnson, Caltrans, District 10, P.O. Box 2048, Stockton, CA 95201, 209/948 7838 (8 423)
- [ ] Jim Cheshire, Caltrans, District 11, P.O. Box 85406, 2829 Juan Street, San Diego, CA 92138 5406, 714/237 6755 (8 631)
- [ ] Al Fisher, Caltrans, District 12, 2501 Pullman St., Santa Ana, CA 92705, 714/724 2061

Fish and Game - Regional Offices

- [ ] A. Naylor, Regional Manager, Department of Fish and Game, 601 Locust, Redding, CA 96001, 916/225-2300 (8 442)
- [ ] Jim Messersmith, Regional Manager, Department of Fish & Game, 1701 Nimbus Road, Suite A, Rancho Cordova, CA 95670, 916/355 0922 (8 438)
- [ ] B. Hunter, Regional Manager, Department of Fish and Game, P.O. Box 47, Yountville, CA 94599, 707/944-2011 (8 577)
- [ ] G. Nokes, Regional Manager, Department of Fish and Game, 1234 East Shaw Avenue, Fresno, CA 93710, 209/222-3761 (8 421)
- [X] Fred A. Worthley, Jr., Reg. Manager, Department of Fish and Game, 330 Golden Shore, Suite 50, Long Beach, CA 90802, 213/590 5113 (8 635)
- [ ] Rolf E. Mall, Marine Resources Region, 330 Golden Shore, Suite 50, Long Beach, CA 90802, 213/590 5155 (8 635)

State Water Resources Control Board

- [ ] Jean Juranecich, State Water Resources Control Board, Division of Loans & Grants, P.O. Box 944212, Sacramento, CA 94244 2120, 916/739 4416
- [ ] Ed Anton, State Water Resources Control Board, Division of Water Quality, P.O. Box 100, Sacramento, CA 95801, 916/445-9552
- [ ] Dave Beringer, State Water Resources Control Board, Delta Unit, P.O. Box 2000, Sacramento, CA 95810, 916/322 9870
- [ ] Mike Falkenstein, State Water Resources Control Board, Division of Water Rights, 901 P Street, Sacramento, CA 95814, 916/324-5636
- [ ] OTHER:

Regional Water Q[illegible] Board

- [ ] NORTH CO[illegible] REGION (1), 1440 Guerneville Rd., Santa Rosa, CA 95401, 707/576 2220 (8 590)
- [ ] SAN FRANCISCO BAY REGION (2), 1111 Jackson Street, Room 6000, Oakland, CA 94607, 415/464-1255 (8 561)
- [ ] CENTRAL COAST REGION (3), 1102 A Laurel Lane, San Luis Obispo, CA 93401, 805/549 3147 (8 629)
- [X] LOS ANGELES REGION (4), 107 South Broadway, Room 4027, Los Angeles, CA 90012, 213/620 4460 (8 640)
- [ ] CENTRAL VALLEY REGION (5), 3443 Routier Road, Suite A, Sacramento, CA 95827-3098, 916/361-5600
  - ( ) Fresno Branch Office, 3374 East Shields Avenue, Room 18, Fresno, CA 93726, 209/445-5116 (8 421)
  - ( ) Redding Branch Office, 100 East Cypress Avenue, Redding, CA 96002, 916/225 2045 (8 442)
- [ ] LAHONTAN REGION (6), 2092 Lake Tahoe Boulevard, P.O. Box 9428, South Lake Tahoe, CA 95731, 916/544 3481
  - ( ) Victorville Branch Office, 15371 Bonanza Road, Victorville, CA 92392 2494, 619/241-6583
- [ ] COLORADO RIVER BASIN REGION (7), 73 271 Highway 111, Suite 21, Palm Desert, CA 92260, 619/346 7491
- [ ] SANTA ANA REGION (8), 6809 Indiana Avenue, Suite 200, Riverside, CA 92506, 714/782 4130 (8 632)
- [ ] SAN DIEGO REGION (9), 9771 Clairemont Mesa Blvd., Suite B, San Diego, CA 92124-1331, 619/265-5114 (8 636)
- [X] APCD/AQMD: South Coast

NOVICK DEVELOPMENT COMPANY
17835 VENTURA BLVD., SUITE 104
ENCINO, CALIFORNIA 91316
(818) 345-8300 • (213) 873-5666

May 2, 1989

Mr. Steve Lantz, Community Relations Manager
Los Angeles County Transportation Commission
403 West Eighth Street #500
Los Angeles, CA 90014

Certified Mail-Return Receipt Requested

SUBJECT: Victory Associates & Warner Square

Dear Mr. Lantz:

The above subject properties are along the line of the Southern Pacific Burbank Branch Route. We are in receipt of your Notice of Preparation where it expresses the (SP) route will be an aerial route between Desoto and Canoga on the North side of Victory where the properties are situated. I am writing to you for two reasons:

1. We would like to be informed of any transit updates in the San Fernando Valley rail transit project.
2. Any information you have on the proposed aerial aspects, so we may know how it might affect our properties, such as how high it will be.

Sincerely,

WARNER SQUARE

Michael Novick

MN:jw

[illegible]

STATE OF CALIFORNIA—THE RESOURCES AGENCY

GEORGE DEUKMEJIAN, *Governor*

DEPARTMENT OF PARKS AND RECREATION
P.O. BOX 942896
SACRAMENTO 94296-0001
(916) 445-8006

L.A.C.T.C.
Received

1989 MAY -8 AM 10: 16

MICROFILMED
COPY IN RMC

04 1989

Mr. Steve Lantz
Community Relations Manager
Los Angeles County Transportation Commission
403 W. Eighth Street, Suite 500
Los Angeles, CA 90014

Dear Mr. Lantz:

NOI for DEIR on San Fernando
Valley Rail Transit Project

Thank you for the opportunity to comment on the referenced document.

Item 20.a, page 27 of the Environmental Checklist Form, indicates that "Coordination with the U.S. Army Corps of Engineers regarding this issue (of prehistoric or historic archeological sites) will be maintained throughout the environmental process."

We would like to know what the current or future involvement of the COE in this undertaking consists of. If the COE is or may be involved as a permit-granting agency, the applicability of Section 106 of the National Historic Preservation Act of 1966, as amended, to this undertaking should be investigated as soon as possible.

If you have any questions concerning our request, please contact Hans Kreutzberg of this office at your convenience.

Sincerely,

HKreutzberg for

Kathryn Gualtieri
State Historic Preservation Officer
Office of Historic Preservation

D-6339H

cc: U.S. Army Corps of Engineers
Los Angeles

STATE OF CALIFORNIA—HEALTH AND WELFARE AGENCY

GEORGE DEUKMEJIAN, Governor

DEPARTMENT OF HEALTH SERVICES

OXIC SUBSTANCES CONTROL DIVISION (REGION 3)
)5 N. SAN FERNANDO BOULEVARD, SUITE 300
BURBANK, CA 91504

MAY 12 1989

Mr. Steve Lantz
Los Angeles County Transportation Commission
403 West 8th Street, Suite 500
Los Angeles, CA 90014

Dear Mr. Lantz:

SAN FERNANDO VALLEY RAIL TRANSIT PROJECT, ENVIRONMENTAL CHECKLIST, APRIL 1989

The Risk of Upset section of the subject Environmental Checklist has identified the possibility of an explosion or the release of hazardous substances. As such, I suggest the Los Angeles County Transportation Commission perform, if not already done so, a historical records search to identify any hazardous waste facilities which may exist or may have existed on properties along the proposed construction routes.

By law, hazardous waste facilities are defined as those entities that treat, transfer, store, dispose or recycle hazardous waste.

All files in our office are arranged by facility name and are available for review. Active hazardous waste facilities can be looked up in the RCRA Generator List. This list is also available in our office for review. Abandoned hazardous waste facilities can be looked up in the Expenditure Plan for the Hazardous Substances Cleanup Bond Act of 1989, or the Cortese List. Both of these lists are available for purchase (forms enclosed). In the absence of a facility name, a facility address may be looked up in our Abandoned Site Program Information System (ASPIS) computer printout. ASPIS is a list of potential hazardous waste sites, and is also available in our office for review.

County health departments and the Regional Water Quality Control Board may also have files on hazardous waste facilities or sites that exist along the proposed construction routes.

If you have any questions please call me at (818) 567-3073.

Sincerely

Melissa Boggs

Melissa Boggs, Project Manager
Site Assessment Unit

MB:mb

Enclosure

ORDER FORM FOR JANUARY 1989 EXPENDITURE PLAN

The "Expenditure Plan for the Hazardous Substance Cleanup Bond Act of 1984, Revised January 1989 (originally published January 1985), Revision No. 3" is now available.

The cost for the two volume report is $45.00 which includes handling and postage.

Please complete the form below and mail with your check or money order to the address indicated below. Checks should be made payable to : State of California

Mail to: Department of General Services
Documents and Publications
4675 Watt Avenue
North Highlands, CA 95660
(916) 973-3700

Please send ________ copy(s) of the January 1989 Expenditure Plan. Stock Item No. 7540-958-1019-1

Ordered by: Name ______________________________

Address ______________________________

City ____________________ State ____________

Zip Code ________________

Amount Enclosed: Check $______________
Money Order $______________

Made Payable to: State of California

Cost per copy: $45.00

DEPARTMENT OF HEALTH SERVICES
TOXIC SUBSTANCES CONTROL DIVISION (REGION 3)
-05 N. SAN FERNANDO BOULEVARD, SUITE 300
URBANK, CA 91504

To whom it may concern:

The "Hazardous Waste and Substances Sites List, Pursuant to AB 3570" is available from:

Governor's Office of Planning and Research
ATT: Lynn Walters
1400 10th Street
Room 150
Sacramento, CA 95814

The list was compiled (July, 1987) with information from the State Water Resources Board, the California Waste Management Board and the State Department of Health Services. The cost per copy is $60.00. To obtain a copy provide the following:

Name: ______________________________

Street Address: ______________________________

City, State, Zip Code: ______________________________

Number of Copies: _____ x $60.00 = __________(total)

and a check or money order for the total.

If you have further questions regarding the list contact Christine Kline at (916) 323-7480.

STATE OF CALIFORNIA

GEORGE DEUKMEJIAN, *Governor*

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
N FRANCISCO, CA 94102-3298

May 15, 1989

Steve Lantz
Los Angeles County Transit Commission
403 W. 8th Street, Suite 500
Los Angeles, CA 90014

Subject: California Public Utilities Commission Response to NOP for San Fernando Valley Rail Transit Project (SCH #89050304)

Dear Mr. Lantz,

The California Public Utilities Commission's (CPUC) staff has reviewed the above-mentioned NOP. The CPUC has jurisdiction over aspects of project options including: side and overhead structure clearances (General Order 26-C); interlocking plants (General Order 33-B); construction and maintenance of at-grade crossings of railroads with public streets (General Order 72-B); protection of crossings at grade with roads (General Order 75-C); construction and maintenance of walkways adjacent to trackage (General Order 118); and the design, construction and operation of light rail transit systems including streetcar operations (General Ordedr 143).

We appreciate the opportunity to comment on the proposed project. If you have any questions regarding this comment, please call Roy Lathrop at (415) 557-1429.

Sincerely,

George Hersh
Environmental Program Manager
Environmental Section
Commission Advisory and Compliance Division

cc: State Clearinghouse

STATE OF CALIFORNIA
GEORGE DEUKMEJIAN, *Governor*

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD—
LOS ANGELES REGION
SOUTH BROADWAY, SUITE 4027
LOS ANGELES, CALIFORNIA 90012-4596
(213) 620-4460

L.A.C.T.C.
Received
1989 MAY 18

MICROFILMED
COPY IN RMC

May 12, 1989

File :700.300

Steve Lantz, Community Relations Manager
Los Angeles County
Transportation Commision
403 W. 8th St., Suite 500
Los Angeles, CA 90014

NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT (EIR) FOR THE SAN FERNANDO VALLEY RAIL TRANSIT PROJECT; SCH# 89050304: SAN FERNANDO VALLEY

We have reviewed the subject document regarding the proposed project, and have the following comments:

Based on the information provided, we recommend the following:

- [ ] We have no further comments at this time.
- [ ] The proposed project should address the attached comments.
- [ ] Negative Declaration. See attached comments.
- [ ] Mitigated Negative Declaration. See attached comments.
- [x] EIR. See attached information on scope and content.

Thank you for this opportunity to review your document. If you have any questions, please contact Rafael Rubalcava at (213) 620-3188.

Asaffell

ANNE SAFFELL
Environmental Specialist IV

cc: David Nunenkamp, State Clearinghouse

Attachment(s): EIR

1. The Draft EIR must include the following:

a. Description of the proposed project.

b. Description of the present environmental setting of the project site.

c. An estimate of the quantities of wastewaters to be contributed to the sanitary sewer system and the treatment plant that will serve the proposed development. The DEIR must demonstrate that the sanitary sewer system will have adequate capacity to collect, transport, treat and dispose of the additional flow in a satisfactory manner.

d. An analysis of the cumulative flows generated by all proposed, pending and approved projects within the service area of the designated treatment plant. If expansion of the treatment plant facilities will be required to meet projected wastewater demand, the DEIR must demonstrate that additional capacity will be available prior to new connections for proposed development.

e. Description of the quantity, quality, and location of discharges other than to the sanitary sewer system. The impacts of these discharges on groundwater and receiving water quality must be discussed.

0060466

L.A.C.T.C.

1989 MAY 23 AM 10:18

MICROFILMED
COPY IN RMC

MWD
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

MAY 22 1989

Mr. Steve Lantz
Community Relations Manager
Los Angeles County
Transportation Commission
403 West Eighth Street, Suite 500
Los Angeles, California 90014

Dear Mr. Lantz:

San Fernando Valley Rail Transit Project (Burbank Branch Alternative & Ventura Freeway Alternative)

We have reviewed your Notice of Preparation for the project identified above. The comments herein represent our response to your proposed action as a Responsible Agency under the California Environmental Quality Act.

Our review indicates that Metropolitan's Sepulveda Feeder is within the proposed project area.

In order to avoid possible conflicts, we request that prints of plans for any construction or other activity in the area of Metropolitan's facilities and rights-of-way be submitted for our review and written approval. You may obtain prints of detailed drawings of Metropolitan's facilities and rights-of-way by contacting Mr. James E. Hale, Senior Engineering Technician, at (213) 250-6564.

Very truly yours,

Roberta L. Soltz, Ph.D.
Environmental Branch Head

TJR/ms

MICROFILMED

Los Angeles Unified School District

LEONARD M. BRITTON
Superintendent of Schools

New Facilities Division

BONNIE R. JAMES
Division Administrator

ROBERT J. NICCUM
Director of Real Estate

0000412

L.A.C.T.C.
Received
1989 MAY 22 AM 11:50

Environmental Review File
San Fernando Valley Rail Transit

May 17, 1989

Steve Lantz
Community Relations Manager
Los Angeles County Transportation Commission
403 West Eighth Street, Suite 500
Los Angeles, CA 90014

Dear Mr. Lantz:

Re: San Fernando Valley Rail East-West Transit Project.

Thank you for providing us the opportunity to comment on the scope and content of the environmental impact report for the above-referenced project.

The Initial Study, in its environmental checklist form (at 14 c), indicates that schools may be impacted, commenting that the walking patterns of schoolchildren may be altered by the Burbank Branch LRT alternative. Our review of the routes and alternatives indicates that both of the routes, as well as several of the proposed stations, are close to several of our schools. Aside from walking patterns (which falls under our category of major concern, safety), schoolchildren and staff will be impacted by project noise, construction, traffic and parking. Please change the checklist and subsequent comments to reflect this definite impact.

Of all the potential adverse impact of the San Fernando Valley Rail East-West Transit Project, those relating to the safety of students are of prime concern to us. Attached as Appendix I to this letter is a list prepared by School Traffic and Safety Education Section entitled "SAFETY CONSIDERATIONS FOR THE LIGHT RAIL ENVIRONMENTAL IMPACT STUDY." Though it was prepared in response to the EIR for the Long Beach Corridor of the Light Rail, it is equally applicable for this project. We hope the EIR will address these items.

Another potential impact which concerns us greatly is noise. We want to ensure that project noise not unduly interfere with the teaching/learning environment of our schools. We therefore request that the environmental impact report provide measurements of ambient noise at schools which are located close to proposed routes or stations. These measurements should be taken during the planning process so as to precisely anticipate and mitigate future noise levels at these sensitive receptors.

Measurements should be taken both in a classroom, and outside the school, in areas which are located closest to the project noise. Measurements should be taken again at the same locations upon completion of the project to ensure adequate mitigation. Please coordinate the measuring of ambient noise with the Chief Safety Officer of the School District, Susie Wong, at (213) 742-7371.

It would be helpful for our comments and planning if, for each station and each route, you could list the schools which are located within one-quarter mile of the project.

If we can provide you with information to facilitate your preparation of the draft EIR, please contact Elizabeth Harris of this office at (213) 742-7581.

Very truly yours,

Robert J. Niccum
Director of Real Estate

c: Don Rector
Susie Wong

Attachment

APPENDIX I

SAFETY CONSIDERATIONS FOR THE LIGHT RAIL ENVIRONMENTAL IMPACT STUDY

A LIST OF SAFETY FACTORS

1. Conflicts of right of way for pedestrians, and motorists
2. Security of right of way - fences, walls
3. Time schedules for operation - changes of routes and movements for school buses and motorists
4. Trespass attractions and security
5. Off street walking along routes (access versus isolation for the area)
6. Overhead security of power sources
7. Noise control
8. Station locations (security safety)
9. Station lighting
10. Station parking arrangements
11. Overhead bridges or separations
12. Construction - (equipment)
13. Construction (material storage security)
14. Construction (disruption of travel)
15. Construction (noise)
16. Construction (disruption of parking)
17. Vandalism security
18. Speed of Rail units
19. Warning signs and barriers
20. Interfacing with L.A. City Traffic Engineers
21. Effect on Pedestrian Route to School
22. Police activities
23. Emergency Services and access
24. Handicap access
25. Social attractions and strangers
26. Public telephones
27. Weather factors

0010003

L.A.C.T.C.
Received

1989 MAY 24 AM 11:17

MICROFILMED
COPY IN RMC

May 22, 1989

Los Angeles County Transportation Commission
403 West Eighth Street, Suite 500
Los Angeles, California 90014

Attn: Mr. Steve Lantz

Dear Mr. Lantz,

I have reviewed your two (2) proposed routes for the San Fernando Valley Rail Transit Project. I find no conflict from any US Sprint facilities on any route.

If you have any questions or future plans, please do not hesitate to call me at (714) 874-8860.

Yours Truly

Lynn Durrett

Lynn Durrett
US Sprint OSF Engineer

SAN FERNANDO VALLEY RAIL TRANSIT PROJECT

Statement on the Notice of Preparation

Senator Alan Robbins
Councilman Marvin Braude
Revised May 26, 1989

The decision of the Los Angeles County Transportation Commission to postpone, until March 1990, any action on the next rail project to be funded is appreciated. It gives time for the San Fernando Valley Rail Project Environmental Impact Report to be completed and restores the chance that the Valley, with its 1.3 million population, will obtain the rail transit line it needs and deserves and that the residential community of the Valley will be protected.

In summary, the LACTC must commence the following actions immediately to provide an adequate EIR and to preserve our future ability to make the best possible decision for the Valley:

1. Assure that fully effective mitigation, consistent with reasonable economy, is included to assure the best possible alternatives within likely funding.

2. Pursue discussions with the Army Corps of Engineers and all other responsible agencies to make possible the use of the Sepulveda Basin for a transfer center.

3. Assess coordination with all other transit modes serving each alternative.

4. So long as there is full community mitigation, assess the redesign of the North Hollywood Metro Rail Station to provide compatibility with the through-running Metro Rail service option.

5. Assure that the only manner in which the Burbank Branch route alignment can be used is if there is a true subway configuration on at least the 3.6 mile segment between the Hollywood Freeway and Hazeltine Avenue, with a shaft in the central portion at least 25 feet below ground going under the Tujunga Wash and if there is full mitigation on any segment of the proposed 7.6 mile extension

from the North Hollywood Metro Rail station to Balboa Boulevard that is adjacent to a residential neighborhood.

6. Presuming that full mitigation is assured, pursue discussions with Southern Pacific Transportation Company for acquisition or optioning of the Burbank Branch to assure that this alternative is not precluded. Planning and construction of the proposed extension should only proceed west to Balboa Boulevard, if this plan is adopted, as there is no community consensus in place or obtainable within the current decision timetable for a route with adequate mitigation for any segment west of the Sepulveda Basin. Once a line to Balboa Boulevard is built, then service to Warner Center could be provided by express bus between Balboa Boulevard and Warner Center (along Victory Boulevard). The combined express bus-Metro Rail service across the Valley could provide a shorter cross-Valley travel time, due to the faster Metro Rail train, than crossing from Warner Center to North Hollywood via a light rail trolley. No train route should be planned or constructed west of the Sepulveda Basin so long as there is substantial community opposition to the route under consideration.

The EIR Notice of Preparation reflects the many years of study and public input on rail transit in the Valley. It narrows the choice to two routes, along the Ventura Freeway or along the Southern Pacific Burbank Branch. It retains wide technology options, including light rail, heavy rail, advanced light rail, monorail, and magnetic levitation.

While we firmly believe that some options are better for the Valley, it is inappropriate for LACTC to make a final decision until the EIR is completed. However, certain actions are necessary now to ensure that the EIR fully explores and compares the most appropriate options.

Valley residents have clearly indicated that any rail line must be fully mitigated, and further, that in residential areas this mitigation must involve underground sections. Because local funding is limited, every possible and acceptable economy must be made to construct the most miles of rail line in the Valley. These economies should examine possible reduction in the number and cost of stations, the costs of underground construction beyond the minimal subway portion acceptable, and the cost of each acceptable and feasible mitigation measures.

It is clear that transfer centers with adequate parking and bus transfer accomodations must be considered as links between the rail transit service and other modes of travel. The north edge of the Sepulveda Basin is an ideal location for such major transfer centers. Discussions should be initiated immediately with the Army Corps of Engineers to ensure possible, practical and environmentally sensitive designs in the Basin.

Coordination of service to the Valley should extend to other existing and planned transportation modes. The different options must be evaluated with respect to the ease of access by automobile from freeways and arterial roads, the quality of local and express buses serving each rail station, and the impact of each rail option on congestion, air quality, transfer convenience and the relative cost of the supporting bus network.

One of the more attractive options in the EIR is continuing service into the Valley using Metro Rail vehicles. This avoids the inconvenience of a transfer from one type of car to another for tens of thousands of Valley rail passengers each day. It would result in increased ridership and easier use by seniors and the disabled. Effective continuing service will require some design modifications to the North Hollywood Metro Rail station, which can be worked out once there is full community mitigation. The cost and benefit of this should be assessed in the EIR.

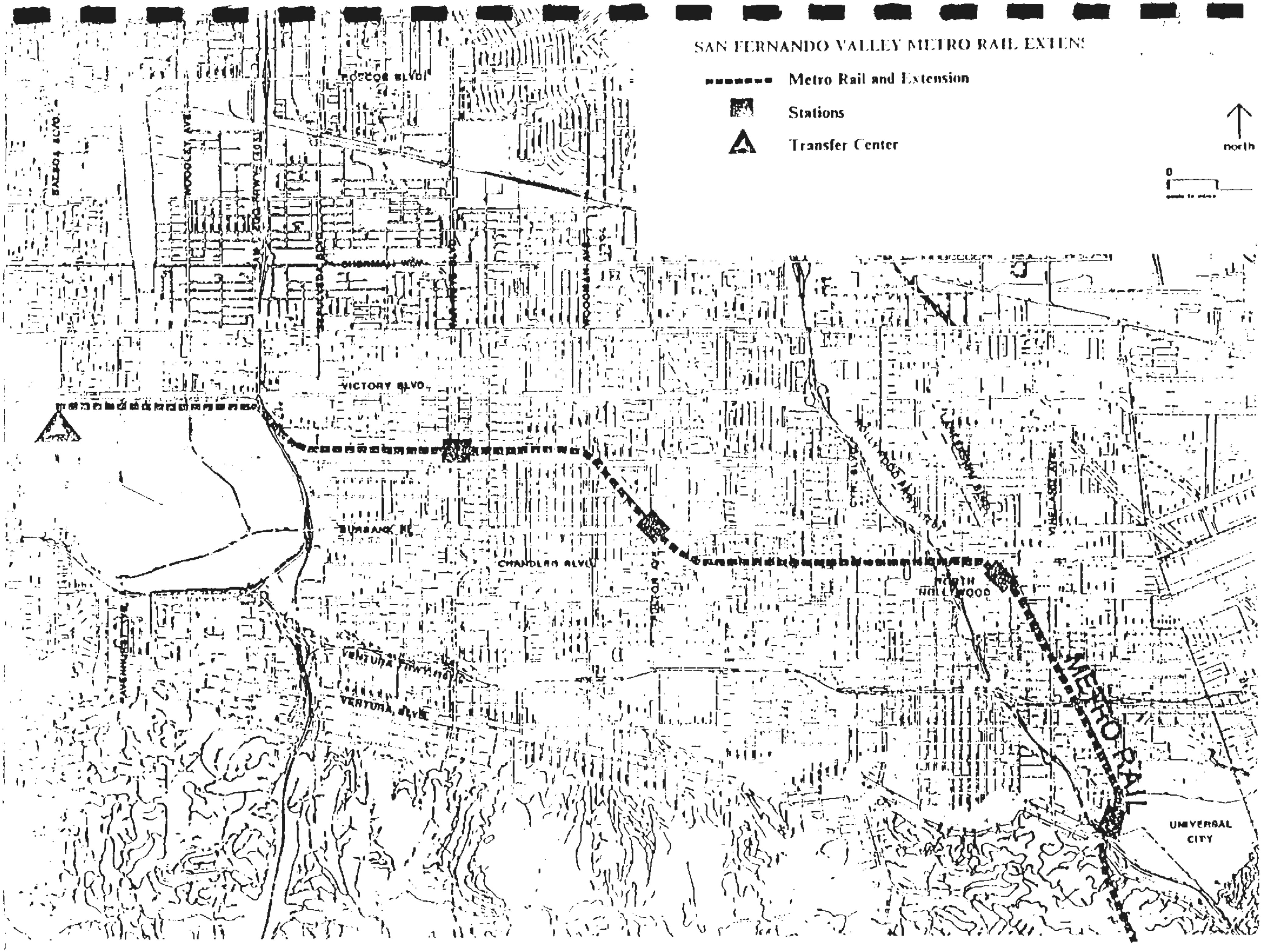
It has been said that we cannot afford to extend Metro Rail in the Valley, the cost is too high and the Federal processes too lengthy. Let's not unnecessarily complicate this issue.

First, the Federal Government does <u>not</u> have to be involved. This can be a locally funded Metro Rail extension. Second, we can extend Metro Rail service for less money per mile and with less disruption than the first sections, which had the difficult task of penetrating downtown.

Land in the Valley is expensive and it is important that as few homes and businesses as possible are displaced to build the rail line. In particular we cannot and must not lose a significant amount of affordable housing. These considerations make the empty Burbank Branch right-of-way a possible alignment opportunity that should be considered if, and only if, there is appropriate mitigation as set forth in item 5 above.

The right-of-way is being offered for sale by the railroad. If it is not bought as an entity it may be sold in pieces and then developed piecemeal, with potentially negative community impacts. While not prejudging the decision between the two routes under study, the LACTC should initiate discussions to purchase or option this right-of-way, so that this opportunity is not lost during the review and decision making period. Under no circumstances, however, should this right of way be purchased until after the necessary mitigation commitments are made as per item 5, above.

Balanced, fully integrated and cost effective auto, bus and rail transportation is vital to carry the San Fernando Valley into the next century. Our message is simple: the EIR must study transportation integration, must preserve possible rights-of-way and must ensure that the most suitable, most affordable fully mitigated rail line will be built in our Valley.



SAN FERNANDO VALLEY METRO RAIL EXTEN
Metro Rail and Extension
Stations
Transfer Center
north
0
VICTORY BLVD.
BURBANK BL
CHANDLER BLVD
NORTH HOLLYWOOD
VENTURA FRWY
VENTURA BLVD
METRO RAIL
UNIVERSAL CITY

ESTC
EASTERN SECTOR TRANSIT COALITION
POST OFFICE BOX 4224
NORTH HOLLYWOOD, CA. 91607

May 22, 1989

Mr. Steve Lantz
Community Relations Manager
Los Angeles County Transportation Commission
403 West Eighth Street
Los Angeles California 90014

Re: Notice of Preparation of a Draft Environmental Impact Report for the San Fernando Valley Rail Transit Project

Dear Mr. Lantz:

On behalf of the Eastern Sector Transit Coalition (ESTC) we are submitting the following response concerning the above captioned Notice of Preparation:

In addition to the two enumerated routes, the Southern Pacific (SP) Burbank Branch Route and the Ventura Freeway Route, we are requesting that other **feasible** San Fernando Valley routes be included in the San Fernando Valley Rail Transit Project, California Environmental Quality Act Initial Study.

These other routes are to include at least the following:

- The Southern Pacific (SP) Coast Main Line.
- Sherman Way Boulevard.
- Victory Boulevard.
- Ventura Boulevard.
- A full deep-bore subway, extending either fully or part way to the west Valley, along an alignment **other** than the two above enumerated routes.
- A no-project alternative, weighing the environmental burden imposed versus the proposed project benefit, in the light of information provided by a current origin/destination (OD) ridership study.

Thank you for the opportunity to provide timely public input as to the scope and content of this Draft Environmental Impact Report, which is germane to your agency's statutory responsibility in connection with the proposed project.

Yours truly,

Tom Herman

Tom Herman
Chairman
Eastern Sector Transit Coalition

cc: distribution

STATE OF CALIFORNIA—BUSINESS AND TRANSPORTATION AGENCY GEORGE DEUKMEJIAN, Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 7, 120 SO. SPRING ST.
LOS ANGELES, CA 90012
TDD (213) 620-3550
(213) 620-2376

May 17, 1989

IGR/CEQA
The Los Angeles County
Transportation Commission's NOP
for the San Fernando Valley
Rail Transit Project
SCH N/A

Mr. Steve Lanz
Los Angeles County Transportation Commission
403 West Eighth Street, Suite 500
Los Angeles, CA 90014

Dear Mr. Lanz:

Caltrans has reviewed the above referenced document and has the comments.

We are primarily concerned with the effects that this project may have on our facilities. Caltrans suggests that any impacts to State routes be included in the draft environmental document.

We also suggest that a traffic study include a discussion of:

1. Existing and 20-year future average daily traffic (ADT) volumes.
2. Traffic generation (including peak hour).
3. Traffic distribution and assignment.
4. Current and projected capacities of affected highway and freeway routes.
5. Cumulative traffic impacts.

The DEIR should also include traffic mitigation measures wherever necessary.

Thank you for this opportunity to comment. We look forward to reviewing the draft environmental document. If you have any questions, please call Gary McSweeney at (213) 620-2376.

Sincerely,

GARY McSWEENEY
Senior Transportation Planner
IGR/CEQA Coordinator
Transportation Planning and
Analysis Branch

GENERAL MANAGER

CITY OF LOS ANGELES
CALIFORNIA

TOM BRADLEY
MAYOR

DEPARTMENT OF TRANSPORTATION
ROOM 1200 CITY HALL
LOS ANGELES CA 90012
(213) 485 2265
FAX (213) 237-0960

May 31, 1989

Mr. Neil Peterson, Executive Director
Los Angeles County Transportation Commission
403 West Eighth Street, Suite 500
Los Angeles, CA 90014-3096

Attention: Mr. Steve Lantz
Community Relations Manager

NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR) FOR THE SAN FERNANDO VALLEY RAIL TRANSIT PROJECT

We have reviewed the initial study for the San Fernando Valley Rail Transit Project. We concur with the assessment of the initial study that the traffic from the project may result in a significant impact on the parking and circulation system. In order for us to thoroughly analyze such impacts, we request that LACTC adequately address and respond to the following concerns in the upcoming Draft Environmental Impact Report (DEIR):

- Connectivity with the Metro Red Line.
- The impact on Vehicle Miles Traveled (VMT) should be discussed for each alternative/option.
- Impacts to on-street parking should be identified and evaluated.
- Patronage figures and cost estimates should be provided to assist in alternatives analysis.
- Air quality impacts of each alternative/option should be evaluated.
- The DEIR should discuss impacts of each alternative/option on existing bus service and future feeder bus service the project may have.
- The interim phasing impacts of each alternative/option near the San Diego Freeway (I-405) should be fully analyzed. This analysis is critical since funding limitations could delay a future westerly extension of the line for years.
- Provision for off-street parking at the Topanga Canyon station of the Burbank Branch route should be analyzed. Such a facility can contribute to reduced parking demand and traffic congestion at the Winnetka Station.

- The traffic analysis section of the DEIR should address any requirements and restrictions which the proposed Ventura Boulevard Corridor Specific Plan, which is expected to be adopted by 1990, may impose on alternatives/options under study.

- Future year traffic volumes taken from the regional forecasting model should be validated against current traffic growth trends of approximately 4 to 5 percent per year, as indicated by a recent screenline count of the San Fernando Valley. Traffic from known and approved major development projects, generating in excess of 150 peak period trips along the corridor served by alternatives under study, should be added to the traffic growth projections upon recommendation of this department and the City Planning Department. Traffic forecasts should also consider traffic attracted to stations according to mode of access.

- An analysis of queue length storage at or within 500 feet of signalized intersections and intersection capacity (based on the Highway Capacity Manual or Critical Movement Analysis method with associated Level of Service) should be conducted, based on the following criteria:

  - All proposed at-grade crossings at signalized intersections,
  - All intersections with freeway on and off ramps which may be impacted by the various alternatives/options, and
  - All signalized intersections projected to experience a peak hour volume increase of 25 or more vehicles per approach lane, due to possible project related impacts.

  Other intersections should be studied if initial investigation indicates possible project related impacts.

- A passenger car equivalent of two cars for each bus or truck should be used.

- The capacity analysis should be formatted to delineate: a) "existing" conditions, b) "without project" conditions (design year), and c) "with project" conditions (design year). The "with project" conditions should be a worst case scenario at full build-out. Both AM and PM peak hours should be analyzed.

- Mitigation measures, implementable by the Commission should be included if necessary. If mitigation can be shown to decrease intersection CMA values, a separate column should included in the study and titled "with mitigation" to present the improved Level of Service values. Specific construction mitigation measures, including such items as night work, approved Worksite Traffic Control Plans and staffing for traffic control and monitoring should also be included.

- o Trip generation rates should be taken from "Trip Generation, 4th Edition", release December, 1987, by the Institute of Transportation Engineers.

In analyzing the various alternate profiles and technologies the additional phased concept of extending Metro Rail initially only to Burbank Boulevard with a connecting express bus system westerly should be fully evaluated. This alternative is described in more detail in the attached Statement on the Notice of Preparation from Senator Alan Robbins and Councilman Marvin Braude.

During the environmental analysis and design phases of this and other rail transit projects in the City, the various City departments should be actively consulted by LACTC so as to result in alignments, design, and mitigation measures that have the early concurrence by all affected agencies, particularly where City transportation facilities would be affected.

Please contact James Okazaki at 485-3039 if you desire to discuss our comments.

S. E. Rowe
General Manager

JMO:li
a:ar19ad1

Attachment

cc: Councilman Nate Holden
Councilman Marvin Braude
Bill Bicker, Mayor's Office
Keith Comrie, CAO
William McCarley, CLA
Ken Topping, City Planning
John Fisher

Community Redevelopment Agency "MICROFILMED WITHOUT ATTACHMENTS"

of the City of Los Angeles

354 South Spring Street
Suite 800
Los Angeles
California 90013-1258

213 977 1600

Telecopier
Number 213 977 16

Date JUN 2 1989

File Code

Mr. Neil Peterson
Executive Director
Los Angeles County Transportation Commission
403 West Eighth Street, Suite 500
Los Angeles, CA 90014-3096

Re: Notice of Preparation of a Draft Environmental Impact Report for the San Fernando Valley Rail Transit Project

Dear Mr. Peterson:

We have reviewed the project description and initial study for the San Fernando Valley Rail Transit Project with respect to our redevelopment/revitalization efforts in North Hollywood. Two basic route alternatives have been developed, the Southern Pacific Burbank Branch Route and the Ventura Freeway Route, each having various configurations.

The Burbank Branch Route Alternative would have the most direct impact on the North Hollywood Redevelopment Project. The maps included in the Notice of Preparation indicate that the Burbank Branch includes several configurations which would directly serve the North Hollywood Project Area. Each of these configurations of the Burbank Branch locates a station in the North Hollywood commercial core at approximately the intersection of Lankershim and Chandler Boulevards. The environmental analysis should evaluate the adequacy of station parking, bus/rail interface and related traffic impacts at the proposed North Hollywood Light Rail Station, and identify appropriate mitigation measures.

In 1984 the Agency, in cooperation with the Southern California Rapid Transit District, prepared a Draft Station Area Master Plan for the North Hollywood Metro Rail Station (attached). Metro Rail/Light Rail interface was discussed in context with future land use development. The Light Rail Station was sited on Chandler Boulevard (North) one block west of the Metro Rail Station. This master plan document should be used as a point of reference in analyzing the environmental impacts on the North Hollywood community.

The environmental analysis for the San Fernando Valley Rail Project should also closely evaluate the impacts from at-grade and/or aerial alignments of the proposed Light Rail connection to Universal City using Vineland Avenue (Figures 1 and 2, NOP). Analysis of this Light Rail spur connection should include an examination of traffic conflicts, noise-vibration impacts, and visual inputs of an aerial guideway.

Our review of the Notice of Preparation (NOP) indicates no direct impact on the North Hollywood Project Area from the Ventura Freeway Alternative. However, it should be noted that the maps provided in the NOP do not illustrate the adopted Metro Rail alignment from the Universal City Station to the North Hollywood Station at Lankershim and Chandler Boulevards. Perhaps this was just an oversight in preparation of the maps, but any environmental analysis of the Ventura Freeway Alternative should consider the Metro Rail alignment in the San Fernando Valley as adopted.

Thank you for the opportunity to review the Notice of Preparation. If you or your staff have any further questions regarding the North Hollywood Redevelopment Project, please contact Mr. Jerry Belcher, Project Manager, at 977-1695.

Sincerely,

John Tuite
Administrator

Attachment

JT:PR:sk 5/26/89
c:npdeirsf.doc

CITY OF LOS ANGELES
CALIFORNIA

TOM BRADLEY
MAYOR

DEPARTMENT OF CITY PLANNING
ROOM 561 CITY HALL
200 N. SPRING ST.
LOS ANGELES, CA 90012-4801
KENNETH C. TOPPING, DIRECTOR
KEI UYEDA, CHIEF DEPUTY DIRECTOR
MELANIE FALLON, DEPUTY DIRECTOR
ROBERT O. JENKINS, DEPUTY DIRECTOR
(213) 485-5073

June 6, 1989

Mr. Neil Peterson
Executive Director
Los Angeles County Transportation Commission
403 West Eight Street, Suite 500
Los Angeles, CA 90014-3096

Attention Steve Lantz, Community Relations Manager

Dear Mr. Peterson:

NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE "SAN FERNANDO VALLEY RAIL TRANSIT PROJECT".

Thank you for the opportunity to review and comment on the Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the San Fernando Valley Rail Project.

The Los Angeles Department of City Planning requests that the Draft Environmental Impact Report address the following concerns:

- Projected rail patronage for the immediate service area surrounding all alignment alternatives;
- Patronage for communities in the San Fernando Valley outside of the immediate service area, and the potential for a transit feeder system especially to areas that are transit dependent;
- Significant environmental impacts that are associated with park-and-ride lots, such as, alterations to existing traffic circulation patterns; potential increase to peak hour traffic; potential parking spill over into residential areas; hazards to motor vehicles, bicyclists, or pedestrians, and displacement of people and homes;
- Potential land use impacts to the immediate service areas assuming economic growth as a result of development of a rail system. Describe potential accumulative effects to the environment, land use patterns, and circulation system;
- Potential change in the job/housing ratio assuming each of the proposed rail alternatives induce economic growth;

- Access facilities should be adequately discussed for the transit dependent disabled.

In light of recent rail accidents that have occurred in Russia, Europe, Japan, and the United States discuss the following concerns:

- Identify significant levels of risks to human safety in case of an earthquake, fire, or other natural calamity;

- Describe the types of mitigation measures that could be implemented to lessen the degree of severity to human life and safety;

- Identify what utilities are or will be allowed within the right of way (pipeline, electrical, water mains, cable, etc.);

Please continue to apprise us on the status of the proposed project. We look forward to reviewing the DEIR and working with you as we proceed with planning the San Fernando Valley Rail Project. If you desire to discuss our comments please contact Lynell Washington at 485-3509.

Very truly yours,

KENNETH C. TOPPING
Director of Planning

cc: Councilman Nate Holden
Councilman Marvin Braude
Councilman Michael Woo
S. E. Rowe, LA-DOT
Bill Bicker, Mayor's Office
Keith Comrie, CAO
William McCarley, CLA

IV2/6-6-89

CITY OF LOS ANGELES
CALIFORNIA

BOARD OF
PUBLIC WORKS
COMMISSIONERS
EDWARD J. AVILA
PRESIDENT
DENNIS N. NISHIKAWA
VICE-PRESIDENT
MYRLIE B. EVERS
PRESIDENT PRO-TEMPORE
STEVE HARRINGTON
KATHLEEN BROWN

TOM BRADLEY
MAYOR

DEPARTMENT OF
PUBLIC WORKS
BUREAU OF SANITATION
DELWIN A. BIAGI
DIRECTOR
HARRY M. SIZEMORE
ROBERT M. ALPERN
MICHAEL M. MILLER
ASSISTANT DIRECTORS
SUITE 1400, CITY HALL EAST
200 NORTH MAIN STREET
LOS ANGELES, CA 90012
(213) 485-5112
FAX No. (213) 626-5514

June 2, 1989

Los Angeles County Transportation Commission
403 West Eight Street, Ste. 500
Los Angeles, CA 90014

Attn: Steve Lantz

SAN FERNANDO VALLEY RAIL TRANSIT PROJECT

One of the responsibilities of the Enforcement Division of the Los Angeles City Bureau of Sanitation is to prevent any discharge which may interfere with the operation of the storm drain system or pollute the Waters of the State. This is accomplished by the regulation of dischargers through a permit and inspection program.

We believe that the Environmental Impact Report for the San Fernando Valley Transit Rail Project should address the following issues which are of special concern to the Enforcement Division:

1. What is the quality and quantity of the ground water to be discharged during construction? Will the quality of the ground water meet the present standards set by the State Regional Water Quality Control Board? Will pretreatment be needed prior to discharge?

2. Will there be any generation of toxic or hazardous waste during construction? If so, will there be a Central Waste Management Control Program over all of the contractors?

3. Who will be responsible for the clean up of spilled waste materials including sediment, vehicle fuels, lubricants and cleaning chemicals during construction?

4. Will there be a need to discharge non-sanitary wastewater into the sanitary sewer system?

5. Will there be any discharge of wastewater from equipment washing and cleaning during construction? If so, will pretreatment be required?

6. What pollutants, if any, would be in the storm water discharges associated with this industrial activity during construction and while the transit system is operating?

7. What will be the plan to treat or dispose of any subsoil contamination identified during excavation?

The contact person in the Enforcement Division of the Bureau of Sanitation will be Frank Bajinting, Chief Industrial Waste Inspector I, (213) 485-5874. Mailing address is:

Bureau of Sanitation
Enforcement Division
4600 Colorado Blvd.
Los Angeles, CA 90039

Vart J Vark for
DELWIN A. BIAGI
Director

cc: Dr. Robert Ghirelli, Executive Officer
California Water Quality Control Board
Los Angeles Region
107 S. Broadway, Suite 4027
Los Angeles, CA 90012

FB 03/adm

1

RTD

Gary S. Spivack
Director of Planning

June 2, 1989

Mr. Steve Lantz
Community Relations Manager
Los Angeles County
Transportation Commission
403 West Eighth Street, Suite 500
Los Angeles, California 90014

Dear Mr. Lantz:

Thank you for providing the Southern California Rapid Transit District (SCRTD) the opportunity to comment on the Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the San Fernando Valley Rail Transit Project. The District has reviewed the NOP and offers the following comments.

We would strongly support the application of Metro Rail technology to any of the fully grade-separated alternatives. This would make the rail system easier to use by avoiding passenger transfers at the North Hollywood or Universal City stations (depending on the alignment selected). The system should be designed to be as convenient as possible for the rail patrons in the San Fernando Valley.

A detailed description of the District's current and projected bus service within each station area should be incorporated into the DEIR. Preliminary plans for a feeder bus interface program, which will be required to support the rail project, should be included in the DEIR. Such plans will be a key element to the viability of the project.

Patronage projections will need to be included in the DEIR for each alternative. Cost and funding sources and analysis is another important aspect of the project that should be addressed in the DEIR. Construction costs and benefits should be a major decision factor in choosing the final alignment and technology to be used, as well as whether or not to construct this project. Funding sources should also be evaluated including consideration of alternative financing methods such as benefit assessment and potential for joint development at proposed stations.

The decision to pursue funding for the Metro Red Line beyond Hollywood/Vine as a separate construction segment may impact the timing of availability of Metro Red Line service to North Hollywood. The DEIR should consider the impact of this decision on the timing for construction of any San Fernando Valley rail alternative. Furthermore, we are concerned that some of the alternatives recommended for study have implications for the North Hollywood extension of the Metro Red Line. The Ventura Freeway alternative alignments omit the North Hollywood station of the Metro Red Line (figures 4 and 5 of the NOP). This has potential impacts on the Metro Rail financing plan, and, most importantly, on the Benefit Assessment effort. Further some of the Burbank Branch alternatives (figures 1 and 2 of the NOP) include consideration of extensions of the San Fernando Valley Line from North Hollywood to Universal City. This option should be carefully evaluated for its impacts on Metro Rail financial planning as well as the operational impacts of both North Hollywood and Universal City stations operating as terminals.

The District wants to work with the Commission on this project. If you have questions on this or other transit-related aspects of this project, please contact me at (213) 972-4880.

Sincerely,

Gary S. Spivack

COUNCILMAN
MARVIN BRAUDE
President Pro Tempore

City Hall
Los Angeles, CA 90012
(213) 485-3811

Valley Office
18425 Burbank Boulevard
(818) 989-8150

West Los Angeles Office
1645 Corinth Avenue
(213) 312-8461

June 6, 1989

Mr. Neil Peterson, Executive Director
Los Angeles County Transportation Commission
403 West Eighth Street
Los Angeles, California 90014

Dear Mr. Peterson:

The decision of the Los Angeles County Transportation Commission to postpone, until March 1990, any action on the next rail project to be funded is appreciated. It gives time for the San Fernando Valley Rail Project Environmental Impact Report to be completed and restores the chance that the Valley, with its 1.3 million population, will obtain the rail transit line it needs and deserves and that the residential community of the Valley will be protected.

In summary, the LACTC must commence the following actions immediately to provide an adequate EIR and to preserve our future ability to make the best possible decision for the Valley:

1. Assure that fully effective mitigation, consistent with reasonable economy, is included to assure the best possible alternatives within likely funding.

2. Pursue discussions with the Army Corps of Engineers and all other responsible agencies to make possible the use of the Sepulveda Basin for a transfer center.

3. Assess coordination with all other transit modes serving each alternative.

4. So long as there is full community mitigation, assess the redesign of the North Hollywood Metro Rail Station to provide compatibility with the through-running Metro Rail service option.

5. Assure that the only manner in which the Burbank Branch route alignment can be used is if there is a true subway configuration on at least the 3.6 mile segment between the Hollywood Freeway and Hazeltine Avenue, with a shaft in the central portion at least 25 feet below ground going under the Tujunga Wash, and if there is full mitigation on any segment of the proposed 7.6 mile extension from the North Hollywood Metro Rail station to Balboa Boulevard that is adjacent to a residential neighborhood.

6. Presuming that full mitigation is assured, pursue discussions with Southern Pacific Transportation Company for acquisition or optioning of the Burbank Branch to assure that this alternative is not precluded. Planning and construction of the proposed extension should only proceed west to Balboa Boulevard, if this plan is adopted, as there is no community consensus in place or obtainable within the current decision timetable for a route with adequate mitigation for any segment west of the Sepulveda Basin. Once a line to Balboa Boulevard is built, then service to Warner Center could be provided by express bus between Balboa Boulevard and Warner Center (along Victory Boulevard). The combined express bus-Metro Rail service across the Valley could provide a shorter cross-Valley travel time, due to the faster Metro Rail train, than crossing from Warner Center to North Hollywood via a light rail trolley. No train route should be planned or constructed west of the Sepulveda Basin so long as there is substantial community opposition to the route under consideration.

The EIR Notice of Preparation reflects the many years of study and public input on rail transit in the Valley. It narrows the choice to two routes, along the Ventura Freeway or along the Southern Pacific Burbank Branch. It retains wide technology options, including light rail, heavy rail, advanced light rail, monorail, and magnetic levitation.

While we firmly believe that some options are better for the Valley, it is inappropriate for LACTC to make a final decision until the EIR is completed. However, certain actions are necessary <u>now</u> to ensure that the EIR fully explores and compares the most appropriate options.

Valley residents have clearly indicated that any rail line must be fully mitigated, and further, that in residential areas this mitigation must involve underground sections. Because local funding is limited, every possible and acceptable economy must be made to construct the most miles of rail line in the Valley. These economies should examine possible reduction in the number and cost of stations, the costs of underground construction beyond the minimal subway portion acceptable, and the cost of each acceptable and feasible mitigation measures.

It is clear that transfer centers with adequate parking and bus transfer accomodations must be considered as links between the rail transit service and other modes of travel. The north edge of the Sepulveda Basin is an ideal location for such major transfer centers. Discussions should be initiated immediately with the Army Corps of Engineers to ensure possible, practical and environmentally sensitive designs in the Basin.

Coordination of service to the Valley should extend to other existing and planned transportation modes. The different options must be evaluated with respect to the ease of access by automobile from freeways and arterial roads, the quality of local and express buses serving each rail station, and the impact of each rail option on congestion, air quality, transfer convenience and the relative cost of the supporting bus network.

One of the more attractive options in the EIR is continuing service into the Valley using Metro Rail vehicles. This avoids the inconvenience of a transfer from one type of car to another for tens of thousands of Valley rail passengers each day. It would result in increased ridership and easier use by seniors and the disabled. Effective continuing service will require some design modifications to the North Hollywood Metro Rail station, which can be worked out once there is full community mitigation. The cost and benefit of this should be assessed in the EIR.

It has been said that we cannot afford to extend Metro Rail in the Valley, the cost is too high and the Federal processes too lengthy. Let's not unnecessarily complicate this issue.

First, the Federal Government does <u>not</u> have to be involved. This can be a locally funded Metro Rail extension. Second, we can extend Metro Rail service for less money per mile and with less disruption than the first sections, which had the difficult task of penetrating downtown.

Land in the Valley is expensive and it is important that as few homes and businesses as possible are displaced to build the rail line. In particular we cannot and must not lose a significant amount of affordable housing. These considerations make the empty Burbank Branch right-of-way a possible alignment opportunity that should be considered if, and only if, there is appropriate mitigation as set forth in item 5 above.

The right-of-way is being offered for sale by the railroad. If it is not bought as an entity it may be sold in pieces and then developed piecemeal, with potentially negative community impacts. While not prejudging the decision between the two routes under study, the LACTC should initiate discussions to purchase or option this right-of-way, so that this opportunity is not lost during the review and decision making period. Under no circumstances, however, should this right of way be purchased until after the necessary mitigation commitments are made as per item 5, above.

Balanced, fully integrated and cost effective auto, bus and rail transportation is vital to carry the San Fernando Valley into the next century. Our message is simple: the EIR must study transportation integration, must preserve possible rights-of-way and must ensure that the most suitable, most affordable fully mitigated rail line will be built in our Valley.

Thank you for your support.

Sincerely,

Alan Robbins
Senator, 20th District

Marvin Braude
Councilman, 11th District

Department of Water and Power the City of Los Angeles

May 30, 1989

Mr. Steve Lantz
Community Relations Manager
Los Angeles County Transportation
Commission
403 West Eighth Street, Suite 500
Los Angeles, California 90014

Dear Mr. Lantz:

Notice of Preparation (NOP) of a
Draft Environmental Impact Report for the
San Fernando Valley Rail Transit Project

This is in response to your letter received April 27, 1989 requesting comments on the above-named NOP. This project currently has two alternate routes: the first route is called the Southern Pacific Burbank Branch Route which begins at Topanga Canyon/Victory Boulevard and ends at Vineland Avenue/101 Freeway; the second route is called the Ventura Freeway Route which begins at Vanowen Street/Canoga Avenue and ends at Vineland Avenue/101 Freeway.

The Los Angeles Department of Water and Power (Department) has reviewed the NOP and determined that its Power System facilities may be impacted by the project. More detailed information on the project will be required before an in-depth analysis can take place. The following is a listing of facilities that may be impacted:

- Receiving Station (RS) S
  14320 Aetna Street, Van Nuys

- RS-T
  6532 Variel Avenue

- RS-U
  6000 Wilbur Avenue

- Van Nuys Communications Headquarters
  on Oxnard Boulevard west of Van Nuys Boulevard

- Van Nuys District 5 Headquarters
  on Oxnard Boulevard east of Van Nuys Boulevard

- Distributing Station (DS) 21
  14320 Aetna Street

- DS-22
  21323 Sherman Way

- DS-71
  5539 Fulton Avenue

- DS-79
  5325 De Soto Avenue

- Tarzana-Canoga underground 230 kV transmission cables along Victory Boulevard, between RS-U and RS-T

- Northridge-Tarzana overhead high-voltage transmission lines, cross proposed route close to Reseda Boulevard

- Toluca-Van Nuys underground 230-kV transmission cables north of Burbank Boulevard, between RS-S and RS-E

- Tarzana-Olympic overhead high-voltage transmission, lines, cross east of Wilbur

Electric service is available and will be provided in accordance with the Department's rules and regulations. Construction of additional facilities, if required, may cause limited temporary impact on the surrounding communities in the form of unavoidable noise, air pollution, and traffic congestion.

I appreciate the opportunity to provide you with the Department's Power System comments. It is suggested that careful consideration be given to those routes containing underground 230-kV transmission cables. The location of these cables can be obtained from the Department's Underground Transmission Design Group at (213) 481-5024. If you have any other questions, please contact Ms. Laura L. Hays at (213) 481-5082.

Sincerely,

EDWARD KARAPETIAN
Manager of Environmental and
Governmental Affairs

c: Ms. Laura L. Hays

0820297

LOS ANGELES POLICE DEPARTMENT

L.A.C.T.C. Received

1989 JUN 12 AM 10:50

MICROFILMED

DARYL F. GATES
Chief of Police

TOM BRADLEY
Mayor

P. O. Box 30158
Los Angeles, Calif. 90030
Telephone:
(213)- 485-2636
Ref #: 9.4

June 8, 1989

Mr. Steve Lantz
Community Relations Manager
Los Angeles County Transportation Commission
403 West Eighth Street, Suite 500
Los Angeles, CA 90014

Dear Mr. Lantz:

The San Fernando Valley Rail Transit Project has been reviewed. The rail line project traverses the Los Angeles Police Department's North Hollywood, Van Nuys, and West Valley Areas. A review of past annual crime statistics for these areas indicate the area has a crime rate below the Citywide average.

A project of this size could have a cumulative impact on police services in this area. Even though transit police will patrol the actual rail line, Los Angeles Police Department personnel will be responding to the areas in and around the rail line stations. Due to an increase in commuter vehicle and pedestrian traffic, crime problems could arise. To mitigate any potential crime increase, strong security measures will be necessary in and around the stations. The following measures are recommended: Two-way voice and digital communications capability for Los Angeles Police Department personnel within the underground portion of the system; parking areas should have limited access and be well illuminated and designed with minimum dead space to eliminate areas of concealment; Rapid Transit District Police should consider a substation along the rail line for faster response to emergencies along the line; and security guards should be used to monitor and patrol the parking areas.

The Department's Crime Prevention Unit (485-3134) should be contacted for security design assistance.

Upon completion of the project, the developer should be encouraged to provide the concerned Area commanding officers with a diagram of the project. The diagram should include access routes and any information that might facilitate police response.

Questions regarding environmental impact reports may be referred to Officer John Herkowitz, Planning and Research Division, (213) 237-1653.

Very truly yours,

DARYL F. GATES
Chief of Police

GARRETT W. ZIMMON, Captain
Commanding Officer
Planning and Research Division

0840118
L.A.C.T.C.
Received
1989 JUN 29 PM 12:15
MICROFILMED
COPY IN RMC

Southern California Edison Company
P. O. BOX 410
100 LONG BEACH BOULEVARD
LONG BEACH, CALIFORNIA 90801

TELEPHONE
(213) 491-2927

REAL PROPERTIES
AND
ADMINISTRATIVE SERVICES

June 21, 1989

Los Angeles County
Transportation Commission
403 West Eighth Street, Suite 500
Los Angeles, California 90014-3096

Attention: Mr. Steve Lantz
Community Relations Manager

SUBJECT: Los Angeles County Transportation Commission
San Fernando Valley Rail Transit Project
Notice of Preparation of a Draft Environmental
Impact Report

The Southern California Edison Company has reviewed the initial study for the subject project and submit the following comments:

OPTION #1 Refer to the attached drawing. Option #1 will travel underground South from Chandler Boulevard along Lankershim Boulevard. Edison will have some minor relocation work to do at Camarillo Street. At Moorpark Street and at Lankershim Boulevard, heading South to the Los Angeles River, Edison may have to relocate the MacNeil-Universal 66 kV line. The Beverly-Universal 66 kV T/L may have some minor relocation where it crosses Lankershim Boulevard. New right of way may also have to be purchased to provide service to Edison's Universal Substation.

OPTION #2 This will require a relocation of the Beverly-MacNeil and the MacNeil-Universal 66 kV transmission lines from Chandler Boulevard to the 101 Freeway along Vineland Avenue. New right of way would have to be purchased to provide this relocation.

18977-1/eb

Mr. Steve Lantz
Page Two

The Edison Company only serves load out of Universal Substation. The area around the rail system would more than likely be fed from L.A.D.W.P., therefore, not requiring Edison to build any added facilities within this area.

Another item to consider is the impact of dust on our insulators, both during construction, and afterward, while the rail system is being operated. Edison would be required to increase its expenses to keep the insulators free of contaminants.

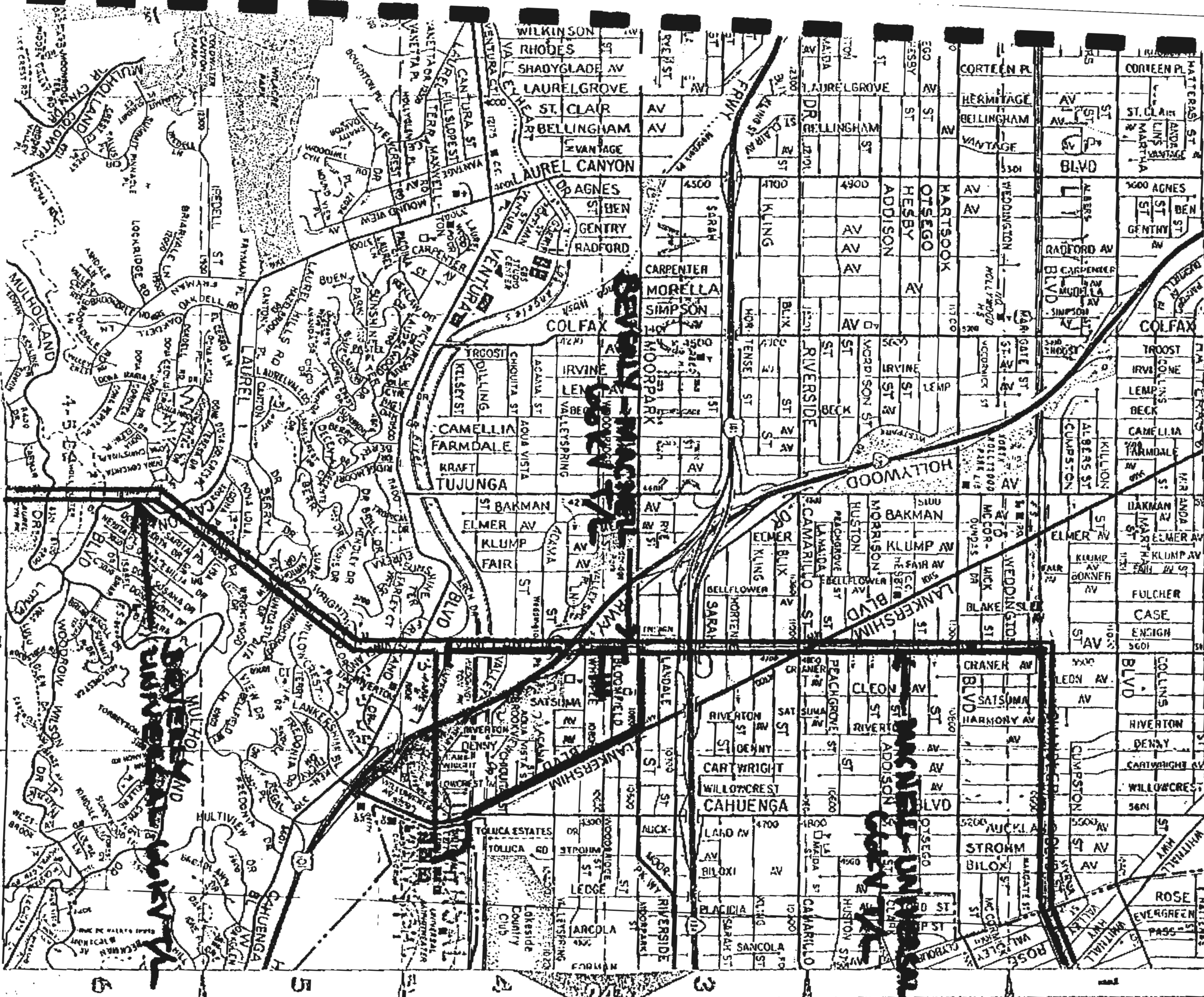
If you have any questions regarding the comments, please contact Mr. Art Cheng at the above address or at (213) 491-2245.

Very truly yours,

DC Jones / DWB

D. C. JONES
Regional Manager
Land Services Division

18977-4/eb



JUL 5 '89 10:20 FROM LACTC 213 617 1299 PAGE.004/004

OPTION #1
OPTION #2

CITY OF LOS ANGELES
CALIFORNIA

TOM BRADLEY
MAYOR

BOARD OF
FIRE COMMISSIONERS
485-6032

KENNETH S. WASHINGTON
PRESIDENT
ANN REISS LANE
VICE-PRESIDENT
AILEEN ADAMS
JAMES E. BLANCARTE
LEON KIRAKOSIAN

EVA WHITELOCK
EXECUTIVE ASSISTANT

DEPARTMENT OF FIRE
200 NORTH MAIN ST.
LOS ANGELES, CA 90012

DONALD O. MANNING
CHIEF ENGINEER
AND
GENERAL MANAGER

August 15, 1989

Mr. Steve Lantz, Community Relations Manager
Los Angeles County Transportation Commission
403 West Eight Street, Suite 500
Los Angeles, CA 90014

Dear Mr. Lantz:

Notice of Preparation of a Draft Environmental Impact
Report for the San Fernando Valley Rail Transit Project

The proposed project is located in the City of Los Angeles and forms a part of a larger regional transit system. This segment of the system would serve the San Fernando Valley to downtown Los Angeles and beyond. The entire project lies within a developed urban setting and will traverse six City of Los Angeles Community Plan Areas.

The following comments are furnished in response to your request for this Department to review the proposed development:

The adequacy of fire protection for a given area is based on required fire-flow, response distance from existing fire stations, and this Department's judgment for needs in the area. In general, the required fire-flow is closely related to land use. The quantity of water necessary for fire protection varies with the type of development, life hazard, occupancy, and the degree of fire hazard.

Fire-flow requirements vary from 2,000 gallons per minute (G.P.M.) in low-density areas to 12,000 G.P.M. in high-density commercial or industrial areas. The proposed project runs through a variety of land use areas and without definitive plans, requirements may vary. At present, this Department will set the fire-flow at 3,000 gallons per minute (G.P.M.) from two adjacent fire hydrants flowing simultaneously.

Improvements to the water system in this area may be required to provide the required fire-flow. The cost of improving the water system may be charged to the developer. For more detailed information regarding water main improvements, the developer shall contact the Water Services Section of the Department of Water and Power.

The Fire Department has existing fire stations at the following locations for initial response into the area of the proposed development:

Fire Station No. 86
Single Engine Company
4305 Vineland Avenue
Staffing 4

Fire Station No. 60
Task Force Station - Truck and Engine Company
Paramedic Ambulance
Battalion 14 Headquarters
5320 Tujunga Avenue
Staffing 14

Fire Station No. 102
Task Force Station - Truck and Engine Company
13200 Burbank Boulevard
Staffing 10

Fire Station No. 39
Task Force Station - Truck and Engine Company
Paramedic Ambulance
Hazardous Materials Squad
14415 Sylvan Street
Staffing 18

Fire Station No. 88
Task Force Station - Truck and Engine Company
Division III Headquarters
5101 N. Sepulveda Boulevard
Staffing 12

Fire Station No. 100
Paramedic Engine Company
Division III Headquarters
6751 Louise Avenue
Staffing 8

Fire Station No. 83
Single Engine Company
5001 Balboa Boulevard
Staffing 4

Fire Station No. 93
Task Force Station - Truck Engine Company
Paramedic Ambulance
19059 Ventura Boulevard
Staffing 4

Fire Station No. 72
Single Engine Company
Battalion 17 Headquarters
6811 De Sota Avenue
Staffing 6

Fire Station No. 105
Task Force Station - Truck and Engine Company
Paramedic Ambulance
6345 Fallbrook Avenue
Staffing 12

The above fire station will generally be the first responding fire companies to the proposed project. Depending on the nature, location and extent of the emergency, additional resources may be dispatched.

Your Fire/Life Safety Committee should be used for the specific purpose of developing fire/life safety criteria to be used during preliminary engineering, final design, construction and operation of this proposed Rail Transit System.

The Southern California Rapid Transit District (SCRTD) fire/life safety criteria as developed for the Metro Rail Project should be used as a baseline criteria for the San Fernando Valley Rail Project, especially as it relates to the subway portions of the project. Development of additional criteria will be necessary in order to address the proposals for at-grade and aerial alternatives

Of primary concern will be exiting from the trains and stations and the issue of emergency access to all areas of the rail line for Fire Department resources. This will include all considered alignments as well as subway, at-grade or aerial routes.

The following recommendations should be implemented into the final design of the project:

- Fire lanes serving the rail stations should be a minimum of 28-feet clear to sky or to the satisfaction of the Fire Department.

- Fire lanes, where required, and dead ending streets shall terminate in a cul-de-sac or other approved turning area. When required access is provided by an improved street, fire lane or combination of both which results in a deadend in excess of 700 feet in length from the nearest cross street, at least one additional ingress-egress roadway shall be provided in such a manner that an alternative means of ingress-egress is accomplished.

- Adequate public and private fire hydrants shall be required.

- All access roads, including fire lanes, shall be maintained in an unobstructed manner, removal of obstructions shall be at the owner's expense. The entrance to all required fire lanes or required private driveways shall be posted with a sign no less than three square feet in area in accordance with Section 57.09.05 of the Los Angeles Municipal Code.

- No building or portion of a building shall be constructed more than 150 feet from the edge of a roadway of an improved street, access road, or designated fire lane.

- Access for Fire Department apparatus and personnel to and into all structures shall be required.

- Where fire apparatus will be driven onto the road level surface of the subterranean parking structure, that structure shall be engineered to withstand a bearing pressure of 8,600 pounds per square foot.

- The proposed project shall comply with all applicable State and local codes and ordinances, and the guidelines found in the Fire Protection and Fire Prevention Plan, as well as the Safety Plan, both of which are elements of the General Plan of the City of Los Angeles (C.P.C. 19708).

- Project implementation will have an adverse impact on fire protection and emergency medical services in the area of this project. The impact may be reduced to an acceptable level after the fire/life safety criteria is applied and reviewed by the Fire/Life Safety Committee.

Definitive plans and specifications shall be submitted to this Department and requirements for necessary permits satisfied prior to commencement of any portion of this project.

The Los Angeles Fire Department continually evaluates fire station placement and overall Department services for the entire City, as well as specific areas. The development of this proposed project, along with other approved and planned projects in the immediate area, may result in the need for the following:

1. Increased staffing for existing facilities.

2. Additional fire protection facilities.

3. Relocation of present fire protection facilities.

For any additional information, please contact our Hydrant Unit, at (213) 485-5964 or Battalion Chief Robert L. Aaron at (213) 972-3815.

DONALD O. MANNING
Chief Engineer and General Manager

Robert L Aaron FOR

Davis R. Parsons, Assistant Bureau Commander
Bureau of Fire Prevention

DRP:SJF:cec/3140E