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# Draft Environmental Impact Report Century-El Segundo Extension Rail Transit Project

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# Draft Environmental Impact Report

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## Century-El Segundo Extension Rail Transit Project

JULY 1986

**Los Angeles County Transportation Commission  
In Association With**

**GANNETT FLEMING TRANSPORTATION ENGINEERS, INC.**

**GRUEN ASSOCIATES**

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## TABLE OF CONTENTS

	<u>Page</u>
<b><u>1.0 INTRODUCTION AND SUMMARY</u></b>	
1.1 CONTEXT OF THE PROJECT.....	1
1.2 ADOPTED BASELINE ROUTE AND OPTIONS.....	7
*General Description	
*Hawthorne Rail Yard Route Length Option	
*Nash Street Aerial Option	
*Compton Boulevard Station Alternatives	
1.3 SUMMARY OF IMPACTS.....	11
*Impact Categories, Findings and Mitigation Measures	
*Areas of Consensus/Controversy	
1.4 USES OF THE ENVIRONMENTAL IMPACT REPORT.....	16
*Purposes	
*Permits, Approvals and Cooperative Agreements	
<b><u>2.0 PROJECT DESCRIPTION</u></b>	
2.1 ROUTE SELECTION PROCESS.....	19
*Background	
*Route Refinement Study	
*Adopted Baseline Route	
2.2 DETAILED ROUTE DESCRIPTION.....	23
*Aviation Boulevard to Mariposa Avenue Station	
*Mariposa Avenue Station to El Segundo Boulevard Station	
*El Segundo Boulevard Station to Douglas Street Station	
*Douglas Street Station to Compton Boulevard Station	
2.3 RAIL YARD SITES.....	37
*El Segundo Rail Yard Site	
*Hawthorne Rail Yard Site	
2.4 NASH STREET AERIAL OPTION.....	41
2.5 SYSTEM OPERATIONS AND PATRONAGE.....	42
<b><u>3.0 ENVIRONMENTAL SETTING</u></b>	
3.1 GROWTH OF THE LAX/EL SEGUNDO EMPLOYMENT AREA.....	47
3.2 LAND USE, DEVELOPMENT AND NATURAL ENVIRONMENT.....	53
3.3 TRAFFIC AND TRANSIT.....	56

4.0	<u>ENVIRONMENTAL IMPACTS</u>	
4.1	TRAFFIC CIRCULATION IMPACTS.....	59
	*Expected Traffic Impacts	
	*Planned Roadway Improvements	
	*Traffic Circulation Study	
	*Projected Traffic Levels of Service	
	*Indirect Traffic Impacts	
	*Station Area Impacts	
4.2	LAND USE AND DEVELOPMENT IMPACTS.....	82
	*Land Acquisition and Takings	
	*Building Losses	
	*Parking Losses	
	*Access Modifications	
	*Proximity Impacts	
4.3	VISUAL IMPACTS.....	98
	*General Views	
	*Shadows from Aerial Structure	
4.4	NOISE AND VIBRATION IMPACTS.....	106
	*Background	
	*Residential Noise Impact Findings	
	*Other Potential Noise Impacts	
	*Vibration Impacts Findings	
4.5	CONSTRUCTION IMPACTS.....	110
	*At-Grade Construction	
	*Aerial Construction	
	*Traffic Service Interruptions and Detours	
	*Utility Relocations	
4.6	FREIGHT RAIL IMPACTS.....	115
	*Expected Freight Rail Impacts	
	*Mitigation	
4.7	MUNICIPAL SERVICE IMPACTS.....	118
	*Police	
	*Fire	
4.8	TRANSPORTATION SERVICE IMPACTS.....	123
	*Buses and Shuttles	
4.9	AIR QUALITY IMPACTS.....	126
4.10	OTHER NEGLIGIBLE IMPACTS.....	129
	*Earth	
	*Water	
	*Safety and Security	
	*Risk of Upset, Accidents	
	*Energy	
	*Ecological	
	*Historical and Cultural	

4.11 UNAVOIDABLE ADVERSE IMPACTS.....	135
4.12 ALTERNATIVES TO THE PROPOSED ACTION.....	136
4.13 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY.....	137
4.14 IRREVERSIBLE ENVIRONMENTAL CHANGES.....	138
4.15 GROWTH INDUCEMENT.....	139

5.0 APPENDIX

5.1 PRELIMINARY ENGINEERING -PLAN/PROFILE DRAWINGS.....	A-1
5.2 REFERENCES AND RESOURCES.....	A-27
5.3 AVAILABILITY OF THE DEIR.....	A-29
5.4 ORGANIZATIONS AND PERSONS CONTACTED.....	A-31
5.5 LIST OF PREPARERS.....	A-37

**LIST OF FIGURES**

<b><u>Figure</u></b>	<b><u>Title</u></b>	<b><u>Page</u></b>
1	Regional Context of the Project.....	2
2	Rail Transit Vehicle.....	4
3	Base Alignment Plus Route Options.....	6
4	Aerial Rendering of Century-El Segundo Extension Rail Line.....	8-9
5	Route Alignment Alternatives Studied.....	20
6	Mariposa Avenue Station-Nash Street Cross-Sections.....	24
7	Mariposa Avenue Station-Concept Plan.....	25
8	El Segundo Boulevard Station-Concept Sketch.....	28
9	El Segundo Boulevard Station-Concept Plan.....	29
10	Douglas Street Station-Cross-Section.....	32
11	Douglas Street Station-Concept Plan.....	33
12	Compton Boulevard Station and Hawthorne Rail Yard-Concept Plan.....	34
13	Compton Boulevard Alternate Station-Concept Plan.....	35
14	El Segundo Boulevard Station.....	40
15	Project Area Census Tracts and SCAG Sub-Areas.....	48
16	Aerial Photo of Project Area.....	50
17	Aerial Photo of Project Area.....	51
18	Project Vicinity-Jurisdictions and Planning Areas.....	52
19	Project Vicinity-Generalized Land Uses.....	54

**TRAFFIC IMPACTS**

20	LRT Alignment in Relation to Preferred Century Freeway Douglas Street On-Ramp....	63
21	Nash St./Hughes Way North/Maple Avenue Proposed One-Way Traffic Flow.....	65
22	Nash St./Mariposa Avenue Proposed One-Way Traffic Flow.....	66



23	Nash St./Grand Avenue Proposed One-Way Traffic Flow.....	67
24	Nash St./El Segundo Boulevard Proposed One-Way Traffic Flow.....	68
25	Nash Street Baseline Route Cross-Sections.....	69
26	Nash St./Hughes Way North/Maple Avenue Proposed Two-Way Traffic Flow.....	70
27	Nash St./Mariposa Avenue Proposed Two-Way Traffic Flow.....	71
28	Nash St./Grand Avenue Proposed Two-Way Traffic Flow.....	72
29	Nash St./El Segundo Boulevard Proposed Two-Way Traffic Flow.....	73
30	Nash Street Cross-Sections for Aerial LRT Option.....	74

LAND USE IMPACTS

31	Corridor Photos-North Project Area.....	83
32	Corridor Photos-Nash Street.....	84
33	Corridor Photos-Railroad ROW.....	85
34	Corridor Photos-Compton Boulevard.....	86
35	Key Land Uses.....	89
36	Access Restoration to Nash Street Properties.....	96

VISUAL IMPACTS

37A	Nash Street-Existing.....	100
37B	Nash Street With LRT.....	101
38A	El Segundo Boulevard-Existing.....	102
38B	El Segundo Boulevard With LRT.....	103
39A	Aviation/Rosecrans Avenue-Existing.....	104
39B	Aviation/Rosecrans Avenue With LRT.....	105

FREIGHT RAIL IMPACTS

40 Freight Rail Lines in Project Area.....116

TRANSPORTATION SERVICES

41 Project Area Bus Routes and Planned Bicycle Routes.....125

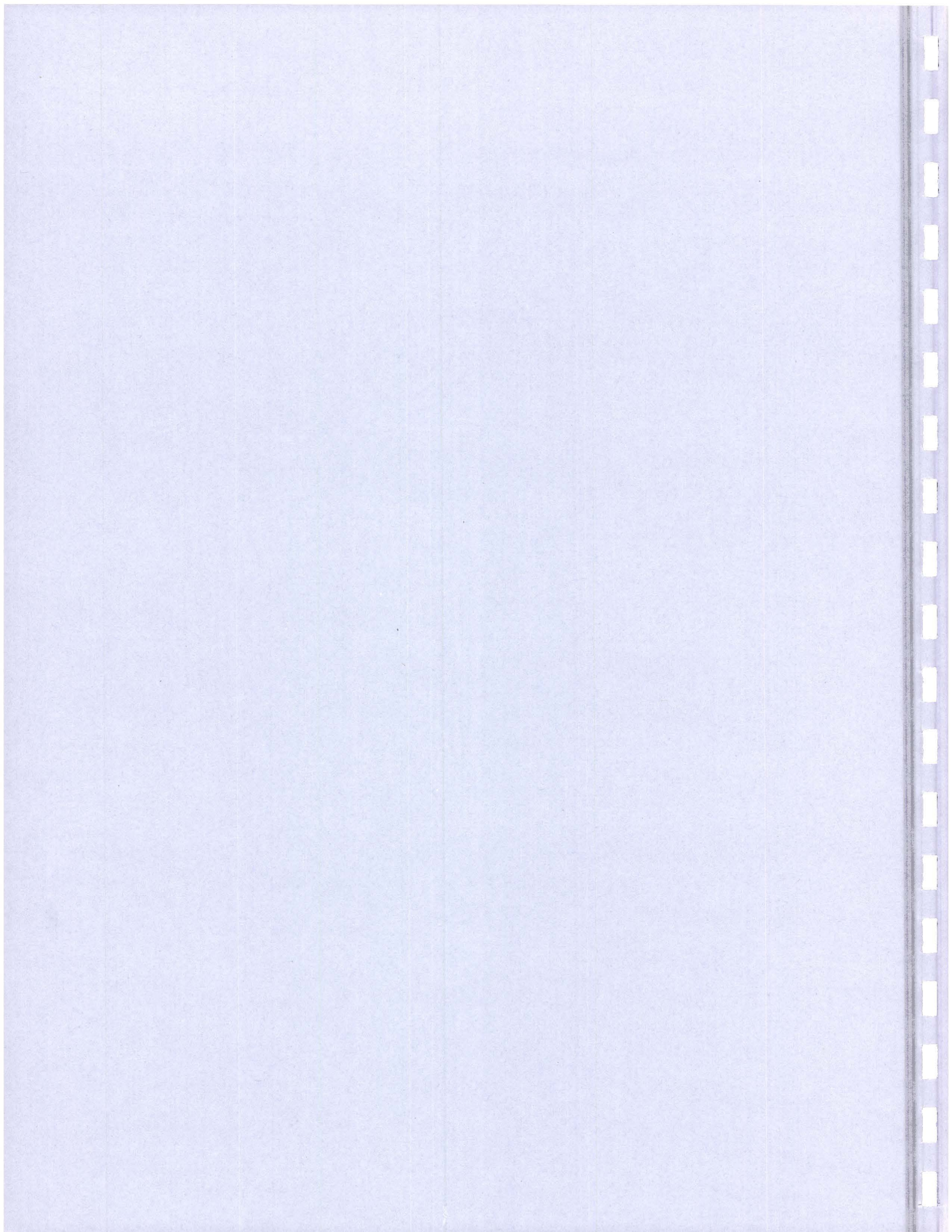
LIST OF TABLES

<u>Table</u>	<u>Title</u>	<u>Page</u>
1	Summary of Project Characteristics.....	5
2	Summary of Impacts and Findings.....	13-15
3	Projected Total Daily Boardings - Year 2000.....	45
4	SCAG Projections for Population and Employment.....	49
5	Nash Street Intersections Level of Service with LRT.....	75
6	Summary of LRT Land Use Impacts on Adjacent Uses.....	90-94
7	Comparison of Nash Street At-Grade and Aerial Option.....	97
8	Results of 24-Hour Noise Monitoring.....	107
9	Results of Short-Term Noise Sampling.....	107
10	Major Construction Impacts.....	113-114
11	Potential Service Modifications to Project Area Transit Services.....	124



## 1.0 ♦ Introduction and Summary

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## 1.0 INTRODUCTION AND SUMMARY

### 1.1 CONTEXT OF THE PROJECT

In June of 1984, the Los Angeles County Transportation Commission (LACTC) approved the construction of a rail system in the median of the Century Freeway (I-105). This action was in conformance with provisions of the Amended Final Consent Decree (U.S. District Court, Central District of California, Keith, et. al. versus Volpe, et. al.) dated September 22, 1981, which allowed dissolution of the injunction against construction of the Century Freeway if certain conditions were met. One of the conditions was that the freeway contain a median with a separate transit/HOV facility which could be converted to a light rail transit (LRT) facility. The availability of funds from Proposition A (one-half cent sales tax for transit) allowed LACTC to exercise the convertibility option prior to initial construction of a busway/HOV facility. Both the freeway and the rail transit project are anticipated to begin operation in 1993.

In June of 1984 the Commission also authorized the preparation of an Environmental Impact Report (EIR) for a southerly extension of the Century Rail Project into the El Segundo Employment Area. The primary reasons for this extension are to more directly serve the El Segundo Employment Center and to access an appropriate rail vehicle storage yard needed to efficiently operate the Century Line. In this context, the proposed project could be viewed as a further refinement to the Century Rail Line, which is a required mitigation measure for the Century Freeway Project. Should this proposed extension not be built, then the Century Rail Transit Line would terminate at the Aviation Boulevard/Imperial Highway Station and rail cars serving this line would be operated out of the main rail yard serving the Long Beach-Los Angeles Rail Line.

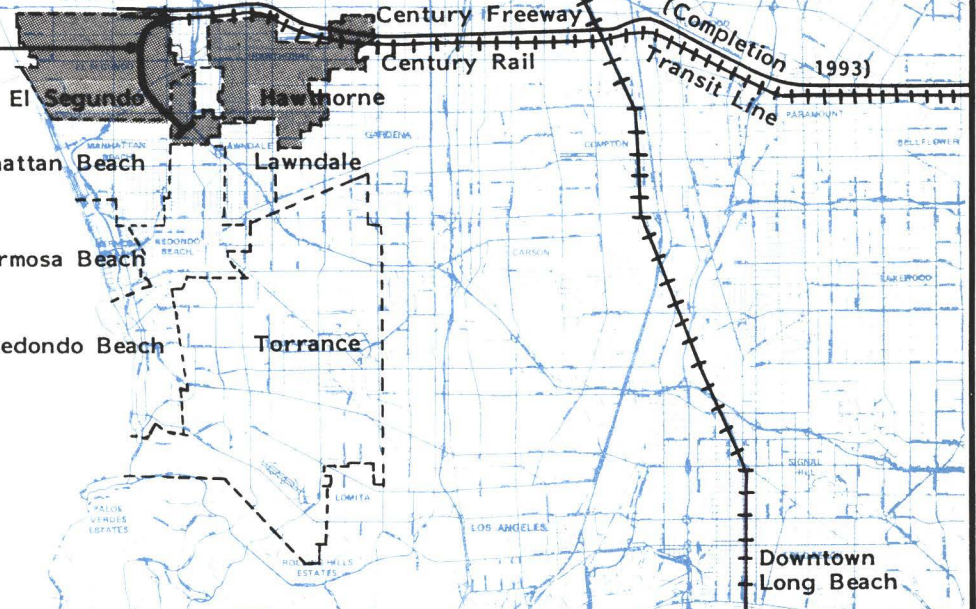
The El Segundo extension is planned to become one of the operable

# TRANSIT DEVELOPMENT IN LOS ANGELES COUNTY



## CENTURY EL SEGUNDO EXTENSION RAIL TRANSIT PROJECT

Los Angeles International Airport



# CENTURY-EL SEGUNDO EXTENSION RAIL TRANSIT PROJECT

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 1 REGIONAL CONTEXT OF THE RAIL TRANSIT LINE





segments of the Coast Rail Transit Line which would be constructed in phases between Marina del Rey, Los Angeles International Airport (LAX), El Segundo and Torrance. Continuing from the Aviation Boulevard Station, which is the current western terminus of the Century Rail Line, it is anticipated that three-car trains would operate at peak-period headways of 6 minutes, and off-peak every 12-20 minutes. At full operation the system would provide service 20 hours a day (5:30 AM until 1:30 AM), 365 days a year. Raised station platforms (which allow level access into cars without the use of steps) 300 feet in length are located based on system operating speed, ridership potential, passenger security, availability of land and relative cost. Park-and-ride lots are provided at two of the four stations while bus and shuttle loading zones, bicycle facilities and pedestrian waiting areas are provided at all station locations. The relationship of the Century-El Segundo Extension to the Century Rail line and the Long Beach-Los Angeles Rail Transit line is shown in Figure 1. Figure 2 shows a typical rail transit vehicle that would be used on this line.



**CENTURY-EL SEGUNDO EXTENSION  
RAIL TRANSIT PROJECT**

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 2  
TYPICAL LIGHT RAIL  
VEHICLE

**Table 1**  
**CENTURY-EL SEGUNDO EXTENSION RAIL TRANSIT PROJECT**  
**SUMMARY OF PROJECT CHARACTERISTICS**

ROUTE CHARACTERISTICS

**Limits** Initial route length dependent on selection of Rail Maintenance/Storage Yard Site.

**Rail Yard Alternatives** Baseline Route- If the El Segundo Rail Yard is selected, then the initial route segment would include Mariposa Ave. and El Segundo Blvd. Stations only.

Hawthorne Rail Yard Length- If this Rail Yard alternative is selected, then the initial route segment would include all four stations south of Imperial Highway, including one of the two alternate Compton Blvd. stations.

OPERATING PLAN

**Frequency** 7 days a week-6 minute headway during peak hours; 20 minute headway during off peak hours.

**Hours of Service** 5:30 a.m. - 1:30 a.m.

**Vehicles** 3 car trains

**Average Speed (in study area)** 25-35 mph

**Maximum Speed** 55 mph

**Capacity (three car train)** 228 seated passengers & 483 standees.

ACCESS

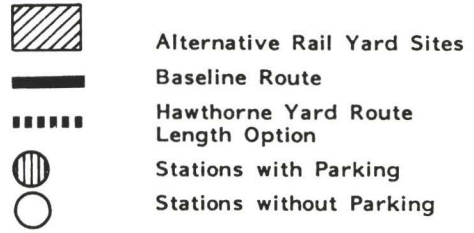
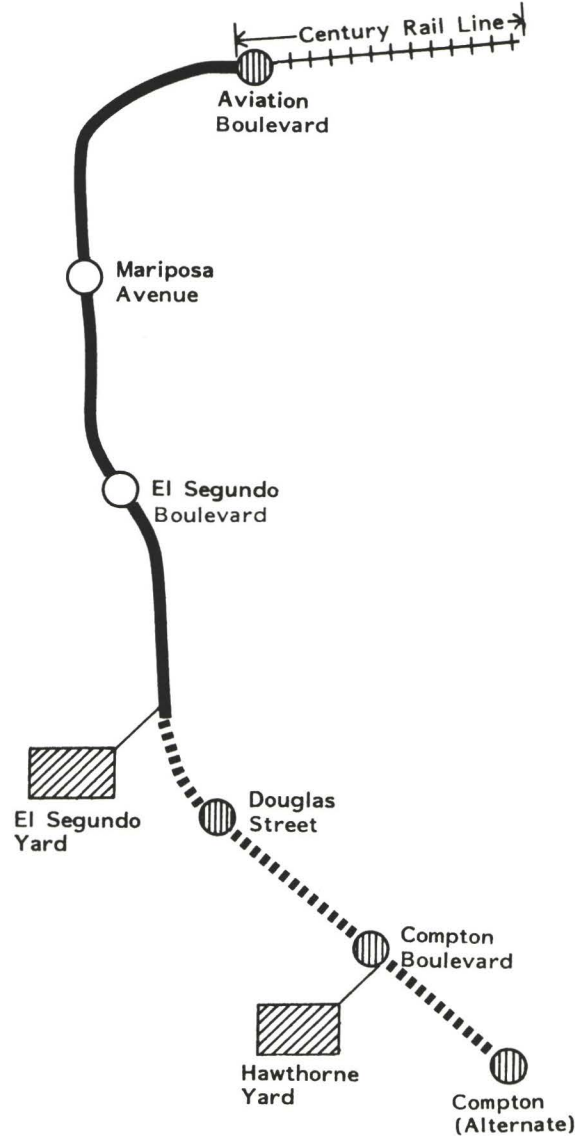
**Stations** High Level Platforms  
 \*Mariposa-At-Grade  
 \*El Segundo-Aerial with elevator and stairs  
 \*Douglas-Aerial with elevator and stairs  
 \*Compton-At-Grade

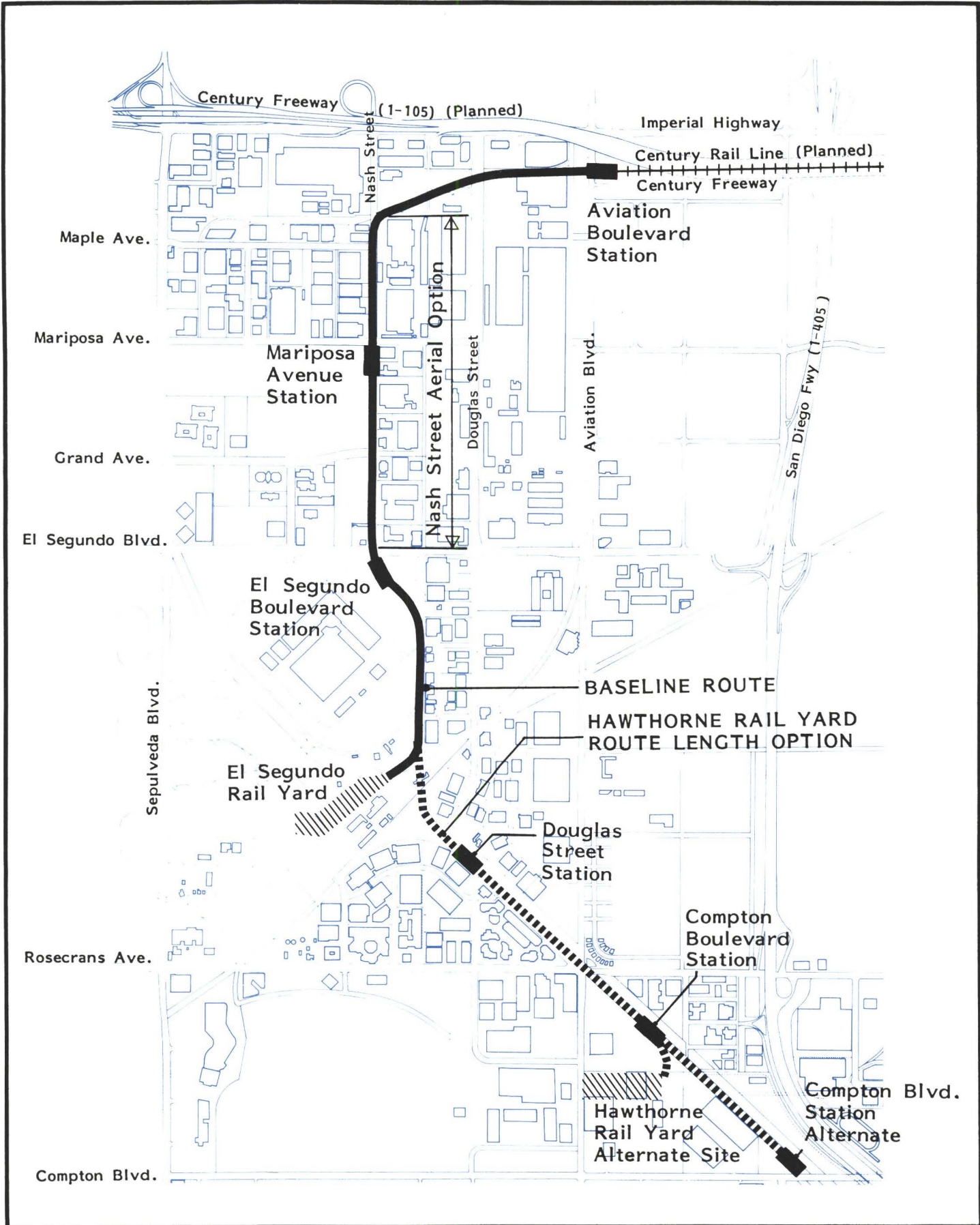
**Parking** Douglas Station-100+ cars  
 Compton Station-350+ cars  
 Compton (Alternate)-75 cars

**Bus/Shuttle** At All Stations

ADJACENT LAND USES

	Linear Distance		
	West	East	%
Office, Light Industry	1.6 mi.	1.0 mi.	40%
Heavy Industry	0.5 mi.	0.8 mi.	21%
Utility,Railroad,Public	0.7 mi.	1.4 mi.	32%
Undeveloped	0.4 mi.	0	6%
Residential	0	0.03 mi.	1/2%
	3.2 mi.	3.2 mi.	100%





**CENTURY-EL SEGUNDO EXTENSION  
RAIL TRANSIT PROJECT**  
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 3  
BASELINE ROUTE  
AND OPTIONS



## 1.2 ADOPTED BASELINE ROUTE AND OPTIONS

### General Description

Between January and November 1985, LACTC made a comprehensive study of possible route alignments, rail yard sites and route length options within the El Segundo Employment Area (ESEA). The Commission also studied possible extensions north and south of the project area which will comprise the Coast Rail Transit Line. A Route Refinement Study was released in September 1985 which detailed the preliminary engineering, environmental and cost factors that were developed in the course of the study. The route selection process is described in detail in section 2.0 of this EIR.

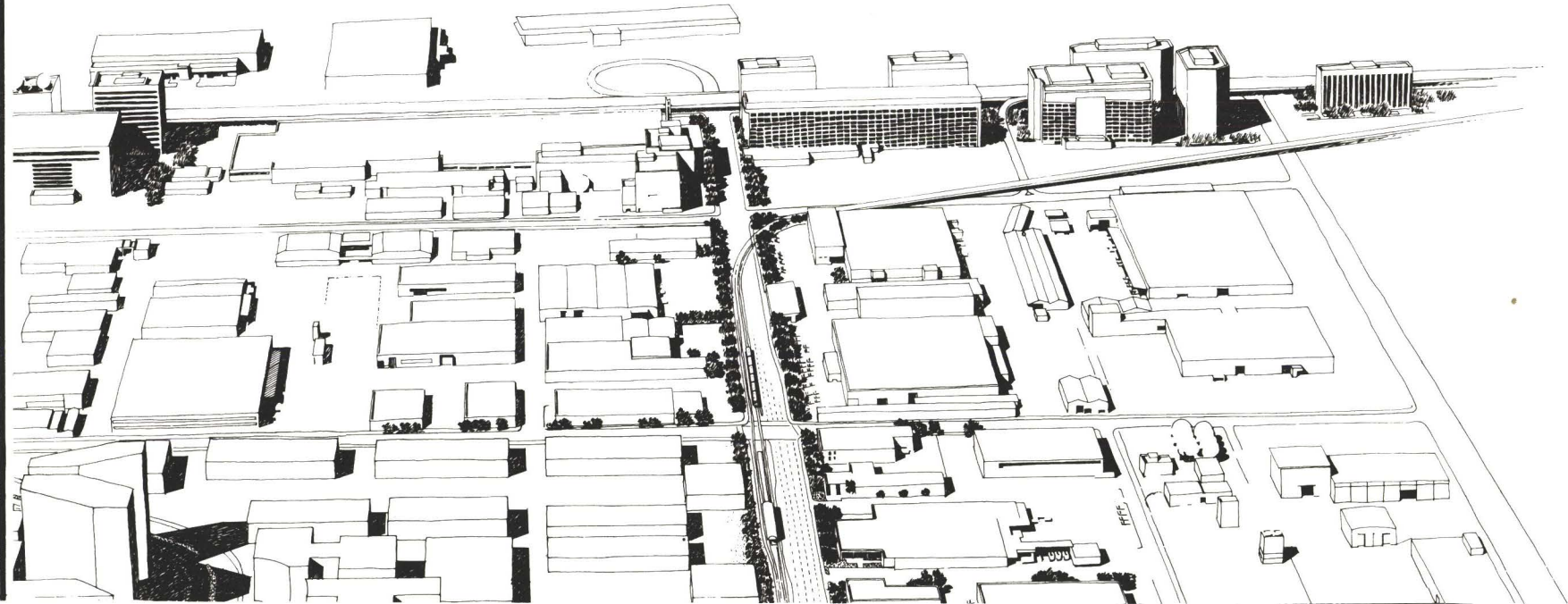
As a result of this route selection process, LACTC approved a baseline route for the Century-El Segundo Extension Rail Transit Project in November 1985. This adopted baseline route is shown in Table 1 and Figure 3. The alignment runs from the Aviation Boulevard Station of the planned Century Rail Transit Line to a Rail Storage and Maintenance Yard located to the south of the Hughes Electro-Optical and Data Systems Group (EDSG) Facility in the City of El Segundo. Station sites have been identified along Nash Street at Mariposa Avenue and at El Segundo Boulevard. The length of the baseline rail extension project is approximately 1.75 miles although route length options could extend the initial segment to as much as 3.25 miles depending on the ultimate selection of a final Rail Storage and Maintenance Yard and a Compton Boulevard Station location.

Current options include the following:

#### \*Hawthorne Rail Yard Route Length Option

If the El Segundo Rail Yard is determined to be the most feasible for the required rail yard, then the initial route length of the Century-El Segundo Extension would proceed

This view of the Century-El Segundo Extension Rail Transit Project looks north along Nash Street from the Hughes Electro-Optical and Data System Group Facility which is seen in the lower corner of the image. The planned El Segundo Boulevard Station is shown diagonally crossing El Segundo Boulevard while farther in the distance the Mariposa Avenue Station can be seen. At the top of the photo the planned Century Freeway is shown running above Imperial Highway with an off-ramp to Nash Street and an on-ramp mid-block between Nash Street and Douglas Street.



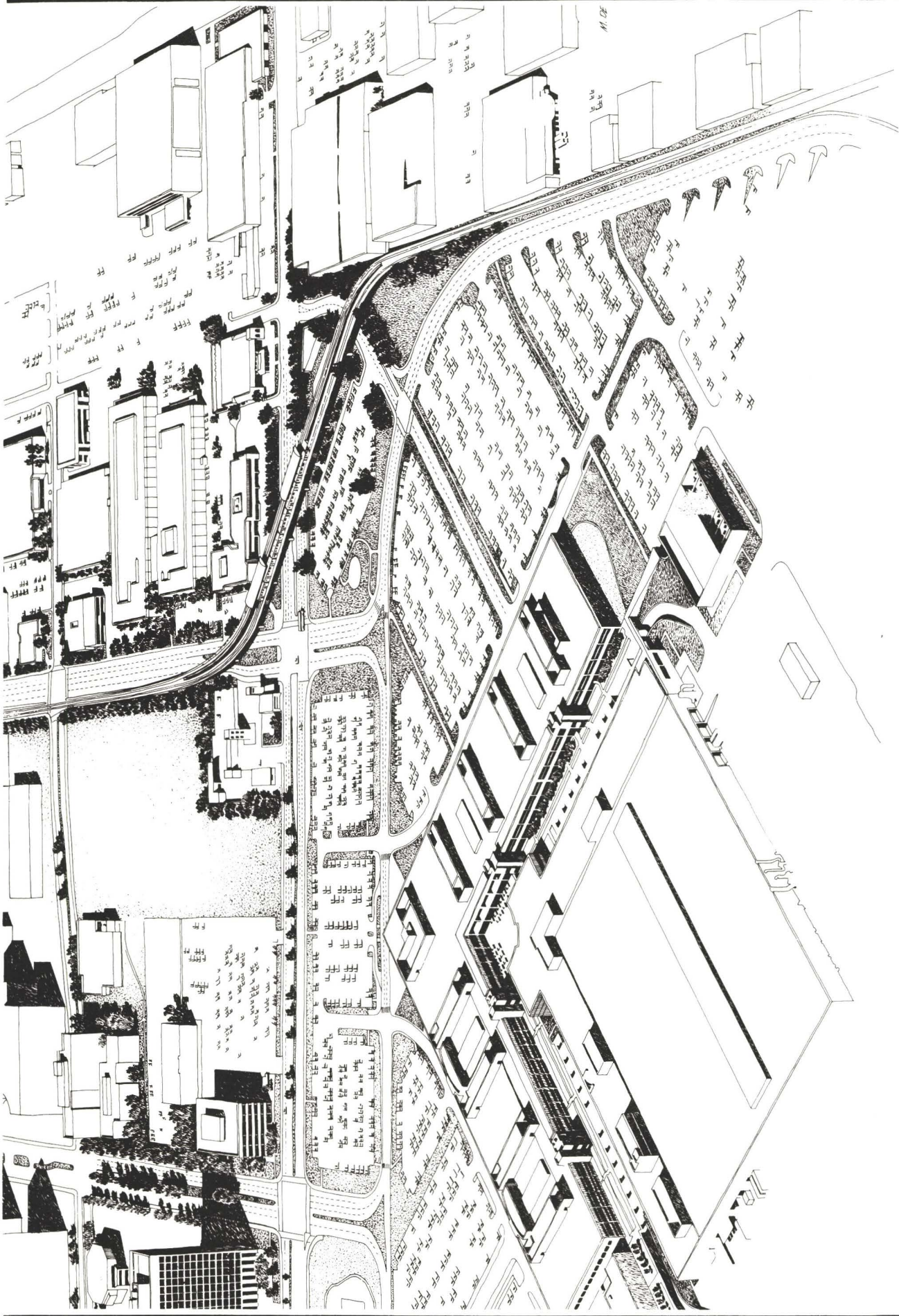


Figure 4  
AERIAL DRAWING OF THE  
BASELINE ROUTE

**CENTURY-EL SEGUNDO EXTENSION  
RAIL TRANSIT PROJECT**  
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

only as far south as the Mariposa Avenue and El Segundo Boulevard Stations (Baseline Route). Should the Hawthorne Rail Yard Site be determined to be the most feasible for the required rail yard, then the initial route length would extend south from the Mariposa and El Segundo Stations to include stations at Douglas Street and Compton Boulevard.

\*Compton Boulevard Station Alternatives

Two sites have been identified as possible locations for the Compton Boulevard Station. The northernmost site is located immediately adjacent to the potential Hawthorne Rail Yard Site about one-half mile north of Compton Boulevard. The southern site is located immediately north of the intersection of Compton Boulevard and Freeman Street. These stations are shown in Figures 12 and 13.

\*Nash Street Aerial Option

As part of the Baseline condition, the route runs at-grade on the west side of Nash Street from north of Maple Avenue to just north of El Segundo Boulevard. Under the aerial option, the alignment would be carried on aerial structure through this segment of the corridor in order to reduce potential traffic and land use impacts associated with an at-grade alignment. The relative impacts of both are discussed in Sections 4.1, 4.2 and 4.7 of this EIR.



## 1.3 SUMMARY OF IMPACTS AND FINDINGS

### Impact Categories and Findings

Table 2 summarizes the assessment of the impacts documented in the body of this report. Land takings are the one unavoidable impact that occurs as a result of the project. In all other cases, where significant effects are anticipated, mitigation measures are feasible. Beneficial transportation services and regional air quality impacts are anticipated to occur as a result of the project.

### Areas of Consensus and Controversy

Throughout the route selection process, LACTC has maintained contacts with interested property owners, city officials, city staff, the El Segundo Employers Association, developers and citizens at large.

Many concerns were raised and evaluated for engineering, environmental and cost factors in the course of the route selection process. The major concerns along with the appropriate response of LACTC are included below:

\*The City of Hawthorne, along with the Tumanjan & Tumanjan Investment Company, objected to the taking of a property adjacent to the San Diego Freeway between Compton Boulevard and 147th Street for use as a rail yard. This site was subsequently deleted from consideration.

\*The City of Hawthorne, representing homeowners of the Holly Glen neighborhood of that city objected to the location of a new rail LRT bridge on the east side of an existing freight rail bridge over Rosecrans Avenue and Aviation Boulevard because of noise impacts on that community. LACTC subsequently shifted the bridge in that location to the opposite (western) side of the existing freight rail bridge and conducted an acoustical study to verify that any remaining noise effects of LRT will be within acceptable levels. These findings are described in Section 4.4.

\*The City of El Segundo expressed concerns about potential traffic impacts along Nash Street that would

result from an at-grade LRT alignment. Concern was expressed about response time and access for emergency vehicles. Also, the City was interested in maintaining the possibility of future connection of discontinuous portions of Douglas Street that could be blocked by the LRT alignment. Working with the City Traffic Engineer, Public Works Department and Planning Department, traffic impacts and mitigation measures were identified, which are described in Sections 4.1 and 4.2 of this report. Emergency vehicle response impacts are dealt with in Section 4.7. Conformity with adopted plans regarding possible Douglas Street extension are discussed in Section 4.1.

\*Hughes Aircraft Company expressed concern over potential vibration impacts to delicate instruments in their Electro-Optical and Data Systems Group Facility. An acoustical vibration consultant was retained and studies were performed that indicated no significant impact would occur. These findings are described in Section 4.4.

\*Allied Chemical Corporation objected to the use of its property in El Segundo as a potential rail yard site. LACTC has subsequently redesigned that rail yard to minimize the amount of land that would be required from Allied Chemical Corporation's property from 8.5 acres to 1.7 acres should this rail yard site be selected. Allied still has objections to the revised plan, however, due to company needs for expansion and for a buffer between chemical processing facilities and adjacent land uses.

\*Rockwell Corporation and Hughes Aircraft Company expressed concern over employee parking displacement that would occur as a result of the rail line. LACTC has redesigned segments of the route alignment to minimize this impact. The remaining impacts are described in Section 4.2.

\*TRW Corporation objected to the use of its property along Aviation Boulevard in the City of Hawthorne that would be required for the proposed Compton Boulevard Station North. LACTC subsequently eliminated a proposed park and ride lot at this location in order to minimize the amount of land that would be required for the station and also identified an alternative station location. The Commission has studied the engineering, environmental and cost considerations of both sites. These station sites are described in Section 2.2 and illustrated in Figures 12 and 13.

**TABLE 2  
CENTURY-EL SEGUNDO EXTENSION  
RAIL TRANSIT PROJECT  
SUMMARY OF IMPACTS AND SIGNIFICANCE**

ENVIRONMENTAL IMPACT CATEGORY	IMPACTS	FINDINGS
Land Use -Acquisition & Taking	ROW acquisition requires between 8.5 and 11.6 acres of privately held property, and 2.5 acres of existing public roadway. Between 143-200 employee parking spaces would be displaced however, between 170-450 new park and ride spaces would be created.	Unavoidable Impact- Private land takings have been minimized as well as the number of parking spaces displaced. All alternatives studied involved private land takings. No other feasible alternatives exist.
-Property Access	Exclusive at-grade ROW on Nash St. will block access to properties on the west side between El Segundo Blvd. and Maple Ave.	Not Significant- Mitigation feasible through construction of new access roadways which would be constructed by others as the properties are redeveloped.
Traffic Circulation	Exclusive at-grade LRT on Nash St. will narrow ROW for use of traffic. Increased traffic in vicinity of station areas may introduce circulation conflicts at already congested intersections.	Not Significant- Mitigation feasible through planned one-way traffic couplet system on Nash & Douglas Streets and modest intersection flaring to accommodate additional turning lanes. Increased traffic in vicinity of station areas is not significant.
-Conformity with Adopted Plans	The project conflicts with planned extension of Douglas St. in the Circulation Element of the El Segundo General Plan.	Not Significant- Alternative designs for the connection are possible.
Freight Rail	Design of the Douglas Street On-Ramp to the Century Freeway around which the LRT alignment has been planned, requires modification of an existing spur line.	Not Significant- Existing spur tracks are not in use. If freight service is reinstated, the spur can be reconfigured to provide access to all facilities.
Noise and Vibration	Rail line passes in close proximity to two sensitive receptors.	Not Significant- Noise and vibration impacts are within existing ambient levels at these locations.

Visual	Aerial structures will block vistas and cause shadows along sidewalks, streets and some adjacent structures.	Not Significant
Construction	Minor disruption of traffic flow would occur on Nash, Maple, Mariposa, Grand, Douglas, El Segundo, Rosecrans and Aviation during the construction of tracks and aerial structures. Minor noise-related disruption would also occur for residences in Holly Glen. Dust effects may result from grading, excavation, and hauling activities. Numerous underground and overhead utility relocations will be required.	Not Significant- Construction phasing will be programmed to minimize impacts. Construction activities will be governed by city and county codes.
Municipal Services	Station areas, particularly during evening hours of operation will require police response and patrol. A potential fire station location on Chevron property along Nash St. may be temporarily blocked by rail vehicle movements on the at-grade rail line.	Not Significant- Local police will only support transit security patrols. Alternate Fire Station locations exist.
Air Quality	Transit improvements are an integral part of the Regional Air Quality Management Plan. Any shift from auto to transit would be beneficial. Small Park and Ride lots at the Douglas and Compton Stations, as well as shuttle van zone at all stations would attract vehicle trips to these locations.	Overall Beneficial Impact- At the local level Park and Ride lots would have an insignificant effect on air quality. Construction impacts would be governed by standard industry codes and practices as well as Federal, State and local laws regarding air quality.
Earth	No active earthquake faults are crossed and there are no below grade sections.	Not Significant
Water	Modest increases in impervious surface area would be created by the construction of parking lots. Relocation of major utilities will be required.	Not Significant

Transportation Services	Existing RTD, South Bay Shuttle, ESEA Commuter Shuttles and other local carriers will have their routes altered to serve Rail Station locations.	Beneficial Impact
Risk of Upset	Potential for rail/auto collisions exists at at-grade crossings. Potential for Rail Transit/Freight Rail collisions exists in the event of derailment. The potential El Segundo Rail Yard Site is located adjacent to a chemical production facility. Potential accidents at this facility could pose a health hazard to railyard employees.	Not Significant- Signage and signals will reduce the potential for rail/auto accidents. Design of rail transit line will minimize the potential for transit/freight rail collision. Historically, accidents at the chemical facility have been rare. Alarms and safety precautions could reduce any potential hazard.
Energy	Some reduction in energy use will result from reduced auto trips. This savings may be offset by energy requirements of construction and operation of the rail system.	Not Significant
Growth Inducement	Construction of the rail extension project would generate short-term employment. Operation of the system would create a moderate number of full-time jobs. Construction of rail transit may increase the development potential of some sites near station areas.	Not Significant- The rail project would increase the potential number of trips into the area by all transportation modes however, land densities are controlled by local government.
Ecological	No Impacts Anticipated	Not Significant
Historical and Cultural	No Impacts Anticipated	Not Significant

## 1.4 USES OF THE ENVIRONMENTAL IMPACT REPORT

### Purposes

In order to provide state and local decision-makers and the general public with a clear understanding of the implications of the construction and operation of this extension of the Century Rail Line, this Environmental Impact Report (EIR) identifies and assesses the potential environmental impacts which would occur as a result of the operation of a rail transit system in the El Segundo Employment Area. This document, which is a decision-making tool for the purpose of alignment selection, land acquisition and route construction, has been prepared in accordance with the California Environmental Quality Act (CEQA).

After state and local governments and the general public have commented on the draft E.I.R., the Commission will select a single alignment and yard site from the options under study for final environmental clearance. The Commission will make three decisions at that time. They are:

- 1) which yard site to clear environmentally,
- 2) which length option to clear environmentally, and
- 3) whether to be at-grade or on aerial structure on Nash St.

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

This document should be considered a staged EIR on the Coast Rail Line. As such, it will serve as initial environmental documentation which can be referenced in subsequent EIR's for phased extensions of the Coast Rail Transit Line south through Redondo Beach, Lawndale, and Torrance; and north through the City of Los Angeles to Marina del Rey.

### Permits and Approvals

The following agencies may use the EIR as part of the process of

issuing permits, approvals or cooperative agreements necessary to construct the project:

\*Federal, State, County and Local Governmental Agencies

- California State Department of Transportation
- City of El Segundo
- City of Hawthorne
- City of Manhattan Beach
- Los Angeles County Flood Control District
- U.S. Defense Department
- Interstate Commerce Commission
- Public Utilities Commission
- Federal Railroad Administration
- Southern California Rapid Transit District
- Army Corps of Engineers

\*Railroad Companies

- Atchison, Topeka & Santa Fe Railway Company
- Southern Pacific Transportation Company

\*Utilities

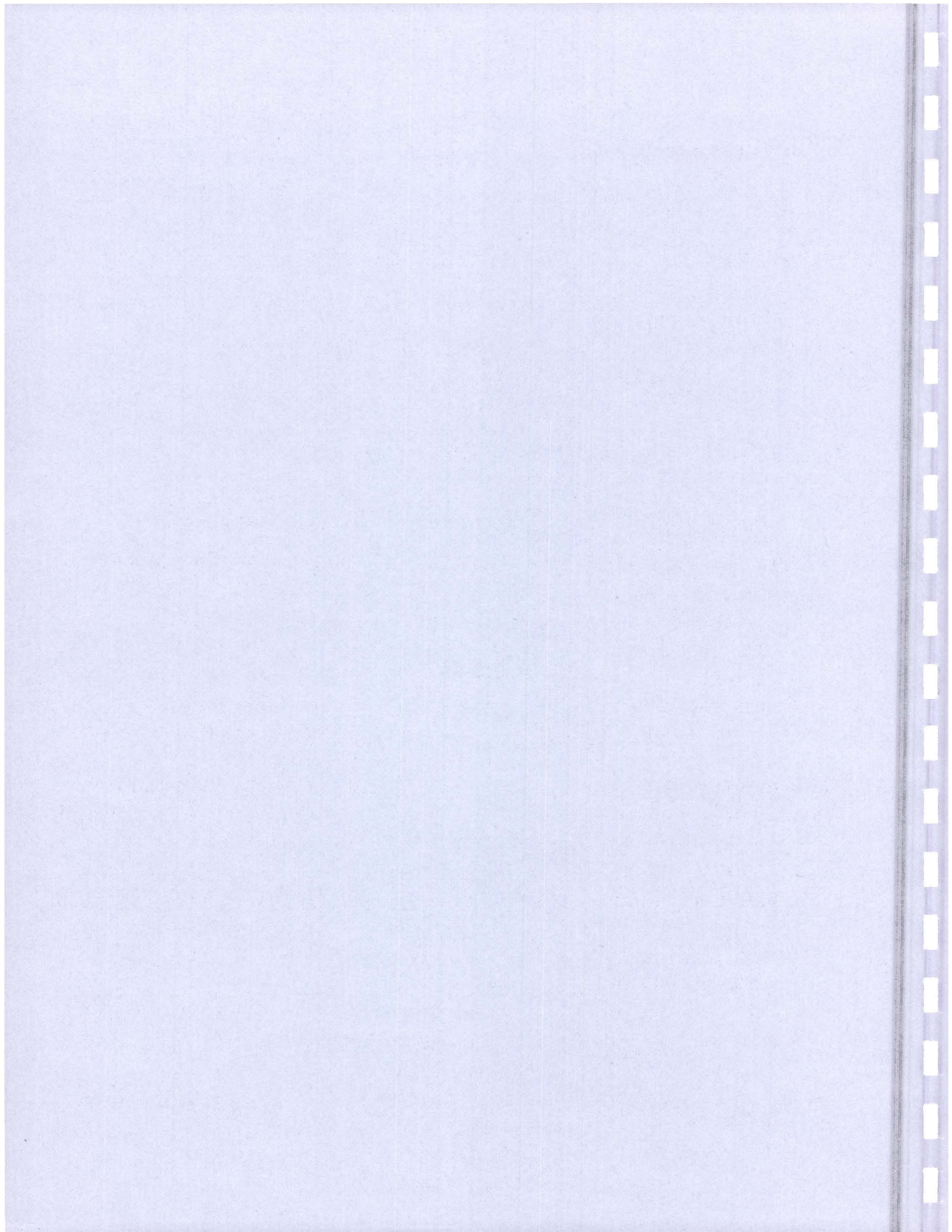
- Southern California Edison Company
- Southern California Gas Company
- Pacific Bell
- Southern California Water Company
- Standard Oil Company
- Standard Gas Company
- Four Corners Pipe Company
- Hagee-Lewis Petroleum Company
- AT&T





## 2.0 ♦ Project Description

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## 2.0 PROJECT DESCRIPTION

### 2.1 ROUTE SELECTION PROCESS

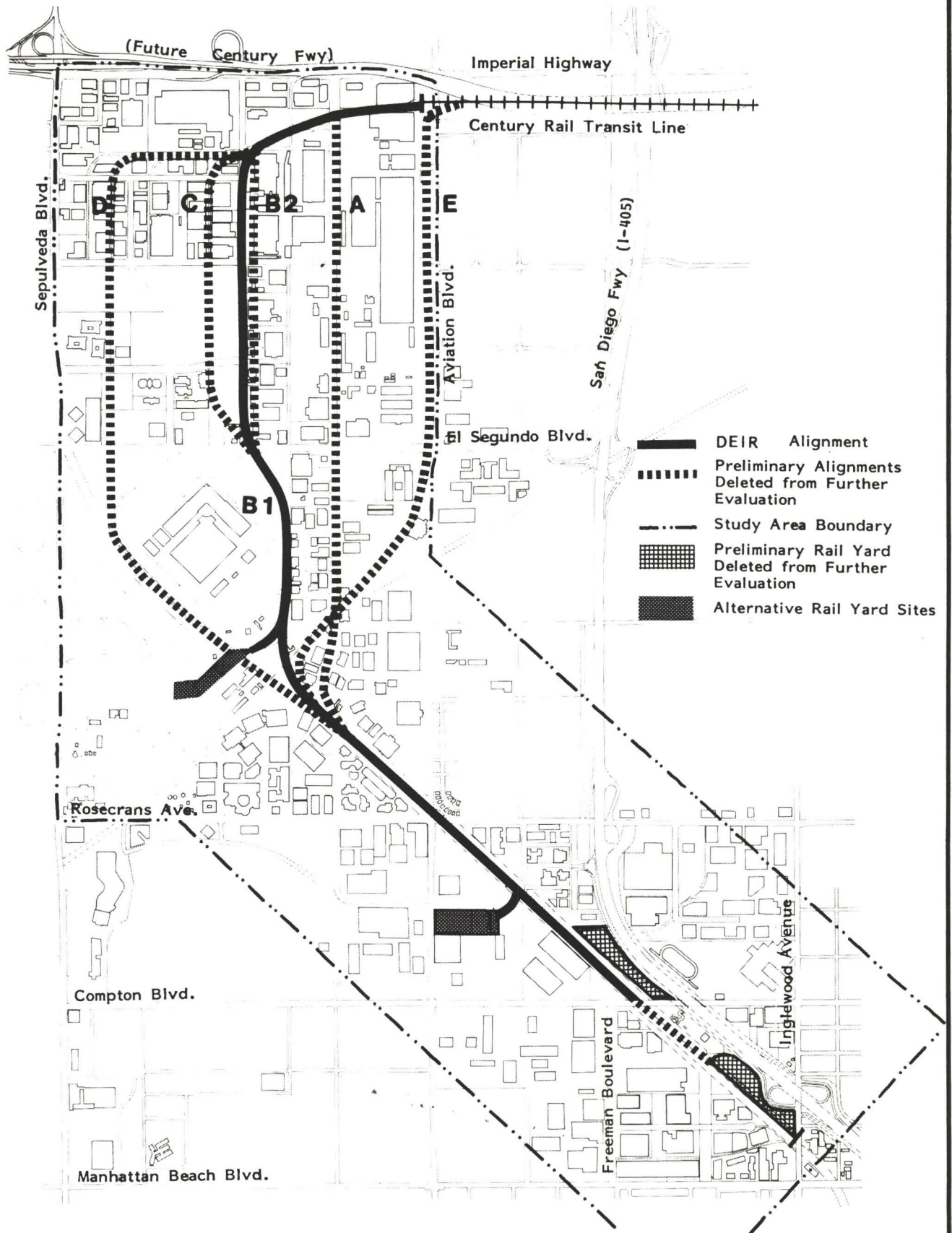
#### Background

In Fall 1984, LACTC identified five potential route extensions into the El Segundo Employment Center. The route locations were based on discussions with officials of the City of El Segundo, windshield surveys by LACTC staff and consultation with major employers. They are shown in Figure 5. Potential routes were as follows:

- \*Alternative A was located on Douglas Street
- \*Alternative B was located on Nash Street
- \*Alternative C was located mid-block between Nash Street and Continental Boulevard.
- \*Alternative D was located mid-block between Continental and Sepulveda Boulevards.
- \*Alternative E was located along the Santa Fe Main line on the west side of Aviation Boulevard.

These alternatives were reviewed in a workshop held by the El Segundo Employers Association in January 1985 and subsequently in individual meetings with El Segundo City representatives, the El Segundo Employers Association (ESEA), relevant property owners, developers and other interested parties. The results of these meetings and subsequent responses, both formal and informal, were as follows:

- \*There was a consensus to study alignment alternatives A, B and C.
- \*Alternative E did not adequately serve the high employment concentrations to the west.
- \*Alignment D was strongly opposed by affected land owners and was the longest and costliest alternative.



**CENTURY-EL SEGUNDO EXTENSION  
RAIL TRANSIT PROJECT**  
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 5  
ROUTE ALIGNMENTS AND  
RAIL YARDS STUDIED



Based on these reasons, the Commission staff recommended dropping Alternatives D and E as possible rail alignments. On the other hand, in response to community requests an additional alignment, Alternative B2, was added to the study. Alternative B2 is similar to Alternative B1; however, B2 runs in an aerial configuration.

In March 1985, the Commission adopted Alignment A, B1 (at-grade), B2 (aerial), and C as the alternatives to be evaluated in a Route Refinement Study within the El Segundo Employment Area. In April 1985 these alternatives were presented at an open house held at 222 North Sepulveda Boulevard to hear public review and comments.

### Route Refinement Study

The Century-El Segundo Extension Route Refinement Study, completed in September 1985, documented an engineering and initial environmental evaluation of the alternative rail alignments. Station locations, potential yard sites, and potential extensions into the cities of Hawthorne and Redondo Beach were summarized and evaluated in order to define more clearly a single alignment to be carried through the environmental clearance process.

### Adopted Baseline Route

In November 1985, as a result of this study, the Commission approved the B1/B2 - Nash Street alignment alternative within the City of El Segundo for further study. It also authorized continued evaluation and study of the overall route length and rail yard locations due to the following concerns:

\*Two of the three alternative yard sites identified in the Route Refinement Study appeared undesirable. The City of Hawthorne expressed strong opposition to the use of the property owned by Tumanjan and Tumanjan Investment Company as a candidate yard site. The City also opposed the location of the rail alignment on the

east side of the Santa Fe Pacific mainline because of its proximity to the Holly Glen community. The shifting of the alignment to the west side of the tracks made the use of the Redondo Beach Rail Yard site infeasible.

\*At the City of Hawthorne's request, an alternative alignment and rail yard site were considered on the west side of the AT & SF mainline.

These proposed project refinements were evaluated by LACTC staff which subsequently recommended that two route length options be evaluated during the environmental clearance process. These lengths are as follows:

\*Baseline Route - From the Aviation Station south to the candidate El Segundo Rail Yard site. (1.75 miles)

\*Hawthorne Rail Yard Route Length Option - From the Aviation station south to the candidate Hawthorne Rail Yard site. (3.25 miles)

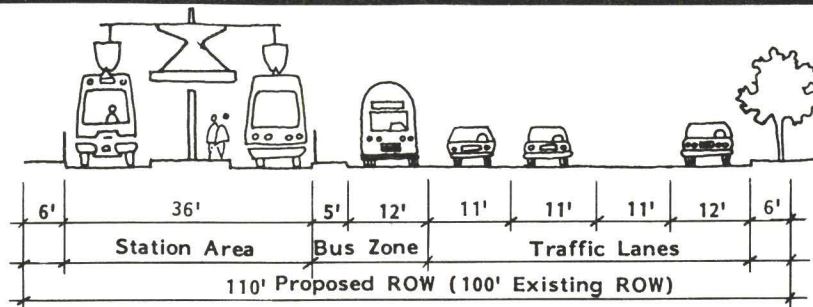
## 2.2 DETAILED ROUTE DESCRIPTION

The location and configuration of the Baseline Route has been established based on engineering, cost, patronage, and environmental considerations. Engineering considerations included design standards developed for the LACTC Transit Development Program utilizing Design and Performance Criteria for the Long Beach to Los Angeles Rail Transit Line.

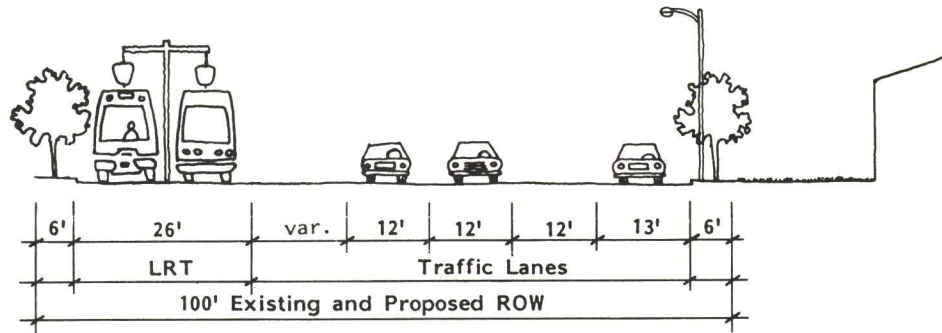
The Baseline Route is elevated on aerial structure for a large portion of its total length because of several active freight lines in the area and major arterials that are already severely congested during peak hours. The alignment has stations with provisions for security, handicapped access, fare collection, seating and shelter. Stations were conceived primarily to provide pedestrian access although all stations include shuttle bus stops and passenger drop-off areas to serve South Bay residents and the larger employers in the El Segundo Employment Area. The two southernmost stations at Douglas Street and Compton Boulevard will accommodate small park-and-ride facilities. Such facilities were not included in the El Segundo Boulevard or Mariposa Avenue Stations as these are envisioned to be destination stations serving commuter employees in an area in which strong efforts are underway to control the growth of vehicular traffic. A detailed set of Conceptual Design Drawings for the project are included in Section 5.1.

### Baseline Route-Aviation Boulevard to Mariposa Station

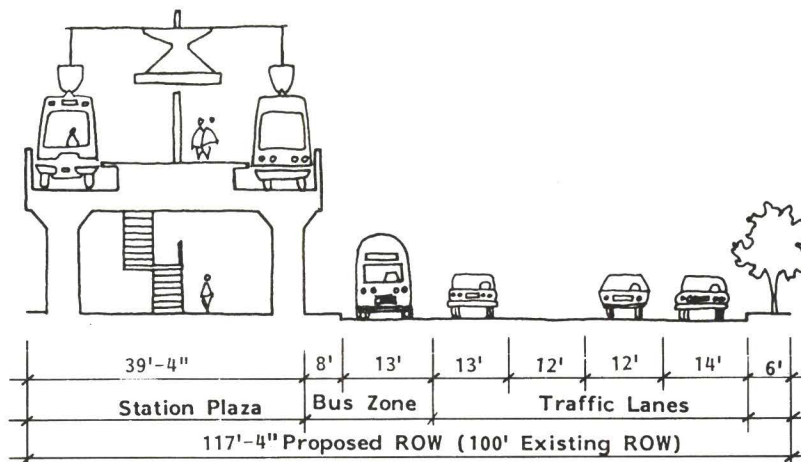
The Baseline Route begins at Aviation Boulevard and runs westerly within the AT&SF railroad right-of-way on an aerial structure. Upon crossing over Douglas Street the alignment parallels the AT&SF right-of-way and proceeds in a southwest direction through Rockwell International Corporation's El Segundo Facility. The line descends to grade just before crossing Nash Street and runs in an exclusive at-grade right-of-way on the west side of the



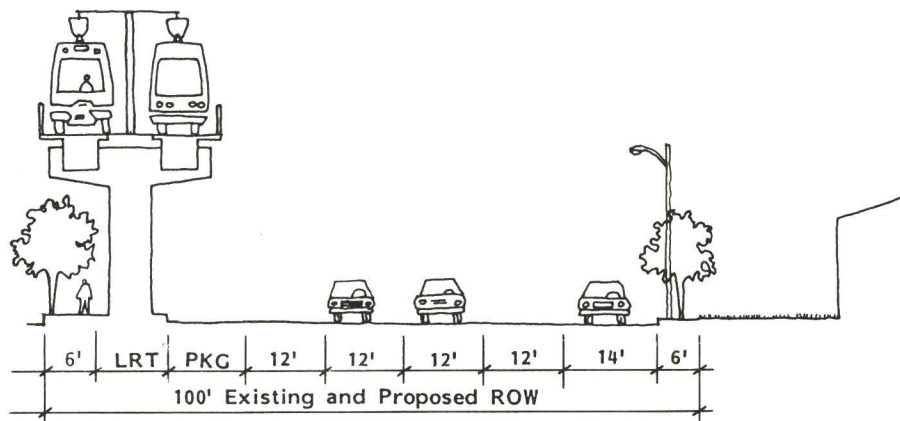
**BASELINE STATION / SECTION A-A**



**BASELINE ROUTE / SECTION B-B**

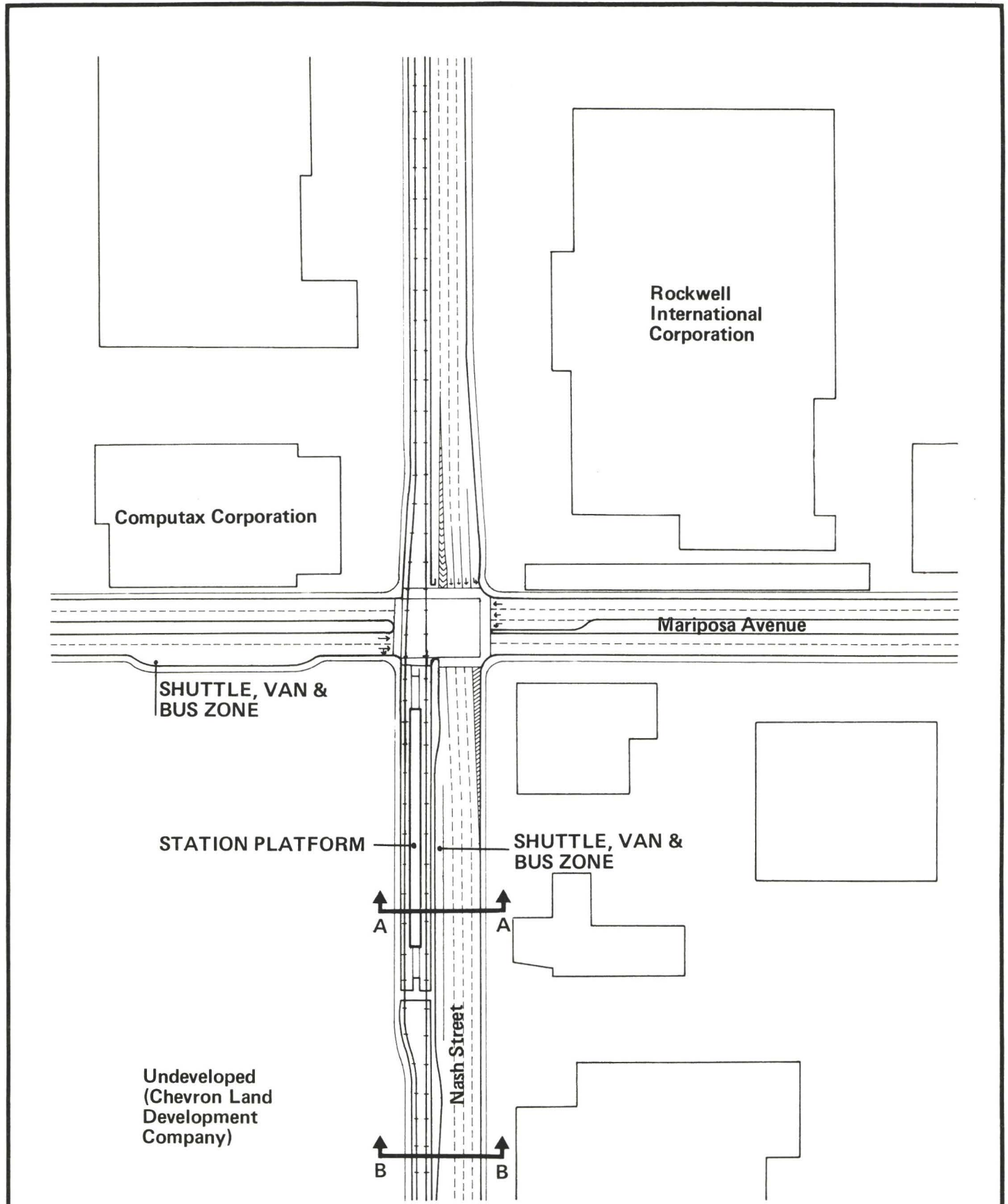


**AERIAL OPTION STATION**



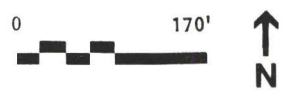
**AERIAL ROUTE OPTION**





Note : Designs are preliminary and are subject to change during final design phase.

Figure 7  
MARIPOSA AVENUE  
STATION  
CONCEPT PLAN



street, within the existing 80 foot right-of-way. The line crosses both Maple Avenue and Mariposa Avenue at-grade before entering the first station.

Mariposa Avenue Station, shown in Figures 6 and 7, is an at-grade station located just south of Mariposa Avenue. The station has a center platform and will require the taking of a 10 foot by 500 foot strip of land totaling 0.1 acres. This land is owned by Chevron Land and Development Company and is vacant, although some gas drilling is taking place until the property is developed.

Baseline Route-Mariposa Avenue Station to El Segundo Boulevard Station

The alignment continues south from Mariposa Avenue Station at-grade along the west side of Nash Street crossing Grand Avenue at-grade. The alignment in this segment of Nash is contained within the existing 100 foot right-of-way. South of Grand Avenue the alignment rises to cross diagonally over the intersection of El Segundo Boulevard and Nash Street. The line then passes above the Hughes Aircraft Company parking lot located at the southeast corner of Nash Street and El Segundo Boulevard.

El Segundo Boulevard Station, shown in Figure 7, is an aerial station located above El Segundo Boulevard and a portion of the Hughes Aircraft Company's northeast parking lot. It includes off-street shuttle van facilities, a kiss-and-ride drop-off area and possibly a small operations building to service the future Coast Rail Line. The station has a center platform and would have access from the northeast corner of the intersection of Nash Street and El Segundo Boulevard as well as from the shuttle van loading zone. The station requires 0.5 acres of the Hughes parking lot and would be accessed via stairs and an elevator.

Baseline Route-El Segundo Boulevard Station to El Segundo Rail Yard

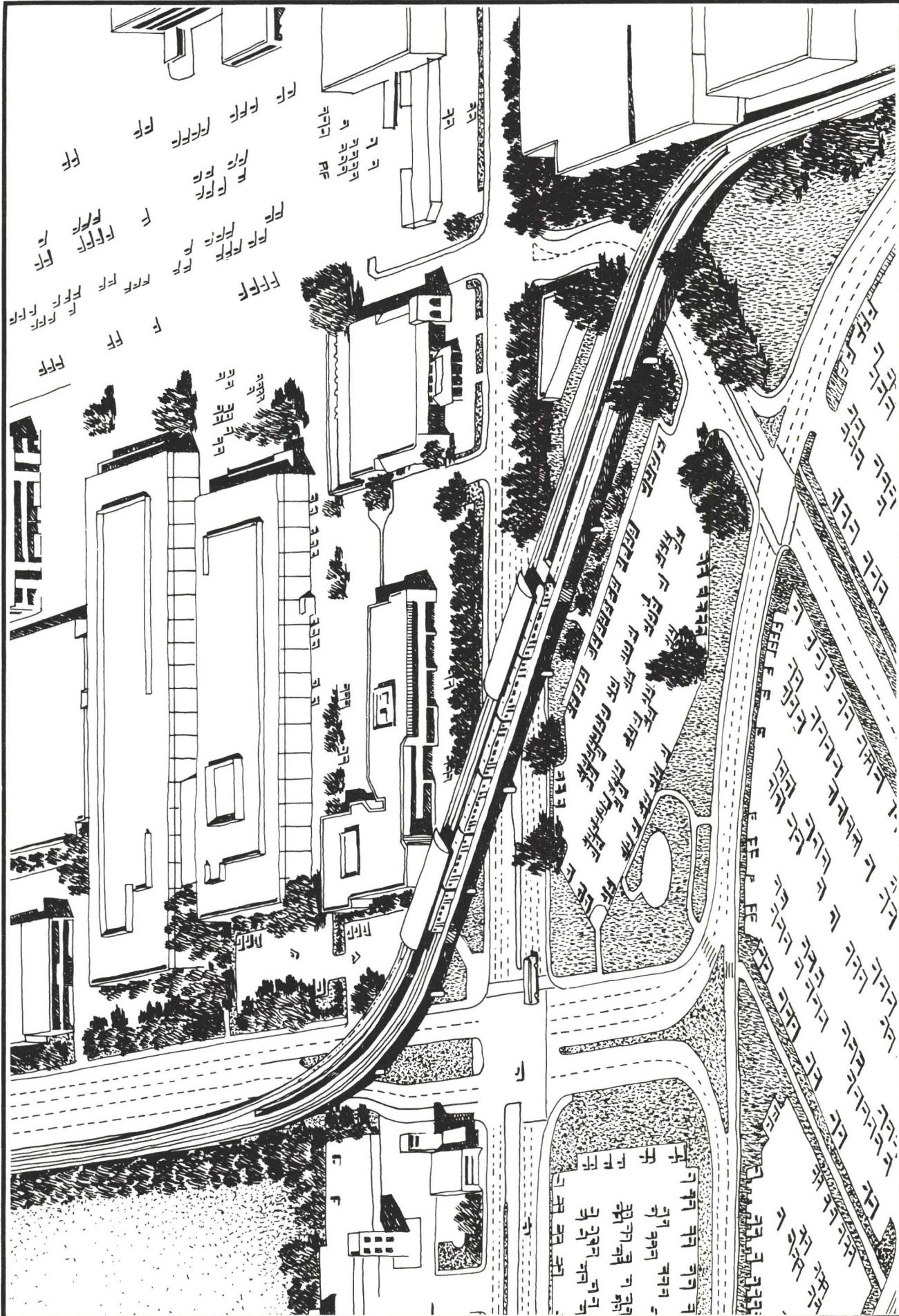
Under the Baseline Route the track south of the El Segundo

Boulevard Station would serve as a lead track into the El Segundo Rail Yard. The alignment would return to grade south of the El Segundo Boulevard Station at a point between the eastern edge of the Hughes peripheral roadway and Hughes' eastern property line. The line would follow the edge of the Hughes property to a point where it would turn to parallel the north edge of the Southern Pacific spur track serving the Chevron Oil Refinery from which it would proceed into the El Segundo Rail Yard.

Hawthorne Rail Yard Route Length Option-El Segundo Boulevard Station to Douglas Street Station

Should the Hawthorne Rail Yard be determined to be the most feasible site then the initial route alignment would proceed south from the El Segundo Boulevard Station and return to grade at a point between the eastern edge of the Hughes peripheral roadway and Hughes' eastern property line. The line would stay at-grade for approximately 1,000 feet and then rise again to cross over the Southern Pacific freight rail spur track serving the Chevron Oil Refinery and a vacant one-story office structure owned by the H. Kramer Steel Foundry scheduled for redevelopment. Continuing south on aerial structure, the line would pass beneath Southern California Edison's 66kv high power transmission towers which would be raised by approximately 25-30 feet in order to accommodate required clearances between the catenary of the rail transit vehicles and the overhead wires. The alignment would then turn to pass over and run parallel to the south side of the AT & SF Los Angeles Harbor mainline tracks. At this point the line enters the elevated Douglas Street Station.

The Douglas Street Station is shown in Figures 10 and 11. This aerial station has a center platform and would have access from Douglas Street on the north and south. Douglas Street is a discontinuous roadway in this area interrupted by the AT & SF mainline tracks. Access to the station from the south is via a cul-de-sac drop-off zone provided with stairs and an elevator.

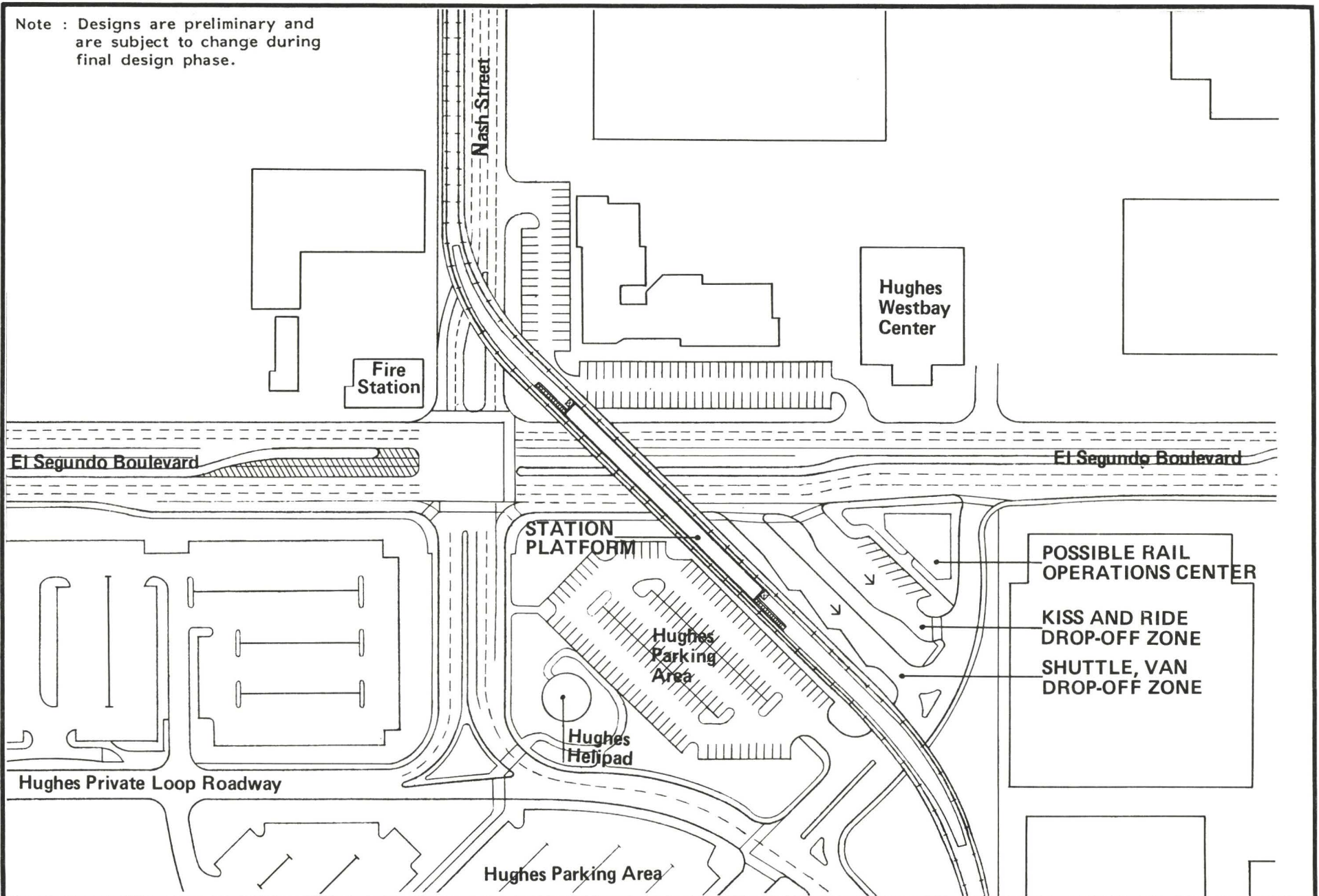


**CENTURY-EL SEGUNDO EXTENSION  
RAIL TRANSIT PROJECT**

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 8  
EL SEGUNDO BOULEVARD STATION-AERIAL SKETCH

Note : Designs are preliminary and are subject to change during final design phase.



29

# CENTURY-EL SEGUNDO EXTENSION RAIL TRANSIT PROJECT

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 9  
EL SEGUNDO BOULEVARD  
STATION  
CONCEPT PLAN

0 160'

Access from the north is via stairs from a drop-off zone that would be developed under the overhead Southern California Edison Transmission Tower right-of-way.

A small parking lot of about 120 cars is proposed adjacent to the 150-car municipal parking lot operated by the City of El Segundo. The parking area would be located within the 120 foot wide SCE utility right-of-way while the station itself would be located within the AT & SF rail right-of-way. A small strip of approximately 0.1 acres would be required for the southern Douglas Street cul-de-sac drop-off zone.

Hawthorne Rail Yard Route Length Option-  
Douglas Street Station to Compton Boulevard Station

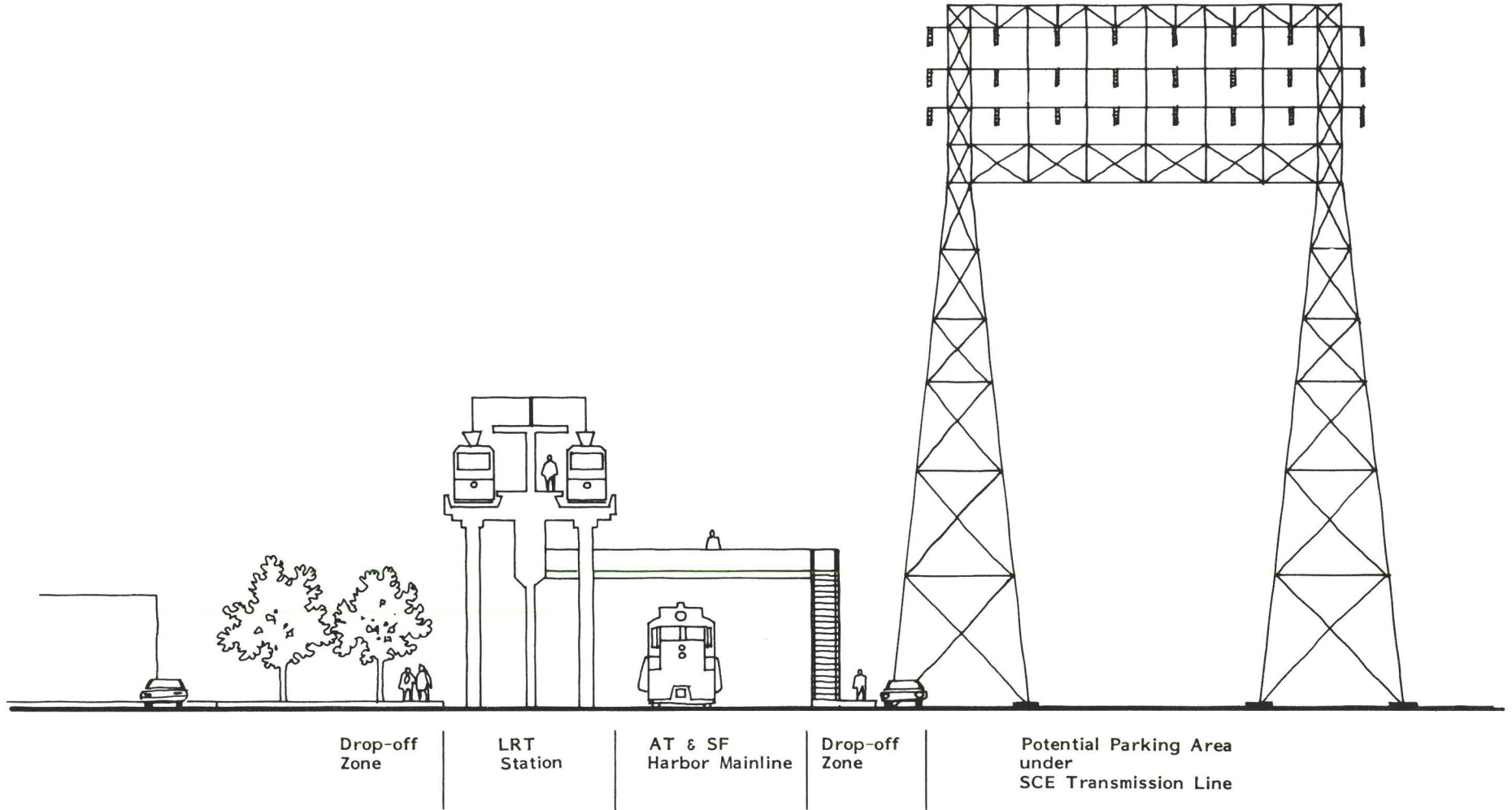
As the alignment continues southeast along the AT & SF right-of-way, it spans the intersection of Aviation Boulevard and Rosecrans Avenue on a new bridge located on the west side of the existing freight rail bridge. This bridge is shown in Figure 39B as a through girder structure. However, during the preliminary engineering phase several types of structures will be investigated. For the purpose of environmental clearance, the span of the bridge has been set such that it will allow potential future widening of either Rosecrans Avenue or Aviation Boulevard to major arterial standards.

While on structure above this intersection, the line leaves the City of El Segundo, passes through a small corner of the City of Manhattan Beach, and then enters the City of Hawthorne. No columns or structures will touch down within the City of Manhattan Beach and only 75 feet of aerial structure above the Rosecrans/Aviation intersection is within that City's jurisdiction. Southeast of the intersection, the alignment returns to ground level and proceeds within the AT & SF right-of-way to either one of two potential Compton Boulevard Station sites.

The northern Compton Boulevard Station site is located on land owned by the Atchinson, Topeka and Santa Fe Railroad and TRW, Inc. (Figure 12). Additionally, a parking area of approximately 350 cars is proposed within the Southern California Edison Company's Transmission Line right-of-way. The station would have a center platform that would be at-grade. Van pool, bus and automobile drop-off areas would be provided from both the north and south sides of the AT & SF mainline tracks. From the north side, access to the drop-off area would be via Isis Avenue and 146th Street. A pedestrian tunnel would be provided for access beneath the freight rail track between the station platform and the drop-off area. From the south the station would be accessed from a new access roadway that would connect to Compton Boulevard opposite the entrance to the TRW Space Park.

An alternative Compton Boulevard Station site has been identified as shown in Figure 13. The station is at-grade and would have a center-loading platform located immediately north of Compton Boulevard on property controlled by the Atchinson, Topeka and Santa Fe Railroad and Southern California Edison Company. The station would have vehicular access from the intersection of Compton Boulevard and Freeman Street and would provide on-site parking for approximately 75 cars.

Either one of the Compton Boulevard Stations would serve as both a destination station for the TRW Space Center and other employers in the area, as well as a park-and-ride facility for motorists from the San Diego Freeway and other points in the Southbay. The northern station has several operational advantages to the southern station site, including more direct access to the San Diego Freeway and a larger park-and-ride lot. The northern station is also immediately adjacent to the proposed Hawthorne Rail Yard, thus providing direct access from the terminal station into the yard without the need for switchovers and doubling back that would be required from the southern



Note : Designs are preliminary and are subject to change during final design phase.

# CENTURY-EL SEGUNDO EXTENSION RAIL TRANSIT PROJECT

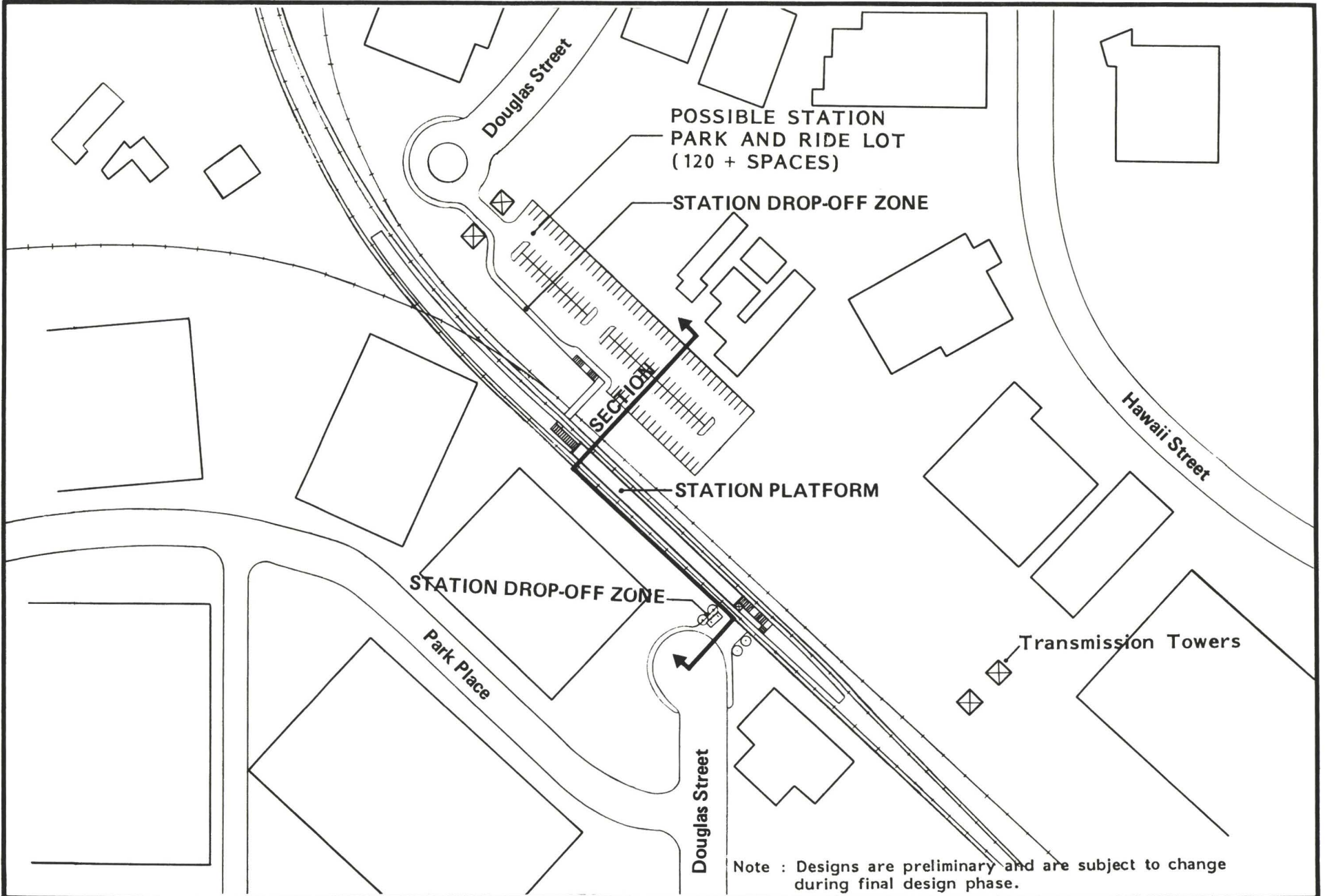
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 10  
DOUGLAS STREET STATION - CROSS SECTION

0 28'



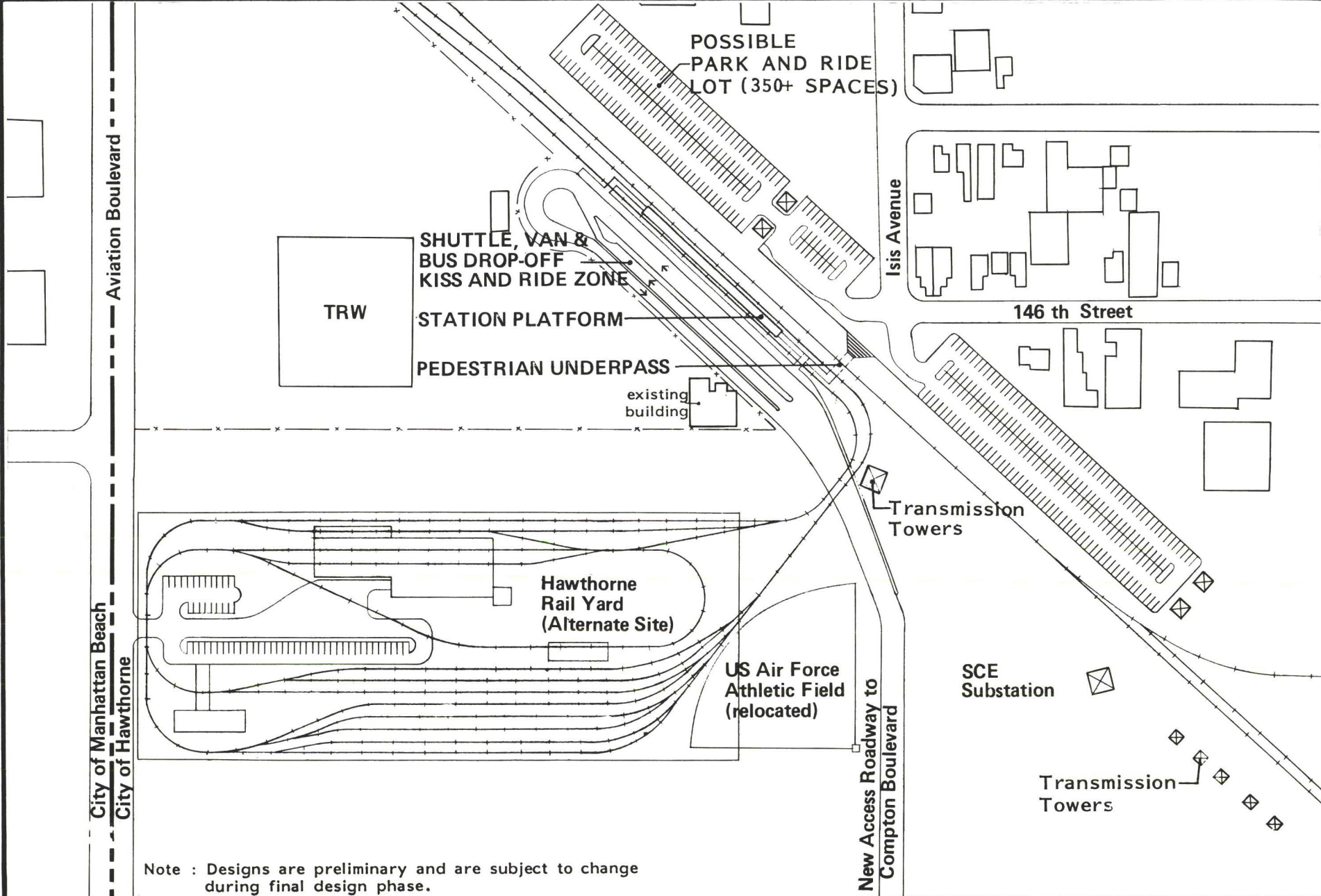




Note : Designs are preliminary and are subject to change during final design phase.

Figure 11  
DOUGLAS STREET STATION  
CONCEPT PLAN





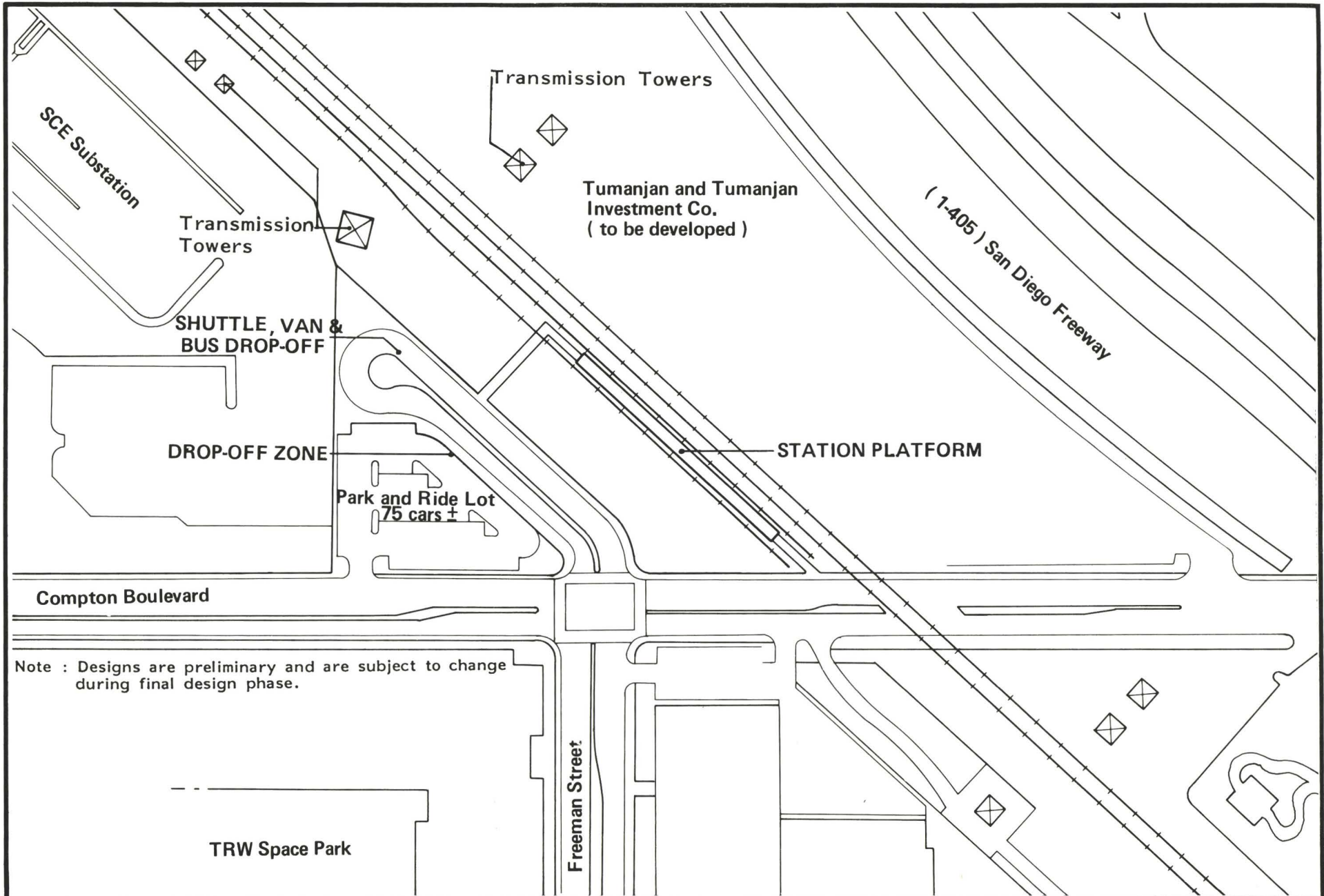
Note : Designs are preliminary and are subject to change during final design phase.

**CENTURY-EL SEGUNDO EXTENSION  
RAIL TRANSIT PROJECT**

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 12  
COMPTON BLVD. STATION AND OPTIONAL  
HAWTHORNE RAIL YARD SITE PLAN





**CENTURY-EL SEGUNDO EXTENSION  
RAIL TRANSIT PROJECT**

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 13  
ALTERNATE COMPTON BOULEVARD STATION SITE  
CONCEPT PLAN



alternative station site. Lastly, the northern station is directly adjacent to the 20-acre Hawthorne Redevelopment Area project currently underway thus providing superior access to future employees of that development.

### 2.3 RAIL YARD SITES

Two potential yard sites, shown in Figures 12 and 14, have been identified as candidates for the location of a rail vehicle storage and maintenance facility within the study area. The first site is located south of the Hughes EDSG Facility in the City of El Segundo. The second site is located north of Compton Boulevard in the City of Hawthorne.

Both rail yard sites have been developed to provide vehicle operations and maintenance functions, including the following: vehicle dispatch, daily inspection, car storage, interior cleaning, washing, running repair, periodic inspection, periodic maintenance, vehicle testing and blowdown. A vehicle maintenance building, operators building, car wash and blow down are provided on site in order to perform these functions. The facilities layout is based upon system operations, maintenance efficiency and site geometry. The yard and maintenance facility will have extensive security features including high fencing, closed-circuit television monitoring, and intruder alarms. The rail yard will operate primarily during the hours of revenue service, however, additional activities on the site will occur on a 24-hour basis.

#### Baseline El Segundo Rail Yard

The El Segundo Rail Yard Site is approximately 7.9 acres in size and is located on largely vacant land owned by Southern Pacific Transportation Company (6.2 acres) and Allied Chemical Company (1.7 acres). The site is level and could functionally accommodate the operations of the rail yard. The site is bordered by the Hughes EDSG Facility, a storm drain detention basin, a Southern Pacific Railroad spur track serving the Chevron Oil Refinery and a chemical processing facility operated by Allied

Chemical Company. The site is crossed by a Southern California Edison high-power transmission line.

Figure 14 shows the general layout of the proposed El Segundo Rail Yard Facility. The yard access for rail vehicles would be to and from the north. A double-track lead would generally follow the eastern perimeter of the Hughes EDSG property where it would turn to parallel the Southern Pacific spur tracks serving the Chevron Oil Refinery. A track lead approach from the south was found to be impractical due to the need for grade separation above freight rail tracks. The use of a track lead only from the north creates certain operational disadvantages for a future Coastline extension to the south. Primary among these are increased deadheading mileage resulting in increased time getting cars into and out of revenue service and potential operational impacts on mainline service should a breakdown occur on the track yard lead.

The chief advantage of the El Segundo Rail Yard Site is that the initial route length of the El Segundo Extension Rail Transit Project could be shorter and therefore less expensive in the short term. If the initial route length only proceeds as far as the El Segundo Yard the total length of the route would be 1.75 miles. Should the initial route length proceed to the Hawthorne Yard, then the total length of the initial segment would be either 2.75 or 3.25 miles, depending on the selection of the nearer or farther Compton Boulevard Station Alternative. This additional expense is discussed in section 2.5.

#### **Alternate Hawthorne Rail Yard**

The Hawthorne Rail Yard site is approximately 9.4 acres in size and is located at 14714 Aviation Boulevard in The City of Hawthorne. The site is owned by the State of California and is currently being used for warehousing activities. It is the intent of the State Division of Real Estate Services to declare

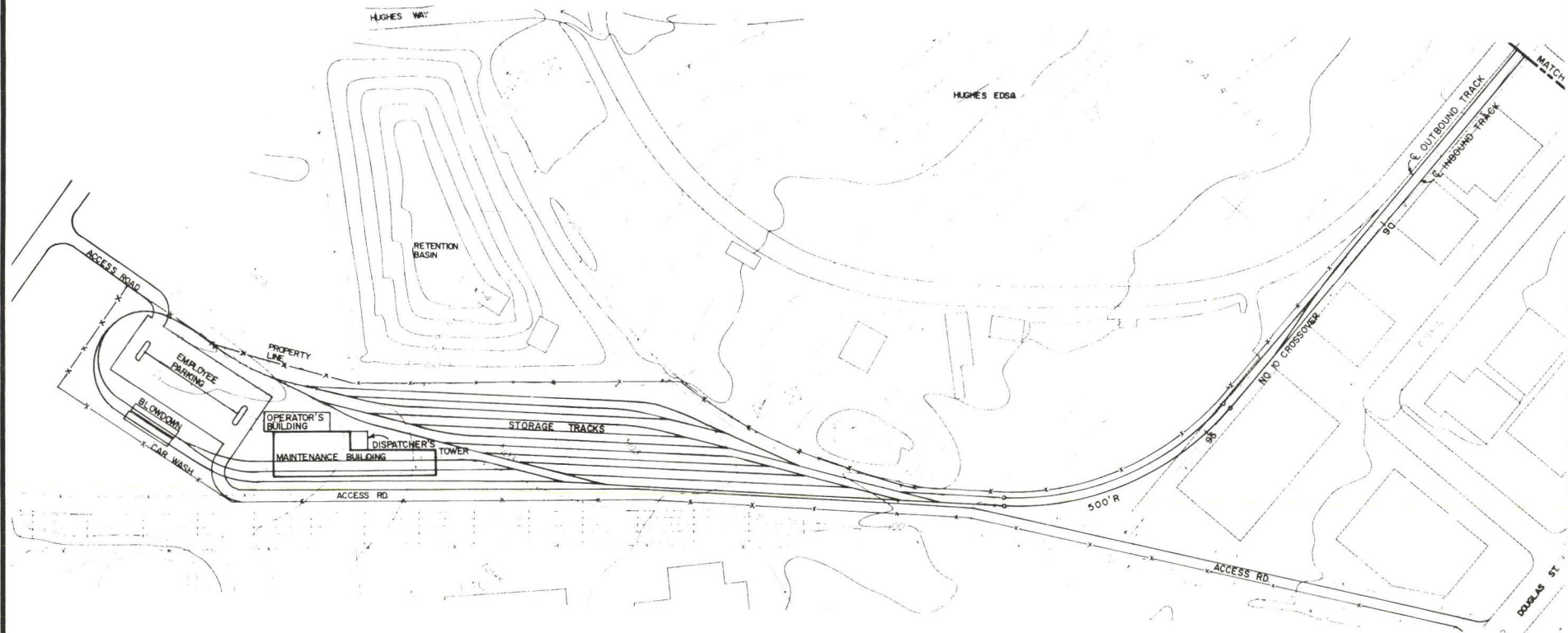
the site as surplus property, in which case it can be made available to LACTC for use as a rail yard site.

Figure 12 shows the proposed Hawthorne Rail Yard layout. The site is relatively level and could functionally accommodate the operations of a maintenance and train storage facility for the Century and Coast Rail Lines. It is bordered on the west by Aviation Boulevard, on the east and south by the U.S. Air Force and on the north by a Southern California Edison utility right-of-way.

The site is operationally superior to the potential El Segundo Rail yard site<sup>1</sup>. It is directly adjacent to the route and would permit direct access from the Compton Boulevard Station into the yard. The site also has the potential for a future yard lead from the south that is not possible at the El Segundo Yard Site. Such a yard lead would increase operational efficiency and reduce deadheading mileage between the ultimate end of the Coast Line and the rail storage yard site location.

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<sup>1</sup>Operational Analysis of the El Segundo & Hawthorne Rail Yard Site Alternatives, Manuel Padron & Associates, April 1986.



Note : Designs are preliminary and are subject to change during final design phase.

**CENTURY-EL SEGUNDO EXTENSION  
RAIL TRANSIT PROJECT**

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 14  
EL SEGUNDO RAIL YARD SITE  
CONCEPT PLAN





## 2.4 NASH STREET AERIAL OPTION

This rail line alternative is a variation of the baseline route that travels within the same right-of-way but is elevated along the entire length between Douglas Street and the El Segundo Boulevard Station. The net cost of this option is approximately \$12 million more than the baseline route to construct because of the high cost of constructing the aerial guideway and station but it would have the advantage of mitigating traffic and land use impacts along Nash Street.

(See Section 4.1 and 4.2)

Mariposa Avenue Station, under this option, would be an aerial station located just south of the intersection of Mariposa Avenue and Nash Street. The station would have a center platform with access provided via stairs and an elevator. A section through this station is shown in Figure 6.

Major land use advantages of the aerial alignment include the following:

- \* The existing 80-foot street ROW on Nash Street would not require widening. No land taking would be required from Rockwell Corporation nor from AT&SF Railroad spur tracks.
- \* Access to properties along the west side of Nash Street would retain existing driveways under the LRT guideway. No access impacts or mitigation would occur.
- \* No direct traffic impacts would occur to traffic along Nash Street as all crossings would be grade separated and existing traffic lane widths would be preserved.

The aerial option, however, would require that all utility poles and street lights on the west side of Nash Street be relocated.

## 2.5 SYSTEM OPERATIONS AND PATRONAGE

As previously stated, the primary purpose of the Century-El Segundo Extension Rail Transit Project, in addition to serving the El Segundo Employment Center, is to access a light rail vehicle maintenance and overnight storage facility somewhere within the greater El Segundo area to serve the needs of the Century and Coast Rail Lines. Initially the Century Line can be operated without an El Segundo yard by storing trains overnight on the tailtracks and temporary storage tracks, but such an operation would be inefficient. Delaying the selection of a permanent yard site may also make it much more costly to obtain a yard later when it will certainly be needed.

In time, the Coast Line will extend south to Torrance and north to Marina del Rey. There will be trains operating between these points. The trains operating on the Century Line will also use part of the Coast Line through the El Segundo employment area, but once they discharge these work-oriented riders they will turn back for another trip to Norwalk. After the morning rush hour, not all trains need to return to Norwalk; instead some will be sent into the yard. The ideal yard location would be just south of the turnback point so that the train operator, without changing ends, could drive the train into the yard and park it. Such an operation is simple, quick, safe and inexpensive. The farther the yard is away from the point of turnback, the more non-revenue train miles and time involved. If the yard is before the last station, the train operator must turn off the back end of the vehicle, walk to the front end, start that end, and drive into the yard. This is time-consuming and can affect the reliability of mainline operations.

In short, the yard location in the El Segundo area may well determine the location at which rush hour trains on the Century Line are turned back to Norwalk. A decision to build the yard at

the El Segundo site would utilize the El Segundo Boulevard Station as the turnback point; the Hawthorne Yard Site works best with the northern Compton Boulevard Station as the turnback point. Operationally, the Hawthorne Rail Yard Site is the most attractive.

### Patronage

Estimated future ridership was developed by the staff of the Southern California Association of Governments working with Commission staff. The forecasting model used was the regional LARTS model. The patronage figures shown in Table 3 are representative; actual patronage for a specific station site would vary. The table assumes the existence of the Century Rail Line, the Long Beach/Los Angeles Rail Line, and completion of the 4.4 mile Metro Rail starter line. Further additions to the rail transit network would increase the patronage levels indicated below.

It is estimated that the baseline route to El Segundo Boulevard Station will attract an additional 9,000 boardings to the Century Rail Line (a 10 % increase). The full extension to the Compton Boulevard Station would attract an estimated 14,000 additional riders.

The Century-El Segundo Extension is expected to relieve some of the environmental impacts (i.e., traffic, parking, etc.) anticipated to occur at the Aviation Station under the no project alternative. Total daily boardings at this station drop 37% with the extension of the line to Compton Boulevard with a relative drop in and around this busy station area.

Mode of access to the Century-El Segundo Extension stations is expected to be primarily from two sources - walk-ins (54% on average) and bus/shuttle vans (37%). Only 9% of the patrons accessing the 4 stations are expected to do so by car.

The number of employees expected to work within a 5- to 7-minute walk of the transit stations by the year 2000 has also been estimated. The Baseline Route with stations at Mariposa Avenue and El Segundo Boulevard will be within walking distance of 25,500 projected employees. The full length option to Compton Boulevard will serve 45,000 projected employees. Slightly more employees will be within walking distance of the Compton North Station as opposed to the Compton South Station because of the close proximity of the Hawthorne Redevelopment Area.

TABLE 3  
CENTURY-EL SEGUNDO EXTENSION  
TOTAL DAILY BOARDINGS  
YEAR 2000\*

<u>NO PROJECT</u>	<u>TOTAL DAILY BOARDINGS</u>	
AVIATION STATION.....		17,300
TOTAL CENTURY LINE (Including Aviation Station).....		90,000
<u>WITH PROJECT</u>	<u>BASELINE ROUTE</u>	<u>HAWTHORNE LENGTH OPTION</u>
AVIATION BLVD STATION.....	12,600.....	10,800
MARIPOSA AVE STATION.....	7,400.....	7,300
EL SEGUNDO BLVD STATION.....	4,200.....	3,200
DOUGLAS ST STATION.....	--.....	3,000
COMPTON BLVD STATION.....	<u>--.....</u>	<u>5,100</u>
TOTAL CENTURY LINE WITH EXTENSION.....	99,000.....	104,000

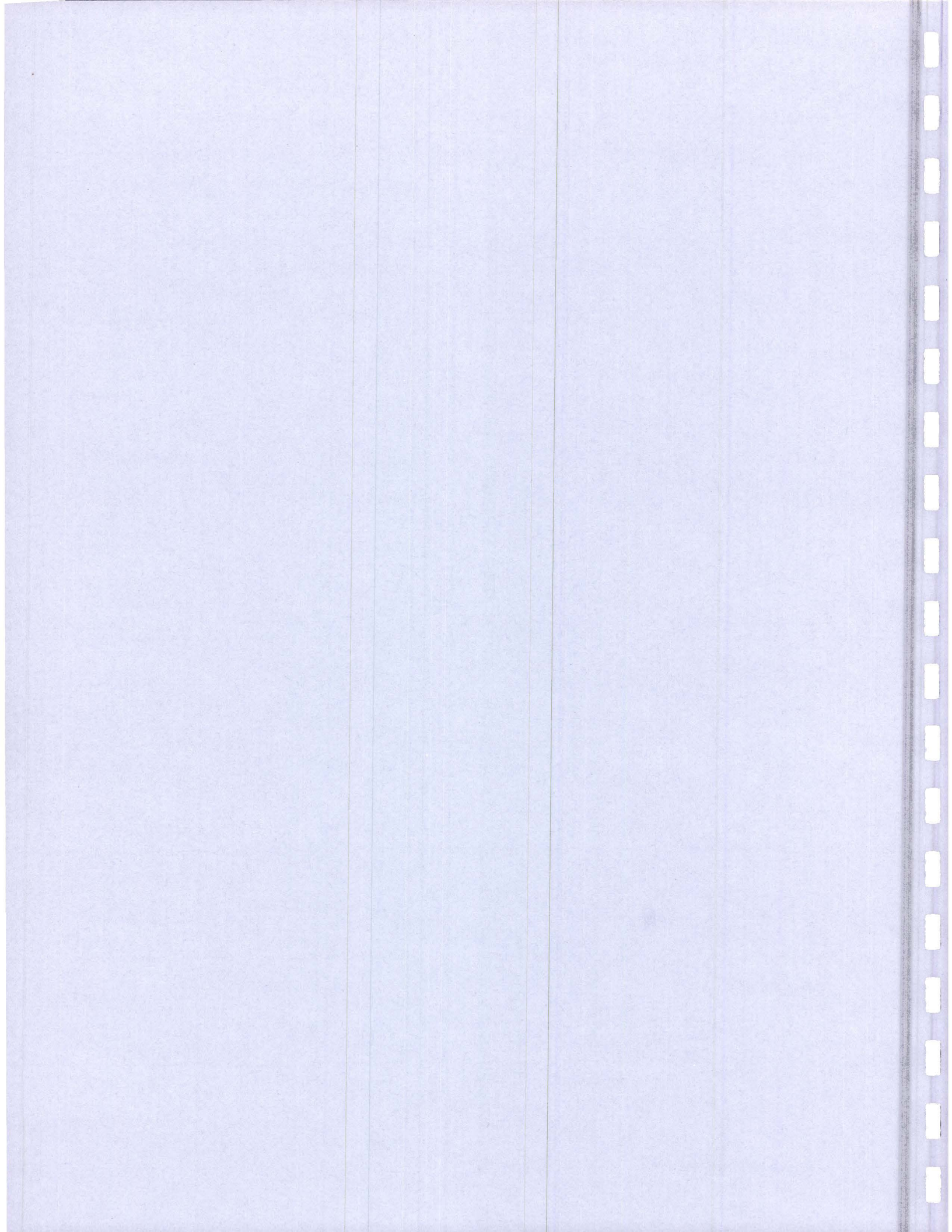
\*ASSUMES COMPLETION OF LONG BEACH/LOS ANGELES LINE, 4.4 MILES OF METRORAIL, AND CENTURY RAIL LINE.

(Total daily boardings in the Century-El Segundo Extension Study Area would be 9,000 under the Baseline Route [99,000-90,000 = 9,000] and 14,000 under the Hawthorne Length Option [104,000-90,000 = 14,000].)



## 3.0 ♦ Environmental Setting

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### 3.0 ENVIRONMENTAL SETTING

#### 3.1 GROWTH OF THE LAX/EL SEGUNDO EMPLOYMENT CENTER

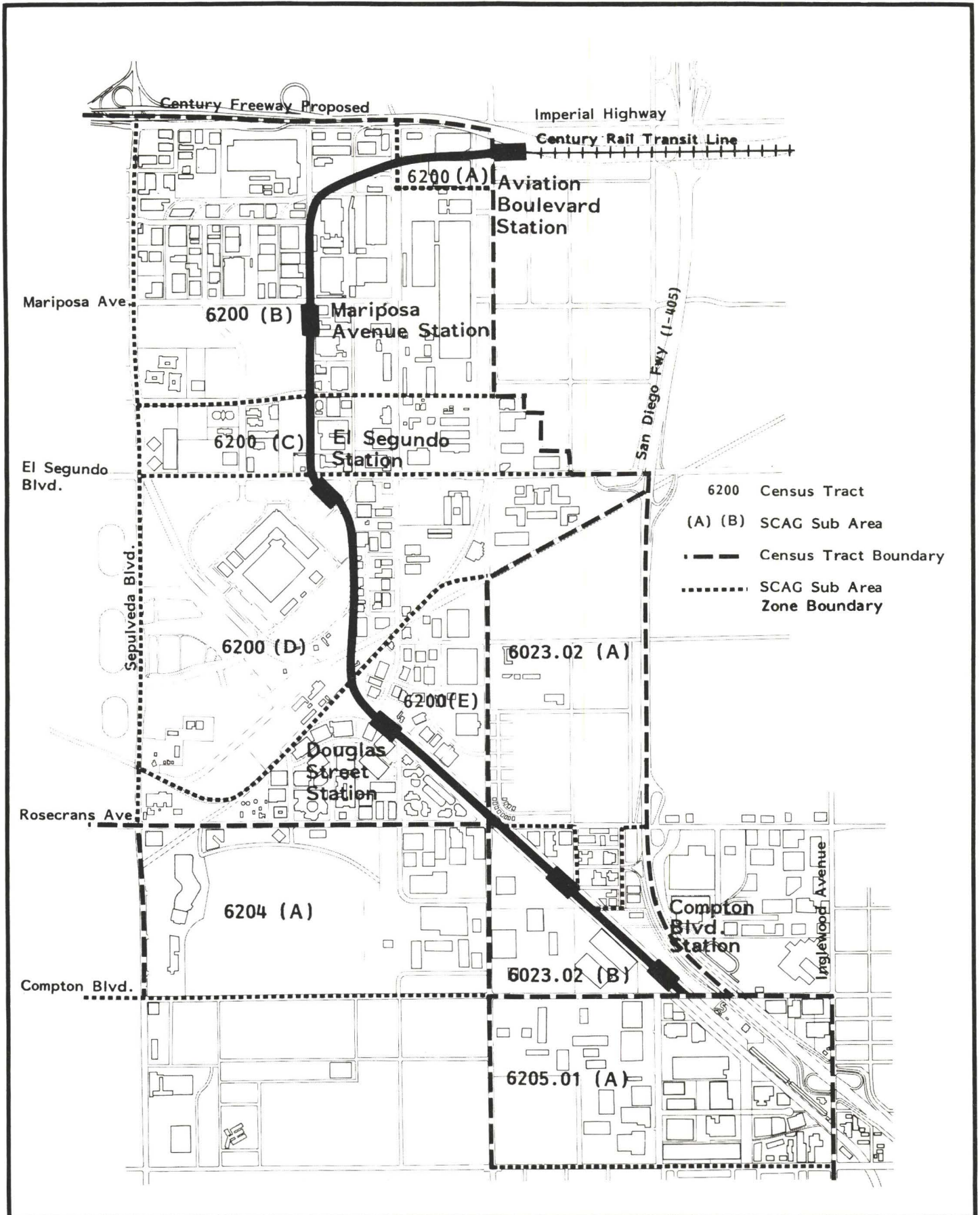
The route alignment for the proposed Century-El Segundo Extension Rail Transit Project passes through the Cities of El Segundo, Hawthorne and a small corner of Manhattan Beach in an area generally referred to as the LAX/El Segundo Employment Center. This area is one of the fastest growing employment centers in the Southern California region. Heavy concentrations of high-technology aerospace research and manufacturing plants have expanded dramatically in recent years and are projected to increase the number of jobs in the area between 1984 and 2010 by about 46%<sup>2</sup>.

Figure 15 and Table 4 illustrate growth projections developed by the Southern California Association of Governments for census tracts in the project area while Figures 16 and 17 show aerial views of the El Segundo Employment Center.

In the area targeted for service by the proposed rail extension project (roughly bounded by Imperial Highway on the north, Sepuleda Boulevard on the west, Manhattan Beach Boulevard on the south and the San Diego Freeway on the east) the number of jobs is projected to grow from approximately 52,000 in 1984 to approximately 75,000 by 2010.

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<sup>2</sup>Figures developed by Southern California Association of Governments. See Table 4.



6200 Census Tract  
 (A) (B) SCAG Sub Area  
 - - - - - Census Tract Boundary  
 ..... SCAG Sub Area Zone Boundary

**CENTURY-EL SEGUNDO EXTENSION  
 RAIL TRANSIT PROJECT**  
 LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 15  
 PROJECT AREA CENSUS  
 TRACTS AND SCAG  
 SUB AREAS

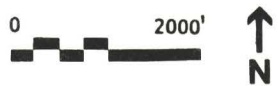


TABLE 4  
SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS (SCAG)  
DEMOGRAPHIC PROJECTIONS FOR POPULATION AND EMPLOYMENT<sup>3</sup>

	<u>1984</u> <u>POP.</u>	<u>2010</u> <u>POP.</u>	<u>1984</u> <u>EMP.</u>	<u>2010</u> <u>EMP.</u>
CENSUS				
<u>TRACT 6200</u>				
SCAG				
Sub Group A	0	0	300	597
SCAG				
Sub Group B	0	0	27,593	33,803
C	0	0	600	1,029
D	0	0	9,949	17,869
E	0	0	1,000	4,015
CENSUS				
<u>TRACT 6204</u>				
SCAG				
Sub Group A	197	1,451	2,008	4,978
CENSUS				
<u>TRACT 6023.02</u>				
SCAG				
Sub Group A	3,413	3,344	1,493	1,592
SCAG				
Sub Group B	0	0	804	3,279
CENSUS				
<u>TRACT 6205.01</u>				
SCAG				
Sub Group A	347	350	7,872	8,108
TOTAL FOR				
SCAG				
SUB GROUPS	3,957	5,145	51,619	75,270

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<sup>3</sup>Southern California Association of Governments, LAX Area TSM/Corridor Study, February 1984, updated to May 1986. Estimates were derived from the SCAG-82 Modified forecast as adopted at the Regional Statistical Area level.

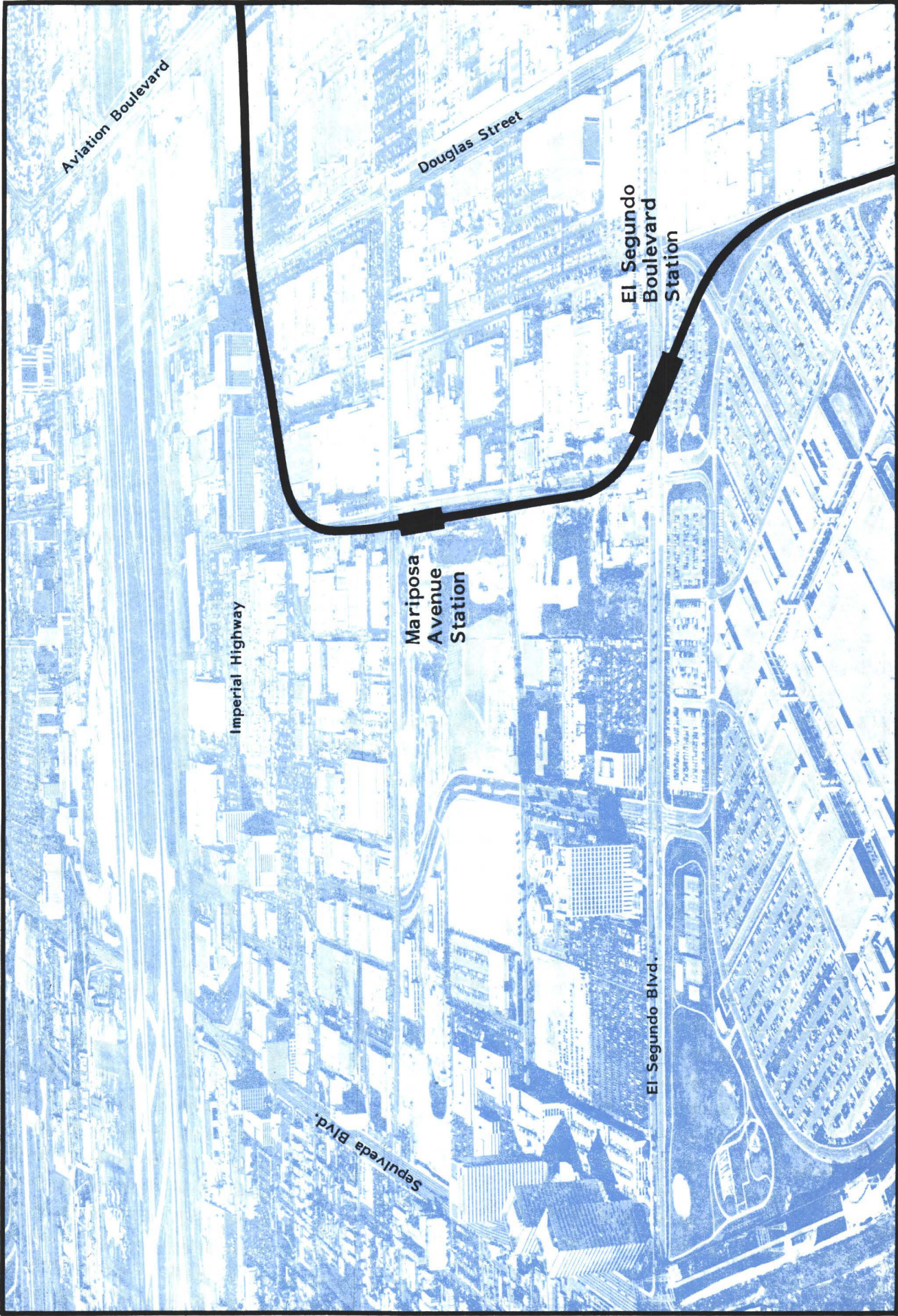
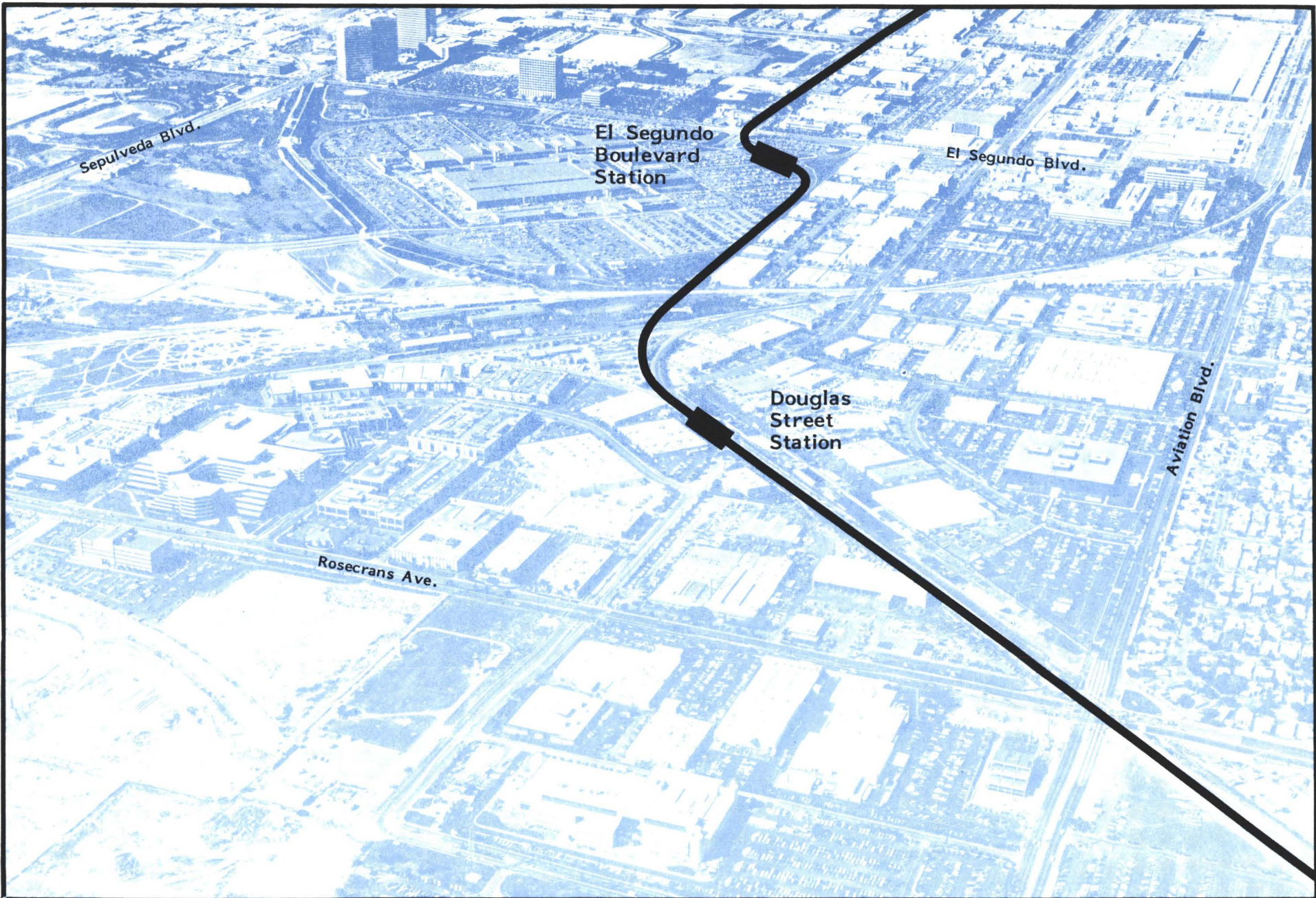


Figure 16  
AERIAL PHOTO OF PROJECT AREA  
BETWEEN ROSECRANS AVENUE AND EL SEGUNDO BLVD.

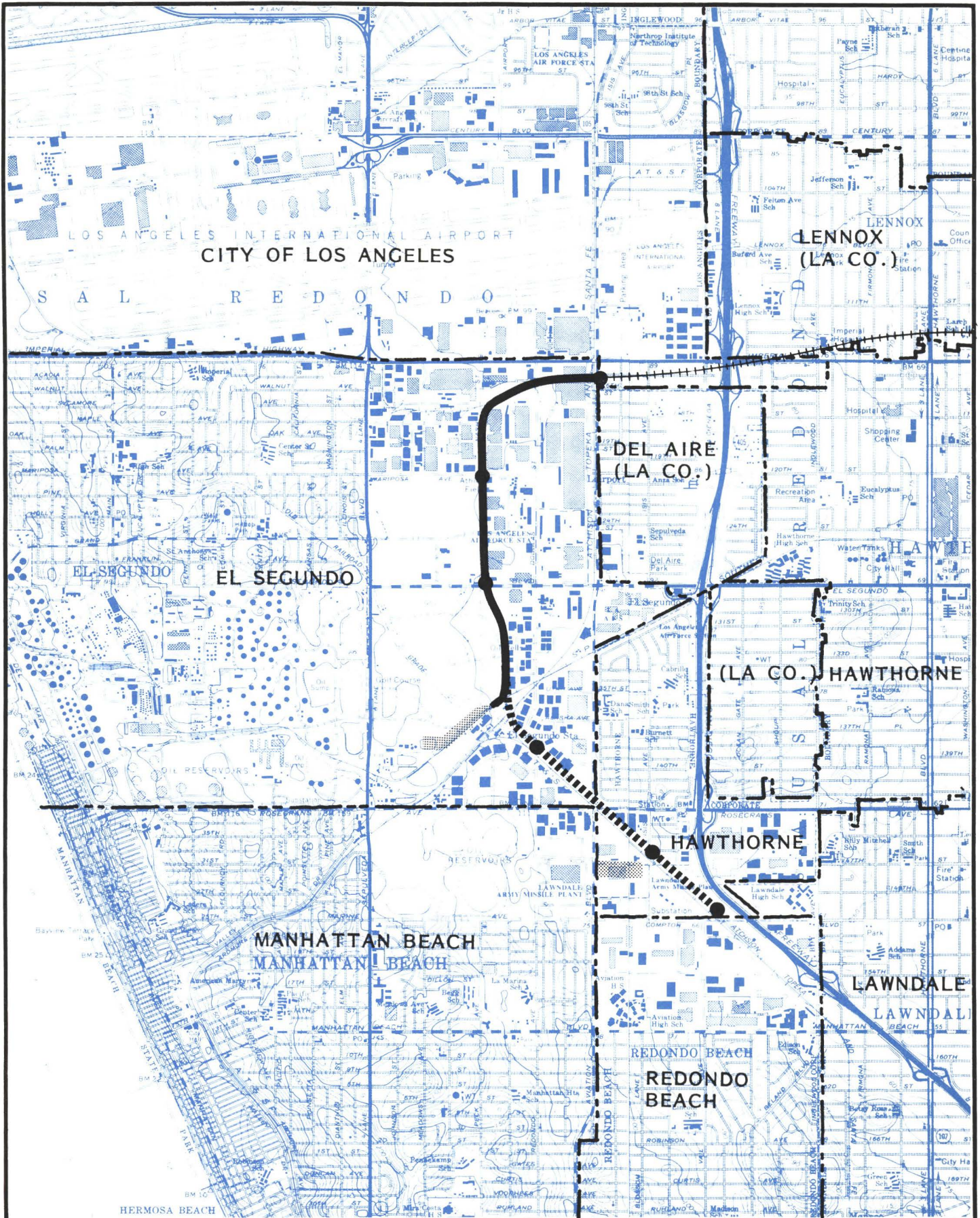
**CENTURY-EL SEGUNDO EXTENSION  
RAIL TRANSIT PROJECT**  
LOS ANGELES COUNTY TRANSPORTATION COMMISSION



**CENTURY-EL SEGUNDO EXTENSION  
RAIL TRANSIT PROJECT**

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 17  
AERIAL PHOTO OF PROJECT AREA  
BETWEEN ROSECRANS AVENUE AND EL SEGUNDO BLVD.



**CENTURY-EL SEGUNDO EXTENSION  
RAIL TRANSIT PROJECT**  
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 18  
PROJECT VICINITY  
JURISDICTIONAL  
BOUNDARIES



### 3.2 LAND USE, DEVELOPMENT, AND NATURAL ENVIRONMENT

Figure 18 shows the cities and jurisdictional boundaries in the project vicinity. Figure 19 identifies generalized land uses. Historically, the predominant uses in the area have been heavy industry. The second Chevron oil refinery to be opened in the State of California (from which "El Segundo" derives its name) was opened in 1911 and occupies a site of 967 acres between the study area and the Pacific Ocean. To the north, the Los Angeles International Airport has been greatly expanded since it opened in the 1920's, to become one of the world's premier international facilities. Throughout the 1930's, 40's and 50's, aerospace and defense-related firms located in the area including the industry giants of Hughes, Rockwell, TRW, McDonnell Douglas, Northrop Corporation and the U.S. Air Force Space Center.

In the 1970's and early 1980's, high-technology research and development manufacturing and office facilities began to locate in the study area. These newer facilities include the Hughes Electro-Optical and Data Systems Group (EDSG), Airport Towers, Aerospace Corporation, Xerox Corporation and Kilroy Center. Such developments have observed high standards of design and feature landscaping, building setbacks and contemporary architecture. These and other newer additions to the study area, stand in contrast to the heavy industrial chemical processing, oil refining and aircraft manufacturing plants that were built during the earlier period of the study area's development.

Residential neighborhoods surrounding the project area remain as well established, mature communities within the Los Angeles region despite their proximity to heavy industrial uses. Easy access to coastal beaches, the South Bay and the Westside make these residential areas particularly attractive. A small corner of one residential community, Holly Glen, is situated adjacent to the LRT route alignment on the northeast corner of Aviation



**CENTURY-EL SEGUNDO EXTENSION  
RAIL TRANSIT PROJECT**

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 19  
PROJECT VICINITY  
GENERALIZED LAND USES





Boulevard and Rosecrans Avenue. This community is located in the City of Hawthorne and is composed of contemporary single-family homes.

The natural environment has been heavily impacted as a result of many years of this industrial related development. Noise levels are high in the northern portion of the project area due to close proximity to Los Angeles International Airport. Oil drilling and refining, chemical processing, aircraft manufacturing and testing, freight rail and heavy truck traffic all contribute to the industrial character of the area. Much of the native vegetation has been either disturbed or removed. Landforms present in the project area include coastal terrace formations and stabilized sand dune complex. Topography is relatively flat with a high point of 120 feet near the proposed El Segundo Rail Yard Site and a low point of 65 feet where the route ends at Compton Boulevard.

### 3.3 TRAFFIC AND TRANSIT

The key regional highway in the project vicinity is the San Diego Freeway which runs north-south just east of the study area. East-west major arterial roadways connect to the freeway on a one-mile grid at Imperial Highway, El Segundo Boulevard, Rosecrans Avenue and Manhattan Beach Boulevard. Additionally, Aviation and Sepulveda Boulevards serve as north-south major arterials serving the El Segundo Employment Area.

The LRT would not affect traffic movements on any of these major roadways. Route alignments do not run along these streets and all crossings of LRT with major arterial roadways are grade-separated. The street on which the LRT does run, i.e., Nash Street, is classified as a secondary arterial roadway which serves as a discontinuous feeder route to the regional transportation network.

The major regional transportation improvement planned for the study area is the Century Freeway, a 17-mile east-west interstate highway (I-105) that will run on aerial structure above Imperial Highway at the northern edge of the study area. The Century Freeway is planned to have a full interchange at the San Diego Freeway and at Sepulveda Boulevard as well as an off-ramp at Nash Street and an on-ramp from Douglas Street. The City of El Segundo has studied improvements to the local roadway network that will be necessary to accommodate the new traffic flows projected to occur as a result of this improvement. Among the improvements proposed is the institution of a one-way couplet system on Nash and Douglas Streets, whereby Nash would be one-way southbound and Douglas would be one-way northbound. Alternative ramp locations to the Century-El Segundo Freeway are also being investigated.

With regard to transit, the study area is serviced by SCRTD and other public and private bus services. The Southern California Association of Governments (SCAG) reports that bus utilization in the LAX Area is higher than the SCRTD system average. An average figure of 24.8 passenger miles/bus miles compares with the SCRTD system average of about 14 passenger miles/bus miles for all of Los Angeles County<sup>4</sup>. The major new transit improvement coming to the study area will be the Century Rail Transit Line. This line will run for 17 miles within the median of the new Century Freeway and will connect system riders in El Segundo with the Long Beach/Los Angeles Rail Transit Line and the rest of the 150 mile Rail Transit System that is planned.

Other transit services in the study area have been actively promoted by the El Segundo Employers Association (ESEA) and include ridesharing, vanpools and other transportation systems management approaches to reducing traffic congestion. ESEA reports that during the 1981-1983 period, rideshare participation by member company employees increased from 21% to 24% of all commuters for a total of 17,100 ridesharers per day<sup>5</sup>.

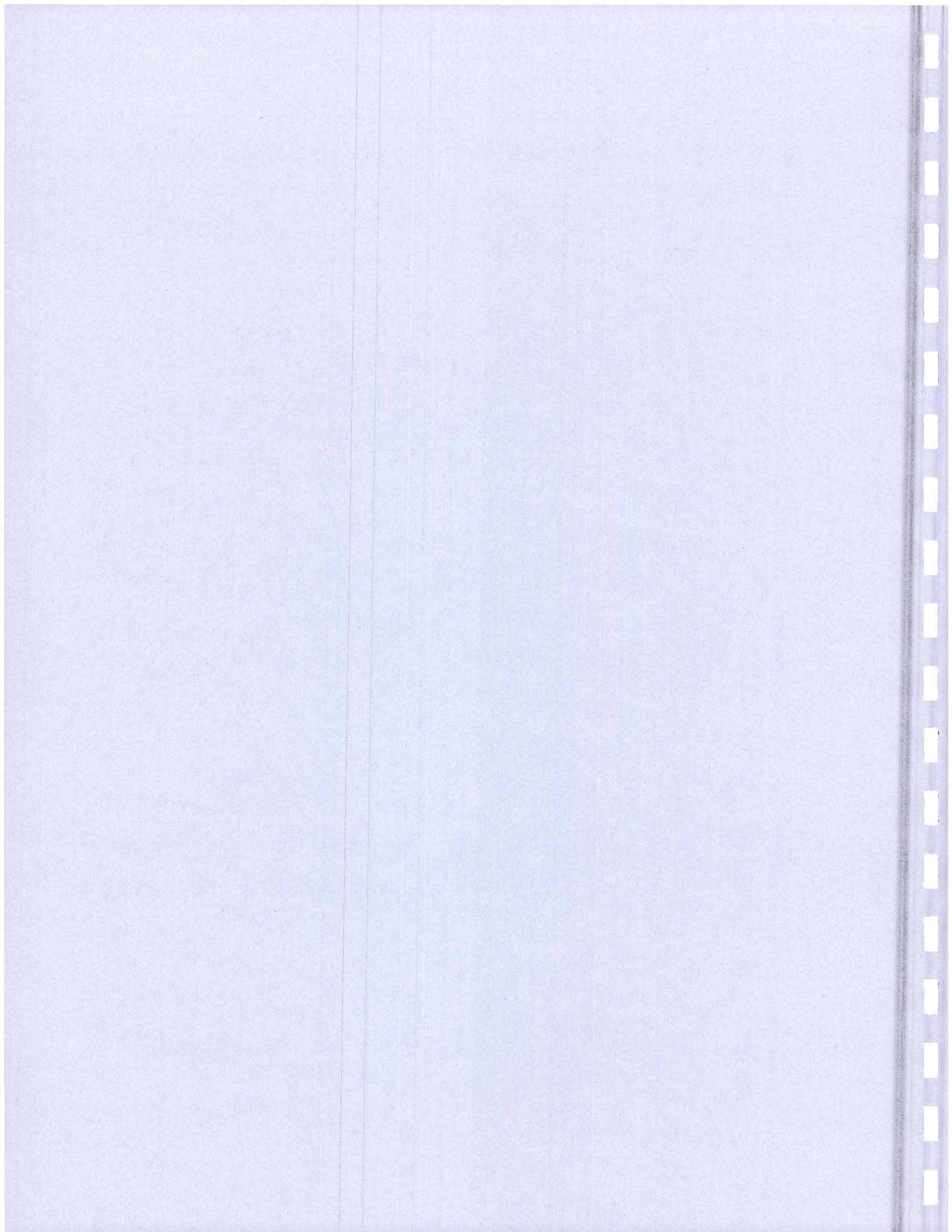
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<sup>4</sup>LAX Area/TSM Corridor Study, Southern California Association of Governments, February 1984.

<sup>5</sup>Partners in Transportation, 1982-1983 Progress Report of the El Segundo Employers Association, p. 14.







## 4.0 ENVIRONMENTAL IMPACTS

### 4.1 TRAFFIC CIRCULATION

Expected Traffic Circulation Impacts-For the majority of the route, the rail transit project will run in an exclusive right-of-way, separate from general vehicular traffic. Grade separations will be utilized at major arterial roadways including Aviation Boulevard, El Segundo Boulevard, and Rosecrans Avenue. These roadways have very high traffic volumes with Average Daily Traffic counts between 30,000 and 44,000 vehicles per day. Grade separation will also be utilized at one secondary arterial roadway, Douglas Street, because of the proximity of an active rail line and the on-ramps to the planned Century Freeway. The only instance where the baseline route confronts at-grade LRT/vehicular crossings is along Nash Street, a discontinuous, secondary arterial roadway connecting El Segundo Boulevard to Imperial Highway. The LRT runs in an exclusive right-of-way along the west side of Nash Street with at-grade crossings at the intersections of Hughes Way North, Maple Avenue, Mariposa Avenue and Grand Avenue.

Signal pre-emption for the LRT would be utilized at these intersections in order to maintain high operating standards within the rail transit line. However, emergency response vehicles such as police and fire would be able to interrupt the LRT signal pre-emption when necessary. No crossing gates would be utilized along Nash Street as speeds will be below the 35 mph speeds at which crossing gates are required by state law.

Direct traffic impacts that can be expected to result from Baseline LRT operations occur exclusively on Nash Street and include the following:

- \*Narrowing of existing curb-to-curb dimension to accommodate the exclusive LRT right-of-way.

\*Traffic interruptions due to signalized pre-emption by LRT crossings.

\*Station area impacts associated with shuttle vans and other vehicles dropping off or picking up passengers at the Mariposa Avenue Station.

In the event that the initial route length were extended to the Hawthorne Rail Yard no additional direct traffic impacts would result as the route alignment is completely separate from vehicular traffic and has no at-grade crossings of public streets. Indirect traffic and circulation impacts investigated in this section include the following:

\*Rosecrans/Aviation Intersection-The proposed rail transit line will pass over this highly congested intersection on an elevated structure. Future widening of these streets will not be precluded by construction of a rail transit bridge at this intersection.

\*Conformity with Adopted Plans-A provision of the City of El Segundo General Plan Circulation Element states that Douglas Street should run continuously from Rosecrans Avenue to El Segundo Boulevard. This street is currently discontinuous due to the AT & SF mainline track. The proposed rail transit route would preclude future above-grade crossing of this freight rail line by a Douglas Street connector, however it would allow a future connection that would be either at-grade or below grade.

\*Station Areas-General impacts resulting from station operations could include localized traffic impacts from increased use of shuttle vans, parking lots and spillover onstreet parking. Overall transportation service benefits will be planned so as to not create traffic "hot spots" around station areas.



### Traffic Impact Assessment Methodology

As a part of the preliminary engineering of this route, roadway improvements have been assumed based on meetings with the City of El Segundo, Caltrans and Los Angeles County. Additionally, LACTC has developed recommended street improvements to Nash Street that have been reviewed by city officials.

This impact assessment describes these planned roadway improvements and recounts the process by which they were developed. Direct traffic impacts are then reviewed, assuming completion of the improvements described. Indirect traffic impacts are then reviewed with descriptions of potential impacts and suggested mitigation measures.

### Planned Roadway Improvements

In order to accommodate the increased level of service demands that will be placed on Nash Street by new developments in the area and by the opening of the Century Freeway (I-105) in or around 1993, the Circulation Element of the El Segundo General Plan has called for a one-way couplet system on Nash Street and Douglas Street whereby Nash Street will be one-way southbound and Douglas Street will be one-way northbound. The existing right-of-way of 80 feet on Nash Street north of Mariposa Avenue has been designated for widening to 88 feet in order to be more consistent with the 100 feet of existing right-of-way south of Mariposa Avenue.

Additionally, a traffic study was commissioned by the City El Segundo to study and make recommendations regarding the proposed on-ramp to the planned Century Freeway from Douglas Street. This study, entitled "I-105/Douglas Street Entrance Ramp Alternatives Analysis"<sup>6</sup> was released in November 1985 and concluded that the

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<sup>6</sup>I-105/Douglas Street Entrance Ramp Alternatives Analysis, DeLeuw, Cather & Company, November 1985.

proposed Caltrans ramp would not adequately accommodate projected traffic flows and stacking requirements and should therefore be replaced by an alternate on-ramp configuration. The City of El Segundo, Caltrans, and affected property owners have developed a mutually acceptable on-ramp configuration which is illustrated in Figure 20.

The DeLeuw Cather Study also reviewed the proposed Nash/Douglas one-way couplet and determined that such a change was desirable and should be implemented along with either of the two preferred on-ramp configurations.

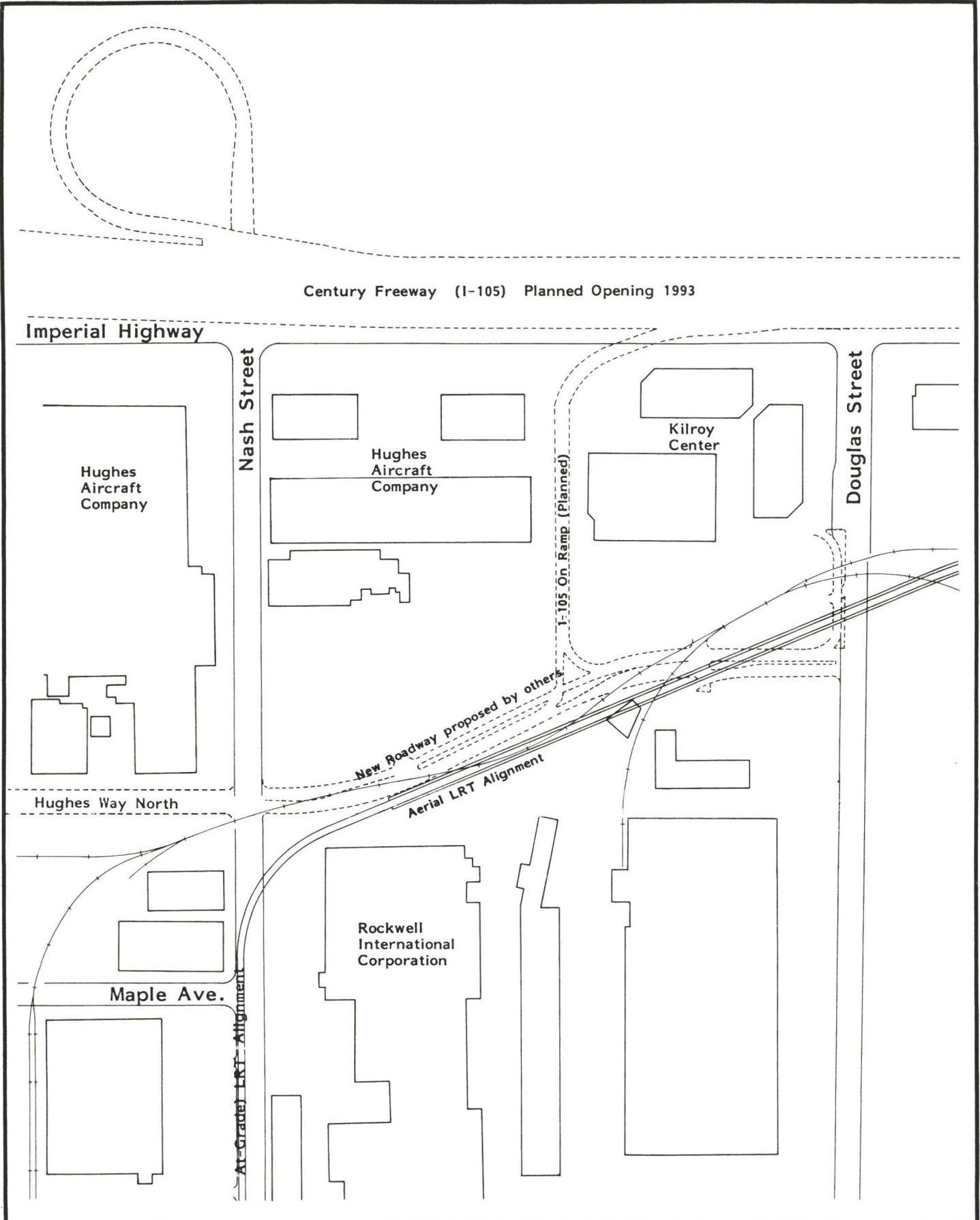
LACTC will continue to meet with the City of El Segundo, the County of Los Angeles, Caltrans and the affected property owners in order to work out the optimal on-ramp and rail transit configuration should any further modifications be required during the final design phases of the Century Freeway and the Century-El Segundo Extension Rail Transit Projects.

#### Traffic Circulation Improvements

In order to address the above mentioned traffic circulation impacts in the context of already planned traffic circulation improvements, potential impacts were reviewed in relation to year 2000 traffic projections for the area and planned transportation improvements which included the following:

- \*Century Freeway
- \*One-Way Couple on Nash and Douglas Streets
- \*Proposed changes to Caltrans on-ramp at Douglas Street

Further roadway improvements were then suggested to mitigate traffic impacts to acceptable levels of traffic service. Roadway



**CENTURY-EL SEGUNDO EXTENSION  
RAIL TRANSIT PROJECT**  
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 20  
LRT ALIGNMENT IN RELATION  
TO PREFERRED CENTURY FWY  
DOUGLAS ST. ON-RAMP



improvements were suggested on Nash Street for both one-way and two-way traffic flow conditions, in the event that the one-way couple system on Nash and Douglas Streets was not instituted by the time of the opening of the Century Freeway, Century Rail Line and Century-El Segundo Extension Rail Transit Projects.

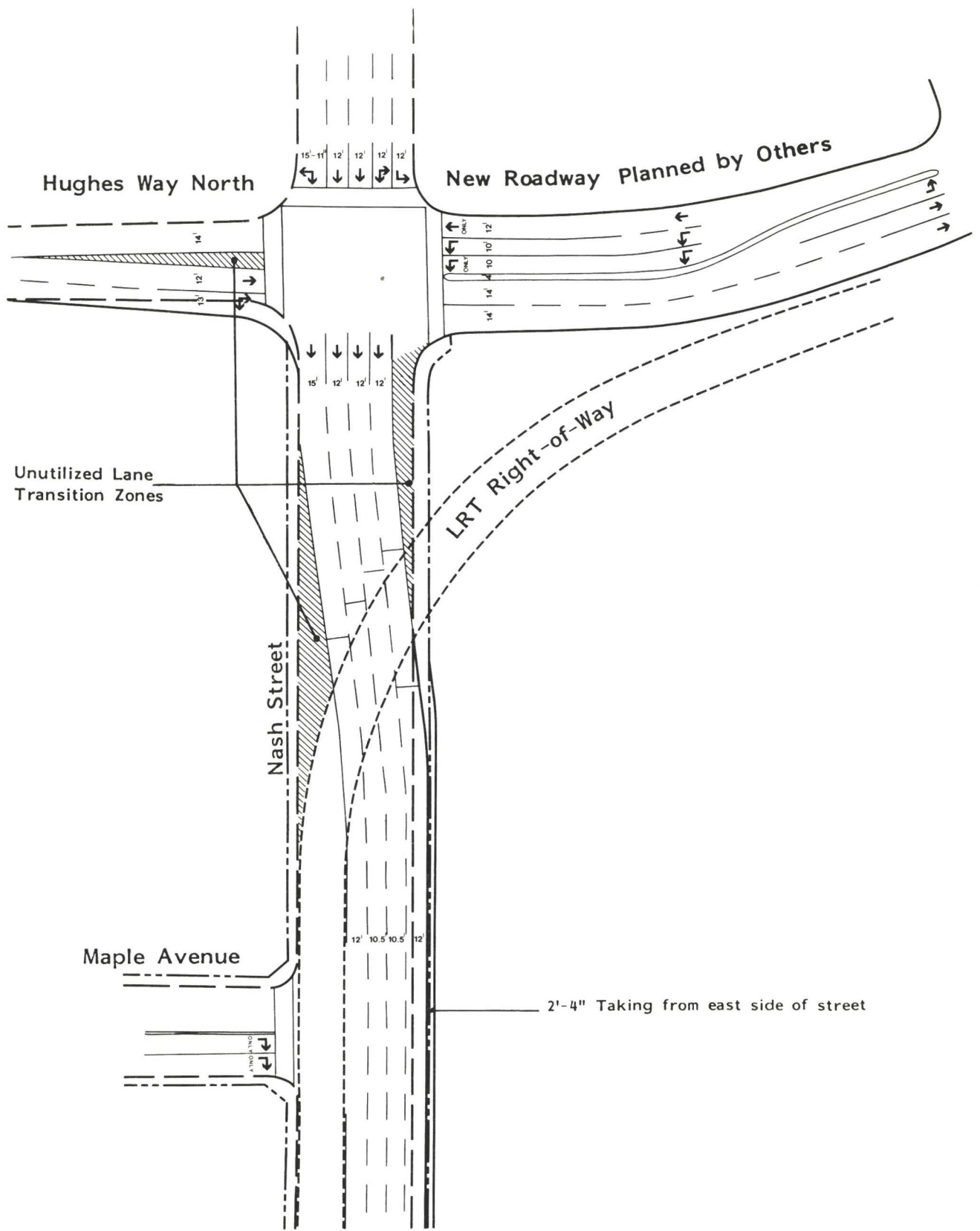
Figures 21 through 24 illustrate proposed improvements to Nash Street that would be required to mitigate LRT impacts to acceptable levels of traffic service. Figure 25 shows typical cross-sections through this section of Nash Street.

#### Contingency for Temporary Two-Way Traffic Flow on Nash Street

In the event that institution of the Nash/Douglas one-way couple should be delayed beyond the opening of the Century Freeway and Century-El Segundo Rail Transit Extension Project, plans have been developed for accomodating a continuation of two-way traffic flow on Nash Street until such a time as the one-way couple could be instituted. These plans are considered to be temporary and should not be considered a long-term solution.

Figures 26 through 29 show proposed modifications to affected intersections in order to accommodate two-way traffic flow with the LRT. It should be noted that only minor restriping is required to convert from proposed two-way to proposed one-way traffic flow on Nash Street under these plans.

Nash Street Aerial Option-This option is shown in Figure 30 and has the effect of eliminating traffic circulation impacts to Nash Street by maintaining a grade separated aerial structure for the entire 4,200 foot length of Nash Street. The estimated additional cost to construct this option is \$12 million.

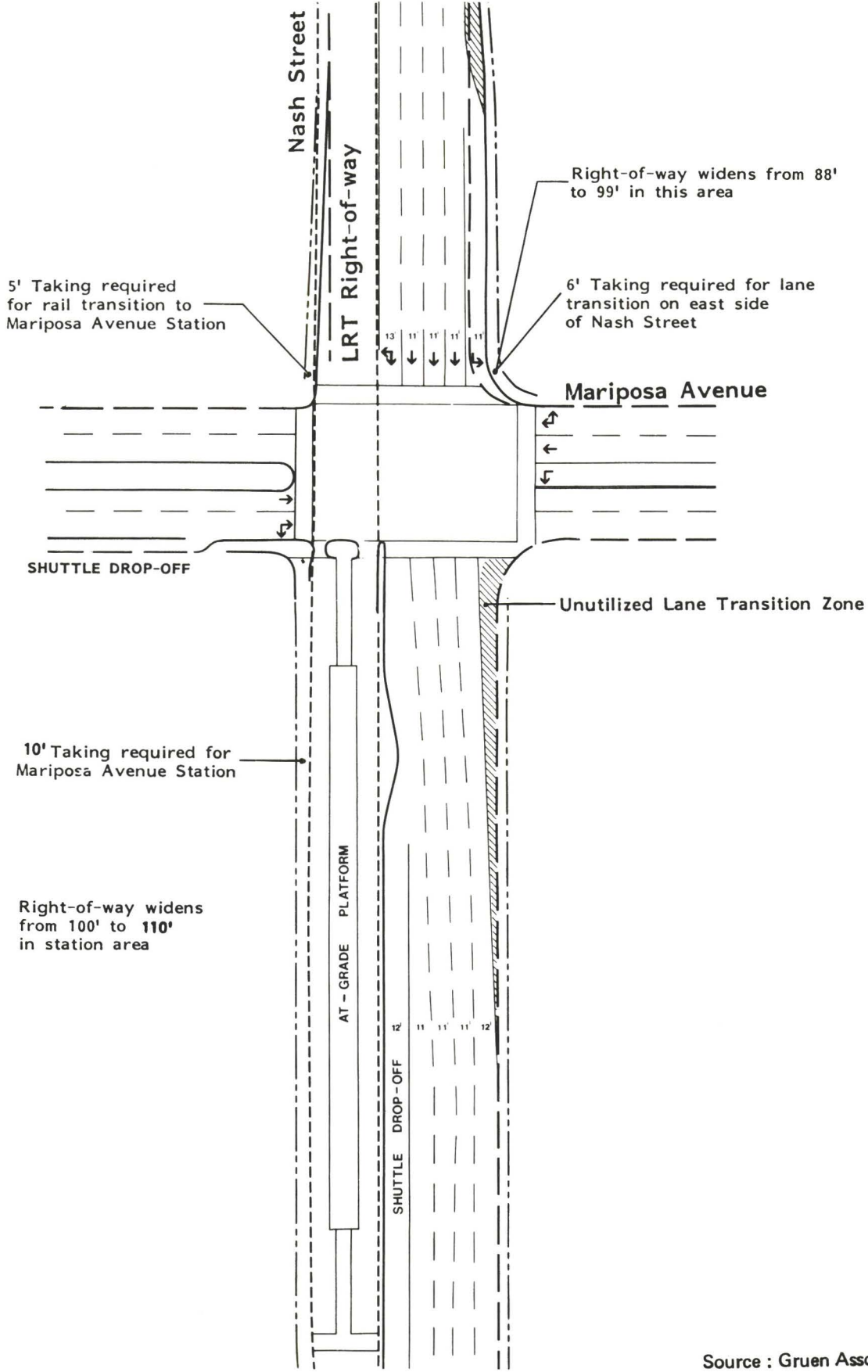


Source : Gruen Associates

**CENTURY-EL SEGUNDO EXTENSION  
RAIL TRANSIT PROJECT**  
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 21  
NASH/HUGHES WAY N./MAPLE  
PROPOSED ONE-WAY  
TRAFFIC FLOW



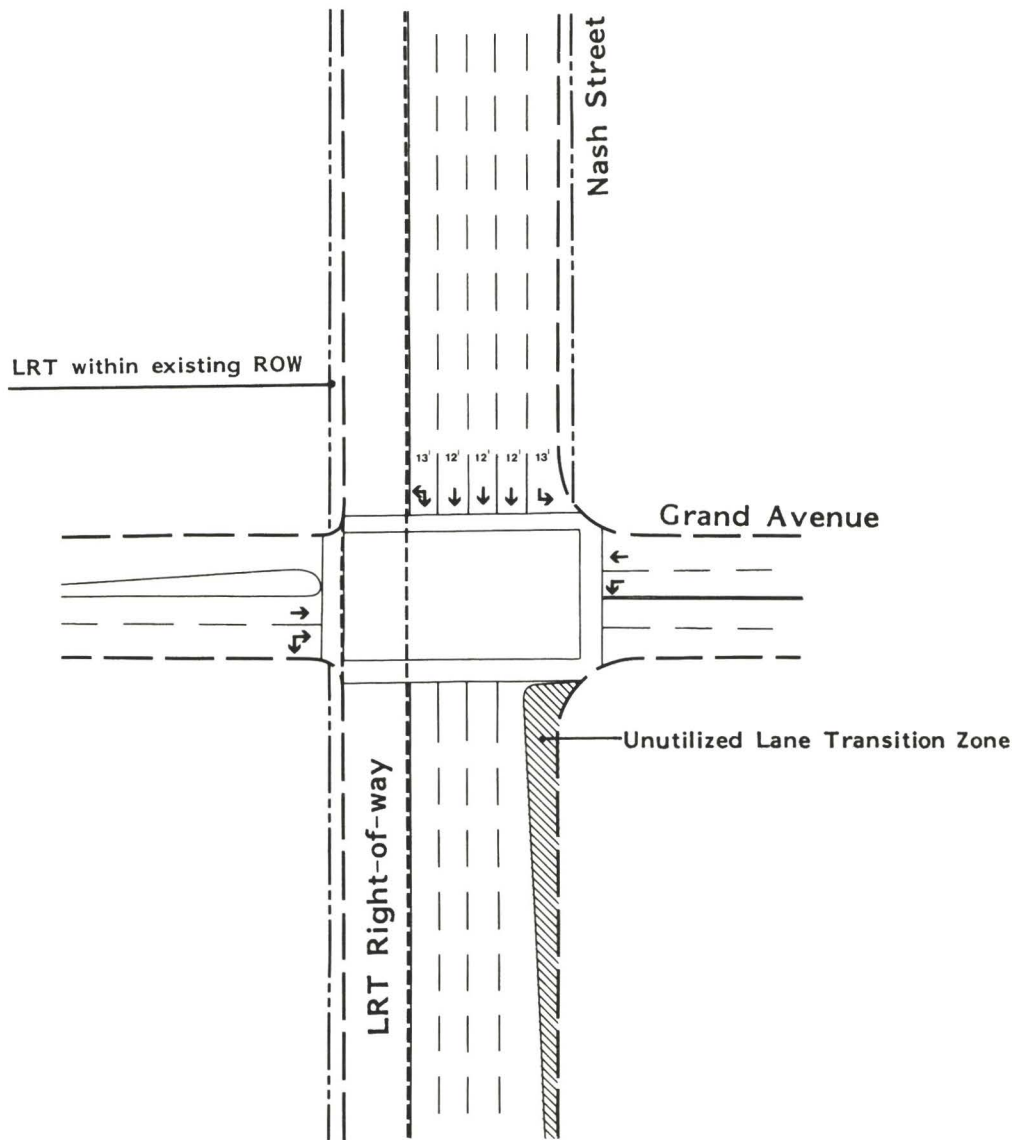


Source : Gruen Associates

**CENTURY-EL SEGUNDO EXTENSION  
RAIL TRANSIT PROJECT**  
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 22  
NASH/MARIPOSA PROPOSED  
ONE-WAY TRAFFIC FLOW

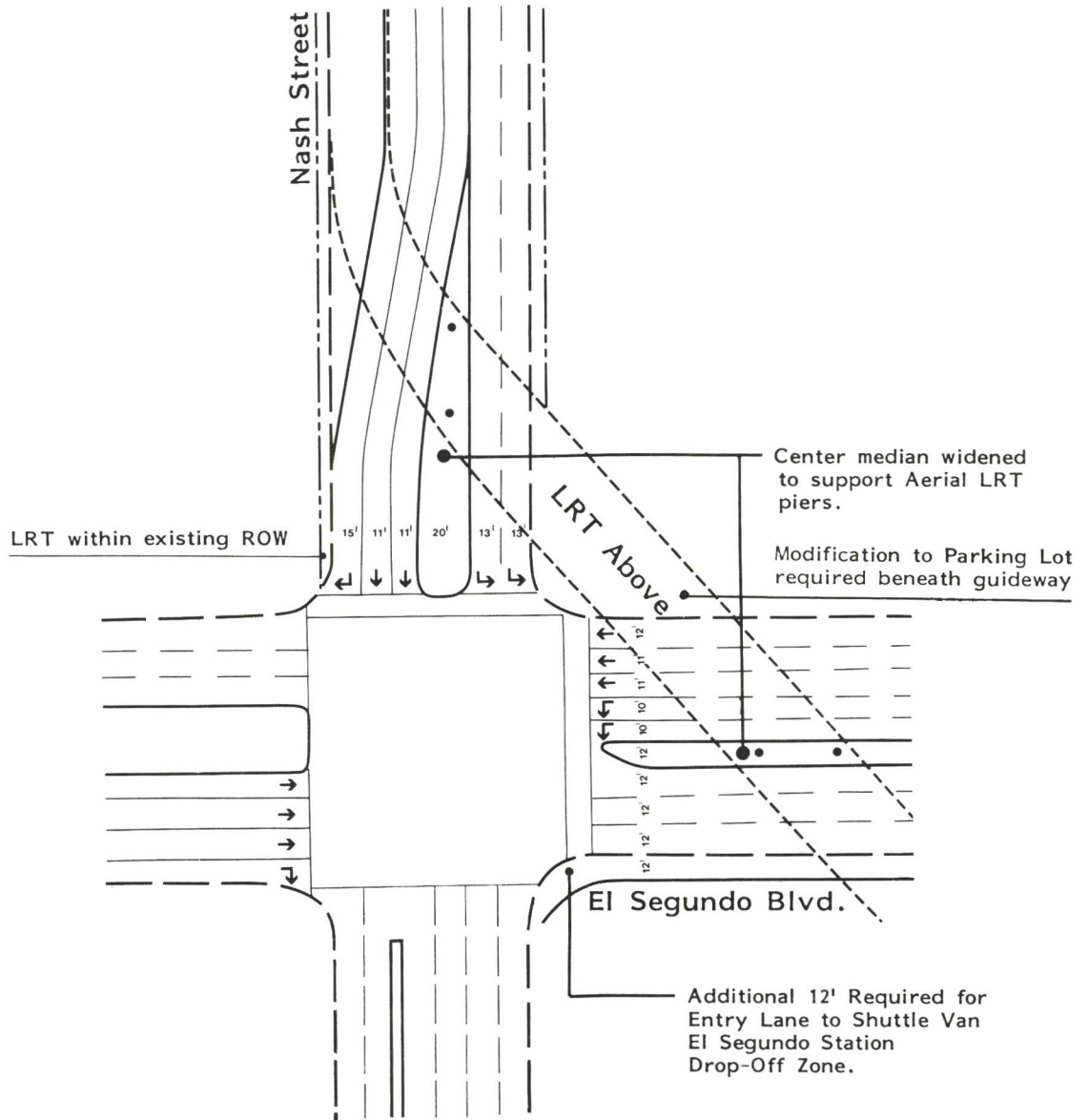




Source: Gruen Associates,

Figure 23  
NASH/GRAND PROPOSED  
ONE-WAY TRAFFIC FLOW





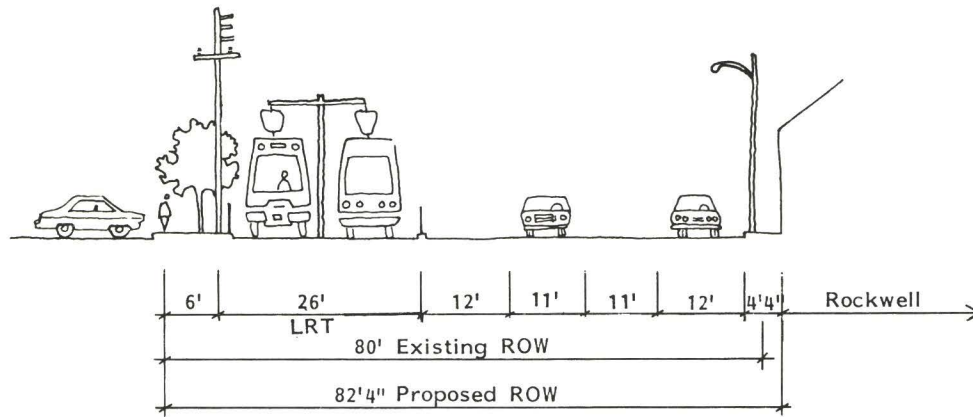
Source : Gruen Associates

**CENTURY-EL SEGUNDO EXTENSION  
RAIL TRANSIT PROJECT**  
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

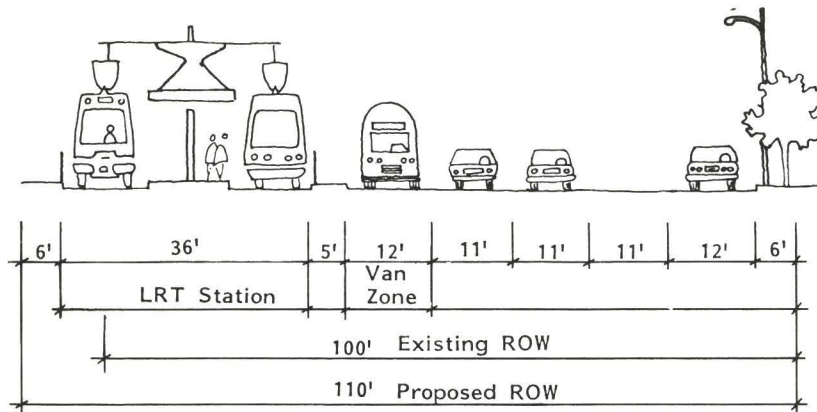
Figure 24  
NASH/EL SEGUNDO BLVD.  
PROPOSED ONE-WAY  
TRAFFIC FLOW



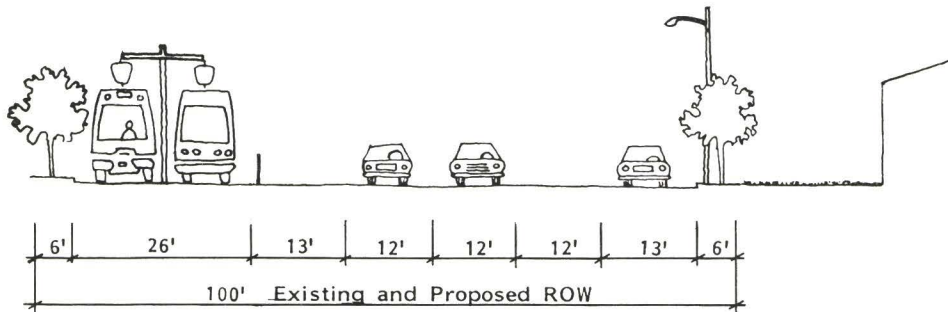




PROPOSED CROSS-SECTION NORTH OF MARIPOSA AVENUE



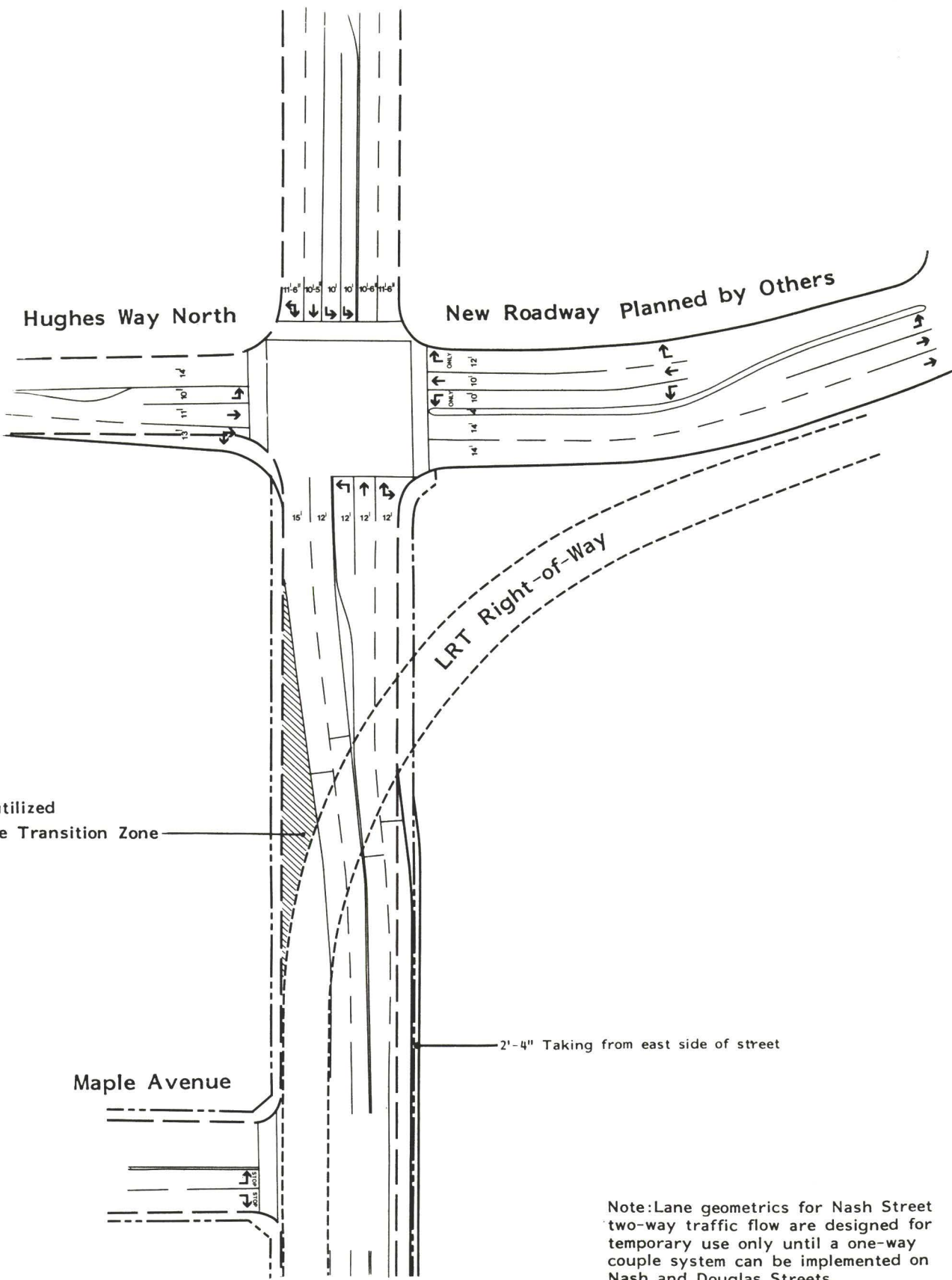
PROPOSED CROSS-SECTION AT MARIPOSA AVENUE STATION



PROPOSED CROSS-SECTION SOUTH OF MARIPOSA AVENUE STATION

Note : Both One - Way and Two - Way Traffic Flow proposals utilize the same cross sections.  
 Source : Gruen Associates





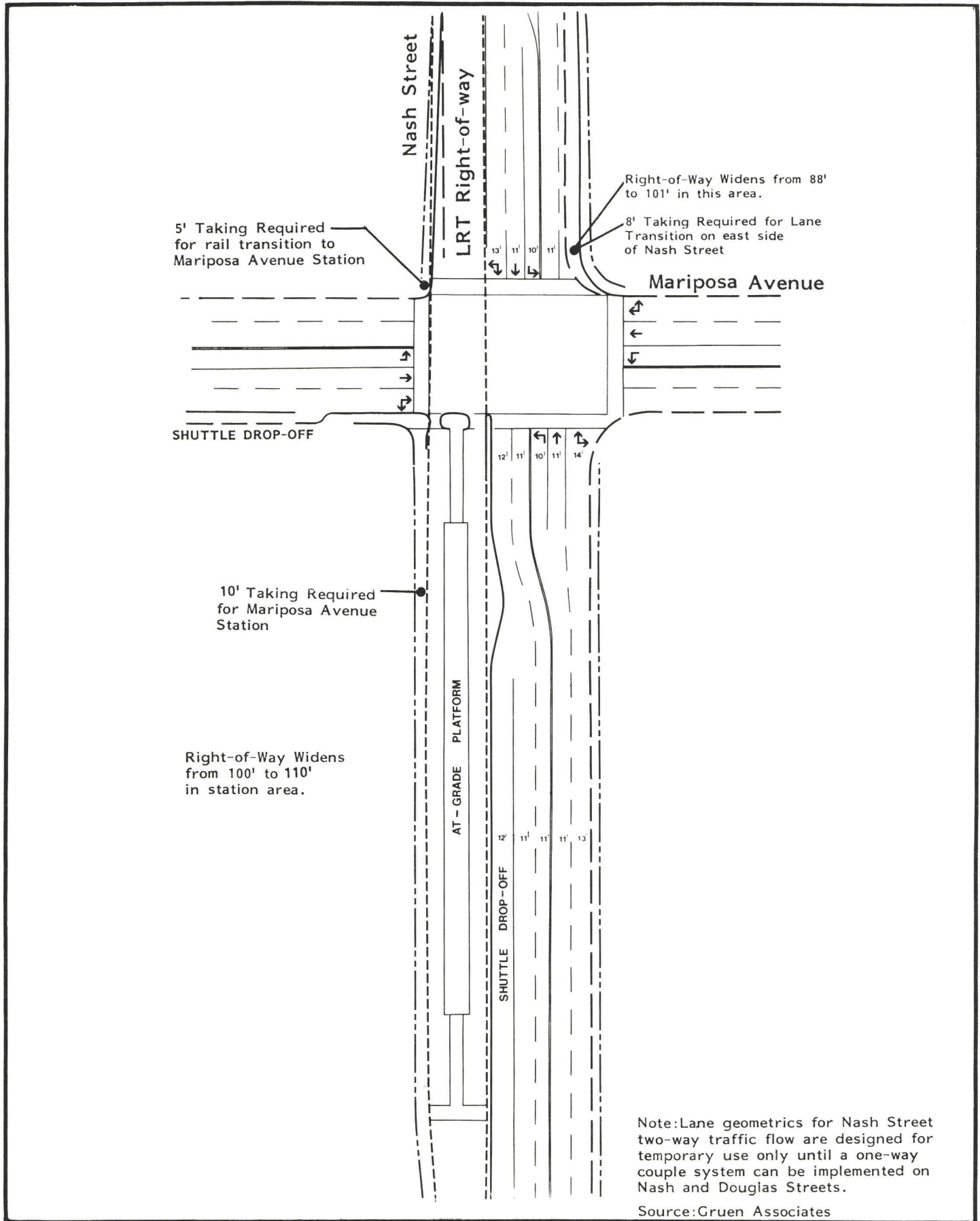
Note: Lane geometrics for Nash Street two-way traffic flow are designed for temporary use only until a one-way couple system can be implemented on Nash and Douglas Streets.

Source: Gruen Associates

**CENTURY-EL SEGUNDO EXTENSION  
RAIL TRANSIT PROJECT**  
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 26  
NASH/HUGHES WAY N./MAPLE  
PROPOSED TWO-WAY  
TRAFFIC FLOW

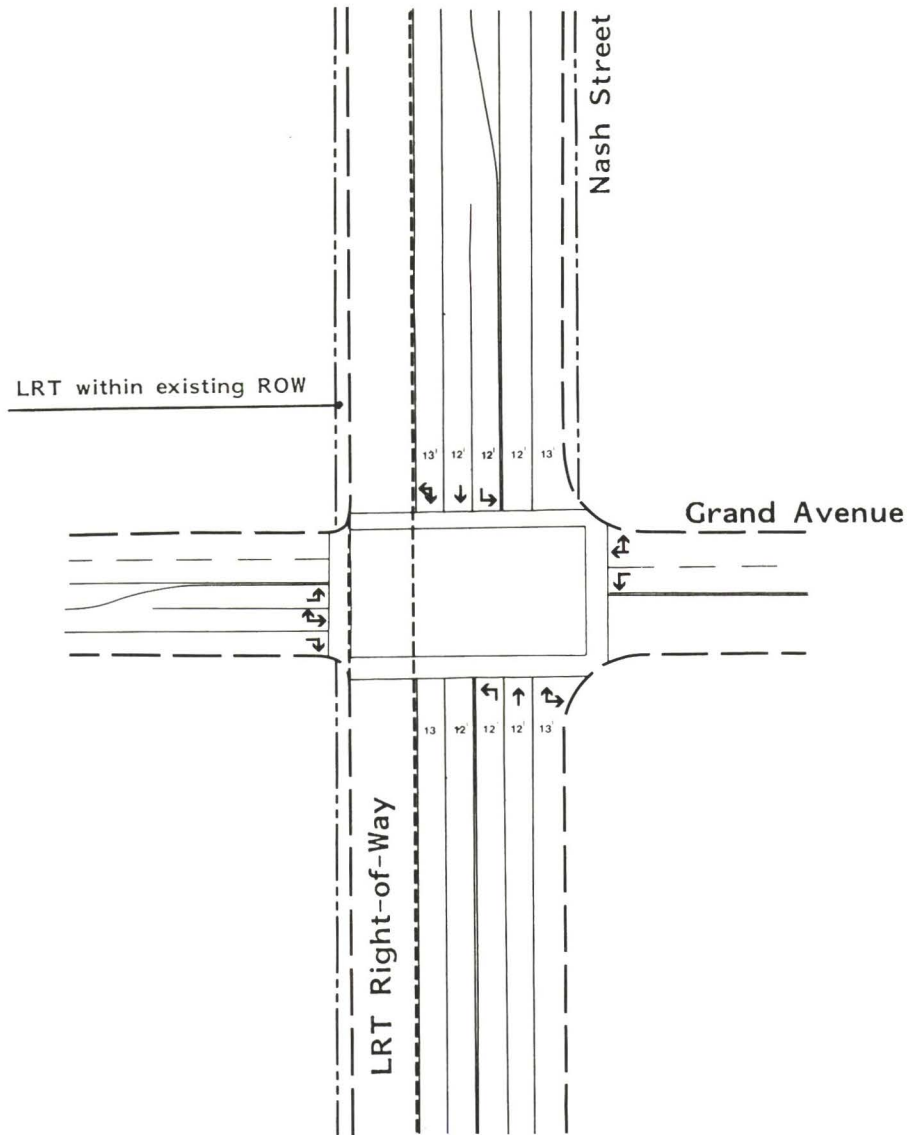




**CENTURY-EL SEGUNDO EXTENSION  
RAIL TRANSIT PROJECT**  
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 27  
NASH/MARIPOSA AVENUE  
PROPOSED TWO-WAY  
TRAFFIC FLOW

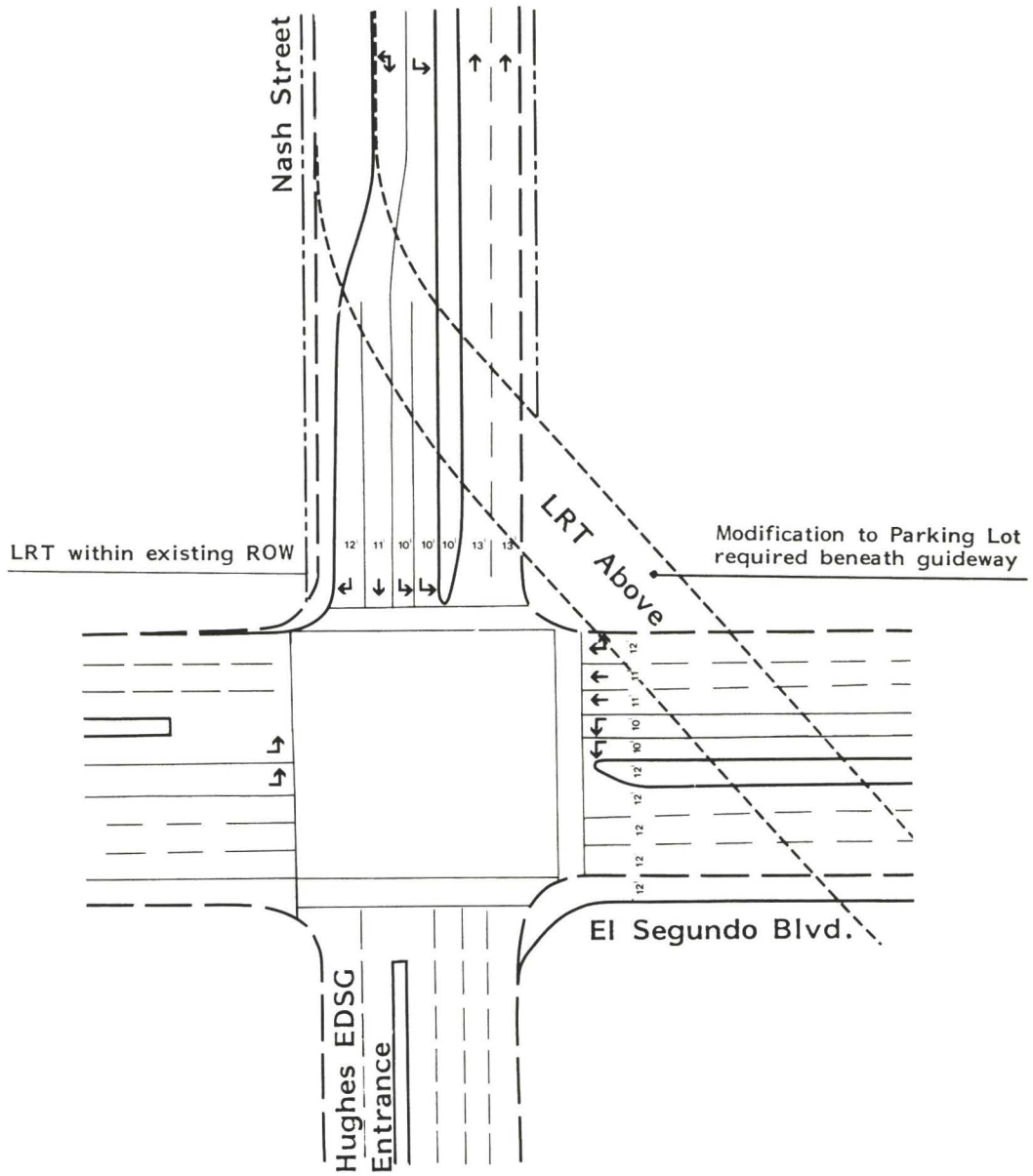




Note: Lane geometrics for Nash Street two-way traffic flow are designed for temporary use only until a one-way couple system can be implemented on Nash and Douglas Street.  
 Source: Gruen Associates

Figure 28  
 NASH/GRAND  
 PROPOSED TWO-WAY  
 TRAFFIC FLOW



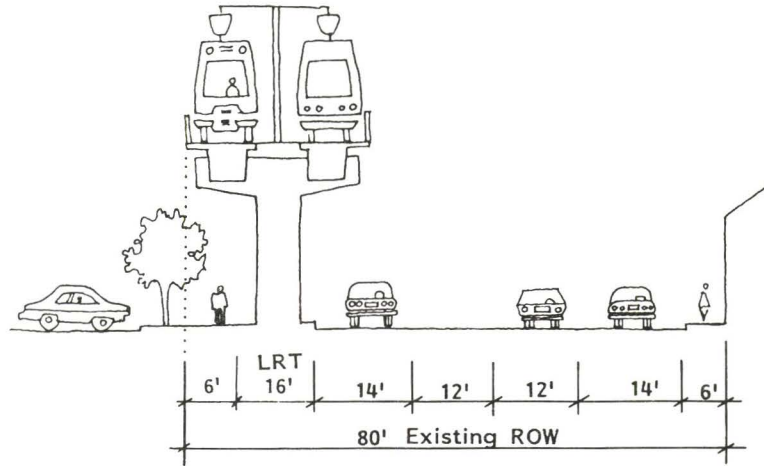


Note: Lane geometrics for Nash Street two-way traffic flow are designed for temporary use only until a one-way couple system can be implemented on Nash and Douglas Streets.

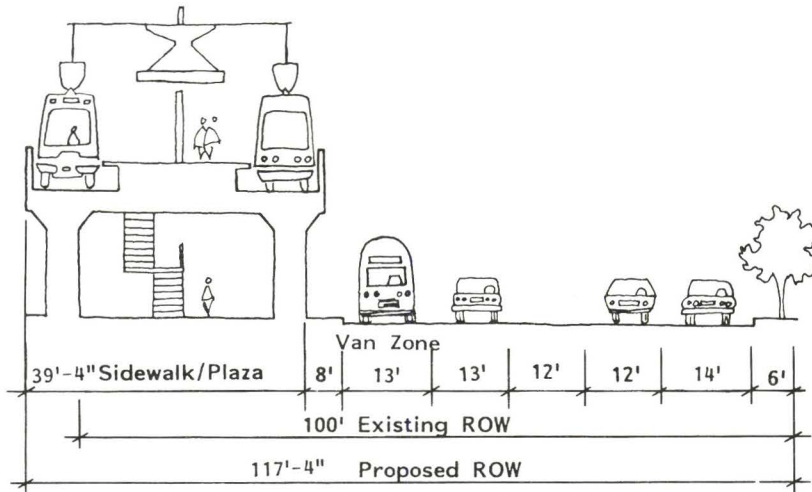
Source: Gruen Associates

Figure 29  
NASH/EL SEGUNDO BLVD.  
PROPOSED TWO-WAY  
TRAFFIC FLOW

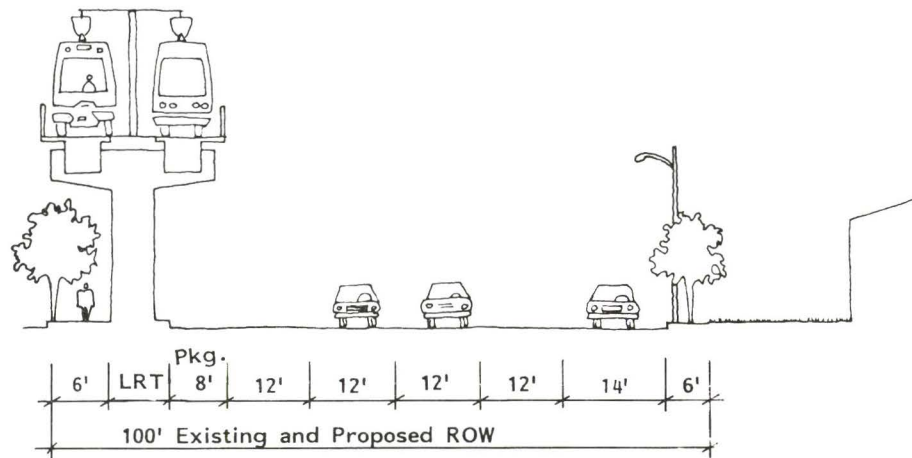




PROPOSED CROSS-SECTION NORTH OF MARIPOSA AVENUE STATION



PROPOSED CROSS-SECTION AT MARIPOSA AVENUE STATION



PROPOSED CROSS-SECTION SOUTH OF MARIPOSA AVENUE STATION

Source: Gruen Associates

**CENTURY-EL SEGUNDO EXTENSION  
RAIL TRANSIT PROJECT**

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 30  
NASH STREET  
CROSS-SECTIONS FOR  
AERIAL LRT OPTION



PROJECTED TRAFFIC LEVELS OF SERVICE ON NASH STREET

Using Year 2000 traffic projections, planned transportation improvements<sup>7</sup> and further suggested Nash Street roadway improvements<sup>8</sup>, the following levels of service can be expected along Nash Street with the rail transit project<sup>9</sup>.

Table 5  
Nash Street Intersections  
Levels of Service - PM Peak Hour

<u>Intersections</u>	No Project 1986 Existing Condition	<u>With I-105 Freeway and Ramps</u>		
		<u>At-grade LRT 2-Way Traffic w/ Signal Preemption</u>	<u>At-grade LRT 1-Way Traffic w/ Signal Preemption</u>	<u>Aerial LRT 1-Way Traffic No Signal Preemption</u>
Nash/Hughes Way N.	Not Existing	D	C	A
Nash/Mariposa Ave.	D	C	C	A
Nash/Grand Ave.	D	D	B	A
Nash/El Segundo Blvd.	F	No Impact	No Impact	No Impact

It is therefore concluded that traffic impacts along Nash Street that would occur as a result of the at-grade LRT alignment can be mitigated to acceptable levels. Levels of service B and C are excellent traffic flow conditions whereas level of service A represents a free-flow condition during the peak hour that is highly atypical for other intersections in the study area.

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<sup>7</sup>Improvements considered include the Century Freeway and proposed on and off-ramps including the Douglas Street Preferred On-Ramp.

<sup>8</sup>Improvements include modest widenings and flairing of intersections along Nash Street as shown in this report.

<sup>9</sup>Source:Century-El Segundo Extension Rail Transit Project Traffic Circulation Technical Report, Gruen Associates, April 1986.

### Indirect Traffic Impacts Rosecrans/Aviation Intersection

The intersection of Aviation Boulevard and Rosecrans Avenue is currently one of the most highly congested intersections in the South Bay Area. Volume/Capacity (V/C) ratios indicate that the total number of vehicles trying to use this intersection during the peak hour exceeds the available capacity by 13 percent<sup>10</sup>. This results in a level of service F, meaning a wait of several signal changes for most vehicles with long backups for all through and turning movements.

A principal cause of this congestion is a freight rail bridge above the intersection that does not allow either Rosecrans Avenue or Aviation Boulevard to be widened due to the bridge abutments on the northwest and southeast corners. The need for reconstruction of this bridge to provide a longer span has been recognized for several years and funding for this project has been requested from the State Transportation Improvements Budget. At the current rate that these projects are being funded, it could be many more years before this improvement occurs.

LRT Impacts to Aviation/Rosecrans Intersection The proposed Century-El Segundo Rail Transit Project would cross above this intersection on a bridge structure that would run parallel and just to the south of the existing freight rail bridge. In order to avoid future impacts to this intersection the LRT bridge will be designed with sufficient span clearances to allow future widening of both Aviation Boulevard and Rosecrans Avenue. The El Segundo General Plan designates Aviation Boulevard as a major arterial roadway with future widening to eight through lanes projected within a 150 foot right-of-way. Rosecrans Avenue is also identified as a major arterial roadway that would require similar widening.

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<sup>10</sup>Reference: Traffic Impact Report for Continental Park Phase V, Crain and Associates, December 1985.



While the LRT bridge is planned as a "through-girder" structure, during the preliminary engineering phase several types of structures will be investigated. For the purpose of environmental clearance, the span of the bridge has been set such that it will not affect potential future widenings of either Rosecrans Avenue or Aviation Boulevard to major arterial standards.

#### Conformity with Adopted Plans

The LRT alignment is in conformance with adopted local and regional circulation plans and is specifically singled out by city plans in the project area for future implementation. In one instance however, there is a conflict with an adopted local plan provision. The Circulation Element of the El Segundo General Plan states:

"The portion of Douglas Street from El Segundo Boulevard to Rosecrans Avenue should remain as a two-way secondary arterial but with a grade-separation over the AT & SF/SP railroad near Alaska Avenue. Future extension of Douglas Street via Redondo Avenue to Marine should be considered in cooperation with the City of Manhattan Beach."

The LRT alignment, as shown in Figures 10 and 11 is itself grade separated from the AT & SF/SP railroad and therefore would conflict with the above provision of the El Segundo General Plan because any future extension of Douglas Street coupled with grade separation over the freight rail tracks would require reconfiguration and reconstruction of the Douglas Street LRT Station. This would add considerable expense to such a project. Douglas Street could however be extended by passing under the LRT structure and crossing the freight rail track either at-grade or below grade. This freight rail line is currently used twice a day for freight rail service in each direction and an at-grade crossing currently exists for this line further north near the intersection of Douglas Street and Utah Avenue. This intersection has crossing gates and should not be overburdened by

the increased traffic volumes that are projected on this discontinuous secondary arterial roadway.

#### Station Area Impacts

Although it has been demonstrated that there will not be significant traffic circulation impacts as a result of the at-grade LRT alignment on Nash Street near the the Mariposa Avenue Station, it is still possible that traffic congestion could result at intersections near proposed park-and-ride lots due to the number of vehicles that would be attracted to stations during peak periods. There are no parking facilities at the Mariposa Avenue or El Segundo Boulevard Stations and therefore there are no local traffic impacts anticipated in these areas. Park-and-ride lots have been proposed at the Douglas Street and Compton Boulevard Stations and include the following number of spaces:

- \*Douglas Street Park-and-Ride lot-120 spaces
- \*Compton Boulevard Station Park-and-Ride lot-350 spaces
- \*Compton Boulevard Alternate Station Site Park-and-Ride lot-75 spaces

In order to determine if peak hour trips attracted to these stations (for park and ride, kiss and ride and shuttle van drop-offs) would have an impact on local streets, a worst case condition was assumed. This case models the PM peak hour number of trips from both the Douglas Street and Compton Boulevard Stations that could be expected to pass through the intersection of Rosecrans Avenue and Aviation Boulevard. This intersection is one of the most highly congested intersection in the project area and is centrally located mid-way between the two LRT stations which have Park-and-Ride lots. The analysis presumes that if LRT Station generated trips have an insignificant impact on this intersection, then there will be no significant impacts at any other project area intersections.

Data for traffic volumes was drawn from the Traffic Impact Analysis for the Continental Park Phase V, Crain and Associates, December 1985, and included the following assumptions:

\*Year 1990 PM Peak Hour projected traffic volumes with the development of all projects currently proposed or under construction as of December 1985.

\*Intersection levels of service at Rosecrans/Aviation that included one additional lane in each direction on Aviation Boulevard as well as other minor improvements.

Data for station boardings and mode of access was developed by LACTC and the Southern California Association of Governments using the regional LARTS model (see Section 2.5 of this EIR). This data assumed the following:

\*Douglas Station - 3000 daily boardings  
10% peak hour = 300 boardings at PM peak  
Pedestrian Access - 40%  
Auto Access - 15%  
Access by Shuttle & Bus - 45%  
Boardings per Vehicle trip - 1.5  
Boardings per Shuttle Van trip - 10  
PM Peak Hour Vehicle trips -  $(3000 \times 15\%/1.5)10\% = 30$  trips  
PM Peak Hour Van Shuttle & Bus trips -  $(3000 \times 45\%/10)10\% = 14$  trips

\*Compton Station - 5100 daily boardings  
10% peak hour = 510 boardings at PM peak  
Pedestrian Access - 15%  
Auto Access - 15%  
Access by Shuttle & Bus - 70%  
Boardings per Vehicle trip = 1.5  
Boardings per Shuttle Van & Bus = 10  
PM Peak Hour Vehicle trips -  $(5100 \times 15\%/1.5)10\% = 51$  trips  
PM Peak Hour Shuttle & Bus trips -  $(5100 \times 70\%/10)10\% = 36$  trips

Based on the directional distribution of traffic in the area, 60% of the PM peak hour traffic volumes generated by the Douglas Station facility, and 40% of the PM peak hour traffic volume generated by the Compton Boulevard Station facility would pass through Aviation/Rosecrans intersection. This results in an increase of approximately 3% in the total sum of critical volumes with a corresponding increase in the vehicle/capacity ratio from 1.22 to 1.25. Not factored into this analysis are the number of trips diverted from private vehicles onto rail transit which would then not pass through this intersection. Patronage estimates developed by the Southern California Association of Governments (see Table 3) indicate that about 14,000 additional daily Century Line boardings would occur in the Year 2000 as a result of the Century-El Segundo Extension. Most of these trips would come from automobiles and bus patrons who would be diverted out of their vehicles and onto the rail transit line. It is quite possible that decreased use of private vehicles and buses would more than offset any increases in local trips that would result due to park-and-ride, kiss-and-ride and shuttle bus operations at the proposed rail transit stations.

With regard to the Rosecrans Avenue/Aviation Boulevard intersection, it can be stated generally that changes of at least five points (0.05) in the v/c ratio represent changes in traffic conditions that become perceptible to the average motorist. Thus, highly localized worst-case traffic impacts from the rail transit project would be barely perceptible to the average motorist and relatively modest in terms of overall intersection number of trips handled. The City of El Segundo has recently adopted a "threshold of significance" for traffic impacts to intersections in that city. By the City's definition, an increase of 0.02 or more in the Intersection Capacity Utilization (ICU) of intersections with a Level-of-Service rating of "E" or "F" constitutes a significant impact. Based on the size of the project area and the projected patronage on the transit line, it

is probable that a modest impact of between 0.01 and 0.02 would occur for the Rosecrans/Aviation intersection, but that other intersections in the study area which are farther from proposed station park-and-ride lots would vary from no impact to beneficial level of service impacts.

For purposes of environmental clearance, mitigation measures aimed at reducing the number of vehicle trips to rail transit stations are not proposed. Such measures would include reducing the size of park-and-ride lots which would work against overall project goals of attracting maximum patronage to the stations. Instead, LACTC will design station areas in the following ways to insure that maximum vehicle occupancy occurs for new trips attracted to the stations:

- \*Preferential parking will be provided for car-pools, van-pools and bicycles.

- \*Short-term metered parking may be provided, which would generally cater to non-peak hour trips.

- \*Pedestrian amenities such as trees, benches and lighting shall be provided to encourage use by walk-in transit patrons.

- \*Drop-off zones for shuttle-vans and kiss-and-ride patrons will be centrally located and efficiently designed to maximize the use of these by high-occupancy vehicles.

## 4.2 LAND USE IMPACTS

Direct land use impacts associated with the project include land takings for right-of-way acquisition, adjacency impacts where aerial guideways pass through or next to existing parcels, and access impacts where driveways or entrances are blocked.

Throughout the route refinement and preliminary engineering phases of the Century-El Segundo Extension Rail Transit Project such direct land use impacts have been minimized wherever possible within the limits of standard performance design, and operations criteria. Contact has been maintained with all major land owners and routes have been modified and reconfigured on numerous occasions by LACTC in response to concerns expressed by land owners and the cities involved (see Section 1.3). The Baseline Route and various options described in this EIR represent many months of planning and design work aimed at reconciling the conflicting demands between the physical configuration of the Rail Transit System and the existing land use patterns developed over many years in the study area.

Existing Land Use Pattern- Figures 31 through 34 illustrate typical conditions along the Baseline Route and extended route length options. The extended route generally follows existing railroad and utility rights-of-way for about 32% of its total length. For another 43% of its length it runs adjacent to industrial, office and vacant parcels in right-of-way that is separated from general traffic and existing uses. Approximately 25% of the route (4,200 feet) runs along Nash Street with at-grade crossings of Maple Avenue, Mariposa Avenue and Grand Avenue.

Residential uses make up less than 1/2% of all land uses immediately adjacent to the corridor. Specifically, the Holly Glen community of single-family homes on the northeast corner of Rosecrans Avenue and Aviation Boulevard has met with LACTC and



In the north, the rail line travels from Aviation Blvd. Station on an aerial structure above the existing Atchinson, Topeka and Santa Fe Railroad spur line. The top photo looks east from the intersection of Douglas Street and the railroad right-of-way. Buildings shown are Rockwell Corporation on the left of the photo and Northrop on the right. The lower photo shows the proximity of the proposed alignment to Kilroy Center and other major developments along Imperial Highway.

**CENTURY-EL SEGUNDO EXTENSION  
RAIL TRANSIT PROJECT**  
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 31  
CORRIDOR PHOTOS  
NORTH PROJECT AREA



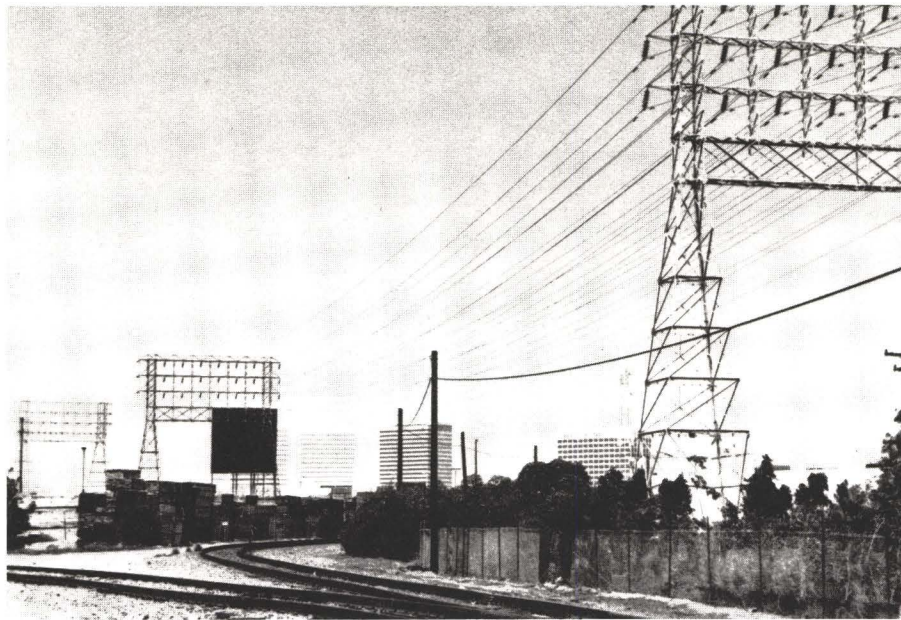
The line travels south from the AT&SF Rail right-of-way via Nash Street. The LRT right-of-way is located on the west side of the existing street and would utilize signalized at-grade crossings at Maple, Mariposa and Grand Avenues. The top photo looks south on Nash Street from the existing freight rail spur track. The lower photo looks south on Nash Street from Grand Avenue.

**CENTURY-EL SEGUNDO EXTENSION  
RAIL TRANSIT PROJECT**

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 32  
CORRIDOR PHOTOS  
NASH STREET





South of the Hughes EDSG Facility the line rises to cross over existing freight rail tracks, while at the same time passing beneath Southern California Edison high power transmission lines. The upper photo looks north from the approximate location of the Douglas Street Station. The lower photo looks southeast along the route alignment toward the intersection of the Rosecrans/Aviation freight rail bridge in the distance.

**CENTURY-EL SEGUNDO EXTENSION  
RAIL TRANSIT PROJECT**

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 33  
CORRIDOR PHOTOS  
RAILROAD R.O.W.



Near the southern terminus of the study area, the Compton Boulevard Station would provide park-and-ride facilities with close access to the San Diego Freeway. It would also provide convenient access to employees of the TRW Space Center Complex. The above photo looks northwest along the proposed rail alignment at Compton Boulevard - just south of the Compton Boulevard Alternative Station Site (Figure 13). The TRW Space Park can be seen at the left of the photo.

## CENTURY-EL SEGUNDO EXTENSION RAIL TRANSIT PROJECT

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 34  
CORRIDOR PHOTOS  
COMPTON BOULEVARD

in response to their concerns, the alignment has been shifted further to the west to the opposite side of an existing freight rail bridge. There is a minimum of 250 feet between the rail transit line and the nearest of the Holly Glen residences. Concerns of that community were primarily with regard to noise and visual impacts. No land takings, access modifications or other land use impacts occur in the vicinity of this residential area.

Figure 35 and Table 6 itemize corridor adjacent land uses and individual land use impacts on each affected property. In total 11.6 acres of private property takings are required for the baseline route with the El Segundo Rail Yard. Between 8.5 and 8.8 acres<sup>11</sup> of private property takings would be required for the Hawthorne Route Length Option with the Hawthorne Rail Yard. Approximately 143-200 parking spaces are displaced and 6 entrances, driveways or curbcuts will require access modification or reconfiguration. This loss of parking would be partially offset by the provision of between 170-450 park and ride spaces at the Douglas Street and Compton Boulevard Station.

Mitigation for Land Takings and Parking Losses- No mitigation is possible for private land takings required for the project. Similarly, no direct mitigation is possible for lost employee parking spaces. These takings have been minimized wherever possible. Possible indirect mitigation for these losses includes the following:

\*LACTC will work closely with the El Segundo Employers Association and SCRTD to insure efficient shuttle and regional bus connections between LRT stations and employment centers. Additionally, LACTC will work with other public agencies and the cities involved to provide bicycle and pedestrian facilities around station areas. These measures should reduce the demand for individual employee parking spaces.

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<sup>11</sup>Total does not include 9.4 acre Hawthorne Yard Site which is expected to be declared state surplus property.

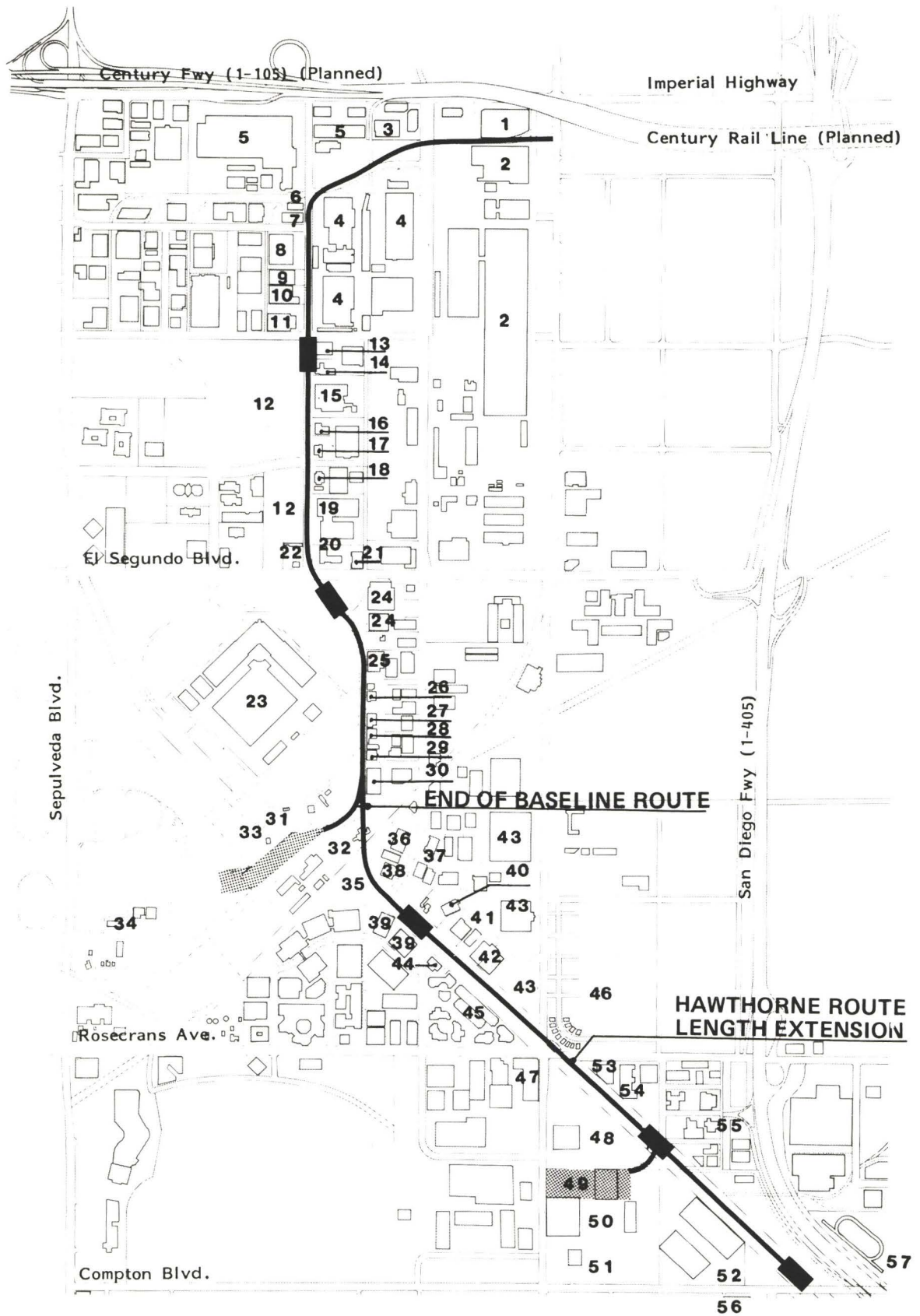
\*Almost all of the land required for construction of the LRT right-of-way is either undeveloped or underdeveloped by the standards of existing land use and zoning controls. Some appreciation in land values may occur to the remaining portions of these parcels due to their proximity to the rail transit line. (see Section 4.15-Growth Inducement). Additionally, cities along the project corridor may revise parking requirements and regulations downward in response to transportation system management measures of which rail transit is an integral part. This may also correspondingly increase the value of some of the parcels that are along the project route.

Mitigation for Loss of Access-Two areas exist where access to businesses will be modified. Access to Rockwell facilities in the northern portion of the project area will be reconfigured as a part of the at-grade construction of the rail transit system. No access impacts will occur with the aerial option.

The second area in which access modifications will be required is along Nash Street where the Baseline Route runs at-grade in an exclusive right-of-way on the west side of that street. Existing driveways to properties at 601, 605, 607, 615 and 755 Nash Street will be blocked by this alignment. Figure 36 shows two concepts by which access can be restored to these parcels as they are redeveloped by others. These options are as follows:

\*Rear Access Roadway-This alternative would utilize the unused rail siding easement that runs behind these businesses. This alternative includes the construction of a 25 foot roadway between Maple Avenue and Mariposa Avenue and the addition of 83 diagonal parking spaces running along the length of this new roadway. This alternative access road would provide better traffic access to the affected parcels but would require that access to these businesses be from the rear and side of these parcels.

\*Nash Street Frontage Road-This alternative involves the construction of a 20 foot frontage road along Nash Street between Maple Avenue and Mariposa Avenue to restore access to these parcels from the front of these businesses. Such a frontage road would require the taking of approximately 0.5 acres from these parcels with a consequent loss of 75 parking spaces.



# CENTURY-EL SEGUNDO EXTENSION RAIL TRANSIT PROJECT

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 35  
KEY LAND USES



**TABLE 6**  
**SUMMARY OF KEY LAND USES**  
**AND PROPERTY IMPACTS**

MAP #	PROPERTY	TYPE OF IMPACT	PRIVATE PROPERTY TO BE TAKEN (Sq. Ft.)
<b><u>BASELINE ROUTE</u></b>			
1	Rockwell International	Aerial Easement (1,330 SF)	--
-	City of El Segundo	Aerial Easement over Public Streets (3,380 SF) Use of Public Street ROW-Douglas Street (108,160 SF)	-- --
2	Northrop Corporation	Aerial Easement over Parking Lots (12,480 SF)	--
3	Kilroy Center	No Impact	--
4	Rockwell International	Aerial Easement over Parking Lots (13,780 SF) Land Taking in Parking Lots Land Taking for Street Widening Loss of Parking ( $\pm$ 20 spaces) Driveway Reconfigurations Loss of Toxic Waste Storage Area	-- 16,920 2,400
	AT & SF	Aerial Easement (17,680 SF) Land Taking	-- 9,100
5	Hughes Aircraft Company	No Impact	--
6	821 Nash Street	No Impact	--
7	815 Nash Street	Loss of Parking (3 spaces)	--
8	TRW - 755 Nash Street	Driveway Blocked (see Figure 36 for access restoration alternatives)	--
9	615 Nash Street (vacant)	Driveway Blocked (see Figure 36 for access restoration alternatives)	--
10	Kane Kutlery - 605 Nash Street	Driveway Blocked (see Figure 36 for access restoration alternatives)	--
11	Computax Corporation 601 Nash Street	Driveway Blocked (see Figure 36 for access restoration alternatives) Taking of 5 Foot Strip	-- 750

12	Chevron Land & Development Co. (vacant)	Taking for Mariposa Station Access to parcel blocked from Nash Street	5,000
13	Edelrock	No Impact	--
14	Exporters Forwarding Air Cargo	No Impact	--
15	United Airlines Flight Kitchen	No Impact	--
16	Gordon Enterprises	No Impact	--
17	Continental Federal Credit Union	No Impact	--
18	Agbabian Brothers	No Impact	--
19	Ampex	No Impact	--
20	Hughes Westbay Plaza	Taking for El Segundo Boulevard Station Loss of Parking (15 spaces)	5,400
21	Severy, Inc., Engineers	No Impact	--
22	El Segundo Fire Station #2	No Impact	--
23	Hughes EDSG	Taking for El Segundo Boulevard Station Loss of Parking ( $\pm$ 105 spaces) Aerial Easement over Access Road (4,600 SF) Taking from Utility Corridor	57,600 -- 65,100
24	Aerospace Corporation	No Impact	--
25	Practical Packing/Sage Foods	No Impact	--
26	Brennan-Hamilton Corporation	No Impact	--
27	Bay Swiss	No Impact	--
28	Condec-Consolidated Controls	No Impact	--
29	Triple B Packers-Specialty Forwarding	No Impact	--
30	Kokusai Electric-Eurocal	No Impact	--
31	SCE Utility Corridor	Cooperative Agreement required for use of land under transmission towers	--
32	H. Kramer	No Impact under baseline route	--

SUB-TOTAL FOR BASELINE ROUTE

162,270 (3.7 AC)

**EL SEGUNDO RAIL YARD**

23	Hughes EDSG Southern Pacific Railroad	Taking for Rail Yard Taking for Access Road	21,000 239,750
31	Detention Basin	No Impact	--
32	H. Kramer	No Impact for rail yard	--
33	Southern California Edison Co./Happy Jack Lumber Co.	Cooperative Agreement for Use of Land Under Transmission Lines	--
34	Allied Chemical Company Chevron Oil Company	Taking for Rail Yard Taking for Rail Yard	74,000 10,000
SUB-TOTAL FOR EL SEGUNDO YARD			344,750 (7.9 AC)
TOTAL FOR BASELINE ROUTE WITH EL SEGUNDO YARD			507,020 (11.6 AC)

**HAWTHORNE ROUTE LENGTH OPTION**

32	H. Kramer	Taking- Aerial Guideway passes over vacant office building (to be redeveloped)	9,100
35	AT & SF/Learned Lumber Co.	Aerial Guideway passes over lumberyard Use continues (20,800 SF)	--
36	Harco	No Impact	--
37	Ametek	No Impact	--
38	Polaroid	No Impact	--
39	Farr	Aerial Encroachment of Guideway (2,400 SF) Taking for Widening of Douglas Street for Station Area Drop-Off Zone Loss of Parking ( $\pm$ 5 spaces)	-- 2,400
40	Condec	No Impact	--
41	TRW	No Impact	--
42	Sperry	No Impact	--
43	Xerox	No Impact	--
44	750 S. Douglas Street	Aerial Easement (2,100 SF)	--



45	Continental Development Corporation	Aerial Easement (6,000 SF)	--
	Southern California Edison	Cooperative Agreement for Use of Land under transmission lines (73,800 SF)	--
		Loss of Existing Parking ( $\pm$ 95 spaces) for Park and Ride Lot	--
		Displacement of Commercial Nursery	--
	AT & SF	Taking Aerial Easements (50,800 SF)	6,500
46	Holly Glen Residential Area	No Impact	--
47	Lawrence Office Building	No Impact	--
48	TRW	Taking	9,240
	AT & SF	Taking in RR ROW	52,240
53	Clarion	No Impact	--
54	Hewlett-Packard	No Impact	--
55	Hawthorne Redevelopment Project Area	No Impact	--

SUB-TOTAL FOR HAWTHORNE ROUTE LENGTH OPTION 79,480 (1.8 AC)

**COMPTON BOULEVARD STATION (NORTH)**

48	TRW	Taking for Station Area Loss of Parking ( $\pm$ 100 spaces)	74,000
50	U.S. Air Force	Taking for Access Roadway	50,000
51	U.S. Government	Relocation of Athletic Field	
52	Southern California Edison	Cooperative Agreement for Use under transmission lines (156,000 SF)	--
		Taking for Access Roadway	4,000

SUB-TOTAL FOR COMPTON STATION (NORTH) 128,000 (2.9 AC)

**COMPTON BOULEVARD STATION (SOUTH)**

-	AT & SF	Taking in Railroad ROW	65,100
52	Southern California Edison	Taking for Station Area	72,000
		Taking for Yard Lead	2,600
56	TRW Space Park	No Impacts	--
57	Lawndale High School	No Impacts	--
SUB-TOTAL FOR COMPTON STATION (SOUTH)			139,700 (3.2 AC)

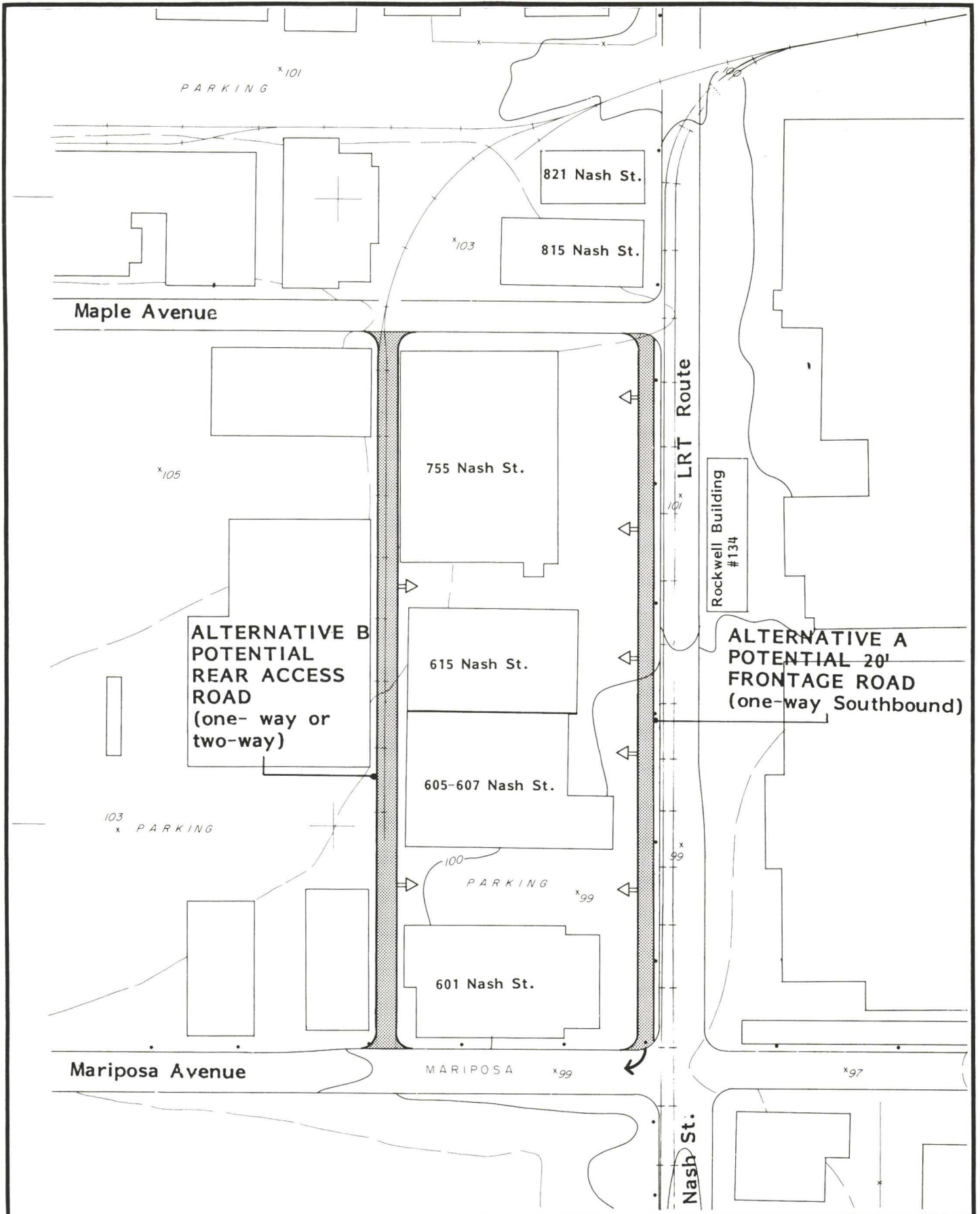
**HAWTHORNE RAIL YARD**

49	State of California	Acquisition of Surplus Property including existing warehouse structure (409,000)	--
	Southern California Edison	Use of Land under transmission line for yard lead (2,500 SF)	--
SUB-TOTAL FOR HAWTHORNE RAIL YARD			-0-

TOTAL FOR HAWTHORNE ROUTE LENGTH OPTION WITH HAWTHORNE YARD WITH BASELINE ROUTE  
(NO EL SEGUNDO YARD)

WITH COMPTON BOULEVARD STATION (NORTH)	369,750 (8.5 AC)
WITH COMPTON BOULEVARD STATION (SOUTH)	381,450 (8.8 AC)

Undeveloped parcels along the west side of Nash Street between Mariposa Avenue and El Segundo Boulevard would similarly have any future access blocked by an at-grade LRT exclusive right-of-way in this area. In these cases, careful site development would enable internal roadways within these holdings to direct traffic into and out of future projects from other surrounding streets, i.e., Mariposa Avenue, Grand Avenue, El Segundo Boulevard or Continental Boulevard. These roadways would be built by others as a part of normal site development and construction activities. The cost of modifying the LRT alignment in order to eliminate access impacts to parcels along the west side of Nash Street has been investigated by LACTC and has resulted in the development of the Nash Street Aerial Option (see Section 2.4) by which the LRT would be carried on a completely grade separated aerial guideway through this section of the corridor. The cost of this option is approximately \$12 million more than the Baseline (at-grade) Route however it has several advantages that are itemized in Table 7.



**CENTURY-EL SEGUNDO EXTENSION  
RAIL TRANSIT PROJECT**  
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 36  
ACCESS RESTORATION  
TO NASH STREET PROPERTIES



Table 7

Comparison of Nash Street LRT  
At-Grade and Aerial Option  
(Baseline Route & El Segundo Yard)

	At-Grade	Aerial
<u>Land Takings</u>	11.6 acres required. Requires construction of frontage road to restore access to properties on Nash between Maple and Mariposa. Between Mariposa Avenue and El Segundo Boulevard, LRT at-grade alignment blocks access to undeveloped parcels on west side of Nash Street.	10.9 acres required. Aerial easement required over Rockwell, Chevron and northwest corner of Mariposa/Nash Streets.
<u>Utilities</u>	No relocation of overhead utilities.	Requires relocating all light poles and overhead utilities.
<u>Cost</u>	Baseline Cost	\$12 million above Baseline Cost.
<u>Operations</u>	Slower running speeds, greater safety risks.	Better operations because entire line has exclusive right-of-way.
<u>Emergency Vehicle Response Times</u>	Possible impediment to future location of Fire Station on Nash Street.	No impact.

### 4.3 VISUAL IMPACTS

The Century-El Segundo Extension Rail Project is unlikely to have significant visual impacts on the overall character, scale and form of the El Segundo Employment Area. The visual setting of the area is industrial and does not include sensitive land uses, significant view corridors or well-defined street spaces.

All of the alternatives would require catenary support poles, electrical overhead wires and trackway on city streets and on aerial guideway. The catenary poles would be 18-24 feet high, spaced 100 to 300 feet on-center. Visual impacts of at-grade segments of the route would be limited primarily to the effects of required street widenings and alterations rather than to the visual characteristics of the system itself.

Aerial guideway segments of the route would be more visually prominent. This is particularly true where aerial structures are situated in close proximity to existing buildings or where they cross over existing streets. Guideway structures would be approximately 26 feet wide and would widen to 43 feet at stations. The guideway would be supported on single 6-7 foot columns spaced 80-100 feet on-center for the majority of the route. At stations and at major street crossings, the design of the guideway would vary to accommodate particular circumstances.

In all cases, structures situated within 120 feet of aerial guideway segments are used for industrial or other commercial purposes. Shadows cast by these guideways would generally fall on parking lots, city streets and railroad rights-of-way.

The architectural and engineering design of the stations, guideways and other physical components of the line would be governed by LACTC Design and Performance Criteria. These

guidelines specify landscaping, design treatments and other visual factors that will be incorporated into the final design of the line.

Figures 37 through 39 show before and after views of three typical segments of the corridor.



**CENTURY-EL SEGUNDO EXTENSION  
RAIL TRANSIT PROJECT**

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 37 A  
NASH STREET - EXISTING





In the northern portion of the project area, the baseline route would run at-grade along the west side of Nash Street. A curb would separate the exclusive LRT alignment from general vehicular traffic. The above view looks north on Nash Street between Mariposa Avenue and Maple Avenue.

## CENTURY-EL SEGUNDO EXTENSION RAIL TRANSIT PROJECT

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 37 B  
NASH STREET WITH LRT

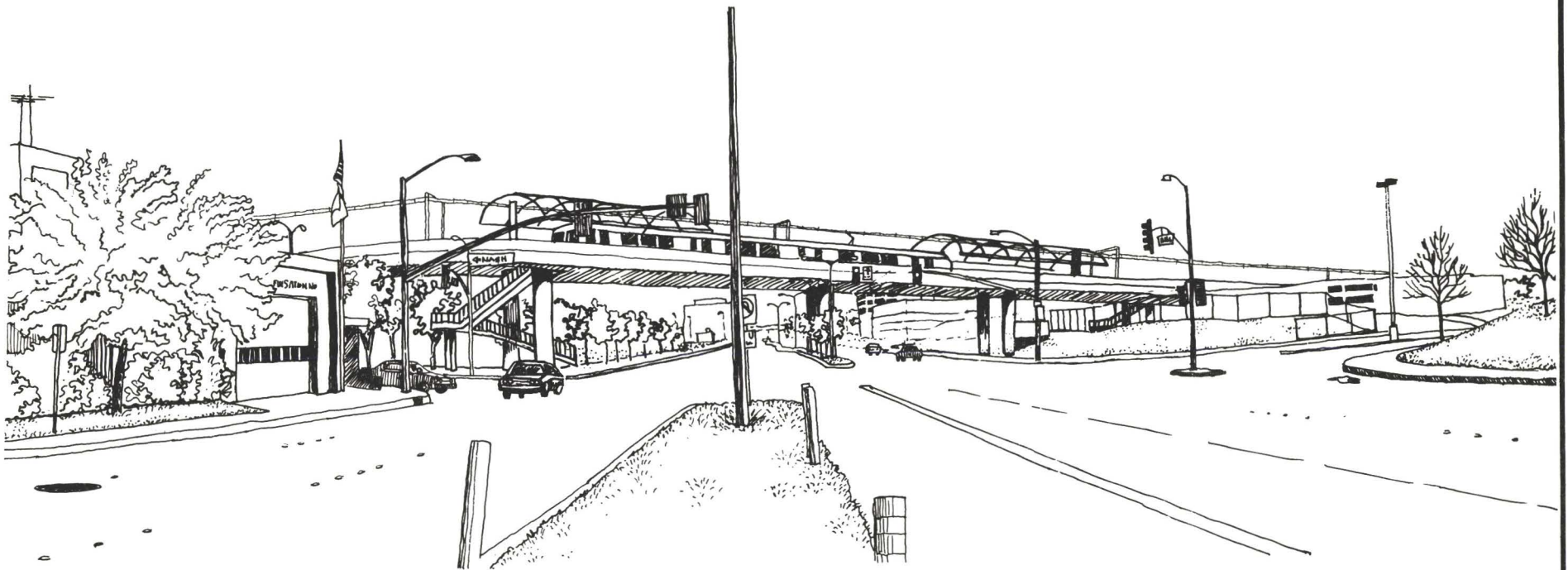


**CENTURY-EL SEGUNDO EXTENSION  
RAIL TRANSIT PROJECT**

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 38A  
EL SEGUNDO BOULEVARD - EXISTING





The El Segundo Boulevard Station will be located above El Segundo Boulevard at Nash Street. Access to the station will be from the northeast and southeast corners of the intersection. The above view looks to the east from the median of El Segundo Boulevard.

## CENTURY-EL SEGUNDO EXTENSION RAIL TRANSIT PROJECT

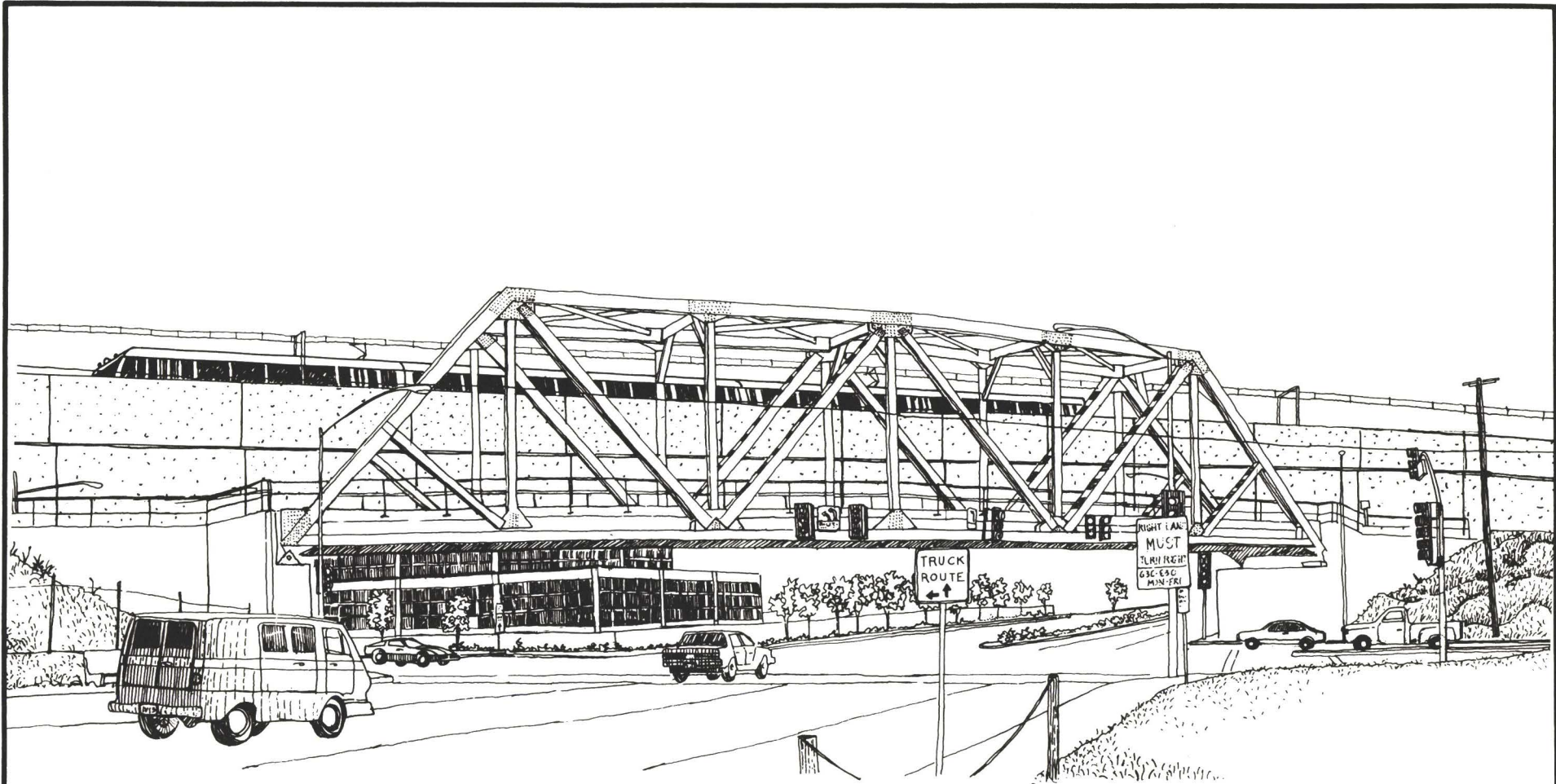
Figure 38B  
EL SEGUNDO BOULEVARD WITH LRT



**CENTURY-EL SEGUNDO EXTENSION  
RAIL TRANSIT PROJECT**

Figure 39A  
AVIATION BOULEVARD/ ROSECRANS AVENUE  
EXISTING

LOS ANGELES COUNTY TRANSPORTATION COMMISSION



At the intersection of Rosecrans Avenue and Aviation Boulevard the LRT line would be located on a new structure to be built alongside an existing freight rail bridge. The above view looks to the west on Rosecrans Avenue.

# CENTURY-EL SEGUNDO EXTENSION RAIL TRANSIT PROJECT

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 39 B  
ROSECRANS AVENUE/ AVIATION BOULEVARD  
WITH LRT

#### 4.4 NOISE AND VIBRATION IMPACTS

##### Background

During preparation of the Route Refinement Study, it was anticipated that no adverse noise or vibration effects were likely in the corridor due to the nonresidential land uses, influence of LAX operations and the noise/vibration characteristics of light rail transit systems. However, potential noise and vibration concerns were raised by the Holly Glen neighborhood and Hughes Electronic Data Systems Group (EDSG), respectively. Accordingly, a focused noise and vibration assessment was performed<sup>12</sup>.

##### Residential Noise Impact Findings

To assess potential noise impacts on the Holly Glen neighborhood, both long-term (24-hour) and short-term (15 minutes) measurements were conducted within and adjacent to the home at 5538 142nd Place in Hawthorne. Results of such monitoring are presented in Tables 8 and 9. Predicted noise levels at 215 feet from the tracks (near residence) for the Century-El Segundo rail project operating at 40 mph on an elevated bridge structure are as follows:

LMAX = 67 dBA

CNEL = 57 dBA

The projected maximum noise level of 67 dBA for light rail operations is well below the LACTC Design Criteria of 78 dBA for medium density residential uses (lot size less than 1/4 acre)<sup>13</sup>. Thus, individual train passages are not expected to create an

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<sup>12</sup>Noise and Vibration Impact Assessment for the Century-El Segundo Light Rail Extension, Advanced Engineering and Acoustics, April 1986.

<sup>13</sup>The Long Beach-Los Angeles Rail Transit Project Design & Performance Criteria, Environmental Mitigation Measures, LACTC, January 1986.

TABLE 8  
RESULTS OF 24-HOUR NOISE MONITORING

HOUR	A-WEIGHTED SOUND LEVEL IN dB				
	LMAX	L10	L50	L90	LEQ
6:00 PM	75.4	61	58	55	59.7
7:00 PM	74.3	61	57	54	59.0
8:00 PM	78.1	61	58	54	59.9
9:00 PM	75.4	60	56	52	58.0
10:00 PM	75.9	58	54	51	56.6
11:00 PM	72.6	60	54	51	57.7
12:00 MIDNIGHT	72.6	58	53	49	56.2
1:00 AM	71.4	57	52	48	54.5
2:00 AM	78.3	59	50	46	59.0
3:00 AM	71.9	53	47	45	51.9
4:00 AM	70.7	53	46	44	51.3
5:00 AM	66.0	53	47	45	51.4
6:00 AM	71.7	58	52	47	55.2
7:00 AM	70.7	61	57	53	58.6
8:00 AM	74.4	62	58	54	59.8
9:00 AM	88.9	62	58	55	62.3
10:00 AM	83.5	63	58	54	61.9
11:00 AM	83.6	62	58	55	61.0
12:00 NOON	77.3	63	59	56	61.6
1:00 PM	71.3	63	59	56	60.5
2:00 PM	70.6	63	59	56	60.3
3:00 PM	75.7	62	59	55	60.2
4:00 PM	75.1	63	60	56	61.4
5:00 PM	86.4	64	59	56	64.6
					CNEL = 63.8

TABLE 9  
RESULTS OF SHORT-TERM NOISE SAMPLING

POSITION	A-WEIGHTED SOUND LEVEL IN dB				
	LMAX	L10	L50	L90	LEQ
Front	69.1	60	54	51	57.3
Back	75.5	63	59	56	60.9
Wall	75.9	70	65	62	67.0
Curb	86.7	76	71	66	73.7

Note:

LMAX=Maximum Noise Level

L10,L50,L90=Noise Levels Exceeding 10,50 and 90 percent of the time, respectively, for each hour.

LEQ=Hourly Average Sound Level

CNEL=Community Noise Equivalent Level (24-hour average sound level, with noise levels increased by 5 dB and 10 dB between the hours of 7 to 10 pm and 10 pm to 7 am, respectively.

Source: Advanced Engineering and Acoustics.

annoyance or interfere with peoples' activities.

With regard to cumulative daily noise exposure due to light rail operation, the projected CNEL of 57 dB is well below the generally accepted CNEL residential criteria of 65dB. Thus, no disturbance or annoyance of people in and around their homes is expected.

Finally, it is useful to compare projected light rail noise levels with the existing levels measured in the area. The projected CNEL of 57 dB is nearly 7 dB lower than the measured CNEL of 63.8 dB.

In summary, on both an absolute and relative basis, the noise of the proposed aerial light rail operation on the Century-El Segundo Extension will have no impact on nearby residences.

#### Other Potential Noise Impacts

Potential noise impact adjacent to the light rail line elsewhere in the corridor as well as adjacent to the two proposed rail yard sites is possible. However, given the relatively low operating speed and the nonresidential land uses elsewhere throughout the corridor, no adverse noise impacts are anticipated. At-grade light rail operations would generate LMAX and CNEL levels of 70 dBA and 57 dB at 100 feet from the tracks; both well within LACTC design criteria and existing noise levels, respectively<sup>14</sup>.

With regard to potential noise impacts near the proposed rail yard sites, LACTC Design Criteria for nonresidential adjacent uses range from 65-75 dBA at the property boundary depending on

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<sup>14</sup>For example, LAX Noise Control/Land Compatibility Study (LAX ANCLUC), Phase Two Report, January 1983, indicate current CNEL levels of roughly 65dBA just north of Mariposa on Nash Street. Also, the Continental Grand Plaza EIR, January 1984, indicates current CNEL levels of 61.6 dB just south of Mariposa on Nash Street.



specific adjacent use. Further, in areas where the existing CNEEL is greater than 60 to 65 dBA, the CNEEL due to yards shall be less than or equal to the existing CNEEL. While no measurements have been performed near the proposed yard site, it is likely that the current noise levels are 60 dBA or more. While further study may be indicated during the project design phase, it is unlikely that noise generated from either of these railroad-adjacent sites will adversely affect adjacent uses.

#### Vibration Impact Findings

Based on vibration measurements at two locations and a conservative prediction of light rail generated vibration levels, it is concluded that no adverse vibration impact within Hughes EDSG Building is expected.

More details regarding the vibration measurements and analysis can be found in the Noise and Vibration Impact Assessment previously referenced.

#### Summary of Noise and Vibration Impact Analyses

As the two monitoring sites described represent the most sensitive receptor locations for noise and vibration impacts and no significant impacts were determined to exist, it is assumed that other corridor adjacent land uses will similarly not be impacted.

#### 4.5 CONSTRUCTION IMPACTS

This section addresses activities occurring during construction of the El Segundo Extension. The various construction techniques to be used are briefly described and their impacts are analyzed. Key impact areas include traffic and utility relocation. These impacts are temporary, occurring only during construction period.

The project is scheduled to be constructed during an 18-24 month period. Construction on the project will commence simultaneously at several locations along the selected route to accommodate those areas requiring lengthy construction times and to bring the various segments to completion at approximately the same time. Project construction will be in accordance with all applicable local, state, and federal laws governing building and safety. Construction equipment used on the project will be equipped with mufflers and spark arresters. Standard construction methods will be used for traffic, noise, vibration and dust control, consistent with applicable laws. Working hours will be varied to meet special circumstances.

At-Grade Construction. For the at-grade portion of the alignment, a tie and ballast track structure will be utilized. This construction technique begins with clearing and utility relocation followed by preparation of the subgrade. Unsuitable soils are removed from the site and the soil is rough graded to the correct cross-section. Upon the prepared subgrade, a subbase layer will be placed and compacted. This subbase material will be trucked in to the site. The track construction activity is completed with the construction of the ballasted track upon the subbase.

Aerial Construction. For the aerial portion of the alignment, a direct fixation track structure will be used. The track structure will be constructed on precast prestressed concrete box

or T-beams, which are in turn supported by cast-in-place reinforced concrete columns. Generally the aerial guideway columns will be spaced approximately 80 feet apart, although actual distances may vary considerably depending on existing constraints. The columns are supported by piling or spread footing depending upon the subsurface geology. This construction technique commences with the foundation installation, which may begin at the same time that the utilities are being relocated. The concrete columns are then constructed and the guideway sections placed upon them. Major construction activities will occur at the location of these columns and foundations. The construction activity is completed with the construction of the direct fixation track structure on the aerial guideway.

Traffic. Traffic flow will be affected during those periods when construction occurs over or immediately adjacent to city streets. These impacts will be most acutely felt along Nash Street and over Douglas Street, El Segundo Boulevard and Rosecrans Avenue.

Along Nash Street two traffic lanes will need to be occupied in order to relocate the utilities and construct the LRT line. Sections of Nash Street will require partial closure, half of the street at a time, while relocating utilities and constructing the LRT line. Two-way traffic would be allowed on the other half of the street. After the LRT is constructed, vehicles will resume original traffic patterns. LRT construction over Douglas Street, El Segundo Boulevard and Rosecrans Avenue will require partial closings during certain construction stages.

Utility Relocation. Prior to beginning LRT construction it will be necessary to relocate or modify all utilities which would conflict with at-grade track, aerial guideways, stations, yards and maintenance facilities. Table 10 identifies utilities which will require relocation for construction of the rail transit

line. Station points shown can be found on the Conceptual Design Engineering Drawings in Section 5.1.

TABLE 10

MAJOR UTILITY RELOCATIONS

<u>Construction Impact</u>	<u>Station</u>
(R/N) Aerial Power/Communication Line Crossing	5+50
(CES)* 12" Sanitary Sewer Crossing	28+70
(CES)* 12" Water Crossing	28+85
(SCE) Relocate 1530' of 66kv/16kv Power Pole Line	29+50 to 42+70
(SCG) Relocate 1330' of 4" High Pressure Gas	29+50 to 42+70
(PAC) Relocate 1420' of Buried Telephone Conduits	29+50 to 43+60
(SCE) Relocate 1620' of Buried Electrical Duct	29+50 to 57+60
(CES)* 10" Sanitary Sewer Crossing	31+10
(CES)* 10" Water Crossing	31+20
(PAC)* Buried Telephone Conduits Crossing	31+40
(CES) Relocate 320' of 8" Sanitary Sewer	43+20 to 46+40
(LACFCD) Relocate 1400' of 84" Storm Drain & 1140' of 90" S.D.	43+00 to 68+40
(CES) Relocate 380' of 8" Sanitary Sewer	53+70 to 57+50
(CES) Relocate 1020' of 14" Water	56+40 to 66+60
(SCE)* 66kv/16kv Power Pole Line Crossing	42+70
(CES)* 8" Sanitary Sewer Crossing	42+80
(CES)* 10" Water Crossing	43+20
(PAC)* Buried Telephone Conduit Crossing	43+40
(CES)* 10" Sanitary Sewer Crossing (to be abandoned)	43+20
(PAC)* Buried Telephone Conduit Crossing	43+61
(LACFCD)* 69" Storm Drain Crossing	43+45
(CES)* 8" Sanitary Sewer Crossing	43+60
(PAC)* Buried Telephone Conduit Crossing	56+60
(CES)* 8" Water Crossing	57+40
(SCE)* Buried Electrical Duct Crossing	57+60
(SCG)* 4" Gas Crossing	57+62
(SCE) Relocate 50' of Buried Electrical Duct	70+20
(SCG) Relocate 50' of 12" Gas	70+40
(CES) Relocate 50' of 27" Water	71+05
(LACFCD) Relocate 50' of 45" Water	71+25
(SCE) 66kv/16kv Power Pole Line Crossing 330' New Buried Electrical Duct	71+16
(CES) Relocate 2560' of 27" Water	72+10 to 96+75
(LACFCD) Relocate 2540' of 45" Water	72+10 to 96+80
(HLP) Relocate 1250' of 4" Oil	76+80 to 88+70
(PAC) Relocate 2000' of Buried Telephone Conduit	77+00 to 97+00
(SCE) Major 66kv Tower Line Crossing	105+15

TABLE 10 (continued)

<u>Construction Impact</u>		<u>Station</u>
Relocate the following utilities around proposed west foundation Rosecrans bridge:		131+80
(STD)	4" Butadiene	
(STD)	3" Butadiene	
(STD)	8" Petroleum	
(STD)	8" Petroleum	
(STD)	8" Petroleum	
(STD)	10" Petroleum	
Relocate the following utilities around proposed east foundation Rosecrans bridge:		133+80
(STD)	4" Butadiene	
(STD)	3" Butadiene	
(STD)	12" Petroleum	
(STD)	8" Petroleum	
(STD)	8" Petroleum	
(FCP)	Relocate 5340' of 16" Oil***	118+20 to 150+50
(STG)	Relocate 3240' of 20" Oil Products***	138+60 to 150+50
(STD)	Relocate 3960' of 4" Butadiene***	131+40 to 150+50
(STD)	Relocate 3960' of 3" Butadiene***	131+40 to 150+50
(SCW)	12" Water Crossing	150+50
(STD)	12" Gas Crossing	150+60
(LACFCD)*	Relocate 350' of 96" S.D.	72+00 to 75+30

LEGEND

CES	.....	City of El Segundo
FCP	.....	Four Corners Pipe Company
HLP	.....	Hagee-Lewis Petroleum Company
LACFCD	.....	Los Angeles County Flood Control District
SCE	.....	Southern California Edison Company
SCG	.....	Southern California Gas Company
SCW	.....	Southern California Water Company
STD	.....	Standard Oil Company
STG	.....	Standard Gas Company
PAC	.....	Pacific Bell
R/N	.....	Rockwell/Northrop

- \* Utility not affected by aerial LRT option
- \*\* Utility only affected by aerial LRT option
- \*\*\* For alignment ending at Compton Boulevard

Source: Benito A. Sinclair & Associates

#### 4.6 FREIGHT RAIL IMPACTS

One major freight rail line runs through the project area along with several spur tracks and inactive railroad rights-of-way. These lines are shown in Figure 40 and include the following:

\*Atchison, Topeka and Santa Fe Harbor Mainline-This line is composed of single track sections and runs along the west side of Aviation Boulevard with side tracks provided on both sides. South of El Segundo Boulevard the alignment swings west toward the El Segundo junction where it splits into two lines. The mainline then continues southeast over the intersection of Aviation Boulevard and Rosecrans Avenue to service the Los Angeles Harbor area. Two trains per day in each direction regularly use this line with 20 and 90 cars average per train.

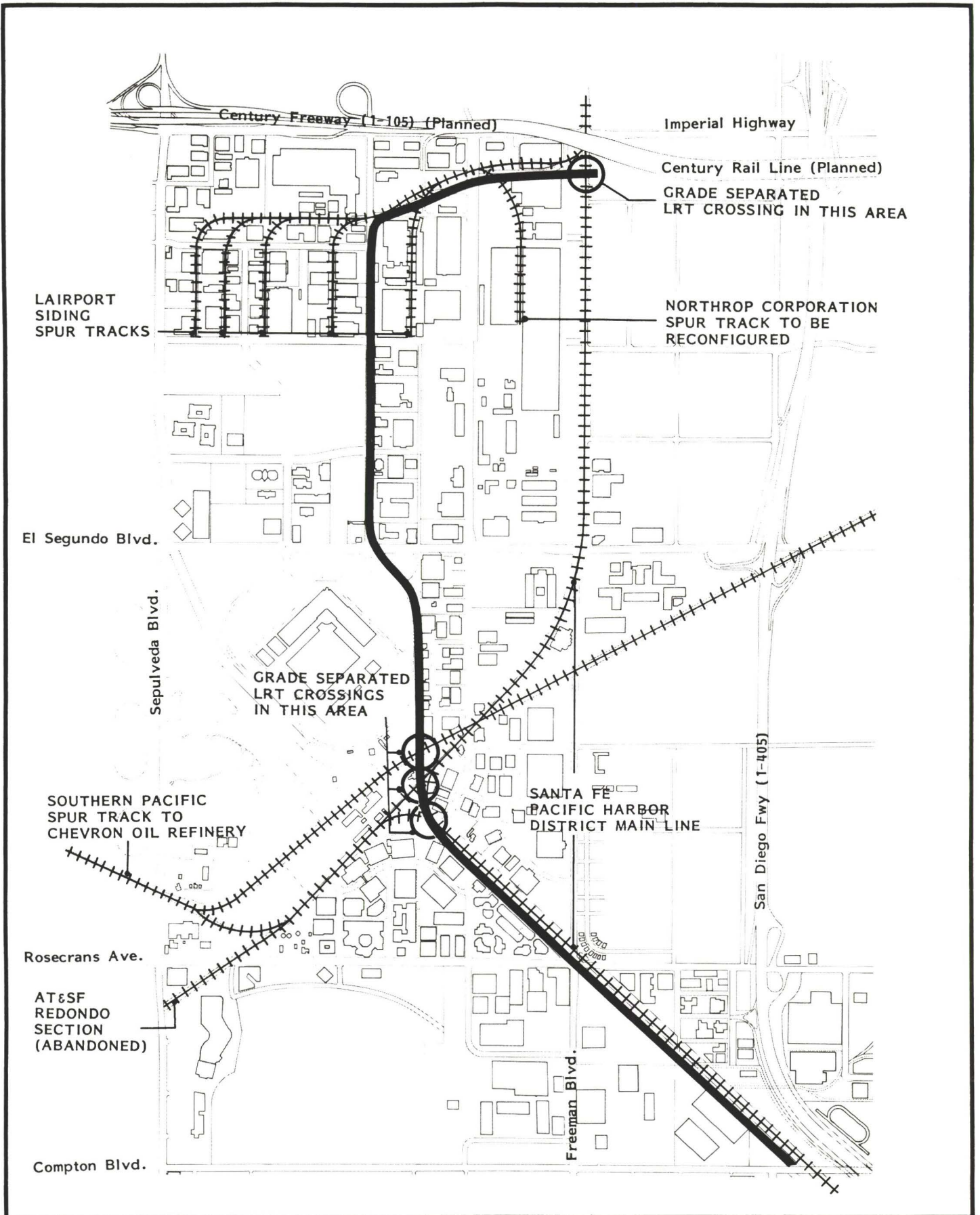
\*AT & SF Redondo Section-This single track 4.5 mile section has been abandoned by the railroad. It begins north of Rosecrans Avenue at the El Segundo Boulevard junction and runs southwest through the southern portion of the study area.

\*Southern Pacific Chevron Oil Refinery Siding-This spur track parallels the Redondo Section and forms a southern boundary to the potential El Segundo Rail Yard Site.

\*Lairport Siding-This spur track begins at Imperial Highway and Aviation Boulevard and travels west crossing Douglas and Nash Streets at-grade with six north-south tail sidings serving industrial uses. The spur track serving the Northrop facility amounts to two cars per train about four times a week, both in and out. The remaining spur tracks have not been used within the last three years.

Expected Freight Rail Impacts-No modifications to active freight rail lines are required for the Century-El Segundo Rail Transit Project. The LRT facilities are planned to bridge over or run adjacent to the freight rail facilities without affecting existing conditions.

Some indirect impact would occur to the Lairport Siding spur track in the northern portion of the project area as a result of construction of the east-west roadway linking Douglas Street to Nash Street that is a part of the Century Freeway On-Ramp (Figure



# CENTURY-EL SEGUNDO EXTENSION RAIL TRANSIT PROJECT

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 40  
FREIGHT RAIL LINES  
IN PROJECT AREA





20). The planned east-west connector roadway between Douglas Street and Nash Street would sever these spur tracks and require reconfiguration of the freight rail alignment in the event that these tracks were ever to be reactivated.

Mitigation- No mitigation is necessary as the rail transit line does not cause the closing of the Lairport Spur. The Nash Street Aerial Option (Section 2.4) would have no impact on the freight rail spur tracks while the at-grade Baseline Route has been designed in coordination with the Century Freeway Douglas Street On-Ramp (Figure 20). The proposed ramp configuration would block the spur track. The LRT has been planned in relation to the freeway ramp and therefore would also indirectly contribute to the blocking of the rail spur. Should the location of the on-ramp be shifted to avoid impacting the spur track, then the LRT alignment could be modified as well to restore freight rail access.

#### 4.7 MUNICIPAL SERVICE IMPACTS

The primary impacts of the rail transit line on municipal services are to the Fire and Police Departments of the cities along the route. The City of El Segundo has expressed concern over safety and security issues associated with the project and about the types of demands that would be placed on city services. This section addresses those concerns.

##### Impacts on Fire Service

The El Segundo Fire Department has major facilities located at 314 Main Street (Station #1), and at 2161 El Segundo Boulevard (Station #2). The Hawthorne Fire Department maintains a facility at 5323 Rosecrans Avenue, between Aviation Boulevard and I-405. Functions performed by both Fire Departments, in addition to firefighting including rescue/emergency/medical service, public education, and occupancy inspections.

Response time for the El Segundo Fire Department is estimated to be 5 minutes or less although traffic congestion during the workdays, particularly at Station 2, can cause delays. Rescue incidents account for 32.4% of all fire responses, with rubbish and grass fires following closely behind at 32.1%. Commercial and industrial fires produce 13% of the fire responses and residential fires produce 12.6% of the responses. Both El Segundo and Hawthorne have mutual aid agreements with other South Bay area fire departments.

In addition to the regular public Fire Departments, there are six private fire brigades at Chevron, Hughes, Northrop, Rockwell, Xerox and TRW. Capabilities of the brigades vary from 29 members to only one fire marshall and from 1000 gallon pumping equipment to no equipment at all.

Meetings have been held between LACTC and the El Segundo Fire Department and the following concerns with regard to Fire Department services have been expressed:

\*In the northern portion of the project area, the aerial LRT guideway passes close to existing Northrop and Rockwell buildings. Near Rosecrans Avenue, the aerial guideway passes closely to a planned parking garage and office structure to be constructed by Continental Development Corporation. The Fire Department was concerned about their ability to gain access to these properties in the event of a fire. Also, the potential El Segundo Rail Yard Site is in a remote location away from public roadways. Concern was expressed about the ability to gain fire access and water supply to this area.

\*El Segundo Fire Station #2 is planned for relocation to another site in the future. Several sites are under consideration and two of these are near the LRT alignment. The first site is on the south side of Mariposa Avenue between Nash Street and Continental Boulevard. The second potential site is on the west side of Nash Street between Mariposa Avenue and Grand Avenue. Concern was expressed about the effect that LRT signal pre-emption at the Nash/Mariposa intersection would have on Fire Department response times for the first potential site.

LACTC has met with affected property owners and developers and has revised proposed route alignments in order to allow sufficient access to buildings by emergency response vehicles. In the case of Rockwell and Northrop structures in the northern portion of the study area, emergency response routes have been identified that are acceptable to the El Segundo Fire Department. In the case of the proposed Continental Development project, a particular concern is that the aerial guideway encroaches over the existing northeast property line that borders the AT & SF right-of-way. This encroachment may make it difficult for fire trucks to gain access to a proposed parking structure that is planned to be located within 20 feet of this property line. LACTC will continue to work with this developer and the Fire Department to insure that an acceptable solution is found.

Possible solutions include the provision of fire sprinklers in the parking garage and/or physical design changes to the LRT aerial guideway to allow fire vehicles to pass beneath.

With regard to the proposed El Segundo Rail Yard Site, access roads have been planned from two adjacent streets. As shown in Figure 14, access from the west will be from a new road from Sepulveda Boulevard via Hughes Way South. From the east, access will be via a new road from Douglas Street. Construction of these roadways will follow applicable fire codes. Adequate water pressure to hydrants will be provided as a part of rail yard construction.

In the event that El Segundo Fire Station #2 is moved to a site on or near Nash Street, the following impacts would occur:

\*The potential Fire Station site on Nash Street would be blocked by an at-grade LRT alignment on the west side of the street. This impact could be mitigated by a Fire Department pre-emptive signal that would stop LRT vehicles during emergency response periods along with other traffic passing the Fire Station. Alternatively, the Nash Street aerial option would allow unimpeded access to driveways on the west side of the street under the aerial guideway, although at greater cost for construction.

\*The potential Fire Station site on Mariposa Avenue would utilize the intersection of Nash Street and Mariposa Avenue for the majority of responses to the east of this proposed station location. As the LRT would pre-empt this traffic signal, some delays in emergency response times could occur for Fire Department vehicles based at this location. This impact would have similar mitigation measures as the proposed Nash Street Fire Station Facility, i.e., Fire Department alarms could be programmed to override the LRT pre-emption and stop all traffic including rail vehicles at the Nash/Mariposa intersection during periods of emergency response. Alternatively, an aerial LRT option along Nash Street would remove all traffic impacts along Nash Street and would allow free passage of emergency vehicles. Again, the aerial option is considerably more expensive to construct than the at-grade baseline condition.

### Impacts on Police Services

Police services in the project area are provided by the El Segundo Police Department and the Hawthorne Police Department. The City of El Segundo Police Department is located at 348 Main Street. The Hawthorne Police Department is located at 4460 West 126th Street.

The proposed rail transit line may increase the need for general police services in two ways. First, there is the need to insure the safety of riders, station attendants, persons using the fare machines and unattended automobiles at stations and adjacent parking lots. Second, there is a possibility that traffic accidents would increase at points where vehicular and pedestrian traffic intersects with the light rail line.

In the first case, the overwhelming majority of these needs for police service would be responded to by transit security personnel. Only in those instances where backup support is required, would local police departments be called upon to intervene.

In the second case, in order to mitigate possible LRT/vehicular or LRT/pedestrian accidents at at-grade street crossings, publicity and driver education programs coupled with highly visible signage and signal systems would be implemented in order to reduce the possibility of these hazards. Local police would then be required in the event of any accidents involving LRT trains and other vehicles.

Safety and security features would be incorporated into station designs and would include the following:

- \*Adequate lighting and open platform design to insure high visibility.

- \*Self-Service ticket sales through vending machines thus eliminating the need for personnel in fare collection booths.

\*Security cameras at stations which would be monitored from central locations where transit security personnel could be dispatched.

#### 4.8 TRANSPORTATION SERVICE IMPACTS

The rail transit project will have a significant positive effect on local transportation services in the El Segundo Employment Area and the South Bay. Currently there are ten SCRTD bus routes that pass through the project area as well as several local bus companies and shuttle services run by private employers. When the rail transit stations are constructed, bus stop locations can be shifted to serve as transfer points between the regional rail system and the local bus network. Additionally, bicycle paths and designated bike lanes can be routed to pass station locations where bike racks and storage lockers can be provided. As greater choices are provided to transit patrons, a greater number of trips will be diverted from private automobiles, resulting in benefits to air quality, noise, traffic and other environmental impact categories.

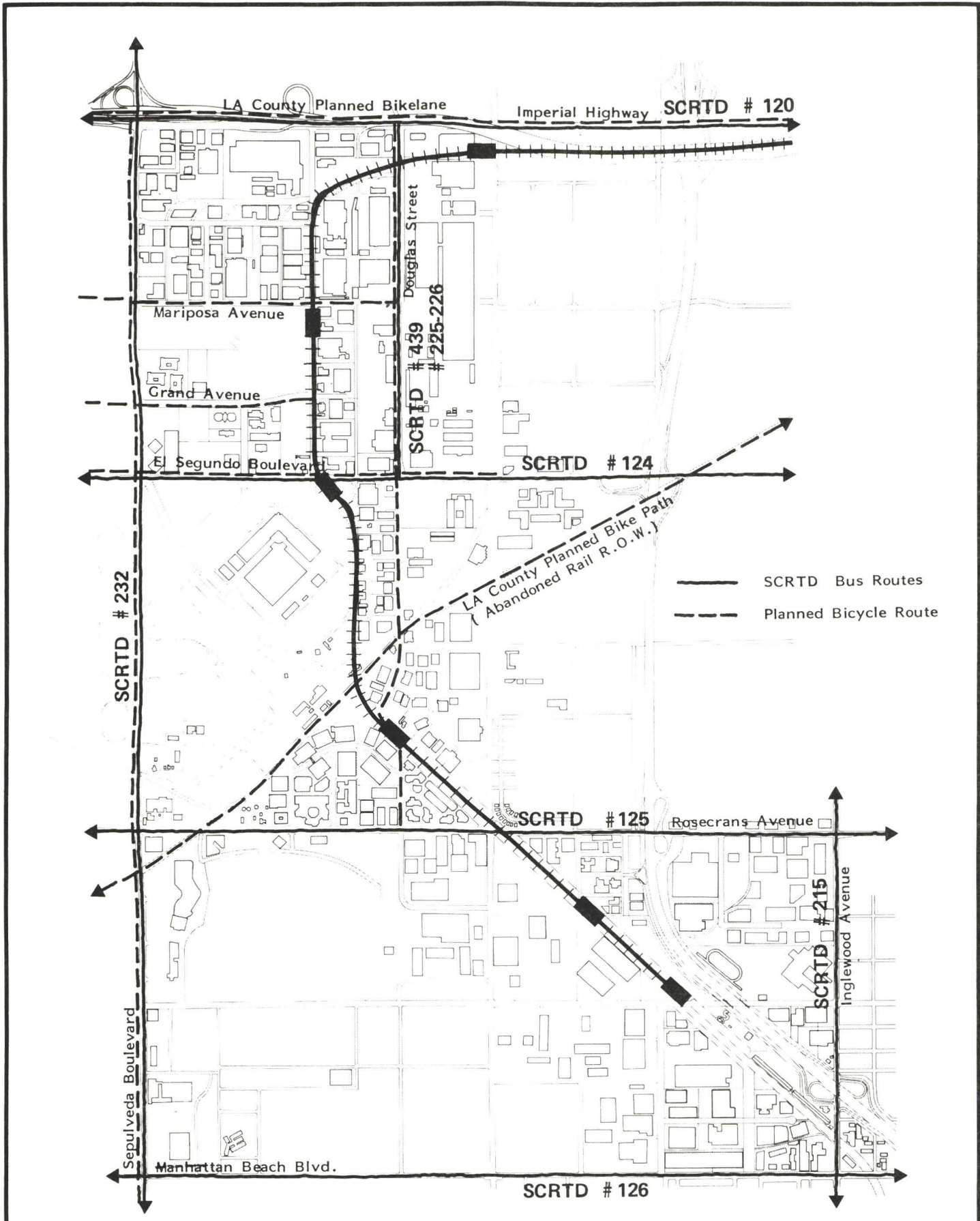
Figure 41 shows existing SCRTD bus routes in the project area as well as planned bicycle routes. Table 11 suggests potential modifications to these existing routes that would allow all transit services to support each other in a more effective manner.

Table 11  
 POTENTIAL SERVICE MODIFICATIONS TO  
 PROJECT AREA TRANSIT SERVICES  
 CENTURY-EL SEGUNDO RAIL TRANSIT PROJECT - EXTENDED LENGTH OPTION

Route	Potential Modification	Route Length Change
<u>SCRTD</u>		
# 120 Imperial Highway	No Change-Will serve Aviation Sta.	0
# 124 El Segundo Blvd.	Will serve El Segundo Station	0
# 125 Rosecrans Avenue	Reroute through Compton Blvd Sta.	+1 mile
# 126 Manhattan Beach Bl.	No Change-Will serve Compton Blvd Sta.	0
# 42 LA-Westchester- Redondo Beach	No Change-Will serve Aviation Station	0
# 232 Sepulveda Blvd.	Reroute through El Segundo Station	+1 mile
# 439 Douglas Street	Reroute thru Compton Blvd Station	+0.5 mile
# 225/226 Douglas Street	Reroute thru Compton Blvd Station	+0.5 mile
<u>Other Public Carriers</u>		
Torrance Transit	Possible future line to Compton Blvd. Station and LAX-lot B or C	
Lawndale Trolley	Possible future connection to Compton Blvd. Station	
El Segundo Dial-A-Ride (proposed)	Possible service to project stations	
<u>Private Carriers</u>		
TRW Hughes Rockwell Northrop Aerospace Xerox	Employee shuttle services could be extended to LRT Stations	
<u>Other Services</u>		
Airport Shuttles Taxi Services Hotel Shuttles	Services could be extended to LRT Stations	

Source: SCRTD, ESEA





— SCRTD Bus Routes  
 - - - Planned Bicycle Route

**CENTURY-EL SEGUNDO EXTENSION  
 RAIL TRANSIT PROJECT**  
 LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Figure 41  
 PROJECT AREA BUS ROUTES  
 AND PLANNED BICYCLE ROUTES



#### 4.9 AIR QUALITY IMPACTS

The rail transit project is located in the South Coast Air Basin. Existing levels of ambient air quality and historical trends in air quality for this area are best documented by measurements made by the South Coast Air Quality Management District (SCAQMD) at their Lennox air quality monitoring station. This station monitors ozone (O<sub>3</sub>), carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), total hydrocarbons (THC), methane (CH<sub>4</sub>), lead (Pb), and total suspended particulates (TSP).

The South Coast Air Basin has been designated as a non-attainment area which is defined as an area not expected to meet National Ambient Air Quality Standards by 1987. The Lennox monitoring station has consistently registered values above the State and Federal standards for a number of the various pollutants listed above. It should be noted that, due to effective ventilation by summer sea breeze, only one first stage alert at 0.20 ppm ozone for an hourly exposure has been observed within the last six years. Also, the Lennox station is directly downwind of the San Diego (I-405) Freeway, and thus may not accurately reflect the CO and NO<sub>2</sub> exposure in the South Bay area.

#### Impacts

Operation of the proposed transit project will result in reduced daily vehicle miles of travel compared to the "no project" option (no extension of the Century Rail Line beyond the Aviation Station). Thus, a small but significant reduction in vehicular emission in the study area is anticipated. Further, based on comparable studies performed for the Long Beach-Los Angeles Rail Transit Project<sup>15</sup>, no adverse impacts at the microscale level (CO "hotspots") are anticipated for any of the proposed stations with

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<sup>15</sup>The Long Beach-Los Angeles Rail Transit Project Draft EIR, LACTC, May 1984.

parking (all stations less than 400 spaces), or at any of the at-grade intersections along Nash Street.

However, to further enhance the beneficial air quality aspects associated with the project, LACTC will commit to the following actions during the project design, construction and operation phases:

- \*All stations with parking will be designed to minimize delays and idling to the greatest extent feasible. Further, carpools, vanpools and bicycles will be given preferential parking.

- \*Stations without parking will be designed to provide convenient and safe drop-off zones for shuttle vans, buses and kiss-and-ride patrons.

- \*LACTC will work closely with ESEA to coordinate shuttle services of employee groups to maximize peak hour use of the transit system.

- \*Working cooperatively with the City of El Segundo and other interested organizations, LACTC will actively pursue the effective integration of the transit system with existing and future development such that pedestrian access is facilitated and higher patronage levels are encouraged.

- \*LACTC will work closely with these and other public and private agencies to facilitate bike access to all stations where parking is to be provided. The City of El Segundo's Bicycle Master Plan includes east-west routes along El Segundo, Grand and Mariposa, Utah and Rosecrans; and a north-south route along Douglas which would provide access

to the transit system<sup>16</sup>. Further, Los Angeles County has a planned route along the Southern Pacific Railroad right-of-way which would intersect the proposed transit system near the Douglas Street Station (see Figure 41).

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<sup>16</sup>City of El Segundo General Plan, Circulation Element,  
Adopted March 6, 1984, pp 3-15 through 3-21.

#### 4.10 OTHER NEGLIGIBLE IMPACTS

Earth-No major active earthquake faults are present along the project route. However, conformance to established seismic codes and safety standards shall be insured for all aspects of the system design. All operating systems shall be so designed to promote maximum safety for system patrons during a seismic event.

The LRT alignment has no below grade sections within this corridor and thus will not impact any underground gas deposits or oil fields.

The route is located on the eastern side of the physiographic feature known as the El Segundo Sand Hills, and is underlain by upper Pleistocene older sand dune deposits. The older sand dune deposits are underlain by the upper Pleistocene Lakewood Formation which, in turn, is underlain by the lower Pleistocene marine San Pedro Formation. The marine San Pedro Formation, which extends to a depth of about 500 feet, overlies a relatively thick sequence of Tertiary sedimentary rocks that include sandstones, siltstones, conglomerates and shales. These Tertiary deposits extend to a depth in excess of 7,000 feet, and directly overlie the basement complex. The basement complex is composed of the pre-Cretaceous Catalina Schist. Soil types include sand, silty sand, layers of clayey sand and miscellaneous imported fill materials. General geologic conditions therefore present no impediments to at-grade railyard or aerial guideway construction. Some concern was expressed during the course of the route refinement and preliminary engineering phases of the study over whether the potential El Segundo Rail Yard Site may have been contaminated by adjacent uses. Testing was conducted<sup>17</sup> which

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<sup>17</sup>Reconnaissance Exploration Report-Yard and Shops Site Century-El Segundo Extension Rail Transit Project, LeRoy Crandall and Associates for Southern California Rail Consultants, April 1986.

included a total of five exploration borings to depths ranging from 20 to 50 feet. Additionally, the site was traversed with a hand-held photoionization detector to determine if any concentrations of volatile organic vapor including hydrocarbons was existant on the proposed site. No such evidence was found and therefore the site is presumed to be clean in the absence of further more detailed analysis that may be required during the final design and engineering phase of the project.

Floodplains, Hydrology, Water Quality-Construction of the rail transit line as well as park-and-ride lots will cause a modest increase in impermeable surface area that will increase the amount of run-off water from these areas. Catch basins, curbing, culverts, gutters, pumping stations and storm sewers will be constructed as required for the permanent control of water run-off.

During the normal course of yard and shop operations, it is possible that oil and other substances may be introduced into the water drain system. Washing and service areas shall drain into a collection system where all effluents shall be treated before appropriate disposal. A separating system shall be used to remove unwanted or harmful substances from discharged water. The removed substances shall be disposed of in accordance with the regulations of the Regional Water Quality Control Board and applicable local requirements.

As discussed under Construction Impacts (Section 4.5) underground storm drains and high-pressure groundwater recharge lines will require relocation along Nash Street and along the utility easement that runs on the eastern boundary of the Hughes EDSG Facility. Run-off water will in all cases be diverted away from adjacent properties and into appropriate drainage facilities.

Accidents and Safety/Risk of Upset-Provisions for safety and the reduction of accidents are an integral part of planning and design for the rail transit line. LACTC System Design and Performance Criteria specify standards for station and line design that will insure that measures for safety are incorporated into all aspects of the project. Experience in other cities indicates that the primary types of accidents include rail/automobile collisions, rail/pedestrian collisions, and pedestrian slips, trips or falls. Measures already incorporated into the Century-El Segundo Extension Rail Transit Project to reduce the number of such accidents include the following:

\*The route will run in an exclusive right-of-way separate from general vehicular traffic for the great majority of its length. Only at the intersections of Nash Street and Maple Avenue, Mariposa Avenue and Grand Avenue would at-grade rail/auto accidents be possible. Crossing gates will not be used at these intersections as speeds of the LRT will be relatively slow (below 35 mph) in this section, however traffic signals, lights and prominent signage will be used to alert drivers to oncoming rail vehicles. Additionally, publicity and safety campaigns will be mounted to familiarize local drivers with the system.

\*Stations will have raised, center-platforms which will allow level access into LRT vehicles without the need for steps or pedestrian track crossings. Stations more than 8 feet above grade will be provided with handicapped elevators and stairs. Station areas will in all cases be fully accessible to the handicapped. Adequate lighting will be provided throughout station platforms, parking areas and at all crossing points.

\*All crossings between LRT vehicles and freight rail in the study area will be grade separated and therefore collisions between rail transit and freight rail lines could not occur. In the extremely rare event of a derailment, standard emergency procedures would be used to insure the safety of transit patrons, staff and the general public.

In the course of the environmental clearance process, concern has been expressed by the Allied Chemical Company regarding the potential location of the El Segundo Rail Yard on a portion of their property south of the Hughes EDSG near Rosecrans Avenue and

Sepulveda Boulevard (Figure 14). The Allied facility is used for the production of hazardous chemicals and the company has maintained that this facility requires a buffer zone surrounding the central production plant for any potential release that could occur. On March 27, 1986, such an event occurred when a release of hydrochloric acid drifted over the proposed yard site and into the surrounding business park. 65 persons were subsequently treated at hospitals although there were no serious injuries. This was the first such event in the 33 years of operation of the facility, however it underscores the concern of the company that the location of the rail yard site immediately adjacent to the plant facility would subject rail transit employees, who would work in the yard, to dangers such as those that occurred in March.

LACTC has studied this yard site location along with several other potential sites as described in Section 2 of this EIR. Two sites have been eliminated from further consideration, however the El Segundo Yard Site is one of two sites still under consideration for the proposed rail yard. The site is presently vacant, is relatively flat and has many advantages from a rail operations point of view. Additionally, the highly industrialized nature of the area surrounding the Allied Chemical Company plant is highly appropriate for a rail yard facility. Locations nearer to businesses or residential areas would meet with numerous land use incompatibilities including noise and visual impacts. For these and other reasons, LACTC is continuing to study the El Segundo site as well as the potential Hawthorne site for use as the rail yard facility for the Century-El Segundo Extension Rail Transit Project. Measures that could be incorporated into the final design of a potential El Segundo Rail Yard could include the following:

- \*Alarms and warning devices would be utilized to warn workers of chemical releases that may occur. Safety would be monitored by the Occupational Safety and Health Administration which would insure that worker safety would be maintained.



\*Two access roadways would be provided from the proposed rail yard site to insure that rapid evacuation could occur in the event of a chemical release from the Allied Chemical Company facility.

Energy-The assessment of impacts on energy relies on a regional comparison of energy used to operate the rail transit system versus the reduction in overall vehicular trips that results when people switch modes from auto to transit. For the Long Beach/Los Angeles Rail Transit Project an analysis was performed by the Southern California Association of Governments using the DTIM regional model which in turn relied on outputs from the Los Angeles Regional Transportation System (LARTS) patronage model. The results of this analysis indicated a reduction of between 0.02 and 0.05 percent of the year 2000 vehicular miles travelled in the region would result from the rail transit project. No such regional model was run for the Century-El Segundo Extension Project. It can be inferred that similar, but proportionally smaller energy savings would result at both the regional and local level.

As an additional means to reduce energy consumption, during the final design phase of this project, energy conservation features and operating procedures will be developed. Such features shall be examined, and if found practical and cost effective, will be made part of the normal operations of the system. Examples of energy conservation measures which have been incorporated into LACTC's System Design and Performance Criteria include "chopper" rail vehicle motor speed controls, regenerative braking and coordination of rail and traffic signal systems. Additionally, many of the other mitigation measures mentioned under the air quality, traffic circulation and transportation services sections of this EIR will have energy savings potential in addition to their primary impact mitigation function. Such features include:

\*TSM techniques such as preferential parking at stations for vanpools, carpools and bicycles. Also,

shuttle systems and pedestrian connections to local employment centers.

\*Rerouting of bus lines to stop at station areas, thus increasing overall transit patronage.

Ecological-The project is located in a highly urbanized industrial area and no significant animal habitats or endangered plant species are located along the right-of-way.

Historical and Cultural-No historical, cultural or archaeological sites have been identified along the project route.

#### 4.11 UNAVOIDABLE ADVERSE IMPACTS

The taking of privately held land and railroad and utility company right-of-way is the single unavoidable impact for which there is no feasible alternative or mitigation possible. All alternatives studied required the taking of private land. Engineering redesign has reduced the total taking required. Loss of employee parking spaces is partially offset by employee use of the transit system. The cities of El Segundo and Hawthorne may revise parking requirements for property owners near transit stations. New park and ride lots at the Douglas Street and Compton Boulevard Stations would more than offset the parking loss, however most or all of these spaces will be used by persons proceeding to destinations outside the El Segundo Employment Center.

#### 4.12 ALTERNATIVES TO THE PROPOSED ACTION

Section 2.1 of this EIR described the Route Refinement Process of the Century-El Segundo Extension Rail Transit Study during which all realistic and locally acceptable project alternatives were studied and evaluated. The results of this analysis yielded the currently proposed Baseline Route plus project options considered in this EIR.

If the proposed project and options are not constructed, this "No Project" alternative would be the construction of the Century Rail Line to the Aviation Boulevard Station. This project has already received environmental clearance as part of the I-105 Freeway Transitway Project; it has been funded; and is now being designed and constructed. The extension of the Century Line into the El Segundo Employment Area serves the dual purpose of accessing a rail storage and maintenance yard which would greatly enhance the operational efficiency of the Century Rail Line, as well as providing improved service to the major employment concentrations in El Segundo. Under these circumstances, the "No Project" option is already being built and the "Project" represents an operational enhancement of that option.

**4.13 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY**

The implementation of rail transit service in the South Bay through the Century-El Segundo Extension Rail Transit Project is intended to meet long-term planning goals for the Los Angeles region. The construction and operation of the rail transit system may result in minimal property impacts to some properties along the route; however, over the longer term, these effects must be weighed against the advantages of transit services which will serve future population growth, reduce automobile trips, and reduce fossil fuel consumption.

#### 4.14 IRREVERSIBLE ENVIRONMENTAL CHANGES

The construction of the Century-El Segundo Extension connects the Century Rail Line to a Rail Yard near its western terminus, but it also constitutes a minimum operable unit of the Coast Rail Transit Line to be built in stages between Marina del Rey and Torrance. Construction of the Century-El Segundo Extension is a single step in the construction of not only the Coast Line, but of the 150 mile rail transit system approved by the voters of Los Angeles County in November, 1980 through the passage of Proposition A.

Non renewable resources to be used in the construction of the rail transit line include construction materials for line construction, aerial guideways, stations and support buildings. Consumption of energy would be required for rail system operations.

#### 4.15 GROWTH INDUCEMENT

As noted previously in Section 1.1, the primary reasons for the proposed transit project are to serve the El Segundo Employment Center and to access an appropriate rail vehicle storage yard needed to efficiently operate the Century Rail Line. Within this context, it is unlikely that the proposed project will directly foster significant economic or population growth. However, the project has potential to accelerate the timing of development within the El Segundo Employment Center due to enhanced accessibility to underutilized parcels. Further, if the City of El Segundo so desired, more intense development could be allowed near the proposed transit stations by reducing parking requirements and allowing conversion of such reduced parking space requirements for leasable commercial or industrial space. This procedure has already been put in place by the City of Los Angeles in their Coastal Transportation Corridor Specific Plan (communities just north of LAX).

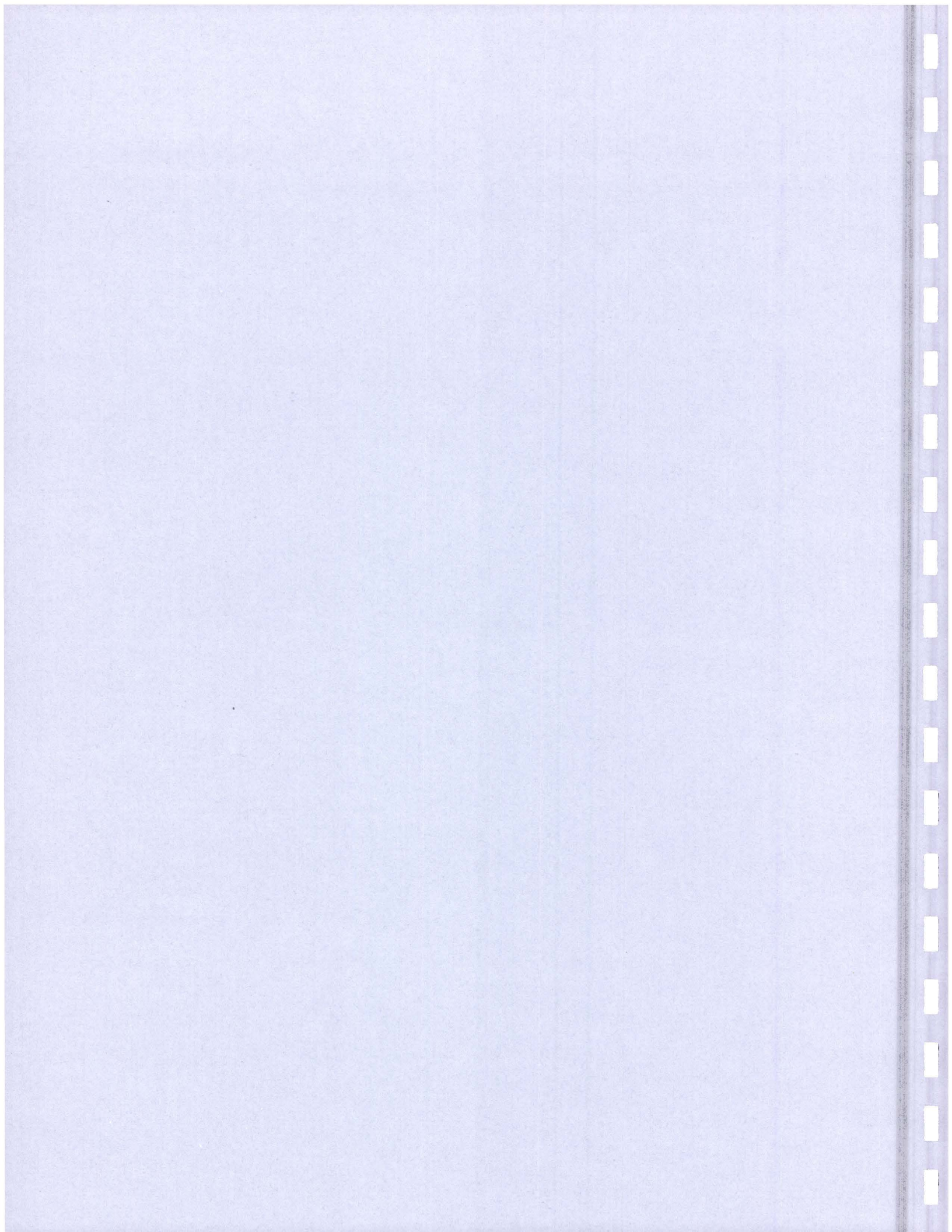
With regard to development timing, the proposed rail project could put additional pressure on the conversion of industrial to commercial use within the ESEA, a process that is already well underway in the area.

In summary, the proposed project is unlikely to have any net effect on regional economic or population growth. However, some shift in employment growth to the ESEA could occur if the local governments adopt policies and plans supporting such intensified development. Even if this shift should occur, it is unlikely to generate adverse environmental effects (compared to the "no project" option) since the added development would represent the transportation capacity increment due to the rail project, and vehicular trips would not be significantly different from the "no build" case.









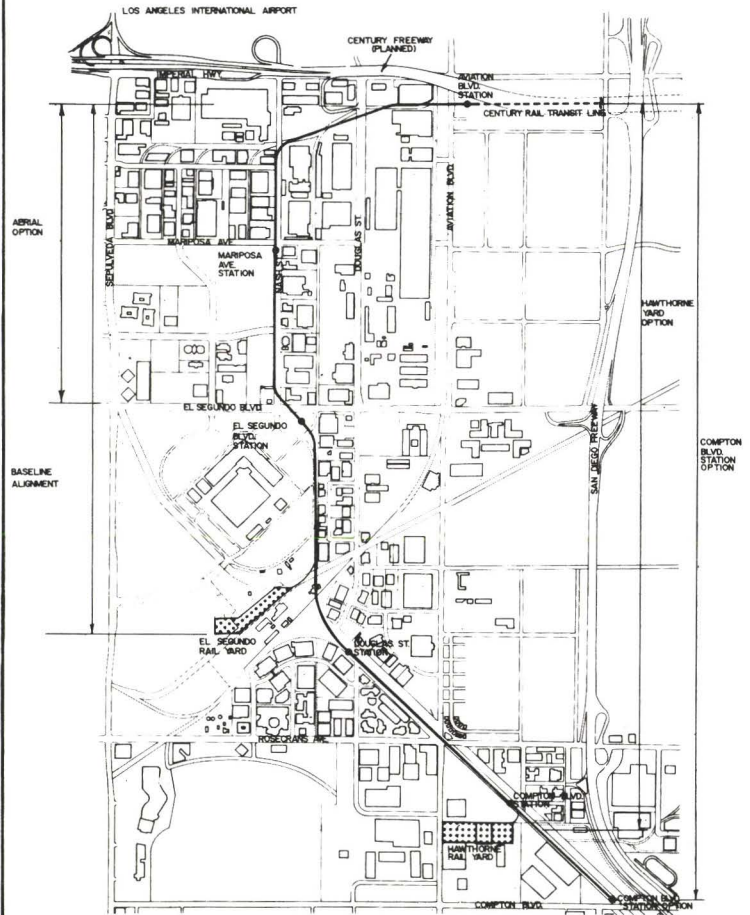
## 5.0 APPENDIX

### 5.1 PLAN/PROFILE DRAWINGS

The following are plan and profile drawings prepared by Gannett-Fleming Transportation Engineers for the Century-El Segundo Rail Transit Project.

LOS ANGELES COUNTY  
TRANSPORTATION COMMISSION

**CENTURY-EL SEGUNDO  
EXTENSION  
CONCEPTUAL DESIGN**



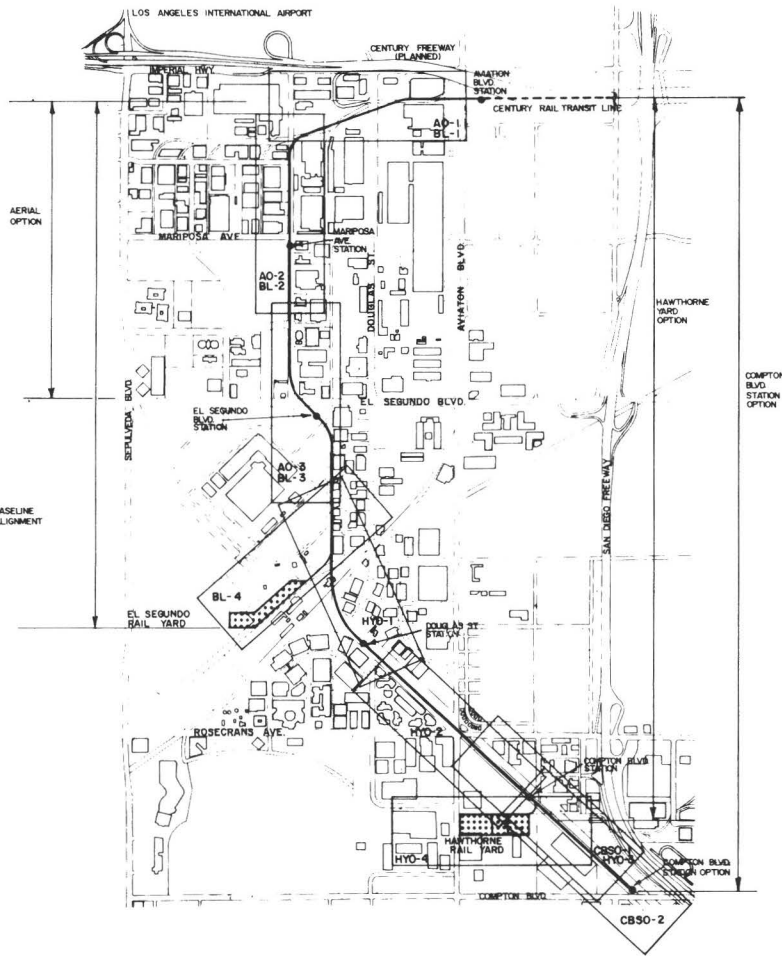
prepared by



**GANNETT FLEMING  
TRANSPORTATION ENGINEERS, INC.**

In association with

- Gruen Associates
- Benito A. Sinclair & Associates, Inc.
- Margot Siegel, AIA, Architect, Inc.
- Don Read Corporation

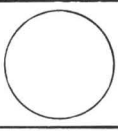


KEY PLAN

INDEX OF DRAWINGS

DWG. NO.	DESCRIPTION
<-1	KEY PLAN AND INDEX OF DRAWINGS
BL-1	PLAN AND PROFILE OF TRACK CENTER LINES STATION 0+00 TO STATION 25+00 BASELINE ALIGNMENT
BL-2	PLAN AND PROFILE OF TRACK CENTER LINES STATION 25+00 TO STATION 55+00 BASELINE ALIGNMENT
BL-3	PLAN AND PROFILE OF TRACK CENTER LINES STATION 55+00 TO STATION 86+00 BASELINE ALIGNMENT
BL-4	PLAN AND PROFILE OF TRACK CENTER LINES EL SEGUNDO YARD SITE
A0-1	PLAN AND PROFILE OF TRACK CENTER LINES STATION 0+00 TO STATION 25+00 AERIAL OPTION
A0-2	PLAN AND PROFILE OF TRACK CENTER LINES STATION 25+00 TO STATION 55+00 AERIAL OPTION
A0-3	PLAN AND PROFILE OF TRACK CENTER LINES STATION 55+00 TO STATION 86+00 AERIAL OPTION
HYO-1	PLAN AND PROFILE OF TRACK CENTER LINES STATION 86+00 TO STATION 116+50 HAWTHORNE YARD OPTION
HYO-2	PLAN AND PROFILE OF TRACK CENTER LINES STATION 116+50 TO STATION 140+00 HAWTHORNE YARD OPTION
HYO-3	PLAN AND PROFILE OF TRACK CENTER LINES STATION 140+00 TO STATION 150+00 HAWTHORNE YARD OPTION
HYO-4	PLAN AND PROFILE OF TRACK CENTER LINES HAWTHORNE YARD SITE
CBSO-1	PLAN AND PROFILE OF TRACK CENTER LINES STATION 140+00 TO STATION 155+00 COMPTON BOULEVARD STATION OPTION
CBSO-2	PLAN AND PROFILE OF TRACK CENTER LINES STATION 155+00 TO STATION 170+80 COMPTON BOULEVARD STATION OPTION
CS-1	CROSS SECTIONS
CS-2	CROSS SECTIONS
CS-3	CROSS SECTIONS
U-1	UTILITY CROSS SECTIONS
U-2	UTILITY CROSS SECTIONS
U-3	UTILITY CROSS SECTIONS
U-4	UTILITY CROSS SECTIONS
U-5	UTILITY CROSS SECTIONS
U-6	UTILITY CROSS SECTIONS

NO.	DATE	REVISION	BY	APP	APP



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DRAWN BY:	CHECKED BY:	APPROVED BY:	Date

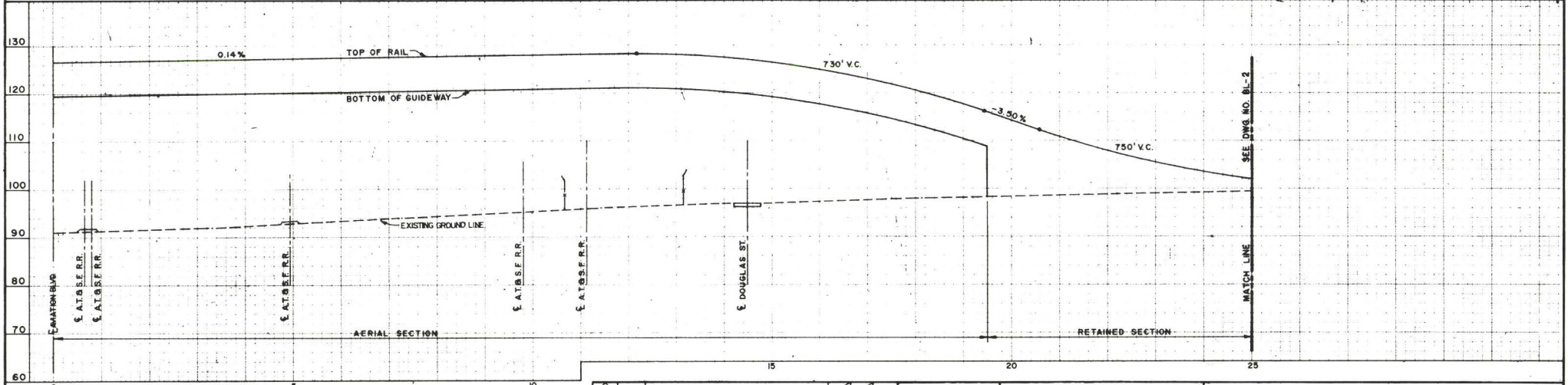
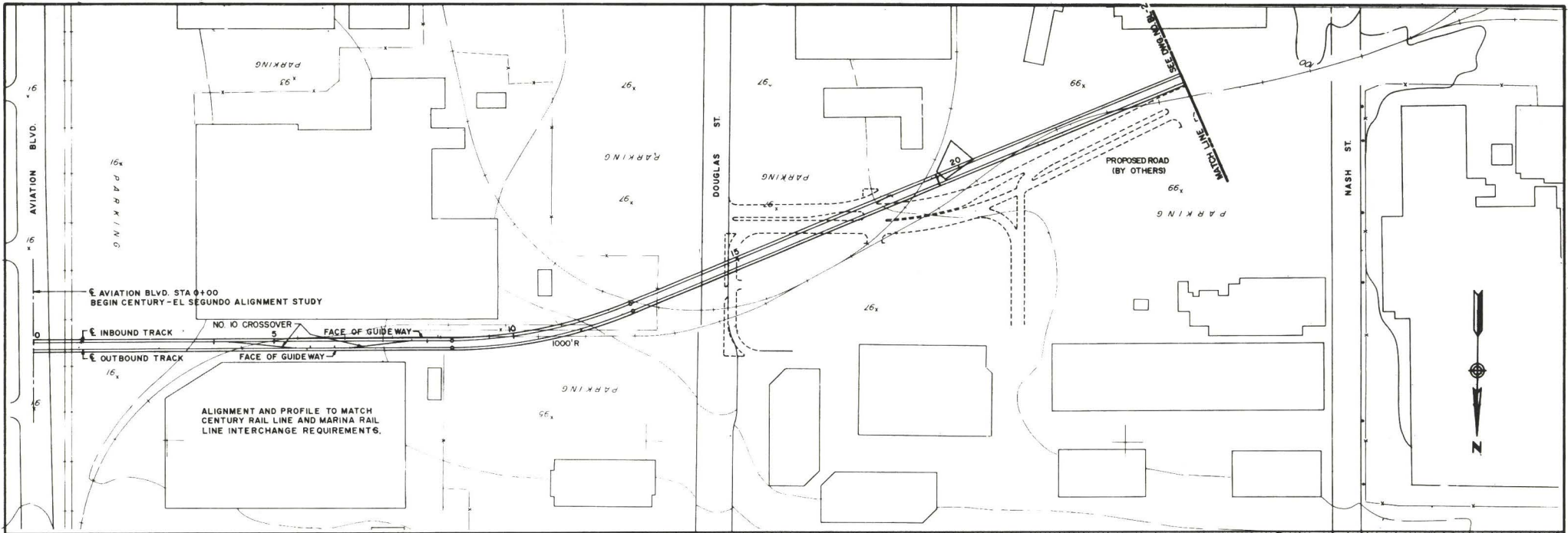
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Century - El Segundo Extension

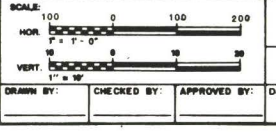
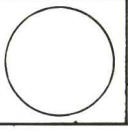
KEY PLAN AND INDEX OF DRAWINGS

Connett Planning Transportation Engineers, Inc.

Dwg No. **K-1**



NO.	DATE	REVISION	BY	APP	APP



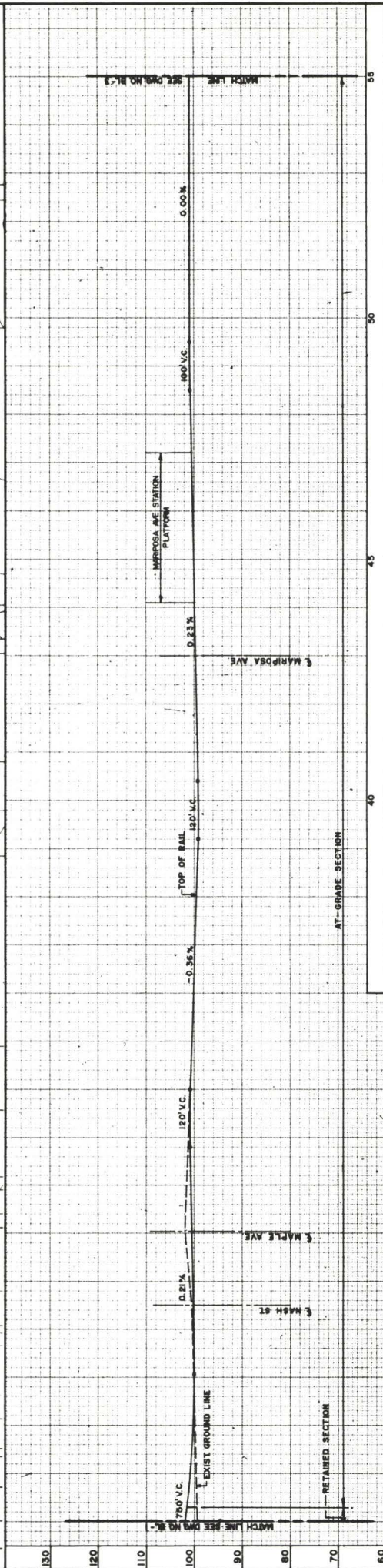
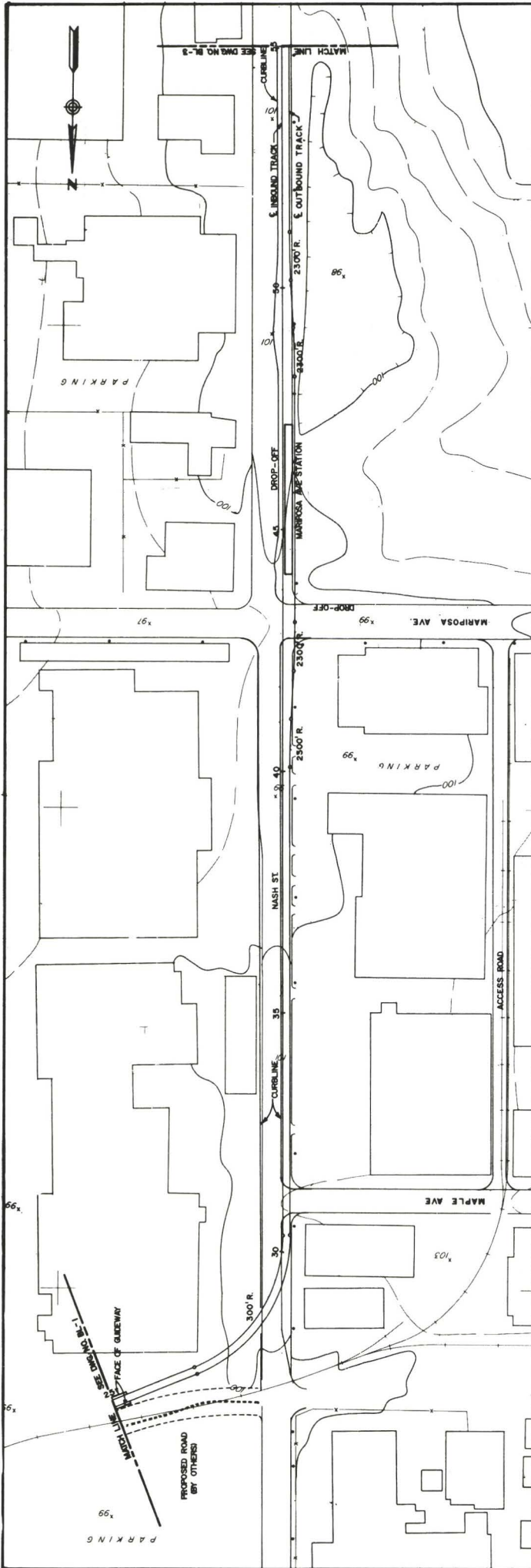
**LOS ANGELES COUNTY TRANSPORTATION COMMISSION**

Century - El Segundo Extension

**PLAN AND PROFILE OF TRACK CENTER LINES**  
STATION 0+00 TO STATION 25+00  
BASELINE ALIGNMENT

Drawn By: \_\_\_\_\_ Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

Eng. No. **BL-1**



SCALE: 1" = 100'

HOR. SCALE: 1" = 100'

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APPROVED BY: \_\_\_\_\_

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**LOS ANGELES COUNTY TRANSPORTATION COMMISSION**

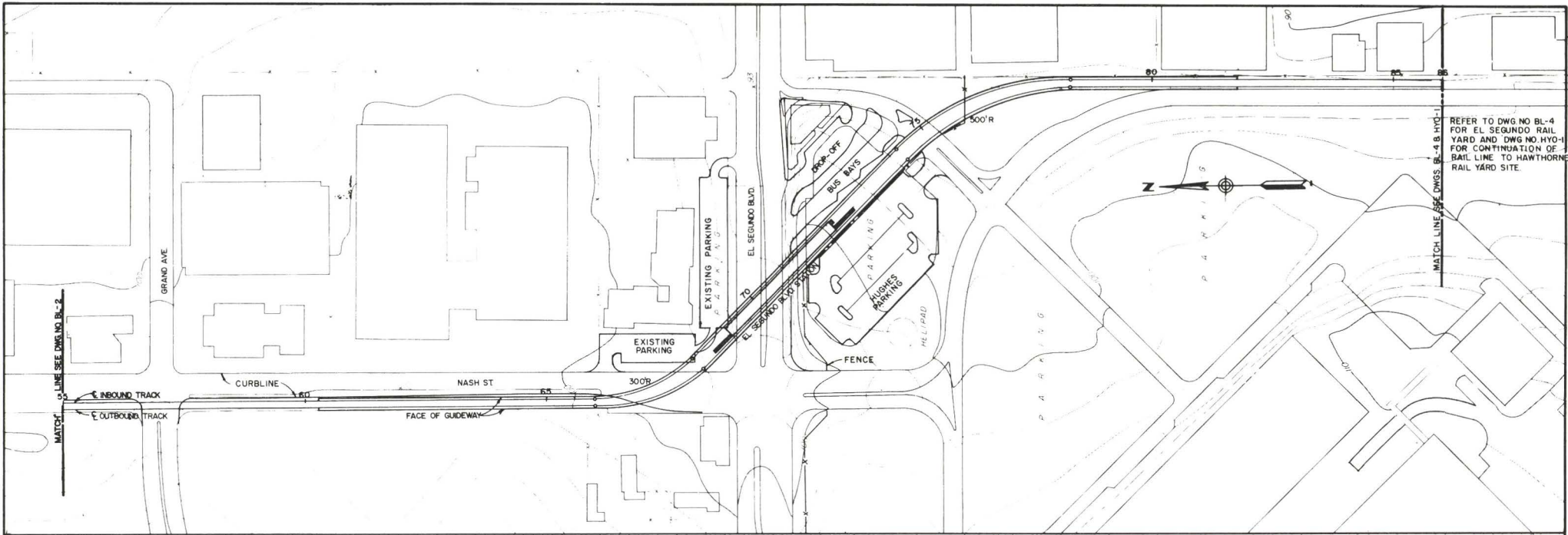
Century - El Segundo Extension

**PLAN AND PROFILE OF TRACK CENTER LINES**

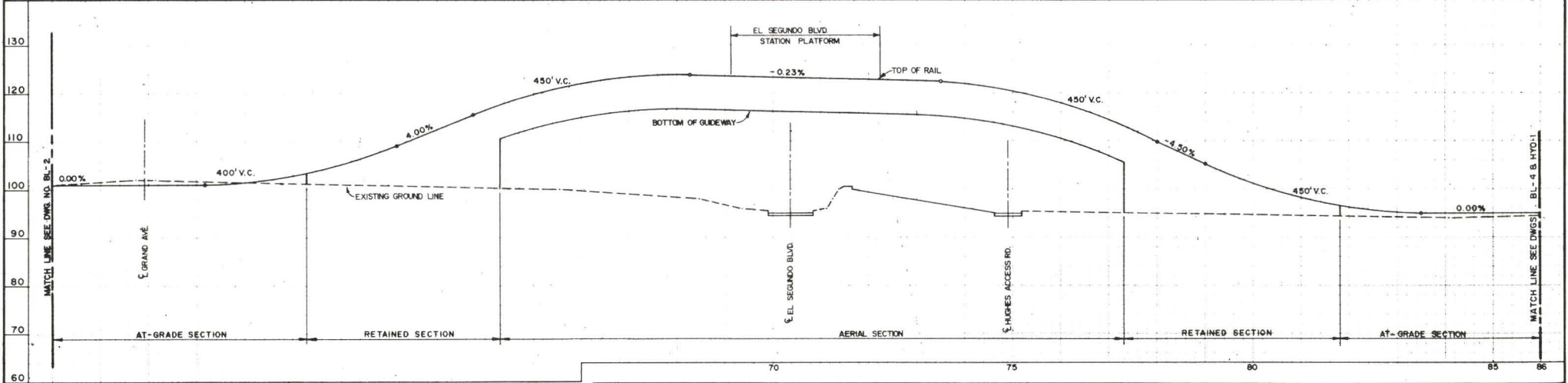
STATION 25+00 TO STATION 55+00

BASELINE ALIGNMENT

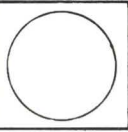
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NO.	DATE	REVISION	BY	APP	APP



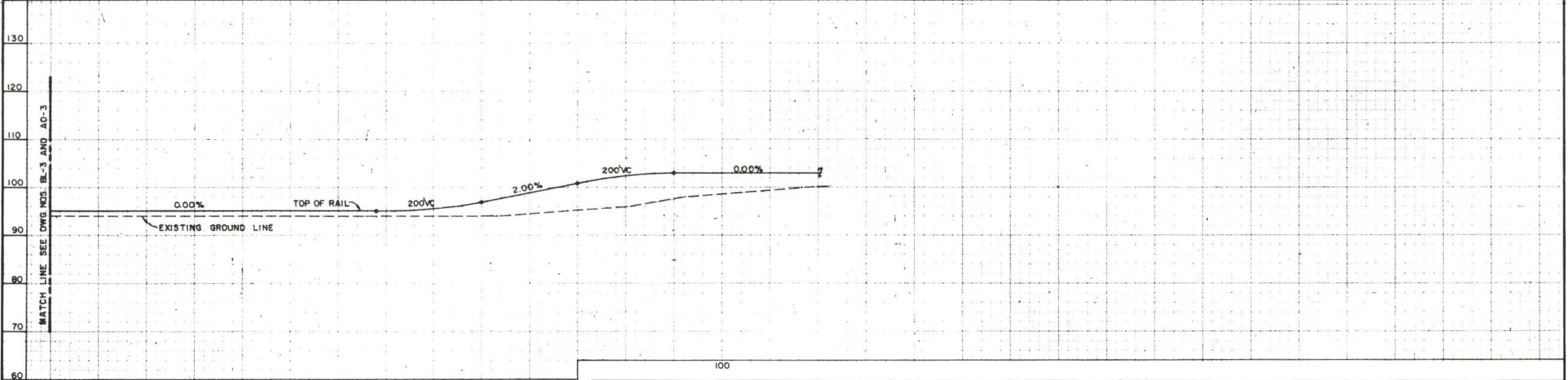
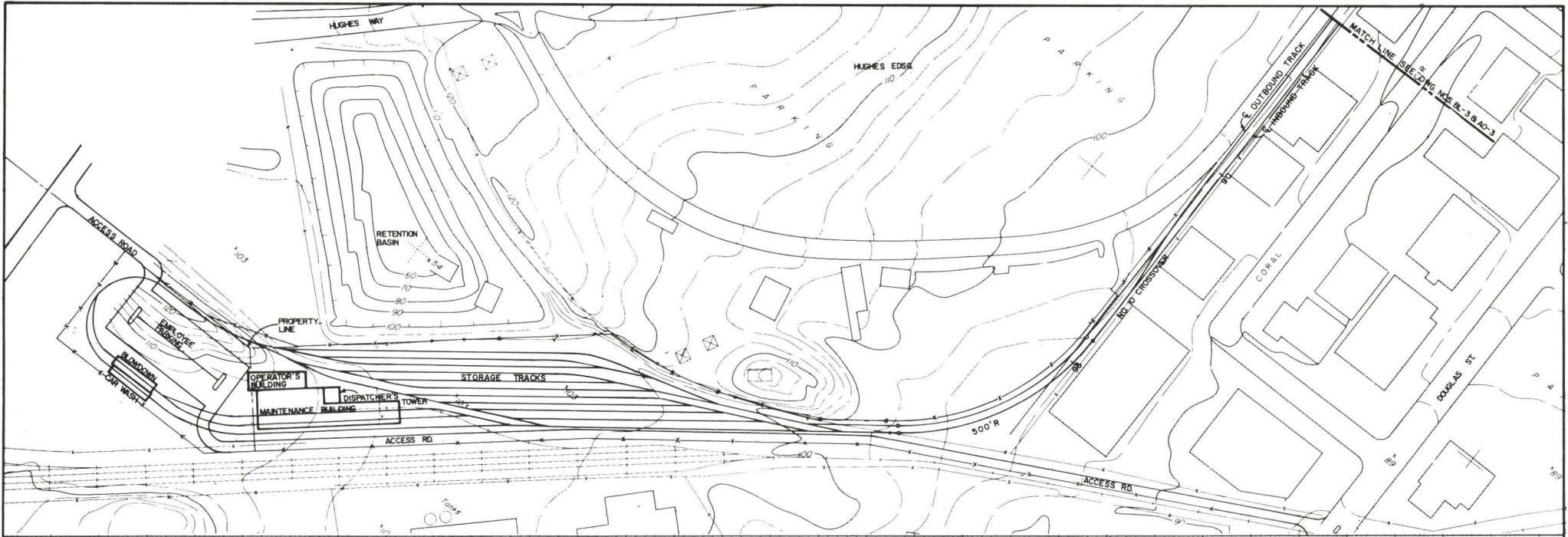
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VERT.	10	0	10	20
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DRAWN BY:	CHECKED BY:	APPROVED BY:	Date	

LOS ANGELES COUNTY TRANSPORTATION COMMISSION  
 Century - El Segundo Extension  
 PLAN AND PROFILE OF TRACK CENTER LINES  
 STATION 55+00 TO STATION 86+00  
 BASELINE ALIGNMENT

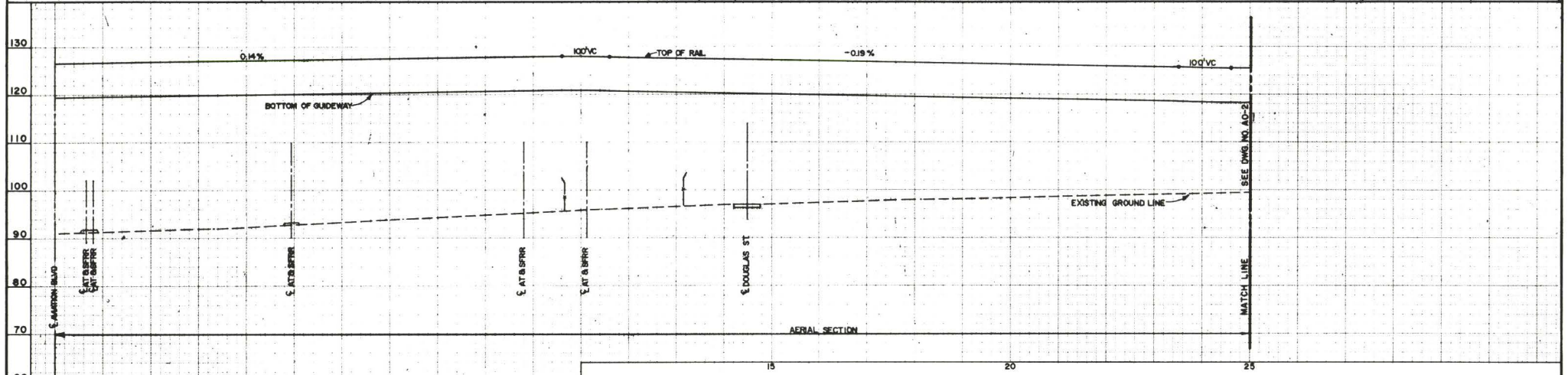
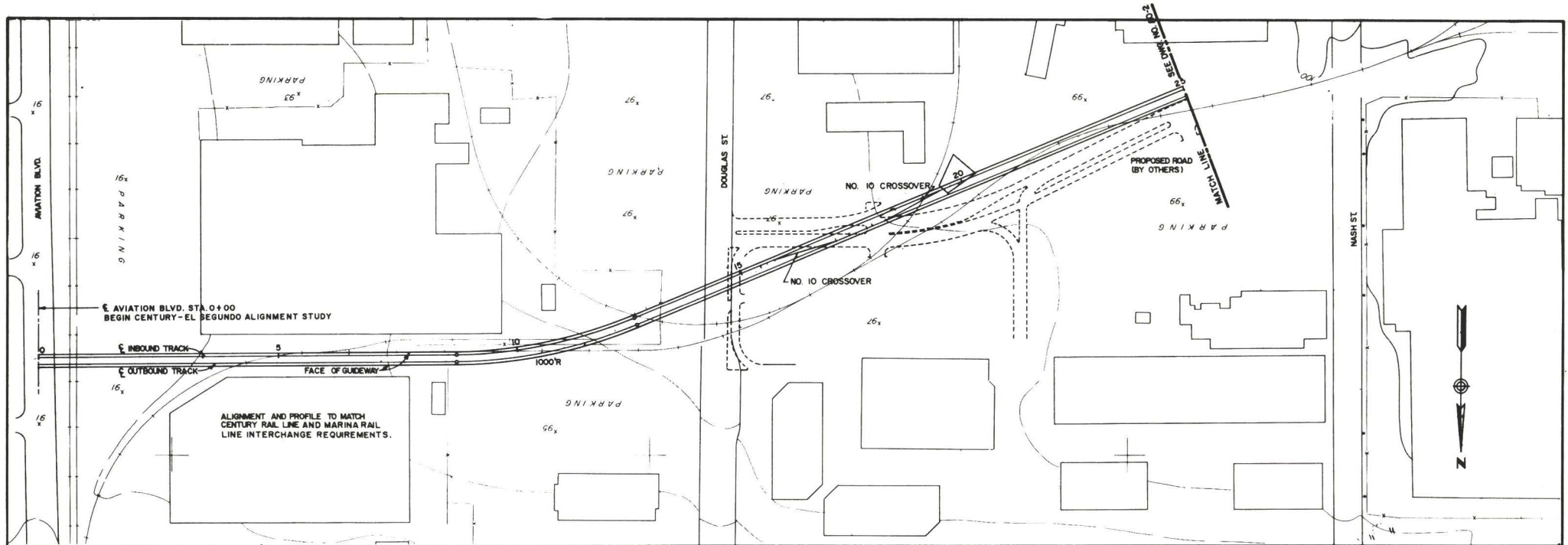
Consett Planning  
 Transportation Engineers, Inc.

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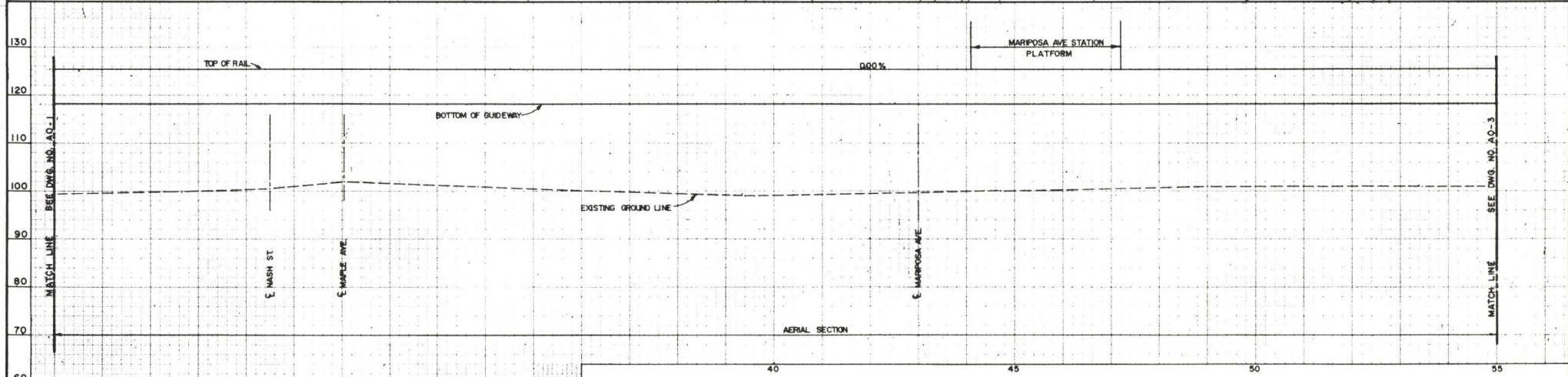
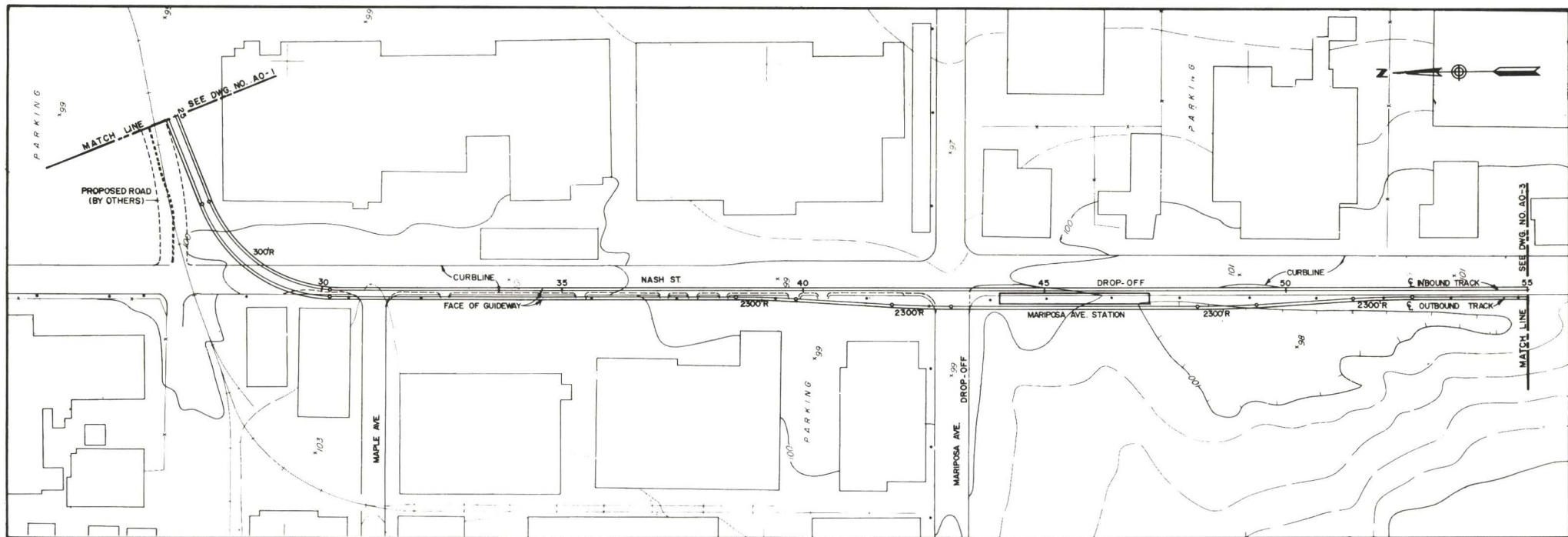




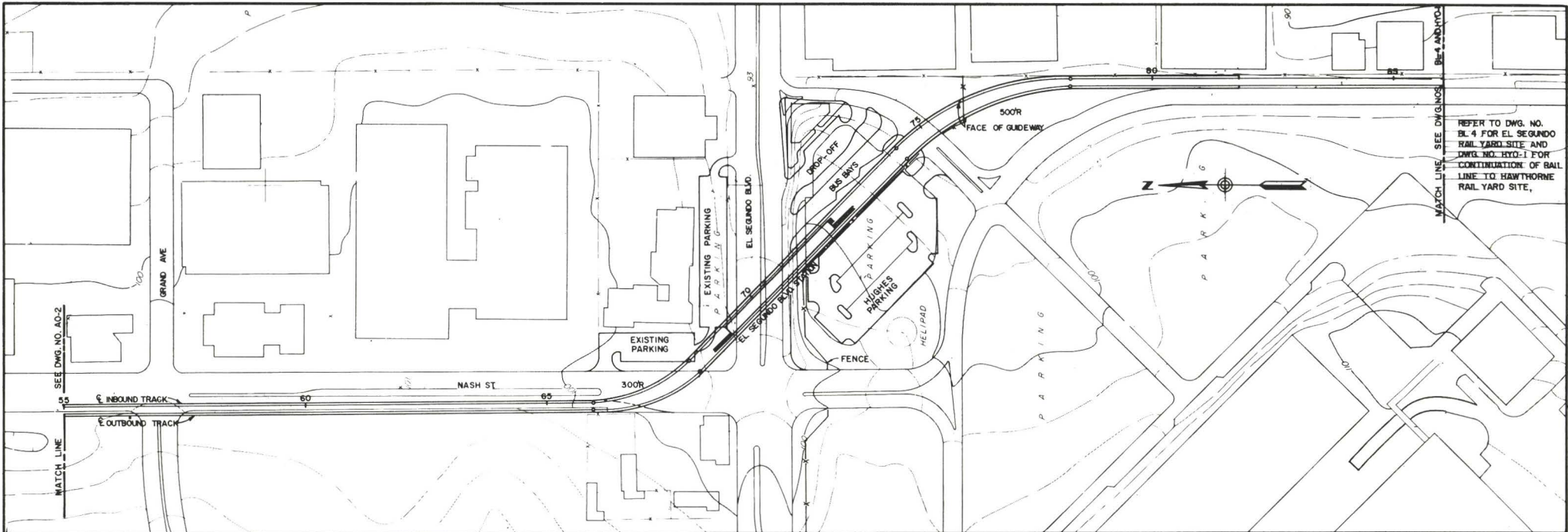
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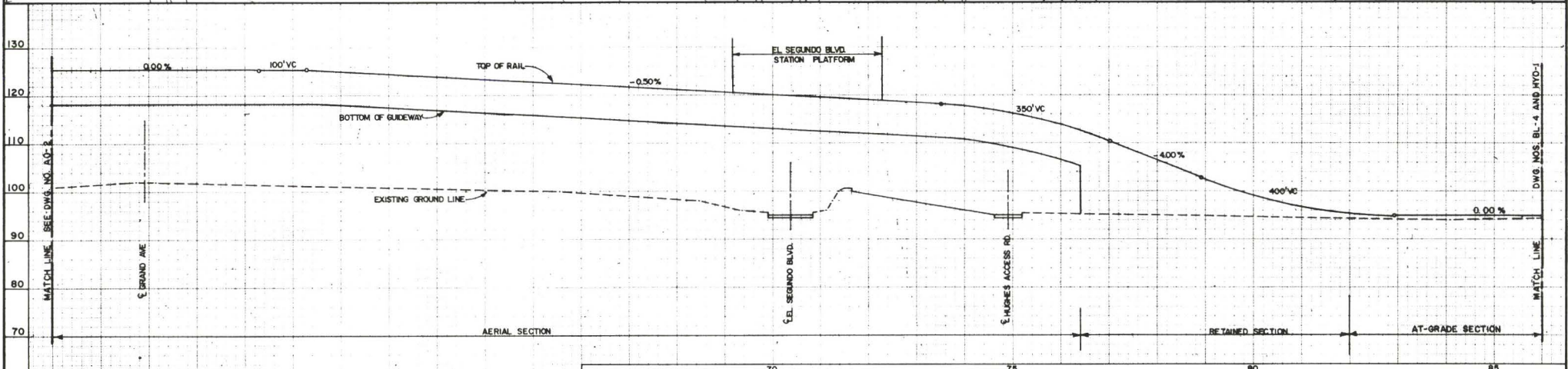
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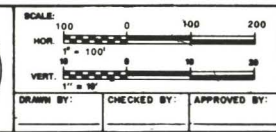
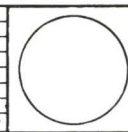
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REFER TO DWG. NO. BL-4 FOR EL SEGUNDO RAIL YARD SITE AND DWG. NO. HYD-1 FOR CONTINUATION OF RAIL LINE TO HAWTHORNE RAIL YARD SITE.



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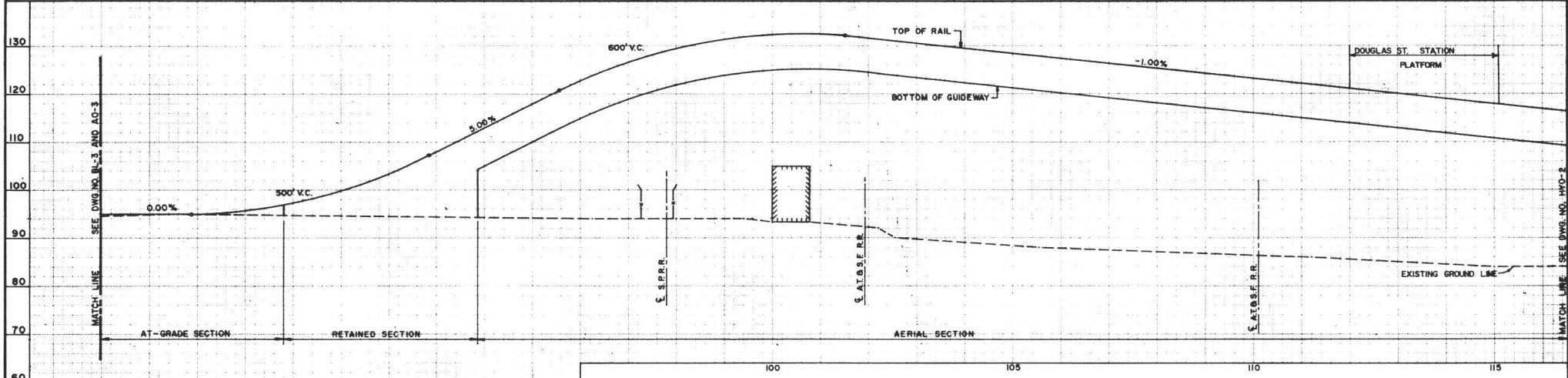
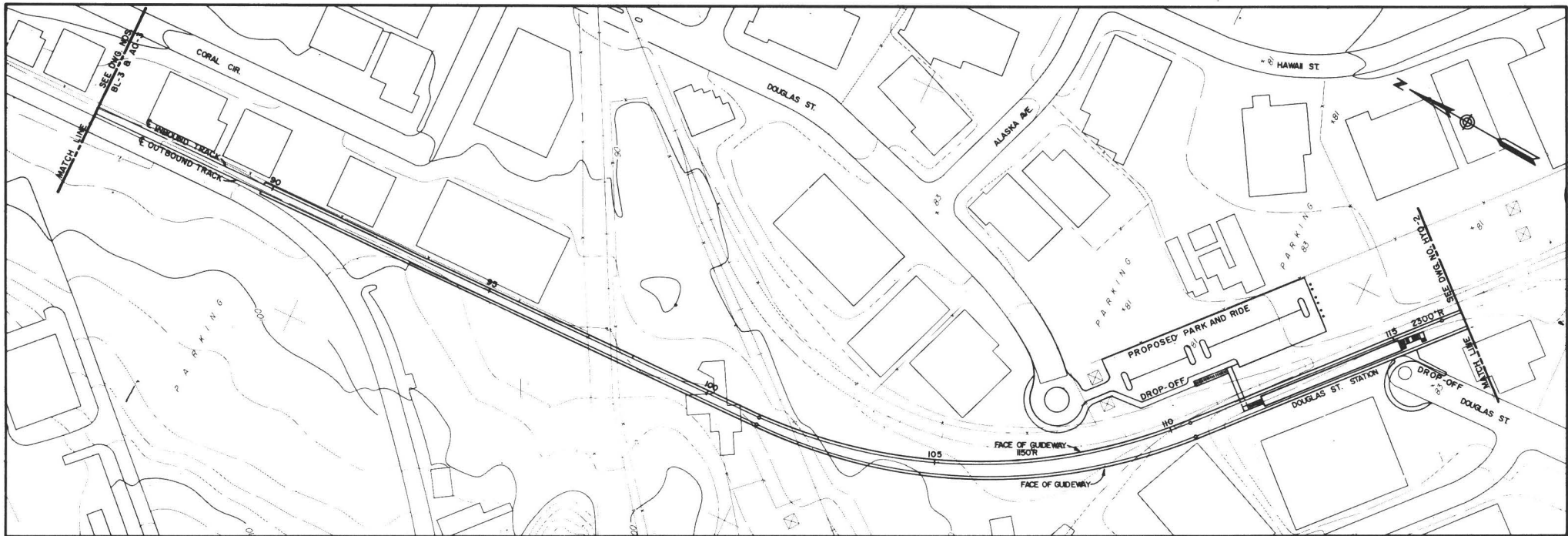


**LOS ANGELES COUNTY TRANSPORTATION COMMISSION**  
 Century - El Segundo Extension  
**PLAN AND PROFILE OF TRACK CENTER LINES**  
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 AERIAL OPTION

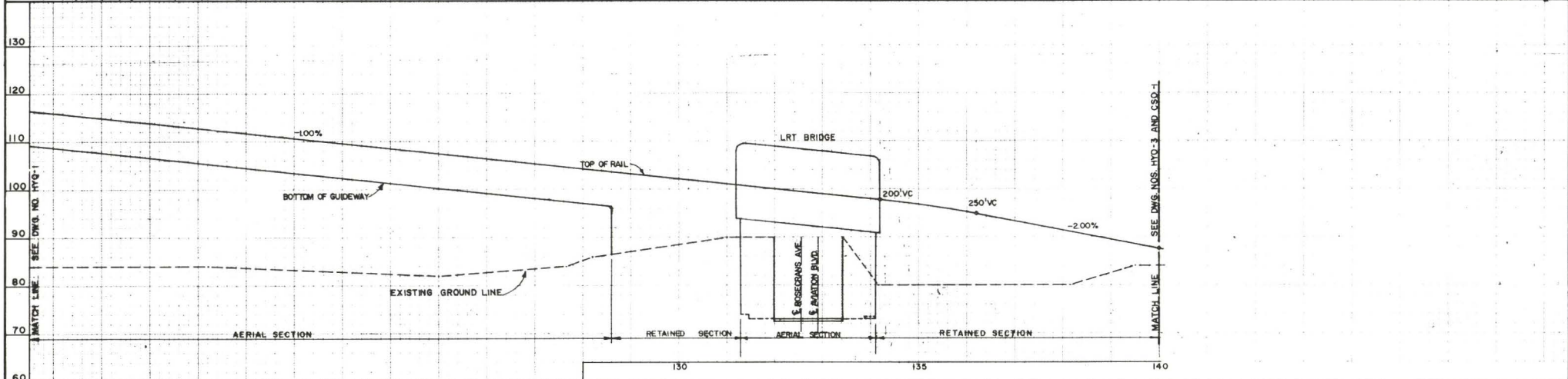
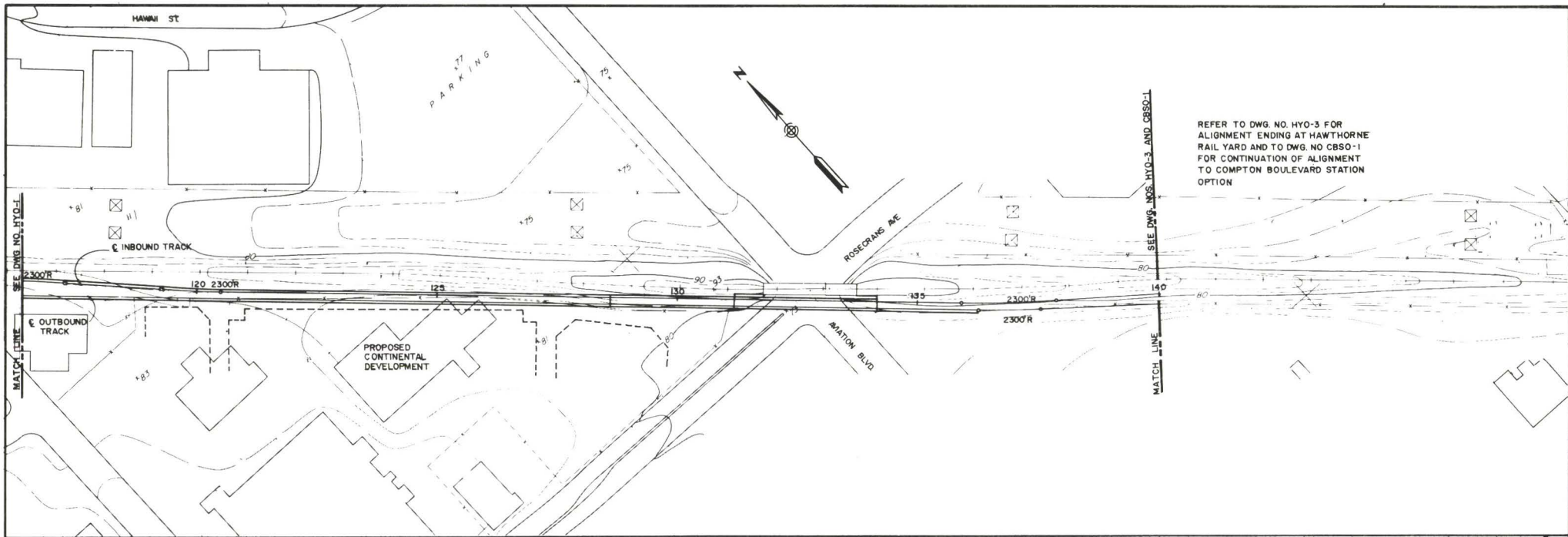
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**Geonett Planning**  
 Transportation Engineers, Inc.

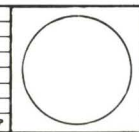
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						DRAWN BY: _____ CHECKED BY: _____ APPROVED BY: _____ Date: _____ <b>Genett Planning</b> <b>Transportation Engineers, Inc.</b>	Dwg No. <b>HYO-1</b>



NO.	DATE	REVISION	BY	APP	APP



SCALE:

HOR 1" = 100'

VERT 1" = 10'

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LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Century - El Segundo Extension

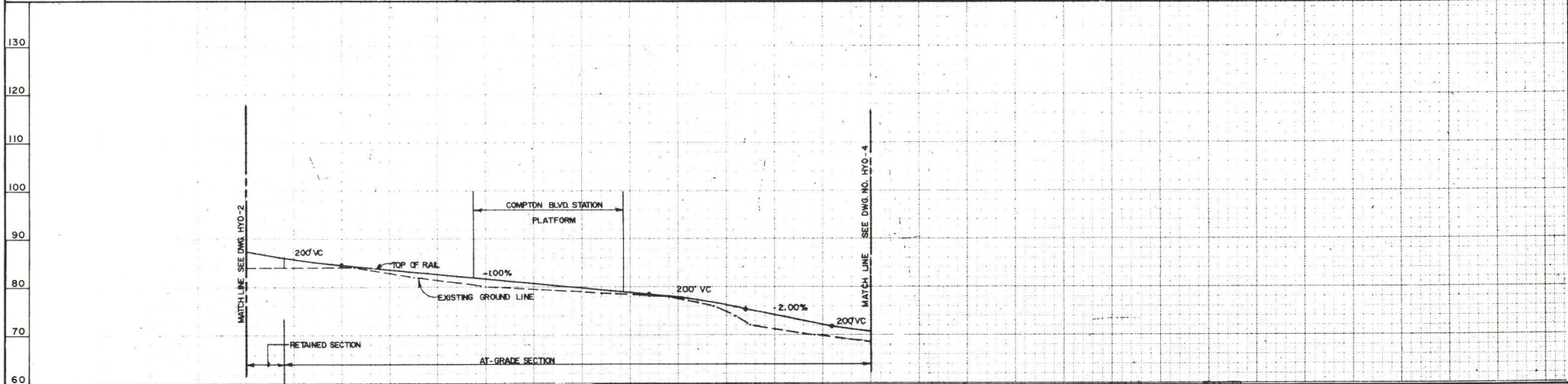
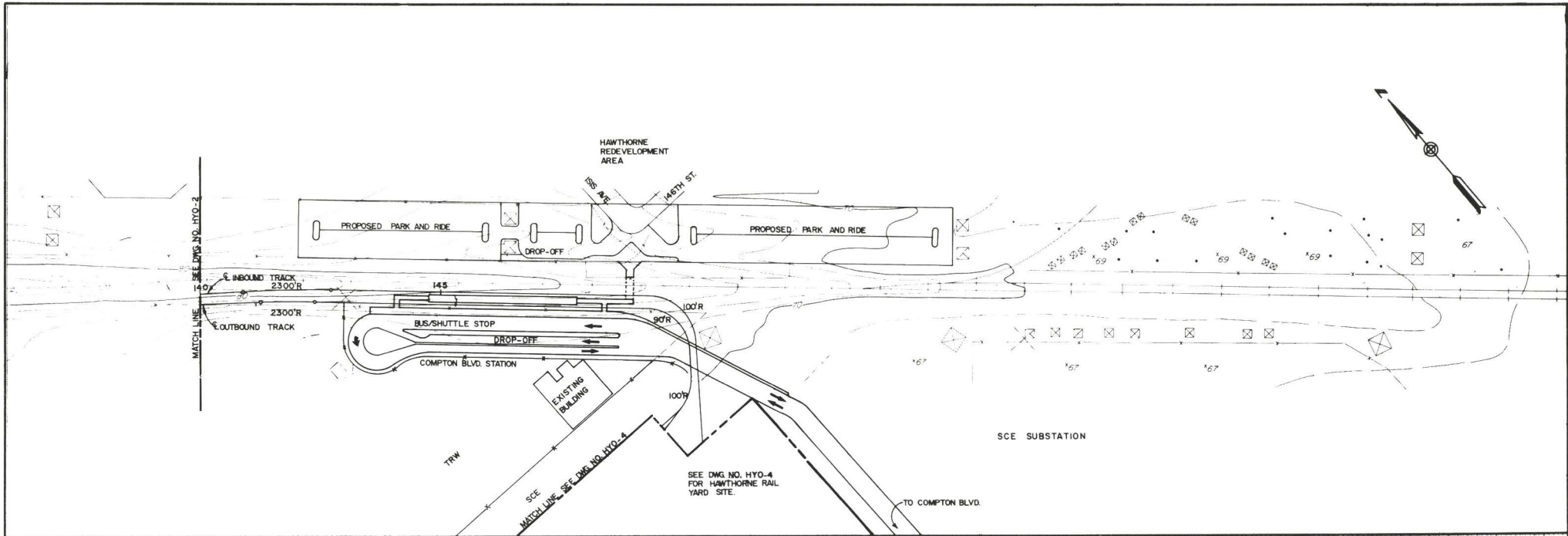
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STATION 116+50 TO STATION 140+00

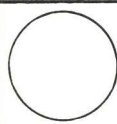
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Genett Fleming Transportation Engineers, Inc.

Dwg No. HYO-2



NO.	DATE	REVISION	BY	APP	APP



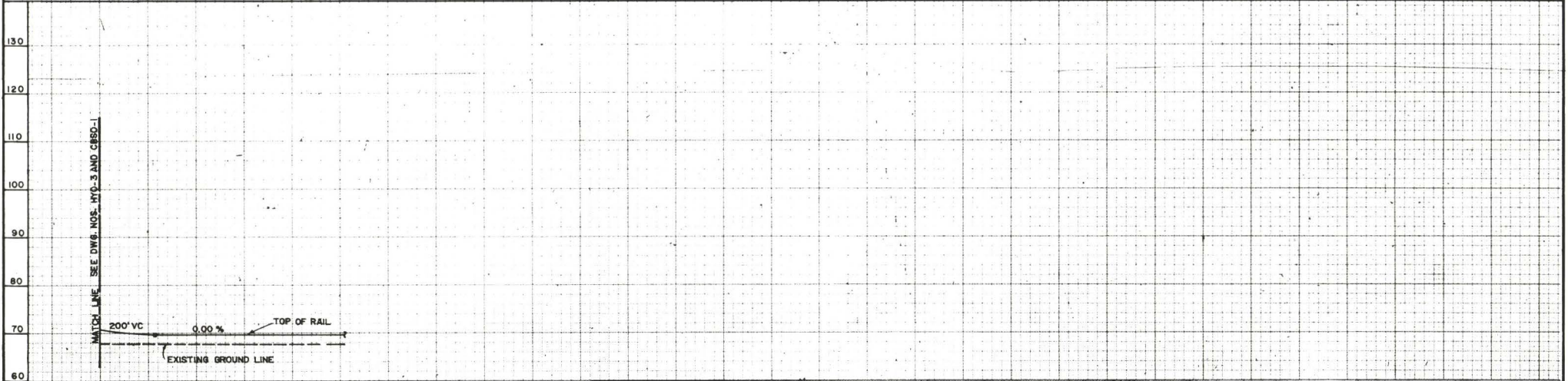
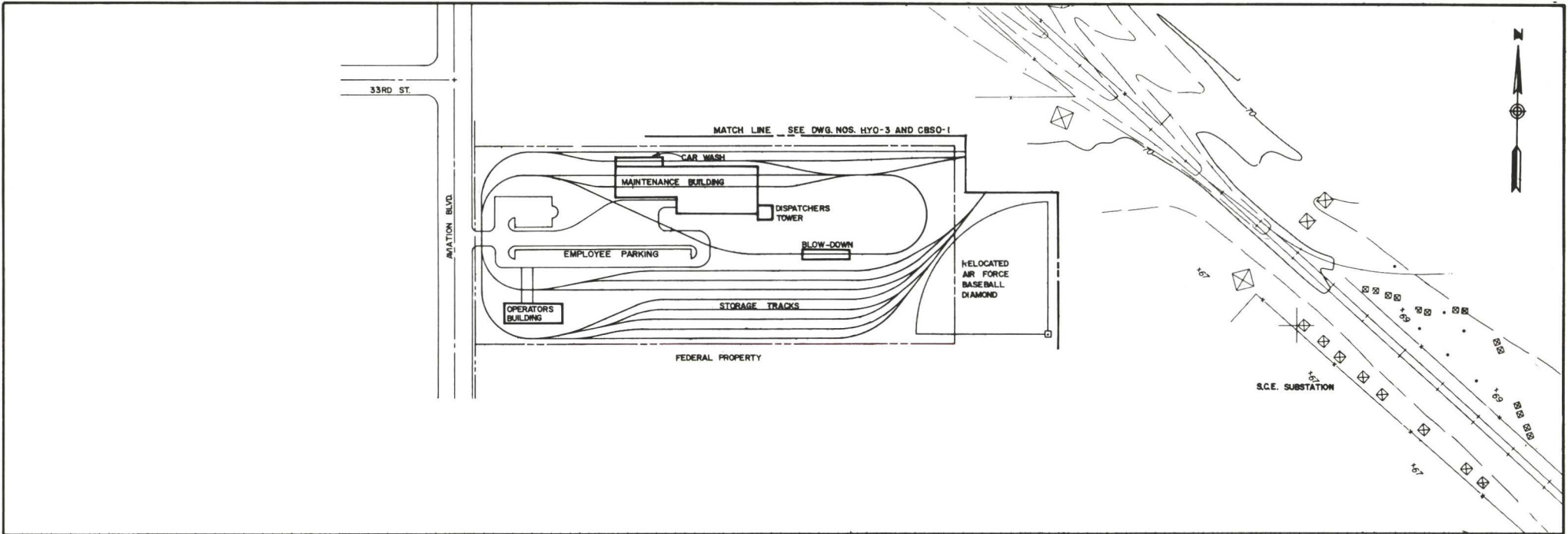
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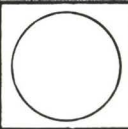
LOS ANGELES COUNTY TRANSPORTATION COMMISSION  
 Century - El Segundo Extension  
 PLAN AND PROFILE OF TRACK CENTER LINES  
 STATION 140+00 TO STATION 150+00  
 HAWTHORNE YARD OPTION

Geomett Planning  
 Transportation Engineers, Inc.

HYO-3



NO.	DATE	REVISION	BY	APP	APP



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LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Century - El Segundo Extension

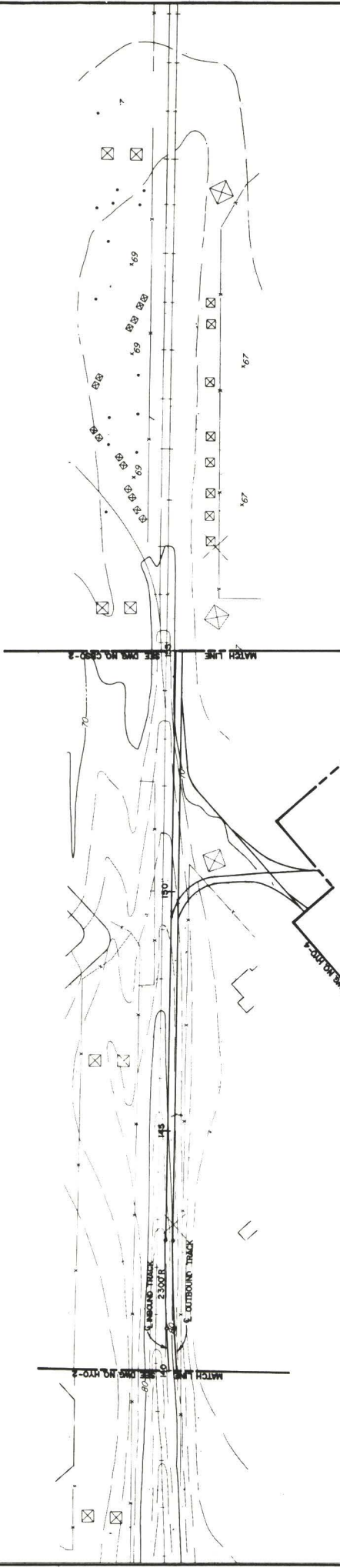
PLAN AND PROFILE OF TRACK CENTER LINES

HAMTHORNE YARD SITE

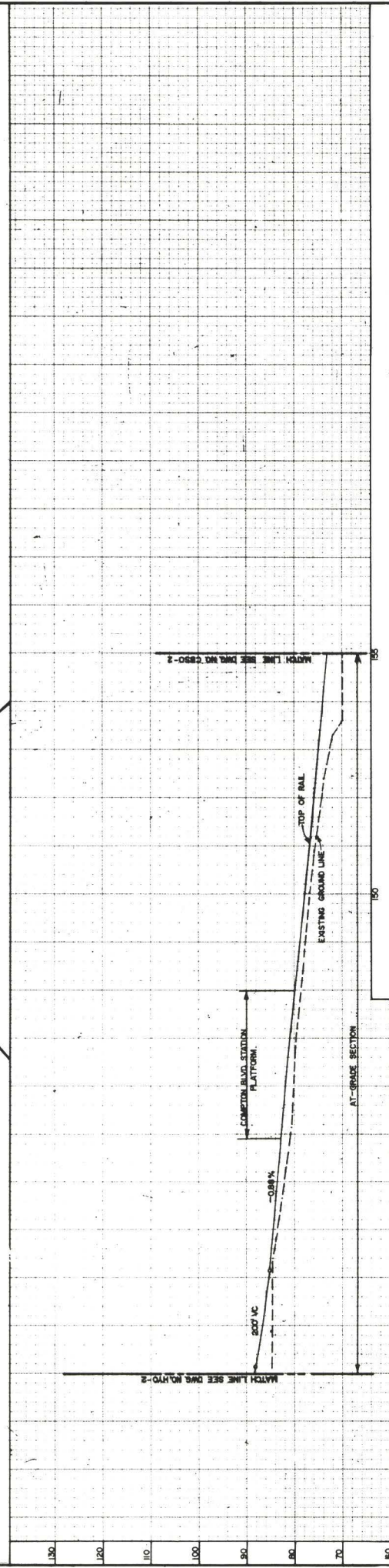
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Draw No. HY0-4

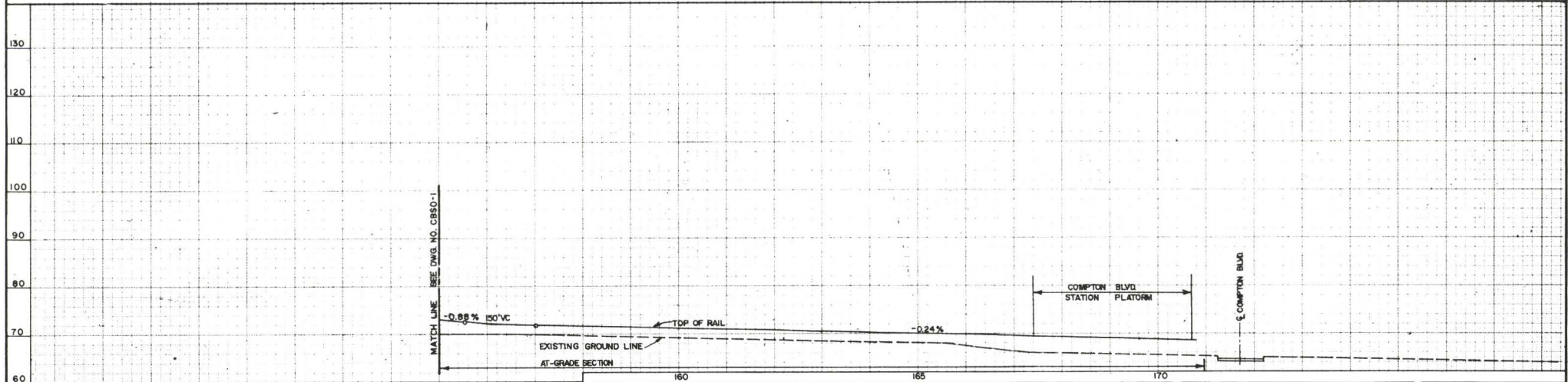
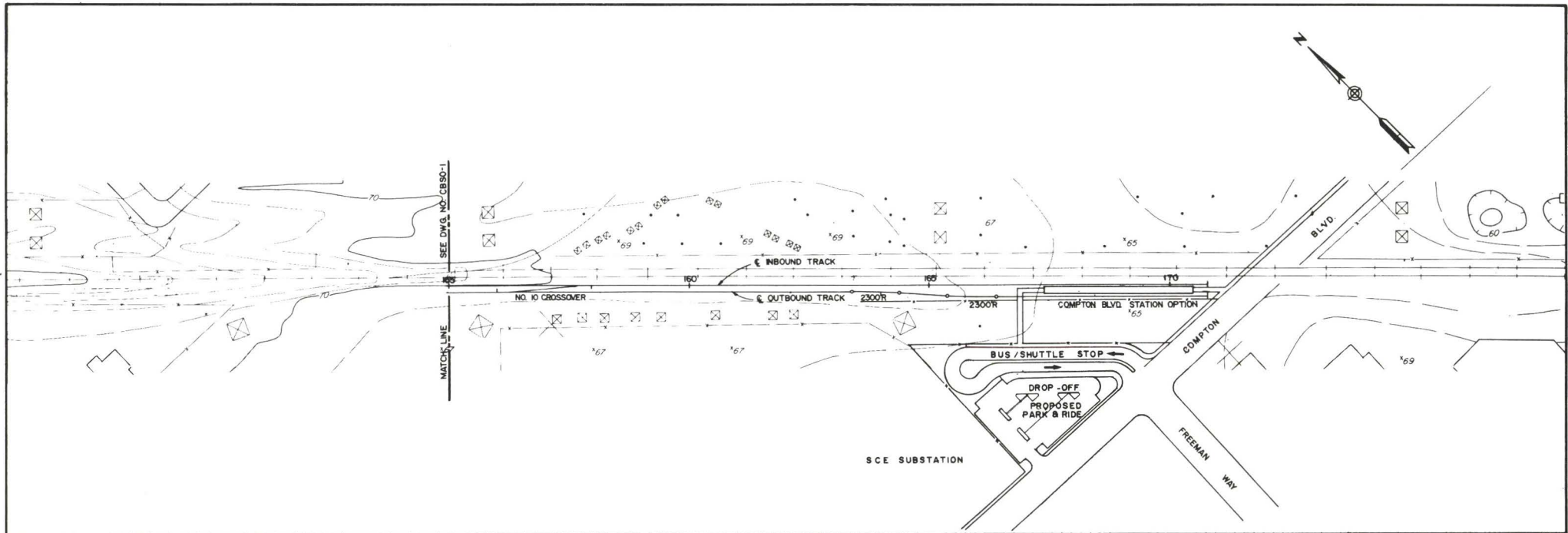




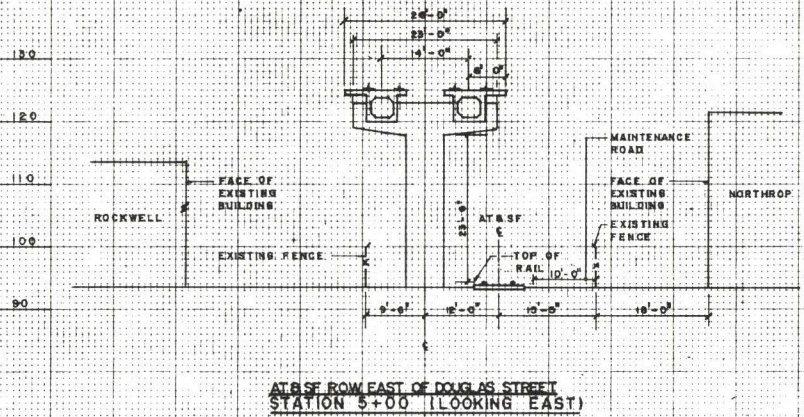
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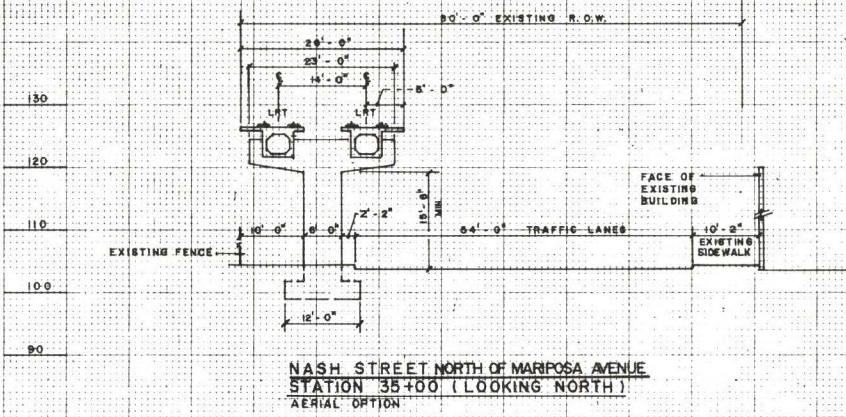
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SCALE: HOR. 1" = 100' VERT. 1" = 5'		NO. DATE 1 11/15/70 2 11/15/70 3 11/15/70 4 11/15/70 5 11/15/70 6 11/15/70 7 11/15/70 8 11/15/70 9 11/15/70 10 11/15/70 11 11/15/70 12 11/15/70 13 11/15/70 14 11/15/70 15 11/15/70 16 11/15/70 17 11/15/70 18 11/15/70 19 11/15/70 20 11/15/70 21 11/15/70 22 11/15/70 23 11/15/70 24 11/15/70 25 11/15/70 26 11/15/70 27 11/15/70 28 11/15/70 29 11/15/70 30 11/15/70 31 11/15/70 32 11/15/70 33 11/15/70 34 11/15/70 35 11/15/70 36 11/15/70 37 11/15/70 38 11/15/70 39 11/15/70 40 11/15/70 41 11/15/70 42 11/15/70 43 11/15/70 44 11/15/70 45 11/15/70 46 11/15/70 47 11/15/70 48 11/15/70 49 11/15/70 50 11/15/70 51 11/15/70 52 11/15/70 53 11/15/70 54 11/15/70 55 11/15/70 56 11/15/70 57 11/15/70 58 11/15/70 59 11/15/70 60 11/15/70 61 11/15/70 62 11/15/70 63 11/15/70 64 11/15/70 65 11/15/70 66 11/15/70 67 11/15/70 68 11/15/70 69 11/15/70 70 11/15/70 71 11/15/70 72 11/15/70 73 11/15/70 74 11/15/70 75 11/15/70 76 11/15/70 77 11/15/70 78 11/15/70 79 11/15/70 80 11/15/70 81 11/15/70 82 11/15/70 83 11/15/70 84 11/15/70 85 11/15/70 86 11/15/70 87 11/15/70 88 11/15/70 89 11/15/70 90 11/15/70 91 11/15/70 92 11/15/70 93 11/15/70 94 11/15/70 95 11/15/70 96 11/15/70 97 11/15/70 98 11/15/70 99 11/15/70 100 11/15/70



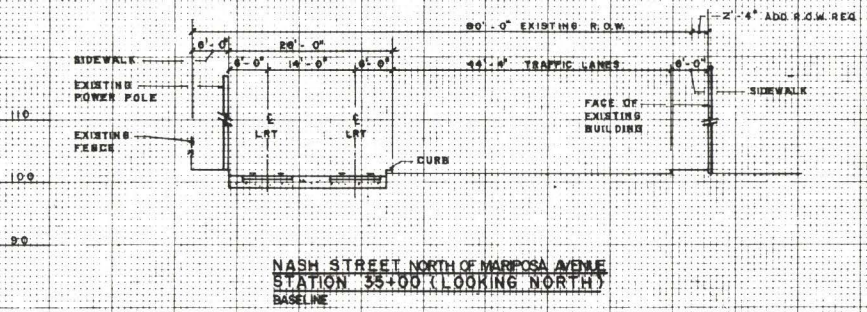
MATCH LINE SEE DWG. NO. CBSO-1		-0.88% 150' VC		TDP OF RAIL		COMPTON BLVD STATION PLATFORM		COMPTON BLVD	
MATCH LINE SEE DWG. NO. CBSO-1		EXISTING GROUND LINE		AT-GRADE SECTION					
NO.	DATE	REVISION	BY	APP	APP	SCALE: HOR. 1" = 100' VERT. 1" = 20'		LOS ANGELES COUNTY TRANSPORTATION COMMISSION Century - El Segundo Extension PLAN AND PROFILE OF TRACK CENTER LINES STATION 155+00 TO STATION 170+80 COMPTON BOULEVARD STATION OPTION	
									Drawn By: _____ Checked By: _____ Approved By: _____ Date: _____ Bennett Planning Transportation Engineers, Inc. Dwg No. CBSO-2



AT&SF ROW EAST OF DOUGLAS STREET  
STATION 5+00 (LOOKING EAST)

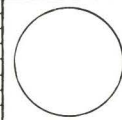


NASH STREET NORTH OF MARIPOSA AVENUE  
STATION 35+00 (LOOKING NORTH)  
AERIAL OPTION



NASH STREET NORTH OF MARIPOSA AVENUE  
STATION 35+00 (LOOKING NORTH)  
BASELINE

NO.	DATE	REVISION	BY	APP	APP



SCALE:

HOR. 1" = 100'

VERT. 1" = 10'

DRAWN BY: \_\_\_\_\_ CHECKED BY: \_\_\_\_\_ APPROVED BY: \_\_\_\_\_ Date: \_\_\_\_\_

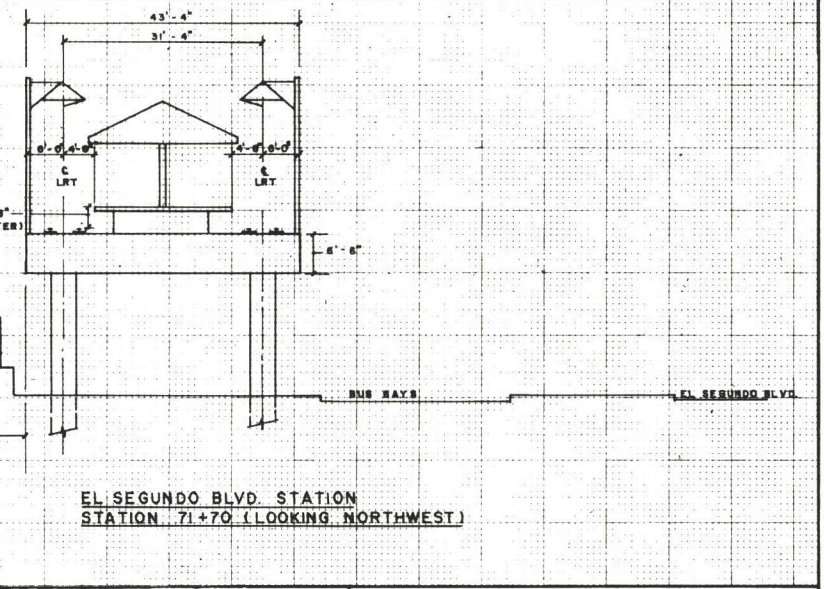
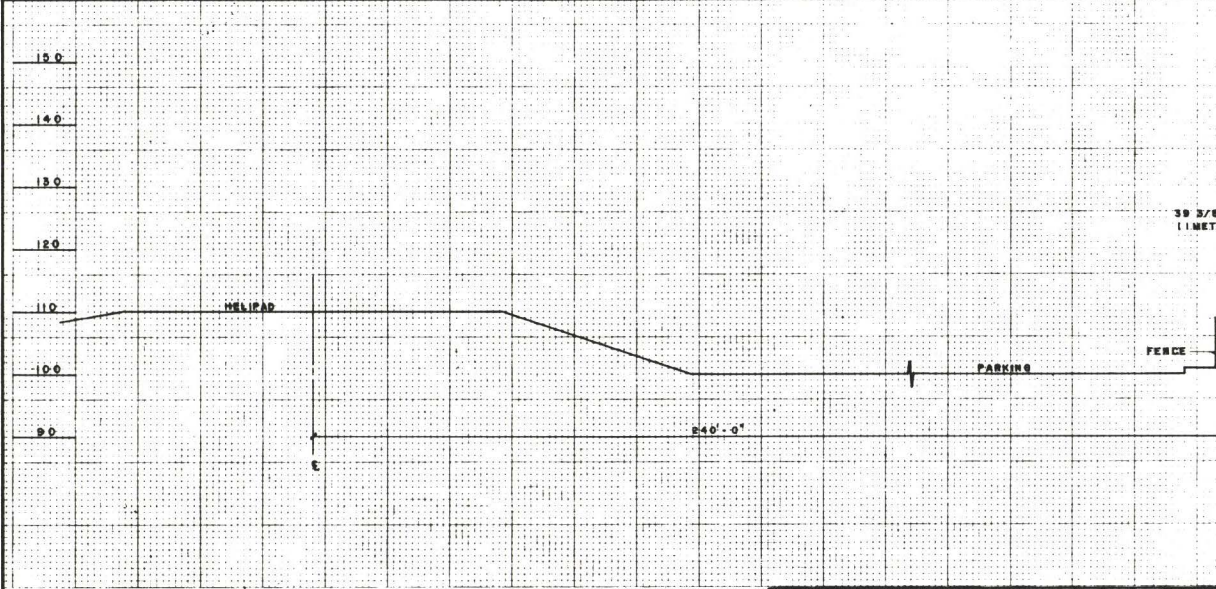
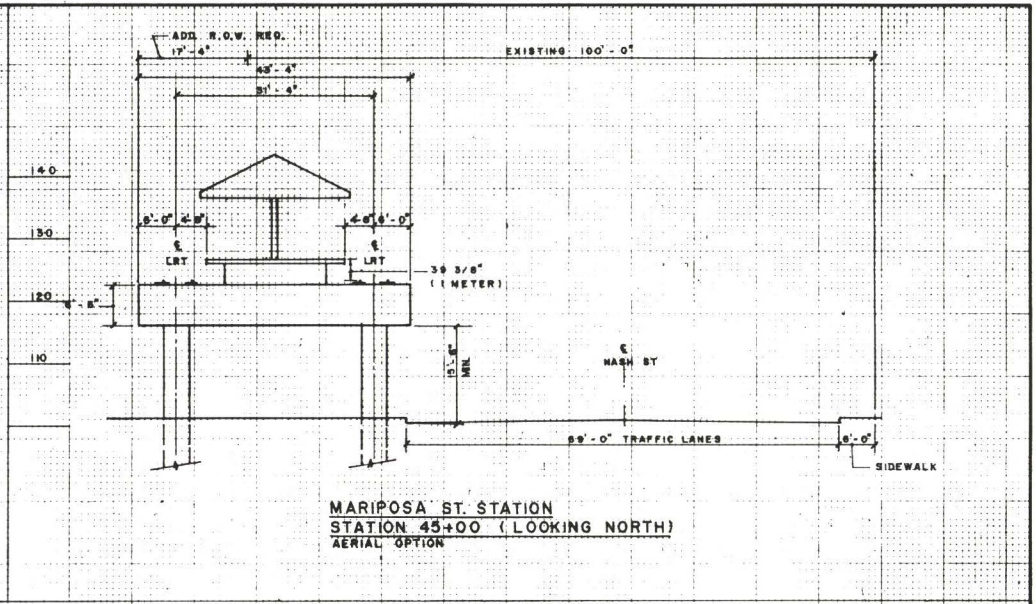
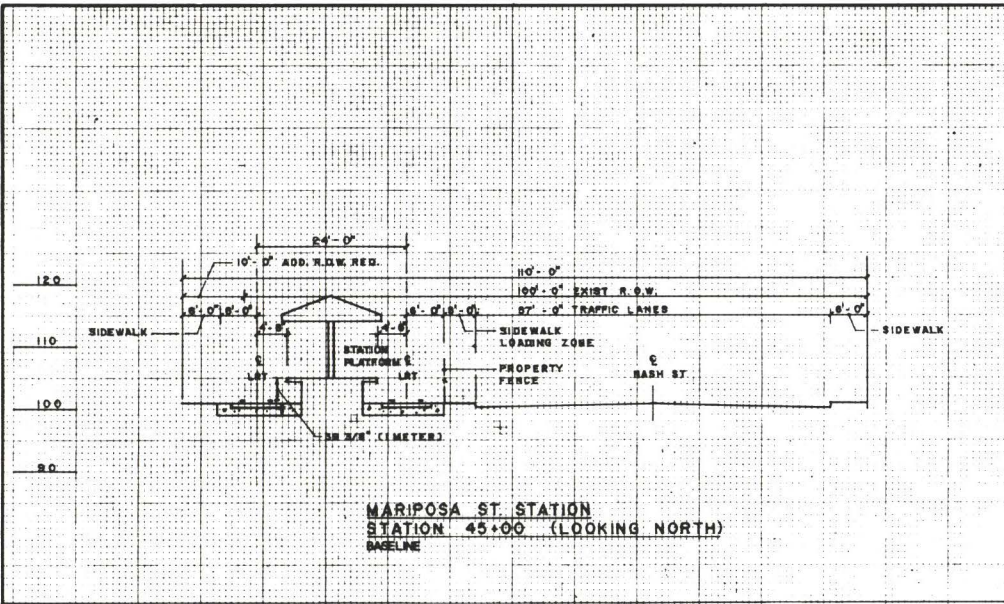
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Century - El Segundo Extension

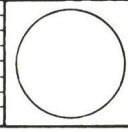
CROSS SECTIONS

Connett Fleming Transportation Engineers, Inc.

Dwg No. CS-1



NO.	DATE	REVISION	BY	APP	APP



SCALE:

HOR. 1" = 100'

VERT. 1" = 10'

DRAWN BY: \_\_\_\_\_ CHECKED BY: \_\_\_\_\_ APPROVED BY: \_\_\_\_\_ Date: \_\_\_\_\_

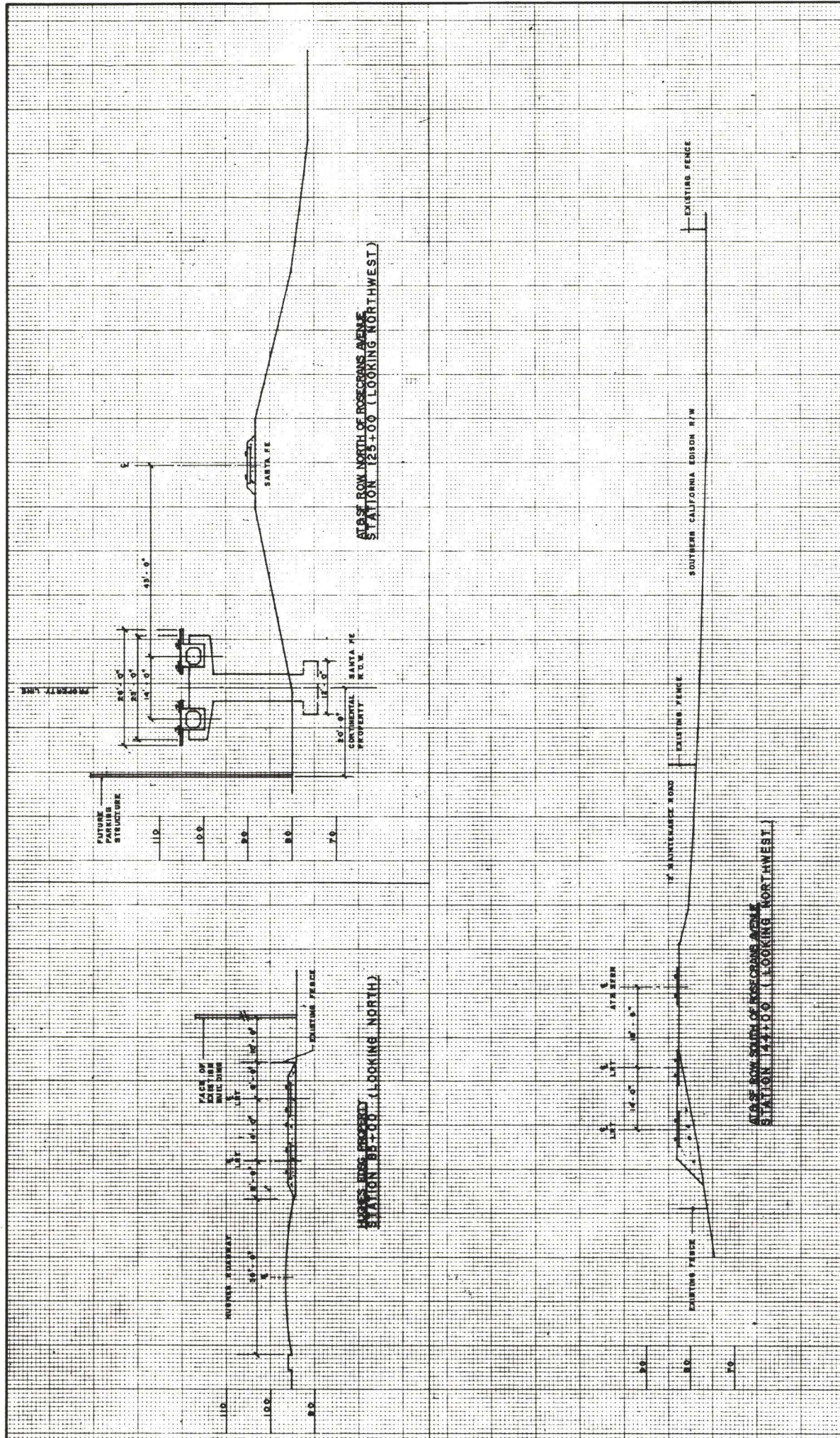
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Century - El Segundo Extension

CROSS SECTIONS

Connett Fleming  
Transportation Engineers, Inc.

Dwg No. CS-2



**LOS ANGELES COUNTY TRANSPORTATION COMMISSION**  
 Century - El Segundo Extension

CROSS SECTIONS

Contract: **Franklin Transportation Engineers, Inc.**

Date: \_\_\_\_\_

Drawn By: \_\_\_\_\_

Checked By: \_\_\_\_\_

Approved By: \_\_\_\_\_

Date: \_\_\_\_\_

Drawn No: **CS-3**

Scale: 1" = 100'

Horizontal: 1" = 100'

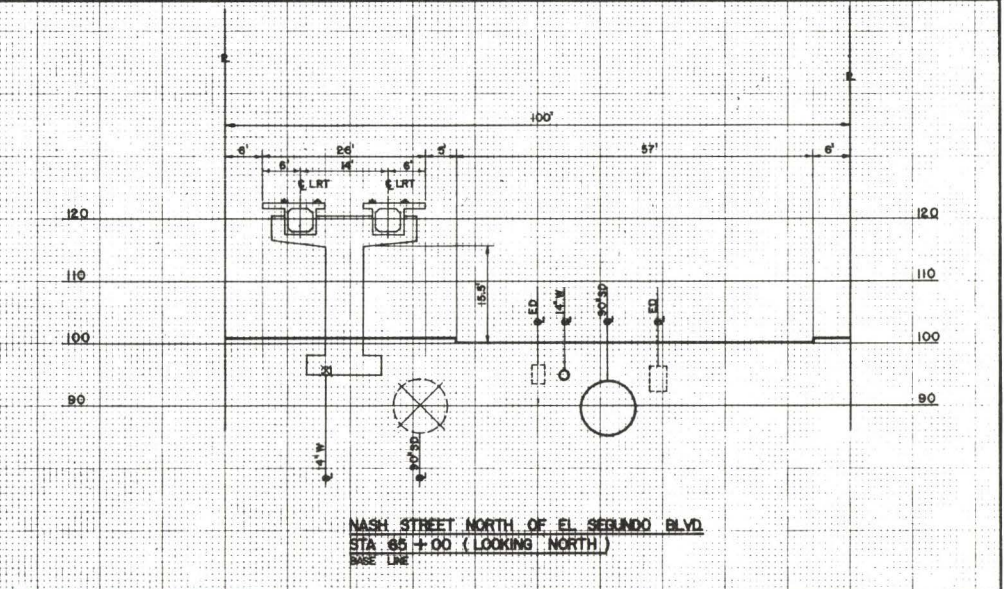
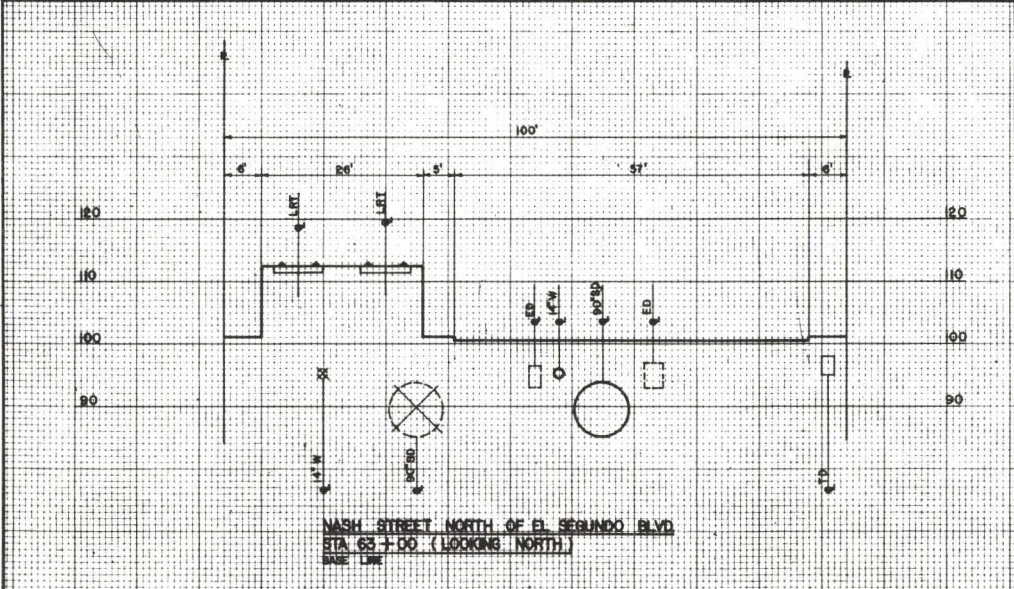
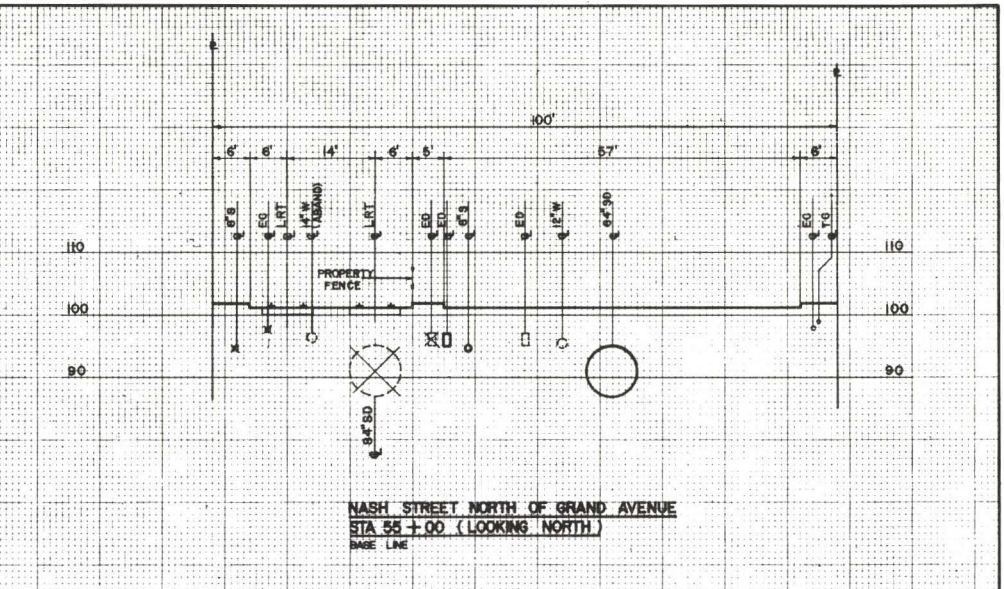
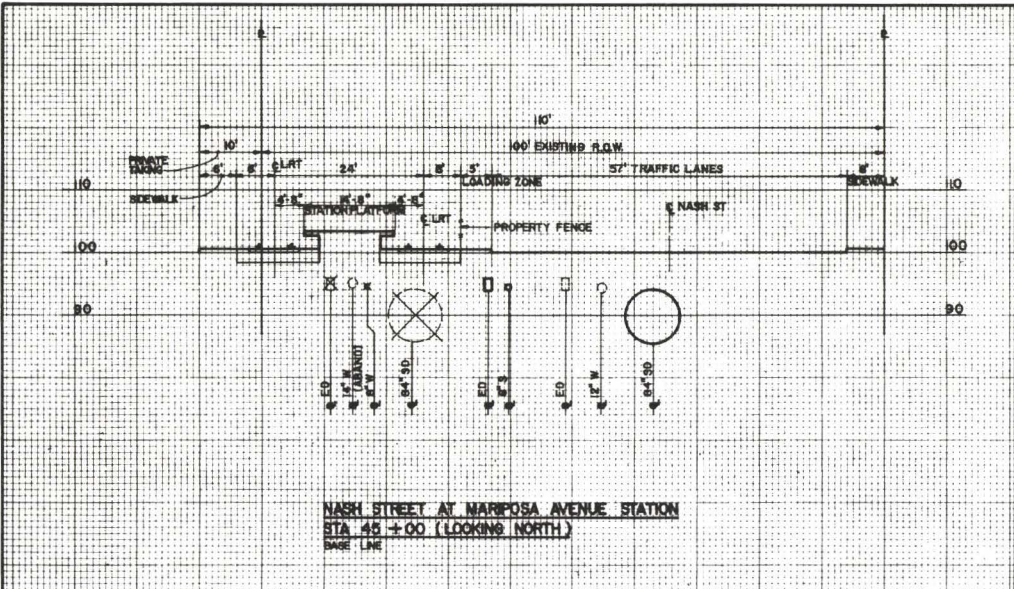
Vertical: 1" = 100'

Drawing No: \_\_\_\_\_

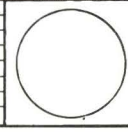
Revision: \_\_\_\_\_

No. \_\_\_\_\_ Date \_\_\_\_\_





NO.	DATE	REVISION	BY	APP	APP



SCALE:  
 HOR. 1" = 100'  
 VERT. 1" = 10'

DRAWN BY: \_\_\_\_\_ CHECKED BY: \_\_\_\_\_ APPROVED BY: \_\_\_\_\_ Date: \_\_\_\_\_

**LOS ANGELES COUNTY TRANSPORTATION COMMISSION**  
 Century - El Segundo Extension

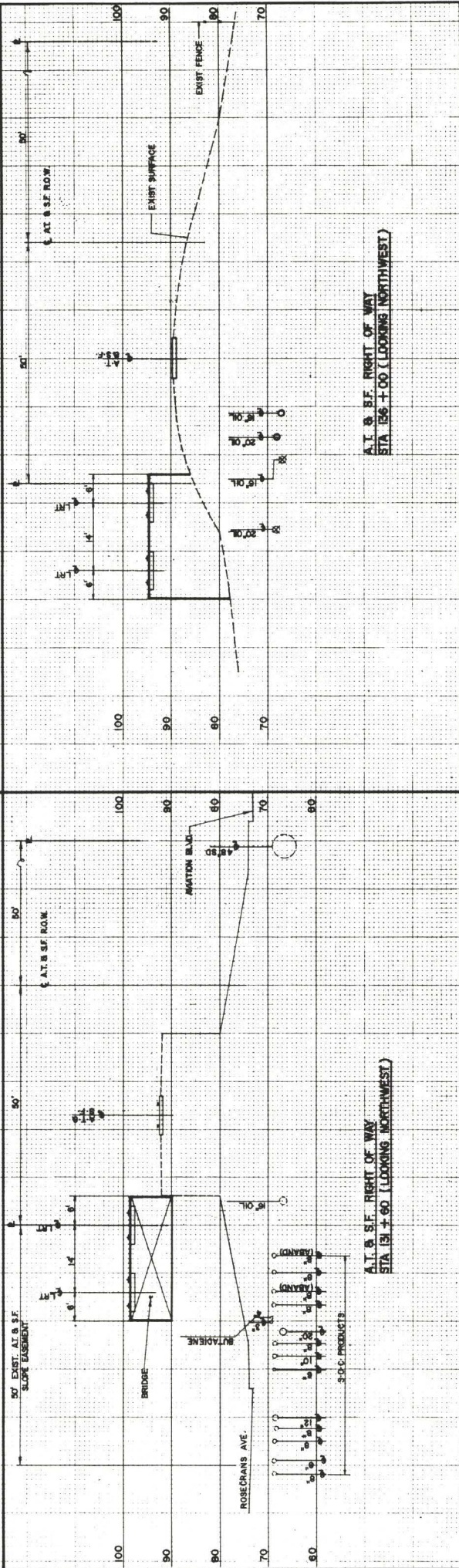
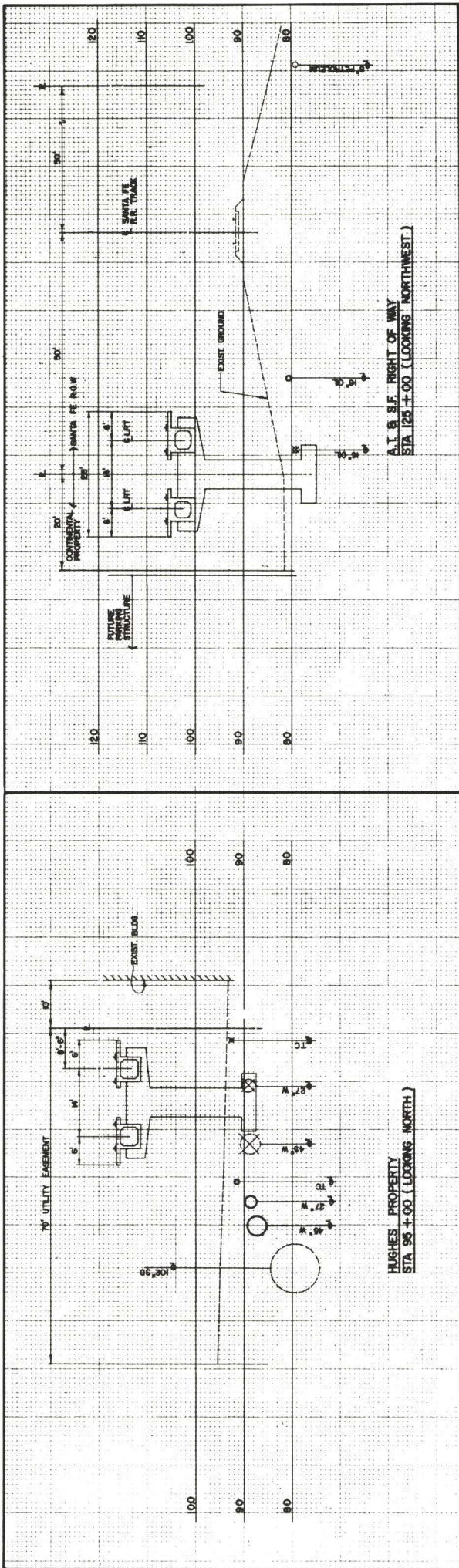
**UTILITY CROSS SECTIONS**

BENTON & BOWLES ASSOCIATES INC.  
 STRUCTURAL & CIVIL ENGINEERS  
 A Professional Corporation of California

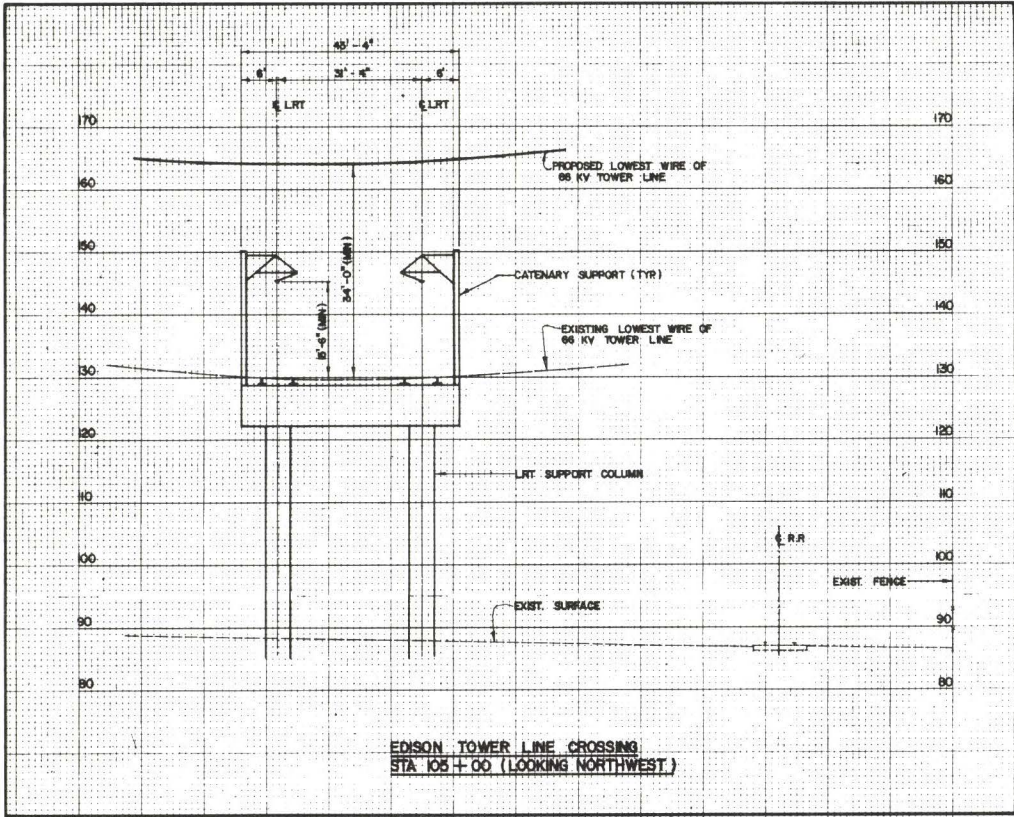
Dwg No. **U-2**



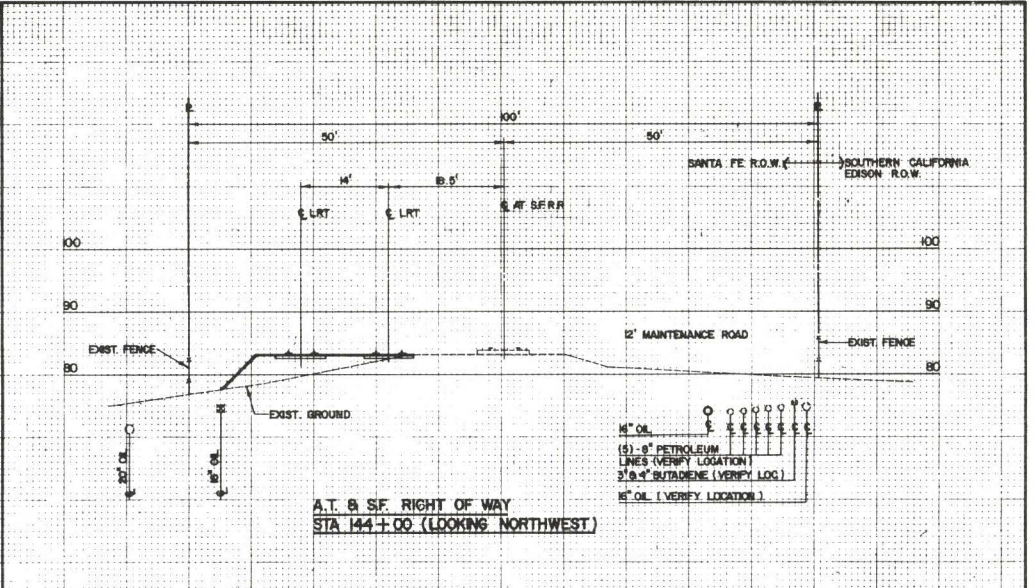




		DRAWN BY: _____ CHECKED BY: _____ APPROVED BY: _____ DATE: _____
NO. DATE REVISION		APP. APP. APP.
LOS ANGELES COUNTY TRANSPORTATION COMMISSION Century - El Segundo Extension UTILITY CROSS SECTIONS BEING FORWARDED TO THE REGIONAL LAND OFFICE A COMMITTEE OF THE		
U-4 DATE: _____		U-4 DATE: _____

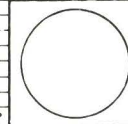


**EDISON TOWER LINE CROSSING  
STA 105+00 (LOOKING NORTHWEST)**



**A.T. & SF. RIGHT OF WAY  
STA 144+00 (LOOKING NORTHWEST)**

NO.	DATE	REVISION	BY	APP	APP



SCALE:  
 HOR. 1" = 100'  
 VERT. 1" = 10'

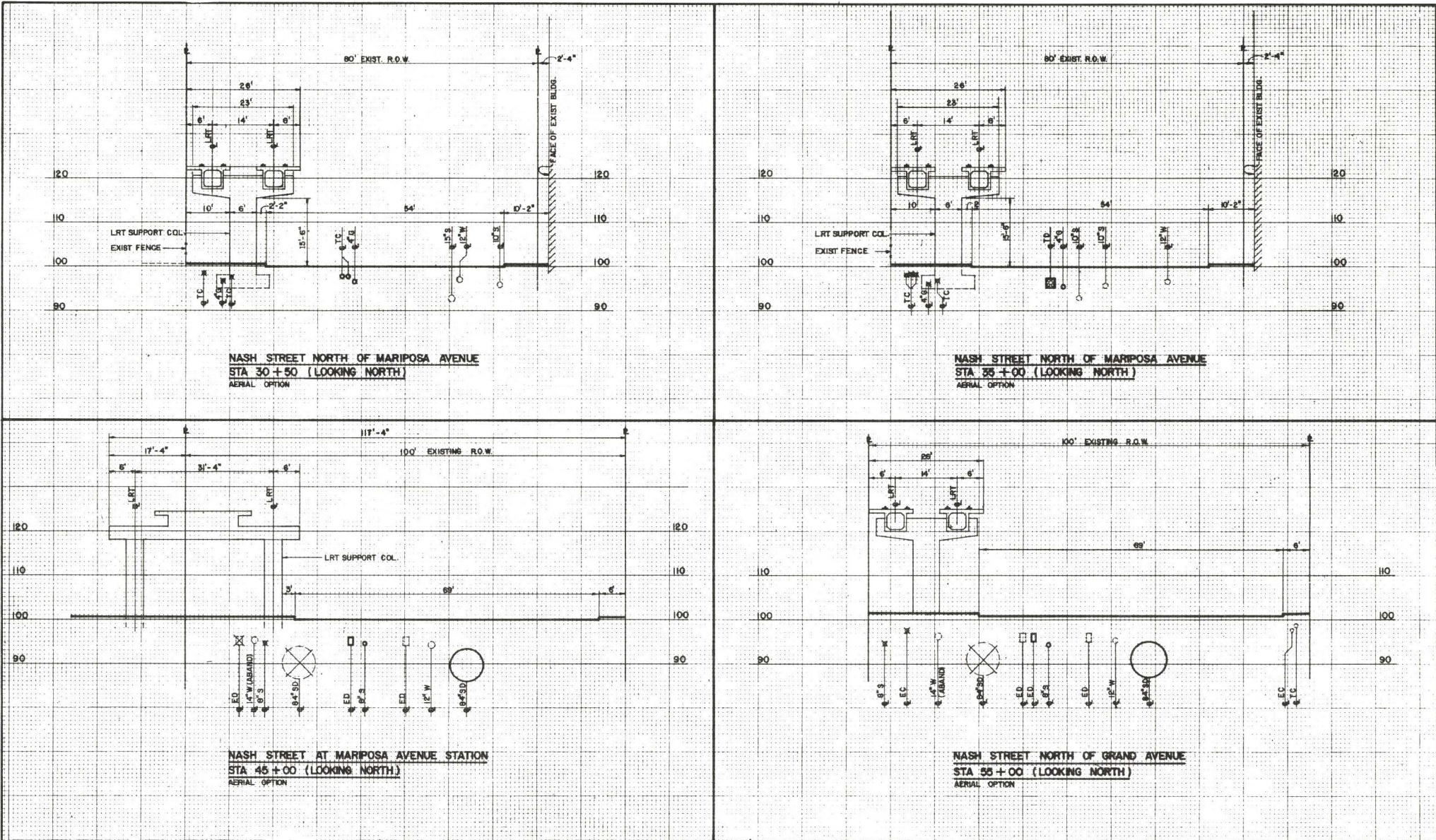
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**LOS ANGELES COUNTY TRANSPORTATION COMMISSION**  
 Century - El Segundo Extension

UTILITY CROSS SECTIONS

**BENTON & BUCKLE ASSOCIATES, INC.**  
 STRUCTURAL & CIVIL ENGINEERS

Dwg No. **U-5**



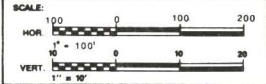
NASH STREET NORTH OF MARIPOSA AVENUE  
STA 30+50 (LOOKING NORTH)  
AERIAL OPTION

NASH STREET NORTH OF MARIPOSA AVENUE  
STA 35+00 (LOOKING NORTH)  
AERIAL OPTION

NASH STREET AT MARIPOSA AVENUE STATION  
STA 45+00 (LOOKING NORTH)  
AERIAL OPTION

NASH STREET NORTH OF GRAND AVENUE  
STA 55+00 (LOOKING NORTH)  
AERIAL OPTION

NO.	DATE	REVISION	BY	APP	APP



DRAWN BY: \_\_\_\_\_ CHECKED BY: \_\_\_\_\_ APPROVED BY: \_\_\_\_\_ Date: \_\_\_\_\_

LOS ANGELES COUNTY TRANSPORTATION COMMISSION  
Century - El Segundo Extension

UTILITY CROSS SECTIONS

BENTON & BOWLES ASSOCIATES, INC.  
STRUCTURAL & CIVIL ENGINEERS

Dwg No. U-6



## 5.2 REFERENCES AND RESOURCES

### Southern California Association of Governments

- \* LAX Area TSM/Corridor Study, February 1984.

### Los Angeles County Transportation Commission

- \* Century-El Segundo Extension Rail Transit Project: Route Refinement Study, September 1985.
- \* Operational Analysis of the El Segundo & Hawthorne Yard Site Alternatives, Manuel Padron & Associates, April 1986.
- \* The Long Beach-Los Angeles Rail Transit Project DEIR, Los Angeles County Transportation Commission, May 1984. (3 volumes)
- \* Design and Performance Criteria, Long Beach-Los Angeles Rail Transit Project, Southern California Rail Consultants.
- \* Reconnaissance Exploration Report - Yard and Shop Site Century-El Segundo Extension Rail Transit Project, LeRoy Crandall and Associates for Southern California Rail Consultants, April 1986.
- \* Noise and Vibration Impact Assessment for the Century-El Segundo Light Rail Extension, Advanced Engineering and Acoustics, April 1986.

### City of Los Angeles

- \* Los Angeles Coastal Transportation Corridor Specific Plan and related DEIR and Community Plan Ammendments, April 1985.

### City of El Segundo

- \* Economic Base Study, Economics Research Associates, May 1983.
- \* Sewer Master Plan, Robert Bein William Frost & Associates, May 1983.
- \* General Plan
- \* El Segundo Traffic Circulation Study Phase 1, ASL Consulting Engineers, 1982
- \* El Segundo Traffic Circulation Study Phase 2, ASL Consulting Engineers, 1982
- \* I-105 Douglas Street Entrance Ramp Alternatives Analysis, DeLeuw Cather and Company, November 1985.
- \* Project EIR's:
  - Continental Grand Plaza, January 1984
  - Parcel Map No. 15115
  - The Grand Way, February 1983
  - Grand Plaza, October 1983
  - Continental Park, Phase V (Screen Draft, March 1986)
- \* Fire Department Master Plan

El Segundo Employers Association

\* Partners in Transportation: 1982/83 Progress Report

City of Hawthorne

\* Hawthorne Redevelopment Project Number 2 FEIR, November 1984.

### 5.3 AVAILABILITY OF THE DEIR

The El Segundo DEIR will be available for public review at the following locations:

1. Los Angeles County Transportation Commission  
403 W. 8th Street, 5th floor  
Los Angeles, CA 90014
2. Weisburn Public Library  
Reference Desk  
5335 W. 135th Street  
Hawthorne, CA 90250
3. Lawndale Public Library  
Reference Desk  
14615 Burin Avenue  
Lawndale, CA 90260
4. Hollypark Library  
Reference Desk  
2150 W. 120th Street  
Hawthorne, CA 90250
5. Hawthorne Main Branch Library  
Government Publications/Reference Desk  
12700 S. Grevillea Avenue  
Hawthorne, CA 90250
6. El Segundo Public Library  
Reference Desk  
111 W. Mariposa Ave.  
El Segundo, CA 90245
7. A.C. Bilbrew Library  
Reference Desk  
150 E. El Segundo  
Los Angeles, CA 90061
8. UCLA  
University Research Library  
405 N. Hilgard Avenue  
Los Angeles, CA 90024
9. Cal State University Long Beach  
Library  
1250 Bellflower Boulevard  
Long Beach, CA 90840

10. Cal State University Los Angeles  
Library  
5151 State University Drive  
Los Angeles, CA 90032
11. California State University Dominguez Hills  
University Library  
ERC-B-320  
Carson, CA 90747
12. Los Angeles County Library  
Government Publications & Pamphlets Order Desk  
7400 Imperial Highway  
Downey, CA 90242
13. City of Los Angeles  
Municipal Reference Desk  
200 N. Main Street, Rm. 530  
Los Angeles, CA 90012
14. University of Southern California  
University Library  
University Park  
Los Angeles, CA 90089
15. Manhattan Beach Public Library  
Reference Desk  
1320 Highland Avenue  
Manhattan Beach, CA 90266
16. Redondo Beach Public Library  
Reference Desk  
2000 Artesia Boulevard  
Redondo Beach, CA 90278
17. El Camino Collego Library  
Reference Desk  
16007 Crenshaw Boulevard  
Torrance, CA 90506



#### 5.4 ORGANIZATIONS AND PERSONS CONTACTED

A number of governmental agencies, businesses, professional groups, community organizations and individuals have been contacted during the course of the Route Refinement and Environmental Review phases of the Century-El Segundo Extension Rail Transit Project. The contacts have included the following:

Aerospace Corporation  
Irv Jones  
Eberhardt Rechten, President  
R.T. Smith  
William Astor

Agbabian Associates  
M.S. Agababian, President

All Air Transport  
Werner Althaus, Vice President

Allen, Bryan

Allied Chemical Corporation  
Industrial Chemicals Division  
J.B. Barnett  
William T. Mason, II

Americana Air Cargo  
Rico Santana, Vice-President

Ametek/Microelectronics Division  
A. Schaff, Jr., General Manager

Ampex Corporation  
Paul Brenia, President

Ancra Corporation  
Paul Brenia, President

Aplan, Stu

Army, Department of  
L.A. Corps of Engineers  
L. Flannery, Operations Branch

Arnold, R.G.

Atchinson, Topeka & Santa Fe  
Al Polich, Regional Engineer  
Q.W. Torpin, General Manager

Barnes Trust

Bay Swiss Manufacturing Co.  
Donald C. Carl, President

Beverly, Robert G.  
State Senator, 29th District

Blakesley, Comstock, Inc.  
Robert W. Comstock  
Dan Crosser

Boldman, Kathleen

Brueck, Donald M.

Bundy Manufacturing Inc.  
William C. Bundy

California Department of Conservation  
Don L. Blabaugh

California, State of  
Department of General Services  
Real Estate Services  
John Nealy

California Regional Water Quality Control Board  
Raymond M. Hertel, Exec. Officer

Carl, Donald & Marceline

Caltrans  
Richard Baker  
Norm Taylor  
Geoffrey Hotchkiss

City of Carson  
Thomas Mills

CCH Computax, Inc.  
Tom Rolfe, President

Chevron Land & Development  
Sepulveda Properties  
Frank Higgins, Project Manager  
Margo Bard  
Allen Swanson

Christensen, L.

Coalition for Rapid Transit  
Abraham Falick

Coalition of Concerned Communities  
Raymond Liccini

Coldwell Banker  
Karen Ackland, Real Estate Manager

Computer Sciences Corporation  
Tom Newman, Director

Consolidated Controls Corporation  
J.A. Fontana, General Manager

Continental Development Corporation  
Richard Lundquist  
Jerry Saunders

Continental Federal Credit Union

401 Coral Association Limited  
Zurich Investment Company

CRC Investments

Creative Webb Systems  
Doug Laidlaw, Jr.

Czuleger, Russell

Dewar, James  
Physician

Dunnolley, Thomas Jr.

Easy Reader  
G. Roth

Edelbrook Corporation  
Victor Edelbrook, Jr., President

Eichstedt, Carol  
El Segundo Chamber of Commerce  
Wesley D. Bush, Manager, VP

El Segundo, City of  
John Allen

Charles Armstrong  
Valerie Burrows

Meryl Edelstein  
William Glickman  
Lynn Harris

Arthur Jones  
Nicholas Romaniello

Keith Schuldt

Larry Sheldon  
George Villegas

El Segundo Employees Association (ESEA)  
Don Camph  
Phyllis O. Stutman

Escal Corporation

Euro-Cal Precision Products, Incorporated  
Gerhard Hardrick, President

Exporters Forwarding Co., Inc.  
Gary Wong, Sales & Operations  
Manager

Facilities Planning  
R.T. Smith

Farr Company  
Rosina Mortensen, Personnel Manager

Farr, R.S. et al

Federal Railroad Administration  
Office of Policy & Plans

Felando, Gerald  
State Assemblyman, 51st District

Florence Levy Trust

Floyd, Richard E.  
State Assemblyman, 53rd District

Gaffney, Suzanne C. & Morgan G.

Gambard, Harold

City of Gardena  
James Cragin  
Gwen Duffy

Gertrude Klein Trust  
Kevin Klein

Glisse, Ruth

Goodlick, William

Gordon Laboratories, Inc.  
President

Griselle, Sherman  
Physician

Grubb & Ellis  
Stanley Klein

Grumman Hill Corporation

Hamre, Rena  
General Manager

Hawthorne, City of  
Betty Ainsworth  
C.W. Bookhammer  
Guy J. Hocker  
Kenneth Jue  
Ginny Lambert  
James Mitsch  
Clint Smith  
Mark Svbotin

Hermosa Beach, City of  
Jane Frater  
George Barks

Hollingsworth-Arnett Company  
Don Arnett

Holly Glen Taxpayers Association  
George M. Walter

Hoffman Associates  
James J. Hank

Hoffman, Harold  
Hoover, Ernest L.

Hughes Aircraft Corporation  
Nancy Bedont  
James Hurt  
Richard Surynt  
Roger Vance

City of Inglewood  
Bruce Smith

Interstate Commerce Commission  
Phillip Yalowitz

Jonas, Allan K.  
Josephson Properties  
Jim Chatterley

Keys, Lucien  
Physician

Kane Kutlery  
John Kane

Kilroy Industries  
John B. Kilroy, Jr. President  
Ralph Murphy  
Judy Starr

Komick, Kenneth J.  
Theodore A. Frederick

H. Kramer & Company  
Philip Deier, Vice-President

Laidlaw, Harold & Helen

Lanz, Heli

Lawndale, City of  
Paul J. Philips, City Manager  
Sarann Kruse  
Nancy Owens  
Harold Hoffman

Lawrence, Robert

Lawrence Sales Company  
Max Lawrence

Leslie, Cherie

Levine, Albert

Levine, Mel  
Congressman, 27th District

City of Lomita  
Hal Croyts

Los Angeles, City of  
Department of Airports  
Planning Department  
Transportation Department  
Joan Flores, Councilwoman

Los Angeles, County of  
Engineering Department  
Fire Department  
Flood Control Department  
Road Department  
Sanitation District  
Sheriff Department

Manhattan Beach, City of  
Steve Lefever  
Janet Dennis

Nash Mariposa Limited

Nelson, Tom  
Nissenson Realty Investments

Northrop Corporation  
J. Michael Hateley, Vice-President  
Tom Obert  
Don Clay

Nu-West, Incorporated  
Micael Poltl, Vice-President

Pacific Bell

City of Palos Verdes Estates  
Ed Ritscher

Park South

Pearson, Phil

Polaroid Corporation  
Roy Norton

Poplin Realty Corporation

Pothaven, Joyce

Practical Packing  
Hans Blom, Manager

Prudential Insurance Company  
Kris Keaton, Investment Manager

Public Utilities Commission  
R.R. Operation & Safety Branch  
Joseph Bodovitz, Exec. Director  
W.L. Oliver, Principal

Rail Pac  
Noel T. Braymer, President

Redondo Beach Chamber of Commerce  
Ernie O'Dell  
Jonathan Bernstein

Redondo Beach, City of  
Timothy Casey  
Barbara Doerr  
Cara Rice  
Myrna Marshall  
Archie Snow

Redondo Beach Shopping Center

Republic Airlines  
Bill Gerrard

Rockwell International Corporation  
Ginger Allen, Director of External Affairs  
Royce Steward, R.E. Administration  
M. Reoch  
Dennis Venning

City of Rolling Hills Estates  
Gordon Swanson  
Nell Mirels

Security Pacific National Bank  
El Segundo Industrial Park Branch

Seiko Time Corporation  
Herbert Pagel, General Manager

Sierra Club, Los Angeles Chapter  
Stephen Kaufman  
Smith, Bruce

Smith & Egan  
Tim Egan

Smith & Howard Associates  
Irv Smith

South Bay Corridor Steering Committee  
Allen Stephenson, Coordinator

Southern California Association of Governments  
Richard Spicer  
Dale Iwai  
David Lee  
Bijan Yarjani

Southern California Gas Company  
Helen Budinger  
P.E. Jonker

Southern California Edison  
Wesley Greenwood  
Don Kincaid  
Larry Jones  
L. James  
Frank Norris  
Jim Abear

Southern California Rapid Transit District  
Sandra Learman  
John Dyer  
Ben Urban

Southern Pacific Transportation Company  
Royce Green

Specialty Forwarding Service  
Richard Beaudet, President

Sperry Corporation  
Joy Ciniero

Sperry Flight System  
E.P. Walker, Manager

Spinnerin Yarn Co., Inc.

Stanley Hart & Associates

Steinmentz Trust

Stocker, Ruth

Tetraflour  
Al Schachter

Thompson, Robert H.

Time Motion  
Dick Carlson, President

Torrance, City of  
Ray Schmidt, Transit Manager  
Mark Wirth

Trade Express, Inc.

Triple B. Packers

TRW, Inc.  
Michael Jackson  
Manager Civic Relations

Curtis R. Tucker, Assemblyman  
50th Assembly District

Wilson, Pete  
U.S. Senator

Tumanjan & Tumanjan Investment Incorporated  
Peter A. Delgado  
Director of Construction

Wislocky, Nickey

United Airlines Kitchen  
Tom Barnes

Wyle Laboratories  
James Bowers, Vice-President  
Business Administration  
Xerox Corporation  
Robert V. Adams

United Enterprises  
James H. Sloey

Zwolinski, Robert S.

U.S.A.F.-6592 Air Base Group  
Public Affairs Office  
Major Cudihee

U.S. Air Force  
Base Exchange & Space Division

U.S. Government  
General Services Administration  
Carol Arnold

Volt Technical Corporation  
Sid Richter  
Kathy Verbiski

Walecka, Carla

Washington, James Jr.

Wassco Group  
Charles Steinmetz

Watson, C.

Watson, Diane  
State Senator  
22nd Senate District  
Lois Hale

Western Metal Decorating Company  
T.H. Peters, President

Mitchel-Wilson, Marion  
California Office of Historic Preservation Department  
of Parks & Recreation  
Acting Chief

## 5.5 LIST OF PREPARERS

### Los Angeles County Transportation Commission

403 West Eight Street

Los Angeles, CA 90014

-Agency responsible for EIR

\*Rick Richmond, Executive Director

\*Paul Taylor, Deputy Executive Director

\*Richard Stanger, Project Director

\*Craig E. Johnson, Rail Development Officer

\*Stephen H. Lantz, Community Relations Manager

### Gannett-Fleming Transportation Engineers

624 South Grand Avenue, Suite 1000

Los Angeles, CA 90014

-Responsible for overall project management and preliminary engineering

\*Walter Marriott III, P.E. Project Manager

\*William Hearne, P.E., Project Engineer

### Gruen Associates

6330 San Vicente Boulevard

Los Angeles, CA 90048

-Responsible for EIR preparation including planning/land use/environmental/traffic analysis and graphics

\*John M. Stutsman, AICP, Vice-President

\*David L. Mieger, AICP, Senior Planner

\*Felicia Stoica, Traffic Impact Analysis

\*Jennifer L. Davis, Planner

\*Michael DeChellis, Renderings

### Benito A. Sinclair & Associates, Inc.

1801 South LaCienega Boulevard

Los Angeles, CA 90035

-Responsible for utility and infrastructure analysis

\*Peter P. Zimmerman, P.E., Senior Project Engineer

### Siegel Sklarek Diamond, A.I.A. Architects

10780 Santa Monica Boulevard, Suite 260

Los Angeles, CA 90025

\*Margot Siegel, AIA











