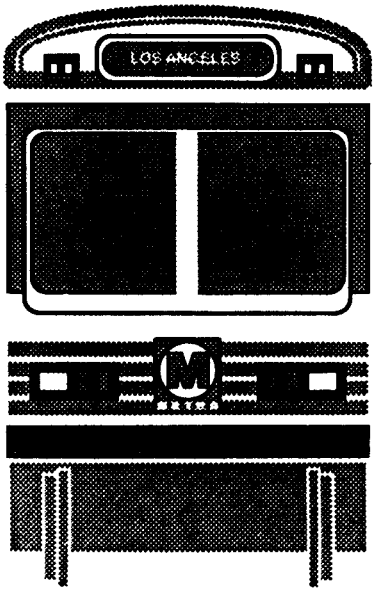
Task Force Review

State Clearinghouse
No. 92101101

DRAFT

metro green line northern extension

SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT



LOS ANGELES
COUNTY
METROPOLITAN
TRANSPORTATION
AUTHORITY

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1.0 INTRODUCTION

1.1 PURPOSE AND USE OF THE SEIR

This Supplemental Environmental Impact Report (SEIR) analyzes the potential environmental impacts that would result from the construction and operation of the Metro Green Line Northern Extension project. The SEIR has been prepared for the Los Angeles County Transportation Commission (LACTC), now a part of the newly formed Los Angeles County Metropolitan Transportation Authority (MTA), in accordance with the California Environmental Quality Act (CEQA) and State CEQA Guidelines, as amended. The LACTC/MTA is the designated lead agency for this project.

The proposed Metro Green Line Northern Extension is the "project" as defined by Section 15378 of the State CEQA Guidelines and is not an exempt specified mass transit project as defined in Section 15275 of the same guidelines. The proposed project is an individual project of a regional transportation improvement as defined in Section 15276. Subsequent discussions will refer to the Metro Green Line Northern Extension as "the project".

The LACTC/MTA, as lead agency, has determined that the project may have a significant impact on the environment and, therefore, directed the preparation of this SEIR. The LACTC/MTA prepared an Initial Study which indicated the issue areas that are to be analyzed in the SEIR. Following the completion of the Initial Study, a Notice of Preparation (NOP) was submitted to all identified responsible agencies. The Initial Study and NOP are provided in Appendix A.

The purpose of this SEIR is to provide a full disclosure informational document that will inform the lead agency, responsible agencies, decision makers, and the general public of the environmental effects of the proposed project. This report discusses the potential significant effects of the project on the aspects of the environment identified in the Initial Study, evaluates alternatives to the project, and identifies measures that would be effective in reducing or avoiding significant adverse impacts.

The implementation of this project will require a number of discretionary actions to be taken by the LACTC/MTA and other responsible agencies. The following responsible agencies may use the SEIR in the issuance of permits, approvals, or cooperative agreements required to implement the project.

- Federal Aviation Administration
- California State Department of Transportation
- City of Los Angeles
- Interstate Commerce Commission
- Public Utilities Commission
- Los Angeles Department of Water and Power
- Los Angeles Department of Airports

1.2 SEIR FOCUS AND EFFECTS FOUND NOT TO BE SIGNIFICANT

The Initial Study indicated the issue areas that may be adversely affected by the construction and/or operation of the Metro Green Line Northern Extension. This SEIR will analyze the project's potentially significant environmental effects identified in the Initial Study. An NOP, which indicated the scope of the analysis, was circulated to all identified responsible agencies. Based on the results of the preliminary environmental assessment prepared for the Initial Study and the NOP, LACTC/MTA determined that the analysis should focus on the issues indicated in Table 1-1.

The preliminary environmental analysis prepared as part of the Initial Study also identified a number of environmental effects found not to be significant. The assessment found that the project would not result in any significant impacts on water, natural resources, recreation, and human health; therefore, these issues are not discussed in detail in the SEIR.

TABLE 1-1

FOCUS OF ENVIRONMENTAL ANALYSIS

Issue Area	Section of EIR
Land Use/Relevant Planning Programs and Policies	5.1
Transportation and Circulation	5.2
Geologic and Hydrologic Resources	5.3
Air Quality	5.4
Biological Resources	5.5
Noise and Vibration	5.6
Population and Housing	5.7
Public Services	5.8
Aesthetics	5.9
Light and Glare/Shade and Shadow	5.10
Recreation	5.11
Cultural Resources	5.12
Energy	5.13
Airport Operations	5.14
Risk of Upset	5.15
Construction Impacts	5.16

1.3 PUBLIC REVIEW PROCESS

The LACTC/MTA is committed to providing public involvement in the environmental review process for the Metro Green Line Northern Extension.

The public has the opportunity to review and comment on the Draft SEIR through a 45-day review period established by the State Office of Planning and Research. During this review period, the LACTC/MTA will also conduct a public hearing at which time public testimony will be taken concerning the adequacy of the Draft SEIR.

The preparers of the Draft SEIR are required to respond, in writing, to significant comments received from both citizens and public agencies. The comments and the responses to comments will be included in the Final SEIR prepared after the public circulation period for the Draft SEIR has ended.

2.0 PROJECT HISTORY

2.1 INTRODUCTION

The project is envisioned to be a component of an east-west light rail transit line connecting Norwalk on the east and El Segundo on the west. The east-west line would intersect with a north-south busway facility on the Harbor Freeway and the Blue Line between Los Angeles and Long Beach (Figure 2-1).

The Metro Green Line Northern Extension, which is the subject of this SEIR, is a component of the larger Coastal Corridor-Northern Segment project which has previously been studied (Coastal Corridor Rail Transit Project-Northern Segment, Draft Environmental Impact Report, LACTC, 1989), incorporated by reference. This section includes a summary of the history of the project, including the alternatives that have been analyzed previously. The referenced documents should be consulted for more detailed information.

2.2 PROJECT PLANNING

The corridor was identified as a potential rail transit corridor in the Proposition A network that was approved by Los Angeles County voters in November 1980. The Proposition A transportation network provided the framework for the LACTC Rail Implementation Strategy developed in 1983.

A route refinement study of the Coastal Corridor-Northern Segment was undertaken by LACTC, and the results were documented in a report entitled Coast Route Refinement Study, Century Freeway to Marina Area (LACTC, 1984). The rail alignment that resulted from that study was referred to in the Los Angeles City Coastal Corridor Transportation Specific Plan for purposes of reserving the physical requirements for the route, and establishing eligibility for use of specific plan funds in conjunction with rail transit projects.

A second study was completed in 1988 (Coastal Corridor Rail Transit Project-North Segment Initial Alternatives Evaluation Report (LACTC)). The purpose of that analysis was to develop and evaluate potential route alignment alternatives in the corridor. Several alternatives were evaluated taking the following factors into consideration:

- Comments and concerns of the Federal Aviation Administration (FAA); City of Los Angeles Departments of Transportation and Airports; State of California Department of Transportation (Caltrans); the Atchison, Topeka and Santa Fe (AT&SF) Railroad; LACTC staff; and other parties.

- Review of development plans for roadways and facilities in the area and coordination with the consultants designing these projects.

- Review of the North Outfall Replacement Sewer project.

- Research and analysis of existing geotechnical and hazardous waste data.

- Research of existing utility and structure foundation locations.

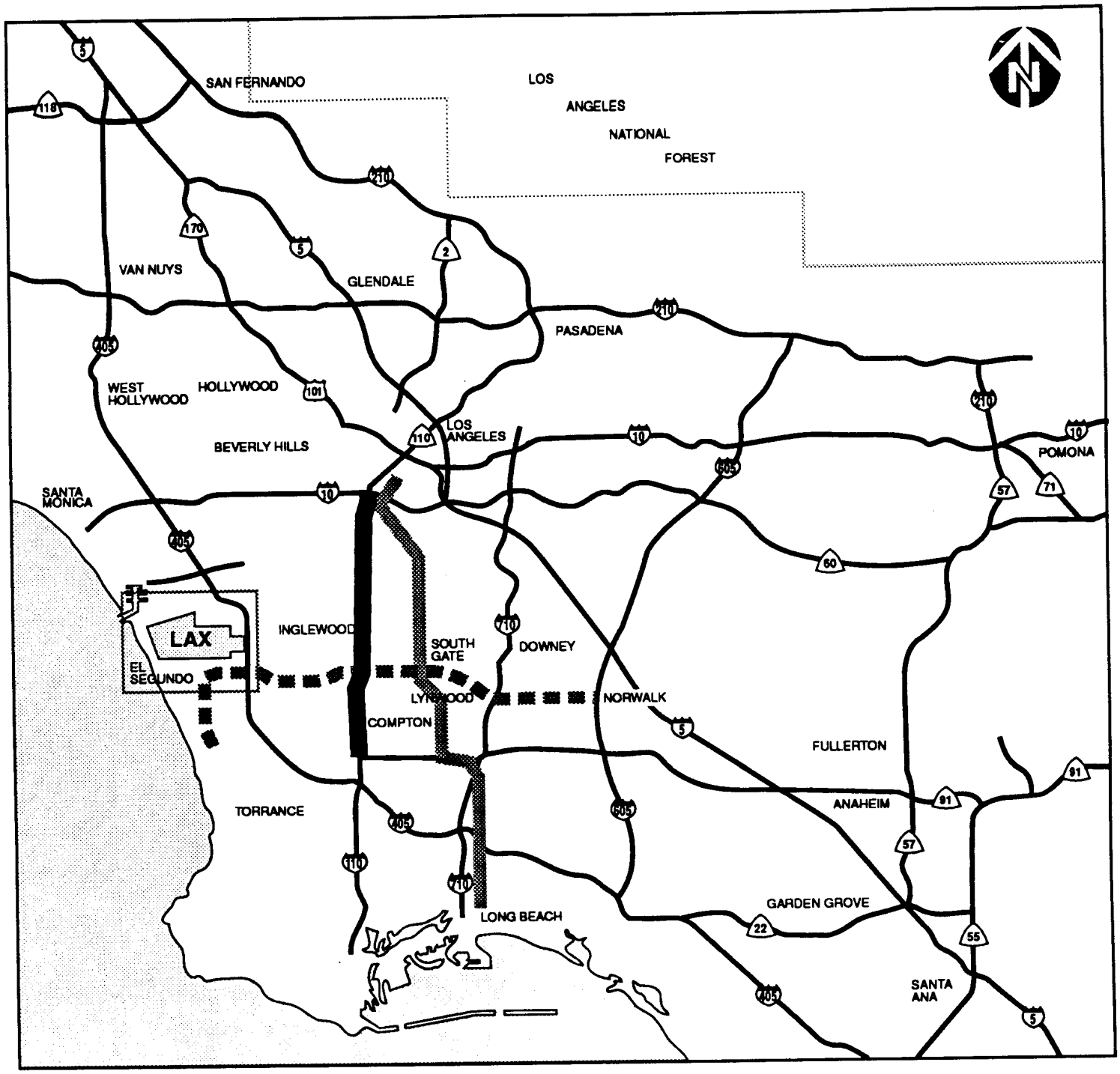

Figure 2-1
INTERFACE WITH OTHER MAJOR TRANSIT FACILITIES

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- Analysis of ridership experienced at some major airports accessed by rail transit.
- Review of FAA clearance restrictions.
- Comments from the community and elected officials.

Based on these factors, the LACTC selected a light rail transit alignment (along with two other alternatives which provided variations to the preferred alignment) and the No-Project Alternative for environmental analysis pursuant to CEQA. These alternatives were assessed in the Coastal Corridor Rail Transit Project-Northern Segment Draft and Final EIRs, prepared in January and August 1989, respectively.

The Northern Segment rail line would provide interline service with the Metro Green Line Norwalk to El Segundo rail project (now under construction). The alignment in the EIR is proposed to connect with the Aviation/Imperial Station of the Norwalk to El Segundo rail line on the south end and terminate near Culver Boulevard and the Marina Freeway intersection on the north end. Six stations were proposed: Century (Century Boulevard at Airport Boulevard); Los Angeles International Airport (LAX) Parking Lot C; Westchester (Westchester Parkway and Sepulveda Westway); Manchester (Lincoln Boulevard at La Tijera Boulevard); Jefferson (near Jefferson and Lincoln Boulevards); and Marina del Rey (Culver Boulevard near Lincoln Boulevard). The project examined in that EIR was proposed to be mostly on aerial structure. However, at-grade facilities were proposed adjacent to Aviation Boulevard within the LAX runway protection zones for runways 25L and 25R; and a subway was recommended for the segment along Lincoln Boulevard between Loyola Boulevard and Hughes Terrace.

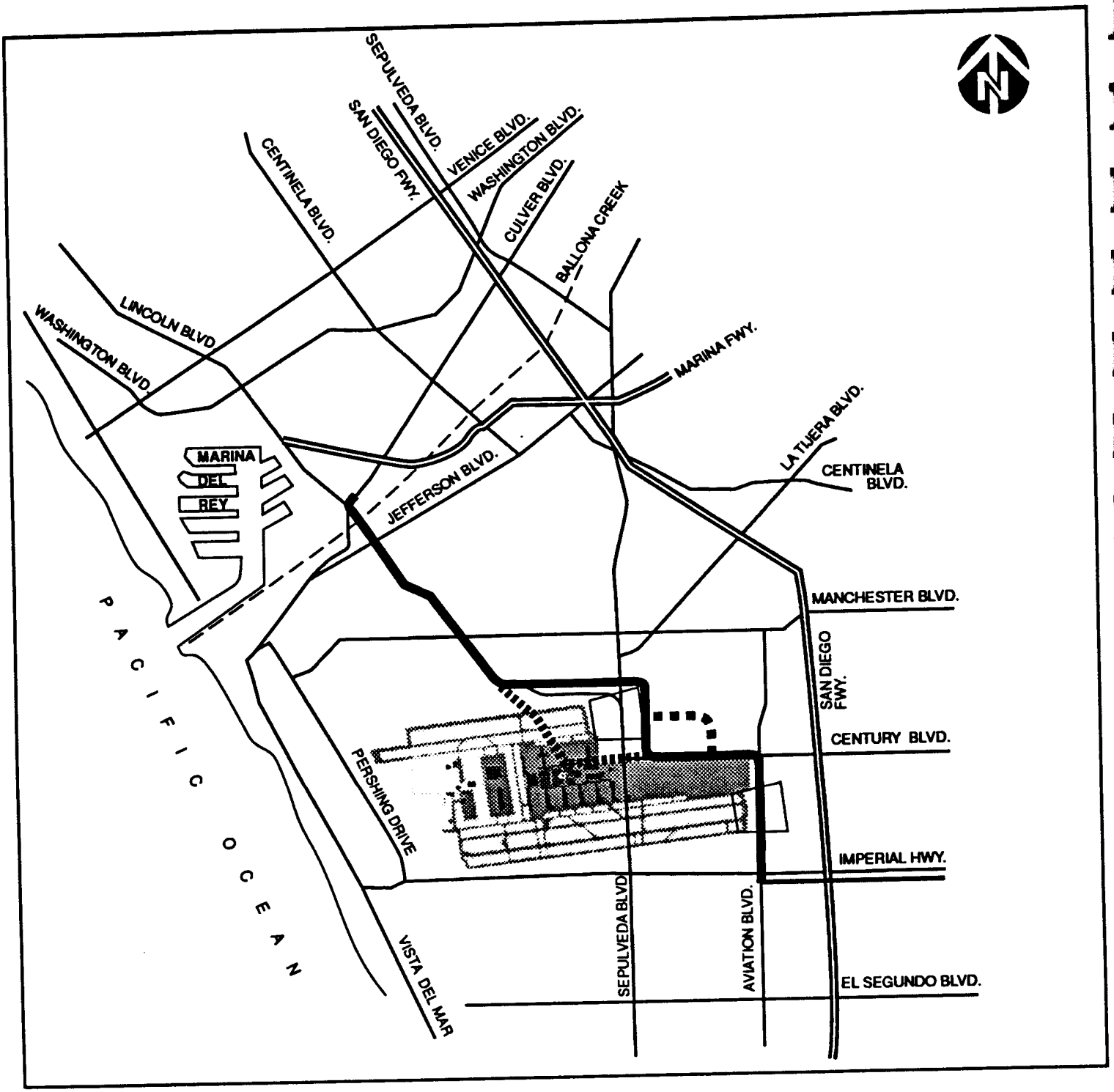
Figure 2-2 displays the preferred alignment and alternatives which were examined in the Coastal Corridor Rail Transit Project-Northern Segment EIR. As a result of the evaluation of alternatives, a preferred alignment was selected (see Figure 2-2).

Alternative 2, LAX Terminal Station, was not the preferred alignment because it would not serve the Westchester Community and because the costs of this alternative would be much higher due to the additional tunneling required through LAX. In addition, Alternative 2 could present major utility conflicts and could encounter significant contaminated sites and minor subsidence of the LAX runways it crosses beneath.

Alternative 3 was rejected because it would disrupt loading dock operations at the Worldway Postal Center and would have poor horizontal geometry due to three tight radius curves that would create construction difficulties, slow operations, and increase maintenance costs. The aerial crossing of the Airport/Century intersection would be expensive, and the two common stations, Century and LAX/Lot C, would be better served by the preferred alignment.

2.2.1 The Need to Revise the Preferred Alignment

Since the completion of the CEQA process for the Coastal Corridor-Northern Segment project, it has been determined that the portion of that project between the Metro Green Line Aviation/Imperial Station and Westchester Parkway will need to be revised (the remainder of the Coastal Corridor-Northern Segment from Westchester Parkway to Marina



NOT TO SCALE

LEGEND

- Preferred Alignment
- Alternative 2
- Alternative 3

Figure 2-2

BUILD ALTERNATIVES CONSIDERED IN THE COASTAL CORRIDOR RAIL TRANSIT PROJECT-NORTHERN SEGMENT EIR

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del Ray remains unchanged). The revisions are addressed because of concerns about the possibility of electromagnetic interference of the Metro Green Line vehicles and overhead contact system (OCS) with airport navigational aids and the intrusion of the rail guideway and OCS into the runway protection zones for runways 25L and 25R.

To address possible revisions to the project, a multi-agency group (the LAX Interagency Transit Study Task Force) was convened in August 1991 to study additional feasible rail alternatives within the subject segment which address the unresolved airport issues. This Task Force included representatives from: LACTC/MTA, City of Los Angeles (Mayor's Office; Councilwoman Ruth Galanter's Office; and Departments of Airports, Transportation, and Planning), Office of County Supervisor Deane Dana, Caltrans, Southern California Rapid Transit District (SCRTD) (now also a part of the MTA), and the FAA. Minutes of the Task Force meetings are available for inspection at the LACTC/MTA offices.

At the outset, the Task Force determined that the entire area west of I-405 between the Aviation/Imperial and Westchester Stations of the Metro Green Line should be examined for feasible alignments and alternative vehicle technologies. Two basic classes of technologies were considered including linehaul (e.g. light rail and heavy rail) and people movers (e.g., steel wheel and rubber tire).

Six basic alignment options were developed and evaluated by the Task Force (Figure 2-3). A summary of each option follows:

- Option 1 (Metro Green Line Subway to Westchester) - The Metro Green Line technology would be used on an alignment that would follow Aviation Boulevard in an aerial alignment until 111th Street where it would descend into subway along the end of the south runway, curving in a northwest direction toward Century Boulevard, from there it would turn north to a subway station in Lot C, then continue in subway to 89th Street, with a subway station in the parking lot east of Sepulveda Westway. The airport Central Terminal Area (CTA) would be served via a Lot C connection to the LAX people mover.

- Option 2 (Metro Green Line Subway to Lot C). This is a variation of Option 1; however, the Metro Green Line would terminate at a subway station in Lot C. The CTA would be served via a LAX people mover system which could connect to the Metro Green Line at Lot C. The people mover would continue on to the Westchester CBD, with an aerial people mover station in the parking lot west of Sepulveda Eastway.

- Option 3 (Metro Green Line To Lot B). This alignment would be on an aerial structure. The Metro Green Line would follow Aviation Boulevard until it reaches 111th Street where it would turn and run east along the north side of the street where it would terminate mid-block at a station in Lot B. A people mover system would continue from that point east along 111th Street until roughly parallel with the edge of the runway protection zone, turn north through Lot B (just outside the runway protection zone), through several parking lots, curving to align due north along the west side of Concourse Way, turning west along the south side of Century

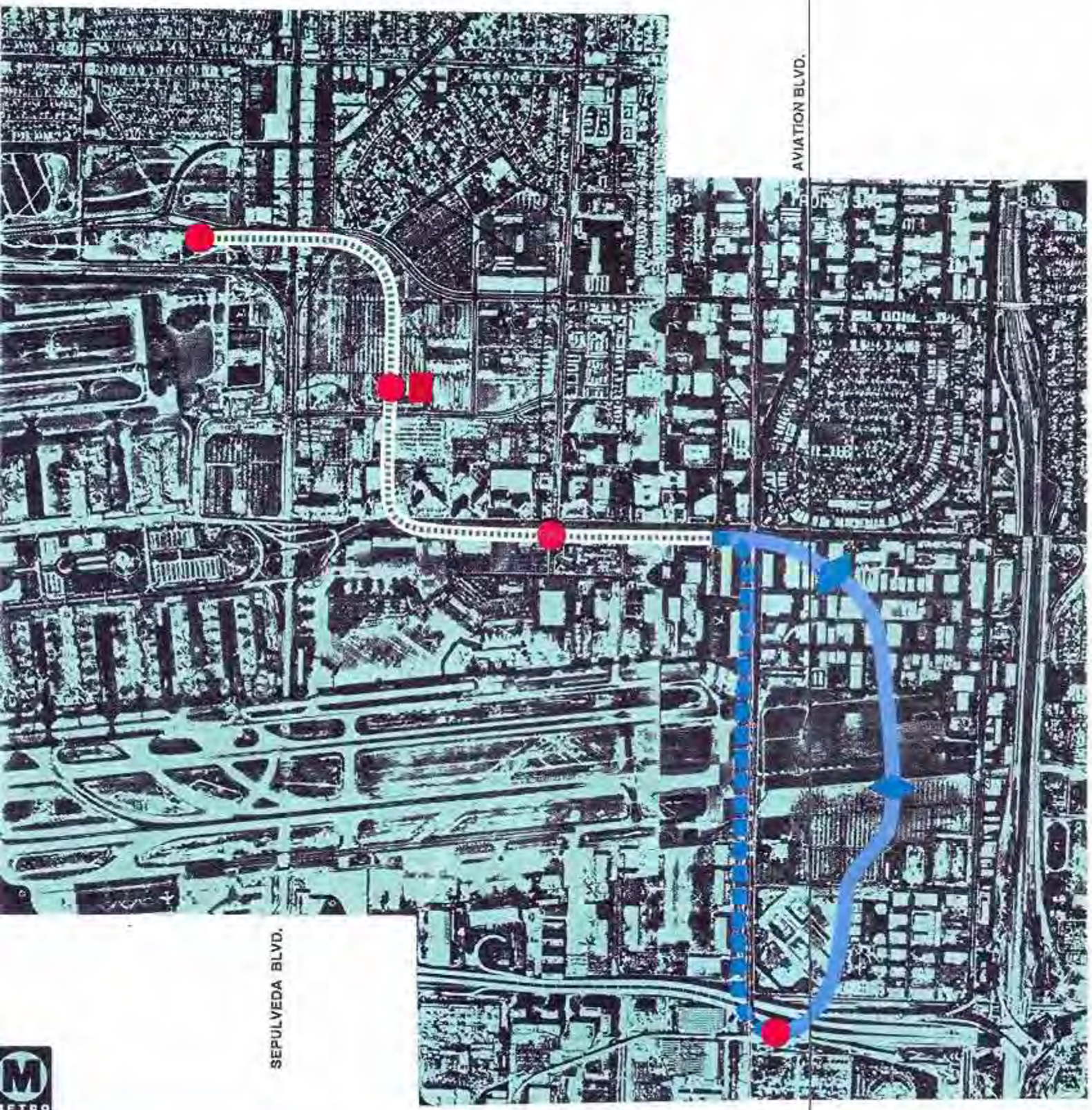

Figure 3-2
RAIL ALTERNATIVES

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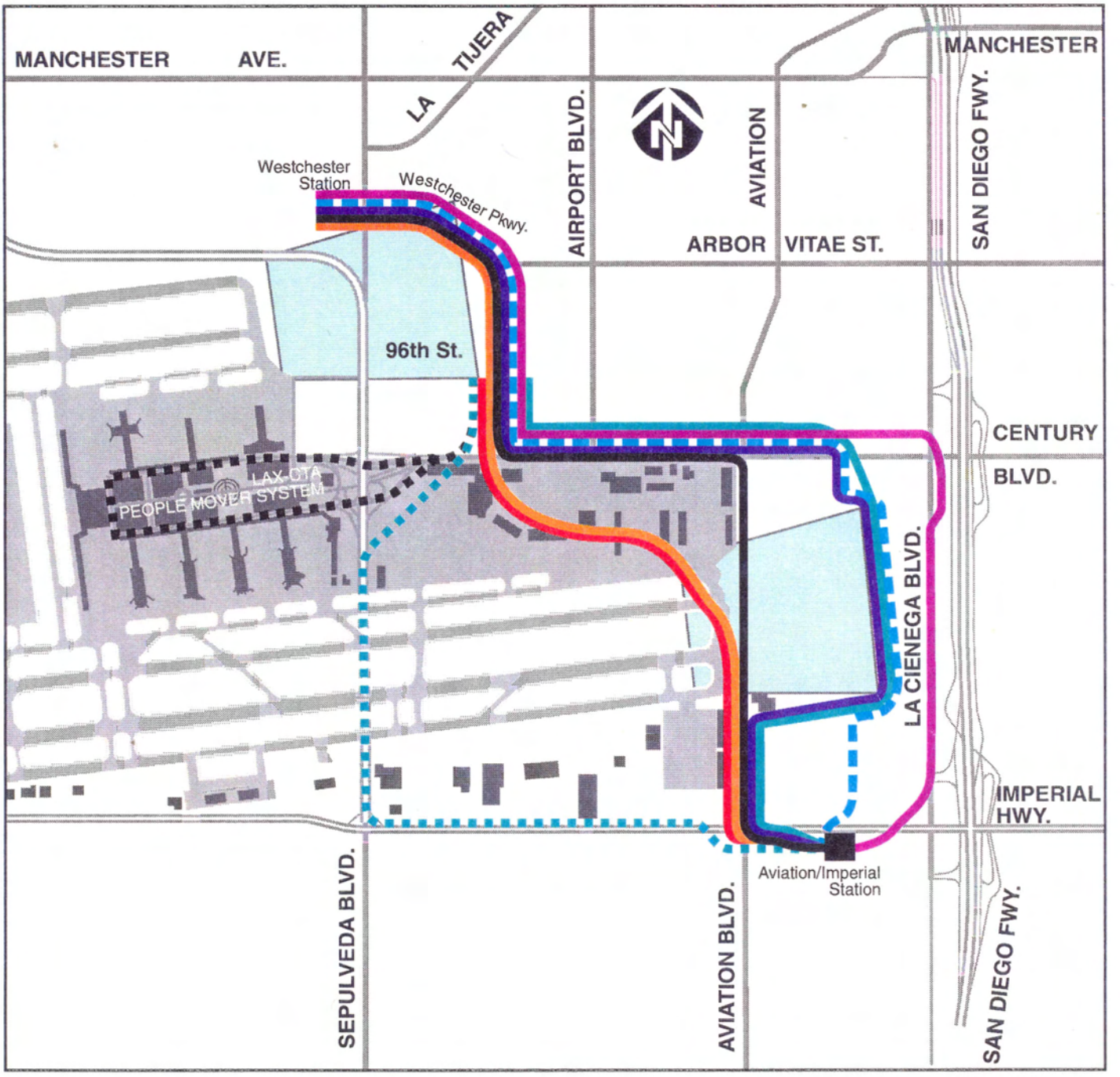

LEGEND

- Mitigated EIR (Option A)
- Metro Green Line Subway to Westchester (Option 1)
- Metro Green Line Subway to Lot C (Option 2)
- Metro Green Line to Lot B (Option 3)
- Metro Green Line to Lot C (Option 4)
- People Mover Thru Lot B (Option 5)
- People Mover Thru Lot B with Future EIR Metro Green Line to Lot C (Option 5-RG)
- People Mover on La Cienega (Option 6)
- LAX-CTA People Mover
- Airport Clear Zones

Figure 2-3

LAX TRANSIT STUDY TASK FORCE ALTERNATIVES

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to join the EIR-approved alignment west of Aviation Boulevard to Westchester Parkway where the alignment would cross north into the parking lot west of Sepulveda Eastway, turn west along 89th Street, with a station in the parking lot east of Sepulveda Westway. The people mover would continue into the CTA.

- Option 4 (Metro Green Line Through Lot C) - The Metro Green Line would follow an alignment similar to Option 3 through LAX Lot B and terminate at LAX Lot C, where it would connect to the LAX people mover. The LAX people mover would connect Lot C and the CTA, and would provide service to Westchester.

- Option 5 (People Mover Through Lot B) - The LAX people mover would connect to the Metro Green Line at the Aviation/Imperial Station and provide service to the CTA, Lot C and Westchester in an alignment somewhat similar to Option 3. A possible long-term version of this option (Option 5-RG) would extend the Metro Green Line west to Sepulveda and then north (in subway) to connect to the proposed LAX-Palmdale high-speed line at Lot C, if this location is chosen for the south terminus of that line.

- Option 6 (People Mover on La Cienega) - The people mover would connect to the Metro Green Line at Aviation/Imperial Station and extend in an aerial alignment north along La Cienega Boulevard to Century Boulevard. The people mover would continue along the south side of Century Boulevard in a westerly direction to a point west of Aviation Boulevard where it would turn north through Lot C. The alignment would continue in a northwesterly direction along Westchester Parkway and terminate at the proposed Westchester Station.

- Option A (Mitigated EIR) - This is a modification of the Aviation/Imperial to Westchester segment of the alignment proposed in the Coastal Corridor Rail Transit Project - Northern Segment EIR. However, the portion of the alignment which goes through the runway protection zone for runways 25L and 25R would be put in subway (instead of at-grade) to avoid conflicts with aircraft operations. A people mover would run from Lot C to the CTA. Either the Metro Green Line or the LAX People Mover would continue to Westchester.

As a result of the public participation process and agency/Task Force review, three alternatives were selected for further analysis: Options 4, 5 and A. These options were determined to be the options that best meet the goals and objectives of the project.

2.2.2 Need for a Supplemental EIR

Because the portion of the alignment between the Aviation/Imperial and Westchester Stations would change significantly from that assessed in the previous EIR, a Supplemental EIR is necessary pursuant to CEQA. Because no modifications are anticipated for the remainder of the alignment (between Westchester and Marina del Rey), the environmental clearance on that portion of the alignment remains valid. However, at present, the construction of this segment is uncertain.

In early 1992 the LACTC/MTA, based on recommendations of the Task Force Policy Group, authorized further environmental review of Options 4, 5 and A, including an analysis of light rail vs. people mover technology, alternative locations for a multi-modal

transportation center (MTC), a no project alternative, and an expanded "bus service" alternative providing the transit connection to the airport's ground transportation center.

A study was conducted during the early stages of the SEIR process which examined three options for the location of the MTC: LAX Lot B, LAX Lot C, and the Aviation/Imperial Station. Since Lot B was being considered as a potential site for the MTC, the Task Force Policy group recommended elimination of Option 4 (Metro Green Line Through Lots B and C) since the purpose of an extension of the Metro Green Line would be to serve the MTC and building only a short segment northward from Aviation/Imperial Station to Lot B would not be cost-effective. LACTC.MTA subsequently decided to drop Option 4 from further consideration.

The MTC study was then completed, and based on the results of that study, the Task Force decided to drop the LAX Lot B and the Aviation/Imperial Station options for the MTC. The Aviation/Imperial Station location was eliminated for several reasons. This site is constrained due to the location of the surrounding streets, the proposed Caltrans maintenance facility to be constructed adjacent to this site, and the Glenn Anderson Freeway crossing over the site with its supporting columns. The site constraints result in an inability to provide an adequate number of bus bays for the MTC and severely reduce the number of parking spaces which could be built to accommodate the Aviation/Imperial Station (now under construction) parking requirements. The design of the MTC at this location would also result in potential conflict points at the driveway entry/exit points and where buses would have to cross bus lanes operating in the opposing direction. The lack of a secondary entrance/exit point to the site and the sharing of the primary entrance/exit with auto traffic are other problems with the site. In addition, the proposed LAX to Palmdale rail line (if it is built) would serve the MTC. This line would need to pass over the proposed Caltrans facility and would conflict with the planned regional warehouse and fuel island. A number of homes are also located on the south side of 116th Street. The noise from idling buses loading and unloading passengers in the bays could be annoying to nearby residents, especially at peak times unless abatement, such as a noise wall, is provided.

The Lot B option for the MTC was also dropped from further consideration. Significant impacts on aeronautical operations could occur if the proposed LAX to Palmdale rail line is routed into Lot B because of its proximity to the runway protection zone. In addition, the main objective of the MTC is to bring together the three rail modes (people mover, LAX to Palmdale, and Metro Green Line) and the public transit buses to provide interconnection. This criterion would not be met because an extra transfer would be required via the people mover for passengers transferring between the LAX to Palmdale line or the public transit buses and the Metro Green Line.

Therefore, this SEIR provides an assessment of two rail alternatives (Options 5 and A), an expanded "bus service" alternative, a no project alternative, and the MTC at Lot C. Section 3 provides a detailed description of the proposed rail and bus alternatives and the planned MTC.

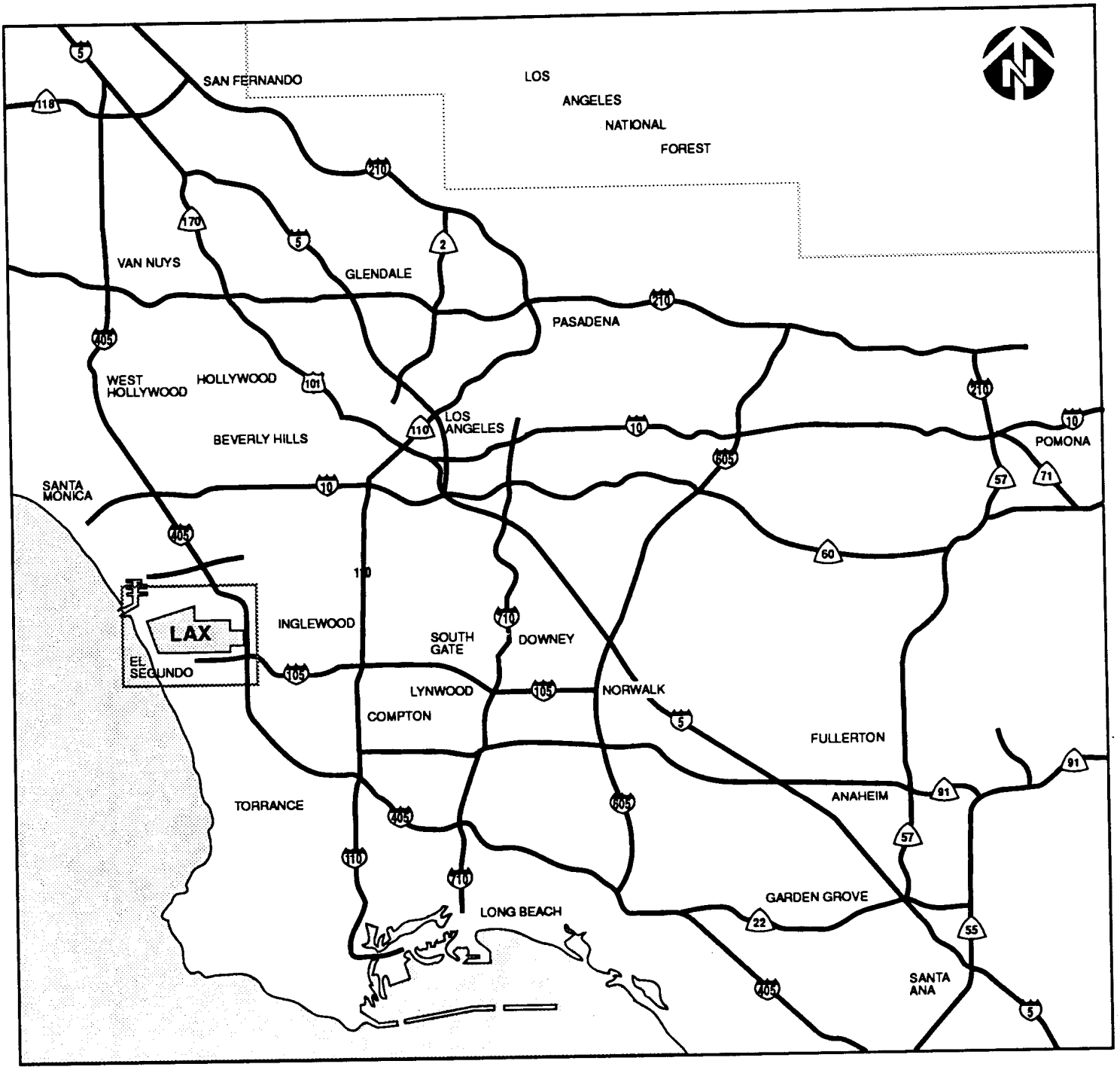
3.0 PROJECT DESCRIPTION AND ALTERNATIVES CONSIDERED

The purpose of the project, alternatives considered, and construction techniques are described in this section.

3.1 PROJECT LOCATION AND PURPOSE

The project area is located in the western portion of Los Angeles County near Los Angeles International Airport (Figure 3-1). The project would begin at the Aviation/Imperial Station (now under construction as part of the Metro Green Line from Norwalk to El Segundo) and would extend north and west for approximately three miles to the proposed Westchester Station along Westchester Parkway near Sepulveda Westway. Another option being explored is the possibility that the project would terminate on the north end at LAX Lot C instead of extending to Westchester.

The line would operate either as a direct extension of the Metro Green Line or as an extension of the proposed LAX people mover. The project would be funded by the LACTC/MTA and/or the Los Angeles Department of Airports (DOA), depending upon the alternative selected. One of the major goals of the project is to provide an interconnection between the regional rapid transit system and the planned CTA people mover system proposed by DOA. The LAX CTA people mover system is planned to facilitate the movement of airline passengers between terminals, two airport parking lots, and the proposed ground transportation center. The LAX ground transportation center would be located in LAX Lot C and will be designed to: consolidate airport rental car facilities and shuttle van services; provide an auto drop-off/pick-up location outside the CTA; and connect to the LAX people mover. In addition, there would be a multi-modal transportation center (proposed by the LACTC/MTA). The MTC would bring together the LAX people mover, the Metro Green Line LRT, the LAX to Palmdale high speed line (if and when it is built), and local and regional bus service. The MTC will be co-located with LAX's ground transportation center. The LAX CTA people mover and ground transportation center will be assessed in a separate Environmental Impact Report (EIR) to be prepared by DOA. The northern extension of the rail line between the Aviation/Imperial Station and Westchester Parkway or Lot C as well as the MTC are assessed in this SEIR. Coordination with the DOA has been undertaken with regard to its planned CTA people mover and ground transportation center.



SCALE IN MILES
0 1 2 10

Figure 3-1
PROJECT LOCATION

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3.2 DEFINITION OF ALTERNATIVES

Four alternatives are assessed in this SEIR. They include the No-Build, All-Bus, Metro Green Line Along Aviation Boulevard, and People Mover Through LAX Lot B Alternatives. Figure 3-2 displays the study area and both rail alternatives being considered.

3.2.1 No-Build

CEQA requires that a no-project alternative be evaluated. The No-Build alternative assumes only the current construction of the Metro Green Line LRT near the periphery of LAX at the Aviation/Imperial Station. No transit service improvements would be designed to serve Metro Green Line passengers destined for the LAX terminal area.

3.2.2 All-Bus

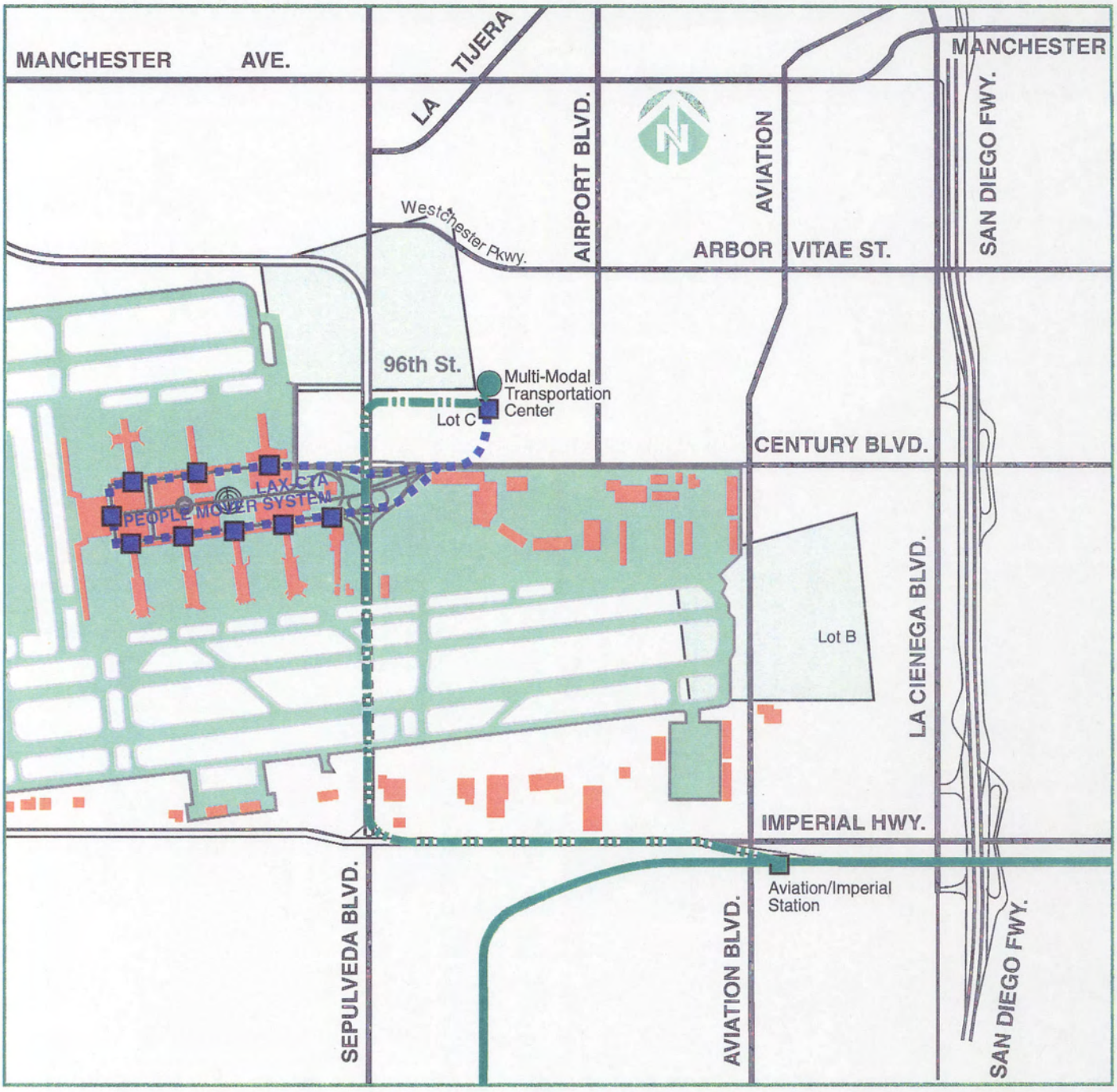
This alternative would include a shuttle bus line operating between the Aviation/Imperial Station and the LAX people mover station at the MTC in Lot C. Figure 3-3 presents the All-Bus Alternative. Sections 3.2.3.1 and 3.2.4.1 describe the MTC. Buses would operate in mixed traffic along Imperial Highway and Sepulveda Boulevard to 96th Street and then into the MTC at Lot C. Alternative routes are also possible. Because the people mover would provide service between the Lot C MTC and the terminal area, the existing LAX Lot C shuttle would be eliminated. The passengers would need to make an additional transfer at the MTC to the LAX people mover which would stop at all terminals.

The shuttle bus service would operate at headways designed to coordinate with the arrival and departure of Metro Green Line trains at the Aviation/Imperial Station. The trains would operate at five-minute headways during peak periods. The vehicles used in the operation of the shuttle service would be 40-foot standard type coaches. The buses would have 40 seats. Assuming 12 buses per hour, the shuttle bus service would have a seated capacity of 480 people per hour per direction. Travel time between Aviation/Imperial Station and the MTC would be about 15½ minutes during peak traffic hours and about 12½ minutes during off-peak traffic hours, respectively.

3.2.3 Metro Green Line Along Aviation Boulevard

3.2.3.1 Physical Characteristics

The alignment would begin at the Metro Green Line Aviation/Imperial Station and travel northward along the west side of Aviation Boulevard within the old AT&SF Railroad right-of-way (now owned by LACTC/MTA). This alternative is shown in Figure 3-4. The plan and profile drawings are included as a separate Appendix B. The line would be on aerial structure until clearing 111th Street and then descend to a subway segment off the eastern ends of runways 25L and 25R. Past these runways, the line would again ascend to an aerial structure and continue northward on Aviation Boulevard and then west along the south side of Century Boulevard. After crossing Avion Street, the alignment would swing north across property previously containing the Dollar Car Rental facilities (now owned by LACTC/MTA) and other surface parking lots. The alignment could terminate at LAX Lot C or continue in a northerly direction and then turn westerly along Westchester Parkway terminating at the proposed Westchester Station near Sepulveda Westway. Figure 3-5 displays a typical cross-section for the Metro Green Line aerial guideway.



LEGEND

- Shuttle Bus
- Metro Green Line
- Station
- LAX-CTA People Mover
- People Mover Station
- Multi-Modal Transportation Center

Figure 3-3
ALL-BUS ALTERNATIVE SHUTTLE BUS SERVICE

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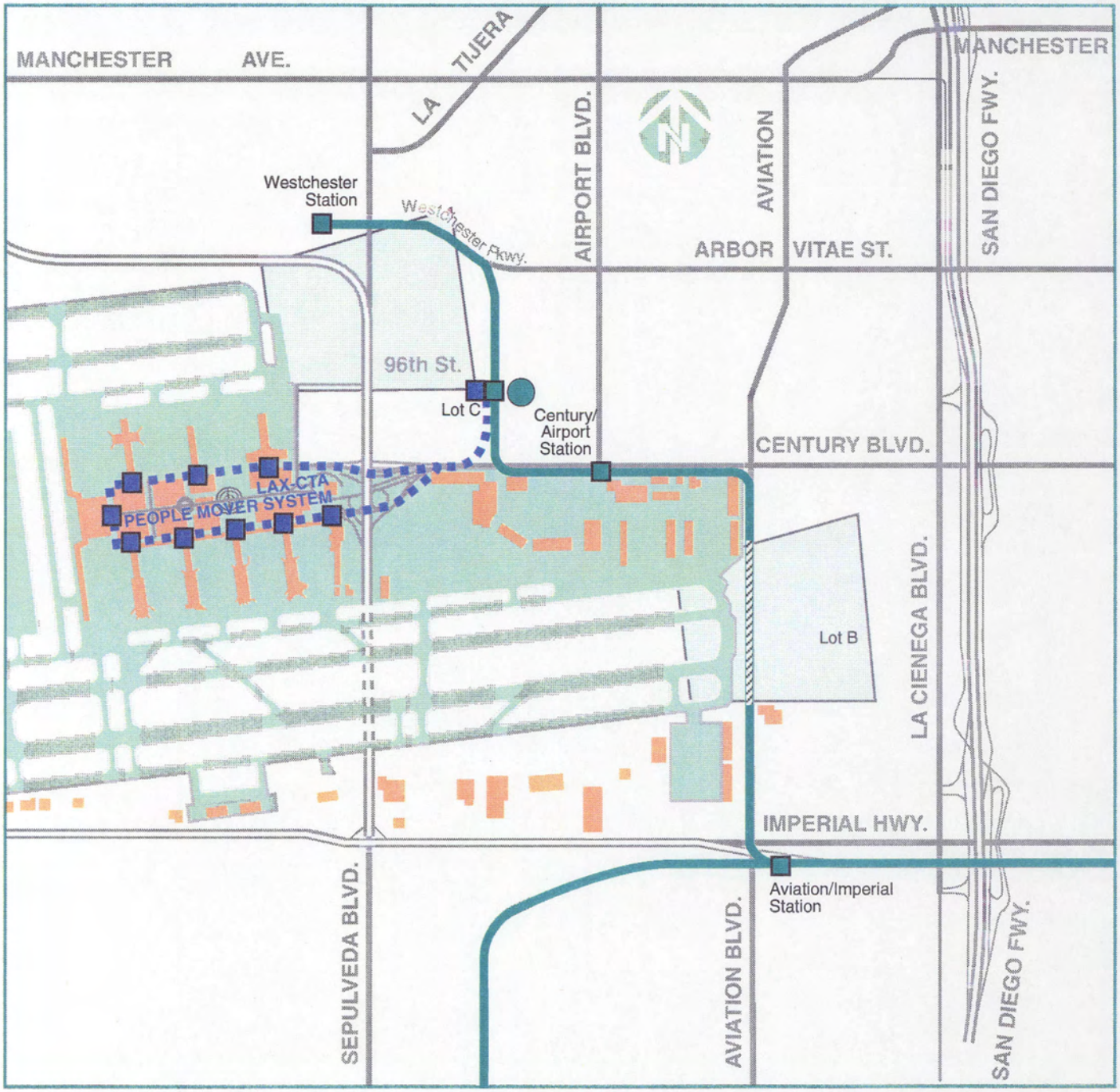

LEGEND

- Alignment
- Subway Segment
- Station
- LAX-CTA People Mover
- People Mover Station
- Multi-Modal Transportation Center
- Airport Clear Zones

Figure 3-4
METRO GREEN LINE ALONG AVIATION BOULEVARD

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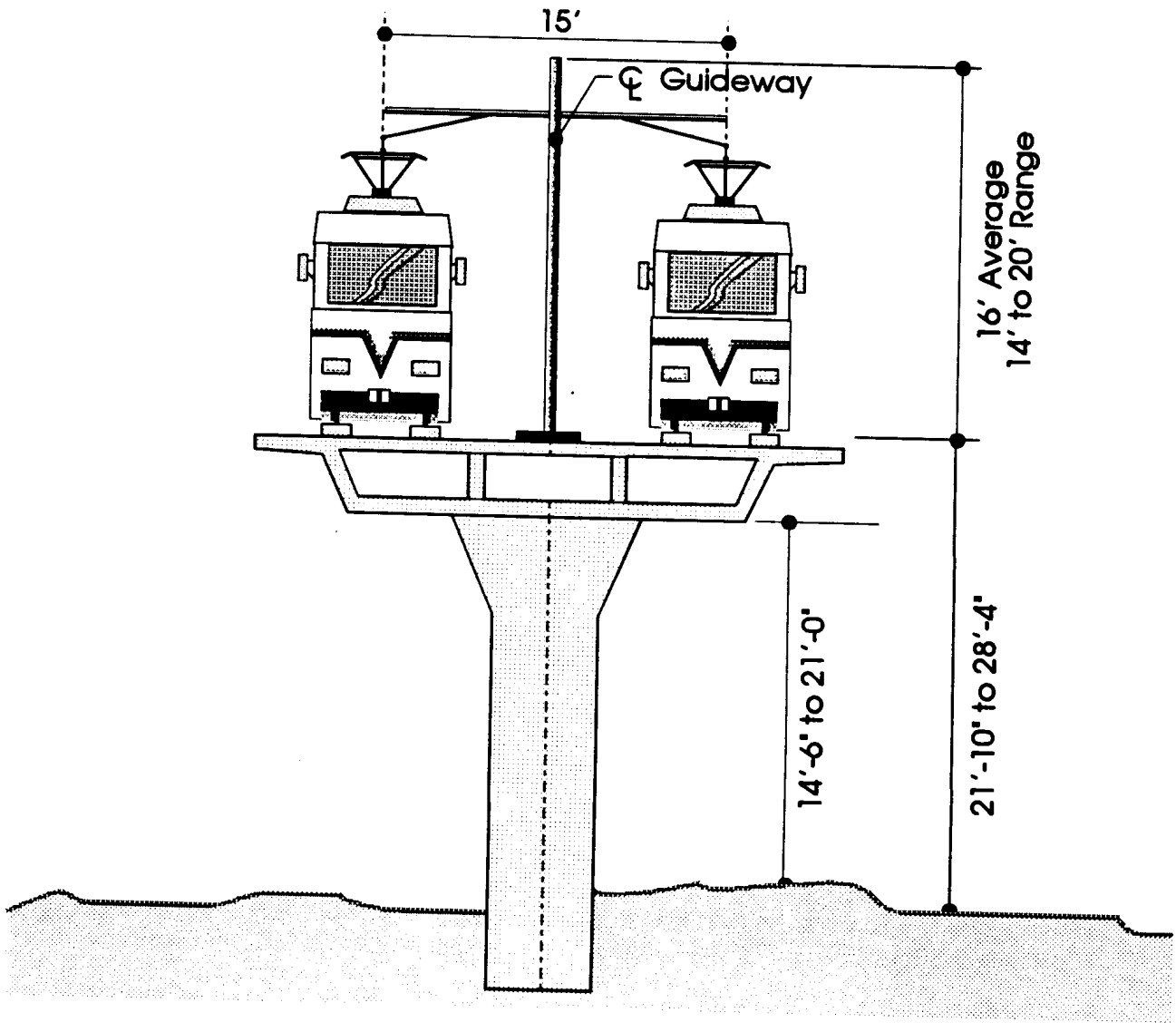


Note: The Guideway Clearance Relative to Ground Level Could be Lower in Lot C

Figure 3-5
TYPICAL CROSS SECTION METRO GREEN LINE AERIAL GUIDEWAY STRUCTURE

Stations

Stations are planned at the intersection of Century and Airport boulevards, LAX Lot C, and Westchester Parkway. All stations would be aerial in configuration. Using a center platform, station design would be standardized throughout the system to the extent possible. Figure 3-6 displays a cross-section of a typical station. Stations would be partially covered by canopies for protection from weather, and lighting and benches would be provided at each station. The stations are described in the following discussion.

Century/Airport Station

The Century/Airport Station (Figure 3-7) would be located at the intersection of Century and Airport Boulevards on the south side of Century Boulevard. The center-platform would straddle Airport Boulevard with vertical circulation at both ends of the platform. This arrangement would reduce walking distance for pedestrians using the station and would avoid the need for pedestrians to cross Airport Boulevard to reach the station.

The primary mode of access would be by foot. There are a large number of major trip generators within walking distance along Century Boulevard, including several hotels, office buildings, and a large Post Office facility adjacent to the station. A small kiss-and-ride drop-off facility would be located just south of the western station entrance, with access from Airport Boulevard just across from the driveway to the Post Office.

LAX Lot C Station

The LAX Lot C Station (Figure 3-8) would be located near 96th Street at the existing SCRTD/MTA Transit Center, which would be redesigned consistent with the MTC. The station would serve both the proposed MTC and the LAX ground transportation center (discussed in Section 3.1). Kiss-and-ride and drop-off facilities would be located at the MTC which would also be sited in Lot C in this alternative. Patrons could park at the airport parking facilities in Lot C if they wish.

Westchester Station (applies only if the project terminates at Westchester)

Figure 3-9 displays the layout for the Westchester Station. The station would be located at the southwestern edge of the Westchester business district, and would be at the eastern edge of the proposed LAX-Northside Development along Westchester Parkway. The station would be located on the south side of Westchester Parkway just west of Sepulveda Westway. The station would serve walk-in, drop-off, and park-and-ride patrons. No bus access would be provided since all bus routes in the area would converge on the MTC. Pedestrian trips would be generated from the existing and proposed land uses located to the north of Westchester Parkway. Automobile parking for about 500 cars would be located on the south side of Westchester Parkway.

The aerial platform would have vertical circulation at both ends. The eastern entrance would be oriented to the Westchester business district. The western entrance would serve new development on either side of La Tijera Boulevard, and would serve patrons using the parking lot.

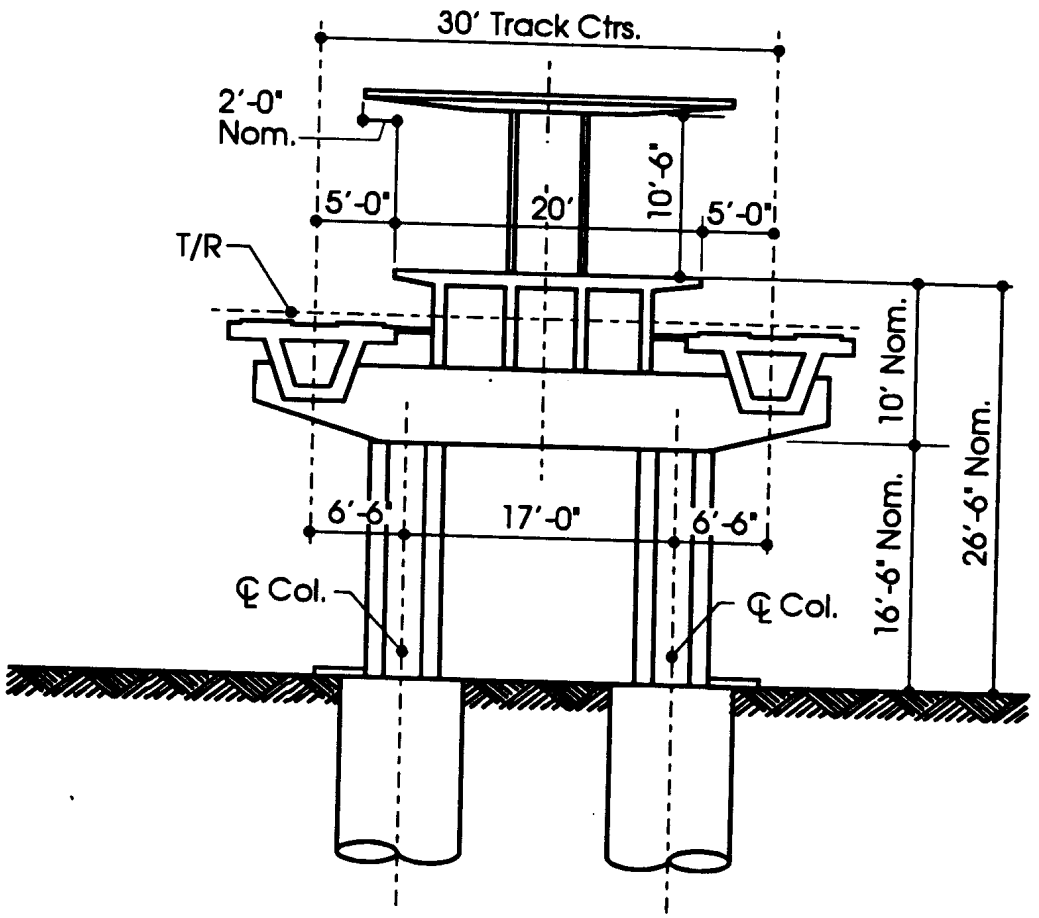


Figure 3-6
PASSENGER STATION TYPICAL CROSS SECTION

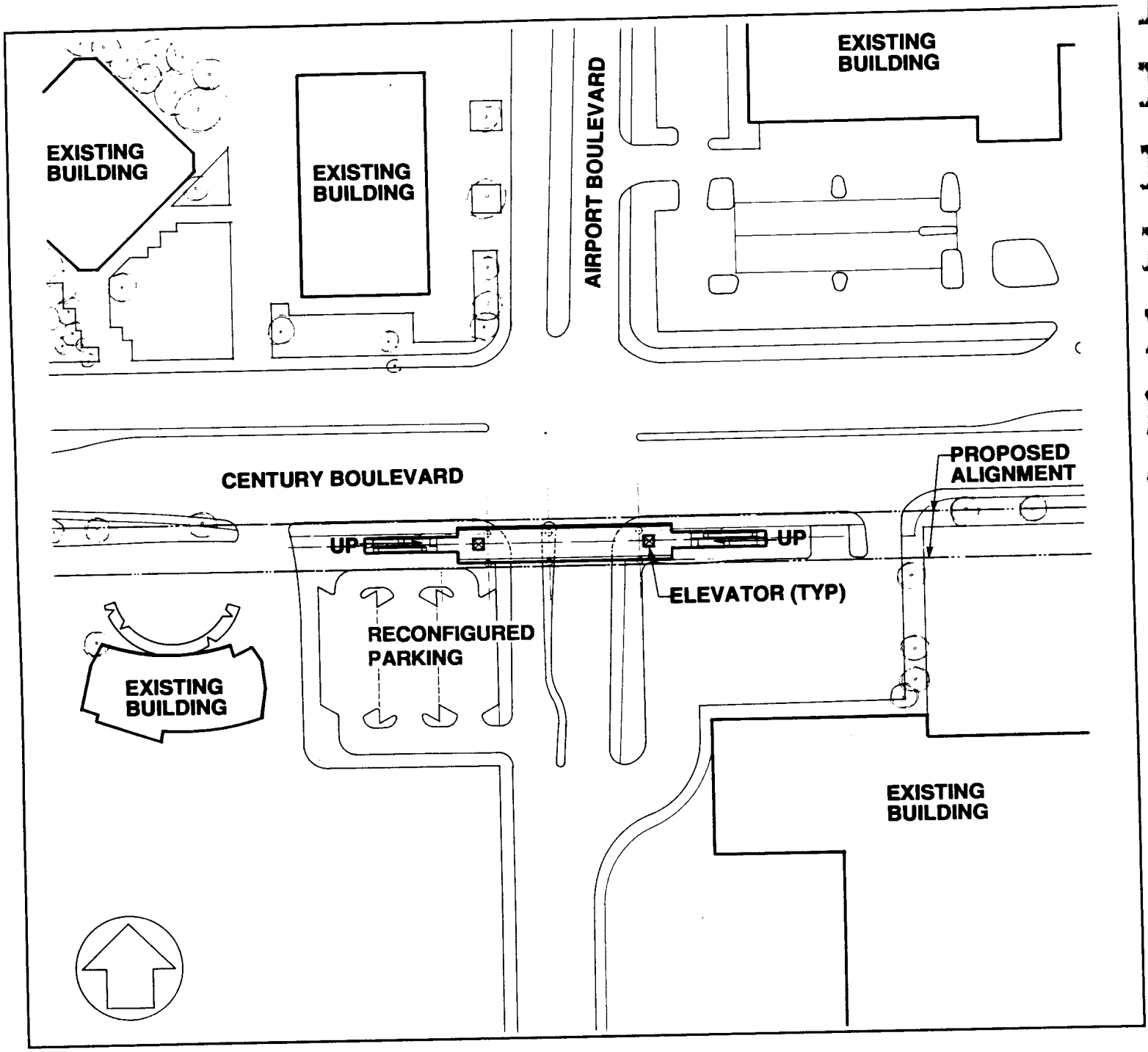


Figure 3-7
CENTURY / AIRPORT STATION (GREEN LINE)

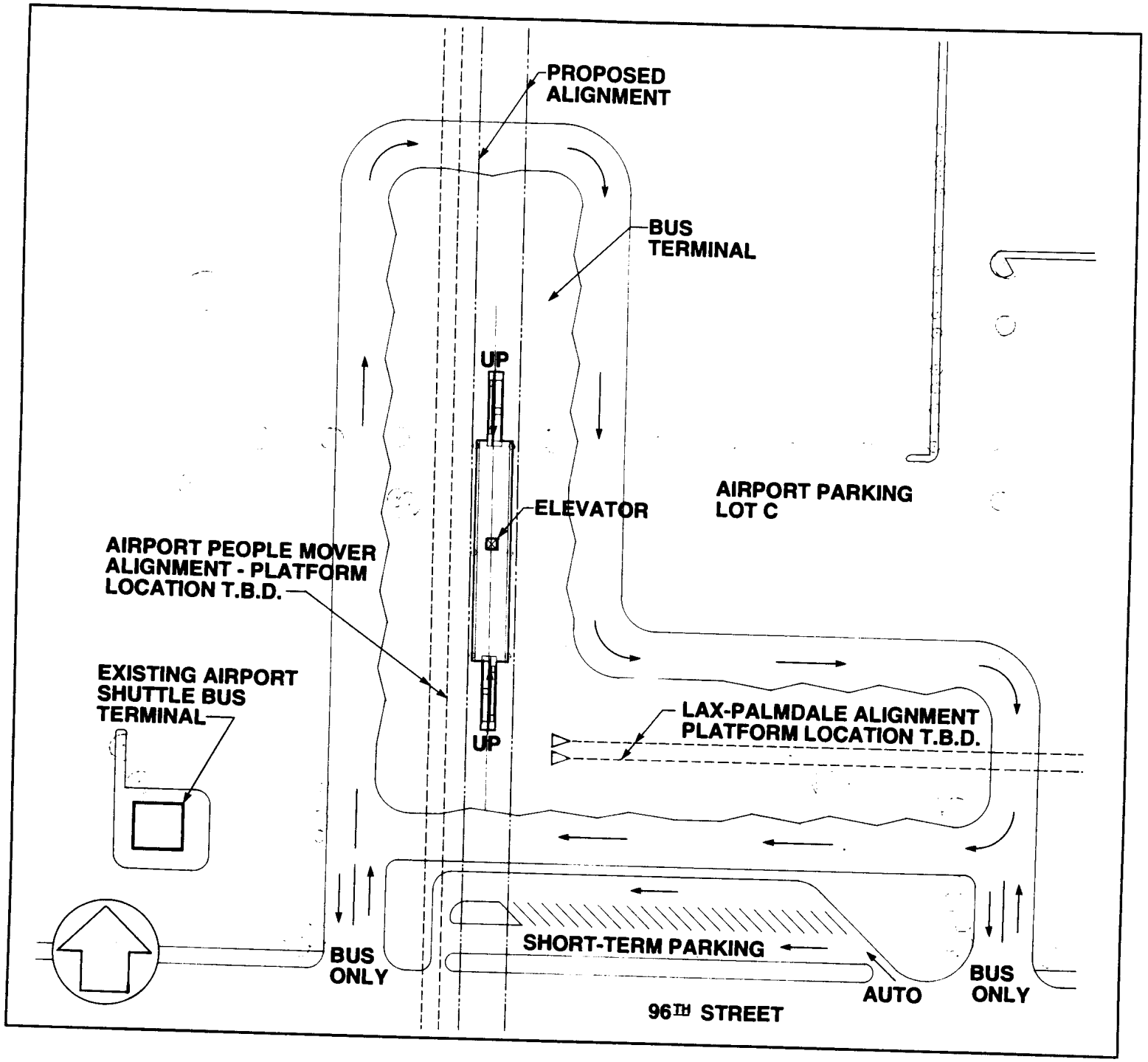


Figure 3-8
LOT C STATION AND MULTI - MODAL TRANSPORTATION CENTER (METRO GREEN LINE)

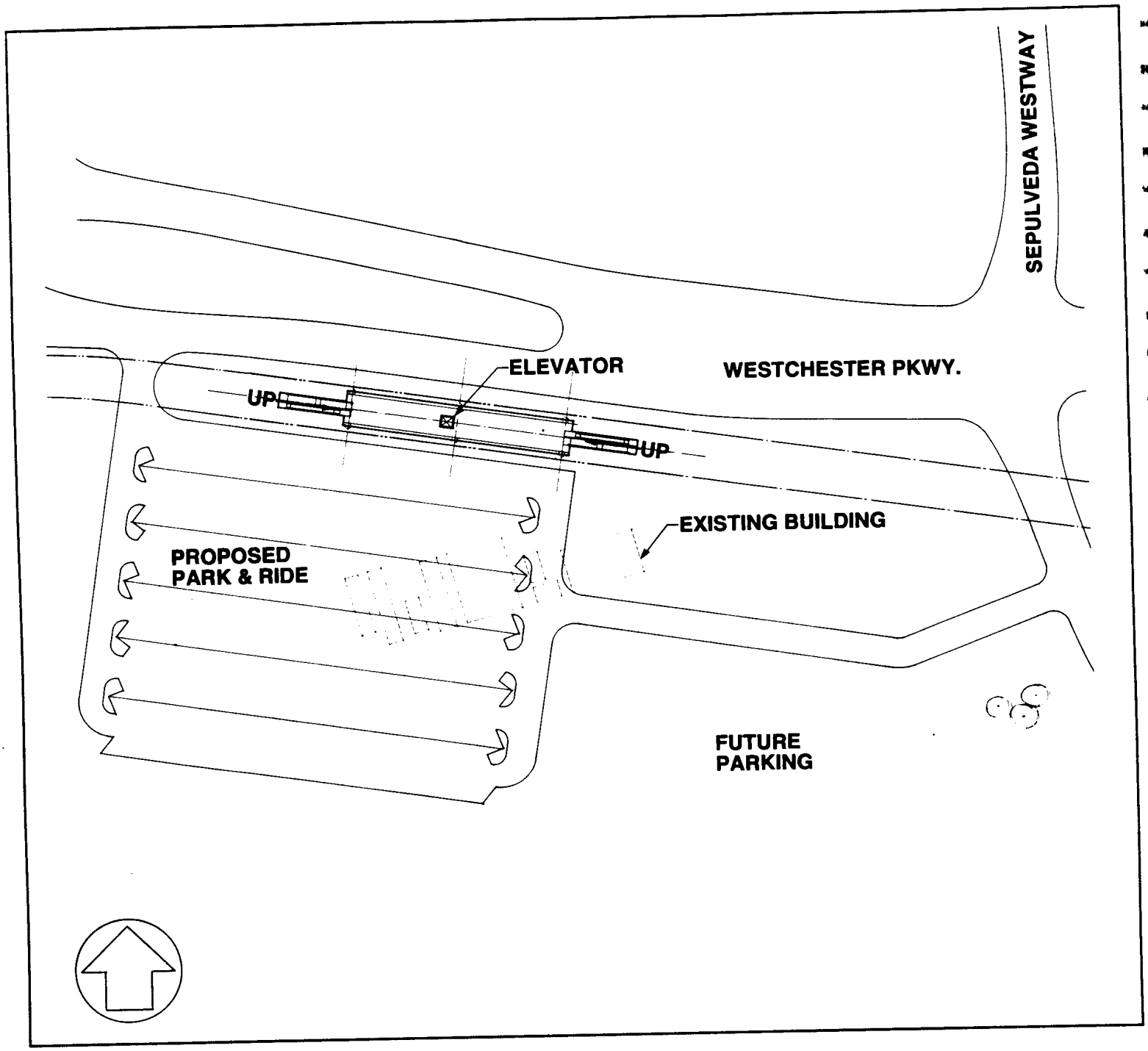


Figure 3-9
WESTCHESTER STATION (METRO GREENLINE)

Multi-Modal Transportation Center

The MTC would be provided in LAX Lot C (Figure 3-8). The existing bus transit center would be redesigned consistent with the MTC. The MTC would provide connections between the northern extension of the Metro Green Line as well as the LAX CTA people mover and the LAX to Palmdale rail line (if it is built). Specifics of the planned LAX CTA people mover and LAX to Palmdale lines will be detailed in separate upcoming studies for those two projects to be prepared by the DOA and MTA, respectively.

The MTC would provide 22 bus bays to serve both the SCRTD/MTA and other area bus lines. Buses would access the MTC from 96th Street on either the east or west end of the site. A separate entrance and exit for the 37-space kiss-and-ride lot would also be provided on 96th Street. Crosswalks would be provided to enhance pedestrian access between the "L"-shaped central island under the three station platforms to the short-term parking and LAX Lot C. Because the LAX people mover would provide service between Lot C and the CTA, the existing LAX shuttle bus service to Lot C would be eliminated.

Rail Storage Tracks

Tail tracks to store rail vehicles would be located just west of Westchester Station. They would consist of double tracks extending about 900 feet beyond the station. If it is decided to terminate the extension at the MTC, then tail tracks would be placed in Lot C. A vehicle storage yard would be provided in the City of Hawthorne within the storage yard now being constructed for the Metro Green Line from Norwalk to El Segundo.

Substations

Electrical substations (provided to power the vehicles) would be situated along the alignment and would draw power from the utility grids of the Los Angeles Department of Water and Power. Each traction-powered substation would require an area of approximately 6,000 to 9,000 square feet to accommodate electrical power equipment and ancillary components. The substations would be prefabricated units and would be designed to operate unattended.

Three or four substations would be located along the alignment (depending upon where the northern terminus is located). Planned locations include the old AT&SF right-of-way near 111th Street; the southwest corner of Aviation and Century Boulevards; LAX Lot C; and Westchester Station (if the line ends here). The substation locations will be finalized as system-wide requirements are established.

Safety and Security Measures

Two-way voice communication would be provided between patrons and central control personnel at selected points throughout the route, such as fare-vending areas and platforms. In addition, two-way voice communications on-board the trains between the passengers and central control would be installed. Hand-held radios would also be provided for employees, operators (if a vehicle requiring a train operator is selected), security personnel, and the central control. An antenna-repeater system compatible with police, fire, and security

communications would extend through the subway segment (Metro Green Line alternative). Antenna-repeater systems would also be compatible with those used in other rail transit systems (i.e. Red Line, Blue Line, Green Line).

Closed-circuit television would be provided at platforms and ticket vending machine areas. Surveillance cameras would be linked to a central control area for display on video monitors.

An alarm and telephone system would be installed to protect unauthorized entry and tampering with equipment, such as fare-vending machines, equipment rooms in the stations, traction power substations, and money-counting rooms. The alarms would alert the central control and/or local authorities.

In order to eliminate dark or obscured areas, all passenger stations and shelter stops would be designed to be open with long, unbroken lines of sight. In addition, stations and shelters would be illuminated during hours of darkness.

Where practical, guideways would be protected from encroachment of people, thrown objects or unauthorized vehicles. Barriers would be of a height to prevent intrusion and deter hauling of objects into the guideway.

Walkways with a 30-inch clearance would also be provided along the guideway. Crossovers would have a minimum clearance of 44 inches at all egress and access locations.

Power substation access would be limited to authorized personnel only. Power substations would be enclosed by barriers of a height to discourage hurling of objects into the enclosure. Power substations would have burglar alarms.

Parking lots associated with the project would also be designed to maximize visibility within the lots and from surrounding areas. Lighting would be designed to avoid the creation of dark corners.

The interior finish of the Metro Green Line vehicle would be of vandal-resistant material. Seats, seat backs, equipment access panel, etc. would be removable with the use of special tools.

With regard to prevention of fires and safety measures in the event of a fire emergency, a number of measures would be taken. Access for fire equipment would be maintained during the operation of the system as required by LAFD. Fire-retardant materials on trains and non-combustible materials in stations would be used. Telephones would be provided at stations to report emergencies to the fire department. Communication devices would also be provided on-board the trains to alert the central control about emergencies. Automatic fire alarm systems would be installed within substations, and hand-held fire extinguishers would be available on trains and substations.

3.2.3.2 Operational Characteristics

The Metro Green Line technology would employ the P-2000 vehicle. The specifications for this vehicle are now out for Best and Final Offer (BAFO). The technology would be a steel-wheel on steel-rail vehicle. The vehicle may be either automated (driverless) or

require a train operator. Figure 3-10 displays a representative portrayal of the vehicle. The actual vehicle selected could look different than shown. The train would operate on a concrete guideway structure (for the aerial segments) with a continuously welded steel rail connected by resilient fasteners to a concrete plinth pad. Up to two cars (each approximately 85 to 90 feet in length) would be operated for each train. The train could operate with three vehicles in the future if the need arises and the station platforms are extended to accommodate the longer train length. The maximum operating speed of the vehicle is 65 miles per hour. However, actual operating speeds would range from 15 to 65 miles per hour depending on the rail segment. The capacity of the vehicle could vary depending on the vehicle selected. However, to provide some perspective, the cars now used on the Metro Blue Line have a seated capacity of about 76 passengers with a crush load of 159 passengers (assuming six people per square meter). The P-2000 vehicle would likely have a similar capacity.

The trains would be propelled by electric motors that receive electrical power from overhead wires [via the overhead contact system (OCS)] that are connected to substations along the alignment.

The estimated train travel time, including stops, from Aviation/Imperial Station to Westchester Station would be 6.8 minutes. During peak times, the trains would run about five minutes apart. In addition, external trains (i.e., the LAX CTA people mover) would run every four minutes around the CTA loop.

3.2.4 People Mover Through Lot B

3.2.4.1 Physical Characteristics

This alternative would be an extension of the proposed LAX CTA people mover system and would be built on aerial structure. The proposed alignment is presented in Figure 3-11. The plan and profile drawings are included as a separate Appendix B. The alignment begins at the Aviation/Imperial Station and extends to the northeast on the east side of the proposed Continental City development and County Courthouse complex (near the corner of Aviation Boulevard and Imperial Highway). The alignment crosses 111th Street and swings northeast through LAX Lot B and the City of Los Angeles Department of Public Works property. From that point, the line extends in a northerly direction through Lot B and along LAX property outside the runway protection zones for runways 25L and 25R. The alignment continues in a northerly direction through an industrial area to 102nd Street where it turns in a northwesterly direction through the Thrifty Rental Car lot and industrial area between 102nd Street and Century Boulevard. At that point the alignment continues in a westerly direction across Aviation Boulevard and past the old Santa Fe Railroad bridge where it continues along the south side of Century Boulevard in the same alignment as the Metro Green Line Along Aviation Boulevard Alternative (see Section 3.2.3.1). Like the Metro Green Line Alternative, the people mover alternative could terminate at either Westchester Station or at LAX Lot C. Figure 3-12 shows a typical cross-section of the aerial guideway structure for the people mover technology.

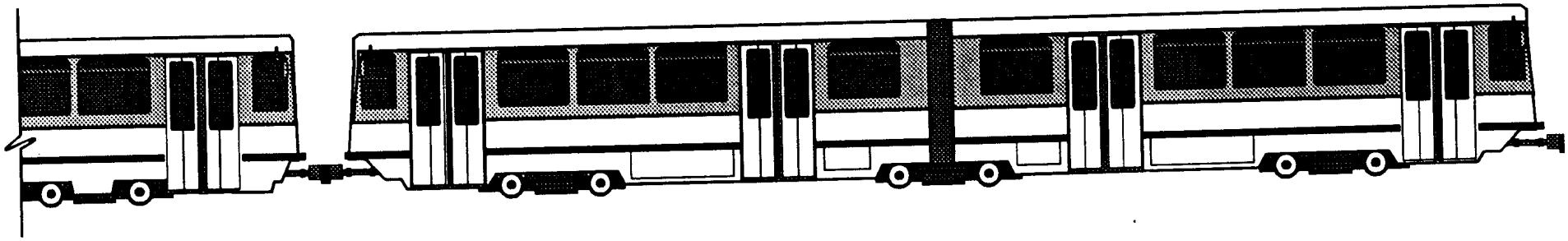
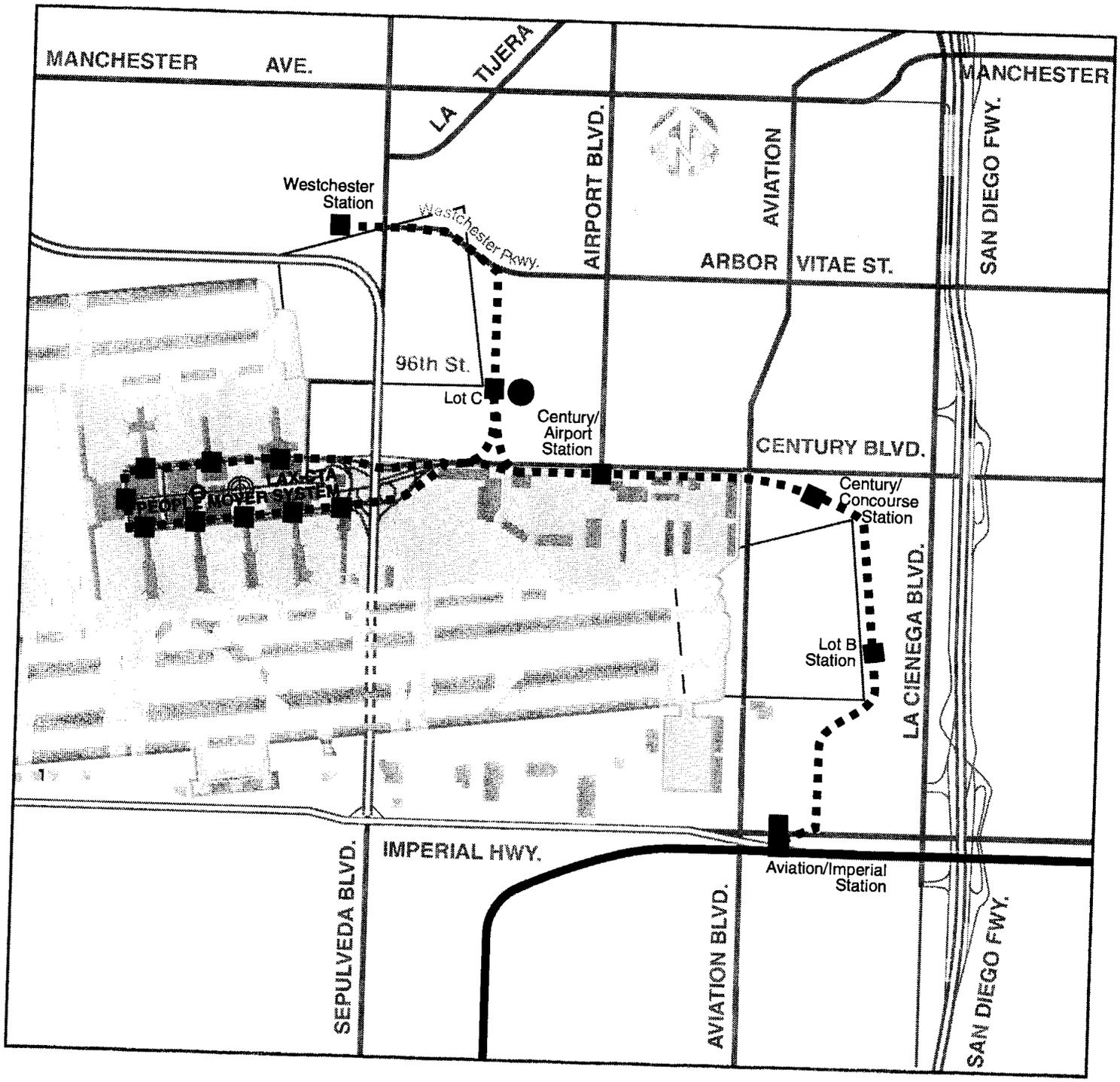


Figure 3-10
METRO GREENLINE VEHICLE



LEGEND

- People Mover Alignment
- People Mover Station
- Metro Green Line Alignment
- Metro Green Line Station
- Multi-Modal Transportation Center
- Airport Clear Zones

Figure 3-11
PEOPLE MOVER TECHNOLOGY THROUGH LOT B

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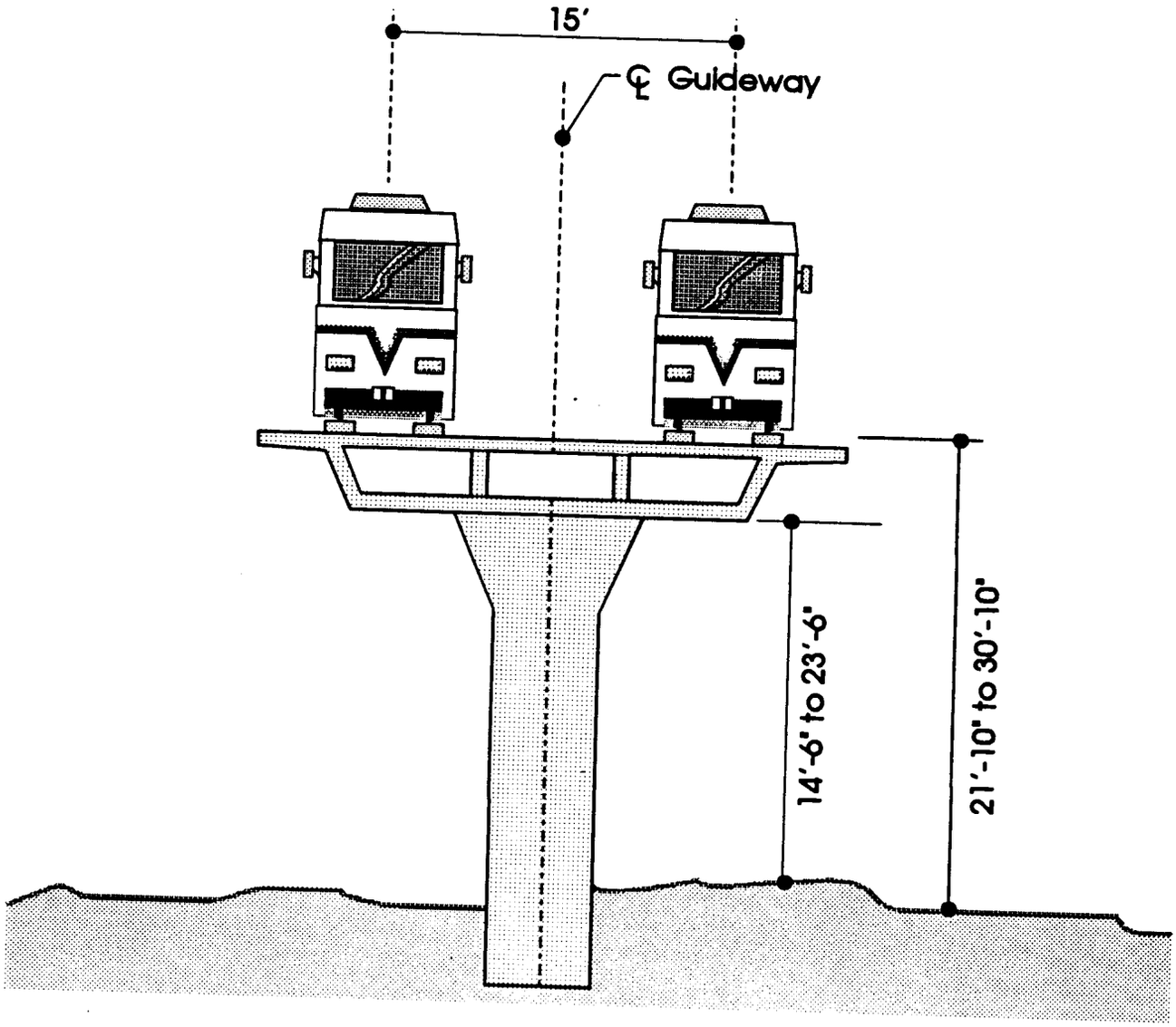


Note: The Guideway Clearance Relative to Ground Level Could be Lower in Lot C

Figure 3-12
TYPICAL CROSS SECTION PEOPLE MOVER AERIAL GUIDEWAY STRUCTURE

Stations

Six stations would be provided with the people mover alternative at Aviation/Imperial; LAX Lot B; the intersection of Century Boulevard and Concourse Way; the intersection of Century and Airport Boulevards; LAX Lot C; and Westchester Parkway. Like the Metro Green Line Alternative, all stations would be aerial in configuration, and station design would also be standardized throughout the system to the extent possible using a center platform arrangement. Figure 3-6 displays a cross-section for a typical station. Stations would be partially covered by canopies for protection from weather, and lighting and benches would be provided at each station.

Aviation/Imperial Station

Figure 3-13 shows the proposed people mover station with side platforms to be constructed at the Aviation/Imperial Station. This would be the only station using a side platform arrangement.

LAX Lot B Station

This station (shown in Figure 3-14) would be located in Lot B north of 111th Street. The station would serve walk-in patrons. In addition, a loading and unloading area for local buses to shuttle passengers to local businesses would be provided here. Patrons could park at the existing airport parking facilities in Lot B if they wish.

Century/Concourse Station

The Century/Concourse Station (Portrayed in Figure 3-15) would be located in the existing Thrifty Rental Car lot near the intersection of 102nd Street and Concourse Way. The station would serve mostly walk-in passengers from the surrounding industrial area and residential area located north of Century Boulevard. A loading and unloading area for local buses to shuttle passengers to local businesses would also be located here.

Century/Airport Station

The Century/Airport Station (shown in Figure 3-16) would be similar to that described in Section 3.2.3.1.

LAX Lot C Station

The Lot C Station would be similar to that described in Section 3.2.3.1. Figure 3-17 shows the proposed layout for the Lot C Station and MTC.

Westchester Station (applies only if the project terminates at Westchester)

The Westchester Station would be similar to that described in Section 3.2.3.1. The proposed layout for this station is presented in Figure 3-18.

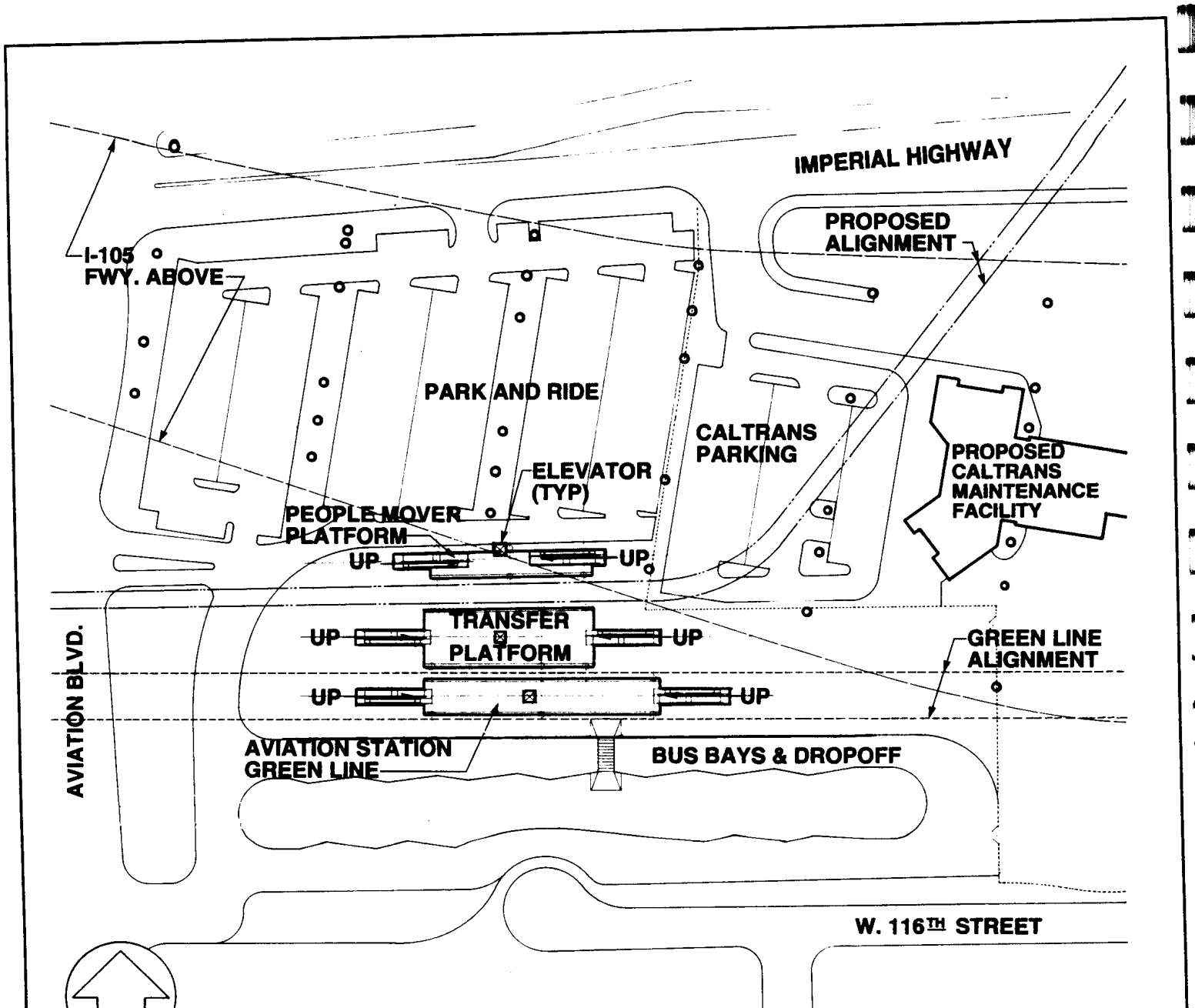


Figure 3-13
AVIATION / IMPERIAL STATION (PEOPLE MOVER)

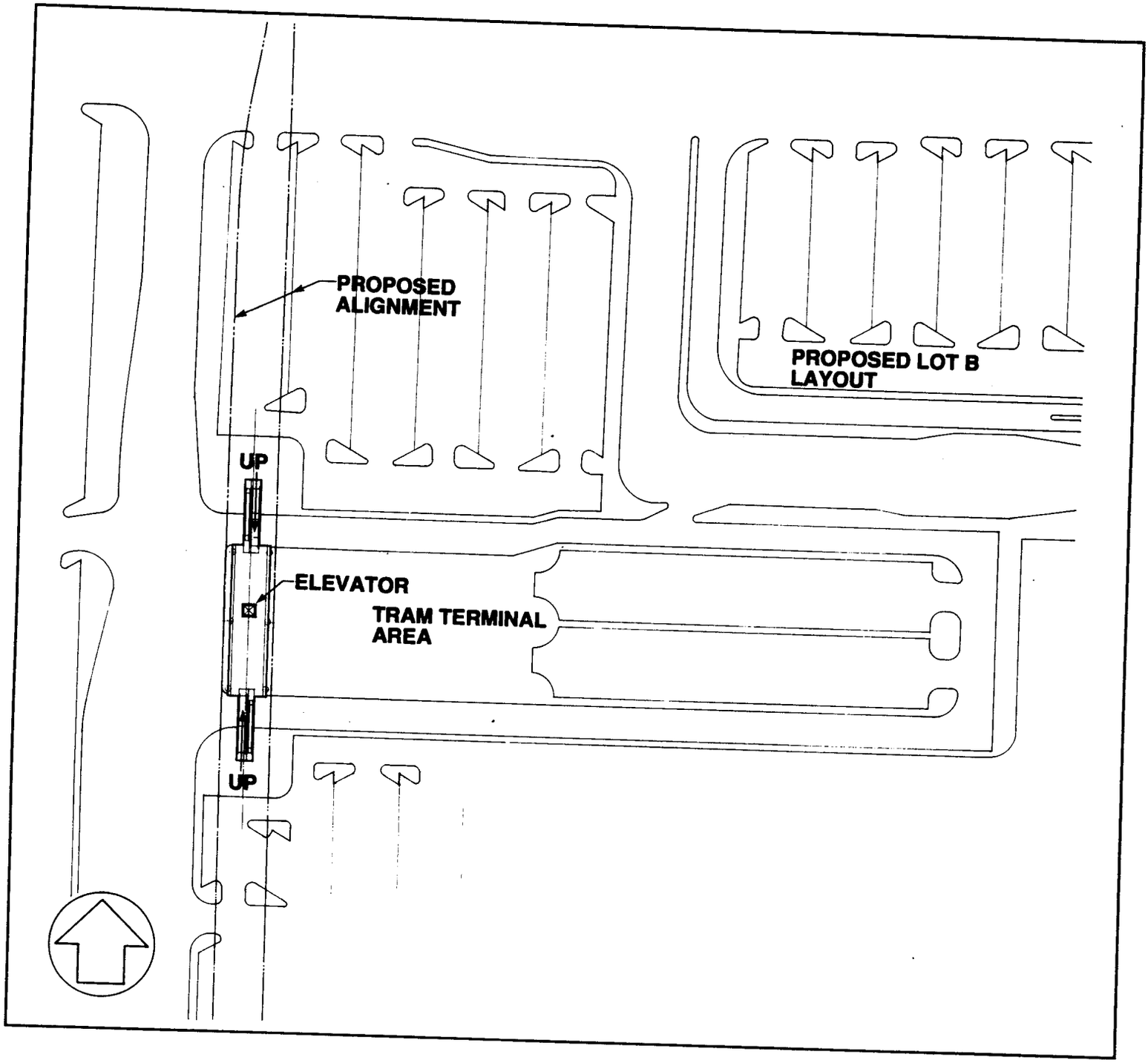


Figure 3-14
LOT B STATION
(PEOPLE MOVER)

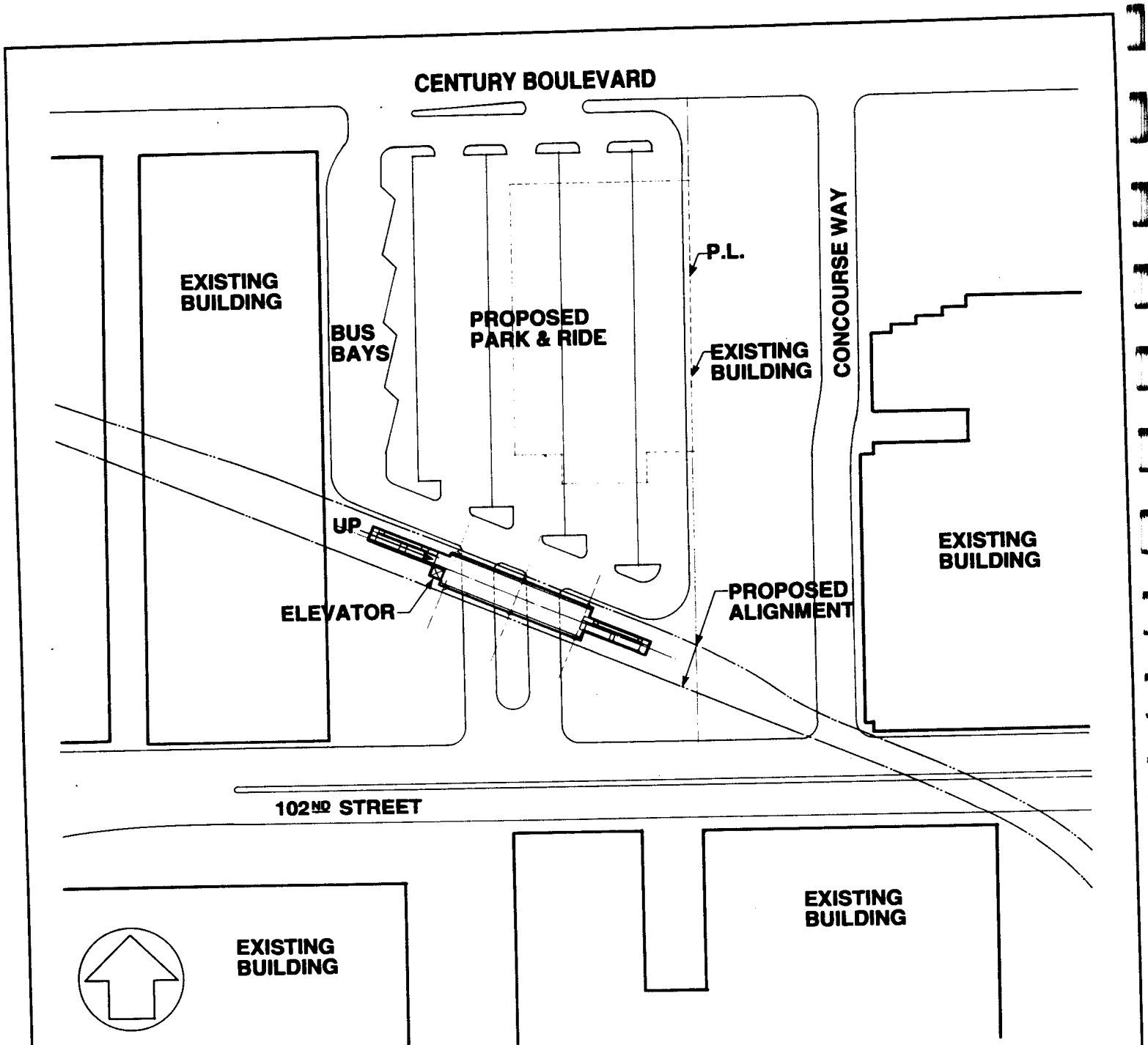


Figure 3-15
CENTURY / CONCOURSE STATION (PEOPLE MOVER)

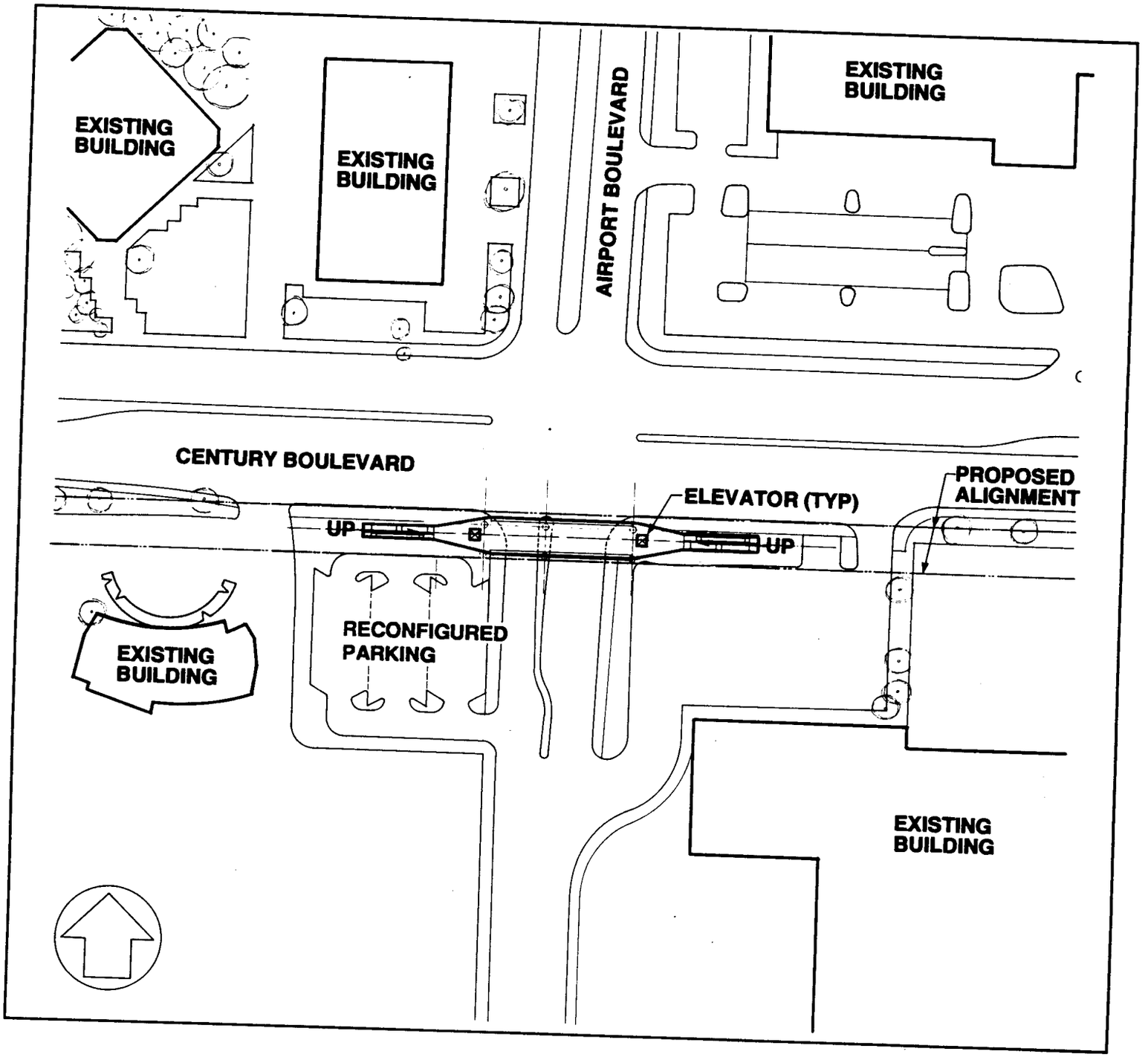


Figure 3-16
CENTURY / AIRPORT STATION (PEOPLE MOVER)

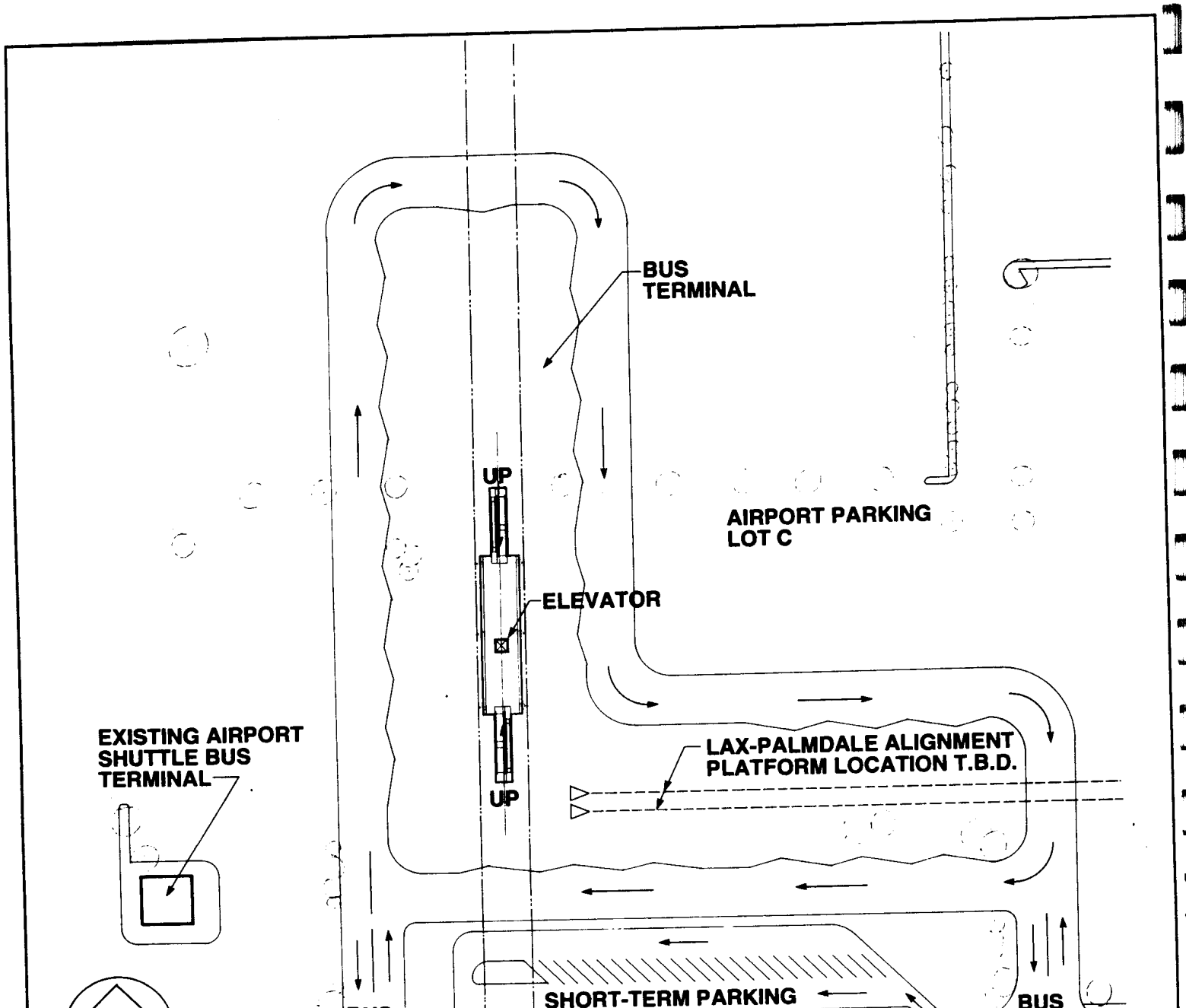


Figure 3-17

LOT C STATION AND MULTI - MODAL TRANSPORTATION CENTER (PEOPLE MOVER)

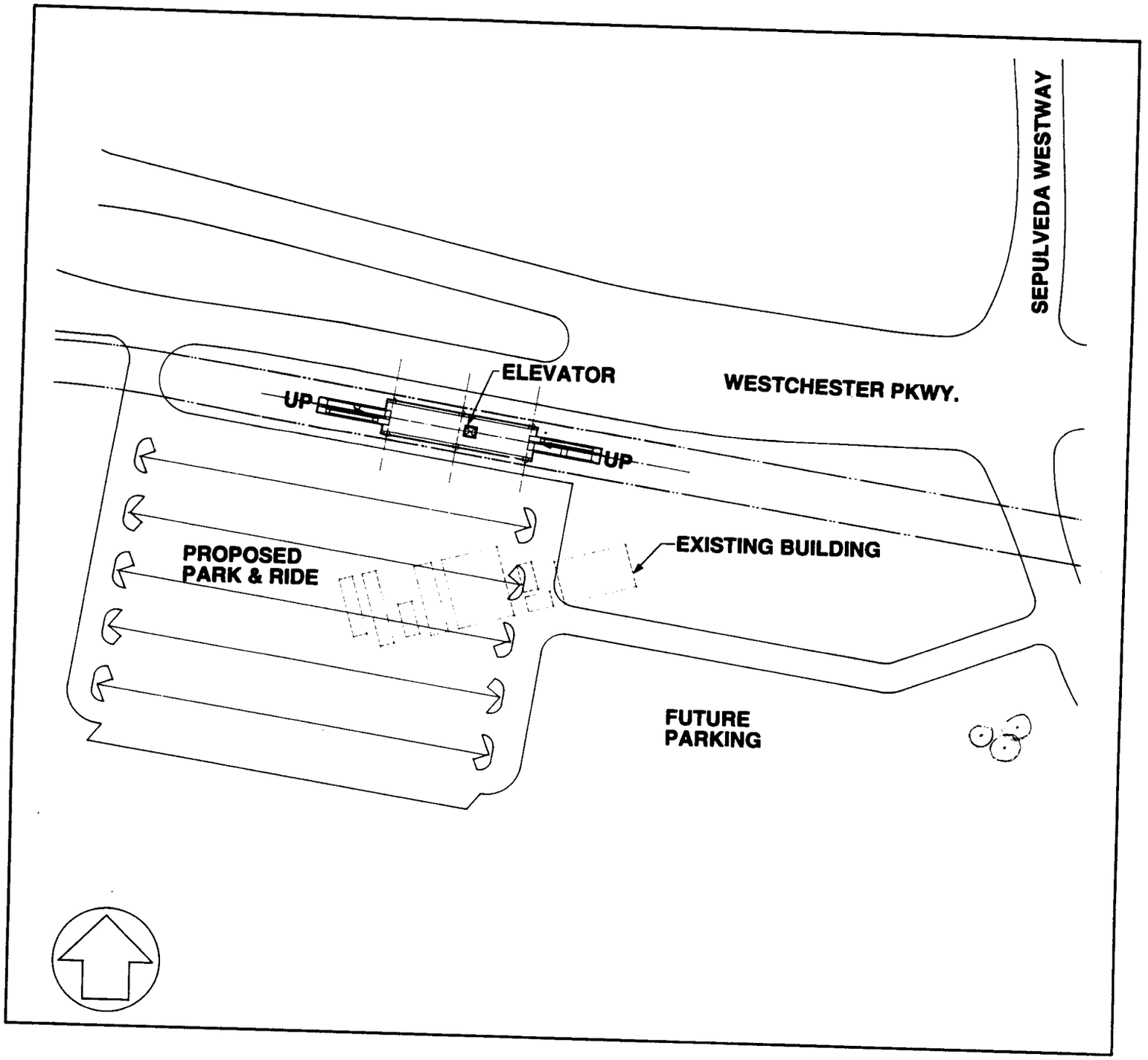


Figure 3-18
WESTCHESTER STATION (PEOPLE MOVER)

Multi-Modal Transportation Center

Figure 3-17 shows the planned layout of the MTC in Lot C. The MTC has been previously described in Section 3.2.3.1. The only difference from the previous description is that connection with the Metro Green Line would be at the Aviation/Imperial Station, not at Lot C, if the people mover were selected to serve the area between the Aviation/Imperial Station and the Westchester Station or Lot C. For passengers wishing to travel on the Metro Green Line and the proposed LAX to Palmdale line, an intermediate or additional transfer to the people mover would be required.

Rail Storage Tracks

This facility would be similar to that described in Section 3.2.3.1, except that a storage yard would be provided at an as yet-to-be determined location as a part of the LAX CTA people mover project to be built by DOA.

Substations

The electrical substations would be similar to those described in Section 3.2.3.1. The only difference is that the substation near 111th Street and the AT&SF right-of-way would be replaced by a substation most likely located in LAX Lot B. The substation locations will be finalized as system-wide requirements are established.

Safety and Security Measures

Safety and security measures would be similar to that described in Section 3.2.3.1.

3.2.4.2 Operational Characteristics

The people mover technology to be selected for this alternative could be any of a number of vehicle types including monorail, steel wheel, and rubber tire. Figure 3-19 presents the range of vehicles under consideration. All would be fully automated (driverless) vehicles.

The monorail would operate with rubber tires on a concrete beam. The steel wheel technology would operate on a steel rail guideway and the rubber-tired vehicle would operate on a steel or concrete center beam. Vehicle lengths, capacities, and maximum operating speeds would vary depending on the actual vehicle selected for use. However, the track design for this alignment would allow for operating speeds between 15 and 45 miles per hour depending on the track segment.

The estimated train travel time, including stops, from the Aviation/Imperial Station to Westchester Station would be 8.5 minutes. Three different train services would be operated under this alternative: Westchester Station and Lot C to Aviation/Imperial Station; Westchester Station and Lot C to the CTA; and Aviation/Imperial Station and Lot B to the CTA. Two external train services would operate around the CTA loop, from Westchester Station and from Aviation/Imperial Station. Adding an internal loop would mean that three trains could operate every four minutes, resulting in a combined headway of 80 seconds.

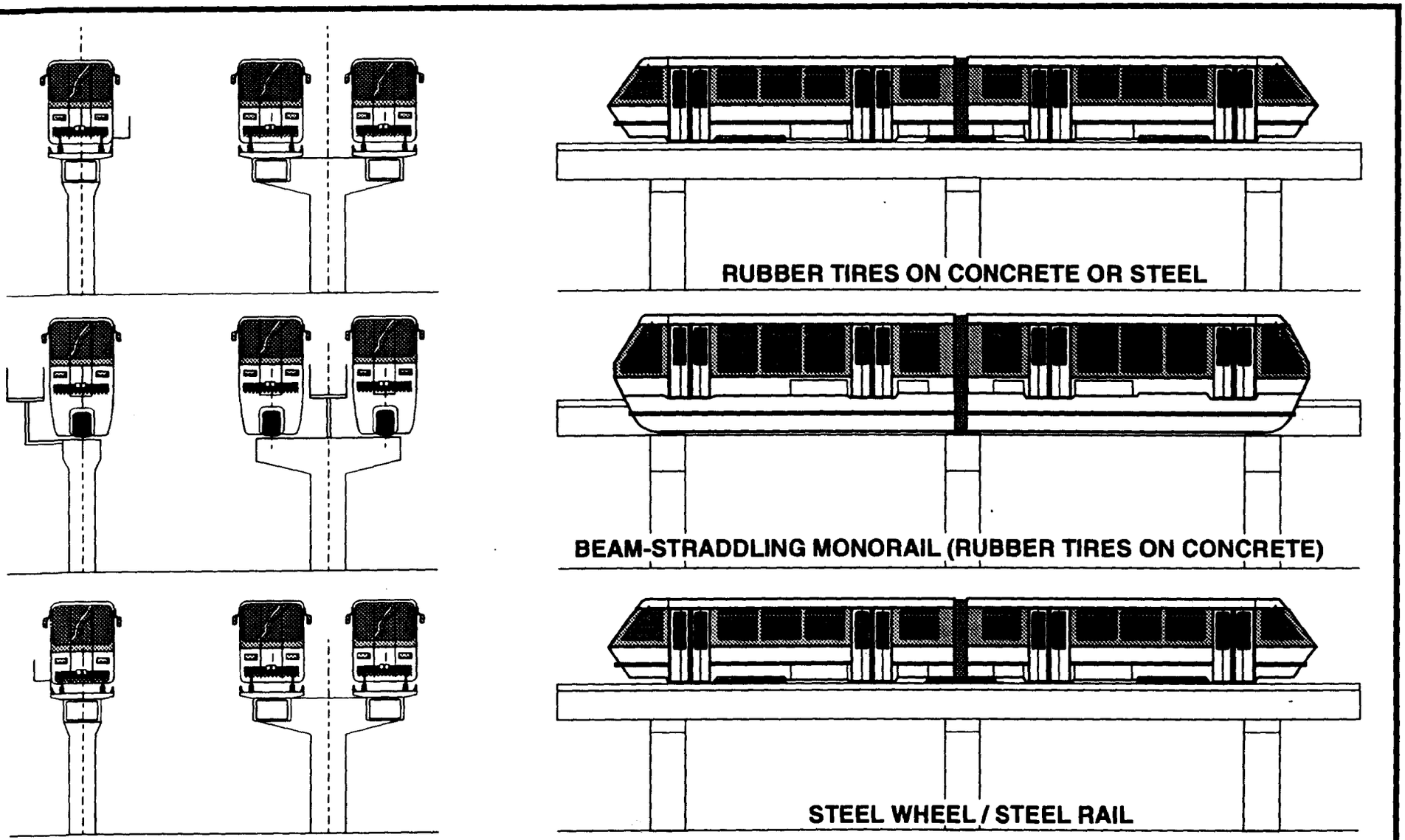


Figure 3-19

RANGE OF PEOPLE MOVER VEHICLE / GUIDEWAY COMBINATIONS

3.3 CONSTRUCTION TECHNIQUES

Construction of the Metro Green Line or people mover technologies would require the use of various construction techniques. All of the people mover alternative and nearly all of the Metro Green Line alternative would use a direct fixation aerial guideway structure. In most locations the dual-boxed track structure would be supported by single columns; however, double columns would be required where tracks widen to accommodate station locations. Straddle bents would be used at intersections where column touch down points would impede traffic flow. The Metro Green Line technology would also require a tunnel to be built along a portion of the alignment adjacent to Aviation Boulevard. Slurry wall (or H-pile), retained cut and fill, and cut and cover would be used for the tunnel segment.

For the aerial segments, dual pre-stressed concrete boxes would be supported by cast in place reinforced concrete colunns. These columns would be spaced about 120 feet apart, although actual distances would vary depending on existing site conditions. This type of construction would begin with the foundation installation, which would consist of cast in drilled hole (C.I.D.H.) piling or spread footing depending on the subsurface geology. Also occurring simultaneously would be the necessary utility relocation.

Once the foundations are established, column construction would begin with the placing of the rebar, construction of the forms, and placing of the concrete. Since major construction activities would occur at column touch down points, care would be taken during this time to properly define and maintain construction easements and re-route traffic where necessary. When the columns have cured and set, the concrete guideway sections would be post tension cast in place.

As segments of the aerial guideway would be completed by the structural contractor, the subsequent systemwide contractors could install the trackwork, overhead contact system (Metro Green Line alternative only), third rail (people mover alternative only), electrical communications, and duct banks. The stations and MTC facilities as well as fare collection, train control, and security systems would also be installed.

The tunnel segment for the Metro Green Line Along Aviation Boulevard Alternative would involve construction of an 1,800-foot tunnel, 900-foot retained cut, and 1,200-foot retained fill. The cut and cover technique would require sub-surface preparation by constructing slurry wall or by driving H-piles. This would prevent ground slippage during the next phase of construction which would be the removal of ground surface to a sufficient depth to permit support of existing utilities. Excavation would continue until sufficient depth is reached to prepare for the construction of the foundation slab. Interim lateral supports may be provided if the depth of the tunnel requires additional support of the bearing walls during concrete placement for the boxed tunnel.

A retained cut portion would be constructed beyond each end of the tunnel portal. This open U-shape concrete section provides a permanent transition to the retained fill, where the trackway moves above grade level to connect with the aerial guideway. The retained fill sections are constructed of two embankment walls of approximately twenty-one feet maximum height, and end with an abutment that would support the aerial guideway.

An existing drainage ditch is located in proximity to the Metro Green Line alignment along Aviation Boulevard and along Century Boulevard for both rail alternatives. Some segments of the open box culvert, or all of this ditch (under "worst-case conditions") in the area of the rail line may need to be slightly realigned to avoid conflict with the rail alternatives. The realigned ditch would be enclosed in a box culvert. Further studies will be required to determine the extent of ditch realignment required. In any case, installation of the box culvert would be accomplished as expeditiously as possible to minimize impacts to the nearby LAX roadways serving the air cargo area.

Project construction would be in accordance with all applicable local, state, and federal building and safety laws. Construction equipment used on the project would be equipped with mufflers and spark arresters. Standard construction methods would be used for traffic, noise, vibration, and dust control, consistent with applicable laws. Working hours would be varied to meet special circumstances.

The All-Bus Alternative would require only the construction of bus bays within the Aviation/Imperial Station (now under construction) and within the Lot C MTC. The bays are necessary to accommodate the shuttle buses between the Metro Green Line at Aviation/Imperial Station and the proposed LAX-CTA people mover, proposed LAX-Palmdale line, and the regional buses converging at Lot C.

4.0 ENVIRONMENTAL SETTING

Existing conditions in the project study are described in this section.

4.1 LAND USE/RELEVANT PLANNING PROGRAMS AND POLICIES

4.1.1 Existing Land Use

Figure 4-1 portrays existing land use in the study area. Existing land uses adjacent to the proposed alignment include airport, commercial, residential and vacant. Specifically, land uses along Aviation Boulevard adjacent to the project include airline cargo buildings, LAX runways, a restaurant, and parking areas. Century Boulevard has the following land uses: air cargo buildings, hotels, office buildings, a post office, apartment buildings, airline offices, car rental agencies, and parking areas. Land uses between Century and Westchester Boulevards include hotels, offices, airport parking lots and the SCRTD/MTA Transit Center. The area along Westchester Parkway, between Sepulveda Boulevard and Sepulveda Eastway, contains office buildings and related parking areas. The area west of Sepulveda Westway, along the proposed Westchester Parkway, is vacant. This property falls under the jurisdiction of the Los Angeles Department of Airports. Land uses adjacent to Imperial Highway between La Cienega and Sepulveda Boulevards consist of air cargo buildings, airline catering service facilities, airport shuttle service buildings, office and other commercial buildings, and vacant land. The new Glenn Anderson Freeway (I-105) is also under construction in this area. Airport-related uses are located adjacent to Sepulveda Boulevard between Imperial Highway and 96th Street.

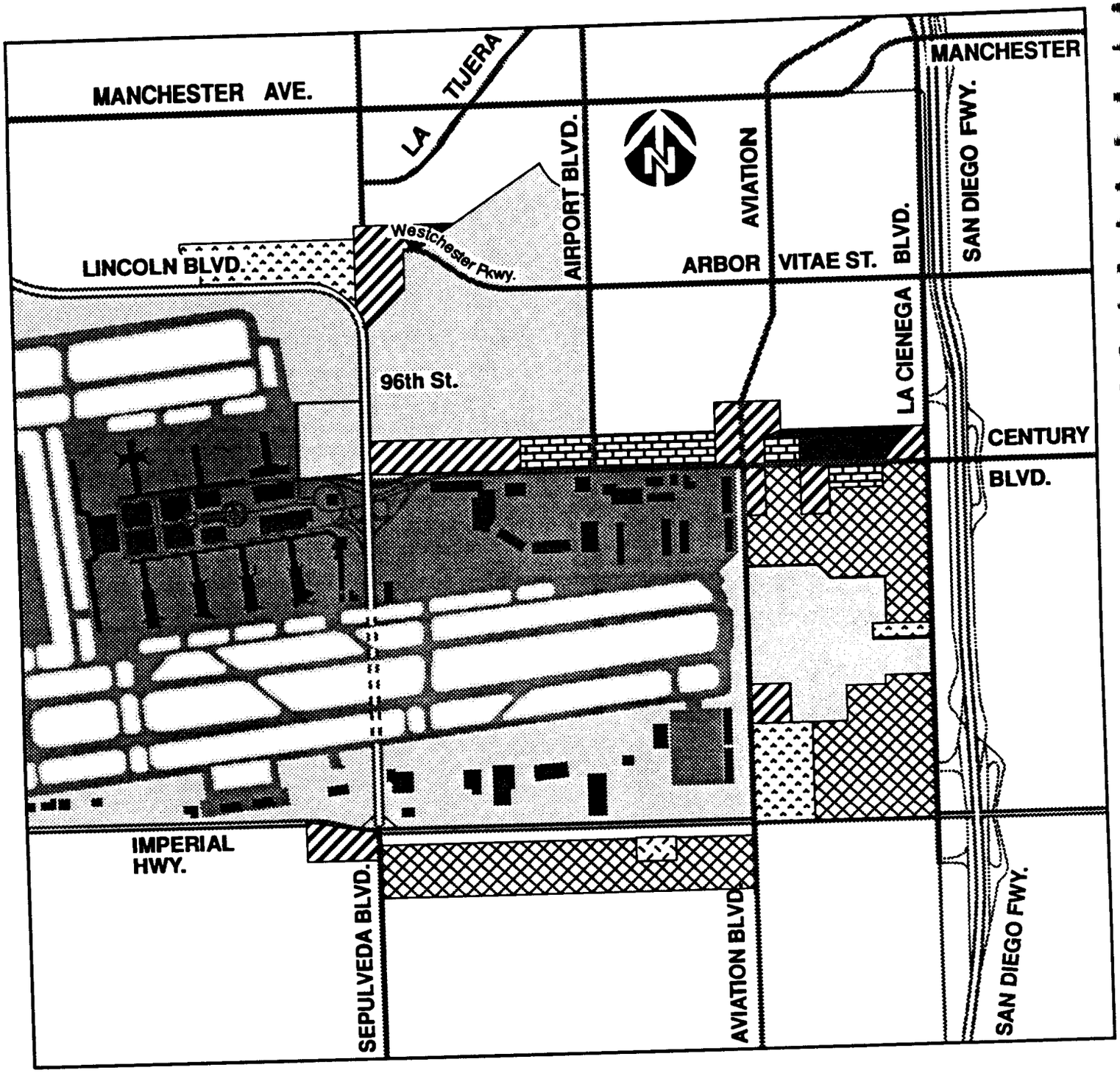
4.1.2 Existing Plans and Policies

Figure 4-2 displays locations in the project area covered by existing plans. The project alternatives would be located within the boundaries of the City of Los Angeles. Several plans have been adopted to address land use and transportation for the area that would be traversed by the proposed Metro Green Line Northern Extension. The relevant plans include:

Los Angeles International Airport - Interim and Long-term Plans

The LAX Interim Plan is one element of the City's General Plan adopted by the City Council in January 1981. The Interim Plan governs all properties under the jurisdiction of the DOA. The plan is a short-term, general guide for coordinating the development of airport facilities with that of the surrounding communities.

Specifically, with regards to transportation, the Interim Plan states that rapid transit "is needed to provide access to and from the airport". Further, the plan states that any mass transit line which serves the airport shall be designed to also service the intensive developments along Century Boulevard.



LEGEND

- Commercial
- Industrial
- Airport & Airport Related Facilities
- Hotel
- Residential
- Public/Quasi-public
- Vacant

Figure 4-1
EXISTING LAND USES

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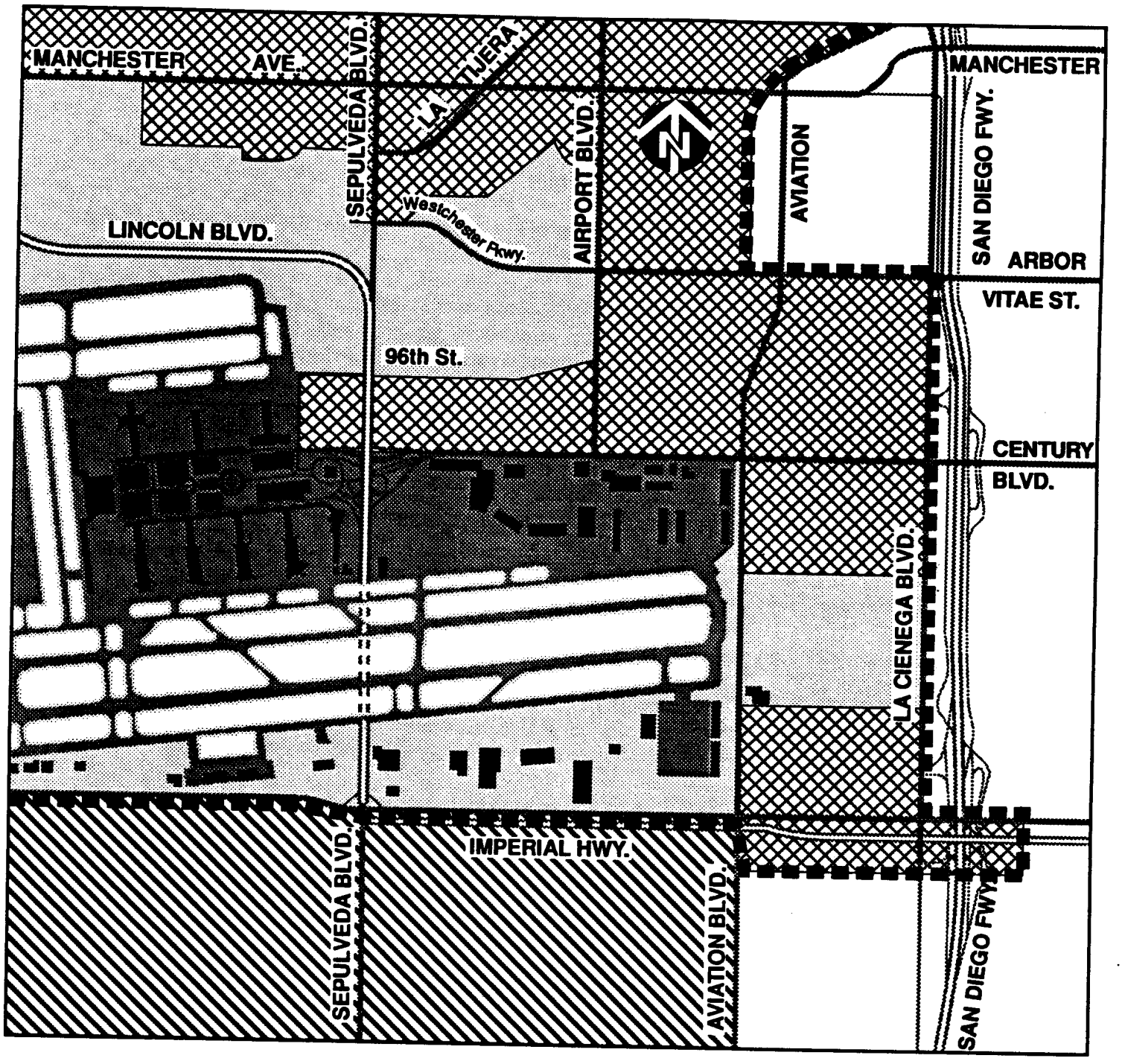

LEGEND

- Westchester-Playa del Rey District Plan
- El Segundo General Plan
- Los Angeles International Airport Interim and Long Range Plans
- Coastal Transportation Corridor Boundary

Figure 4-2
EXISTING PLANS IN THE PROJECT AREA

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In March 1989, the City Council instructed the DOA Director of Planning to prepare a plan for LAX to address the long-term issues of airport capacity, ground access, and environmental impacts. This plan, when completed, will supersede the Interim Plan. A draft conceptual goal and policy framework was completed in June, 1992. The framework will lead to an LAX Master Plan that will include the policies, programs, and monitoring methods required to mitigate the effects of growth at LAX within the constraints established by the Plan.

The draft framework includes several objectives and policies regarding transit including preparation of a comprehensive long-range transportation plan for the LAX area which includes expansion of transit/high occupany vehicle; increasing the proportion of person trips associated with transit by 2010; designing any mass transit line serving LAX to serve the intensive development along Century Boulevard; planning on-airport improvements to be compatible with proposed ground access transit systems serving the airport area to allow passengers to access desired locations within the airport directly by transit; and designing additional terminal and landside capacity to function in conjunction with the off-airport ground transportation system. The contracts for preparation of the upcoming master plan are expected to be awarded in May 1993.

Westchester-Playa del Rey District Plan

The District Plan is part of the City's General Plan and was adopted by the City Council in November 1985. The Westchester-Playa del Rey District Plan includes those areas just east and north of LAX. The northern boundary of the District Plan extends north to the Ballona Channel and generally to Jefferson Boulevard on the east side of Lincoln Boulevard.

With regards to circulation, the District Plan states that the circulation system proposed in the plan must be supplemented by a greatly improved public transportation system to accommodate the projected traffic of the district. The District Plan further recommends a transit corridor along Aviation, Century, and Lincoln Boulevards as part of a regionwide transit system.

The District Plan is in the process of being updated to include all plan amendment changes since 1985. The revised plan will also include the annexation of a portion of Playa Vista, a proposed mixed-use development located near Lincoln and Jefferson Boulevards.

Bicycle Plan

The Bicycle Plan is part of the Circulation Element of the City's General Plan and was adopted by the City Council in March 1977. The purpose of the plan is to provide a guide to the future development of citywide bicycle transportation.

The plan proposes a bicycle transportation system totalling approximately 600 miles. The system would be a dual purpose network serving both recreational and transportation needs. A "backbone" system of approximately 300 miles total is proposed. This system includes bike routes completed, in process of design, or under construction. Within the project area, Westchester Parkway, Lincoln Boulevard, Sepulveda Boulevard, and Imperial Highway are designated as planned bicycle routes.

Coastal Transportation Corridor Specific Plan

The Coastal Transportation Corridor Specific Plan was adopted as an ordinance by the City of Los Angeles in September 1985. The Specific Plan includes the Westchester-Playa del Rey District Plan, the Palms-Mar Vista-del Rey District Plan, the Venice Community Plan, and the Los Angeles International Airport Interim Plan.

In November 1983, the City Council adopted a motion to initiate a Coastal Transportation Plan to address the present and future needs for transportation within the stated corridor, which is experiencing serious traffic and transportation problems. An important purpose of the Specific Plan is to promote the development of coordinated and comprehensive transportation plans and programs with other jurisdictions and public agencies. In addition, the Specific Plan states that substantial improvement to the capacity of the regional and local transportation systems within the corridor will be necessary to accommodate development and prevent areawide congestion.

This Plan is in the process of being updated. The revised plan will redefine "significant transportation impact" so that congestion can be addressed before gridlock is reached. The plan also will increase the fees that affected developments would have to pay for each trip they generate. In addition, a parking surcharge of one dollar per car would be levied for airport-serving parking lots. The funds collected would be used to improve area-wide transportation programs.

El Segundo General Plan

The City of El Segundo recently adopted a general plan delineating future development to 2010. None of these rail alternatives would be located in El Segundo. However, the shuttle bus alternative includes the use of buses along Imperial Highway which is at the northern boundary of El Segundo. The portion of the general plan in the area just south of Imperial Highway between Aviation and Sepulveda Boulevards proposes a mixture of corporate office, light industrial, general commercial, and urban mixed uses.

LACTC/MTA 30-Year Integrated Transportation Plan

This plan, prepared in April 1992 by LACTC/MTA, is a strategic planning tool which provides the framework necessary to develop and evaluate the most cost-effective means of improving mobility within Los Angeles County. The 30-Year Plan proposes a fundable plan that contains four components to improve mobility: highway, bus, rail, and transportation demand management. Within the rail component, the plan identifies eight committed rail projects and eight candidate corridor projects. Committed rail projects consist of those projects for which the need, financial commitment, and public and political support are clearly in place. Candidate corridors are those corridors which have sufficient existing and projected travel demand and congestion to warrant some form of high-capacity transportation improvement. This improvement could range anywhere from an all-bus solution to a fully grade-separated rail facility supported by a feeder bus system serving the stations. The Metro Green Line Northern Extension from the multi-modal transportation center to Westchester Parkway is identified as one of eight candidate corridors for the fundable plan.

LACTC/MTA Congestion Management Program

Los Angeles County is one of 32 urbanized counties within the state that are required to develop a Congestion Management Program (CMP). LACTC/MTA is responsible for developing and implementing the CMP within the county. The purpose of the CMP is to address congestion concerns by linking land use, transportation, and air quality decisions; developing a partnership among transportation decision makers on devising appropriate transportation solutions that include all modes of travel; and proposing specific transportation improvement projects. Projects identified in the CMP are eligible to be included in the local Transportation Improvement Program and the Regional Transportation Improvement Program, and are ultimately eligible for state funding.

Within the study area, San Diego Freeway, Sepulveda Boulevard, Lincoln Boulevard, and Manchester Avenue are designated as part of the CMP highway system. Manchester Avenue is designated an interim CMP route. Once the Glenn Anderson Freeway (I-105) is completed, it will be designated as a CMP highway, and Manchester Avenue will be reviewed by LACTC/MTA and the affected jurisdictions to determine whether the route should continue to be so designated.

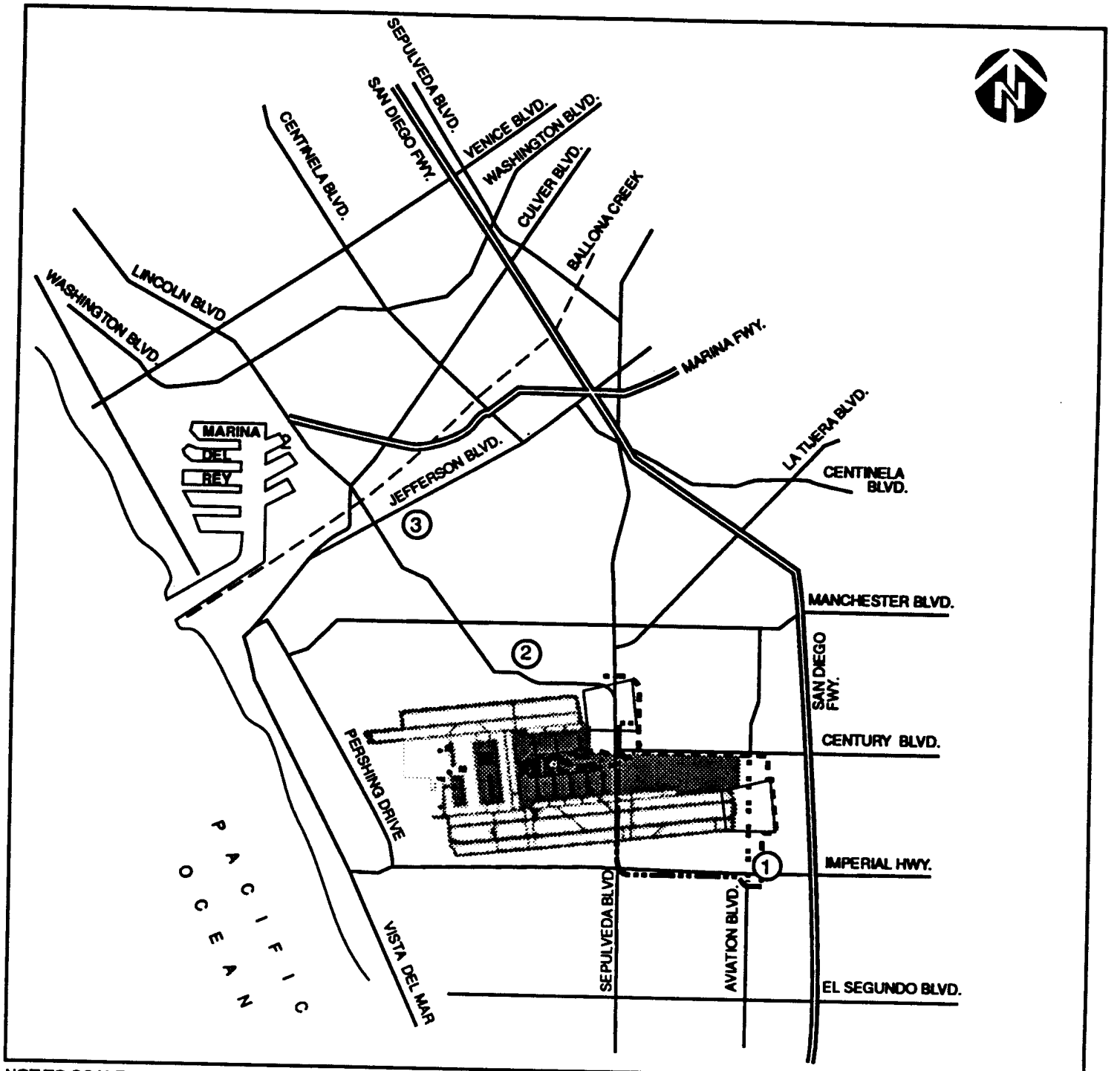
The CMP requires the analysis of transit as a mechanism for reducing congestion on the CMP highway system. Therefore, a CMP transit monitoring network has been identified which includes routes that are within the corridors of the Congested Corridor Action Plan and provide service parallel to the CMP highway system for five miles or greater. The purpose of monitoring the network is to gauge the effectiveness of transit in relieving traffic congestion in congested travel corridors. Within the study area, Line 560 (along Sepulveda Boulevard) is included in the transit monitoring network. Once the Metro Green Line is built and becomes operational, it will also be incorporated into the monitoring network.

4.1.3 Proposed Developments

Information regarding future planned developments in the study area was obtained through field surveys and discussions with the Los Angeles City Planning Department and the Los Angeles Department of Airports. The following developments (shown in Figure 4-3) are planned in the area:

Continental City

This is a private project to be developed by Continental Development Corporation. The 30-acre site is located on the northeast corner of Imperial Highway and Aviation Boulevard. The master plan for this project included development of a one million square foot hotel, two million square feet of office space, and 100,000 square feet of retail space. Since the master plan was approved, a portion of the northeast area of the site has been sold to the County of Los Angeles for development of a municipal court facility. Construction of that facility is scheduled to commence in the summer of 1993. Tract approval for the remaining portions of the Continental City property allows for development to occur anytime within the next twenty years.



NOT TO SCALE

LEGEND

- People Mover Through Lot B
- Metro Green Line Along Aviation Blvd.
- Shuttle Bus

1. Continental City
2. Airport-Northside Development
3. Playa Vista

Figure 4-3
PROPOSED DEVELOPMENTS

METRO

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Airport-Northside Development Project

This development falls under the jurisdiction of the DOA. The site is located north of Lincoln Boulevard and west of Sepulveda Westway.

A tract map has been approved for a 4.5-million square-foot development. The project consists of two major development areas: Westchester Center in the eastern part of the site, and a business park in the western portion of the site. Westchester Center will be a mixed use urban center, consisting of office buildings and hotels, with a limited amount of supporting services, retail and restaurants. The business park will be a business and research park of relatively low density. Westchester Parkway (now under construction) will provide the frontage and identity for most of the buildings within the business park. This development will also contain a small commercial center and, possibly, a hotel. The DOA indicated that development of the site is currently on hold, and there is no firm schedule for implementation of the proposed project.

Playa Vista

The proposed site (located approximately two and one-half miles north of the transit project) would be a new mixed-use community of 1,087 acres. The site will provide a combination of commercial, residential, recreational, public and open space uses. The site is divided into four development areas A, B, C, and D. Playa Vista Areas B, C, and D are located within the City of Los Angeles. At build-out, the project would provide 13,085 dwelling units, 5,025,000 square feet of office space, 595,000 square feet of retail space, 1,050 hotel rooms, a new marina, and a variety of civic and community serving uses. The plan calls for the restoration, preservation, and enhancement of approximately 345 acres of estuarine, coastal terrestrial, and bluff wildlife habitat areas; retention as open space of 130 acres containing the adjacent segment of Ballona Channel and a new marina; creation of 84 acres of neighborhood parks; and the construction of a 48-acre marina.

An EIR for the Phase I project and a program EIR for the master plan for Playa Vista are now being prepared pursuant to CEQA.

4.2 TRANSPORTATION AND CIRCULATION

4.2.1 Street and Highway System

The following summarizes existing conditions for each principal roadway in the corridor. Number of traffic lanes, presence of parking or restrictions, and average daily traffic (ADT) volumes are provided where the information was available from the City of Los Angeles or through field observations. The ADT volumes were taken from the Draft EIR for the Coastal Corridor Rail Transit Project - Northern Segment. Figure 2 in the Traffic Analysis in Appendix D of the Draft EIR displays ADT volumes on key streets within the corridor.

4.2.1.1 Freeways

Currently, the only operating freeway adjacent to the study area is the San Diego Freeway (I-405). The Glenn Anderson Freeway (I-105) is scheduled for completion in 1993. The San Diego Freeway is a major north/south route which connects the airport area to West Los Angeles and the San Fernando Valley to the north and Long Beach and Orange County to the south. Near Imperial Highway, I-405 has four lanes in each direction. The ADT on I-405 near the project alternatives is approximately 270,000 vehicles.

4.2.1.2 Major Highways

North/South Highways

Lincoln Boulevard - Lincoln Boulevard connects the City of Santa Monica with LAX and provides direct access to the Santa Monica Freeway. The number of existing lanes varies from two to three in each direction, separated by a raised median. The existing curb-to-curb width varies from 80 to 100 feet. The Los Angeles Department of Transportation has designated Lincoln Boulevard as a Super Major Highway. Therefore, the roadway is planned to have a 134-foot right-of-way with a 114-foot curb-to-curb width. This would allow for eight lanes of travel. The ADT on Lincoln Boulevard south of Manchester Boulevard is 34,250.

Sepulveda Boulevard - Sepulveda Boulevard is a major highway connecting LAX to West Los Angeles and Culver City to the north and El Segundo, Torrance, Wilmington, and Long Beach to the south. It also provides direct access to the San Diego Freeway. The number of lanes varies from three to four in each direction, and the curb-to-curb width varies from 80 feet to 100 feet separated by a raised median. The ADT on Sepulveda Boulevard is 78,460 vehicles north of Century Boulevard and 62,000 vehicles south of Century Boulevard.

Aviation Boulevard - Aviation Boulevard is a major highway connecting Manhattan Beach, El Segundo, and Hermosa Beach to LAX. It has three lanes in each direction separated by a painted median. The curb-to-curb width is 70 feet. Two railroad tracks run parallel to Aviation Boulevard on the west side of the street. The ADT on Aviation Boulevard is 24,570 vehicles south of Century Boulevard.

East/West Highways

Century Boulevard - Century Boulevard is classified as a major highway. It connects areas east of the Harbor Freeway to LAX. Century Boulevard has direct access to the Harbor

Freeway and San Diego Freeway. It has four lanes in each direction, separated by a raised median. Century Boulevard branches east of Vicksburg Avenue to provide access to Vicksburg Avenue and Sepulveda Boulevard at-grade and lower and upper decks of LAX. The curb-to-curb width varies from 110 feet to 50 feet where it branches. The ADT on Century Boulevard is 70,750 vehicles west of Airport Boulevard and 98,970 vehicles west of Aviation Boulevard.

4.2.1.3 Critical Intersections

Existing traffic conditions along the study corridor are depicted by the level of service (LOS) at selected critical intersections. The LOS is related to the volume-to-capacity (V/C) ratio of the intersection during the peak hour, and is a qualitative measure of the intersection's traffic conditions. LOS D is most often considered the lowest acceptable LOS for planning purposes. For the City of Los Angeles, LOS D or better (V/C ratio of less than 0.90) is considered satisfactory.

Table 4-1 summarizes the existing (1990) V/C ratios and LOS at several intersections within the study area during the AM and PM peak hours. This information comes from the Draft EIR, First Phase for Playa Vista, September 28, 1992. Of the 12 intersections studied, only four operate at acceptable LOS's during both the AM and PM peak hours, based on the City of Los Angeles criteria. These four intersections include: Airport Boulevard/96th Street; Aviation Boulevard/Westchester Parkway/Arbor Vitae Street; Aviation Boulevard/Arbor Vitae Street; and Sepulveda Boulevard/Century Boulevard. Two intersections (Aviation Boulevard/Century Boulevard and Airport Boulevard/Century Boulevard) operate at an acceptable LOS only in the morning peak. The other six intersections are not operating at acceptable LOS's during either the AM or PM peak hours.

4.2.2 Transit Service

All regional bus lines serving LAX operate in and out of the SCRTD/MTA LAX Transit Center located on 96th Street just east of Vicksburg, within LAX Parking Lot C. The RTD has recently become a part of the newly formed MTA. A free LAX shuttle picks up passengers at the transit center and carries them to the terminals within the LAX complex. The bus lines are operated by RTD/MTA, Culver City, Santa Monica's Big Blue Bus, and Torrance Transit.

A total of nine RTD/MTA lines either pass through or originate and terminate at the LAX Transit Center. These routes include:

- Line 42 - Downtown Los Angeles through Crenshaw Center and the communities of Windsor Hills, Ladera Park, and Westchester to the LAX Transit Center.

- Line 111/112 - Whittwood Mall in Whittier through the communities of La Mirada, Santa Fe Springs, Downey, Huntington Park, South Los Angeles, and Inglewood to the LAX Transit Center. The Line 112 portion operates from LAX to Lynwood.

- Line 117 - Downey through the communities of South Gate, Watts, South Los Angeles, and Inglewood to the LAX Transit Center.

TABLE 4-1

EXISTING (1990) VOLUME/CAPACITY RATIO AND LEVEL OF SERVICE

Intersection	Period	V/C	LOS
Airport Blvd/96th Street	AM PM	0.577 0.883	A D
Airport Blvd/Weschester/Arbor Vitae	AM PM	0.550 0.713	A C
Aviation Blvd/Arbor Vitae	AM PM	0.663 0.893	B D
Aviation Blvd/Century Blvd	AM PM	0.824 0.949	D E
Aviation Blvd/Imperial Highway	AM PM	1.004 0.958	F E
Century Blvd./Airport Blvd	AM PM	0.663 1.039	B F
Lincoln Blvd./Manchester Ave	AM PM	0.979 1.121	E F
Sepulveda Blvd/Century Blvd	AM PM	0.529 0.734	A C
Sepulveda Blvd/Imperial Highway	AM PM	1.111 1.089	F F
Sepulveda Blvd/La Tijera	AM PM	1.042 0.999	F E
Sepulveda Blvd/Lincoln Blvd	AM PM	1.050 1.213	F F
Sepulveda Blvd/Manchester Ave	AM PM	1.061 1.262	F F

Source: Draft EIR, First Phase For Playa Vista, September 28, 1992.

- Line 120 - Brea Mall in Orange County through the communities of La Habra, La Mirada, Norwalk, Downey, Lynwood, Watts, and Hawthorne to the LAX Transit Center.

- Line 220 - West Hollywood through Beverly Hills, Culver City, Marina del Rey, Playa del Rey, and the World Way West Industrial area to the LAX Transit Center.

- Line 225/226 - Palos Verdes Peninsula, through Redondo Beach, Hermosa Beach, and the El Segundo industrial area to the LAX Transit Center.

- Line 232 - Long Beach Transit Mall in downtown Long Beach through the communities of Long Beach, Wilmington, Harbor City, Lomita, Torrance, Redondo Beach, Hermosa Beach, Manhattan Beach, and El Segundo to the LAX Transit Center.

- Line 439 - Express service from downtown Los Angeles via the Santa Monica Freeway to the West Los Angeles Transit Center, and then to the Fox Hills Mall and through the community of Westchester to the LAX Transit Center. It then continues on through El Segundo, Manhattan Beach, Hermosa Beach, and Redondo Beach.

- Line 560 - Lakeview Terrace through the communities of Panorama City, Van Nuys, and Sherman Oaks in the San Fernando Valley to UCLA, Westwood, Fox Hills, Westchester, and the LAX Transit Center.

The SCRTD/MTA lines operate in and out of the LAX Transit Center primarily by way of Sepulveda Boulevard. Lines operating on Sepulveda include 42, 232, 439, and 560. Other streets used by SCRTD/MTA lines for operations include Imperial Highway (Lines 120 and 220), Century Boulevard (Line 117), and Arbor Vitae Street (Line 111/112).

The Santa Monica Big Blue Bus Line 3 operates from the UCLA Bus Terminal in downtown Santa Monica through Santa Monica, Marina del Rey, and Westchester to the LAX Transit Center. The line operates in and out of the center via Manchester and Sepulveda to a one-way loop on Westchester Parkway, Airport Boulevard, and 96th Street. Culver City Bus Line 6 operates from UCLA through Westwood and Fox Hills Mall to the LAX Transit Center. It operates in and out of the transit center by way of Sepulveda Boulevard. Torrance Transit Line 8 operates along Hawthorne Boulevard in Torrance through the Galleria at South Bay, Manhattan Beach, and El Segundo to Douglas Street, and then north to Imperial Highway, west to Sepulveda Boulevard, and north to the LAX Transit Center.

4.3 GEOLOGIC AND HYDROLOGIC RESOURCES

4.3.1 Geology

4.3.1.1 Geology and Soils

The study area comprises the northern end of the Newport-Inglewood Uplift and is located along the northwestern margin of the Los Angeles Basin. The major physiographic feature in the vicinity is the El Segundo Sandhills. This terrain is mostly flat to gently sloping mesa approximately 120 feet above sea level.

The upper geographic unit of the El Segundo Sandhills is older sand dunes which vary in thickness from over 100 feet at the southwest end of LAX to the ground surface northeast of LAX. Borings encountered mostly fine to medium, poorly graded, dense sand and some clayey sand and clay layers. The expansivity of the clay diminishes with depth.

The Lakewood Formation underlies the older sand dunes. This formation comprises all upper Pleistocene sediments except the older dune deposits. Generally, the Lakewood Formation is unconsolidated. This formation consists of alternating layers of dense sand, clayey sand, silty sand, and clay.

4.3.1.2 Seismic Activity

Major active faults in the Los Angeles area include the San Andreas, San Jacinto, Whittier-Elsinore, Palos Verdes, and Newport-Inglewood right lateral strike-slip faults associated with the San Andreas Fault system; and the Malibu-Santa Monica, Arroyo Parida-San Cayetano, San Fernando-Sierra Madre, and Santa Susana reverse faults associated with the Transverse Ranges fault system (Table 4-2). These faults could produce ground shaking in the study area during an earthquake episode.

The proposed rail alternatives cross the Charnock Fault at Aviation Boulevard near Imperial Highway and at Century Boulevard near Airport Boulevard. There is no known reported evidence of movement on this fault within the upper Holocene deposits. The Charnock and the nearby Overland Avenue Fault zones are considered potentially active. There exists no potential to a low potential for liquefaction or subsidence. The Charnock and Overland Faults are part of a major fault system: the Newport-Inglewood Fault Zone. According to the Los Angeles County General Plan (1980), the maximum expected earthquake that may occur on the Charnock and Newport Inglewood Fault zones would have a Richter magnitude of 7.0.

The Newport-Inglewood Fault system is the nearest active fault to the project. It is located northeast of the project alternatives and consists of a series of northwest-trending, strike-slip faults. The 1933 Long Beach earthquake, with a magnitude of 6.3, and the 1920 Inglewood earthquake, with an estimated magnitude 5.0 to 5.5, occurred on faults located within the Newport-Inglewood Fault system. The Newport-Inglewood Fault is expected to be capable of a maximum credible earthquake of Richter magnitude 7.0. Based on the historical record, it is estimated that the maximum probable earthquake along the Newport-Inglewood Fault would be on the order of Richter magnitude 6.3 to 6.5.

TABLE 4-2

MAJOR ACTIVE FAULTS IN THE AREA

Major Faults	Approximate Distance to Project Site (miles)	Fault Length (miles)	Maximum Credible Richter Magnitude	Displacement (mm/year)
San Andreas	44	745	8.0	34.0
San Jacinto	65	130	7.5	10.0
Whittier-Elsinore	22	115	7.5	10.0
Palos Verdes	4	30	7.0	0.3-0.7
Newport-Inglewood	0	38+	6.8-7.0	0.5-1.0
Malibu-Santa Monica	4	60+	7.0	0.2
Arroyo Parida-San Cayetano	46	58	7.0	2.0
San Fernando-Sierra Madre	18	63	7.0	3.0
Santa Susana	22	14	6.9	1.0

Source: Myra L. Frank and Associates 1988.

The Sierra Madre Fault Zone is located at the base of the San Gabriel Mountains approximately 18 miles north of the project area. The Sierra Madre Fault system consists of a series of east/west-trending, north-dipping, thrust faults. The San Fernando segment of the Sierra Madre Fault Zone produced the Richter magnitude 6.4 San Fernando earthquake in 1971. Seismologists believe that the recurrence interval at any one point on this fault ranges between 200 and 5,000 years.

The Whittier Fault is another active fault located approximately 22 miles east of the project area. According to seismologists, the Whittier Fault can produce a maximum credible earthquake of Richter magnitude 7.5. It is estimated that the maximum probable earthquake along the Whittier Fault would be on the order of Richter magnitude 6.5.

The San Andreas Fault is a major northwest-trending, right-lateral, strike-slip fault which, at its closest point, is located approximately 44 miles northeast of the project area. The San Andreas is classified as an active fault with the most recent earthquake on the central section occurring in 1857, which had a magnitude that has been estimated to be greater than 8.0 on the Richter scale. The recurrence interval on the central portion of the San Andreas is estimated to be between 126 to 300 years. The San Andreas is assumed to be capable of producing a maximum credible earthquake of Richter magnitude 8.25. Based on the historical record, it is also estimated that the maximum probable earthquake along the San Andreas Fault would be on the order of 8.25.

4.3.1.3 Soils

Subsurface soil materials in the vicinity of the project consist mainly of alluvial material composed of silt, sand, gravel, and boulders; younger alluvium composed of similar loose deposits of sand and gravel; and old alluvium containing fine-grained and cohesive material composed of clay, silt, sand, and gravel. Soils of this type consist of inert materials and are considered nonhazardous group 3 soils; that is, these soils are suitable for use as fill materials in parks and recreation areas, land reclamation, and highway construction.

There is a potential that soils contaminated with hazardous substances may be encountered during the course of construction activities. Locations of potentially hazardous materials are discussed in Section 4.14. Section 5.15 examines the potential impacts related to hazardous substances and identifies appropriate mitigation measures should these materials be encountered.

4.3.2 Hydrology

There are no surface waters in the project area. The proposed project area is located within the West Coast Groundwater Basin. The West Coast Basin includes a portion of the El Segundo Sandhills. The Quaternary sediments in this area contain the principal freshwater resources.

The Silverado aquifer, a major ground water aquifer in the Los Angeles Basin, is located within the San Pedro Formation of the Ballona Gap about two miles north of the project area. Within the older sand dunes of the El Segundo Sandhills area, no groundwater was encountered to explored depths of 61 feet. However, perched water zones may be encountered.

The alluvium deposits are the youngest water-bearing sediments in the study area. The semi-perched aquifer within the alluvium occurs at or near the surface in much of the Ballona Gap. This aquifer is typically composed of coarse sand and gravel deposits which are remnants of abandoned stream channels. Historically, little beneficial use has been made of the water in this aquifer since wells perforated in it yield small quantities and have poor water quality. No designated sole source aquifers are located anywhere within Los Angeles County.

4.4 AIR QUALITY

The project is located in the South Coast Air Basin, a 6,600 square mile area encompassing Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino counties. The South Coast Air Quality Management District (SCAQMD) samples ambient air at 29 monitoring stations in the basin. Figure 4-4 displays locations of air monitoring stations in the SCAQMD. The Hawthorne Station monitors air quality in the vicinity of the Metro Green Line Northern Extension project.

Contaminant levels of air samples are compared to federal and state standards to determine air quality. These standards are set by the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board at levels to protect public health and welfare with an adequate margin of safety. There are both federal and state standards for ozone, carbon monoxide, nitrogen dioxide, PM10 (suspended particulate matter 10 microns or less in diameter), sulfur dioxide, and lead. The SCAQMD also measures for two other state standards: sulfate and visibility. Standards for five major pollutants and the number of days the standards for these pollutants have been exceeded at the Hawthorne Station are shown in Table 4-3.

Ozone levels exceed federal and state standards everywhere in the basin. The Los Angeles urban area exceeds this standard more frequently than any other area in the United States, and also records the highest peak readings.

Federal and state standards for carbon monoxide are exceeded in more densely populated Los Angeles and Orange Counties, but not in Riverside and San Bernardino Counties. The federal and state standards for nitrogen dioxide are exceeded in Los Angeles County, the only area in the nation which still exceeds the federal standard. The number of readings over the standard fluctuates from year to year depending on weather patterns. PM10 levels exceeded the federal and state standards in Los Angeles, Riverside, and San Bernardino Counties in 1990 and 1991. Sulfur dioxide and lead levels in all areas of the basin are below federal and state standard limits.

Table 4-4 describes the major pollutants currently being monitored, the major sources of the pollutants, and their effects.

4.4.1 Climate

Bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east, the South Coast Air Basin is an area of high air pollution potential due to both physiographic and climatological influences.

The strength and location of a semipermanent, subtropical high pressure cell over the Pacific Ocean primarily controls the climate of the basin. Climate is also affected by the moderating effects of the nearby oceanic heat reservoir. Warm summers, mild winters, infrequent rainfall, moderate daytime onshore breezes, and moderate humidities characterize local climate conditions.

TABLE 4-3

SUMMARY OF AIR QUALITY STANDARD VIOLATIONS AT THE HAWTHORN MONITORING STATION

Pollutant	1988	1989	1990	1991	1992
Ozone (O_3)					
State/federal standard (1-hr avg) 0.10/0.12 ppm					
Highest concentration	.22	.19	.10	.11	.15**
Number of days state/federal standard exceeded	11/5	11/3	3/0	17/0	7/1**
Carbon Monoxide (CO)					
State/federal standard (1-hr avg) 20.0/35.0 ppm					
Highest concentration	23	23	19	18	18**
Number of days state/federal standard exceeded	4/0	2/0	0/0	0/0	0/0**
Nitrogen Dioxide (NO_2)					
State/federal standard (1-hr avg) .25/0.25 ppm					
Highest concentration	.27	.24	.23	.21*	N/A
Number of days state/federal standard exceeded	1/1	0/0	0/0	0/0	N/A
Sulfur Dioxide (SO_2)					
State/federal standard (24 hr avg) 0.05/0.14 ppm					
Highest concentration	.022	.019	.035	0.19	N/A
Number of days state/federal standard exceeded	0/0	0/0	0/0	0/0	N/A
Particulate Matter less than 10 microns (PM_{10})					
State/federal standard (24 hr avg) 50/150 ug/m^3					
Highest concentration	N/A	133	127	79	53**
Number of days state/federal standard exceeded	N/A	44/0	28/0	23/0	3/0**

* Complete data was not available for this station.

** O_3 and CO data is for the period January through August 1992. PM_{10} data is for the period January through July 1992.

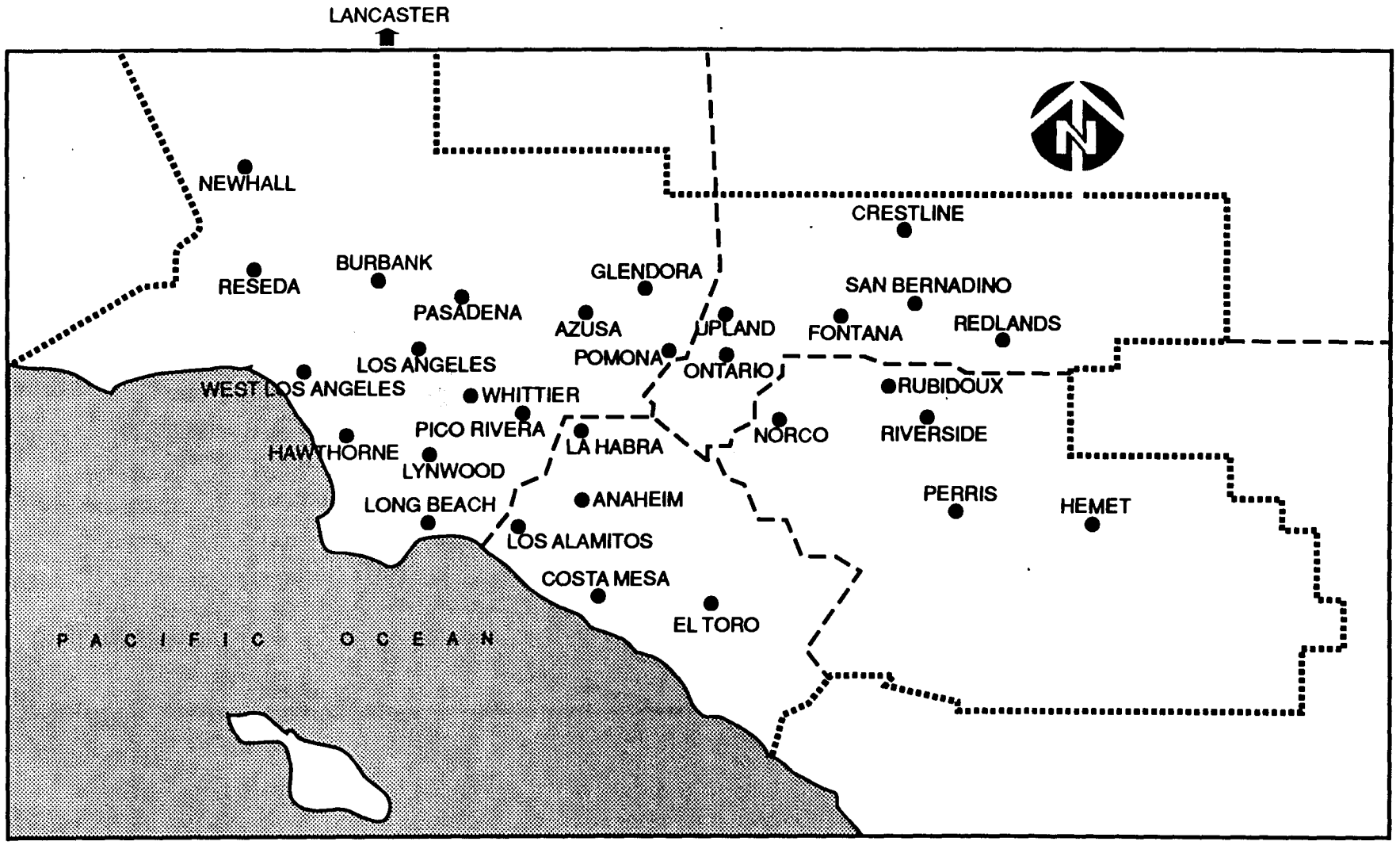
Source: SCAQMD 1988-1992.

TABLE 4-4

MAJOR POLLUTANTS MONITORED IN THE SOUTH COAST AIR BASIN

Pollutant	Description	Sources	Effects
Carbon Monoxide (CO)	Colorless, odorless gas produced by incomplete combustion of carbon-based fuels.	Automobiles	CO interferes with transfer of oxygen to the blood, depriving sensitive tissues of oxygen.
Oxides of Nitrogen (NOx)	Nitric oxide (NO) and nitrogen dioxide (NO_2) are important contributors to air pollutants. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion at high pressure or temperature occurs. NO_2 is a reddish-brown irritating gas formed by the combination of nitric oxide and oxygen.	Vehicle engines, power plants, refineries, and industrial plans.	Nox is an important component in photo-chemical reactions.
Sulfur Oxide (SO_2)	A colorless, pungent, irritating gas which is a by-product of the combustion of sulfur-containing fossil fuels. SO_2 may be changed to sulfur trioxide and sulfuric acid mist under humid conditions.	Fuel combustion is the major source while chemical plants, sulfur recovery plants, and metal processing are minor contributors. Changing levels of SO_2 reflect the natural gas in power plants and boilers.	Irritation of the upper respiratory tract and injury to lung tissue.
Photo-chemical	The primary pollutants include ozone (more than 90%) and a group of chemicals called organic proxy-nitrates. Ozone is a pungent, colorless toxic gas produced by the photochemical process.	Photochemical smog is caused by complex atmospheric reactions involving oxides of nitrogen and reactive organic gases and the ultraviolet energy from sunlight. Motor vehicles are the major source of oxides of nitrogen and reactive organic gases in the basin.	Damage to vegetation and cracking of un-treated rubber. Photo-chemical oxidants in high concentrations may also result in respiratory irritation and possible changes in lung functions.
Suspended Particulates	Atmospheric particulates consist of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists.	Dust and fume-producing industrial and agricultural operations, from combustion, and from atmospheric photo chemical reactions.	Very small particles of certain substances may produce injury by themselves or may act in conjunction with gases to reflect the respiratory system.
Hydrocarbons	The numerous compounds consisting of hydrogen and carbon in various combinations are known as hydrocarbons. Fossil fuels are included in this group.	Vehicles are the source of reactive hydro-carbons in the basin. Other sources include evaporation of organic solvents and petroleum refining.	Damage to plants by inhibiting growth and causing flowers to fall. Certain members of this contaminant group are important components in the reaction which produce photochemical oxidants.

Source: SCAQMD 1987; Bechtel Civil, Inc. 1988.



LEGEND

SOUTH COAST AIR BASIN

AIR MONITORING STATION

Figure 4-4

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT AIR MONITORING NETWORK

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Temperatures range from a monthly average minimum of 57.5°F in January to an average monthly maximum of 79.2°F in July. The mean annual temperature is 67°F, with relatively small daily and seasonal variations above or below the mean. Because of the moderating marine influence that decreases with distance from the ocean, monthly and annual spreads between temperatures are greatest inland and smallest at the coast. Temperature has an important influence on basin wind flow, dispersion along mountain ridges, vertical mixing, and photochemistry.

Precipitation usually occurs between November and March, with a mean annual precipitation of 8.92 inches. Annual rainfall is lowest in the coastal plain and inland valleys, higher in the foothills, and highest in the mountains.

The prevailing summer daytime winds in the area come from the southwest at 8 to 22 mph. On summer nights, the pattern reverses, with winds coming from the north at 4 to 6 mph. In winter months, daytime ocean winds range from 7 to 9 mph, and night winds range from 3 to 8 mph. Approximately 5 to 10 times a year the basin experiences hot, dry, easterly winds, called Santa Anas, which usually occur during autumn months and last an average of 2 to 3 days.

4.4.2 Meteorological Conditions

Meteorological conditions (such as light winds and shallow vertical mixing) and topographical features (such as surrounding mountain ranges) hinder the dispersal of air pollutants. The basin is an area of high pollution potential because frequent temperature inversions tend to trap air pollutants in a limited atmospheric volume near the ground and hamper dispersion. In January, a surface inversion exists on 70 percent of the mornings. The average wind speed in downtown Los Angeles is less than 5 mph on 80 percent of the days during the summer smog season. This is a measure of daily stagnation.

During summer's long daylight hours, plentiful sunshine provides the energy needed to fuel photochemical reactions between nitrogen dioxide and volatile organic compounds which result in ozone formation. To reach high levels of ozone requires adequate sunshine, early morning stagnation in source areas, high surface temperatures, strong and low morning inversions, greatly restricted vertical mixing during the day, and daytime subsidence that strengthens the inversion layer. The most frequent ozone transport route is from source areas in coastal areas to receptor areas along the base of the San Gabriel and San Bernardino mountains. With offshore flows, ozone transport is more limited and the highest concentrations occur in the western portion of the basin.

In the winter, temperature inversions occur close to ground level during the night and early morning hours. At this time, the greatest pollution problems are from carbon monoxide and nitrogen oxides. High carbon monoxide concentrations occur on winter days with strong surface inversions and light winds. Carbon monoxide transport is extremely limited, and highest concentrations are associated with areas of highest traffic density.

High nitrogen dioxide levels usually occur during the autumn or winter on days with summer weather conditions. These conditions include low inversions, limited daytime mixing, and stagnant windflow conditions. Although days are clear, sunlight is limited in duration and intensity, and photochemical reactions necessary to form ozone are incomplete.

As with ozone, a substantial fraction of PM10 forms in the atmosphere as a result of chemical reactions. Peak concentrations of both ozone and PM10 are downwind of precursor emission sources.

4.4.3 Air Quality Management Plan (AQMP)

Both federal and state Clean Air Acts require the preparation of a plan to reduce pollution to healthful levels. The 1989 AQMP was the first AQMP to define a comprehensive control strategy, achievable attainment dates, and an aggressive rulemaking schedule for implementation of the Plan.

Even as the 1989 AQMP was being developed, unprecedented population growth and concurrent environmental pollution precipitated passage of the 1988 California Clean Air Act (CCAA), and 1990 amendments to the federal Clean Air Act (CAA). Both of these laws require stricter controls on pollutants and attainment of the air quality standards within specified time frames. A revised AQMP, which reflected these new requirements from the federal and state government, was adopted on July 12, 1991. The updated AQMP establishes a blueprint to achieve the federal and state health-based air quality standards within twenty years. Attainment of the federal standards for ozone are to be achieved by 2010 and for PM10 by 2006. The deadlines for attaining federal standards for CO and NO_2 are 2000 and 1994, respectively.

Section 15125 of the State CEQA Guidelines requires that EIR's discuss the project's consistency with the current AQMP. The purpose of the consistency finding is to determine if a project is inconsistent with the assumptions and objectives of the regional air quality plans, and thus if it would interfere with the region's ability to comply with federal and state air quality standards. The consistency determination is discussed in Section 5 of this EIR.

4.5 BIOLOGICAL RESOURCES

4.5.1 Wildlife Resources

No state or federal listed species are known to occur in the project area, and a survey completed in 1988 for the EIR for the Coastal Corridor Rail Transit Project - Northern Segment did not reveal any listed or sensitive species. That survey also found that the existing biotic resources are limited, reflecting the urban character of the corridor.

The 1988 survey indicated that two sensitive insect species occur in the El Segundo Dune Complex at the west end of the airport (see Figure 4-5). The Loras Abornas moth (Lorita abornana) has been listed as federal Category 2 candidate species, and the El Segundo blue (Euphilotes battoides allyni), has been designated as endangered by the USFWS and the CDFG. A Category 2 candidate species indicates that the species appears to be in need of protection but insufficient data exists for an official listing as threatened or endangered.

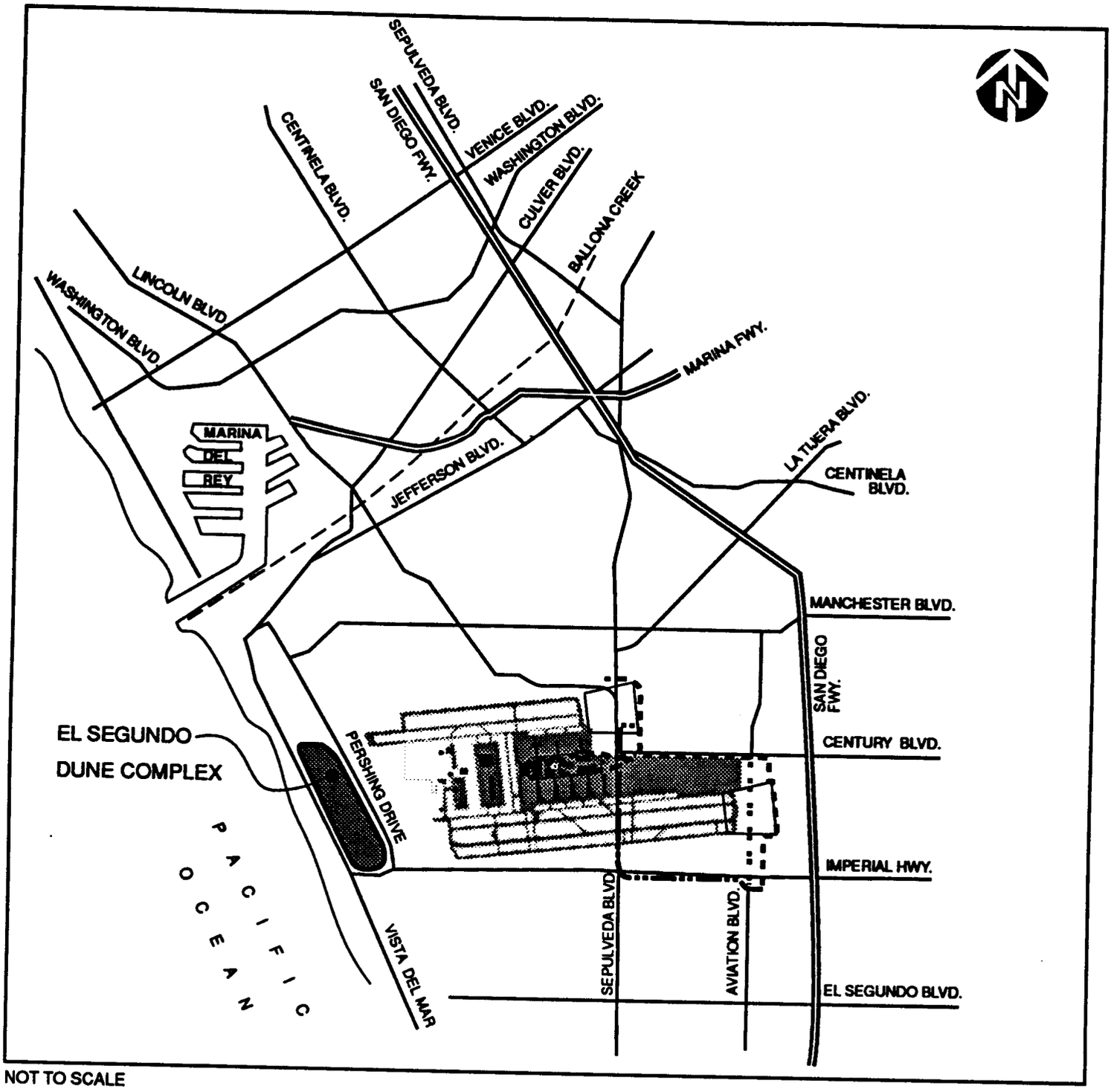
The El Segundo blue has been reduced in numbers primarily as a result of habitat elimination along the Southern California coast. The host plant for this butterfly is sea cliff buckwheat (Erigonum parvifolium), which is plentiful on the dunes where this species occurs. Because this species produces only one generation per year there can be large variations in population size. In addition, environmental conditions can affect population size of this species to a great extent. The USFWS has designated an area of the El Segundo Dunes in the vicinity of the site as a "Critical Habitat" for this species. No sea cliff buckwheat was identified in the rail corridor during the 1988 survey, and members of the butterfly species will only transiently, if ever, cross the project area.

4.5.2 Plant Resources

A vegetative survey of the project corridor for the 1989 EIR was also undertaken. The results of the survey between the Aviation/Imperial Station and the Westchester Station is presented below. The vegetation on the project alignment investigated included all plant life within 50 feet of the centerline of the rail line for the Metro Green Line Alternative along Aviation Boulevard. The survey did not include the portion of the alignment which would go through Lot B (associated with the People Mover through Lot B Alternative). However, because of the urban nature of both rail alignments, the results should be similar. The vegetation within the study area is composed entirely of ornamental shrubs and trees associated with landscaping of Aviation Boulevard, Century Boulevard, and large parking lots.

Bottle brush (Calistemon citrinus) occurs adjacent to Aviation Boulevard, where it grows along a wall. The remaining vegetation is generally sparse and primarily in the median of the road. Representative ornamental species found in this area are pink melelevea (Melelevea nesophilia), ice plant (Carpobrotus edulis), acacia trees (Acacia sp.), Indian laurel fig (Ficus nitida), gazanias (Gazania sp.), and gold mound (Lantana camara).

No species of plants on the project alignment have been designated as rare, endangered, or otherwise "sensitive" by the USFWS, CDFG, or the California Native Plant Society.



NOT TO SCALE

LEGEND

- - - - - People Mover Through Lot B

·· ·· ·· Metro Green Line Along Aviation Blvd.

—··— Shuttle Bus

Figure 4-5
SENSITIVE BIOLOGICAL RESOURCES

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A sensitive habitat (El Segundo Dune complex) is located in the vicinity (see Figure 4-5). None of the alternatives would be within this habitat. The El Segundo Dunes have been designated as a Significant Ecological Area (SEA Number 28) primarily because they represent the last remnants of a coastal dune complex that, at one time, occurred over several miles of coastline from Ballona Lagoon to Redondo Beach. Vegetation found at this location is not represented at any other location in California and is considered uncommon in Southern California. Many plants and invertebrates are restricted to this area and are not found elsewhere in the state. Representative species include the endangered El Segundo blue butterfly, the Loras Abornas moth, and Pholisma faniculatum, a member of the laurel family.

4.6 NOISE AND VIBRATION

This section describes the existing noise environment associated with the construction and operation of the proposed project. A Noise and Vibration Technical Report was prepared by Acoustical Analysis Associates, Inc. (AAA) for the 1989 EIR, and the results of the field measurement survey performed for that report are summarized below. Since noise levels are not expected to have changed significantly since preparation of that report, those field measurements are used in this SEIR. The complete noise analysis is provided in Appendix D of the 1989 EIR.

4.6.1 Noise Impact Criteria

Sound is created when an object vibrates and radiates part of its energy as acoustic pressure or waves through a medium, such as air, water, or a solid object. The degree to which there is annoyance and/or activity interference depends on the magnitude of the intruding noise level, the frequency with which it occurs, and the time of day of occurrence. A variety of criteria exists to assess the noise impacts of transportation projects. All of the criteria serve as recommended guidance; none are mandated by law. At present, there is a consensus among a variety of government agencies charged with establishing noise standards and criteria that the day-night average sound level is one preferred unit of noise exposure for use in assessing the potential impact of an intruding noise source. The day-night sound level (Ldn) represents an average of the A-weighted noise levels occurring during a complete 24-hour period; however, it includes a weighting applied to those noises occurring during nighttime (10 PM to 7 AM) hours.

For residential land uses, a Ldn of 65 decibels (dB) has been selected by a number of federal agencies (Department of Housing and Urban Development, Department of Defense, etc.) as a general dividing line between an unacceptable and an acceptable noise environment, based on several considerations including the potential for disturbance of various activities that normally are conducted at home.

For other land uses, the level of acceptability of the noise environment is dependent on the activity that is conducted and the type of building construction. For many noise-sensitive land uses, such as schools, churches, hospitals, etc., an Ldn value of 65 dB is also selected as the dividing line between an unacceptable and an acceptable noise environment.

In California, several agencies use an alternative measure of noise exposure known as the community noise equivalent level (CNEL). The CNEL is identical to the Ldn with one exception: in the CNEL measure there is a weighting of 5 dB applied to those noises occurring during evening hours (7 PM to 10PM). Thus, both measures represent a 24-hour average of the A-weighted noise levels at a particular location; the Ldn includes a nighttime weighting, and the CNEL includes both an evening and a nighttime weighting. For most transportation and community noise sources, the CNEL and Ldn are equal to within 1 dB (typically CNEL = Ldn + 0.5 dB).

The Federal Highway Administration (FHWA) uses the energy equivalent level (Leq) noise exposure descriptor for assessing the noise impacts of federal highway projects. Leq is similar to both the Ldn and CNEL descriptors in that Leq measures the relative average noise level over a certain period (usually one hour); however, Leq does not include any weightings for noise occurring at certain periods of the day. Table 4-5 displays the FHWA noise abatement criteria for varying land activity categories.

TABLE 4-5

FHWA NOISE ABATEMENT CRITERIA

Activity Category	$L_{eq}(h)$*	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries and hospitals.
C	72 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	N/A	Undeveloped lands.
E	52 (Interior)	Residences, motels, hotels, publics meeting rooms, schools, churches, libraries, hospitals and auditoriums.

* Hourly A-Weighted Sound Level (dBA) for the noisiest hour of the day in the design year.

Source: Transit Project Planning Guidance: Guidance Manual for Transit Noise and Vibration Impact Assessment, U.S. Department of Transportation, July 1990.

The Federal Transit Administration (FTA) evaluates the significance of federal transit project impacts through a comparison of existing (ambient) noise levels with the noise levels projected to result from a project. FTA generally considers an increase or decrease in noise of 3 dBA (Leq) or less caused by the project to have no significant impact. An increase of 10 dBA (Leq) or more is considered a significant impact, whose severity depends on the nearness of noise-sensitive land uses. If the increase in noise ranges between 3 and 10 dBA, its significance will depend upon the existing ambient level and the presence of noise-sensitive sites. In general, an increase in noise of 5 dBA (Leq) due to a project is often used as the point at which FTA considers the noise impact significant. FTA is now in the process of revising their criteria. The new criteria will compare the existing noise levels within a specific community to the future noise levels expected with the proposed project and will use Leq descriptors for land uses involving only daytime activities and Ldn descriptors where nighttime sensitivity is a factor. FTA is developing this criteria because it will have better applicability to various transit modes, the community is more annoyed by late-night or early-morning transit service, and because there is varying sensitivity of communities to projects under different background noise conditions.

Within the State of California, the Office of Planning and Research has adopted criteria for noise compatible land use for use in preparation of the noise element of the General Plan for communities. Table 4-6 presents these guidelines. This criteria includes ranges of acceptability for a given land use within a defined range of noise exposures (expressed as CNEL or Ldn). In general, evaluation of land use which falls into the "normally acceptable" or "normally unacceptable" noise environments should include consideration of the type of

TABLE 4-6

STATE OF CALIFORNIA
LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS

Land Use Category	Community Noise Exposure Level (Ldn or CNEL, dBA)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential - Low Density Single Family, Duplex, Mobile Homes	Up to 60	55-70	70-75	>75
Residential - Multi. Family	Up to 60	60-70	70-75	>75
Transient Lodging - Motels, Hotels	Up to 65	60-70	70-80	>80
Schools, Libraries, Churches, Hospitals, Nursing Homes	Up to 70	60-70	70-80	>80
Auditoriums, Concert Halls, Amphitheaters		Up to 70		>65
Sports Arena, Outdoor Spectator Sports		Up to 75		>70
Playgrounds, Neighborhood Parks	Up to 70		67 to 75	>72
Golf Courses, Riding Stables, Water Recreation, Cemeteries	Up to 75		70 to 80	>80
Office Buildings, Business Commercial and Professional	Up to 70	67 to 77	>75	
Industrial, Manufacturing, Utilities, Agriculture	Up to 75	70 to 80	>75	

Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable: New construction or development should generally not be undertaken.

Source: Governor's office, Office of Planning and Research, State of California, General Plan Guidelines, November 1990.

noise source, the sensitivity of the noise receptor, the noise reduction likely to be provided by structures, and the degree to which the noise source may interfere with speech, sleep, or other activities characteristic of the land use. The City of Los Angeles also has guidelines for compatible land use which are similar to the state's guidelines. This information is displayed in Table 4-7.

LACTC/MTA employs the criteria established for the Metro Blue Line as a design goal for other rail transit projects. The goals indicate what the maximum noise level of an individual LRT or railroad operation should be within certain land use categories. Table 4-8 presents this information.

With regard to construction noise, the City of Los Angeles has regulations, contained in Ordinance No. 144,331. Provisions of the Ordinance include, but are not limited to, the following:

- Between 7:00 A.M. and 9:00 P.M. of any day, the operation of the equipment associated with general construction work within a residence zone or within 500 feet of such a zone must not be performed in a manner that the noise created is loud, unnecessary and unusual, and substantially exceeds the noise customarily and necessarily attendant to the reasonable and efficient performance of such work.

- Between 7:00 A.M. and 10:00 P.M., construction equipment shall not exceed a level of 75 dBA at a distance of 50 feet from the equipment in any residential zone or within 500 feet of a residential zone. These limitations do not apply where compliance is technically infeasible. Technical infeasibility means that the noise limitations cannot be complied with despite the use of mufflers, shields, sound barriers, and/or other noise reduction device or techniques during the operation of the equipment.

- Between 10:00 P.M. and 7:00 A.M. of the following day, no person shall operate any lawn mower, backpack blower, lawn edger, riding tractor, or any other machinery, equipment, or other mechanical or electrical device, or any hand tool which creates a loud, raucous, or impulsive sound, within any residential zone or within 500 feet of a residence.

4.6.2 Existing Noise and Vibration Levels

In order to document the existing noise and vibration environment along the proposed alignments, a field measurement survey was conducted in October 1988 for the Coastal Corridor - Northern Segment EIR. During the survey, community noise levels were monitored at five potentially noise-sensitive locations along the proposed routes. Only two of these sites are located within the project corridor assessed in this SEIR. Vibration measurements were also gathered at four locations along the proposed routes (two sites are within the corridor assessed in this SEIR) in order to obtain samples of existing vibration levels due to roadway vehicle traffic at potentially sensitive sites.

TABLE 4-7

CITY OF LOS ANGELES
GUIDELINES FOR EXTERIOR NOISE
COMPATIBLE LAND USE

Land Use Category	Noise Exposure Level - (Ldn, dBA)			
	Clearly Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential - Single Family, Duplex, Mobile Homes	<60	60-65	65-75	>75
Residential - Multiple Family	<60	60-65	65-75	>75
Schools, Churches, Hospitals	<60	60-65	65-75	>75
Outdoor Spectator Sports, Playgrounds, Neighborhood Parks	<60	60-65	65-75	>75
Golf Courses, Riding Stables, Water Recreation, Cemeteries	<60	60-70	70-80	>80
Office Buildings, Personal, Business and Professional	<65	65-75	75-80	>80
Commercial - Wholesale, some Retail, Industrial, Manufacturing, Utilities	<70	70-80	>80	

Source: City of Los Angeles, EIR Manual for Private Projects, Page N2, August, 1975.

TABLE 4-8

LACTC/MTA
MAXIMUM NOISE LEVEL GOALS FOR LIGHT RAIL
TRANSIT AND RAIL FREIGHT OPERATIONS

Noise-Sensitive Receivers	Lmax Design Criteria, dBA	
	LRT	Railroad
RESIDENTIAL BUILDINGS		
Land Use Category 1 - Low-Density Residential	75	88
Land Use Category 2 - Medium-Density Residential	78	88
Land Use Category 3 - High-Density Residential (Multi-Family)	80	90
Land Use Category 4 - Commercial	80	93
Land Use Category 5 - Industrial	80	93
SCHOOLS, CHURCHES, HOSPITALS, MUSEUMS, THEATERS, LIBRARIES		
Land Use Categories 1-3	78	88
Land Use Category 4	80	88
Land Use Category 5	80	88

Source: The Long Beach - Los Angeles Rail Transit Project (Metro Blue Line) Design and Performance Criteria, Section 2. LACTC 1986.

Noise and vibration measurement locations were selected to cover the entire range of noise and vibration conditions existing along sensitive portions of the proposed alignments. Table 4-9 lists the information describing the two locations in the study area where short-term noise data were gathered. Vibration measurements were also taken at these sites. Figure 4-6 indicates the measurement locations. Location 1 is the former Dollar Rent-A-Car lot. Location 2 is representative of several office and commercial structures located in proximity to the proposed aerial structure near Westchester Parkway and Sepulveda Boulevard.

TABLE 4-9

NOISE AND VIBRATION MEASUREMENT LOCATIONS

No.	Location	Major Sources	Comments
1	Dollar Rent-A-Car (formerly)	Aircraft, Traffic	Daytime noise and vibration, rear of lot near 98th Street.
2	Bank of America Parking Lot	Aircraft, Traffic	Daytime noise and vibration, near Westchester Parkway

At each of the noise measurement locations an automatic noise monitor was used to gather the Leq, Lmax, and percentile noise levels over the short-term (20 minutes) sample period. Leq is an average of all the sound levels occurring over the measurement period. Lmax is the maximum sound level. L percentile is the sound level exceeded for the percentile of the measurement duration. For example, L_{10} is the sound level exceeded 10 percent of the noise measurement duration. Only daytime data were obtained at both locations due to the insensitive nature of the commercial/office land uses to nighttime noise and the domination of the noise environment by aircraft operations.

Vertical vibration acceleration levels were monitored for 20-minute periods to obtain existing ambient vibrations from nearby traffic sources. Vibration signals were measured with an accelerometer and recorded on magnetic tape. The tape samples were later reduced in the laboratory using a real time analyzer.

At each of the short-term measurement locations, the noise environment was sampled for 20 minutes in two consecutive 10-minute samples. Table 4-10 lists the average (Leq), maximum (Lmax), and percentile sound levels gathered during each sample at each location.

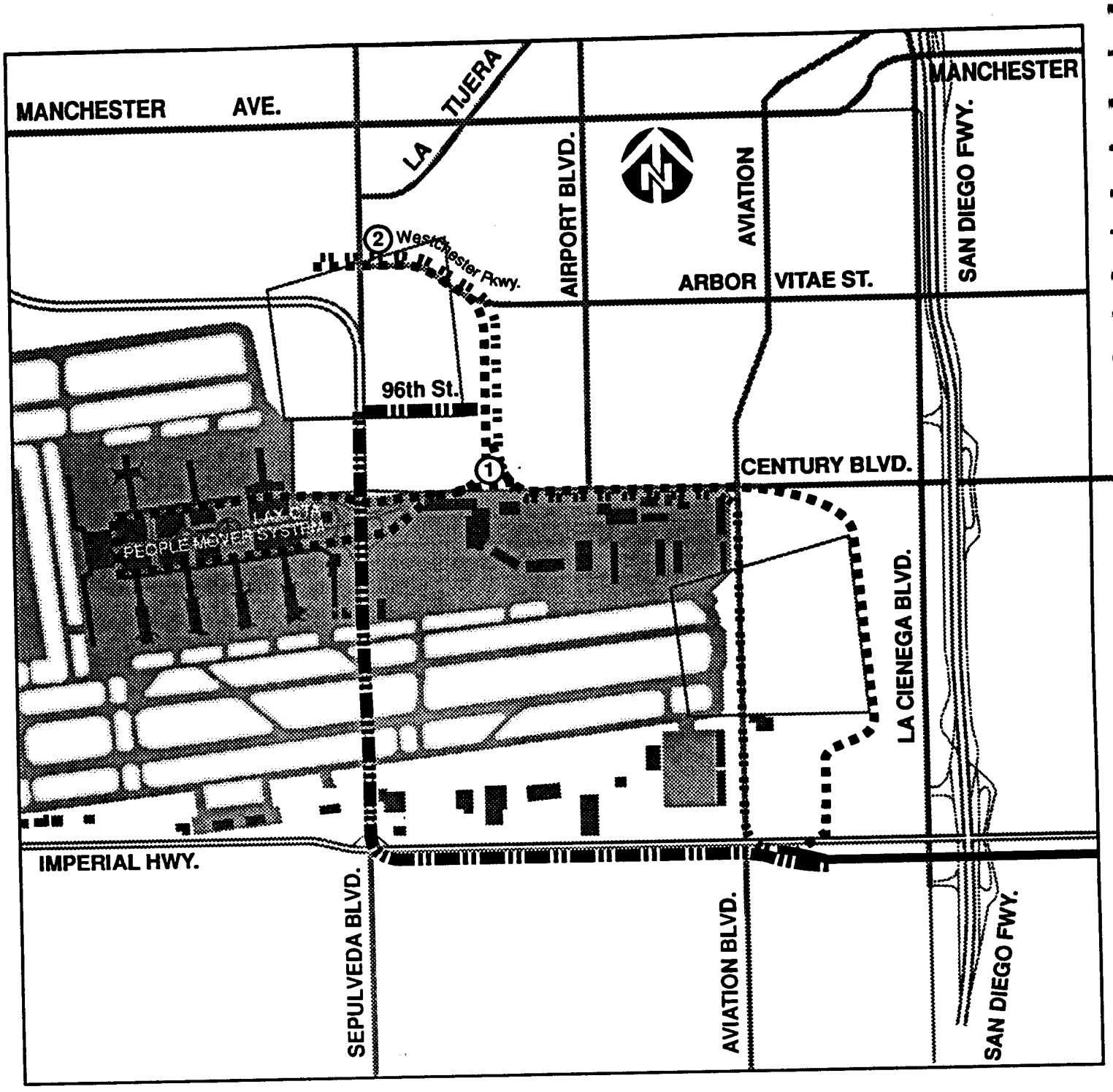
The tape-recorded samples of ambient vibrations were processed to provide the acceleration level in each one-third octave band over the frequency range of 5 Hz to 80 Hz. Figures 4-7 and 4-8 indicate the average and maximum vibration acceleration levels measured at both locations. The Committee on Hearing, Bioacoustics and Biomechanics (CHABA) "No Adverse Impact - Any Condition" curve is shown for comparison. No perceptible vibration levels currently exist along the proposed alignment.

TABLE 4-10

SHORT-TERM NOISE DATA
10-MINUTE INTERVAL REPORT, EXISTING CONDITIONS

Location No.	Interval No.	Start Time	Leq	Lmax	L(10)	L(50)	L(90)
1	1	14 30	69.4	81.3	73	67	61
	2	14 40	67.4	82.6	71	67	63
2	1	15 20	71.0	87.0	71	74	68
	2	15 30	69.2	80.7	74	67	62

Source: AAA, Inc. 1988.



LEGEND

- People Mover Through Lot B
- Metro Green Line Along Aviation Blvd.
- Shuttle Bus

Noise Monitoring Locations

- (1) Dollar Rental Car Lot (Former)
- (2) Bank of America Lot

Figure 4-6
NOISE MONITORING LOCATIONS

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Source: Acoustical Analysis Associates, Inc, 1988

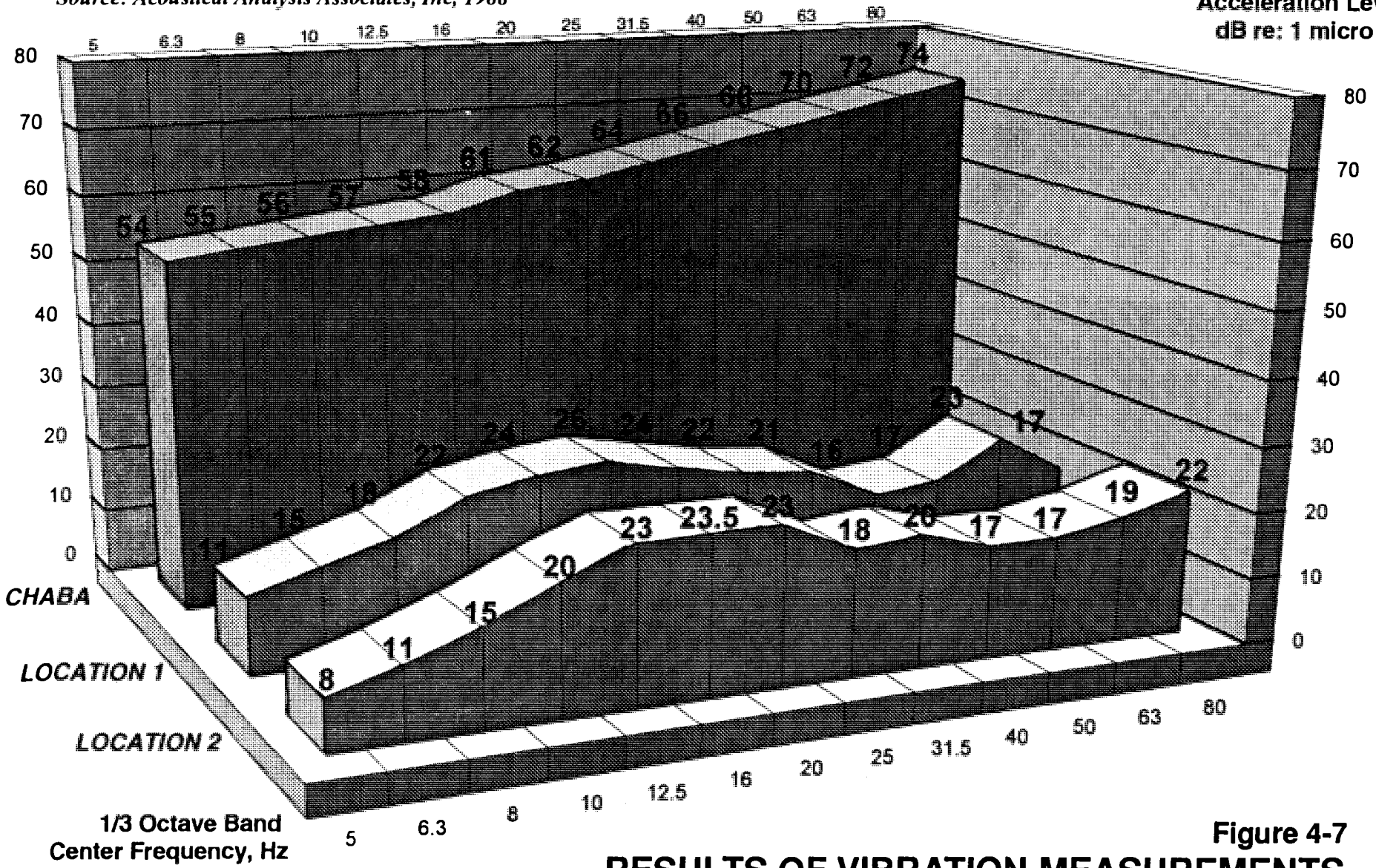

Figure 4-7

RESULTS OF VIBRATION MEASUREMENTS

EXISTING AVERAGE ACCELERATION LEVELS

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Source: Acoustical Analysis Associates, Inc, 1988

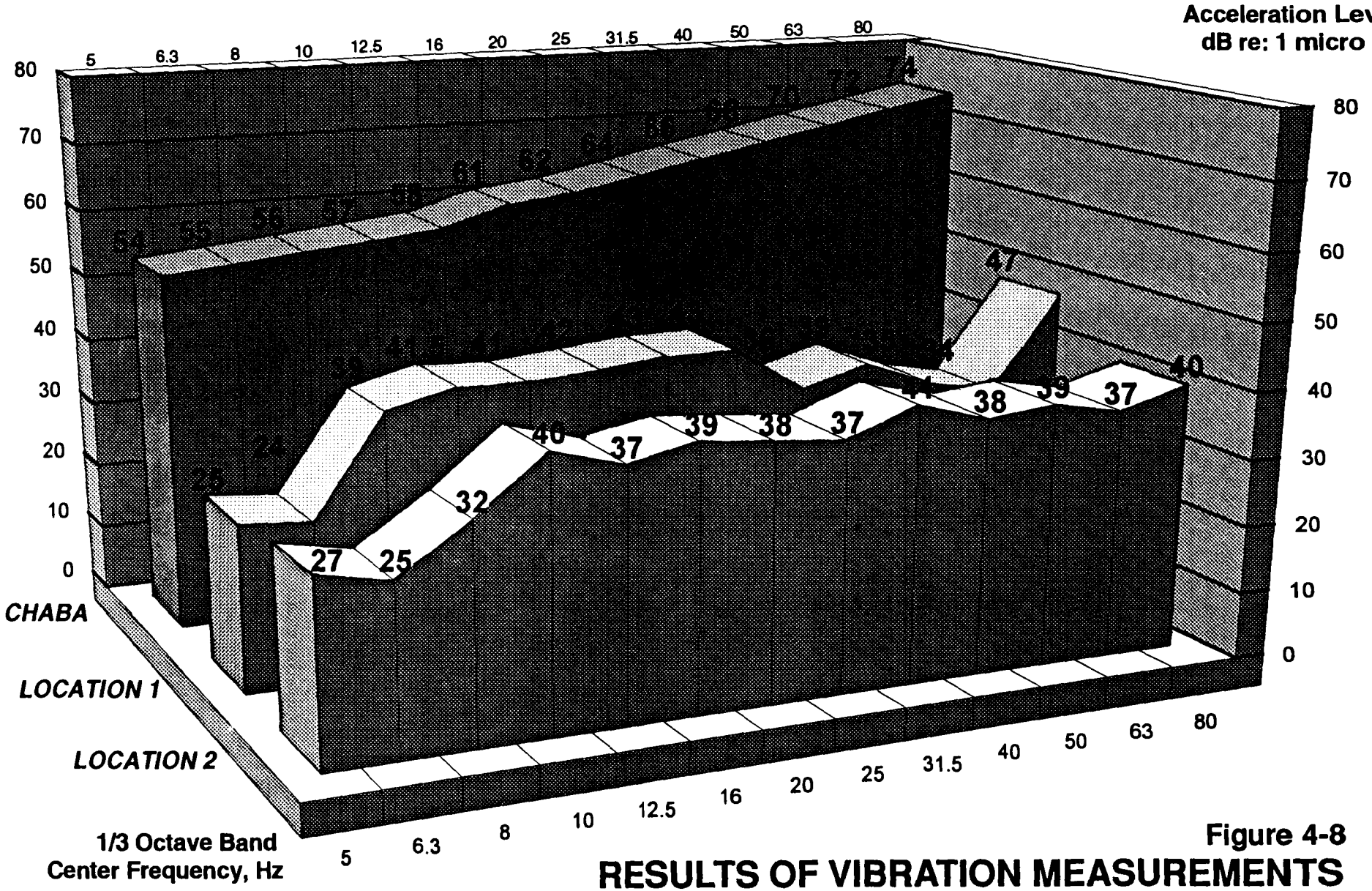

Figure 4-8

RESULTS OF VIBRATION MEASUREMENTS

EXISTING MAXIMUM ACCELERATION LEVELS

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4.7 POPULATION AND HOUSING

The Metro Green Line Northern Extension would pass through the western portion of the City of Los Angeles. The City of Los Angeles is divided into 35 community plan districts. The Metro Green Line Northern Extension would traverse a small portion of the Westchester-Playa del Rey community plan district. The population and housing characteristics of the affected district is summarized in Table 4-11. From 1986 to 1991 the community plan district experienced population and housing increases of less than 10 percent.

The Southern California Association of Governments (SCAG) makes growth projections which serve as the basis for regional planning and the development of growth-management policies. SCAG has divided its administrative region into 55 geographic subareas which are referred to as regional statistical areas (RSAs). The current adopted growth forecast for the SCAG region includes housing, population, and employment projections for each of the RSAs. The Metro Green Line Northern Extension project area is located in RSA 18 (South Bay). Table 4-12 presents both the SCAG 1987 estimates and 2010 forecasts for housing, population and employment and 1990 census data for RSA 18 and the county.

TABLE 4-11

POPULATION AND HOUSING CHARACTERISTICS OF REGION

District	Population			Housing		
	1986	1991	Change	1986	1991	Change
Westchester- Playa del Rey	47,178	49,000	1,822	20,961	22,900	1,939

Source: City of Los Angeles Planning Department 1991 (most recent housing and population estimates).

TABLE 4-12

POPULATION, HOUSING, AND EMPLOYMENT PROJECTIONS FOR REGION

				Change between 1987 and 2010	
	1987	1990	2010	Number	Percent
RSA 18 (South Bay)					
Population	575,223	566,786	652,952	77,729	13.5
Housing	218,310	222,965	271,512	53,202	24.4
Employment	391,134	N/A	452,603	61,469	15.7
Los Angeles County					
Population	8,416,915	8,863,164	10,231,203	1,814,288	21.6
Housing	3,023,412	3,163,343	3,959,098	935,686	30.9
Employment	4,354,380	N/A	5,392,248	1,037,868	23.8

Source: SCAG - 1987 estimates and 2010 forecasts, revised 1989; and U.S. Bureau of the Census - 1990 data.

4.8 PUBLIC SERVICES

4.8.1 Police And Law Enforcement

Since the proposed project would be located entirely within the City of Los Angeles, only the Los Angeles Police Department (LAPD) would be affected by the proposed project alternatives. The alternatives are located within the Police Department's Pacific Area District. The district is responsible for crime prevention, investigation, and law enforcement in the area. The officers, equipment, and location of the Pacific Area District's station are summarized in Table 4-13. The location of the police station is shown on Figure 4-9.

TABLE 4-13

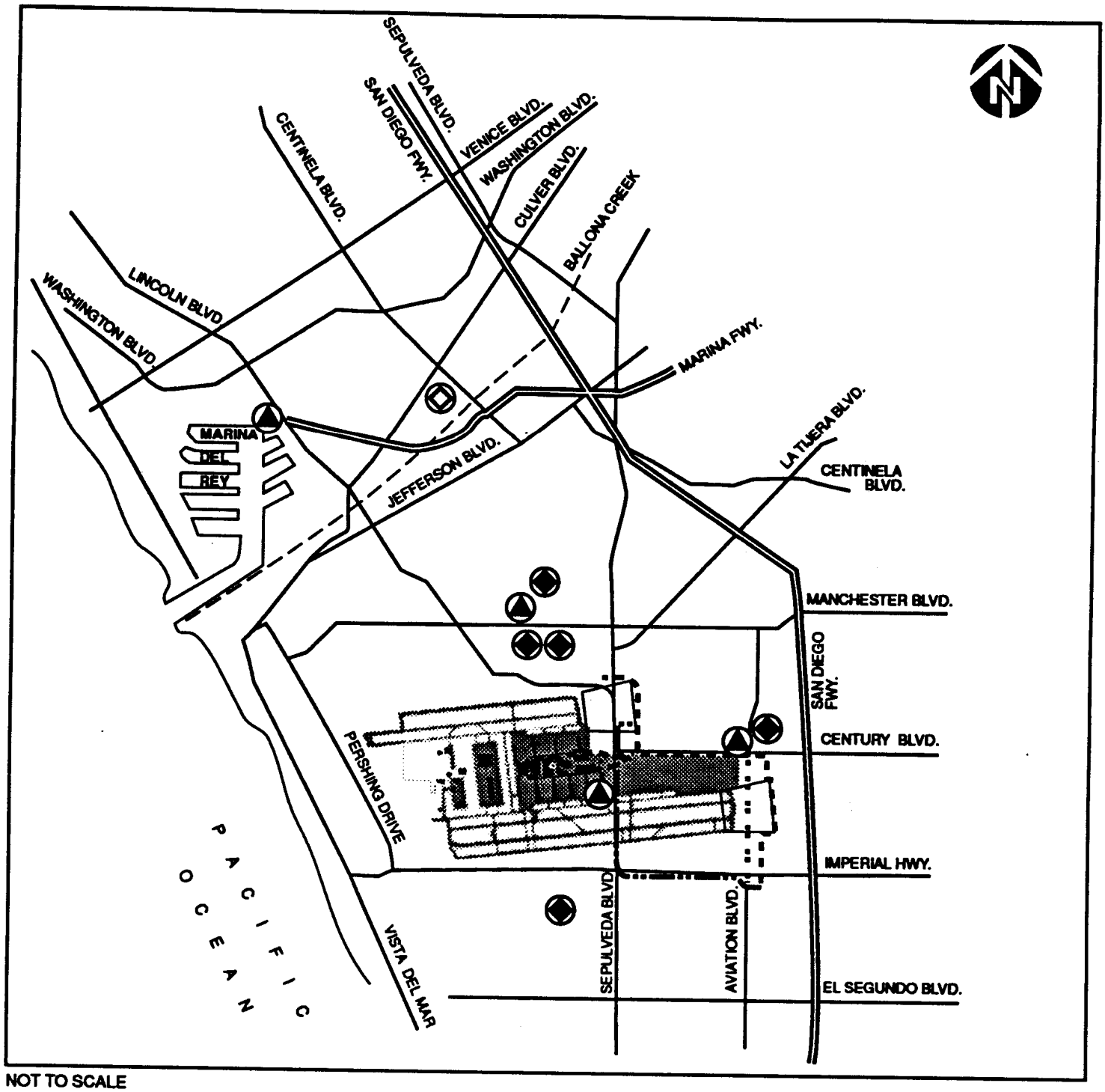
LOS ANGELES POLICE DEPARTMENT LOCATION, PERSONNEL AND EQUIPMENT

Station/Location	Personnel/Equipment
Pacific Area Division 12312 Culver Blvd	272 sworn officers 72 vehicles

Source: City of Los Angeles Police Department Central Bureau 1988.

The City of Los Angeles is divided into 18 areas, each with its own division. The Central Bureau evaluates the distribution of personnel and equipment on an ongoing basis. Based on citywide deployment formula, officers are transferred between divisions commensurate with the changing needs of each area on monthly intervals. In addition, the Central Bureau adjusts their basic car deployment semi-annually. In view of current funding and the deployment formula, the LAPD will be able to maintain a level of service in those areas affected by the Metro Green Line Northern Extension comparable to other portions of the city.

A review of the past annual crime statistics for the Pacific Area District indicated an average crime rate lower than the citywide average. Crimes most frequently reported within the project area include burglary, robbery, burglary from vehicles, and auto theft. Average response time of the Pacific Area station is approximately 8.4 minutes. This is comparable to the citywide response time of 8.5 minutes. It should be noted that these are average response times and calls to the station are relayed to patrol cars on the street. Therefore, a response is from where the patrol car is located on the street rather than a car dispatched directly from a station. Actual response time is dependent on traffic congestion and the distance between the unit answering a call and the site itself.



NOT TO SCALE

LEGEND

- People Mover Through Lot B
- Metro Green Line Along Aviation Blvd.
- Shuttle Bus
- Schools
- Police Stations
- Fire Stations

Figure 4-9

SCHOOL, POLICE & FIRE STATION LOCATIONS

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4.8.2 Fire Protection

Fire protection personnel from the Los Angeles Fire Department (LAFD) may be required to respond to emergencies related to the proposed project. The LAFD is responsible for fire suppression, fire protection, design consultation, inspection, planning, and review. In addition, the LAFD responds to a variety of medical emergencies. The personnel, equipment, and locations of the stations responding to emergencies in the study area are identified in Table 4-14. The locations of the stations are indicated in Figure 4-9.

TABLE 4-14

LOS ANGELES FIRE DEPARTMENT STATION LOCATIONS, EQUIPMENT AND PERSONNEL

Station No.	Address	Equipment Personnel	Distance to Metro Green Line or People Mover Alternatives (miles)	Distance to All Bus Alternative (miles)
95	10010 International Blvd. Los Angeles	Task Force Rescue Unit	Adjacent	0.9
51	10435 Sepulveda Blvd. Los Angeles	Engine Company	0.5	Adjacent
5	6621 Manchester Ave. Los Angeles	Task Force Rescue Unit	1.0	1.2
110	4433 Admiralty Way Marina del Rey	Engine Co. Truck Co.	3.7	3.9

Source: LAFD 1988.

All fire stations in the area have a 1 minute or less response between the time a call is received and the time they leave their quarters. After leaving their quarters a company takes two to three minutes per mile to reach a site. Travel time varies according to the route chosen and traffic volumes at the time. Total response time to emergencies at the substations or along the alternative alignments would range between four and five minutes. Four to five minutes is the maximum response time throughout the city.

The LAFD is involved in an Automatic-Aid program with the Los Angeles County Fire Department (LACFD). Station 110 of the LACFD is located at 4433 Admiralty Way in Marina del Rey. This facility maintains one engine company and one 100-foot truck.

4.8.3 Schools

Several public schools and a parochial elementary school are located in the vicinity. The distances to the project for schools within the study area are listed in Table 4-15. The locations of these schools are identified in Figure 4-9. No schools are located adjacent to the project alignments.

TABLE 4-15

SCHOOLS LOCATED IN PROJECT AREA

Number	School	Distance to Metro Green Line or People Mover Alternatives (miles)	Distance to All Bus Alternative (Miles)
1	98th Street Elementary	0.2	1.1
2	Visitation School (Parochial)	0.4	0.8
3	Westchester Community Adult School Learning Center	0.3	0.7
4	Kentwood School	0.6	1.0
5	Center Street Elementary School (El Segundo)	1.4	0.5

4.9 AESTHETICS

Aesthetic impacts are those changes which alter the appearance or visual character of the existing environment. Whether a change enhances or impairs a visual impression is ultimately a subjective opinion as specific criteria have not been adopted by the state, City of Los Angeles, or LACTC/MTA.

The Metro Green Line Northern Extension would pass through three general types of land uses (excluding vacant property): commercial (retail and office), industrial, and airport. The commercial buildings vary from one to ten stories in heights. Aesthetic impacts would arise from the introduction of aerial transit and support structures along the alignment. Construction activity would also present a temporary visual impact. The aesthetic environmental setting is described in terms of roadway segments.

4.9.1 Aviation Boulevard

The visual character of this area is predominantly one- to two-story industrial and commercial buildings. Views along this roadway are dominated by buildings, overhead utility lines, and street lighting. Portions of the roadway lay adjacent and to the south of the LAX runway complex. For the alternatives going through Lot B instead of Aviation Boulevard, the views are dominated by industrial and commercial buildings and LAX Parking Lot B.

4.9.2 Century Boulevard

The Metro Green Line Northern Extension would follow Century Boulevard toward the airport. The visual character of this roadway is a mix of one- and two-story commercial-retail, office, and entertainment uses alongside one- to ten-story commercial buildings, airport facility services, and a fire station. The section between La Cienega and Aviation Boulevards also contains multi-family housing. Century Boulevard is a high use area which is often heavily congested with vehicle traffic. Billboards and street lighting lining this boulevard create a visually distracting image.

4.9.3 Century Boulevard to Sepulveda Boulevard (Through Lot C)

As the alignment leaves Century Boulevard and travels north just east of Vicksburg Avenue, the adjacent land uses are one- to two-story industrial, long-term (Lot C) airport parking, and transportation services. The parking area is very large with no structures, thus, long-range views offsite are possible.

4.9.4 Westchester Parkway - Sepulveda Boulevard to Westchester Station

The land uses in this area are airport-related services, primarily industrial, of low- to medium-rise office and commercial facilities. A limited amount of vacant land occurs in this area.

4.10 LIGHT AND GLARE/SHADE AND SHADOW

Light and glare impacts are defined as excessive or undesirable light or reflection sources that create aesthetic impacts by introducing light at inappropriate times or locations The existing light and glare environment of the study area varies in intensity. Generally, the entire lengths of the alignments under study are well lighted due to street and parking lot lights. Light and glare are currently generated by commercial and industrial land uses.

Currently, there are no significant shadows where project facilities are planned along the Metro Green Line Northern Extension corridor.

4.11 RECREATION

There are three public recreational facilities located in the project vicinity (see Figure 4-10).

Westchester Golf Course

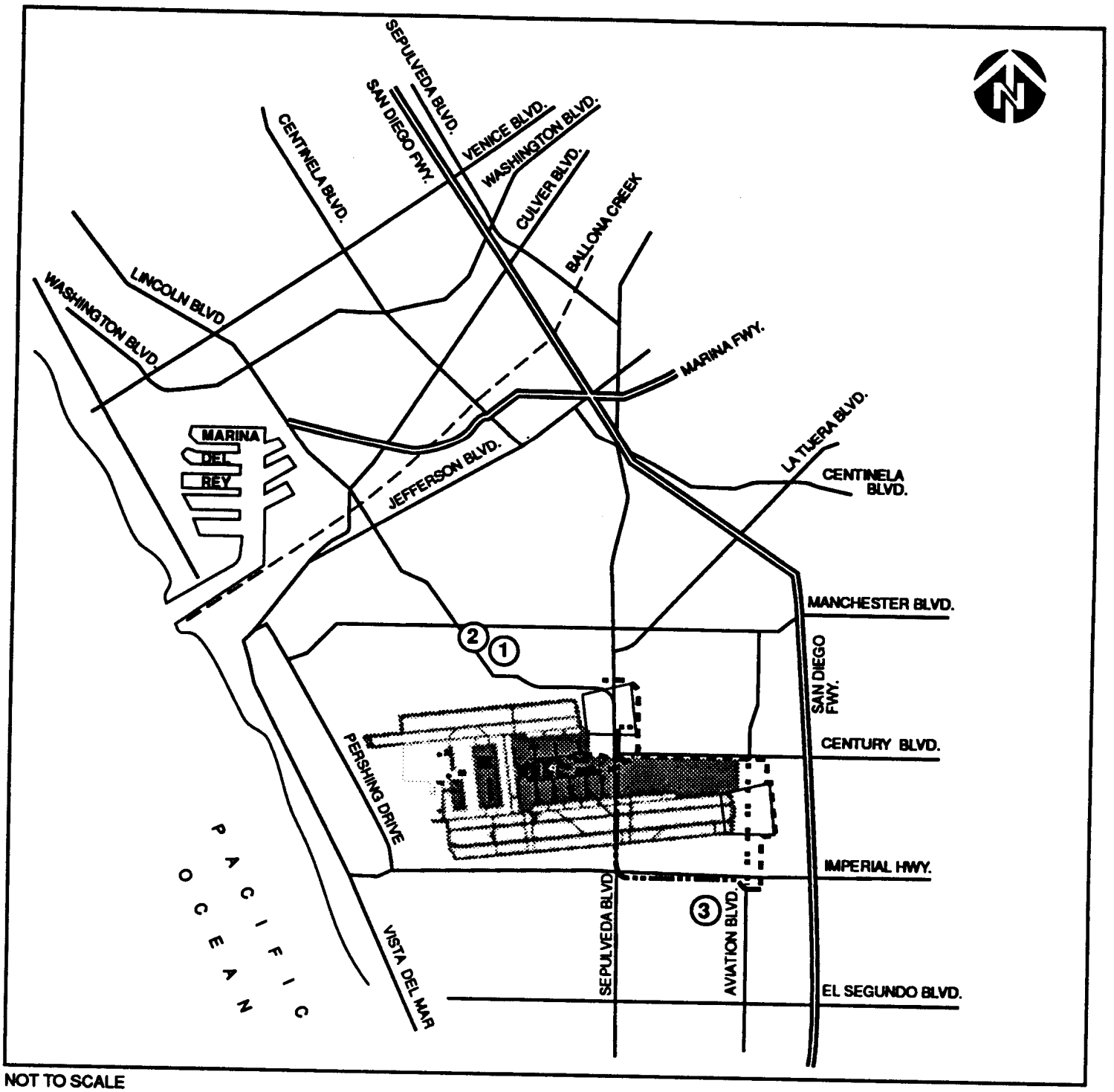
The Westchester Golf Course is located just north of Lincoln Boulevard and extends north to approximately 86th Place. The golf course is owned and operated by the City of Los Angeles Department of Airports.

Westchester Recreation Facility

This park is located southeast of the intersection of Lincoln Boulevard and Manchester Avenue. The park has a frontage of approximately 1,000 feet along the east side of Lincoln Boulevard. The park contains a parking lot, swimming pool facility, and a senior citizen's facility along the Lincoln Boulevard frontage.

Constitution Park

This park is located in the City of El Segundo along an electric utility right-of-way adjacent to Washington Street which is to the southwest of the intersection of Imperial Highway and Sepulveda Boulevard. The park offers a playground, picnic tables, and open space.



NOT TO SCALE

LEGEND

- People Mover Through Lot B
- Metro Green Line Along Aviation Blvd.
- Shuttle Bus

1. Westchester Golf Course
2. Westchester Recreation Center
3. Constitution Park

Figure 4-10
PARKS & RECREATION INVENTORY

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4.12 CULTURAL RESOURCES

The historic and archaeological resources in the study area are discussed below. This information comes from the 1989 EIR for the Coastal Corridor-Northern Segment. Appendix E of the 1989 EIR contains a detailed report of archaeological resources.

4.12.1 Historic Resources

A historic resources survey was conducted to determine potential impacts of the project on historic resources in the area. The findings in the 1989 EIR are included here for both rail alternatives assessed in this SEIR with the exception of the portion of the people mover alignment between Imperial Highway and Century Boulevard. The City of Los Angeles Bureau of Engineering was contacted in 1993 for additional information on historic resources for that portion of the proposed people mover route. The 1989 EIR indicates that no evidence was found that any specific historical surveys had been conducted in the project vicinity.

The City of Los Angeles Historic Cultural Resources Survey indicated that no such resources exist along either rail alignment. However, three resources are located in the general area and are shown in Figure 4-11. They include:

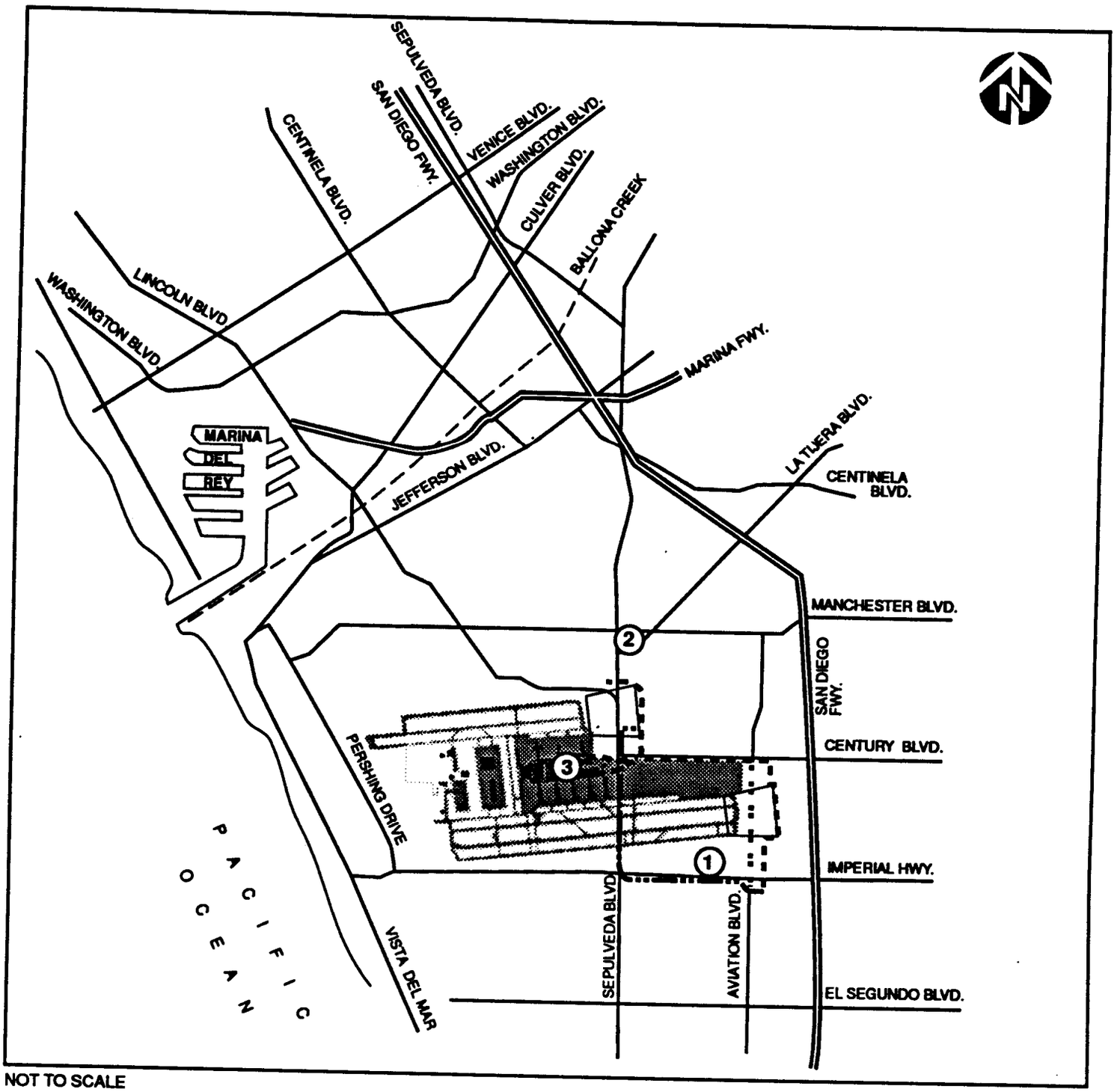
- Hangar Number 1 Building (1929)
  5701 West Imperial Highway
  (the first hangar at LAX, formerly Mines Field)
  City Cultural Heritage Monument No. 44
  Listed or eligible for listing under a city or local government preservation or landmark ordinance.
  Listed on the National Register as significant at the State Level.

- Loyola Theater (1948)
  8610 South Sepulveda Boulevard
  City Cultural Heritage Monument No. 259
  Listed or eligible for listing under a city or local government preservation or landmark ordinance.

- Airport Theme Building (Exterior and Lobby Only)
  201 Center Way, LAX
  Listed or eligible for listing under a city or local government preservation or landmark ordinance.
  Declaration of city historic/cultural monument status is subject to confirmation by the Los Angeles City Council.

4.12.2 Archaeological Resources

The archaeological study zone consists of a predominantly urbanized and developed area located within the City of Los Angeles. The study zone is about three miles from the Santa Monica Bay.



NOT TO SCALE

LEGEND

- People Mover Through Lot B
- Metro Green Line Along Aviation Blvd.
- Shuttle Bus

(1) Hangar No. 1
(2) Loyola Theater
(3) Airport Theme Building

Figure 4-11
HISTORIC RESOURCES INVENTORY

METRO

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4.12.2.1 Cultural Background

Pleistocene-age remains and artifacts associated with the Rancho La Brea big game hunting people have been found in the Los Angeles area. Following the big game hunters, there are several sites which date to the Millingstone Period of 8,000 to 5,000 before present (B.P.). These sites feature cogged stones, and many manos and metates. The people of the Millingstone Period are known to have buried their dead.

The Middle Period dates from 5,000 to 3,000 B.P. Characteristic of sites from this time period is the presence of cremations, rather than interred human remains.

Most of the cultural deposits in the area date from the Late Period. This final time period in the Southern California prehistoric record dates 3,000 to 150 years B.P.

The aboriginal people who occupied the general area of the proposed project at the time of European contact were the Gabrielino (or Tongva). The study area is near the northern border of Gabrielino territory. The Chumash people were their neighbors to the north.

Before the Gabrielino occupied the area, evidence of an earlier Hokan-speaking people has been found. At approximately 500 B.C., an influx of Shoshonean-speaking peoples from the Great Basin area migrated south into Southern California. By approximately 500 A.D., the Shoshonean speakers had differentiated themselves into several distinct cultural groups. The Gabrielino were one of these cultural groups.

The Gabrielino were primarily a hunting and gathering people. Those villages located close to the coast also subsisted on fish and shellfish. The Gabrielino have been described as a very interesting and complex people. Ethnographic and archaeological data have provided insights to the richness of the Gabrielino culture. Gabrielino culture has been described in Kroeber (1952), Johnston (1962), Forbes (1966), and Heizer (1978).

4.12.2.2 Recorded Sites

An archive search was performed in 1988 at the University of California, Los Angeles (UCLA), Archaeological Information Center for the Coastal Corridor-Northern Segment project. The search included all recorded archaeological sites and field surveys found within a one-mile wide corridor zone of that project. Although 12 recorded archaeological sites were found in that search, they are all located in the northernmost portion of that project area, and none were located in proximity to the Metro Green Line Northern Extension study area. Twelve field surveys had also been completed within the one-mile-wide corridor of the Coastal Corridor-Northern Segment project area. Only one of the surveys was located in proximity to the Metro Green Line Northern Extension project area. In 1975, Martin Dean Rosen surveyed a linear route for Route 105 (now under construction) from Norwalk to El Segundo. This survey has been designed as #L-78 by

the UCLA Archaeological Information Center. No archaeological sites were discovered during this survey. This survey has been rated as a partial survey by the UCLA Archaeological Information Center. UCLA was contacted in January 1993 to determine if any archaeological sites are in the vicinity of the portion of the people mover alignment between Imperial Highway and Century Boulevard. They indicated that no prehistoric or historic resources are located within that area and that only one archaeological survey (the previously mentioned #L-78) had been conducted in the area.

4.13 ENERGY

Electrical power for the proposed project would be provided by Los Angeles Department of Water and Power (LADWP). LADWP serves both domestic and commercial/industrial users in the greater Los Angeles area. For typical years, approximately 20 percent of the electricity provided by the LADWP comes from power plants located within the Los Angeles Basin. In drier years, such as that experienced in 1988, local power generation may account for up to 26 percent of the total power consumed by LADWP customers. Table 4-16 indicates the sources of power generation.

TABLE 4-16

LADWP GENERATION BREAKDOWN

Type of Generation	Source	% of Total Generation
Oil and Gas Plants	Los Angeles Basin	20
Coal Plants	Inter-Mountain Power, Utah Navajo Power, Arizona Mojave Power, Nevada	25 12.5 12.5
Nuclear	Palo Verde, Arizona	10
Hydroelectric	Hoover Dam, Nevada L.A. Aqueduct hydro-generators Pacific Northwest producers	5 5 10

Source: LADWP, Resources, Planning, and Development Division 1988.

4.14 RISK OF UPSET

Risk of upset, as defined by CEQA, refers to any risk of explosion or the release of hazardous substances (including, but not limited to, oil, pesticides, hazardous or toxic chemicals, or radiation) in the event of an accident or natural disaster. Furthermore, a project may be deemed to have a significant effect on the environment if it will interfere with an emergency response or evacuation plan. The major potential for upset related to this project involves the uncovering during construction of subsurface contamination in industrial areas where hazardous materials were either used, stored, or disposed.

The purpose of this discussion is to determine the potential for toxic or hazardous materials to be present along both rail alignments. For ease in identifying locations of potential contamination, the project area has been divided into segments as shown in Figure 4-12. Segment A has been split into two subsegments (A-1 and A-2) to denote the differing parts of that study area due to the two alignments under consideration. Segment A-1 applies to the Metro Green Line technology alternative, and Segment A-2 applies to the people mover technology alternative. Both alternatives would traverse segments B through E.

The information for this subsection is taken from two reports. The Hazardous Materials Assessment, Metro Green Line Extension, Los Angeles, California, prepared by Michael Brandman Associates (MBA) in May 1991 was relied upon for information relative to Segments A-1, B, C, D, and E. The findings in the Hazardous Materials Investigation, Northern Extension Supplemental Environmental Impact Report Services, prepared by ICF Kaiser Engineers (ICF KE), relate to Segment A-2 only. Both documents are incorporated by reference.

4.14.1 Findings from the MBA Report

MBA conducted two site reconnaissances of the project area from the Aviation/Imperial Station to the proposed Westchester Station. As mentioned previously, their study did not include the people mover segment between Imperial Highway and Century Boulevard. Based on limited views available from public streets, MBA did not observe evidence of hazardous waste or materials contamination (i.e., suspect sludges, odors, surface discoloration, or corrosion) on or along the border of the Metro Green Line Northern Extension route or on adjacent properties.

Table 4-17 presents a list of former underground storage tanks (UST) or facilities within 500 feet of the proposed corridor that were labeled as using or storing hazardous materials. A listing of existing USTs within 500 feet of the alignment are presented in Table 4-18. Figure 4-13 shows the locations of existing and former underground storage tanks USTs within the project vicinity.

The owner's name and address of four properties in the project area containing leaking USTs and their status are presented in Table 4-19. Figure 4-14 shows the locations of these leaking USTs. MBA also noted that there may be unreported soil or groundwater contamination caused by undocumented or former USTs along the alignment that may be encountered upon excavation and construction of the project. Each region of the EPA produces a CERCLIS list. CERCLIS is a list of all potential Superfund sites identified by the EPA. Once on the CERCLIS list, sites are assessed by the EPA, or an appropriate state agency, to determine what action, if any, needs to be taken. If the relative risks associated with a site are high enough, the site will be proposed for addition to the National

TABLE 4-17

FORMER UNDERGROUND STORAGE TANKS AND FACILITIES USING OR STORING HAZARDOUS MATERIALS ALONG CORRIDOR IN SEGMENTS A-1, B, C, D AND E

Segment A-1	North American Aviation Manufacturing	5,000-gallon UST containing butane 300,000-gallon reinforced concrete, underground reservoir
	North American Aviation Incorporated	1,500-gallon UST (contents not listed) 10,000-gallon UST containing gasoline 9,000-gallon UST containing gasoline 9,000-gallon UST containing gasoline
	Along AT&SF Railroad	500-gallon UST containing gasoline 5,500-gallon UST containing gasoline
	North American Aviation Incorporated	10,000-gallon USTs containing jet fuel 3,000-gallon UST containing gasoline 4,000-gallon UST containing gasoline 6,500-gallon UST containing gasoline 10,000 gallon UST containing gasoline
	TWR	Bulk Storage Gasoline Undetermined number of USTs
	Shell Oil Company	Bulk Storage Gasoline Undetermined number of USTs
	Standard Oil Company of California	Bulk Storage Gasoline Undetermined number of USTs
	Department of Airports	Bulk Storage Gasoline 7 USTs with capacity of 20,000-gallons
	Unnamed Facility (appears to be service station) - Southeast corner of Aviation and Century	Gas and Oil Tanks
Segment B	Los Angeles Fire Department, Station 95 - Los Angeles International Airport Commercial Airlines Hangars and Facilities	Gas and Oil Tanks
Segment C	Vicksburg Avenue	Electrical Transformer Station
	Virtue Brothers	Gas and Oil Tanks
Segment D	Auto Maintenance Facilities	Gas and Oil Tanks

Source: Review of Sanborn Fire Insurance Maps, Volume 37 from 1992 through 1962 as conducted in the Hazardous Materials Assessment, Michael Brandman Associates, May 1991.

TABLE 4-18

EXISTING UNDERGROUND STORAGE TANKS ALONG CORRIDOR IN SEGMENTS A-1, B, C, D AND E

COMPANY	ADDRESS
SEGMENT A-1:	
Rockwell International	999 Lapham Street
Unocal 76 Station	5552 Century Boulevard
Imperial Cargo	11101 Aviation Boulevard
Texaco Station	5551 Century Boulevard
SEGMENT B:	
Los Angeles Fire Department Station 95	10010 International Road
Dollar Rent-A-Car (now owned by LACTC)	6141 Century Boulevard
Western Airlines (now Delta Airlines)	6060 Avion Drive
SEGMENT D:	
Avon Rent-A-Car	9220 South Sepulveda Boulevard
General Rent-A-Car	6316 Westchester Parkway
Payless Rent-A-Car	6355 Westchester Parkway

Source: City of Los Angeles Fire Department, Hazardous Materials Planning Division as reported in the Hazardous Materials Assessment, Michael Brandman Associates, May 1991, and a MBA field survey.

TABLE 4-19

LEAKING UNDERGROUND STORAGE TANKS IN CORRIDOR IN SEGMENTS A-1, B, C, D AND E

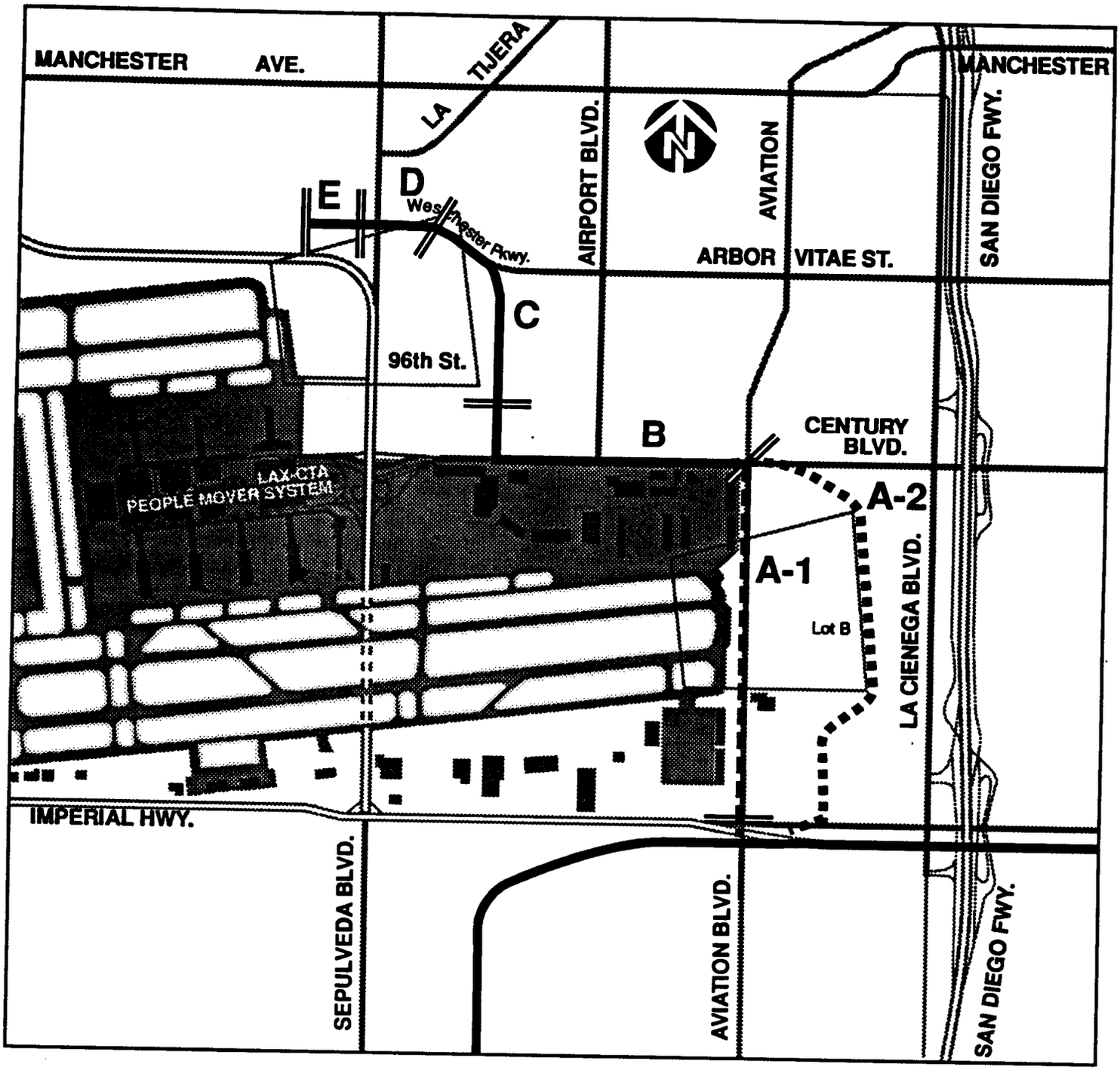
COMPANY NAME	INFORMATION AND STATUS
SEGMENT A-1:	
Rockwell International 999 Lapham Street Los Angeles, CA 90245 Southwest of alignment	As of the date of MBA Report - Substance: waste oil; extent of contamination undetermined. Status: No Action Information obtained since MBA report - post-remedial action monitoring
Texaco Station 5551 Century Boulevard Los Angeles, CA 90045 Northeast of alignment	As of the date of MBA Report - Tank leak reported 7/8/88; soil contamination. Status: Remediation Plan Information obtained since MBA Report - leaking tank removed; most of soil contamination has been removed
SEGMENT B:	
Western Airlines (now Delta) 6060 Avion Drive Los Angeles, CA 90045 South of alignment	Tank leak reported 1/20/88; extent of contamination undetermined. Status: Pollution characterization
SEGMENT D:	
Avon Rent-A-Car 9220 Sepulveda Boulevard Los Angeles, CA 90045 South of alignment	Tank leak reported 6/6/85; soil contamination. Status: Case Closed

Source: California Regional Water Quality Control Board, Los Angeles Region, Underground Storage Tank Case List, April 18, 1990; California Governor's Office, Office of Planning and Research, Hazardous Waste and Substances Sites List, March 1990. Both sources cited as reported in the 1991 MBA Hazardous Materials Assessment.

Priorities List (NPL). However, it is possible that the site assessment will indicate that no further action is necessary. Therefore, the identification of a site on the CERCLIS list does not necessarily confirm that an actual health or environmental threat exists. MBA reviewed the EPA Region 9 CERCLIS list, which includes the State of California, and found one site within 0.5 mile of the subject route. The CERCLIS site is listed as:

- Purex Corporation
  Mines Field
  Inglewood, CA 90301
  CAD980636757
  Status: No Further Action

This CERCLIS site is specified as being in Inglewood, which is approximately 0.5 mile from the alignment. Based on the current EPA status of No Further Action, it is unlikely that the subject alignment would be affected by this CERCLIS site, at its listed location. MBA reviewed the current list of hazardous material generators who have filed Certificates



LEGEND

- Metro Green Line/ People Mover
- Metro Green Line Along Aviation Blvd.
- LAX-CTA People Mover Through Lot B

Figure 4-12
CORRIDOR STUDY SEGMENTS

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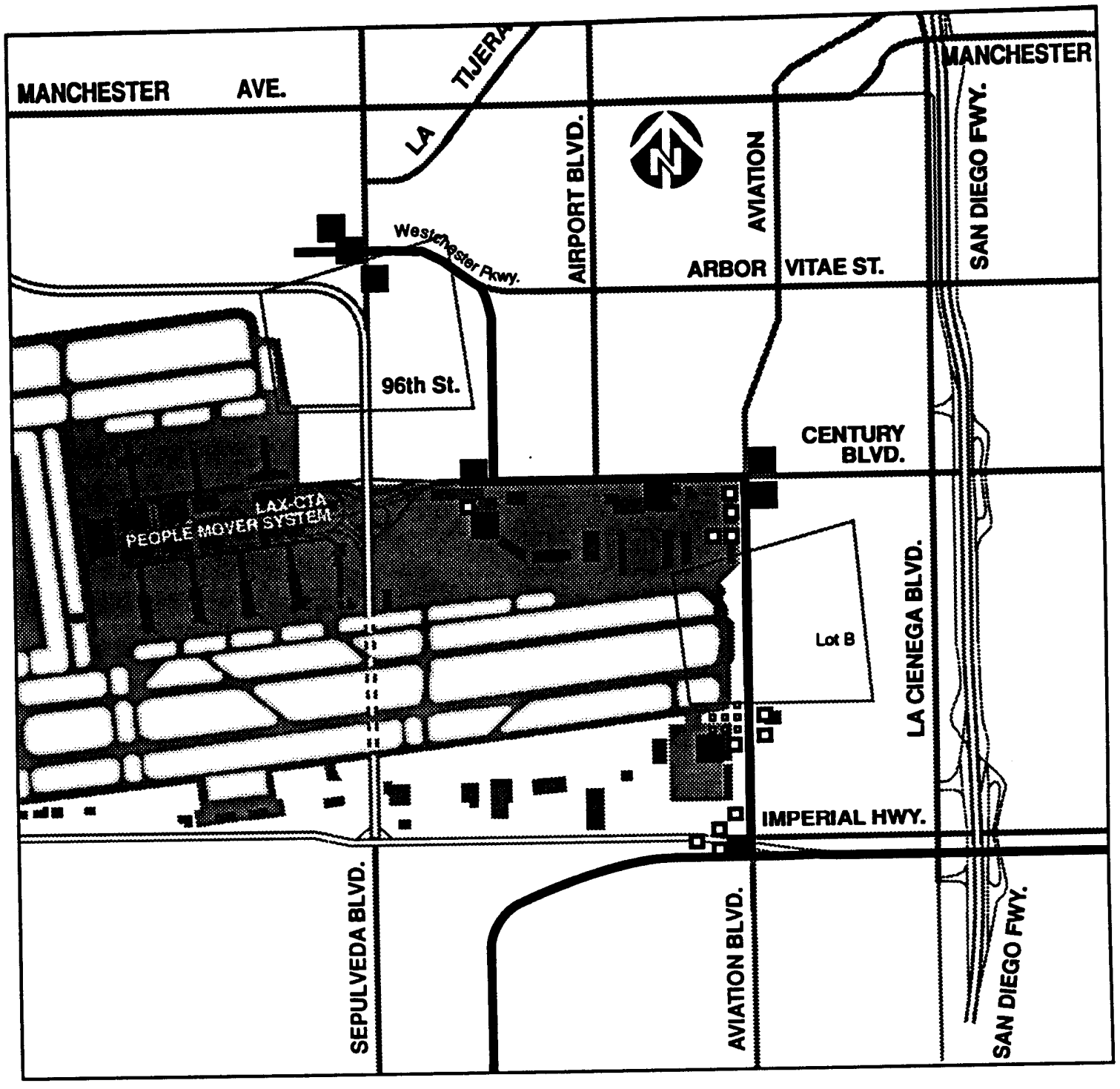

LEGEND

- Metro Green Line
- Location of Existing USTs
- Location of Former USTs

Sources:
Los Angeles Fire Department, Underground Storage Tank Division
Los Angeles Regional Water Quality Control Board, Leaking UST List
Hazardous Waste and Substance Sites List.
Sanborn Fire Insurance Maps, Volume 37, 1929-1962.
UCLA Department of Geography, Historic Land Use Maps.

Figure 4-13
EXISTING/FORMER UNDERGROUND STORAGE TANKS (USTs)
Within Corridor Segments A-1, B, C, D, & E

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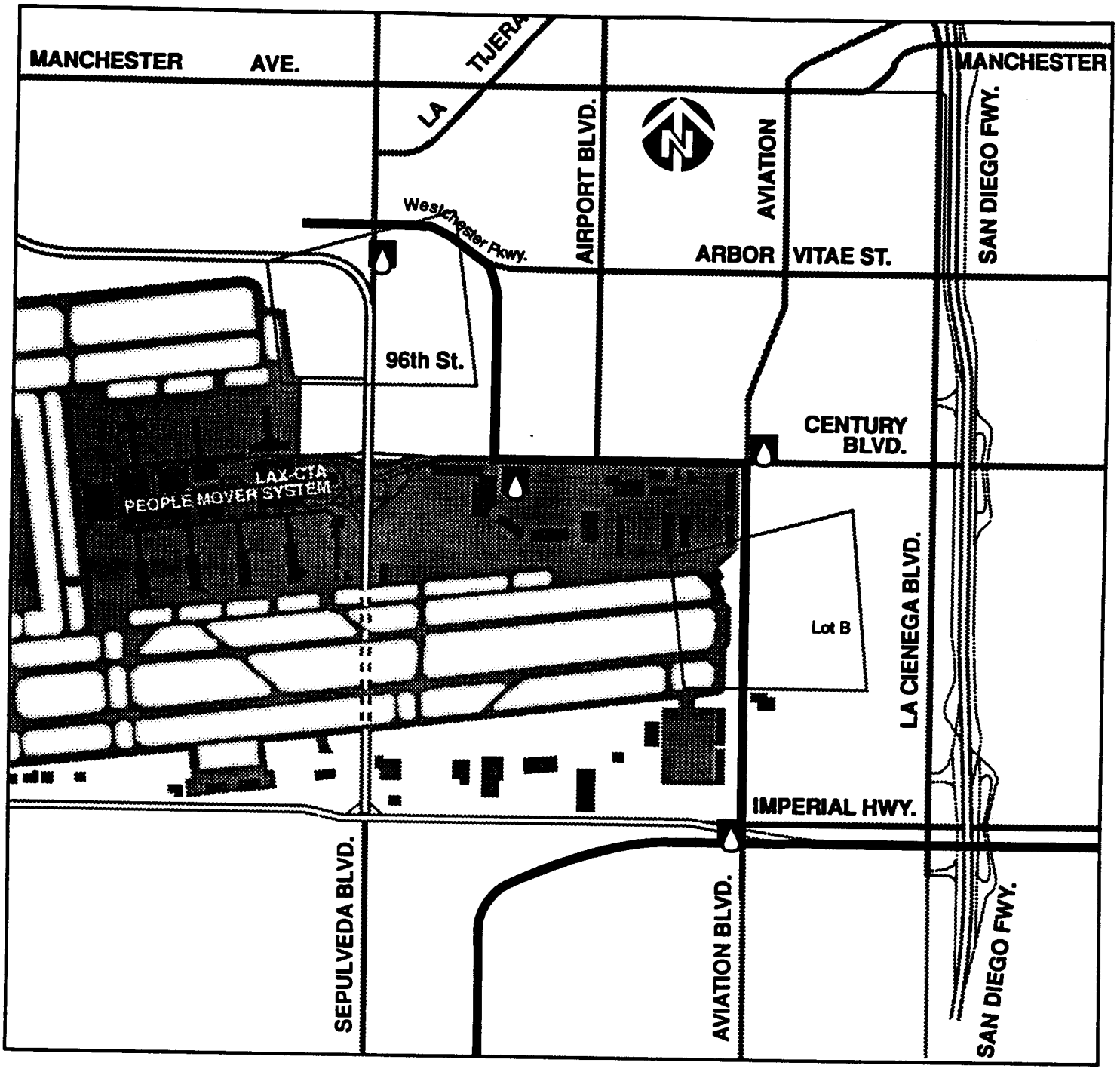

LEGEND

Metro Green Line

Leaking UST, RWQCB

Sources:
Los Angeles Regional Water Quality Control Board, Leaking UST List, Hazardous Waste and Substances Sites List.

Figure 4-14
LEAKING UNDERGROUND STORAGE TANKS (USTs)
Within Corridor Segments A-1, B, C, D & E

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of Disclosure or Business Plans along the proposed corridor route in Segments A-1, B, C, D and E. No generators of hazardous materials or wastes were found directly on the proposed corridor route. Numerous businesses within 500 feet of the alignment were listed. During MBA's site reconnaissance, land uses within 500 feet of the alignment were visually assessed for evidence of hazardous materials contamination. No visible signs of contamination were noted from the generators listed.

According to the several hazardous materials and waste sites lists reviewed by MBA, there are no reported incidents of potential soil and groundwater contamination within 500 feet of the subject alignment. However, the surrounding land uses at the Los Angeles International Airport include numerous facilities located beyond 500 feet of the subject alignment; these may contribute to soil or groundwater contamination along the proposed route.

Since completion of the MBA report, Law/Crandall, Inc. prepared the Report of Geotechnical Investigation, Proposed Metro Green Line North Coast Segment, Los Angeles Metro Green Line Rail Transit Project, September 13, 1991 incorporated by reference. For that report BC Analytical Laboratory performed chemical tests on soil and water samples in the vicinity of the alignment now known as the Metro Green Line along Aviation Boulevard Alternative.

A soil sample from Boring 3 (along the old AT&SF ROW west of Aviation Boulevard between Imperial Highway and 111th Street) was tested for volatile priority pollutants by EPA Method 8240. The analytical results did not indicate the presence of detectable concentrations of volatile priority pollutants.

Four ground water samples were analyzed for total fuel and volatile aromatic hydrocarbons by EPA Methods 8015 and 8020, respectively. The samples were also tested for sulfide, sulfate, and pH. The samples were taken from monitoring well numbers 4 (old AT&SF Railroad right-of-way west of Aviation Boulevard, south of 111th Street), 17 (old AT&SF Railroad right-of-way west of Aviation Boulevard, south of Century Boulevard), 24 (south of Century Boulevard, east of Airport Boulevard) and 30 (north of Century Boulevard between Avion Drive and Vicksburg Avenue) The analytical results did not indicate the presence of detectable volatile aromatic hydrocarbons, except for a trace concentration of toluene in Boring 4. No detectable concentrations of sulfide were found in any of the ground water samples; the sulfate concentrations found were well below the State of California Department of Health Services maximum contaminant level (MCL) of 250 mg/L. The Law/Crandall report stated that the results do not indicate that significant contamination from fuel or other hydrocarbons is present in the ground water in the areas sampled. The sulfide and sulfate concentrations, and the pH, do not indicate that the ground water in these areas is corrosive.

The Law/Crandall report indicates that the alignment is about 0.8 miles northeast of the El Segundo Oil Field, 1.9 miles east-northeast of the Hyperion Oil Field, and 2.6 miles southeast of the Playa del Rey Oil Field. In addition, there are two abandoned oil wells in the vicinity of the proposed alignment. The Union Oil Company's, "Union-Standard Westchester E-H Well Number 1" is located approximately 400 feet north of the alignment along Century Boulevard. Chevron's "Freeman Well Number 1", is located approximately 1,500 feet east of Aviation Boulevard. These two wells were drilled in 1966 and 1929, respectively.

Because of the oil wells, there is a potential for methane and other volatile gases to be present along the proposed alignment route or in the area of the proposed alignment. The results of the analysis for volatile organic gases have previously been presented. Methane was encountered along Imperial Highway and Nash Street (just southwest of the proposed rail project) during construction activities for the El Segundo segment of the Metro Green Line east-west rail line. Law/Crandall evaluated the potential for presence of methane along the proposed alignment. Five ground water monitoring wells were sampled using a portable organic vapor analyzer (OVA). Wells 4, 17, and 24 indicated low OVA readings (20, 25 and 25 ppm, respectively); and low to moderate OVA readings were noted in Wells 30 and 41 (100 and 80 ppm, respectively).

Some additional potential contamination issues have come to light since completion of the MBA and Law/Crandall reports. According to Jack Price of the Los Angeles RWQCB, volatile organic compounds (VOCs) in groundwater have been found both on- and off-site due to previous activities at what is now the Koll property. This 20-acre parcel (now a parking lot) is located at the northwest corner of Century and Sepulveda Boulevards about 0.2 miles west and upgradient (with regard to ground water direction of flow) from the alignment along Century Boulevard. The land previously belonged to Allied Signal; and Garrett Airesearch owned it prior to Allied Signal. VOC's were detected in both the soil and ground water. The soil cleanup is almost completed. Their monitoring wells have revealed chemicals in the groundwater both on and off-site in excess of allowable levels. They are currently in the process of determining the extent of ground water contamination. No ground water remediation has yet taken place.

The RWQCB installed a monitoring well in the area near 98th and Airport Boulevard because of suspected contamination. The well is located approximately 700 feet north and cross-gradient (with respect to groundwater flow) from the alignment along Century Boulevard. Their latest ground water monitoring results revealed VOCs present at levels exceeding allowable limits. The RWQCB is not sure of the cause. The RWQCB is now deciding whether to place additional monitoring wells in the vicinity to determine whether ground water contamination is present in other locations.

4.14.2 Findings from the ICF KE Report

The findings for the portion of the people mover alignment between Aviation/Imperial Station and the intersection of Aviation and Century Boulevards (Segment A-2) are presented in this subsection. The ICF KE report included a search of regulatory agency data bases, a field survey of the study area, information obtained from regulatory agency files, and discussions with regulatory agency officials, facility representatives and others.

A total of eleven federal, state, and local regulatory agency data bases were searched to determine if sites listed on these data bases are located within one-quarter mile of the alignment. Figure 4-15 displays the locations of sites found within the study area. Table 4-20 provides the names and addresses of sites shown on Figure 4-15 and lists the data base on which each site occurs. The status of each site is also shown on this table. For more information about the data bases, refer to Appendix C. The Vista California Radius Detailed Report, for the Rapid Transit Alignment, December 14, 1992, is presented in its entirety in Appendix C.

TABLE 4-20

SITES WITHIN THE STUDY AREA OF SEGMENT A-2 APPEARING ON THE REGULATORY AGENCY DATA BASES

Data Base	Location				Distance from Peoplemover Alignment	Location of Facility from Alignment (with regard to ground water direction of flow)	Status	Figure 4-15 Locator No.
	Facility	Address	City	Zip				
CERCLIS, CAL-SITES (ASPIS), LUST	Fansteel Precision Sheet Metal	5235 W. 104th St.	Los Angeles	90045	Adjacent	Downgradient	CERCLIS - No further remedial action. Facility is being evaluated under RCRA. LUST - Limited to soil; case closed. ASPIS - No further action. Other - Historic waste management practices unknown. Field survey: facility closed; bases and acids stored outside on concrete next to clarifiers and pH adjuster; metal building corrosion noted.	2
CERCLIS, CAL-SITES (ASPIS)	Interweb (now Ogden Aviation Services)	5251 W. Imperial Highway	Los Angeles	90045	Within 1/4 mile	Downgradient	ASPIS - Preliminary endangerment assessment required (low priority). CERCLIS - No further action required.	3
CERCLIS, CAL-SITES (ASPIS)	Hughes Aircraft Airport Site	5340 W. 104th St.	Los Angeles	90009	Adjacent	Downgradient	ASPIS - No further action. CERCLIS - No further action. Other - Historic waste management practices unknown; site overlies Silverado and Gage aquifers.	7
CERCLIS	Purex Corporation (now part of LAX)	Mines Field	Inglewood	90301	Within 1/4 mile	Upgradient	No further action required.	15
LUST, CORTESE	Texaco Station	5551 W. Century Boulevard	Los Angeles	90045	Less than 500 feet	Cross-gradient	The LAFD indicated waste oil tanks were removed; contamination limited to soil; most contaminated was removed.	10
LUST, CORTESE	Federal Aviation Administration	5885 W. Imperial Highway	Los Angeles	90045	Within 1/4 mile	Upgradient	The LAFD indicated leaking USTs were removed; no significant contamination found.	16
LUST, CORTESE	Flying Tigers Freight (now Federal Express)	5927 W. Imperial Highway	Los Angeles	90045	Within 1/4 mile	Upgradient	The LA Regional Water Quality Control Board indicated the site is undergoing post-remedial monitoring for a leaking UST. No benzene, toluene, xylene or TPH were found in ground water.	17

TABLE 4-20

SITES WITHIN THE STUDY AREA OF SEGMENT A-2 APPEARING ON THE REGULATORY AGENCY DATA BASES

Data Base	Location				Distance from Peoplemover Alignment	Location of Facility from Alignment (with regard to ground water direction of flow)	Status	Figure 4-15 Locator No.
	Facility	Address	City	Zip				
LUST, CORTESE, CAL-SITES (ASPIS)	Garrett Airesearch (also known as Allied Signal)	6201 W. Imperial Highway	Los Angeles	90045	Within 1/4 mile	Upgradient	ASPIS - Preliminary endangerment assessment required (low priority). LUST/CORTESE - The LAFD indicated 24 leaking USTs have been removed; contamination limited to soil; site is undergoing remediation.	17
LUST, CORTESE	Rockwell International	999 Lapham St.	El Segundo	90245	Within 1/4 mile	Upgradient	Leaking UST; post-remedial monitoring is underway.	11
LUST, CORTESE	South Bay Petroleum	5899 W. Imperial Highway	Los Angeles	90045	Within 1/4 mile	Upgradient	The LAFD indicated 7 leaking USTs containing gasoline have been removed; contamination was limited to the soil; site is now undergoing post-remedial monitoring.	18
CAL-SITES (ASPIS)	Allied Research and Engineering	10300 Glasgow Place	Los Angeles	90045	Within 1/4 mile	Downgradient	No further action.	1
CAL-SITES (ASPIS)	Walkirt Company	10321 S. La Cienega Boulevard	Los Angeles	90045	Within 1/4 mile	Downgradient	No further action.	1
CAL-SITES (ASPIS)	BMA Corporation	5220 W. 104th St.	Los Angeles	90045	Within 1/4 mile	Downgradient	Preliminary endangerment assessment required (low priority).	2
CAL-SITES (ASPIS)	Kinkead Industries, Inc. (now Fansteel)	5250 W. 102nd St.	Los Angeles	90045	Within 1/4 mile	Downgradient	Site screening required.	4
CAL-SITES (ASPIS)	A&J Manufacturing Company	11121 Hindry Avenue	Los Angeles	90045	Within 1/4 mile	Downgradient	No further action.	5
CAL-SITES (ASPIS)	Computer Micrographics, Inc. (now Anacomp)	5345 W. 102nd St.	Los Angeles	90045	Less than 500 feet	Downgradient	Preliminary endangerment assessment required (low priority).	6
CAL-SITES (ASPIS)	Acoustica Associates, Inc.	5331 W. 104th St.	Los Angeles	90045	Unknown	Unknown	Preliminary endangerment assessment required (low priority).	7

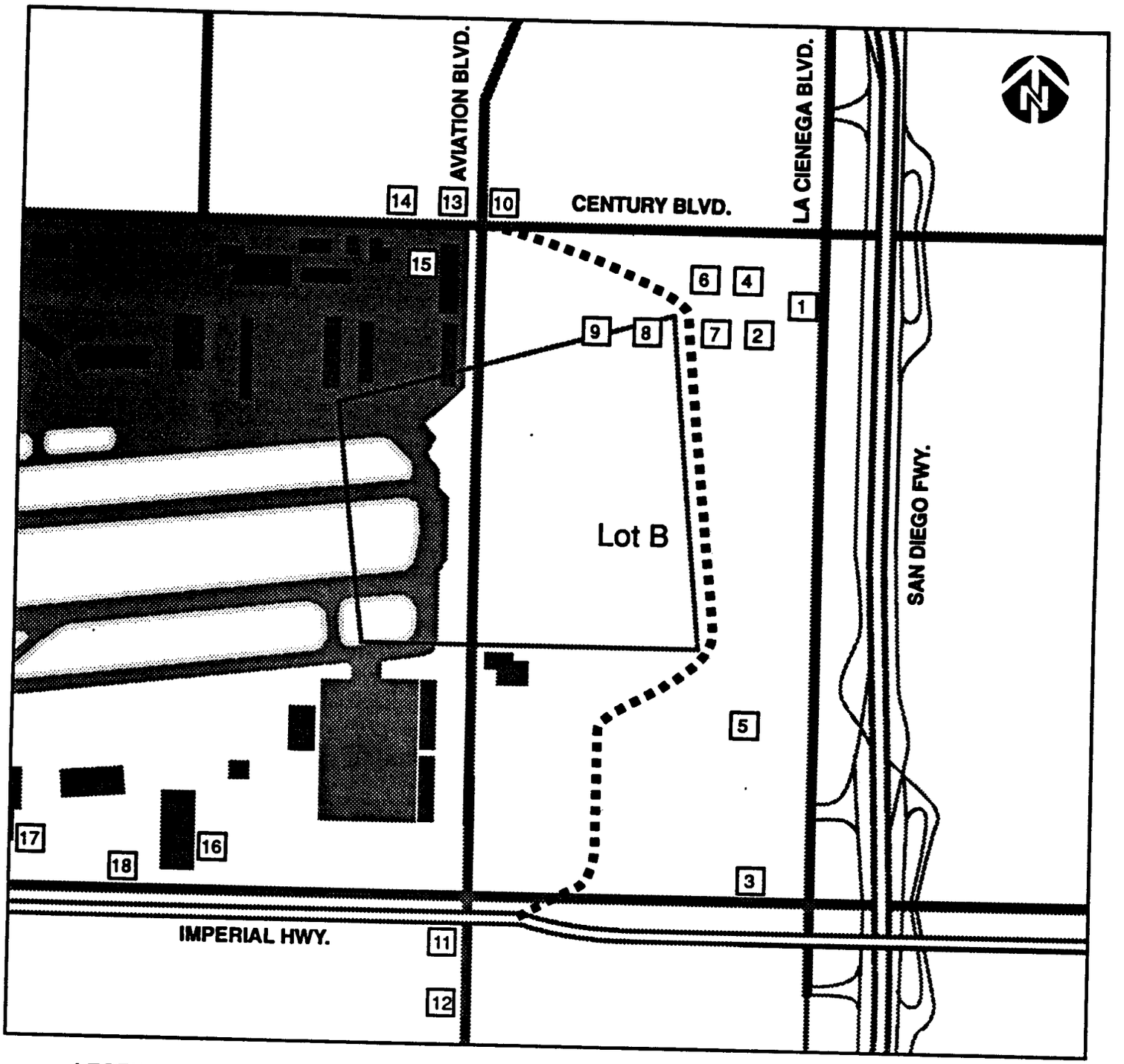
TABLE 4-20

SITES WITHIN THE STUDY AREA OF SEGMENT A-2 APPEARING ON THE REGULATORY AGENCY DATA BASES

Data Base	Location				Distance from Peoplemover Alignment	Location of Facility from Alignment (with regard to ground water direction of flow)	Status	Figure 4-15 Locator No.
	Facility	Address	City	Zip				
CAL-SITES (ASPIS), COUNTY SITE MITIGATION LOG	Modern Plating Company	5400 W. 104th St.	Los Angeles	90045	On Alignment	N/A	ASPIS - Site screening required. Site Mitigation Log - heavy metals in soil. Field Survey - strong smell of acid noted in air; drums stored outside on asphalt.	7
CAL-SITES (ASPIS)	Smith Pacific Corporation	5300 W. 104th St.	Los Angeles	90045	Less than 500 feet	Downgradient	No further action	7
CAL-SITES (ASPIS)	Permag Pacific Corporation (now Premiere Chandelier)	5441 W. 104th St.	Los Angeles	90045	Less than 500 feet	Upgradient	Preliminary endangerment assessment required (low priority)	8
CAL-SITES (ASPIS)	Merit Products	5515 W. 104th St.	Los Angeles	90045	Within 1/4 mile	Upgradient	No further action.	9
CAL-SITES (ASPIS)	Del Mar Engineering Laboratories	6001 W. Imperial Highway	Los Angeles	90045	Within 1/4 mile	Upgradient	No further action.	17
CAL-SITES (ASPIS)	Douglas Aircraft Co	827 Lapham St.	El Segundo	90245	Within 1/4 mile	Upgradient	Preliminary endangerment assessment required (low priority)	12
CAL-SITES (ASPIS)	Adams Supply Company	5625 W. Century Boulevard	Los Angeles	90045	Less than 500 feet	Upgradient	No further action.	13
CAL-SITES (ASPIS)	Virtue Brothers Manufacturing Company	5701 W. Century Boulevard	Los Angeles	90045	Less than 500 feet	Upgradient	A site screening is required.	14
CAL-SITES (ASPIS)	Pacific Airmotive	1 World Way Mines Field	Inglewood	92600	Less than 500 feet	Upgradient	No further action.	15

Note: A status of "no further action" means that no further action is contemplated under the regulatory program specified.

Source: Various regulatory agency data bases as cited in text.



LEGEND

- [XX] Regulatory Agency Listed Site
- ▪▪▪▪ LAX-CTA People Mover Through Lot B

Sources: Various, as Cited in Text and Appendix C

Figure 4-15

SITES WITHIN STUDY AREA OF SEGMENT A-2 APPEARING ON THE REGULATORY AGENCY DATA BASES

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During ICF KE's field survey, USTs were also noted at the following locations either on or adjacent to the alignment: Department of Public Works (on 111th Street adjacent to LAX Lot B; Greene's Ready-Mix Concrete (on 111th Street east of the Department of Public Works); Thrifty Rental Car (near Concourse Way between Century Boulevard and 102nd Street); and the Unocal Station (southeast corner of Aviation and Century Boulevards. None of these USTs appeared on any of the data bases searched. However, it should be noted that the LAFD indicates that Thrifty has recently been cited by the LAFD to bring their underground tanks into compliance.

An Underground Tanks and Hazardous Substance Program (UTAHS) environmental assessment is being conducted by DOA for the LAX property to determine the extent of possible contamination of land uses from leaking jet fuel tanks and storage facilities at the airport. ICF KE contacted DOA's consultant for an update on the status of this study. Although a number of facilities on the airport are being studied, their consultant indicated that most of these sites are located on the western edge of the airport and the potential for migration of either contamination of the soil or ground water in the vicinity of the transit project is low. However, the consultant noted two car rental agencies (Avis and National), which could be areas of concern. Both businesses are located just south of Westchester Parkway along Airport Boulevard.

According to their records, a site investigation was done in 1989 for the Avis Rental Car facility. Contamination was limited to the soil, and underground storage tanks (containing diesel fuel, gasoline, waste oil, and motor oil) were removed. A remediation plan has been proposed. As of June 1992, the DOA extended the approval time for construction of their remediation operation.

In 1990, a site investigation of leaking underground storage tanks containing unleaded gasoline and diesel fuel was undertaken for National Rental Car. In 1991, further investigation was recommended. The DOA consultant had no further records for this facility.

Section 4.14.1 discusses the location of existing and abandoned oil wells in the study vicinity. Because of the oil wells, there is a potential for methane and other volatile gases to be present in the soil and ground water. Several monitoring wells were sampled in conjunction with the Law/Crandall Study (1991) for the alignment which is now the Metro Green Line Along Aviation Boulevard Alternative. Section 4.14.1 also discusses the results of that monitoring. The Law/Crandall report indicates that an abandoned oil well (Chevron's "Freeman Well Number 1") is located about 1,500 feet east of Aviation Boulevard which would likely be in close proximity to the People Mover Through Lot B Alternative. Because the well was drilled in 1929 and has since been abandoned, it is unlikely that this well would cause significant levels of methane or other volatile gases to be present in the soil and ground water.

5.0 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

5.1 LAND USE

The potential land use impacts which could occur as a result of the operation of the Metro Green Line Northern Extension and project alternatives are discussed in this subsection. These impacts include the displacement of existing land uses, possible land use conflicts between the project and existing and proposed land uses, and consistency with the plans and policies of the City of Los Angeles for the study area. The analysis is based on available plans and policies.

5.1.1 Displacement Impacts

The facilities to be displaced as a result of the project are presented in Table 5-1. The general location of each facility is shown in Figure 5-1. The majority of the acquisitions (under both rail alternatives) would be for small areas of land to accommodate the placement of ten-foot wide columns for the aerial guideway structure. For both rail alternatives, the Paradise Building and parking lot would be acquired. In addition, the northern portion of a building containing Airport Valet would be purchased. Both buildings are located at the intersection of Westchester Parkway and Sepulveda Boulevard. Fire Station Number 95 on Century Boulevard would also be purchased to accommodate the aerial guideway structure. The people mover alternative would also require the acquisition of the following buildings: Modern Plating (5340 West 104th Street facility); Parker Transport/Griley Air Freight (eastern half of the property only); California Video Center; Thrifty Rental Car; Burlington Air Express; and Neutrogena. The All-Bus Alternative would not necessitate the purchase of any buildings.

In addition to the displacements presented in Table 5-1, the purchase of air rights and construction easements would also be necessary. The extent of acquisitions of these types would be determined during final engineering.

5.1.2 Conformance with City of Los Angeles' Plans and Policies

Both rail alternatives are in general conformance with the purpose and intent of the LAX Interim and Long Term Plans, Westchester-Playa del Rey District Plan, the Coastal Transportation Corridor Specific Plan, and the Congestion Management Plan. These plans are described in Section 4.1.2. The No-Build Alternative does not conform to any of these plans, and the All-Bus Alternative is less compatible with these plans than the rail alternatives.

5.1.3 Proposed Developments

As discussed in Section 4.1.3, four developments are planned in the project area: Continental City, Los Angeles Municipal Courthouse, LAX-Northside development, and Playa Vista. The locations of these developments are shown in Figure 4-3.

TABLE 5-1

DISPLACEMENT/RIGHT-OF-WAY IMPACTS

Figure 5-1 Locator No.	Location	Impact
People Mover Alternative - Aviation/Imperial Station to Century Boulevard		
Various	Column locations in street medians or rights-of-way	Agreement with the City of Los Angeles needed for guideway column placement.
1	Continental City	Fee take of property on eastern edge for column placement.
2	Municipal Courthouse	Possible fee take of property on eastern edge for column placement[1].
3	Sabreliner Corporation	Partial take of property on northwest corner for column placement.
4	LAX Lot B and land to the east of runways 25L and 25R	Partial take of DOA property needed for guideway columns, station touchdowns, passenger drop-off, and bus interface.
5	Department of Public Works	Fee take of property on northwest corner for column placement.
6	Modern Plating	Complete take of 5340 W. 104th Street property for guideway placement.
6	Parker Transport and Griley Air Freight	Complete take of eastern half of property for guideway placement.
7	California Video Center	Complete take of property for column placement.
8	Private airport parking lot - 102nd Street and Concourse Way	Partial take of property in the southern section of the lot for column placement.
8	Thrifty Rental Car	Complete take of property for guideway columns, Century/Concourse Station touchdowns, and drop-off facilities.
8	Burlington Air Express	Complete take of property for column placement, Century/Concourse Station, and drop-off facilities.
8	Neutrogena	Complete take of property for column placement.
9	Pool Tables by Adler, Combined Aviation Services of America, and Ford Discount Office Furniture	Partial take of property on the north portion (in parking area) for column placement.
9	Unocal Station	Partial take of property on south edge for column placement.
10	DOA property near Aviation and Century Boulevards	Fee take needed for column placement.
Metro Green Line Alternative - Aviation/Imperial Station to Century Boulevard		
10	Air Freight Building No. 1	Partial take on northeast corner for aerial guideway installation.
11	Column locations in street medians or rights-of-way	Agreement with City of Los Angeles needed for guideway column placement.
12	DOA property	Partial take needed for relocation of portions or all of drainage ditch to the west of existing ditch.

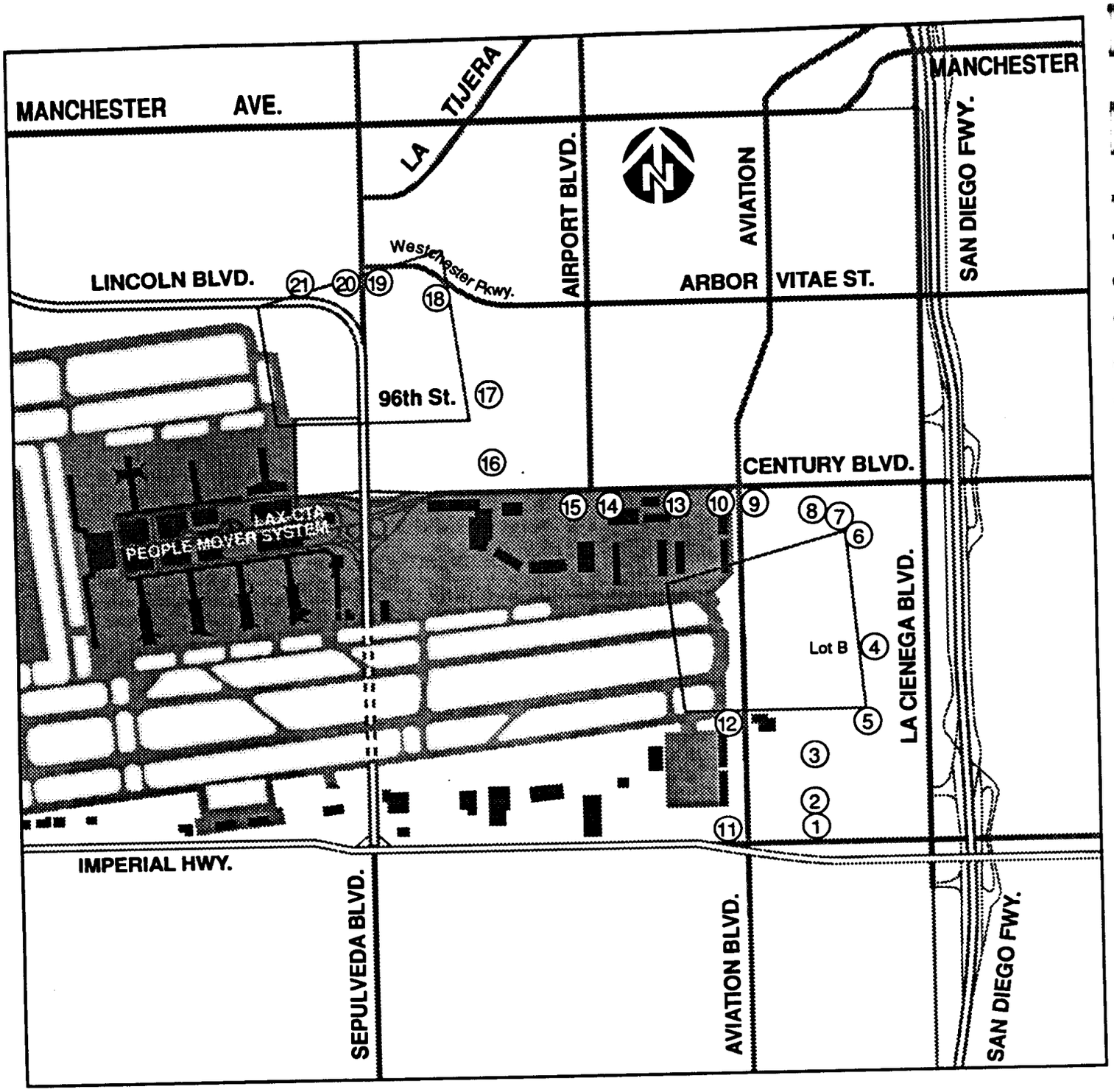
TABLE 5-1

DISPLACEMENT/RIGHT-OF-WAY IMPACTS

Figure 5-1 Locator No.	Location	Impact
Both Rail Alternatives - Century Boulevard to Westchester Station		
Various	Column locations in street medians or rights-of-way	Agreement with City of Los Angeles needed for guideway column placement.
13	Fire Station Number 95	Full take for guideway structure.
13	DOA property	Partial take required if portion or all of the existing drainage ditch needs to be relocated to the south of existing ditch.
13	Virgin Atlantic Airways and Others - 5758 Century Boulevard	Fee take on northern edge (in parking area) for column placement.
14	Post Office	Fee take of northern edge of property in parking and truck loading areas needed for column placement and Airport/Century Station touchdown.
15	DOA parking lot - Century at Airport Boulevard	Partial take of northern edge of property in existing parking area needed for station touchdown and parking area.
15	Delta Airlines	Fee take in north portion for column placement.
16	Park Air Express Lot	Fee take of portions of property for column placement.
17	LAX Lot C	Fee take needed for column placement and partial take needed for construction of Lot C Station and MTC.
18	Strategic Directions International(2)	Fee take on southwest end (in parking area) for column placement.
19	Paradise Building and lot(2)	Full take for guideway structure.
20	Airport Valet	Partial take of building for guideway structure.
20	General Rent-a-Car(2)	Fee take for column placement.
21	DOA(2)	Partial take for column placement, Westchester Station touchdowns, and park-and-ride lot.
All-Bus Alternative		
17	LAX Lot C	Partial take needed for construction of MTC.

Notes: (1) Coordination with the developers of the Municipal Courthouse will be undertaken to determine the status of this property relative to the proposed people mover alignment.

(2) Displacements/relocations on these properties would be unnecessary if the rail project terminates at Lot C instead of at Westchester Station.



LEGEND

(21) Displacement/Relocation Location

Figure 5-1
DISPLACEMENTS/ RELOCATIONS

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The People Mover Through Lot B Alternative would include the construction of an aerial guideway along the eastern edge of the proposed Continental City and Los Angeles Municipal Courthouse properties between Imperial Highway and 111th Street. At this time, no specific building site plans exist for the development of Continental City, therefore, potential impacts cannot be quantified. The people mover alignment, as now designed, would have an adverse impact on the plans for construction of the municipal courthouse because the elevated guideway would pass through the eastern edges of the proposed parking lots and also along the edge of the rear drive of that facility. If the people mover alternative is selected, LACTC/MTA will coordinate with Continental Development Corporation, the property developers, to avoid adverse impacts to the courthouse construction.

Access to both the courthouse and the Lot B Station would be provided at 111th Street. The courthouse facility would also have access at Imperial Highway. The additional traffic generated as a result of the Lot B Station should not cause conflicts with access to the courthouse. The visual impacts of the people mover on the courthouse are discussed in Section 5.9.2. The people mover alternative would have a beneficial impact on both developments since access to the people mover would be provided at the nearby Lot B and Aviation/Imperial Stations. Neither the Metro Green Line Along Aviation Boulevard Alternative or the All-Bus Alternative would have adverse impacts on Continental City or the courthouse. However, both alternatives are anticipated to have a beneficial impact on these proposed developments since either the Metro Green Line technology or shuttle bus service would be provided at Aviation/Imperial Station just to the south of these developments. The No-Build Alternative would have no impact on these developments.

With regard to the LAX-Northside development project, it is difficult to ascertain any significant impacts created by either rail alternative because no specific site plans exist. The opportunity exists for coordination of specific site plan design with final engineering design of the rail system to mitigate any possible impacts created because of noise, visual obstruction, and access and circulation. Westchester Station would provide improved access to the proposed airport development. The All-Bus and No-Build Alternatives would not provide access to LAX, the Metro Green Line or the MTC from the LAX-Northside project. If it is determined that the rail alternatives would terminate at Lot C instead of at Westchester Station, then implementation of the rail alternatives would have similar impacts to the LAX-Northside project as the All-Bus and No-Build Alternatives.

The proposed Playa Vista development is located about two and one-half miles north of the transit project. None of the alternatives would have any impacts on this site because of its remote distance from the study area. However, the planned Metro Green Line extension from Westchester Station north to Marina del Rey (if built) would favorably impact this development by providing access to the regional rail system.

5.1.4 Impacts on Surrounding Land Uses

The construction of stations for any rail transit project could potentially affect the surrounding land uses by either accelerating development or changing the types of land use. Vacant land for development exists in the area of the Lot B Station (under the people mover alternative) and Westchester Station (under both rail alternatives). There are plans to develop the land near Westchester Station for the LAX-Northside mixed use development. Continental City (hotel, office, and retail development) is planned for

construction near the Lot B Station. There is no definite schedule for development of either project. Neither rail alternative would be expected to change the type of development planned; however, because of enhanced access to mass transit, there is the potential that the rail alternatives could accelerate the schedule for initiating construction of these projects. However, if it is decided to terminate the rail alternatives at Lot C instead of Westchester Station, then it is unlikely that these alternatives would accelerate the construction schedule for the LAX-Northside development.

Indirect land use impacts could result from changing land uses around some of the stations. The passenger activity level at stations would be high at certain times of the day for many of the stations due to pedestrian and vehicular traffic. Stations may have short-and long-term parking, curbside drop-off points, known as "kiss-and-ride", and other transit interfaces. In addition, the location of a station may encourage the development of land uses, such as services and restaurants and other retail uses that cater to proposed project patrons. Such uses could include dry cleaning facilities, video rental facilities, newsstands, and gift shops.

The No-Build Alternative would have no effect on existing land use, and the opportunity for enhanced access between the Metro Green Line (east-west rail line), LAX, MTC, and Westchester would not be realized. The All-Bus Alternative would result in enhanced access between the Metro Green Line and the MTC as compared to the No-Build Alternative. However, the shuttle bus would not be as convenient as either rail alternative. Like the Metro Green Line Along Aviation Boulevard Alternative, the All-Bus Alternative would require a transfer to the people mover at the Lot C MTC to access the LAX Central Terminal Area (CTA). It would be possible for the All-Bus Alternative to serve the CTA directly; however, this would not be compatible with the objective to minimize traffic within the CTA by providing a ground transportation center and a MTC. (See Section 3.1 for more information). The All-Bus Alternative also would not provide service to Westchester. This alternative also would not accelerate planned development in the area, and it is unlikely that land uses in the area around the Lot C MTC would change as a result of this alternative since the area around Lot C is reserved for airport-related uses.

5.1.5 Significance of Impacts

Development of the proposed project would result in the displacement of existing uses for the necessary right-of-way and associated facilities. (Significant)

The people mover elevated guideway would pass through the eastern edges of the proposed parking lots and also along the edge of the rear drive of the proposed Los Angeles Municipal Courthouse. (Significant)

Because the rail alternatives would enhance access to the proposed Continental City and LAX-Northside developments, the rail alternatives could accelerate the schedule for initiating construction of both projects. (Not significant)

Indirect land use impacts could result from changing land uses around some of the stations. The passenger activity level at stations would be high at certain times of the day for many of the stations due to pedestrian and vehicular traffic. The location of a station may encourage the development of land uses, such as services and restaurants and other retail uses that cater to proposed project patrons. (Not significant)

5.1.6 Mitigation Measures

The following measure is required by law:

Mitigation for private land takings would require financial compensation. These takings have been minimized wherever possible. The LACTC/MTA would provide just and appropriate compensation to property owners and tenants that would be displaced by the proposed project. In the acquisition of real property by a public agency, the state requires that agencies: (1) ensure consistent and fair treatment for owners of real property; (2) encourage and expedite acquisition by agreement in order to avoid litigation and relieve congestion in the courts; and (3) promote confidence in public land acquisition.

The following additional mitigation measure is not required by law, but will be implemented for this project:

The LACTC/MTA will coordinate the final design of the people mover alignment with the Los Angeles Municipal Courthouse developers to avoid adverse impacts on the design of the proposed courthouse.

5.1.7 Significance of Impacts Remaining After Mitigation

There would be no significant impacts remaining after implementation of the proposed mitigation measures.

5.2 TRANSPORTATION AND CIRCULATION

5.2.1 Critical Intersection Analysis

An analysis of capacity and level of service was conducted at selected critical intersections to determine the characteristics of traffic flow in the project area and the impacts of the alternatives on traffic flow. Capacity analysis was performed for only those signalized intersections of critical importance to station access. A total of five intersections were identified.

- Aviation/Imperial
- Aviation/Century
- Airport/Century
- Airport/96th
- Sepulveda/La Tijera

The intersection locations were chosen based upon several criteria including existing traffic volumes and proximity to proposed station locations. Traffic volumes and intersection geometry, including number of lanes, lane utilization, and signal operations, for each of the critical intersections was obtained from the *Draft Environmental Impact Report, Master Plan Project for Playa Vista, Technical Appendices Volume XIV, Transportation Analysis, Appendix C Intersection Capacity Analyses*, prepared for the Los Angeles Department of Transportation, September 1992. The report contains manual traffic counts performed in October and November, 1989 and July and August, 1990 for each of the above intersections. The morning and afternoon peak hour time periods were chosen for analysis because traffic volumes are heaviest during these time periods.

Volume-to-capacity (V/C) ratios and levels of service were determined from the capacity analyses and used to make judgements about traffic flow. V/C ratios represent the volume of vehicles passing through an intersection in a given time period compared to the calculated capacity of the intersection. Level of service is a qualitative measure defining the degree of traffic congestion and the maneuverability afforded to motorists. There are six levels of service (LOS), which are designated A through F (best to worst, respectively. LOS D and above (V/C ratio less than 0.90) is considered by the City of Los Angeles Department of Transportation to be an acceptable LOS during peak periods.

Capacity analyses were performed using the Critical Movement Analysis, Planning Application, in *Transportation Research Circular 212*, Transportation Research Board, January 1980. The analysis technique was selected from among several available capacity analysis techniques because it was used in traffic study for the Playa Vista EIR and in the EIR Traffic Impact Analysis for the Coastal Corridor Rail Transit Project - Northern Segment.

5.2.2 Traffic Generation

For the purpose of this study, the year 2010 was chosen as the design year in which future traffic conditions with and without the project alternatives were assessed. The methodology for projecting future traffic volumes was based on the Traffic Impact Analysis methodology used for the Coastal Corridor Rail Transit Project - Northern Segment. This was necessary in order to be consistent with the DEIR.

According to the methodology, a background traffic growth rate was developed for each intersection based on regional traffic projects developed by SCAG. ADT volumes from the 1984 SCAG regional model were then compared to those from the 2010 model run, and an annual rate of background traffic growth was determined for all key facilities. Individual rates were developed for each intersection due to the large differential in traffic growth predicted by the SCAG model within the study area. For the Century Boulevard and Airport Boulevard intersection, future traffic impacts were analyzed based on an annual average growth rate of 0.5 percent, which constitutes the "base case". All the other intersections were outside the project area for the SEIR. Therefore, this annual average growth rate of 0.5 percent was used to project base case traffic volumes for all critical intersections affected by the Metro Green Line Northern Extension alternatives.

The next step in the methodology was to estimate the traffic volumes generated by the project. SCAG's modeling results for the Coastal Corridor Rail Transit Project - Northern Segment indicated that the project would have no significant impact on regional traffic. Future traffic volumes projected by SCAG for the "base case" and "with project" differed only slightly. These findings were assumed to remain unchanged for the SEIR. This is not unusual in locations with congested traffic conditions. As additional capacity becomes available with the shift of automobile trips to transit, a similar shift will occur in the distribution of automobile traffic. The peak period may become shorter in duration and more "bell-shaped" rather than "flat-shaped" under congested conditions. Traffic volumes during the peak hour at most locations will not change significantly with the rail system. Therefore, traffic generation by the alternatives under study would be localized at roadways and intersections near stations during peak periods and no change in regional traffic would occur.

There is no established trip generation rate for project stations. The equation from the traffic methodology for the Coastal Corridor Rail Transit Project - Northern Segment was used as an independent trip generation estimate. This equation is as follows:

Trips generated at stations during peak hour = park-and-ride trips + kiss-and-ride trips

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

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

Number of kiss-and-ride trips = *k x station boarding*

k = *empirical factor*
= *0.10 in commercial area*
= *0.25 in residential area*

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

Number of peak hour trips generated = Number of parking spaces + k x (number of peak hour station boardings)

Table 5-2 summarizes the AM peak-hour trips attracted to each station, as derived from the above empirical formula. One further assumption was that the number of trips generated in the PM peak hour equals the number of trips attracted to the station in the AM peak hour.

TABLE 5-2

STATION TRAFFIC GENERATION

Alternative	Stations	Park & Ride	Kiss & Ride		Total		Critical Intersection
			AM	PM	AM	PM	
Metro Green Line	Aviation/Imperial	450	9	33	459	483	Aviation/Imperial
	Century/Airport	60	5	51	65	125	Airport/Century
	Lot C	--	16	40	16	16	Airport/96th
	Westchester	500	50	33	550	533	Sepulveda/LaTijera
People Mover	Aviation/Imperial	450	14	29	464	479	Aviation/Imperial
	Lot B	--	2	7	2	7	Aviation/Century & Imperial
	Century/ Concourse	250	3	31	253	281	Aviation/Century
	Century/Airport	60	4	47	64	107	Airport/Century
	Lot C	--	15	35	15	35	Airport/96th
	Westchester	500	50	33	550	533	Sepulveda/LaTijera

Total traffic generation at the Lot B and C stations as shown in Table 5-2 does not include any park-and-ride trips. The preliminary plans for these two station locations do not include any parking exclusively for the Metro Green Line or people mover park-and-ride, but it is recognized that the existing airport parking areas at these station locations would be used by passengers using these stations.

The station-generated trips were then distributed onto nearby intersections according to existing directional distribution patterns. Only those intersections in proximity to stations were studied. The intersections studied for each station location are also identified in Table 5-2.

The kiss-and-ride trips would represent two trips -- one trip to the station to drop off or pick up a passenger and another trip from the station after picking up or dropping off the passenger. Therefore, the kiss-and-ride trips would be distributed onto nearby intersections for trips to the station and again for trips from the station.

5.2.3 Results of Capacity Analysis

Capacity analyses were conducted for the five critical intersections. This includes analyses of existing conditions and both year 2010 "base case" and year 2010 with the Metro Green Line Northern Extension alternatives. The results are summarized in Table 5-3.

5.2.3.1 Existing Conditions

Under existing conditions, two of the five critical intersections are operating at LOS F during the AM peak hour. Based upon City of Los Angeles criteria of LOS D or better, this level of service is considered unacceptable. The two intersections operating at LOS F are:

- Aviation/Imperial V/C 1.004, LOS F
- Sepulveda/La Tijera V/C 1.042, LOS F

TABLE 5-3

EXISTING AND YEAR 2010 VOLUME/CAPACITY RATIOS AND LEVEL OF SERVICE

Location	Existing		2010 Base		Alternatives			
					Metro Green Line		People Mover	
	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS
Aviation/Imperial								
AM Peak Hour	1.004	F	1.104	F	1.194	F	1.193	F
PM Peak Hour	0.958	E	1.053	F	1.079	F	1.078	F
Aviation/Century								
AM Peak Hour	0.824	D	0.906	E	N/A	N/A	0.942	E
PM Peak Hour	0.949	E	1.044	F	N/A	N/A	1.058	F
Airport/Century								
AM Peak Hour	0.663	B	0.729	C	0.738	C	0.738	C
PM Peak Hour	1.039	F	1.144	F	1.152	F	1.203	F
Airport/96th								
AM Peak Hour	0.577	A	0.634	B	0.642	B	0.641	B
PM Peak Hour	0.883	D	0.972	E	0.981	E	0.980	E
Sepulveda/La Tijera								
AM Peak Hour	1.042	F	1.146	F	1.285	F	1.285	F
PM Peak Hour	0.999	E	1.098	F	1.152	F	1.152	F

Note: NA implies that this intersection was not analyzed under this alternative.

During the PM peak hour, four of the critical intersections are operating at unacceptable levels of service. The four intersections operating at LOS E or F are:

- Aviation/Imperial V/C 0.958, LOS E
- Aviation/Century V/C 0.949, LOS E
- Airport/Century V/C 1.039, LOS F
- Sepulveda/La Tijera V/C 0.999, LOS E

The only intersection operating at an acceptable level of service is Airport/96th Street at a V/C ratio of 0.883, which equates to LOS D.

5.2.3.2 Base Case

The data in Table 5-3 indicate in the year 2010 "base case," the LOS at all intersections will generally deteriorate as traffic volumes increase. The LOS will change at each intersection during both peak hours. During the AM peak hour, only the Airport/Century Boulevard and Airport/96th Street will remain at LOS D or better. The other three locations will all deteriorate to LOS E or F. During the PM peak hour, Airport/Century Boulevard will remain at LOS F and the Airport/96th Street intersection will change from LOS D to LOS E, while the remaining intersections move from LOS E to LOS F. Therefore, traffic conditions are expected to deteriorate to unacceptable levels at every study intersection before implementation of the project.

5.2.3.3 Traffic Impacts

The Metro Green Line Northern Extension alternatives may affect the LOS at critical intersections in one of two ways:

- The alternative reduces the roadway capacity
- The traffic generated at and near stations adds to traffic volumes of critical signal phases

The All-Bus Alternative would not reduce the roadway capacity because no facilities under this alternative would be constructed within any roadways within the project area. Furthermore, the twelve additional shuttle buses per hour added at the Aviation/Imperial Highway and Airport/96th Street intersections would be minimal in terms of effect on traffic volumes. Because the Metro Green Line and people mover project alternatives would run entirely on elevated guideways, the capacity of existing roadways would not be reduced. The impacts of these alternatives would be more related to station access traffic.

The impacts of the alternatives on traffic were considered to be significant in cases: (1) where the level of service of the intersection would change from an acceptable to an unacceptable level (i.e., LOS D or above to LOS E or F), or (2) if the intersection was already operating at an unacceptable level (i.e., LOS E or F), the additional traffic generated by the station would be equivalent to a change in level of service (i.e., 10 point change in V/C ratio).

All five critical intersections would experience an increase in traffic under the alternatives. However, the impact of the increase in traffic could be considered significant at only one intersection -- Sepulveda Boulevard and La Tijera Boulevard. At this intersection, the V/C ratio during the AM peak hour is projected to increase from 1.146 to 1.285. Although not considered to be significant by the criteria used, the V/C ratio during the afternoon peak period would increase from 1.098 to 1.152 at this intersection. The impact would be the same under both the Metro Green Line and people mover alternatives. Sepulveda Boulevard is proposed to be widened in the future from six to eight lanes between Lincoln Boulevard and Centinela Avenue. With this widening, the intersection would be able to accommodate the additional traffic generated by the Metro Green Line Northern Extension alternatives.

Although not considered to be significant, the increase in traffic at Aviation Boulevard and Imperial Highway during the AM peak hour would increase the V/C ratio from 1.104 to 1.194. This increase is almost equivalent to a change in level of service. However, most of the increase in traffic is due to park-and-ride traffic, which will exist with or without this project, because the station is already under construction as part of the Norwalk to El Segundo Metro Green Line project. Any increase in traffic as a result of the Metro Green Line Northern Extension alternatives would be attributed to kiss-and-ride passengers. The increase in kiss-and-ride traffic of 18 and 14 trips under the Metro Green Line and people mover alternatives, respectively, would represent only a small proportion of the total increase in traffic at this intersection.

5.2.3.4 Portal Impacts

The Metro Green Line south portal, to be located adjacent to Aviation Boulevard, north of 111th Street, would not generate any traffic impacts because it would be located outside of the existing roadway. Therefore, no capacity would be lost due to portal location. The north portal would require the relocation of 104th Street. However, there would be no reduction in roadway capacity because the portal would be located adjacent to Aviation Boulevard and outside the existing roadway.

5.2.3.5 Sight Distance Impacts

The aerial support columns of the Metro Green Line or people mover alignment along Century Boulevard may restrict traffic visibility for left-turn movements at intersections. Potential intersections that could be affected include Century Boulevard at International Boulevard and Airport Boulevard. All left-turn movements where sight distance problems may occur may require the installment of protected left-turn phases. Unprotected left turns against opposing through traffic would have to be prohibited where sight distance is obstructed by aerial guideway columns. However, this is not expected to be a problem with construction of any of the alternatives.

5.2.4 Significance of Impacts

Traffic growth not related to the Metro Green Line or people mover alternatives would cause most of the significant impacts at study intersections. These impacts will require improvements either with or without construction of the Metro Green Line extension or the people mover alternatives. Impacts due to the project alternatives are incremental in nature. They represent a relatively small proportion of total expected impacts and V/C ratio increases and are considered insignificant with the planned improvements. (Not Significant)

5.2.5 Mitigation Measures

Because there are no significant impacts, no mitigation measures are necessary.

5.2.6 Significance of Impacts Remaining After Mitigation

There are no significant impacts.

5.3 GEOLOGIC AND HYDROLOGIC RESOURCES

5.3.1 Geology, Seismic Activity, and Soils

The geologic characteristics of the project area are discussed in Section 4.3. The proposed project would traverse the El Segundo Sandhills. Tertiary sediments would not be encountered during construction since maximum elevations of the sediments within the study area are approximately 100 feet below sea level. The Quarternary sediments of the older sand dunes would be encountered, and the Lakewood Formation underlying the sand dunes could potentially be encountered dependent on the design.

The stability of surface materials is dependent on topography, geology, and seismicity. Major structures with a low tolerance for settlement, such as the columns supporting the aerial spans, should be founded on deep foundations deriving support within the older dune sand or Lakewood Formation, which contains deeper, dense gravelly sand.

Although none of the alternatives cross any known major faults, seismic activity may affect the construction or operation of the proposed facility. The numerous active earthquake faults in the region may produce significant ground shaking. The Charnock Fault Zone (which would be traversed by the Metro Green Line Along Aviation Boulevard Alternative at Aviation Boulevard near Imperial Highway and by both rail alternatives at Century Boulevard near Airport Boulevard) and the nearby Overland Avenue Fault Zone, are considered to be potentially active. Within the El Segundo Sandhills area, there exists no potential to a low potential for liquefaction or subsidence. In addition, the damage potential from liquefaction would be localized and could be minimized by proper foundation design. The rail alternatives extend across relatively flat-lying ground with no potential for either landsliding or lurching (movement at right angles to a slope during strong earthquake shaking). Additionally, the alignment is not known to be on or in the path of any existing or potential landslides.

With regard to soils, the Metro Green Line Along Aviation Boulevard Alternative would involve the disturbance and disposal of the largest quantity of soil because that alternative includes construction of an 1,800-foot subway segment along Aviation Boulevard from north of 111th Street to about 102nd Street. The subway would be constructed by either boring a tunnel or by cut-and-cover methods. Cut-and-cover methods would require more soil removal than boring but would have less long-term impacts since the portal width for tunneling would be about two times that required for cut-and-cover techniques. Both rail alternatives would require disturbance and disposal of smaller quantities of soil for column placement for the aerial structures. Grading for the parking and drop-off facilities provided at the stations and for the MTC at Lot C would also be necessary for both rail alternatives. The only soil disturbance involved with the All-Bus Alternative would be for the MTC at Lot C.

Inert soils removed from the project may be used as fill material in other types of construction or disposed of at Class III landfills. Class III landfills handle group 3 wastes or those materials that consist entirely of nonwater-soluble, nondecomposable inert solids. Examples of group 3 wastes include natural alluvial material, asphalt, paving fragments, inert plastics, demolition materials containing small amounts of wood and metal, tires, inert rubber, glass, and miscellaneous domestic garbage.

Table 5-4 indicates the Class III landfills in Los Angeles County which are presently receiving group 3 wastes. The table also shows the quantity of waste each landfill receives on an annual basis. Section 5.15.1 discusses the potential for encountering hazardous or toxic materials in the soil.

TABLE 5-4

CLASS III LANDFILLS IN LOS ANGELES COUNTY

Landfill	Waste Disposed Million Tons/Year in 1990	Comments
Antelope Valley	0.125	
BKK	3.04	
Bradley West	0.60	
Brand Park	0.015	Private Use Only
Burbank	0.061	Limited to the City's Use Only
Calabasas	0.85	Limited to the Calabasas Wasteshed
Chiquita Canyon	0.55	
Lancaster	0.092	
Lopez Canyon	0.97	Limited to City of Los Angeles Use Only
Pebbly Beach	0.003	
Pitchess Honor Rancho	0.0054	Private Use Only
Perente Hills	3.7	No Waste Accepted from City of Los Angeles
Scholl Canyon	0.68	Limited to the Scholl Canyon Wasteshed Only
Spedra	0.65	No Waste Accepted from City of Los Angeles
Two Harbors	0.000060	
Whittier (Savage Canyon)	0.11	Limited to the City of Whittier Only

Source: Los Angeles County Department of Public Works, January 1991. Based on written surveys of all solid waste facilities currently operating in Los Angeles County conducted October, 1990 and phone survey, January 1991.

5.3.2 Hydrology

None of the alternatives would have any adverse impact on surface waters since no surface waters are located in the study area. However, an open box culvert is located adjacent to the old AT&SF Railroad right-of-way parallel and to the west of Aviation Boulevard and parallel and to the south of Century Boulevard. This ditch is under the jurisdiction of the Los Angeles Department of Airports. A portion or all (under "worst-case" conditions) of

the drainage ditch adjacent to the old AT&SF right-of-way in the vicinity of the Metro Green Line Along Aviation Boulevard Alternative would need to be relocated slightly to the west to LAX property. This relocation would have greater adverse impacts in the subway segment if the tunnel is bored rather than using cut-and-cover techniques because of the greater track center distance required for the tunnel boring. For both rail alternatives, a portion or all (under "worst-case" conditions) of the drainage ditch located adjacent to Century Boulevard would need to be slightly relocated to the south onto LAX property. Further studies will be undertaken to determine the extent of relocation necessary. In any case, the LACTC/MTA will coordinate with the LADOA regarding any relocation of this drainage ditch.

It is unlikely that any of the alternatives would affect ground water. Water level measurements by the Los Angeles County Flood Control District indicate that the ground water elevation in the area has historically been at or below sea level (this would correspond to a water level depth generally about 100 feet beneath the ground level of the alternatives). Law/Crandall, Inc. measured the water levels in five monitoring wells in their Report of Geotechnical Investigation, Proposed Metro Green Line, North Coast Segment, Los Angeles Metro Green Line Rail Transit Project, for Transit Consultants of Southern California, September 13, 1991. Their measurements generally substantiated the Flood Control District's measurements. However, a 46-foot depth to water was found at the well located along the old AT&SF right-of-way south of 111th Street. Law/Crandall, Inc. indicated that the water is believed to represent perched water conditions at the interface of a permeable sand layer with an underlying less permeable sandy silt layer. The subway segment (Metro Green Line Along Aviation Boulevard Alternative) would be constructed approximately 35 feet below ground level. In the event that ground water or perched water is encountered, it would be necessary to dewater such areas during construction. A National Pollutant Discharge Elimination System (NPDES) permit would be obtained for this activity from the State Water Resources Control Board.

None of the alternatives would be located within wetlands floodplain, or areas designated by US EPA as sole source aquifers for drinking water. Therefore, the project would have no adverse impact on these resources.

5.3.3 Significance of Impacts

An undetermined quantity of earthen materials may require disposal at Class I or III landfills depending on whether the soils contain hazardous substances. (Significant)

Potential seismic effects of earthshaking may have an adverse effect on rail operations. (Significant)

A portion or all (under worst-case conditions) of the drainage ditch adjacent to the old AT&SF right-of-way in the vicinity of the Metro Green Line Along Aviation Boulevard would need to be relocated slightly to the west to LAX property. For both rail alternatives, a portion or all (under worst-case conditions) of the drainage ditch located adjacent to Century Boulevard would need to be slightly relocated to the south onto LAX property. (Significant)

5.3.4 Mitigation Measures

The following measures are required by law and will be effective in reducing the potential for loss of life, injury, and property damage in the event of a major earthquake:

- All structures above and underground will be constructed in anticipation of a major earthquake. The proposed bridge structures will be designed in accordance with the bridge design criteria of the State of California Department of Transportation (Caltrans).

- The structures and facilities will conform to the City of Los Angeles Seismic Safety Plan.

The following measures are required by law and will be effective in reducing any adverse impacts due to grading and excavation activities:

- Applicable provisions of the Los Angeles Municipal Code and recommendations of the City Engineer/Department of Building and Public Safety will be addressed.

- Haul routes must be approved by the City of Los Angeles.

- MTA will obtain an NPDES (National Pollutant Discharge Elimination System) permit from the State Water Resources Control Board. This permit contains stormwater runoff limits among other limits.

The following measure is required by law and will be effective in minimizing adverse hydrological impacts:

- In the unlikely event that ground water is encountered during construction, dewatering treatment and disposal would be carried out under the requirements of an NPDES permit.

The following measures are additional mitigation strategies which will be effective in reducing the potential for loss of life, injury, and property damage in the event of a major earthquake:

- A geotechnical analysis has already been completed for the alignment paralleling the Metro Green Line Along Aviation Boulevard Alternative in conjunction with the project previously proposed in the EIR for the Coastal Corridor Rail Transit Project North Segment. If the people mover alignment is selected, additional geotechnical analysis will be performed for the portion of the alignment between Aviation/Imperial Station and Century Boulevard.

- Subsequent geotechnical analysis will be conducted along the subway segment (if the Metro Green Line Along Aviation Boulevard Alternative is selected) to determine the stability of subsurface materials and the presence of any possible hazardous substances.

- Ground rupture may occur on or nearby the Charnock Fault, or places not previously affected by detected faulting. In the event of ground rupture, all rail activities will be halted. In the event of a major earthquake, rail activity will be stopped until it is ascertained that no damage to the rail has been incurred.

- Site-specific engineering studies will be conducted at all sites where subsequent geotechnical studies indicate there is a significant increased potential for seismic risk.

- Disturbed areas will be revegetated after construction to reduce the potential for erosion in areas of weak soil and steep topography.

- A comprehensive emergency preparedness/evacuation plan will be prepared prior to operations of the rail project.

The following measures are also additional mitigation strategies which will be effective in reducing any adverse impacts due to grading and excavation activities:

- Recommendations of a qualified geotechnical engineer concerning appropriate procedures to follow during grading and excavation must be adhered to.

- All trailers carrying earth and debris will be covered while transporting these materials.

- The great majority of earth removed during the construction phase is expected to be inert and will be used at other construction sites in the region to the extent possible to reduce the quantity of material requiring disposal at regional landfills. MTA's policy is to promote and pursue recycling of all materials and waste, and this policy will be implemented for this project.

The following measures are also additional mitigation strategies which will be effective in minimizing adverse hydrological impacts:

- The LACTC/MTA will coordinate with the LADOA regarding any needed relocation of the open box culvert which parallels Aviation Boulevard (under the Metro Green Line alternative only) and the open box culvert which parallels Century Boulevard (under both rail alternatives). Further studies will be conducted prior to construction to determine the extent of relocation necessary.

- The new box culvert needed to replace any of the existing open box culvert would be designed to handle the same water capacity and flow rates as the existing ditch.

5.3.5 Significance of Impacts Remaining After Mitigation

No significant impacts will remain after mitigation.

5.4 AIR QUALITY

5.4.1 Impact Analysis

The air quality impacts of the proposed project were assessed in the 1989 *Draft Environmental Impact Report, Coastal Corridor Rail Transit Project, Northern Segment.* The conclusions in that report that the project would not result in any significant adverse impacts on local or regional air quality remain valid for the revised project. The rationale for that conclusion is summarized in this section.

5.4.1.1 Long-Term Mobile Emissions

The proposed project is an extension of the Metro Green Line regional rapid transit system. The purpose of the project is to expand the opportunity to use transit to a wider segment of the regional traveling public. Rapid transit is a viable option to the single occupant automobile which is the source of much of the pollution in the South Coast Air Basin (SCAB).

To the extent that the proposed project and the alternatives increase transit ridership and reduce automobile travel, long-term mobile emissions would be reduced. The All-Bus Alternative and the two rail alternatives would result in increased transit ridership as compared to the No-Build Alternative. The increased transit rideship would translate into a reduction in annual vehicle miles of travel by automobile and a corresponding reduction in mobile emissions.

5.4.1.2 Local Air Quality Impacts

The DEIR assessed the impacts of vehicular traffic in the vicinity of rapid transit stations. The results indicated that there would be no significant difference between future conditions with and without the project. Future conditions were predicted to have better air quality than existing conditions, primarily due to more stringent emissions standards in the future.

5.4.1.3 Long-Term Stationary Emissions

The proposed rapid transit alternatives would require electrical power for their operation. That generation of electricity would produce air pollutants at the power production site.

Power for the rail alternatives would be provided by the Los Angeles Department of Water and Power (LADWP). Most of the power provided by LADWP is generated outside of the SCAB and will not affect air quality in the region. In addition, much of the power is generated by hydropower which does not produce air pollutants. Approximately 60 percent of the power generated by LADWP is produced by coal-fired steam turbine plants.

The DEIR calculated stationary emissions from power generation (see DEIR Table 4-12) assuming normal distribution of electrical power from a variety of sources and locations and a worst case of all electricity being generated in the SCAB by oil and gas powered generating facilities. The alternatives under consideration in this SEIR are shorter and would consume less electricity than the alternative in the DEIR. The predicted stationary emissions in pounds per day for the two rail alternatives are shown in Table 5-5.

TABLE 5-5

ESTIMATED STATIONARY EMISSIONS (POUNDS PER DAY)

Pollutant		Metro Green Line	People Mover
CO			
	Worst Case	17.5	18.8
	Normal Distribution	3.5	3.7
NO_x			
	Worst Case	100.5	107.9
	Normal Distribution	20.1	21.6
SO_x			
	Worst Case	10.5	11.2
	Normal Distribution	2.1	2.2
ROG			
	Worst Case	87.2	93.6
	Normal Distribution	17.5	18.7
TSP			
	Worst Case	3.5	3.7
	Normal Distribution	0.7	0.7

As indicated, the Metro Green Line Alternative would result in slightly lower levels of stationary emissions than the people mover alternative. The expected stationary emissions are well under the thresholds for measuring significant impacts suggested by the South Coast Air Quality Management District (CEQA Air Quality Handbook, September 1992, page 6-2). Therefore, no significant impacts are anticipated.

5.4.1.4 Consistency with Air Quality Management Plan (AQMP)/Carbon Monoxide Conformity Draft Guidelines

CEQA requires that the SEIR discuss the project's consistency with the current AQMP. For transportation projects, the project needs to be included in the current Regional Mobility Plan (RMP) to be consistent with the AQMP. The current RMP (dated 1989) includes this rail project within the unconstrained (unfunded) portion of the plan. The RMP will be updated in December 1993. Because this rail project is programmed in the 1993-1999 Regional Transportation Improvement Program (TIP), it will be included within the updated RMP's constrained (funded) portion of that plan. Therefore, the rail alternatives are consistent with the AQMP. Because the All-Bus Alternative is not a rail project, this alternative would not be consistent with the current AQMP.

Further, SCAG's draft CO Conformity Guidelines state that a transportation project conforms if: (1) it is included in a Regional Transportation Plan and included in a conforming TIP and (2) it can be reasonably demonstrated that the project, when taken as a whole, will reduce or eliminate the number and severity of violations of the federal CO standards in the area substantially affected by the project. As public transit projects that would encourage travelers to leave their single occupant automobiles and ride transit, the project alternatives would reduce pollution. The project would be a positive effort to reduce vehicle miles traveled and increase regional average vehicle ridership. The rail alternatives would have the greatest transit ridership and would, therefore, have the greatest positive benefit to regional air quality.

5.4.2 Significance of Impacts

The proposed project and alternatives would reduce long-term mobile emissions. (Not Significant)

There could be increases in traffic in the vicinity of rapid transit stations. Local air quality would be affected by any significant change in traffic level of service. (Not Significant)

Operation of the rail alternatives would require generation and distribution of electrical power. The generation of electricity would produce pollutants at the remote generation site. (Not Significant)

5.4.3 Mitigation Measures

Because of the benefits in terms of improved air quality, the proposed project can be considered a mitigation measure.

Although no mitigation measures are needed for the proposed project, the following measures (not required by law) would enhance air quality.

- Public education programs regarding the importance of reducing vehicle miles traveled and the related air quality benefits will be employed by MTA/LACTC.
- The community will be encouraged to use public transit, such as the proposed improvements.

5.4.4 Significance of Impacts Remaining After Mitigation

No significant impacts will remain after mitigation.

5.5 BIOLOGICAL RESOURCES

5.5.1 Impact Analysis

Construction of the Metro Green Line Along Aviation Boulevard Alternative would result in the removal of existing landscaping along Aviation Boulevard, Century Boulevard, and in Lot C. Landscaping along Century Boulevard and in Lots B and C would be removed if the People Mover Through Lot B Alternative were built. Under the All-Bus Alternative, landscaping within Lot C would be required for the MTC. Urban landscaping provides limited nesting and feeding habitat for those species adapted to living in proximity to man. The quantity lost under any of the alternatives would likely not be sufficient to have any overall effect on any plant or animal species population characteristics because similar vegetation exists in the project area.

None of the alternatives would have any effect on wetlands. The only sensitive habitat in the vicinity is the El Segundo Dune complex which is over two miles west of the project area. None of the alternatives would have any impacts on this habitat.

No species of plants have been identified along the proposed alignments which are designated as rare, endangered, or otherwise "sensitive" by the US Fish and Wildlife Service, California Department of Fish and Game, or the California Native Plant Society.

The existing biotic resources are limited, reflecting the urban character of the corridor. Wildlife species expected to occur in the project vicinity are highly tolerant of, or dependent on, human presence. Impacts to sensitive animal species are unlikely since no critical habitat for any such species exist along either alignment.

In accordance with California Fish and Game Code Section 711.4, the LACTC/MTA finds that the project would have a de minimis effect on fish and wildlife.

5.5.2 Significance of Impacts

The project would have no significant impacts on biological and plant resources.

5.5.3 Mitigation Measures

While no significant adverse impacts have been identified, the following measures (not required by law) are proposed to provide guidance for landscaping replacement:

- Where existing landscaping must be removed, new landscaping will be planted as specified in an established landscaping plan.
- The landscape plan shall include a master list which will call for new vegetation that is designed to conform with the surrounding environment.
- Landscaping will extend to the system's right-of-way, station parking, and public areas, as well as other areas of fixed system facilities.
- A program will be developed as part of the overall operating procedures to provide for the regular maintenance of system-related landscaping.

5.5.4 Significance of Impacts Remaining After Mitigation

There would be no significant adverse impacts.

5.6 NOISE AND VIBRATION

This subsection assesses the noise and vibration impacts due to the operation of the three alternatives being considered. A discussion of the noise and vibration impacts due to construction can be found in Section 5.16.5.

5.6.1 Impacts of the Metro Green Line and People Mover Technologies

Predictions of future train passby noise levels are based on expected noise levels generated by the various technologies under consideration. Only one type of vehicle is being considered for the Metro Green Line alternative; however, three types of vehicles are under consideration for the people mover alternative. The technologies being considered include:

- Metro Green Line - steel-wheel on steel-rail vehicle
- People Mover - beam straddling monorail vehicle employing rubber tires on concrete
- People Mover - steel-wheel on steel-rail vehicle
- People Mover - Rubber tired vehicle operating on a steel or concrete center beam

The noise characteristics of the Metro Green Line are based on the specification for the P-2000 vehicle. Since no specific people mover technology has been selected, the noise characteristics of the people mover vehicles are based on information for similar vehicles as presented in the draft Guidance Manual for Transit Noise and Vibration Impact Assessment, FTA, March 1990. Numbers of operations used in the noise analysis were based on 2010 operations projections contained in the Green Line Northern Extension: Patronage and Operations, Manuel Padron & Associates, February 1993.

Of the vehicles under consideration, the people mover steel-wheel on steel-rail technology would generate the highest noise levels. Both the people mover and Metro Green Line steel-wheel on steel-rail vehicles would have similar noise characteristics for each vehicle. However, the people mover would generate more total noise over a day since the people mover would operate more frequently than the Metro Green Line. Therefore, the people mover steel-wheel on steel-rail technology was selected to determine the noise impacts since it represents the "worst-case" for cumulative noise level analysis.

For this analysis, the CNEL noise metric was used. Section 4.6 describes the CNEL noise metric. The noise exposure impact is determined by the change in future CNEL to noise-sensitive uses resulting from project implementation. In cases where the increase would be less than 3 dB, the impact is insignificant, since a 3 dB increase in level is the point at which the average listener can detect the change. Where the increase would be 3 to 5 dB, the noise impact is significant. An increase in CNEL of more than 5 dB is generally considered to be adverse.

Table 5-6 shows the existing, future with project, and future without project noise levels for the noise-sensitive land uses in the vicinity of the people mover alignment. Since no site plans exist for the proposed Continental City and LAX-Northside development projects, it is not possible to determine the noise impacts of the rail project on these developments.

TABLE 5-6

EXISTING AND PREDICTED NOISE LEVELS
PEOPLE MOVER (STEEL-WHEEL ON STEEL RAIL)
"WORST-CASE" CUMULATIVE NOISE ANALYSIS

Noise-Sensitive Use	Existing CNEL	Future CNEL Without Project	Future Rail Passby CNEL	Future Total CNEL With Project	Change in CNEL Between Existing and Future with Project
Proposed Municipal Courthouse	70	70	68	72	+2
Rockwell International-Tennis Courts	70	70	67	72	+2
Westin Hotel	78	78	53	78	+0
Apartments along Century Boulevard	78	78	58	78	+0
Nendel's Airport Century Inn	80	80	61	80	+0
Airport Hilton	74	73	65	73.6	-0.4
Marriott	67	66	57	66.5	-0.5
Integrated Resources Airport Center	72	71	59	71.3	-0.7
Royal Airport Center	70	69	60	69.5	-0.5
Integrated Resources Airport Center	67	66	62	67.5	+0.5
Holiday Inn Crowne Plaza	73	73	65	73.6	+0.6
First Los Angeles Bank	73	73	65	73.6	+0.6
Sheraton	71	71	58	71.2	+0.2
Integrated Resources Airport Center	71	71	62	71.5	+0.5
Strategic Directions International	76	76	65	76.3	+0.3
Public Library on Westchester Parkway	76	76	59	76	+0
Single Family Home on Fleetwing Avenue	72	72	57	72	+0
Bank of America	75	75	61	75	+0
Wells Fargo Bank	75	75	61	75	+0

Source: ICF Kaiser Engineers, 1993.

Table 5-6 indicates for all existing noise-sensitive land uses in the area and the proposed Municipal Courthouse, the noise levels would change less than 3 dB with implementation of the people mover as compared to existing noise levels. Therefore, a people mover system using steel-wheel on steel-rail technology would have no significant impacts on noise-sensitive land uses. Because this technology represents the "worst-case", the other technologies under consideration also would not have any significant noise impacts, based on the proposed alignments now under consideration.

For both rail alternatives, it should be noted it is possible that the design of the trackwork crossing Century Boulevard onto the former Dollar Rental Car property will be modified to increase the radius of the curve so that the trains can travel at faster speeds in this area than presently planned. Further, if the people mover alternative is selected, then the wye would need to be shifted further east to accommodate both lines from Aviation/Imperial Station and the LAX Central Terminal Area so that they can turn in a northerly direction in this area. In both cases, the nearest guideway would be shifted closer to the Sheraton Hotel, and, depending on where the guideway would be located, adverse noise impacts to the hotel may be possible. The location of the trackwork in this area will be determined during preliminary engineering, and noise impacts will also be assessed at that time. If impacts exceed the criteria, then mitigation would be implemented to minimize adverse impacts to the Sheraton Hotel.

5.6.2 Impacts of the All-Bus Alternative

The All-Bus Alternative would add about 24 buses per hour during the peak periods to the traffic along Imperial Highway, Sepulveda Boulevard, and 96th Street. To increase the noise levels by 3 dB along Imperial Highway, Sepulveda Boulevard, and 96th Street would typically require the traffic volume to double. Since the All-Bus Alternative would add only about 24 buses during the peak hour, any increase in noise levels along these roadways would be minimal. However, single-family homes are located south of 116th Street near the Aviation/Imperial Station. It is possible that the noise from idling buses loading and unloading passengers at that station could have an impact on nearby residents.

5.6.3 Impacts Near Stations

Because the noise of light rail vehicles emanates primarily from the interaction of the wheel on the rail, noise levels increase with operating speeds. For this reason, in the immediate vicinity of passenger stations, noise levels would be considerably less than would be expected if the rail vehicles were to pass through the station without stopping. Any potential noise impact resulting from a passenger station, then, arises from the increase in traffic flow in the vicinity of the station rather than from rail operations.

A straightforward way of measuring the potential impact is to estimate the increase in CNEL resulting from projected increases in traffic flow. In reviewing such increases, however, the way in which people perceive changes in noise levels must be taken into account. A 3 dB difference in level or exposure is the point at which the average listener can detect a change in noise levels. A difference of 10 dB is usually perceived as a doubling in the loudness of a sound or in the noisiness of an environment.

In order for CNEL or peak hour Leq values to increase by as much as 3 dB, traffic volumes would have to increase by a factor of 2. As discussed in Section 5.2, any increase in traffic around stations would be minimal; therefore, no significant increase in noise exposure levels would be anticipated around any of the stations.

5.6.4 Substation Impacts

Both rail alternatives would require installation of traction power substations to provide power to the transit vehicles. If the rail project terminates at Westchester Station, then four substations would be needed; however, only three substations would be necessary if the northern terminus is at Lot C. The proposed locations for these substations are presented in Section 3.2. The substation locations will be finalized as system-wide requirements are established.

The primary noise sources associated with substations are a humming noise caused by magnetostriction of the transformer core and noise from air conditioning units. In addition, there can be noticeable noise from rectifiers and switching equipment. Transformers are designed such that their noise emission levels do not exceed the limits in the National Electrical Manufacturers Association (NEMA) Standard TR 1. This standard gives maximum sound levels measured at a distance of 1 foot from the transformer for various classes of transformers. For substations of the type used by the Metro Green Line technology, the audible sound level cannot exceed 66 dB at a distance of one foot from the transformer. The specifications for a substation for a people mover technology would not be known until an actual technology is selected. In any case, none of the proposed substation locations would be close to any noise-sensitive uses such as residences, schools, churches, hospitals, etc. Therefore, noise from substations is not expected to cause any adverse impacts.

5.6.5 Vibration Impacts

Groundborne vibration would be generated during Metro Green Line or people mover vehicle operations as the wheels of the vehicle impact the rail. The analysis presented in the Noise and Vibration Technical Report for the Coastal Corridor Rail Transit Project Environmental Impact Report, 1988 prepared by Acoustical Analysis Associates, Inc. (AAA) was used for determining impacts for both the Metro Green Line alternative and for the portion of the people mover alternative from the intersection of Aviation and Century Boulevards to Westchester Station. That report assessed the impacts of the Metro Green Line technology; however, the "worst case" people mover technology would be expected to result in similar impacts; therefore, the AAA assessment would be applicable to the aforementioned segment of the people mover alternative. Acoustical Analysis Associates, Inc. used criteria developed by CHABA to assess the impact of potential vibration levels. The CHABA sensitivity curve for "No Impact-Any Condition" is shown in Figure 4-7.

For the 1988 study, Acoustical Analysis Associates, Inc. made estimates of light-rail vehicle vibration levels using vibration data gathered for the San Diego Trolley. The San Diego measurements provided a data base for vibration prediction with a reasonable degree of accuracy. Figure 5-2 shows the average measured one-third octave band vibration acceleration levels at a nominal 50-foot distance from the track at two different locations in San Diego. The light rail vehicles passed by the two sites at a range of speeds from 35 to 50 mph.

Source: Acoustical Analysis Associates, Inc, 1988

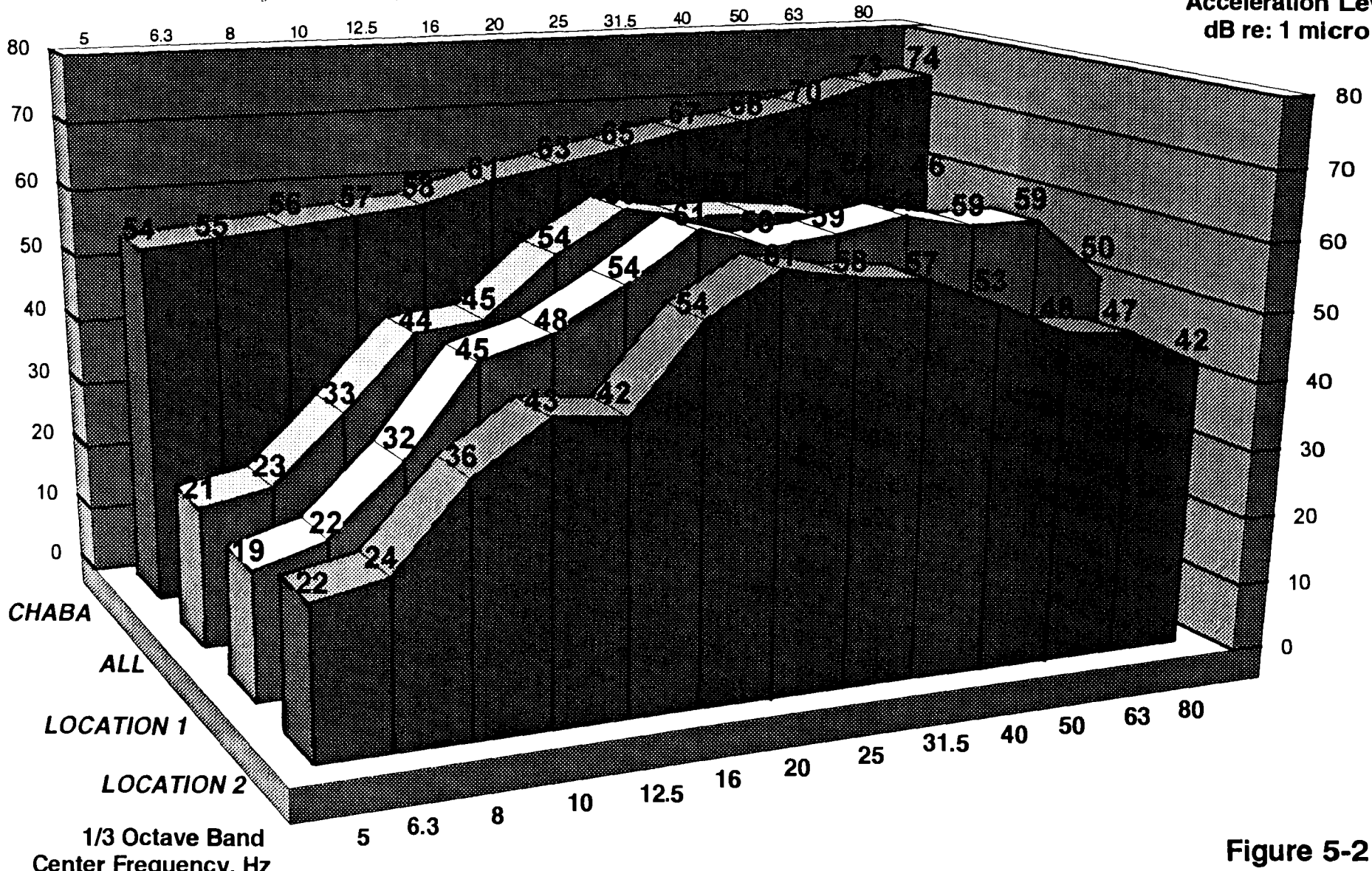

Figure 5-2

SAN DIEGO TROLLEY VIBRATION DATA & CHABA CRITERION

AVERAGE MAXIMUM ACCELERATION LEVELS

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All sections of the People Mover Through Lot B Alternative would be on aerial guideway structure. Most sections of the Metro Green Line Along Aviation Boulevard Alternative, with the exception of an 1,800-foot subway segment, would also be on aerial structure. Operating speeds would vary depending upon proximity to stations, turning requirements, etc., but most locations (with the exception of the Metro Green Line segment along Aviation Boulevard) would have trains operating at a speed of less than 55 miles per hour. This would generally result in lower vibration levels than indicated in Figure 5-2. For example, at a 25 mph speed, the acceleration levels would be 4 to 6 dB lower than shown. For distances closer than 50 feet, vibration levels would be greater than shown; for example at 25 feet the vibration levels would increase by 3 to 5 dB. For the Metro Green Line Segment along Aviation Boulevard, operating speeds would be about 65 miles per hour. However, the nearest buildings would be about 100 feet from the track and none of these buildings are vibration-sensitive. The analysis performed by Acoustical Analysis Associates indicated that the combination of effects showed that there would be no vibration impacts due to the Metro Green Line alternative, with the exception of the possibility that vibration may be felt at Fire Station No. 95 on Century Boulevard. However, the fire station will be relocated if either rail alternative is selected for implementation.

The level of groundborne vibration in the vicinity of a rail transit system depends on a number of factors, including the type of transit structure, track fastening system, type of soil, and condition of track. The data reported in Figure 5-2 is appropriate for an at-grade structure with ballast-and-tie track with well-maintained (smooth) continuously-welded track. Vibration levels would be expected to increase in the vicinity of track discontinuities or if the track became rough and worn. Further, light rail operations on concrete aerial guideways or in subway structures typically produce vibration levels below those generated on an at-grade structure. Therefore, the vibration estimates presented reflect a worst-case estimate of subway and aerial configuration levels.

With regard to the portion of the people mover alignment between Imperial Highway and Century Boulevard, several buildings are located close to the proposed column locations of the aerial guideway. Vibration levels would normally be acceptable for commercial buildings if the base of the columns are located beyond about 10 to 20 feet from the building. Several buildings would be located within or closer than this distance. Businesses located within these buildings include: Parker Transport/Griley Air Freight, Modern Plating, California Video, Burlington Air Express, and Neutrogena. However, four of these buildings would be purchased to accommodate ther fixed guideway structure under this alternative, and the businesses would be relocated. The portion of the Parker Transport/Griley Air Freight building located closest to the proposed guideway would also be purchased. Therefore, vibrational impacts to these buildings would not be a problem.

Two FAA antennas located on LAX property would also be close to the proposed people mover alignment. It is not known at this time whether this alternative would have any adverse impacts due to vibration on these antenna installations. More detailed study would be conducted during final engineering to determine potential impacts. The MTA/LACTC would work with the DOA and the FAA to devise a strategy to minimize any adverse impacts.

5.6.6 Significance of Impacts

There would be no significant impacts due to train operations, stations, or substations (under either the people mover or Metro Green Line alternatives as now designed). (Not Significant)

For both rail alternatives, it should be noted that it is possible that the design of the trackwork crossing Century Boulevard onto the former Dollar Rental Car property will be modified to increase the radius of the curve so that the trains can travel at faster speeds in this area than presently planned. Further, if the people mover alternative is selected, then the wye would need to be shifted further east to accommodate both lines from Aviation/Imperial Station and the LAX Central Terminal Area so that they can turn and proceed in a northerly direction in this area. In both cases, the nearest guideway would be shifted closer to the Sheraton Hotel; and, depending on where the guideway would be located, adverse noise impacts to the hotel may be possible. (Significant)

Under the All-Bus Alternative, idling buses loading and unloading passengers at the bus bays may disturb residents living on the south side of 116th Street near the Aviation/Imperial Station. (Significant)

Although the actual extent of vibration impacts at this level of engineering design cannot be determined at this time, it is possible that the people mover alternative could cause vibration impacts to two FAA antenna installations located on LAX property off the approach ends of runways 25R and 25L. (Significant)

5.6.7 Mitigation Measures

The following mitigation measures are not required by law but will be implemented as part of this project:

- If the All-Bus Alternative is selected, mitigation, such as a noise wall, would be installed along 116th Street if it is determined that the noise of idling buses at the Aviation/Imperial Station is disturbing to nearby residents.

- For both rail alternatives, the design of the trackwork crossing Century Boulevard onto the former Dollar Rental Car property may need to be modified during preliminary engineering. This modification would shift the track closer to the Sheraton Hotel. If the design is changed, then the potential noise impacts would also be assessed at that time. If impacts exceed the criteria, then appropriate mitigation, such as noise barriers, would be implemented to minimize adverse impacts to the Sheraton Hotel.

- Additional studies would be conducted during final engineering (if the people mover alternative is selected) to determine the potential for vibrational impacts to the FAA antennas located on LAX property. The MTA/LACTC would coordinate with the DOA and FAA to determine if vibration from the people mover system would be a problem and would devise strategies to minimize impacts to these facilities.

5.6.8 Significance of Impacts Remaining After Mitigation

There would be no significant impacts remaining after implementation of the proposed mitigation measures.

5.7 POPULATION AND HOUSING

5.7.1 Population

Neither the Metro Green Line or the All-Bus Alternatives are located adjacent to any residential areas. Therefore, these alternatives are not expected to have any impacts on population. The people mover fixed guideway structure would be located south of Century Boulevard about 470 feet from the nearest apartment building on the north side of Century Boulevard. In addition, the Century/Concourse Station would be located approximately 600 feet from the nearest apartment building under this alternative. Residents located close to the fixed guideway or station could be affected by increased noise, traffic, glare, and other impacts addressed in other sections of this SEIR. It is unlikely that any of the alternatives would result in local growth-inducing impacts including increases in residential development densities since the nearby residential area is already built-up, and the only vacant lands in the study area are slated for other types of development. Section 9 discusses growth-inducing impacts in more detail.

5.7.2 Housing

Workers would be required to operate and maintain the rail project. In addition, short-term jobs would be provided during construction phases of the project. Since the project would be built in segments, work crews of less than 100 workers are projected for any one time. The employment generation resulting from the construction of the proposed project would draw upon much of the labor resources that would be used in other rail transit projects. Employment generated by the proposed project is not expected to have a measurable impact on local housing markets or demand.

5.7.3 Significance of Impacts

There would be no significant impacts on population and housing.

5.7.4 Mitigation Measures

Because there are no adverse impacts on population and housing, no mitigation measures are necessary. Mitigation measures pertaining to noise, traffic, and glare are addressed in other sections of this SEIR.

5.7.5 Significance of Impacts Remaining After Mitigation

No significant impacts would occur.

5.8 PUBLIC SERVICES

This section evaluates the proposed project impacts on local public services including police, fire, and schools.

5.8.1 Police and Law Enforcement

Both rail alternatives would result in an increase in commuter and pedestrian traffic, particularly around the stations and the MTC. The All-Bus Alternative would also result in such increases at the Aviation/Imperial Station and at the MTC. Because of this concentration of commuter and pedestrian traffic, crime problems may arise from time to time. The proposed alternatives may also increase the need for general police service in two ways. First, there is the need to ensure the safety of riders, station attendants, persons using the fare machines, and unattended automobiles at stations, the MTC, and adjacent parking lots. Secondly, the police would be required to respond to accidents involving vehicles and pedestrians. Larger traffic volumes around the stations and MTC would also increase the likelihood of automobile accidents requiring police response.

The overwhelming majority of requests 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.

5.8.2 Fire Protection

The project is anticipated to have minimal impacts on the Los Angeles Fire Department (LAFD) in terms of increased demand for fire-fighting and paramedic units. Because of the project's proposed track, substations, power stations, and maintenance yards, an emergency response would require a minimum of one engine and one rescue unit. Therefore, a first alarm response to many sites could affect LAFD if a simultaneous incident occurs elsewhere. The simultaneous demand may require additional manpower and equipment which is not currently available, and would necessitate automatic and mutual aid.

Specifically, the concentrations of pedestrians and traffic in and around substations during commuter periods may lengthen response times, particularly for medical emergencies. Increased volumes of commuters would also generate more frequent medical emergency calls.

Construction of either rail alternative would require the acquisition and relocation of Fire Station Number 95 on Century Boulevard. LACTC/MTA would work with LAFD to ensure that fire protection services would not be diminished during the relocation process.

5.8.3 Schools

Because of the distance of the proposed project to schools in the project vicinity, no significant impacts are anticipated.

5.8.4 Significance of Impacts

Increased commuter and pedestrian traffic at stations may result in increased number of crimes or accidents, and transit police may require back-up support from the Los Angeles Police Department. (Significant)

The project would cause the Los Angeles Fire Department an insignificant increased demand for fire fighting and paramedic units, increased inspection load, and increased incidences of false alarms. (Not significant)

The project would cause the Los Angeles Fire Department an insignificant increased demand for fire fighting and paramedic units, increased inspection load, and increased incidences of false alarms.

Construction of either rail alternative would require the acquisition of Fire Station Number 95. (Significant)

5.8.5 Mitigation Measures

The following measure required by law will be implemented as part of this project.

- State and Federal regulations regarding the relocation of Fire Station Number 95 will be followed. Just and appropriate compensation would be provided to the LAFD for the acquisition and relocation of this facility.

The mitigation measures discussed below are not required by law but will be implemented as a part of this project to minimize the adverse impacts on police services:

- Two-way voice communication will be provided between patrons and central control personnel at selected points throughout the route, such as fare-vending areas, platforms, and shelter stops. In addition, two-way voice communications on-board the trains between the passengers and central control will be installed. Hand-held radios will be provided for employees, operators (if a vehicle requiring a train operator is selected), security personnel, and the central control. An antenna-repeater system will be compatible with police, fire, and security communications and will extend through the subway segment (Metro Green Line alternative). Antenna-repeater systems will be compatible with those used in other rail transit systems (i.e., Red Line, Blue Line, Green Line).

- Closed-circuit television will be provided at high-risk and security areas throughout the system. It is recommended that these areas include fare-vending areas, loading platforms, and entrances and exits to elevators and escalators. Surveillance cameras shall be linked to a central control area for display on video monitors.

- An alarm and telephone system will be installed to protect unauthorized entry and tampering with equipment, such as fare-vending machines, equipment rooms in the stations, traction power substations, and money-counting rooms. The alarms will alert the central control and/or local authorities.

- In order to eliminate dark or obscured areas, the design of all passenger stations and shelter stops will be open with long, unbroken lines of sight. In addition, stations and shelters will be illuminated during hours of darkness.

- Where practical, guideways will be protected from encroachment of people, thrown objects, or unauthorized vehicles. Barriers will be of a height to prevent intrusion and deter hauling of objects into the guideway.

- Walkways with a 30-inch clearance will be provided along the guideway. Crossovers will have a minimum clearance of 44 inches at all egress and access locations.

- Power substation access will be limited to authorized personnel only. Power substations will be enclosed by barriers of a height to discourage hurling of objects into the enclosure. Power substations will have burglar alarms.

- Parking lots associated with the project will be designed to maximize visibility within the lots and from surrounding areas. Lighting will be designed to avoid the creation of dark corners.

- Interior finish of the Metro Green Line or people mover vehicle will be of vandal-resistant material. Seats, seat backs, equipment access panels, etc. will be removable with the use of special tools.

The project would cause an insignificant increased demand for fire fighting and paramedic units, increased inspection load, and increased incidences of false alarms. Although no significant fire hazard impacts have been identified, the following mitigation measures (not required by law) will be implemented:

- Access for fire equipment will be maintained during the operation of the system as required by LAFD.

- Fire-retardant materials on trains and non-combustible materials in stations will be used.

- Telephones will be provided at stations to report emergencies to the fire department.

- Communication devices shall be provided on-board the trains to alert the central control about emergencies.

- Automatic fire alarm systems will be installed within substations.

- Hand-held fire extinguishers will be available on trains and substations.

- With regard to the displacement of Fire Station Number 95, LACTC/MTA will work with the LAFD to ensure that fire protection services will not be diminished during the relocation process.

While a significant impact has not been identified in the area of school impacts, the following list of additional safety features is recommended where applicable during the construction and operation of the project:

- Trespass attractions of construction sites, stations, and parking lots shall be reduced by security measures and barriers.
- Power substations will be secured to prevent unauthorized access, and warning signs will be conspicuously posted.
- Rail tracks will be inaccessible to pedestrian traffic.
- Warning signs will be posted around power substations and construction sites.

5.8.6 Significance of Impacts Remaining After Mitigation

The implementation of the proposed mitigation measures would lower impacts to a less than significant level.

5.9 AESTHETICS

While an aerial fixed guideway and associated facilities would introduce a new visual element to any landscape, the degree of impact depends on the existing aesthetic quality, topography, and land uses of the affected area. Whether a change actually enhances or impairs a visual impression is ultimately a subjective opinion since specific criteria have not been adapted by the State, City of Los Angeles, or LACTC/MTA. However, most of the project vicinity does not contain any visually-sensitive land uses since the majority of the area consists of airport and airport-related uses as well as industrial and commercial uses. There are no significant views of natural, architectural, or other resources within the project area.

The discussion of the impacts on aesthetics is presented below by street segment for the rail alternatives. The major difference in impacts between the rail alternatives is that the Metro Green Line technology would require the installation of catenary poles and wires above the guideway, while the people mover technology would not. The impacts of the All-Bus Alternative are discussed in Section 5.9.6.

5.9.1 Aviation Boulevard (Metro Green Line Along Aviation Boulevard Alternative Only)

The Metro Green Line technology would be located on aerial structure (with the exception of an 1,800-foot subway segment) on the west side of this roadway along the old AT&SF right-of-way. The aerial structure would be about 30 feet above ground level. The visual impact would not be significant due to the limited sensitive land uses and general existing aesthetic character of the area.

5.9.2 Between Imperial Highway and Century Boulevard (People Mover Through Lot B Alternative Only)

The people mover technology would be located on aerial structure along the east side of the proposed Continental City and County Courthouse. It would then cross 111th Street and traverse LAX Lot B, Department of Public Works property, airport property, and an industrial area between 104th Street and Century Boulevard. The aerial structure would be between about 25 and 30 feet in height (with the exception of the portion between 102nd Street and Century Boulevard where the height would reach a maximum elevation of about 45 feet above the ground in order to clear the old AT&SF Railroad bridge at Aviation Boulevard). The Lot B Station would be built within LAX Lot B. The Century/Concourse Station would be built near the corner of Concourse Way and 102nd Street. Both station canopies would be approximately 15 feet above the top of the guideway rail. Entrances to the stations would be compatible with the surrounding urban landscape.

The visual impact would not be significant in most of the area due to the limited sensitive land uses and the general existing aesthetic character of the area. However, there are two potential impact areas within this portion of the alignment. One is in the vicinity of the proposed Los Angeles Municipal Courthouse and Continental City; the other area is along Century Boulevard where apartment buildings and the Westin Hotel are located.

No site plans exist at this time for the proposed Continental City; therefore, the impacts to this development cannot be quantified. With regard to the municipal courthouse, no significant views of natural, architectural or other resources currently exist in this area.

However, the aerial guideway structure, as now designed, would pass through the eastern edges of the proposed parking lots and also along the edge of the rear drive of that facility.

The existing and projected views of the apartment buildings along Century Boulevard from the Westin Hotel are presented in Figure 5-3. No significant visual resources exist in this area, since most of the area on the south side of Century Boulevard now contains industrial buildings. The Thrifty Car Rental building would be demolished. A people mover station platform with an area for passenger drop-off and local area circulator bus loading and unloading would be located on this property. To minimize adverse visual impacts, the station and associated facilities would be designed to be attractive and nonintrusive on the surrounding area. In addition, landscaping will be used to shield or enhance the station and associated facilities. Plants and ground cover compatible with the Southern California climate and the architecture of the surrounding area will be used.

5.9.3 Century Boulevard - Aviation Boulevard to West of Airport Boulevard (Both rail alternatives)

The entire length of this segment would be aerial in configuration. The height of the guideway would be about 22.5 to 30 feet, with the exception of a small segment near Aviation Boulevard (people mover alignment only) where the height would reach a maximum elevation of about 50 feet in order to clear the old AT&SF Railroad bridge at Aviation Boulevard. The Century/Airport Station is planned on the south side of Century Boulevard at Airport Boulevard, and the station canopy would be approximately 15 feet above the top of the guideway rail. Four hotels (Airport Hilton, Marriott, Holiday Inn Crowne Plaza, and Sheraton) are located on the north side of Century Boulevard. The station and fixed guideway structure would not block any aesthetic views from any of these hotels. To minimize any adverse visual impacts along Century Boulevard, the station and associated facilities would be designed to be attractive and nonintrusive on the surrounding area. In addition, landscaping would be used to shield or enhance the station and associated facilities. Plants and ground cover compatible with the Southern California climate and the architecture of the surrounding area would be used. Figure 5-4 shows the existing and projected views of the Metro Green Line aerial structure from the Sheraton Hotel in the vicinity where the alignment turns in a northerly direction crossing Century Boulevard. The Metro Green Line technology is shown here since it represents the "worst-case" because this system would require an overhead contact system (OCS) to operate. The people mover guideway structure would be similar, but no OCS would be needed.

5.9.4 Century Boulevard to Sepulveda Boulevard - Through Lot C (Both rail alternatives)

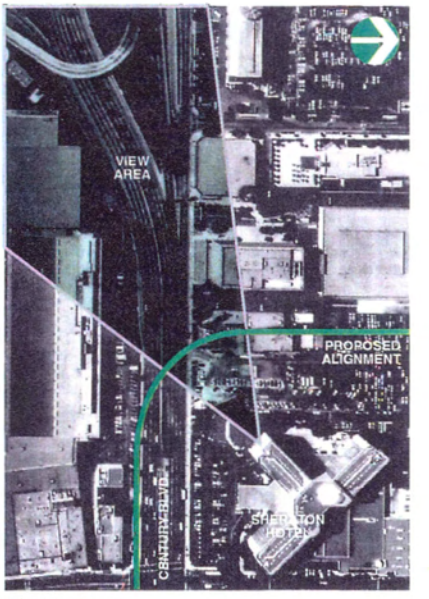
The aerial guideway would be between 25 and 30 feet above the ground level and a station and the MTC would be located within Lot C. The station canopy would be about 15 feet above the top of the guideway rail. The MTC would include bus bays and short-term parking. Because this area is substantially open with few structures except near Century Boulevard, the station and guideway would be visible from a distance. Aesthetically, this view is not expected to be imposing to existing views, based on existing non-visually sensitive land uses.

Figure 5-3 Existing and Projected Views of the Apartment Buildings and Westin Hotel Along Century Boulevard

Figure 5-3 to be inserted later

PROJECTED VIEW

EXISTING VIEW



KEYVIEW

Figure 5-4
EXISTING & PROJECTED VIEWS FROM THE SHERATON HOTEL

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5.9.5 Westchester Parkway - Sepulveda Boulevard to Westchester Station (Both rail alternatives)

The aerial structure would be between 25 and 30 feet in height in this segment. A station would also be located near Sepulveda Westway with a canopy about 15 feet above the guideway rail.

Figure 5-5 presents the existing and projected views of the commercial buildings along Westchester Parkway. Again, the Metro Green Line technology was selected for this visual simulation since it represents the "worst-case" scenario. Two of the buildings in this area are commercial low rise; thus, a 30-foot high transit facility would be more noticeable in this area than in some other areas of the alignment. However, the aesthetic impacts would be minimal due to the existing non-visually sensitive land uses.

Because no site plans currently exist for the LAX-Northside development, the visual impacts to this proposed development cannot be quantified at this time.

If it is decided to terminate the rail alternatives at Lot C instead of at Westchester Station, then no impacts on aesthetics would occur from implementation of either rail alternative.

5.9.6 All-Bus Alternative

The only construction associated with this alternative is the construction of bus bays at the Aviation/Imperial Station and the MTC at Lot C. A station, fixed guideway, and parking lot are now being built at the Aviation/Imperial Station for the Metro Green Line project from Norwalk to El Segundo; the addition of bus bays at this location to shuttle passengers between the station and the MTC should not cause any additional aesthetic impacts. The MTC would be built in Lot C where the SCRTD/MTA bus center is now located. The aesthetic impacts would be minimal due to the existing non-visually sensitive land uses in the vicinity of Lot C.

5.9.7 Significance of Impacts

The introduction of aerial structure along most of both rail alternatives would significantly alter the appearance of the areas being traversed. Catenary poles and wires would be installed (Metro Green Line alternative only) along the length of the light rail alignment. (Significant)

The people mover aerial guideway, as now designed, would pass through the eastern edges of the proposed parking lots and also along the edge of the rear drive of the proposed Los Angeles Municipal Courthouse. (Significant)

The people mover aerial guideway and the Century/Concourse Station with associated facilities would be located in close proximity of the Westin Hotel and apartment buildings along Century Boulevard. Although no significant views would be blocked by the rail project, the station and associated facilities could have a visual impact on the hotel and apartment buildings. (Significant)

Figure 5-5 Existing and Projected Views of Commercial Buildings Along Westchester Parkway

Four hotels (Airport Hilton, Marriott, Holiday Inn Crowne Plaza, and Sheraton) are located on the north side of Century Boulevard across from the proposed Century/Airport Station and fixed guideway structure (under both rail alternatives). Although no significant views would be blocked, the rail facilities could have a visual impact on these hotels. (Significant)

5.9.8 Mitigation Measures

A significant adverse impact has been identified in the area of aesthetics. However, the alignment would follow existing roadways, or be located within non-visually-sensitive areas such as an industrial area or airport parking lots. No significant views would be blocked by the rail project. The following measures are not required by law but are proposed to minimize aesthetic impacts:

- Stations will be designed to be attractive and nonintrusive on surrounding areas. Station design and building materials used in their construction will emphasize low maintenance and graffiti resistance.

- Landscaping will be used to shield or enhance stations, traction power substation sites and the right-of-way. Plants and ground cover compatible with the southern California climate and the architecture of the surrounding area will be used.

- The LACTC/MTA will coordinate the final design of the people mover alignment with Continental Development Corporation, the property developers of the Los Angeles Municipal Courthouse, to avoid adverse visual impacts.

5.9.9 Significance of Impacts Remaining After Mitigation

There would be no significant impacts remaining after implementation of the proposed mitigation measures.

5.10 LIGHT AND GLARE/SHADE AND SHADOW

5.10.1 Light and Glare

Light and glare impacts that would be common to all aerial portions of either rail alternative include minor impacts from lighting along the rail line and from the rail cars as they pass by. High-beam front lights on the transit vehicle could affect vehicles along Aviation Boulevard and the airport access road parallel to Aviation Boulevard (Metro Green Line Along Aviation Boulevard Alternative only) in the areas where the line transitions from aerial structure to subway. Because of the elevational difference between the roadway and the aerial portions of the system, no light impacts to vehicles are expected from the high-beam front lights of the train. The lack of large, flat, exterior reflective surfaces reduces the amount of glare-producing sources, and thus the potential for glare. The greatest emittance of light and glare would occur at the station locations. The following discusses the stations along the proposed route. Refer to Section 5.14 for an assessment of the light and glare impacts on airport operations.

5.10.1.1 Lot B Station (People Mover Through Lot B Alternative Only)

This station would be located within LAX Lot B. Lot B already contains extensive lighting; the land uses surrounding Lot B include mostly industrial types of uses. Because of the existing setting, the light and glare emitted from this station is not anticipated to affect the surrounding environment.

5.10.1.2 Century/Concourse Station (People Mover Through Lot B Alternative Only)

This station would be located near Concourse Way and 102nd Street in the existing Thrifty Rental Car parking lot. The immediate area contains mostly industrial buildings, and a privately-owned airport parking lot is adjacent to this station. However, the Westin Hotel is located at the southeastern intersection of Century Boulevard and Concourse Way, and a number of apartment buildings (mostly three stories in height) are located more than 600 feet from this station on the north side of Century Boulevard. Adverse impacts to the apartment buildings are not anticipated because of the station's distance from the apartments and because of the significant vehicle and street lighting already existing along Century Boulevard. Although it is unlikely that patrons of the Westin Hotel would be exposed to adverse lighting impacts from the station, shielding would be considered if it is later determined that the station lighting is a problem.

5.10.1.3 Century/Airport Station (Both rail alternatives)

The Century/Airport Station would be located at the intersection of Century Boulevard and Airport Boulevard. Century Boulevard is a busy roadway with existing commercial and industrial buildings, street lights, billboards, and a large portion of traffic travelling to and from LAX. Because of the existing setting, the light and glare emitted from this station is not anticipated to affect the surrounding environment.

5.10.1.4 Lot C Station (Both rail alternatives)

The Lot C Station would be located at 96th Street at the existing SCRTD/MTA Transportation Center. The transit center is surrounded by LAX long-term parking Lot C.

Because of the existing non-sensitive land use, light and glare impacts from this station would be minimal.

5.10.1.5 Westchester Station (Both rail alternatives unless it is decided to terminate these alternatives at Lot C)

The station would be located at the southwestern edge of the Westchester business district. The surrounding environment includes street lighting and low-rise commercial, industrial, and office buildings. Light and glare from the station on these land uses are not expected to create any significant impacts.

5.10.2 Shade and Shadow

Neither the All-Bus or the No-Action Alternatives would have any potential shade and shadow impacts. With regard to the rail alternatives, the heights of the proposed facilities were determined to prepare an analysis of such impacts. A maximum height of about 15 feet above the top of the guideway rail was determined for the proposed stations, and the heights of the fixed guideway structures varied from a maximum of about 45 feet to a minimum of about 22.5 feet. Depending on the time of day and time of year, shadows cast by these structures would vary significantly in the actual length of their respective projections. To identify the "worst-case" conditions, shade and shadow effects have been analyzed for 9:00 AM and 3:00 PM during the winter solstice (December 21), which is when the shadows extend over the greatest amount of surface area. The analysis of shade and shadow impacts is discussed in the following paragraphs by project segment.

5.10.2.1 Aviation Boulevard (Metro Green Line Along Aviation Boulevard Alternative only)

The segment along Aviation Boulevard consists of both aerial structure and a subway segment between about 111th Street and 104th Street. The subway segment would have no shade and shadow impacts. The transit structure is proposed to be approximately 33 feet in height. Shadows from the structure would extend a maximum of 99 feet. Approximately 75 percent of Aviation Boulevard and 100 percent of an LAX interior road adjacent to Aviation Boulevard would be shaded in the areas adjacent to the aerial structure.

5.10.2.2 Between Imperial Highway and Century Boulevard (People Mover Through Lot B Alternative only)

The aerial structure along this segment ranges between 24 and 28 feet in height between Imperial Highway and Lot B. Shadows from the structure would extend a maximum of 72 to 84 feet in this area. The structure would cast a maximum shadow of 84 feet in the area of the proposed municipal courthouse which would cause shading to a portion of the eastern side of the building. The impacts to the proposed Continental City are unknown since there are no site plans for this development.

Recreational facilities for Rockwell International employees are located to the east of the proposed aerial structure on the north side of Imperial Highway. Tall trees now line most of the western border of the Rockwell property casting shadows on a portion of that facility. Because the trees are located between the proposed fixed guideway and the recreational facility, the guideway would not have any effect on shading the area where the trees are

located. The guideway would shade a small portion of the parking lot and about 25 percent of a building located along the western border of the property since no trees are located in those two areas.

With regard to LAX Lot B, the aerial structure would cast a maximum shadow of 84 feet in the parking lot. The station would be about 43 feet in height casting a maximum shadow of 129 feet in Lot B. The guideway structure would be about 25 feet in height on the Department of Public Works property located adjacent to Lot B along 111th Street. Shadows would extend a maximum of 75 feet shading a portion of the paved area on the northwestern side of the property and about a third of the maintenance building located on the western edge of the property.

The aerial structure would be about 30 feet in height on the LAX property located east of the runway protection zone. The structure would cast a maximum shadow of 90 feet in this area.

The fixed guideway would vary in height between 30 and 45 feet once it leaves LAX property and continues in a northerly and northwesterly direction through an industrial area to the intersection of Century and Aviation Boulevards. The maximum guideway heights would be reached as the alignment nears the intersection of Century and Aviation Boulevards. The guideway would cast a maximum shadow of between 90 and 135 feet in this area depending on the guideway elevation.

The percent of shading assumed in this discussion presents "worst-case" conditions; it assumes that the existing buildings in this area are lower than the fixed guideway and that the buildings do not themselves cast any shadows. Based on these assumptions, the fixed guideway would shade about 40 percent of the Modern Plating facility located at 5400 West 104th Street. About 25 percent of the vacant industrial building located at 5341 West 104th Street would be shaded, and an estimated 15 percent of the Hughes Aircraft Training Center facility (located on 102nd Street) would also be shaded by the guideway. The guideway would shade about 20 percent of a privately owned airport parking lot located at 102nd Street and Concourse Way.

The project would shade about one third of a building on Aviation Boulevard containing Ford Discount Office Furniture, Combined Aviation Services of America, and Pool Tables by Adler; almost all of the Unocal 76 gasoline station located at the intersection of Century and Aviation Boulevards would be shaded.

In addition to the impacts of the guideway, there would be impacts from the Century/Concourse Station which would be located within the existing Thrifty Rental Car lot. The station would be 50 feet in height casting a maximum shadow of 150 feet. The station would shade all of 102nd Street, about half of the privately-owned airport parking lot, and a small portion of the building located at 5450 West 102nd Street.

5.10.2.3 Century Boulevard (Both rail alternatives)

The transit structure along Century Boulevard is proposed to be a maximum of 31 feet and would cast a shadow of approximately 93 feet. Shadows cast from the transit structure

would extend over 50 percent of Century Boulevard. The Century/Airport Station would be about 40 feet in height, and shadows cast from the station structure would extend a maximum of 120 feet, which would shade about 75 percent of Century Boulevard.

5.10.2.4 Century Boulevard to Sepulveda Boulevard - Through Lot C (Both rail alternatives)

The height of the aerial structure in this segment would vary between 26 and 31 feet casting a maximum shadow of between 78 and 93 feet over the existing parking facilities in the vicinity. In addition, the aerial structure would cast a shadow over half of Westchester Parkway (under worst-case conditions) in the area just east of Sepulveda Boulevard. The Lot C Station would be about 45 feet in height casting a maximum shadow of 135 feet within the proposed MTC at Lot C.

5.10.2.5 Westchester Parkway - Sepulveda Boulevard to Westchester Station (Both rail alternatives)

The aerial structure would be about 25 feet in height in this segment casting a maximum shadow of 75 feet. Shadows from this alignment would also cast over 100 percent of the eastbound lanes of Westchester Parkway, over an existing parking lot, a portion of Sepulveda Westway, and vacant land. The height of Westchester Station is planned to be about 40 feet above ground level. This would cast a maximum shadow of 120 feet shading nearly all of Westchester Parkway. If it is decided to terminate the rail alternatives at Lot C, then impacts of shade and shadows would not occur in this segment.

5.10.2.6 Summary of Shade and Shadow Impacts

The proposed transit stations and structure would not cast shadows on sensitive uses such as existing residences and public recreational areas. The transit stations and structure would primarily extend over existing industrial areas, parking lots, streets, and the proposed courthouse facility. Coordination with the courthouse developers is planned to minimize impacts to this facility from the people mover alternative. Potential impacts to other proposed uses such as Continental City and LAX-Northside development cannot be determined until site design is completed. The proposed transit stations and structures would limit solar access, particularly during winter months. In the winter, cool temperatures can be further reduced by blockage of sunlight to affected areas; however, the blockage of sunlight to areas along the project alignment would not significantly reduce temperatures. Since shadows would not extend onto existing sensitive uses, no significant shade and shadow effects would result from the project.

5.10.3 Significance of Impacts

Light and glare impacts that would be common to all aerial portions of the route include minor impacts from lighting along the rail line and from the rail cars as they pass by. High-beam front lights on the transit vehicle could affect vehicles along Aviation Boulevard and the airport access road parallel to Aviation Boulevard (Metro Green Line Along Aviation Boulevard Alternative only) in the areas where the line transitions from aerial structure to subway. Because of the elevation difference between the roadways and the aerial portions of both rail alternatives, no light impacts are expected from the high-beam front lights of the train. (Not Significant)

The greatest emittance of light and glare would occur at the proposed stations. Due to the existing non-sensitive type of land uses and the distances of sensitive receptors in the vicinity of the proposed stations, impacts will be minimal. It is unlikely that patrons of the Westin Hotel would be exposed to adverse lighting impacts from the Century/Concourse Station (people mover alternative only). (Not Significant)

The proposed transit stations and structure would not cast shadows on sensitive uses such as existing residences and public recreational areas. The transit stations and structure would primarily extend over existing industrial areas, parking lots, streets, and the proposed courthouse facility. (Not Significant)

5.10.4 Mitigation Measures

The following measures are not required by law but will be incorporated into the project:

Although it is unlikely that light or glare would affect the Westin Hotel due to the location of the proposed Century/Concourse Station (under the people mover alternative), shielding would be considered if it is later determined that the station lighting is a problem. No other mitigation measures are required because no significant light and glare or shade and shadow effects would result from project implementation on existing land uses.

The LACTC/MTA will coordinate the final design of the people mover with Continental Development Corporation, the developers of the Los Angeles Municipal Courthouse, to avoid adverse impacts to the courthouse.

5.10.5 Significance of Impacts Remaining After Mitigation

There are no significant impacts related to light and glare/shade and shadow.

5.11 RECREATION

As discussed in Section 4.11, there are three public recreational facilities in the study area: Westchester Golf Course, Westchester Recreational Facility, and Constitution Park. Because of their distances from all alternatives under consideration, no adverse impacts are anticipated. In addition, Rockwell International has recreational facilities for their employees located on Imperial Highway just east of the alignment for the People Mover Through Lot B Alternative. As discussed in Section 5.10, no significant views would be blocked by the people mover alignment. Section 5.6 discusses potential noise impacts and indicates that the people mover would not generate unacceptable noise levels.

5.11.1 Significance of Impacts

There are no significant impacts.

5.11.2 Mitigation Measures

Because no adverse impacts would occur, no mitigation measures are required.

5.12 CULTURAL RESOURCES

This section discusses the proposed project alternatives' impacts on cultural resources. The analysis focuses on historic and archaeological resources that may be affected by the construction of the proposed project. The information on the impacts of the Metro Green Line Along Aviation Boulevard Alternative is taken from the text and Appendix E (Cultural Study) of the Draft Environmental Impact Report, Coastal Corridor Rail Transit Project-Northern Segment. More detailed information on cultural resources in the project area can be found in Section 4.12 of this SEIR.

5.12.1 Historic Resources

Three historic resources identified in the City of Los Angeles Historic Cultural Resources Survey are within the project area. These include: the Airport Theme Building; Hangar Number 1; and Loyola Theater. However, none are located adjacent to either rail alignment or the All-Bus Alternative.

5.12.2 Archaeological Resources

The archive search done for the Coastal Corridor-Northern Segment project found that 12 recorded archaeological sites were found in the northernmost portion of that project area, and none were located in proximity to the Metro Green Line Along Aviation Boulevard Alternative assessed in this SEIR. The Archaeological Information Center of the University of California at Los Angeles (UCLA) Institute of Archaeology was consulted to determine whether any archaeological sites are within one mile of the proposed People Mover Through Lot B Alternative. They have indicated that no archaeological sites are within this area. However, UCLA also indicated that because there are many archaeological sites in the surrounding area, the area is designated as archaeologically sensitive.

5.12.3 Significance of Impacts

There are no known significant impacts since no historic or archaeological resources have been found in the project area. However, the area is designated as archaeologically sensitive, and it is possible that archaeological resources could be uncovered during construction. (Significant)

5.12.4 Mitigation Measures

No mitigation measures are necessary for historic resources. In the event that artifacts and/or remains are found in the course of construction, the following mitigation measures, as required by law, will be taken:

- The lead agency shall make the determination whether or not the resource is significant and require salvage according to CEQA and/or city guidelines.
- If the resource is found to be significant, proper and appropriate salvage of the resources will commence in a timely manner to the provisions outlined in Section VII of Appendix K of the CEQA law and guidelines.

5.12.5 Significance of Impacts Remaining After Mitigation

Implementation of the proposed mitigation measures would reduce cultural resource impacts to a level that is not significant.

5.13 ENERGY

5.13.1 Analysis

Both rail alternatives would require electrical power to operate the trains and stations. For this analysis, it is assumed that buses operating in the future under the All-Bus Alternative would use compressed natural gas (CNG) as a fuel source, since the use of diesel-fueled buses is being phased out due to air quality concerns.

Table 5-7 compares the 2010 estimated energy requirements for all three alternatives. The table shows that the people mover would require about 39.7 million British Thermal Units (BTU) per day; the Metro Green Line's requirements would be about 36.1 million BTUs per day; and the All-Bus Alternative would use approximately 34.2 million BTUs per day.

TABLE 5-7

COMPARISON OF ENERGY REQUIREMENTS FOR THE METRO GREEN LINE, PEOPLE MOVER, AND ALL-BUS ALTERNATIVES

Alternative	Stations[1] (Kwh/day)	Vehicle Usage[2] (Kwh/day)	Total Usage (Kwh/day)	Vehicle Usage (gallon/day[3])	Total Usage BTU/day
Metro Green Line	162	3,275	3,437	N/A	36.1 million
People Mover	270	3,510	3,780	N/A	39.7 million
All-Bus	54	N/A	54	240	34.2 million

(1) Consumption factor of 19.7 Kwh/year/square foot; assumes 1,200 square feet for aerial stations.
(2) Assumes 1.5 megawatts/mile of track, 20 hours per day for transit vehicles.
(3) According to a study done by Booz, Allen & Hamilton in 1991, for the Los Angeles Electric Trolley Bus Study, little information is available with regard to CNG fuel economy. However, both Columbus, Ohio and Toronto, Canada have reported fuel consumption by CNG coaches as equivalent to diesel miles per gallon, based on heats of combustion. Therefore, this analysis assumes figures for diesel fuel consumption based on U.S. Department of Transportation (1983) statistics of 0.24 gallon/vehicle mile traveled for a standard bus; 140,000 BTU/gallon of diesel fuel.

Source: Rail Transit - MTA, 1993; All-Bus - ICF Kaiser Engineers, 1993.

The added electricity demand required by the rail alternatives should be adequately accommodated by the existing LADWP power plants. No additional generating capacity would be necessary. Note that energy consumed by any of the three alternatives would be offset by energy savings from reduced vehicle trips.

5.13.2 Significance of Impacts

There are no significant impacts on energy resources.

5.13.3 Mitigation Measures

No measures are required by law. However, the Metro Green Line vehicle would have the following energy conservation measures incorporated into the system design:

- "Chopper" rail vehicle motor speed controls
- Regenerative braking

Because the specific people mover technology has not been selected, it is unknown at this time what energy-conservation measures would be incorporated into that vehicle.

5.14 AIRPORT OPERATIONS

Both rail alternatives would involve the construction of track and station facilities and the operation of trains in close proximity to the Los Angeles International Airport. The All-Bus Alternative would require only the construction of bus bays at the Aviation/Imperial Station and at the MTC in LAX Lot C and the operation of buses along existing roadways between Aviation/Imperial Station and Lot C. This section discusses the potential impacts of the operation of the proposed alternatives on airport operations. Section 5.16.6 focuses on the impacts of construction on airport operations.

Most of the information included in this discussion comes from the Investigation of All Potential Negative Impacts on Landing Capability at the Los Angeles International Airport Due to Installation of the Metro Green Line at its East Boundary, January 1992, also known as the "McFarland Report", named after its author. The McFarland Report identified all potential negative factors on flight operations that could be associated with an alignment similar to the Metro Green Line Along Aviation Boulevard Alternative. The major difference is that the alignment studied in the McFarland Report included an at-grade segment in the runway protection zone for runways 25R and 25L instead of a subway segment, as proposed for the Metro Green Line alternative assessed in this SEIR. In addition, the alignment assumed a station would be located on the Caruso property (formerly Dollar Rental Car) instead of in LAX Lot C. Also, no station was to be located at the intersection of Century and Airport Boulevards. If the people mover technology or All-Bus Alternative are selected for implementation, then further study of the preferred alternative will be undertaken prior to construction to determine potential impacts on airport operations. The study of the All-Bus Alternative would be limited only to the MTC facility that would be built, since no other construction would be necessary. If the Metro Green Line Along Aviation Boulevard Alternative is selected, then further study of the proposed MTC and its potential impacts on airport operations would be conducted.

5.14.1 Impacts on Navigational Aids

The localizers for runways 7L and 7R provide guidance signals that allow the pilot to align the aircraft with the runway centerline as far out as 18 miles over the ocean. The FAA has published standards that prohibit placement of conducting objects (such as rail vehicles) in what are called critical areas. The Metro Green Line alignment, as previously presented with an at-grade segment within the runway protection zone, would penetrate the critical areas of both of the present localizer transmitting antenna systems each of which is located about 700 feet east of the airport boundary. It is possible that the currently proposed Metro Green Line alignment with a subway segment would have no effect on these critical areas. However, further study may be necessary to determine potential impacts. If the currently proposed Metro Green Line alternative adversely penetrates the critical areas, then it is proposed that the affected antenna system(s) be relocated nearer the runways. The complication is that with the runway 7L localizer, in particular, the separation distance between jet engines spooling up for takeoff on runway 25R and the antennas would be less than 250 feet. Two solutions are proposed. One is to locate specially ruggedized, directive antennas in front of the existing blast fence. This places the rail line behind the antennas where there is very little radiation which could reflect and corrupt course guidance information. Another is to move the antennas east of the blast fence and elevate them over a counterpoise. The proposed position allows the antennas and counterpoise to remain west of the airport boundary and importantly, also west of the Metro Green Line alignment.

This solution may require a counterpoise to protect signals from being incident on and reflecting from traffic that operates on the airport perimeter road.

The solution for the other parallel runway is easier. Because the threshold of runway 25L/7R is relocated over 1,000 feet west of the airport boundary, there is room for installing a localizer array for Runway 7R in this overrun area. This again places the Metro Green Line to the east and behind the localizer array, thus preventing radiation from becoming incident on the railcars, scattering and causing course derogation. The localizer for runway 7R and the inner marker for runway 25L would need to be collocated.

The planned alignment of the Metro Green Line results in the rail right-of-way cutting perpendicularly across in front of all glide slopes serving landings to the west at LAX. All runways serving such landings, with the exception of runway 24L, have the capture effect type of glide slope system to minimize the potential multipath effects from conductors located below the approach path.

Runway 24L has the only null-reference type of glide slope system. This system is less capable of protecting the path guidance information from corruption that is produced when signals arrive at the aircraft from other than a direct route. It is proposed that this glide slope system also be converted to a capture effect type to minimize impacts of the operation of the Metro Green Line or people mover if the rail line is extended past the MTC.

The McFarland Report also studied the effects of the OCS (associated with the Metro Green Line technology) running in front of the glide slopes for runways 24L, 24R, 25L, and 25R. The investigation indicated that the OCS would not be a problem.

The other significant issues are those of accommodating the Metro Green Line or people mover alignment through Lot C in an area where the middle markers for runway 24R and 24L are located, and the far-field course monitors for runway 24R are existing. The problems are created because the Metro Green Line or people mover cars would prevent the FAA required line-of-sight between the three probe antennas for far-field monitors and the localizer transmitting antennas. It is recommended that each of the three monitor probe antennas be elevated so they would have line-of-sight to the transmitter and receive more direct localizer signals. This would minimize the effects of the reflected signals coming from the rail line components, e.g., the OCS of the Metro Green Line system. These far-field monitor antennas can be elevated and still remain below the 50:1 runway approach surface.

A Form 7460-1, Notice of Proposed Construction was previously submitted to the FAA for a portion of the Metro Green Line alignment from the Lot C Station to Westchester Station. The FAA responded to the submittal on September 23, 1992 and also indicated that three far field monitor antennas for the runway 24R localizer array would need to be elevated and that the existing glideslope system for runway 24L would need to be replaced with a different type of system. In addition, the approach lighting system for both runways 24L and 24R would need to be modified to accommodate the system. These measures would be implemented in consultation with both the FAA and the Los Angeles Department of Airports.

The previous measures are proposed as mitigation measures. In any event, the LACTC/MTA will continue coordinating with the Los Angeles Department of Airports and the FAA to formulate viable strategies which will allow for the construction and operation

of either rail alternative or the All-Bus Alternative without compromising airport operations. Prior to construction, the LACTC/MTA also intends to complete and submit a FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the FAA for the portion of the project alignment which has not already been reviewed by FAA.

5.14.2 Impacts from Conflicting Visual Cues

Concerns were previously raised over the potential for confusion or distraction of flight crews by the light from rail vehicle windows, running lights and reflection of sunlight from the rail vehicle tops. The mitigation measures described below are proposed if flight crews report significant problems after rail operations begin.

To alleviate problems from interior rail vehicle lights, the rail vehicle windows could be tinted or interior lights could be dimmed during operations passing runways 25L and 25R centerlines. These options may only apply to the people mover technology since the Metro Green Line alignment would be within a subway segment in this area. In the unlikely event that the interior vehicle lights are distracting to pilots landing on runways 24L and 24R, these options could also be applied under either rail alternative.

To minimize distractions from rail vehicle exterior lights, small metal shields could be placed above the side-lights to limit visibility above the horizontal plane. If sunlight reflections from the top of the rail cars become a problem, then two options could be considered. The car tops could be painted a dark color. A second option would include using a brushed-metal finish on the car tops to reduce glare.

Concerns have also been expressed about placing an aerial structure off the runway ends and the effect the structure could have on pilots during landings. Two areas for the planned elevated structures are of concern. They include the section off the ends of runways 25R and 25L (people mover alignment only) and the section off the ends of runways 24R and 24L (both rail alternatives). However, the FAA has reviewed the portion of the project off the ends of the runways 24L and 24R and approved the project subject to conditions previously discussed. For the portion of the project off the ends of the runways in the airport's south complex, the people mover alignment would be located outside the runway protection zone, and the Metro Green Line alignment would be placed in a subway underneath the zone. Therefore, no adverse effects on approaching aircraft would be expected.

As stated previously, LACTC/MTA intends to continue coordinating with the DOA and the FAA to formulate strategies to minimize impacts from distracting visual cues should they occur.

5.14.3 Impacts on LAX Central Terminal Area People Mover

LAX plans to build a people mover system which would serve the LAX Central Terminal Area and Lot C. The LACTC/MTA's proposal to construct a Metro Green Line or people mover rail line would enhance the planned LAX CTA people mover system by providing airline passengers access between the LAX system and the Metro Green Line main line between Norwalk and El Segundo. LACTC/MTA intends to continue coordinating with

DOA with regard to the LAX people mover study so that an effective transit system can be built to best meet the needs of the airline passengers and others who would use the system.

5.14.4 Significance of Impacts

The project could have an effect on navigational aids and may possibly cause conflicting visual cues to pilots. (Significant)

The proposed location of the aerial guideway structure with respect to runways 24R and 24L has been approved by FAA. The aerial guideway structure for the people mover alignment is outside the runway protection zone for runways 25R and 25L. Therefore, these structures should have no adverse effects on pilots. (Not Significant)

5.14.5 Mitigation Measures

To minimize impacts on airport operations, the following measures, required by law, will be implemented:

- A Form 7460-1, Notice of Proposed Construction was previously submitted to the FAA for a portion of the Metro Green Line alignment from the Lot C Station to Westchester Station. The FAA responded to the submittal on September 23, 1992 and indicated that three far field monitor antennas for the runway 24R localizer array would need to be elevated and that the existing glideslope system for runway 24L would need to be replaced with a different type of system. In addition, the approach lighting system for both runways 24L and 24R would need to be modified to accommodate the system. These measures would be implemented in consultation with both the FAA and the Los Angeles Department of Airports if the alignment is extended past the MTC.

- The LACTC/MTA will complete and submit a FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the FAA for the southern portion of the project alignment prior to construction.

The following additional mitigation measures are proposed to further minimize impacts on airport operations:

- The LACTC/MTA intends to continue coordinating with both the DOA and the FAA throughout the design and construction phases of this project to ensure that airport operations are not compromised. The LACTC/MTA will also continue coordinating with the DOA with regard to the LAX people mover study so that an effective transit system can be built to best meet the needs of the airline passengers and others who would use the system.

- If the people mover technology or All-Bus Alternative are selected for implementation, then further study of the preferred alternative will be undertaken prior to construction to determine potential impacts on airport operations. If the Metro Green Line Along Aviation Boulevard Alternative is selected, then further study of the proposed MTC and its potential impacts on airport operations would be conducted.

- If the Metro Green Line alignment is selected, this alternative may penetrate the critical areas for the runway 7L and 7R localizers. If the critical areas are adversely penetrated, then it is proposed that the affected antenna system(s) be relocated nearer the runways. LACTC/MTA will work with DOA and FAA to devise the best strategy for the relocation of the antenna systems.

- Both rail alignments, if extended past the MTC, would traverse Lot C in an area where the middle markers for runway 24R and 24L are located, and the far-field course monitors for runway 24R are existing. It is recommended that each of the three monitor probe antennas be elevated so they would have line-of-sight to the transmitter and receive more direct localizer signals.

With regard to conflicting visual cues, the following additional mitigation measures are proposed if flight crews report significant problems after rail operations begin:

- To alleviate problems from interior rail vehicle lights, the rail vehicle windows could be tinted or interior lights could be dimmed during operations passing runways 25L and 25R centerlines. These options may only apply to the people mover technology since the Metro Green Line alignment would be within a subway segment in this area. In the unlikely event that the interior vehicle lights are distracting to pilots landing on runways 24L and 24R, these options could also be applied under either rail alternative.

- To minimize distractions from rail vehicle exterior lights, small metal shields could be placed above the side-lights to limit visibility above the horizontal plane. If sunlight reflections from the top of the rail cars become a problem, then two options could be considered. The car tops could be painted a dark color, or a brushed-metal finish on the car tops could be used to reduce glare.

5.14.6 Significance Of Impacts Remaining After Mitigation

With implementation of the proposed mitigation measures, the impacts of the proposed project on airport operations would be reduced to levels that are less than significant.

5.15 RISK OF UPSET

5.15.1 Analysis

The information in this subsection of the SEIR is taken from three reports. The Hazardous Materials Assessment, Metro Green Line Extension, Los Angeles, California, prepared by Michael Brandman Associates (MBA) and the Report of Geotechnical Investigation, Proposed Metro Green Line North Coast Segment, Los Angeles Metro Green Line Rail Transit Project, prepared by Law/Crandall, Inc. were relied upon for information relative to the Metro Green Line Along Aviation Boulevard Alternative and the portion of the People Mover Through Lot B Alternative from the intersection of Century and Aviation Boulevards to Westchester Station. The findings in the Hazardous Materials Investigation, Northern Extension Supplemental Environmental Impact Report Services, prepared by ICF Kaiser Engineers (ICF KE), relate to the portion of the people mover from Imperial Highway to Century Boulevard.

Section 4.14 discusses potential areas of contamination in the study area and presents the locations of these areas. Hazardous materials contamination along either rail alignment cannot be conclusively determined based on this preliminary assessment. More in-depth studies would be necessary. However, there is a potential to encounter hazardous materials during construction or excavation along either proposed route. Soil or groundwater contamination could present a significant impact on the construction of the proposed rail transit system.

With regard to the study area covered in the MBA report, MBA indicated that no evidence of confirmed soil or groundwater contamination was found along the proposed rail transit route. However, several facilities were identified within 500 feet of the alignment that could contribute to soil or groundwater contamination along the route, and potentially affect the construction of the project. Based on MBA's analysis, the potential locations (see Figures 4-13 and 4-14) for hazardous materials impact are: (1) numerous locations along the west border of Segment A-1 (refer to Figure 4-12) where former underground storage tanks were identified on Sanborn Maps; (2) the southern border of Segment B at the intersections of International Road and Avion Drive; and (3) the southwest border of Segment D between Sepulveda Eastway and Sepulveda Westway. The MBA study also indicated that potential offsite sources of soil and ground water contamination were identified by state and local regulatory agencies. It is likely that soil or ground water contamination, if present, occurred from former facilities or offsite sources.

Since completion of the MBA report, two other potential contamination issues have come to light. VOCs in the ground water in excess of allowable levels have been found both on- and off-site due to previous activities on a parcel of land located at the northwest corner of Century and Sepulveda Boulevards (about 0.2 miles west of the proposed alignment along Century Boulevard). The extent of ground water contamination has not yet been determined. VOCs have also been discovered in excess of allowable levels in the ground water near the intersection of 98th Street and Airport Boulevard, which is about 700 feet north from the alignment along Century Boulevard. The Law/Crandall report also found low to moderate OVA readings for methane at five groundwater monitoring wells. This will be more fully explored during the engineering phase.

With regard to the people mover segment between Imperial Highway and Century Boulevard, ICF KE also found nothing during their survey that definitively indicates that hazardous materials will be encountered during construction of that proposed segment. However, there is still a potential that such materials could exist in soils or ground water. A large portion of the study area contains industries that either now handle, or have historically handled, hazardous materials. Examples of hazardous or toxic materials used and/or stored in the vicinity include: heavy metals, solvents, paints, waste oil, gasoline, diesel fuel and Jet A fuels.

There does not appear to be much data available about the historical practices of some of the facilities in the area; therefore, the possibility that hazardous materials will be encountered cannot be ruled out. The presence of existing and abandoned oil wells in the area also creates the potential for methane or other volatile organic compounds to be encountered during construction.

There is conflicting information regarding the depth to ground water in the vicinity of the people mover aerial guideway. Certain data indicates that ground water would be about 100 feet below ground surface, while other information indicates that semi-perched ground water could be as shallow as 25 feet below ground surface in some areas. If the ground water is about 100 feet beneath the surface, then the potential for encountering contaminated ground water would be very low since it is doubtful that construction would occur to this depth; however, if the ground water is determined to be at shallower depths, then the potential increases. Although nothing in the ICF KE study revealed contamination of ground water along the alignment, there has been no ground water sampling to confirm this.

The ICF KE study also did not uncover any specific instances of soil contamination along the alignment; however, such contamination has been found at other sites within one-quarter mile of the proposed project.

Particular facilities of potential concern noted during the ICF KE study include: Fansteel Precision Sheet Metal, Modern Plating, Hughes Aircraft Training Center, and Thrifty Rental Car (see Table 4-20 and Section 4.14 for more information on these facilities). As discussed previously, no problems have been confirmed at these sites (with the possible exception that Thrifty Rental Car was recently cited by LAFD to bring their underground tanks into compliance). However, given these facilities' proximity to the proposed alignment, their history of use, the potential for shallow depths to ground water in these areas, and the potential that the subsurface geologic material could be highly permeable, these facilities should be considered to be a potential concern.

If contamination is encountered during construction, appropriate disposal methods will be implemented. The Los Angeles Regional Water Quality Control Board (RWQCB) regulates the discharge of any material into city storm drains. In general, only surface run-off water can be introduced into the storm drain. The discharge of wastewater suspected of containing hazardous material is forbidden without a RWQCB issued, National Pollutant Discharge Elimination System (NPDES) discharge permit. The NPDES discharge permit may be obtained if the discharge is well-characterized, meets discharge standards, and does not pose a threat to the surface water receiving the discharge. The issuance of NPDES can take one year or longer.

The disposal of soil (primarily of geologic origin, such as sand, silt, clay) containing hazardous materials is regulated by RCRA Land Disposal Restrictions (LDRs). Based on the Hazardous and Solid Waste Amendments (HSWA) to the Resource Conservation and Recovery Act (RCRA), signed in 1984, provisions have been set to limit future disposal of untreated hazardous materials. HSWA directed EPA to establish treatment standards for each of seven groups of RCRA hazardous wastes by specific dates referred to as statutory deadlines. The final group of RCRA hazardous wastes was subject to restricted land disposal as of May 1990.

If restricted RCRA hazardous wastes (such as chlorinated hydrocarbons, benzene, EPA-listed hazardous metals, and hydrocarbons) in excess of 1,000 mg/kg are encountered during construction, they may require disposal in a Class I hazardous wastes landfill. Disposal of soil is subject to the acceptance criteria of the Class I hazardous waste landfill.

Contaminated soil with petroleum hydrocarbons and/or petroleum oil and grease at concentrations in the range of 100 to 1,000 mg/kg is considered Class II waste. This soil may be disposed of in Class II landfills. Waste acceptance is likewise subject to the discretion of the landfill.

Uncontaminated soil excavated from areas identified and not identified as potential contamination sources are subject to the acceptance criteria of local Class III non-hazardous waste landfills. Soil samples verifying that hazardous materials are not present may be required as determined by the landfill. Section 5.3.1 further discusses the project's impacts on soils.

Likewise, the disposal of construction debris (non-geologic origin including grass, trees, man-made materials such as concrete, asphalt, metal railings and beams, piping, etc.) not contaminated with hazardous wastes is subject to local landfill waste acceptance criteria. Construction debris such as fluorescent lighting (which may contain PCB ballasts), mercury lighting, and asbestos-treated concrete pipes (if encountered) may require disposal at a hazardous waste landfill.

In addition, if any painted surfaces are stripped through sand blasting, this sand/paint residue may need to be disposed at hazardous waste landfills if a lead-based paint was used on the painted surfaces.

5.15.2 Significance of Impacts

Although no definite contamination problems have been discovered in the area of any of the proposed alternatives, soil or ground water contamination could potentially be encountered during construction. (Significant)

5.15.3 Mitigation

The following measures, required by law, will be implemented:

- In the event that contamination is encountered during construction, appropriate disposal methods will be implemented in accordance with federal, state, and local hazardous materials/wastes guidelines.

- An NPDES permit will be obtained from the State Water Resources Control Board if needed. This permit includes stormwater runoff limits among other limits.

The following additional measure will also be implemented as a part of this project:

- Additional geotechnical and hydrogeological studies (including studies of ground water depths and direction of flow) will be conducted within the subway segment (if the Metro Green Line alternative is selected) or along the people mover alignment between Imperial Highway and Century Boulevard (if the people mover alternative is selected) to determine the presence of hazardous materials. All parcels to be acquired for the preferred alternative will be analyzed for the presence of asbestos, lead paint, PCBs, and other contaminants. The potential for presence of methane will also be more fully explored during the engineering phase. Other studies, as deemed necessary during preliminary engineering, will also be conducted.

5.15.4 Significance of Impacts Remaining After Mitigation

The implementation of the proposed mitigation measures would lower impacts to a less than significant level.

5.16 CONSTRUCTION

Section 3.3 discusses the construction techniques to be implemented for the alternatives under consideration. The construction of either rail alternative and the All-Bus Alternative will have impacts. Because less construction activity is involved with the All-Bus Alternative than the rail alternatives, the All-Bus Alternative would have lesser impacts. Potential areas of concern which are addressed in this SEIR include impacts on land use/business disruption, traffic/circulation, air quality, water quality, noise, airport operations, risk of upset, light and glare, and utility relocation.

5.16.1 Land Use/Business Disruption

The physical impacts from the construction of a rapid transit system are usually confined within one block of the construction site and include modified pedestrian and vehicular access; reduced on-street parking and, in some cases, less convenient access to off-street parking; and temporary disturbances from noise, dust and soil erosion.

Limited on-street parking in the project area is located along Westchester Parkway (both rail alternatives) and along 102nd and 104th Streets (people mover alignment). Construction activity will cause the temporary loss of some on-street parking spaces in these areas. Off-street parking is also available for businesses in the vicinity of Westchester Parkway. Most of the parking is accessible from streets other than Westchester Parkway. Therefore, the impacts of construction along Westchester Parkway would be minimal.

With regard to the people mover alternative, a number of industries are located along 102nd and 104th Streets. Construction of the aerial guideway structure would have a major impact on the truck loading and unloading operations and/or vehicle parking for the following businesses: Parker Transport/Griley Air Freight; Modern Plating (5340 West 104th Street); California Video Center; Neutrogena; and Burlington Air Express. Therefore, these buildings would be purchased, and the businesses would be relocated. The people mover alignment, as now designed, would also have an adverse effect on the proposed Los Angeles Courthouse if it is built before the rail project construction is initiated.

A road on LAX property which provides access to several air cargo businesses is located parallel to Aviation Boulevard. The Metro Green Line alternative would require that a portion or all (under worst-case conditions) of an open culvert located along the old AT&SF Railroad right-of-way be relocated to a new box culvert to be installed underneath that access roadway. To accomplish this would require the temporary closure of the access roadway. This would have significant impacts on the air cargo businesses in the area. Construction of the aerial guideway (under the Metro Green Line alternative) would also temporarily disrupt truck ramp operations at Air Freight Building Number 1, located at the southwest corner of Aviation and Century Boulevards.

Under the Metro Green Line Alternative, both 104th and 111th Street west of Aviation Boulevard would need to be closed for short periods during construction. These streets would not be closed at the same time. Access to businesses near these streets would be more inconvenient during the periods of closure; however, alternative access via other local streets would still be available.

Both rail alternatives would require the temporary closure of the portion of Airport Boulevard underneath the proposed Century/Airport Station. This would affect airport-related businesses located on LAX property in that area. Both rail alternatives would also cause temporary disruption to parking and truck loading operation areas to several businesses and the post office located on the south side of Century Boulevard between Aviation Boulevard and the point where the guideway turns north across Century Boulevard.

Additional uses that may suffer some disruptions are noise-sensitive uses such as hotels and residences. Several hotels are located along Century Boulevard (both rail alternatives). The people mover alignment would also be in the vicinity of two additional hotels and would be several hundred feet from apartment buildings located to the north of Century Boulevard. The construction noise issue is discussed in Section 5.16.5.

5.16.2 Traffic

Since the rail alternatives would be routed through urban areas, motorists and pedestrians would at times be delayed and inconvenienced during the construction period. These impacts would be most noticeable on Century Boulevard and Westchester Parkway. Factors such as the presence of a large number of heavy duty construction vehicles on these streets, narrow lane widths and unusual detour configurations, uneven or poor roadway surfaces, and signal timing which is inefficient for construction conditions will also contribute to the reduction in capacity.

The added congestion would likely spill over to other parallel streets. In addition, heavy duty vehicles delivering and hauling construction material at each station site would reduce street capacity. These factors would have the effect of broadening the impacts of construction activity to area streets. With a reduced width on streets near station construction sites and the temporary shifting of lanes, traffic control devices may have to be relocated and temporary supplemental devices installed.

Both rail alternatives would require the temporary closure of certain streets for short periods of time to accommodate the construction. The portion of Airport Boulevard underneath the proposed Century/Airport Station would need to be closed, for short periods of time, during construction of the station and track facilities.

If the Metro Green Line technology is selected, then portions of the access road on LAX property which parallels Aviation Boulevard would also need to be closed during installation of a box culvert underneath that roadway. With the Metro Green Line technology, the portion of 104th Street west of Aviation Boulevard may need to be relocated about 25 feet south of its present location to accommodate the subway portal. The need to relocate that street will be determined during final engineering. Both 104th and 111th Streets would need to be closed west of Aviation Boulevard for short periods during construction of this rail alternative. However, these roads would not be closed at the same time. Construction of the Metro Green Line aerial guideway in the area where it curves from a northerly to a westerly direction near the intersection of Aviation and Century Boulevards will also require the temporary closure of the portion of the LAX access road in that area.

Installation of the straddle-bent on 102nd Street near the proposed Century/Concourse Station (under the people mover alternative only) could also necessitate the closure of 102nd Street in this area for a short period of time.

In addition to the disruption to automobile and truck movement, construction activities would affect parking, pedestrian activities, and bus service. On-street parking along Westchester Parkway (both rail alternatives) and along 102nd and 104th Streets (people mover alignment only) may be temporarily eliminated to accommodate placement of the piers and fixed guideway structure. Pedestrian movement would be inconvenienced due to the temporary loss or narrowing of sidewalks in the project area. Some bus stops (i.e., stops at Century/Avion, Century/Airport, Century/International and Century/Aviation) and routes may need to be temporarily changed. Construction of the MTC (under both rail alternatives and the All-Bus Alternative) will also have an impact on the operation of the existing SCRTD/MTA bus transit center in Lot C.

5.16.3 Air Quality

The implementation of the proposed project would result in short-term emissions being generated during the course of construction. The emissions would come from two sources: fugitive dust emissions due to excavation and grading activities and emissions from heavy equipment involved in the construction. The two rail alternatives would generate similar emissions; however, the All-Bus Alternative would result in lower construction-related emissions since that alternative would involve substantially lesser construction activity.

Construction emissions for the rail alternatives were approximated by determining the types of equipment to be used and estimating their duration of use. The emissions were determined by multiplying the usage (expressed in hours) by given emissions generation factors for each type of equipment. The heavy equipment generation factors were derived from US EPA's, Compilation of Air Pollutant Emission Factors.

Table 5-8 presents the estimated usage of various heavy equipment in the construction phases for both rail alternatives. The types of equipment and the estimated usage time was based on preliminary estimates provided by Bechtel Civil, Inc. for the Draft EIR for the Coastal Corridor Rail Transit Project-Northern Segment, with interpolation for this rail project by ICF Kaiser Engineers.

The estimated emissions from various types of construction equipment are shown in Table 5-9. The emissions shown are those anticipated for the entire construction phase. The amount of pollutants generated by construction equipment reflects a worst-case scenario in that equipment is assumed to be operating eight hours each day and all equipment is assumed to be operating at the same time. In addition, all phases of construction are assumed to occur simultaneously. The emissions shown assume that the rail will terminate at Westchester Station and not in Lot C. If the project terminates at Lot C, then emissions will be somewhat less than presented in Table 5-9.

TABLE 5-8

ESTIMATED USAGE OF CONSTRUCTION EQUIPMENT
(Total Number of Hours)

Equipment Type	Metro Green Line Along Aviation Boulevard			People Mover Through Lot B
	Aerial	Subway	Total	
Auger	4,071	904	4,976	4,944
Bulldozer	0	904	904	0
Backhoe	4,071	904	4,976	4,944
Loader	4,071	904	4,976	4,944
Roller	4,071	904	4,976	4,944
Truck	4,071	904	4,976	4,944
Crane	4,071	904	4,976	4,944
Boring Machine	0	0	0	0
Pavement Buster	0	904	904	0
Grader	0	0	0	0
Total Hours	**24,428**	**7,234**	**31,662**	**29,661**

TABLE 5-9

SHORT-TERM CONSTRUCTION EQUIPMENT EMISSIONS
(Pounds Per Day)

Equipment Type	Metro Green Line Along Aviation Boulevard			People Mover Through Lot B
	Aerial	Subway	Total	
Carbon Monoxide	19,159	4,868	24,027	23,264
Exhaust Hydrocarbons	3,933	1,012	4,945	4,776
Nitrous Oxides	48,803	12,368	61,172	59,259
Sulfur Oxides	4,601	1,465	6,067	5,587
Particulates	3,641	1,084	4,725	4,421
Total Pounds	**80,137**	**20.797**	**100,936**	**97,307**

Source: Bechtel Civil, Inc. 1988 with interpolation by ICF Kaiser Engineers, 1993; USEPA, Compilation of Air Pollution Emission Factors, 4th Edition, AP-42, Volume II. 1985.

5.16.4 Water Quality

Potential water quality impacts resulting from construction of the park-and-ride and kiss-and-ride lots, drop-off areas, and bus berth areas would include those associated with transportation of sediment-laden runoff from excavation activities at the construction site to the storm water and/or surface water systems. Probable short-term impacts of construction would result from accelerated erosion and sedimentation resulting from the exposure, stockpiling, and transportation of unstablized soil produced during excavation activities. Erosion hazards would be site specific and depend upon the soil texture.

Sedimentation would be mitigated by installing erosion control measures. Sediment control measures such as sediment control traps, straw bale filters, inlet sediment traps, and monitoring of sediment discharge are available technologies that, in combination, could effectively minimize the potential fot water quality impacts associated with erosion and sedimentation. Details of mitigation measures would be developed during final design stages, including preparation of detailed erosion and sedimentation control plans as part of the final construction plans for the project. These plans would be coordinated with the appropriate regulatory agencies.

Construction of either rail alternative would be covered under the general construction activity storm water permit pursuant to the State's requirements and the National Pollutant Discharge Elimination System (NPDES) permitting requirements. The State Water Resources Control Board requires that an applicant submit a Notice of Intent (NOI) for construction projects disturbing more than five acres. MTA will submit the NOI and obtain this permit and any other necessary federal, state or local permits prior to construction. A Storm Water Pollution Prevention Plan (SWPPP) will be formulated employing Best Available Control Technologies (BACT) and will be implemented under the NPDES permit.

5.16.5 Noise

Although construction activities are temporary in nature, the unusually high noise levels generated by many pieces of construction equipment are often a source of annoyance to people in the immediate vicinity of a construction site. The vibration generated by construction activities can also be a major concern, particularly in vibration-sensitive locations; however, at many construction sites the noise of construction is sufficiently severe that the vibration impact is considered a secondary problem.

Typical noise levels produced by construction equipment are presented in Table 5-10. The levels shown represent average values for typical present-day construction equipment without special noise-control features. Major equipment to be used for the aerial guideway construction would include an auger driver, cranes, backhoes, loaders, rollers, and trucks. For the subway construction, the major equipment would include auger or slurry wall machinery, bulldozers, loaders, backhoes, rollers, pavement busters, cranes, and trucks.

TABLE 5-10

MAXIMUM NOISE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	Maximum A-Level at 50 feet (dB)
Air Compressor	81
Auger or Slurry Wall Machinery	90
Backhoe	85
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Derrick Crane	88
Mobile Crane	83
Dozer	87
Generator	78
Grader	85
Jackhammer	88
Loader	84
Paver	89
Piledriver	101
Pneumatic Tool	85
Pump	76
Rock Driller	98
Roller	80
Saw	78
Scraper	88
Shovel	82
Truck	88

Source: Acoustical Analysis Associates, Inc., Noise and Vibration Technical Report for the Coastal Corridor Rail Transit Project Environmental Impact Report, November 1988.

There are no federal or state standards limiting construction noise. However, the City of Los Angeles has construction noise regulations, contained in Ordinance No. 144,331. The regulations are discussed in Section 4.6.1. In summary, the regulations require that construction equipment not exceed a level of 75 dBA at a distance of 50 feet from the equipment in any residential zone or within 500 feet of a residential zone during the daytime. These limitations do not apply where compliance is technically infeasible. In

addition, the ordinance requires that no machinery, equipment, etc., creating a loud, raucous, or impulsive sound be operated at night within any residential zone or within 500 feet of a residence.

No construction would occur within any residential zones. However, construction of the fixed guideway within the northern portion of Lot C would occur about 300 feet from a residential area located north of Westchester Parkway along Fleetwing Avenue and about 450 to 500 feet from some apartment buildings (People Mover Through Lot B Alternative Only) located north of Century Boulevard. Other sensitive uses also occur in the project area. They include several hotels along Century Boulevard and the Westchester Branch of the Los Angeles Public Library which is located along Westchester Parkway approximately 200 feet from the proposed guideway construction within the northern portion of Lot C.

It is likely that construction of the rail alternatives will result in adverse impacts on these sensitive uses. However, it is also possible that some or all of the buildings in the area were constructed to abate the existing high noise levels generated by aircraft operations at LAX. In any case, to minimize impacts, the construction documents will contain a noise specification which will include measures such as requiring contractors to use sound-attenuating devices on construction equipment or to install temporary noise barriers. In addition, if construction-generated noise exceeds acceptable CNEL guidelines during evenings and weekends, affected residents will be offered free alternative lodging accommodations.

5.16.6 Airport Operations

The construction of either rail alternative and the MTC in Lot C associated with both rail alternatives and the All-Bus Alternative would result in adverse impacts on LAX and its day-to-day operations. However, these impacts would be short-term in nature and would end with the completion of the construction process. Areas of particular concern include the approach area to runways 25L and 25R due to construction of the Metro Green Line subway segment or people mover aerial guideway; LAX Lot B due to construction of the people mover fixed guideway and station facilities; and LAX Lot C due to construction of the MTC under all alternatives and the fixed guideway structure under both rail alternatives.

LACTC/MTA will work closely with the DOA to formulate viable strategies to minimize the short term impacts of construction on airport operations. The LACTC/MTA also intends to complete and submit a FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the FAA for the southern portion of the project alignment prior to construction. This form was previously submitted to FAA for the northern portion of the project area (see Section 5.14).

5.16.7 Risk of Upset

Based on available public information, it does not appear that there are any significant hazardous materials sites that would preclude the construction of any of the alternatives under consideration. However, if during construction or grading activities, any hazardous materials are encountered, they will be handled and disposed of in accordance with federal, state, and local hazardous materials/wastes guidelines.

5.16.8 Utilities

Numerous aerial and underground utilities are located along both rail alignments and in the area of the MTC associated with both rail alternatives and the All-Bus Alternative. Such facilities include electricity and natural gas, oil lines, communication systems, cable television, water and sewer mains, and other utilities.

The impact of either rail alternative on underground utilities would depend on the location and type of these facilities and the engineering design of the system. Prior to beginning construction, it would be necessary to relocate or modify all utilities which would conflict with the subway segment (Metro Green Line alternative only), and with at-grade facilities such as parking lots, bus berths, passenger drop-off areas, and substations (both rail alternatives). In some instances, these utilities may also need to be upgraded to provide utility service to stations and traction power substations.

The relocation and in-place support of utilities will require coordination and careful design and construction phasing of the project. Each utility along the project alignment will need to be evaluated in detail to determine the exact mitigation measures required. In any case, LACTC/MTA will consult with all appropriate utility companies to discuss measures to reduce potential impacts on existing utility lines during the final design of the project.

5.16.9 Light and Glare

During the construction phase of either of the rail alternatives or the All-Bus Alternative, construction equipment, safety lighting, and other sources of lighting would create light and glare. In some segments of the route alignment, these impacts would be severe. However, the impact would be short-term in nature lasting only as long as the construction process. These impacts would occur to a lesser degree with implementation of the All-Bus Alternative since the extent of construction would be much less than for either rail alternative.

5.16.10 All-Bus Alternative

The All-Bus Alternative would have lesser impacts than either rail alternative since this alternative would require only the construction of bus facilities at Aviation/Imperial Station and the MTC in Lot C. Potential impacts of this alternative could include impacts on air and water quality due to fugitive emissions, construction equipment emissions, and erosion and sedimentation due to site grading. In addition, this alternative would likely have impacts on some utilities depending upon their location. In any event, the applicable mitigation measures described in Section 5.16.11 would be used to minimize the impacts of this alternative should it be selected for construction.

5.16.11 Significance of Impacts

The people mover alternative would cause major short-term impacts to the truck loading and unloading ramps and/or parking at several businesses along 102nd and 104th Streets. The Metro Green Line alternative would temporarily disrupt truck ramp operations at Air Freight Building Number 1, located at the southwest corner of Aviation and Century Boulevards. Both rail alternatives would also cause temporary disruption to parking and truck loading operation areas to several businesses and the post office located on the south

side of Century Boulevard between Aviation Boulevard and the point where the guideway turns north across Century Boulevard. (Significant)

Both rail alternatives would temporarily disrupt access to airport-related businesses located on LAX property on the south side of Century and on the west side of Aviation Boulevard (Metro Green Line alternative only) since access to this airport periphery road would be restricted at times due to construction of the subway segment (Metro Green Line alternative only), fixed guideway, and Century/Airport Station. (Significant)

The people mover alignment would also cause a temporary disruption to the Department of Public Works property located on 111th Street during construction of the aerial guideway at this location. (Significant)

The people mover alignment, as now designed, would have an adverse effect on the proposed Los Angeles Municipal Courthouse if it is built before the rail project construction is initiated. (Significant)

Since the rail alternatives would be routed through urban areas, motorists and pedestrians would at times be delayed and inconvenienced during the construction period. Factors such as the presence of a large number of heavy duty construction vehicles on these streets, narrow lane widths and unusual detour configurations, uneven or poor roadway surfaces, and signal timing which is inefficient for construction conditions will also contribute to the reduction in capacity. (Significant)

Both rail alternatives would require the temporary closure of certain streets for short periods of time to accommodate the construction. (Significant)

Construction of the MTC (under both rail alternatives and the All-Bus Alternative) will disrupt operations at the existing SCRTD/MTA bus transit center in Lot C. (Significant)

Construction activities would affect parking, pedestrian activities, and bus service. (Significant)

Implementation of the proposed project would result in short-term air emissions being generated during the course of construction. The emissions would come from two sources: fugitive dust emissions due to excavation and grading activities and emissions from heavy equipment involved in construction (Not Significant)

Potential water quality impacts during construction could result from transportation of sediment-laden runoff from excavation activities at the construction site to the storm water and/or surface water systems. Short-term impacts could result from accelerated erosion and sedimentation resulting from the exposure, stockpiling, and transportation of unstabilized soils produced during excavation activities. (Significant)

Construction of both rail alternatives will likely result in short-term adverse noise impacts on sensitive uses, especially in two residential areas: one is located on the north side of Century Boulevard about 450 feet from the proposed people mover alignment, and the other is located north of Westchester Parkway about 300 feet from both rail alternatives. Other sensitive uses including several hotels along Century Boulevard and the public library on the north side of Westchester Parkway could also be affected. (Significant)

Construction of both rail alternatives and the MTC in Lot C associated with both rail alternatives and the All-Bus Alternative would result in adverse impacts on LAX, especially in the following locations: the approach area to runways 25L and 25R due to construction of the Metro Green Line subway segment or people mover aerial guideway; the approach area to runways 24L and 24R due to construction of either rail alternative if the line is extended north of the MTC; LAX Lot B due to construction of the people mover fixed guideway and station facilities; and LAX Lot C due to construction of the MTC under all build alternatives and the fixed guideway structure under both rail alternatives. (Significant)

The locations of existing utilities could conflict with construction plans for any of the build alternatives. (Significant)

Although no definite contamination problems have been discovered in the area of any of the proposed alternatives, soil or ground water contamination could potentially be encountered during construction. (Significant)

Construction equipment, safety lighting, and other sources of lighting would create light and glare along some segments of the alignments. (Significant)

5.16.12 Mitigation Measures

The following measures, as required by law, will be implemented:

- Prior to the start of construction, traffic control plans, including detour plans, will be formulated in cooperation with the City of Los Angeles and other affected jurisdictions (county, state). The plan will be based on lane requirements obtained from the Los Angeles City Department of Transportation for construction within the city and from other appropriate agencies for construction in those jurisdictions.

- Fugitive dust emissions during the construction phase will be controlled with regular watering or other airborne dust reduction measures in compliance with SCAQMD Rule 403.

- Erosion control measures will be formulated and implemented to minimize impacts from sedimentation. Details of mitigation measures will be developed during final design stages, including preparation of detailed erosion and sedimentation control plans as part of the final construction plans for the project. These plans will be coordinated with the appropriate regulatory agencies.

- LACTC/MTA will submit a Notice of Intent (NOI) to the State Water Resources Control Board so that the rail project will be covered under the general construction activity storm water permit. MTA will also obtain any other necessary federal, state, or local permits prior to construction. A Stormwater Pollution Prevention Plan (SWPPP) will be formulated and implemented employing Best Available Control Technologies (BACT).

- To minimize noise impacts during construction and to comply with the City of Los Angeles noise ordinance to the extent possible, the construction documents will contain a noise specification which will include measures such as requiring contractors to use sound-attenuating devices on construction equipment or to install temporary noise barriers.

- LACTC/MTA will complete and submit a FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the FAA for the southern portion of the project alignment prior to construction.

- Any hazardous materials/wastes encountered during grading or construction activities will be handled and disposed of in accordance with federal, state, and local hazardous materials/wastes regulations.

The following additional mitigation measures will be implemented as a part of this project:

- Construction activities will be programmed as expeditiously as possible to minimize disruptions to adjacent land uses.

- A public information campaign will be instituted that will provide prior notice to affected property owners and the public on specific dates and locations of construction. Visible road signs warning of construction zones will also be appropriately placed.

- Access to driveways and businesses will be kept open and, whenever necessary, appropriate signs indicating entry, name of establishment and hours/days of operation will be provided.

- The LACTC/MTA will coordinate with the Department of Airports and businesses regarding LAX property that would be affected by temporary access restrictions during construction. A plan will be developed to minimize access impacts and to ensure that no businesses are without access to public roadways throughout the construction period.

- The LACTC/MTA will meet with Continental Development Corporation to coordinate the rail construction plans (if the people mover alignment is selected) with the plans for the development of the Los Angeles Municipal Courthouse. The purpose of the coordination is to minimize impacts of the rail construction on this facility.

- The LACTC/MTA will coordinate with the Los Angeles City Department of Public Works (if the people mover alignment is selected) about any potential impacts to their property.

- LACTC/MTA will acquire several buildings along 102nd and 104th Streets where there would be major impacts on truck loading operations and/or parking during construction (if the people mover alignment is selected).

- Changes of bus routings and bus stop locations will follow the standard procedures to inform riders and other interested parties.

- All construction equipment will be maintained and kept tuned to reduce emissions from heavy equipment.

- Trucks hauling dirt will be covered during on-road hauling.

- Ground cover will be re-established as quickly as practicable in areas left bare after construction.

- Provision of transit and rideshare incentives for construction personnel will be considered.

- If construction-generated noise exceeds acceptable CNEL guidelines during evenings and weekends, affected residents will be offered free alternative lodging accommodations.

- LACTC/MTA will work closely with the DOA to formulate viable strategies to minimize the short term impacts of construction on airport operations. This coordination will also include strategies to allow for continued aircraft operations during construction of the subway segment if the Metro Green Line Alternative is selected.

- Additional geotechnical and hydrogeological studies will be conducted within the subway segment (if the Metro Green Line alternative is selected) or along the people mover alignment between Imperial Highway and Century Boulevard (if the people mover alternative is selected) to determine the presence of hazardous materials. All parcels to be acquired for construction of the preferred alternative will be analyzed for the presence of asbestos, lead paint, PCBs, and other contaminants. Other studies, as deemed necessary during preliminary engineering, will also be conducted.

- Should dewatering operations be required for the project, water samples will be analyzed to account for potential contaminants in local groundwater. The need for water treatment prior to discharge will be evaluated as appropriate.

- For any utilities requiring relocation, modification, or upgrading, LACTC/MTA will consult with all appropriate utility companies to discuss measures to reduce potential impacts on existing utility lines during the final design of the project.

- Where construction occurs in proximity to pedestrian areas, fencing will be provided to protect pedestrians from construction activities.

5.16.13 Significance of Impacts Remaining After Mitigation

Implementation of the proposed mitigation measures will reduce the impacts to a level that is less than significant in the areas of air and water quality, risk of upset, and utilities. However, even with the proposed mitigation measures, LAX, local businesses, and traffic will still experience some inconvenience at times. Proper scheduling of the construction process will reduce, but not eliminate, the inconvenience. It is possible that, even with the implementation of noise abatement measures, construction noise could be annoying at times in noise-sensitive areas and that a variance from the City of Los Angeles noise ordinance may be necessary. Any remaining adverse impact will be short-term in nature.

6.0 CUMULATIVE IMPACTS

6.1 INTRODUCTION

The CEQA guidelines define cumulative effects as "two or more individual effects that, when considered together, are considerable or which compound or increase other environmental impacts." The CEQA guidelines further note that the individual effects can be related to a single project or to the change involved in a number of closely related past, present, or reasonably foreseeable future projects (Section 15023.5).

Related projects include those projects located in the vicinity of the project being analyzed in this SEIR that have been proposed, approved, or are under construction. In addition, related projects may also include developments or improvements that are closely related to the proposed project from an operational standpoint.

For purposes of this analysis, two types of related projects have been identified. The first category includes regional transit projects currently under construction, planned, or proposed. The second category of related projects includes major developments under construction, approved, or proposed in areas immediately adjacent to the proposed alignments studied for the Metro Green Line Northern Extension. For purposes of this SEIR, only major projects were considered.

As the following discussion shows, a number of projects are planned for construction in the vicinity of the Metro Green Line Northern Extension. It is likely that some of these projects will undergo construction at the same time as this transit project. Construction impacts of these projects being built at the same time could be cumulative.

6.2 RELATED TRANSIT PROJECTS

The related transit projects described in the following paragraphs will have a direct bearing on the number of persons who would ultimately utilize this system. A portion of the total ridership projected for the Metro Green Line Northern Extension would continue their commutes on connected transit facilities.

As more links in the regional mass transit system are completed, ridership will increase. For example, the completion and operation of the Metro Green Line Northern Extension would have an impact on ridership on the LAX Central Terminal Area People Mover, Metro Green Line from Norwalk to El Segundo, Metro Green Line Southern Extension, LAX to Palmdale line, Metro Red Line, Metro Bluelines from Long Beach to Los Angeles, and Pasadena to Los Angeles. This increased ridership would result in increased vehicle trips in the vicinity of stations along with localized air quality and noise impacts. The localized environmental impacts would be outweighed by the benefits of reductions in vehicle miles traveled, traffic congestion, and vehicle emissions on a regional scale.

The major mass transit projects proposed, under study, or under construction are described in the following paragraphs.

6.2.1 Metro Green Line - Norwalk to El Segundo

This rail project is currently under construction and is expected to be operational by 1995. The line will run in the median of the I-105 Freeway (also under construction) from Norwalk to El Segundo and then on its own aerial structure south through El Segundo. The project proposed in this SEIR would provide connecting service between this main east-west rail line and the MTC in LAX Lot C. This main line would also provide connection with the proposed I-110 transitway and the Metro Blue Line Long Beach to Los Angeles rail line. A proposed extension on the east end would tie the Metro Green Line in with commuter rail system at the N/S Norwalk's proposed transportation center.

6.2.2 LAX Central Terminal Area People Mover

As discussed throughout the text of this SEIR, the LAX people mover system is planned to facilitate movement of airline passengers between terminals, two airport parking lots, and the proposed LAX ground transportation center. One of the major goals of the project assessed in this SEIR is to provide an interconnection between the regional rapid transit system and the planned LAX people mover system proposed by the Los Angeles Department of Airports. The LAX people mover system is currently under study.

6.2.3 LAX to Palmdale Line

This proposed rail project would provide service between LAX and Palmdale. As discussed in this SEIR, this line (when built) would interconnect directly with the MTC in LAX Lot C and the LAX Central Terminal Area People Mover. If the Metro Green Line technology is selected for the northern extension, then a Metro Green Line station would also be located in the MTC affording convenient access to commuters wishing to travel both lines. If the people mover technology or All-Bus Alternative are selected for the northern extension, then commuters wanting to use both lines would need to transfer to either the people mover or shuttle bus prior to accessing the other line.

6.2.4 Metro Green Line Northern Extension from Westchester Station or Lot C to Marina Del Rey

This would be a northern extension to the Metro Green Line alternative assessed in this SEIR. This segment has previously been studied, and an EIR for the Coastal Corridor Rail Transit Project-Northern Segment was completed for this project in 1989. This line would not be built unless the Metro Green Line technology is selected for operation between Aviation/Imperial Station and Lot C or Westchester Station. No construction would begin on this segment until sometime after the Metro Green Line to Lot C or Westchester Station is completed.

6.2.5 Metro Green Line Southern Extension

This would extend transportation service from the Metro Green Line station at Marine Avenue in the City of Redondo Beach to the South Bay cities. An alternative analysis and an EIR on this extension are currently underway.

6.2.6 Metro Blue Line - Long Beach to Los Angeles

This line is currently in operation and provides a mass transit link between Long Beach and downtown Los Angeles. The 22-mile rail line is located primarily in the existing Southern Pacific Transportation Company right-of-way and passes through the cities of Compton and Carson and the unincorporated communities of Florence-Firestone, Willowbrook, and Dominguez Hills in Los Angeles County.

6.2.7 Metro Red Line

This is a heavy rail transit system that would link downtown Los Angeles with the San Fernando Valley via the Wilshire Corridor and Hollywood. The initial 4.4-mile segment beginning at Union Station and terminating at Alvarado Street became operational in early 1993. Segment II from Wilshire/Alvarado to Wilshire/Western and to Hollywood/Vine is scheduled for completion in stages in 1996 and 1998 respectively. Segment III from Hollywood/Vine to North Hollywood will be completed in 2000.

6.2.8 Pasadena to Los Angeles LRT Line

This project would be a 13.6-mile northerly extension of the Metro Blue Line extending light rail transit from downtown Los Angeles into the East Pasadena area. This project was approved for construction by the LACTC/MTA in January 1993 and is scheduled for completion in 1997.

6.2.9 San Fernando Valley Line

The San Fernando Valley route has not yet been determined. However, two east/west routes that cross the San Fernando Valley are now being considered.

6.3 STREET AND HIGHWAY IMPROVEMENTS

Various studies have identified roadway deficiencies and recommended improvements in the vicinity of the Metro Green Line Northern Extension. Table 6-1 shows the proposed roadway improvements in the area, some of which are already completed or underway, and most of which should be completed by 2000. Some of these projects have been abandoned; others are problematic due to funding constraints. The Airport-Nash connection which would extend Airport Boulevard under the LAX runways between Century Boulevard and Imperial Highway will probably not be funded. Construction of the proposed Arbor Vitae Interchange has been deferred and may not be constructed due to lack of Caltrans funds and the escalated costs of the project. Widening of the Sepulveda Tunnel will also be dependent upon funding.

Besides the projects presented in Table 6-1, the LADOT has also undertaken a LAX work program which is studying the feasibility of up to 16 low-cost Transportation System Management (TSM) type projects and ten long-term major projects. Some of these are also included in the projects shown in Table 6-1. Some of the low-cost projects being considered include widenings of the following intersections: Manchester Avenue/Sepulveda Boulevard; Airport Boulevard/Century Boulevard; Aviation Boulevard/Century Boulevard; Lincoln Boulevard/Manchester Avenue; Airport Boulevard/La Tijera Boulevard; Airport

TABLE 6-1

PROPOSED ROADWAY IMPROVEMENTS IN VICINITY OF THE METRO GREEN LINE NORTHERN EXTENSION

LOCATION	IMPROVEMENTS
Centinela Ave. Sepulveda Blvd. to Jefferson Blvd.	Widening (6 lanes)
Lincoln Blvd. North Venice Blvd. & South Marina Freeway Venice Blvd. to Marina Freeway Westchester Pkwy. Sepulveda Blvd.	Widening (6 lanes) Widening (8 lanes) Interchange Grade Separation
Westchester Pkwy. Pershing Dr. to La Tijera Blvd. Sepulveda Westway to Sepulveda Eastway	Extension Widening (6 lanes)
Sepulveda Blvd. Lincoln Blvd. to Centinela Ave. Under LAX Manhattan Beach Blvd. to Grand Ave 96th St.	Widening (8 lanes) Tunnel (8 lanes) if feasible Widening (8 lanes) Grade Separation
Arbor Vitae St. Airport Blvd. to Interchange I-405	Widening (6 lanes)
96th St. Sepulveda Blvd. to Bellanca Ave. Sepulveda Blvd.	4-lane Secondary Highway Overpass & Grade Separation
Airport Blvd. Century Blvd. to Imperial Hwy./Nash St.	6-lane Road (under LAX runways)
Imperial Hwy. Sepulveda Vlvd. to Pershing Dr.	Widening
World Way West Widening	Widening
Culver Blvd. Marina Freeway to Sepulveda Blvd.	Widening (6 lanes)
La Cienega Blvd. Imperial Hwy. to Arbor Vitae St.	Widening (6 lanes)
La Tijera Blvd. Airport Blvd. to La Cienega Blvd.	Widening (6 lanes)
Aviation Blvd. 102nd St. to Arbor Vitae St.	Widening (6 lanes)
Marina Freeway (SR 90) Slauson Ave. to Lincoln Blvd.	Ramp Extension

TABLE 6-1

PROPOSED ROADWAY IMPROVEMENTS IN VICINITY OF THE METRO GREEN LINE NORTHERN EXTENSION

LOCATION	IMPROVEMENTS
San Diego Freeway (I-405)	
Wilshire Blvd. to Marina Freeway	1 lane addition in each direction
Howard Hughes Pkwy.	Northbound On/Off Ramp
La Tijera Blvd.	Ramps & Auxiliary Lanes
Arbor Vitae St.	Interchange
Century Blvd. to Marina Freeway	Restripe fifth NB/SB lanes
Sepulveda Blvd.	Northbound Ramp
Wilshire Blvd. to Ventura Freeway	Widening of Northbound lanes
Marina Freeway to Harbor Freeway	Fifth Lane Addition in each direction
Harbor Freeway to Route 605	Widening of existing right-of-way
Coastal Corridor	Encourage Caltrans to provide additional lane
Orange County line to North Hollywood	Add HOV Lane
Harbor Freeway (I-110)	
Pacific Coast Highway to terminus in San Pedro	Add 1 lane of mixed traffic flow in each direction
Glenn Anderson Freeway to Terminal Island Freeway	Transitway
Glenn Anderson Freeway (I-105)	
LAX to San Gabriel River Freeway	6-lane Freeway and Transit
Artesia Freeway (Route 91)	Add HOV Lane
Westbound Side	

Source: LAX Multi-Modal Ground Access Study, Wilbur, Smith Associates, July, 1991; LACTC/MTA 1993.

Boulevard/Manchester Avenue; Aviation Boulevard/Imperial Highway; and Imperial Highway/La Cienega Boulevard. In addition, the construction of the northbound I-405 freeway ramps at Hughes Parkway is now fully funded.

LADOT staff is also studying seven of the ten long-term major projects. These include:

- Arbor Vitae Street (Airport Boulevard to I-405) - Widen to six lanes.

- La Tijera Boulevard at I-405 - Phase I - Widen southbound off-ramp; add second eastbound left turn lane; replace freeway security fence; Phase II - Widen bridge to provide three through lanes and two left turn lanes in each direction and full-width sidewalks.

- Lincoln Boulevard (Jefferson Boulevard to Loyola Boulevard) - Widen to four lanes northbound and three lanes southbound.

- Metro Green Line Northern Extension, LAX Central Terminal Area People Mover, and Multi-Modal Transportation Center - The Metro Green Line Northern Extension and the MTC are assessed within this SEIR. LADOT is a member of the LACTC/MTA Task Force which is studying the northern extension and the MTC. LADOT is also coordinating with DOA on the LAX people mover project.

- Sepulveda Boulevard Tunnel Widening Project (Underneath the LAX runways between Imperial Highway and Century Boulevard).
- Aviation Boulevard (Imperial Highway to Arbor Vitae Street) - Widen to four lanes northbound and three lanes southbound.
- Sepulveda Boulevard (Lincoln Boulevard to Centinela Avenue) - Widen to eight lanes.

The other three long-term projects are in the preliminary planning phases. They include:

- Century Boulevard (I-405 to Sepulveda Boulevard) - build a double deck. Their preliminary study indicates that the improvement of Arbor Vitae Street would be a preferable alternative.
- La Cienega Boulevard (Arbor Vitae Street to Imperial Highway) - widen to six lanes.
- 96th Street/Bellanca Avenue (between Airport Boulevard and Century Boulevard) - widen to four lanes as a by-pass route for Century Boulevard.

6.4 LAX IMPROVEMENTS

The DOA intends to begin preparation of a new master plan for development of the Los Angeles International Airport. This plan would address the long-term issues of airport capacity, ground access, and environmental impacts. Because this study will not begin until mid 1993, no details of planned development are now available. DOA is also planning for the construction of the LAX people mover system. This project is discussed in Section 6.2.2.

6.5 RELATED PROJECTS ADJACENT TO THE PROPOSED ALIGNMENT

The survey of related projects identified two major planned developments along the alignment considered in this analysis. They include Continental City and the LAX-Northside development project. The locations of these developments are presented in Figure 4-3.

6.5.1 Continental City

This is a private project to be developed by Continental Development Corporation. The 30-acre site is located on the northeast corner of Imperial Highway and Aviation Boulevard. The master plan for this project included development of a one-million square foot hotel, two-million square feet of office space, and 100,000 square feet of retail space. Since the master plan was approved, a portion of the northeast area of the site has been sold to the County of Los Angeles for development of a municipal courthouse. Construction of that facility is scheduled to commence in the summer of 1993. Tract approval for the remaining portions of the Continental City property allows for development to occur anytime within the next twenty years.

Selection of either rail alignment would enhance access to the regional rapid transit system and to LAX. The people mover alignment would be somewhat more convenient to future patrons needing access to or from the municipal courthouse and Continental City since stations would be located at both Lot B and Aviation/Imperial. The Metro Green Line would have a station only at Aviation/Imperial. If the people mover is selected for implementation, then that rail alignment would run along the eastern edge of this property. Since no site plans exist for Continental City, potential impacts of this rail project cannot be quantified at this time. However, the current people mover alignment would have adverse impacts on the planned design of the municipal courthouse and could also cause visual impacts to this facility. Sections 5.1 and 5.9 discuss these issues in more detail. If the people mover is selected, the LACTC/MTA will coordinate with the County of Los Angeles and Continental Development Corporation (the property developers) to redesign the people mover alignment at this location to minimize potential impacts.

6.5.2 LAX-Northside Development Project

This development falls under the jurisdiction of the DOA. The site is located north of Lincoln Boulevard and west of Sepulveda Westway. A tract map has been approved for a 4.5-million square foot development. The project consists of two major development areas: Westchester Center in the eastern part of the site, and a business park in the western portion of the site. Westchester Center will be a mixed use urban center, consisting of office buildings and hotels, with a limited amount of supporting services, retail and restaurants. The business park will be a business and research park of relatively low density. Westchester Parkway (now under construction) will provide the frontage and identity for most of the buildings within the business park. This development will also contain a small commercial center and, possibly, a hotel. The DOA has indicated that development of the site is currently on hold, and there is no firm schedule for implementation of the proposed project.

Both rail alternatives are proposed as an elevated structure along Westchester Parkway in the eastern portion of this proposed development if the rail line terminates at Westchester Station. Until such time as specific site plans are developed for the LAX-Northside development project, it is difficult to determine whether the proposed rail project would have any significant impacts on this development. However, the opportunity exists for coordination of specific site plan design with final engineering design of the rail system to mitigate any possible impacts created because of noise, visual obstruction, and access and circulation; the plans could also be coordinated to enhance access from this proposed development to the regional rapid transit system and LAX. The All-Bus Alternative, with its northern terminus at Lot C, and both rail projects (if terminated at Lot C) would have no impacts on the proposed development.

7.0 SIGNIFICANT UNAVOIDABLE ENVIRONMENTAL EFFECTS

CEQA and the State CEQA Guidelines define a significant effect as a substantial adverse change to the physical environment. The physical factors that may be subject to such changes include land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. In situations where a SEIR identifies significant effects, the government agency approving the project must make findings as to whether the significant effects have been reduced through mitigation to a level that is less than significant. In cases where an impact is unavoidably significant, specific reasons why mitigation is not successful or feasible must be identified.

This SEIR identifies a number of significant environmental impacts anticipated to result from the implementation of the project. Mitigation measures are identified that will be effective in reducing the degree of overall impact, although certain environmental impacts are still anticipated to exceed levels considered to be significant. Findings with regard to each significant effect and a Statement of Overriding Considerations must be prepared by the Los Angeles County Metropolitan Transportation Authority, the lead agency, prior to project approval. The significant, unavoidable adverse environmental effects are described in each subsection included in Section 5 and are summarized below.

No significant, long-term, unavoidable environmental effects are projected with implementation of the proposed mitigation measures under any of the alternatives considered. However, short-term, significant, unavoidable effects due to construction activities would occur. Even with the mitigation measures proposed in Section 5, LAX, local businesses, and traffic would still experience some inconvenience at times during the construction process. In addition it is possible that, even with the implementation of noise abatement measures, construction noise could be annoying at times in noise-sensitive areas such as at the apartment buildings located on the north side of Century Boulevard (with the people mover alignment only); at some single-family homes located north of Westchester Parkway on Fleetwing Avenue; at the Westchester Branch of the Los Angeles Public Library; and at hotels located along Century Boulevard. However, it is also possible that some or all of the buildings in the area were constructed to abate the existing high noise levels generated by aircraft operations at LAX.

8.0 LONG-TERM IMPLICATIONS OF THE PROPOSED PROJECT

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

CEQA and the State CEQA Guidelines require SEIRs to identify the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity. Special attention must be given to those impacts which narrow the range of beneficial uses of the environment or present long-term risks to the public's health and safety. In addition, the SEIR must also identify those reasons or justifications why the implementation of the proposed project should proceed now rather than in the future.

The Metro Green Line Northern Extension would result in some long-term impacts when the proposed rail system becomes operational. The project would provide residents living within access range of the corridor and the regional rail system an alternative to the automobile as a means of regional mobility for home to work trips, airport access, and other trips. This same benefit would also apply to visitors lodging at local hotels within the corridor. Any significant reduction in vehicle trips would benefit air quality, lessen fuel consumption, and improve roadway service levels on existing streets in the corridor area. The operation of an efficient mass transit network would also reduce regional automobile dependence.

There are a number of tradeoffs between short-term benefits of a rail transit project. Some of the lost resources associated with the project include the following:

- Limited acquisition of land uses and right-of-ways.
- Obstruction of local views.
- Increased use of electricity.

By improving transportation efficiency, the rail system could provide the following:

- Reduced fossil fuel consumption.
- A reduced reliance on the private automobile, thus reducing traffic congestion on local roadways and improving travel time.
- A decrease in total vehicle miles traveled, thus decreasing automobile emissions.
- Help satisfy local and regional transportation circulation and environmental goals stated in adopted City of Los Angeles plans.
- As a link in a rail network system, provide a regional reduction in vehicle miles traveled and all of its related benefits.

The proposed project should proceed now rather than in the future for the following reasons:

- Proposition A requires that the rail transit system must be built as expeditiously as possible using existing rights-of-way where available.
- Freeway and surface street traffic volumes will continue to increase throughout the region leading to increased congestion and traffic delays.
- Significant development of the area might preclude or significantly increase the project cost if it were constructed after the private projects were in place.
- Alternative modes of travel must be provided to reduce dependency on the private automobile which accounts for the majority of pollutant emissions in the South Coast Air Basin. This project, together with the other mass transit projects in the region, is a significant element of a long-term strategy for improving air quality in the region.
- Construction of the Metro Green Line Northern Extension will expand the regional rail network and provide benefits to a larger population.
- The costs of land acquisition and construction are likely to increase over time. Long-term delays in the route selection or approval of the project may result in significant increases in the system's construction costs.

8.2 IRREVERSIBLE ENVIRONMENTAL CHANGES WHICH WOULD BE INVOLVED IN THE PROPOSED PROJECT IF IT WERE IMPLEMENTED

The implementation of the rail project would commit nonrenewable resources for construction and operation. These resources would include construction materials and labor for the operation and construction of the rail system, as well as electricity and fossil fuels to provide power to this system.

The majority of the project alignment would be aerial with an insignificant amount of land displacement (with the exception of two buildings and a portion of a third building needed to accommodate the guideway structure under both rail alternatives and five additional buildings and a portion of a sixth building needed for the people mover alternative).

9.0 GROWTH-INDUCING IMPACTS

As discussed in Section 4.1, the City of Los Angeles has identified the need for mass transit and comprehensive circulation improvements in a variety of adopted plans. The implementation of either rail alternative is encouraged by these plans. With the development of a transit facility, the potential for growth-inducing impacts may also occur. However, growth is controlled by the City of Los Angeles and is affected by policies more far reaching than this project.

The proposed alternatives are surrounded primarily by existing commercial, industrial, and airport-related land uses. Vacant land adjacent to the proposed alignment is scarce. Thus, little new development is anticipated. However, an increase in redevelopment and redesign of existing structures in order to intensify existing land uses could occur. With the linking of the rail line to a regional rail network, employers will be able to draw workers from greater distances than currently possible. A limited increase of rail-facility-related services and commuter-related commercial services would be expected in areas immediately surrounding some of the rail stations.

An additional growth-inducing impact of the rail line could be associated with the introduction of high-density housing in certain areas along the transit corridor. However, this is unlikely given the scarce amount of vacant land available and the current zoning designations for these lands. Assuming that the City of Los Angeles would allow planned development to occur, a limited increase in residential development and an intensification of commercial activities would result in an increased regional population growth. The potential changes in land use and population would occur over a long time period and any immediate growth-inducing impacts would be minimal.

10.0 LIST OF PREPARERS, PERSONS CONSULTED, AND REFERENCES

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10.3 REFERENCES

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11.0 ACRONYMS AND ABBREVIATIONS

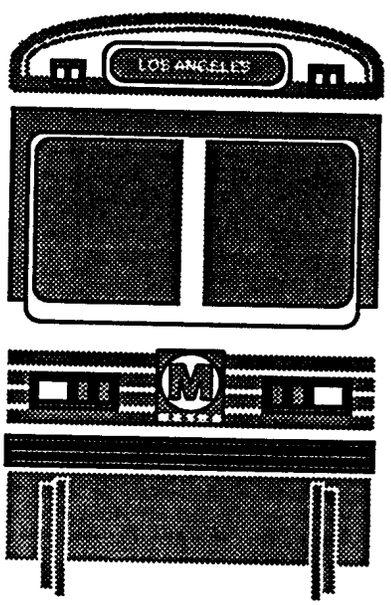
ADT	-	Average Daily Traffic
AQMP	-	Air Quality Management Plan
AT&SF	-	Atchison Topeka and Santa Fe Railroad
BP	-	Before Present
CDFG	-	California Department of Fish and Game
CEQA	-	California Environmental Quality Act
CERCLIS	-	Comprehensive Emergency Response, Compensation, and Liability Information System List
CHABA	-	Committee on Hearing, Bioacoustics and Biomechanics
CMP	-	Congestion Management Program
CNEL	-	Community Noise Equivalent Level
CO	-	Carbon Monoxide
dB	-	Decibel
DEIR	-	Draft Environmental Impact Report
DOA	-	Los Angeles Department of Airports
EPA	-	Environmental Protection Agency
EIR	-	Environmental Impact Report
FAA	-	Federal Aviation Administration
FEIR	-	Final Environmental Impact Report
FTA	-	Federal Transit Administration
kv	-	Kilovolt
kWh	-	Kilowatt Hour
LACTC	-	Los Angeles County Transportation Commission
LADWP	-	Los Angeles Department of Water and Power
LAFD	-	Los Angeles Fire Department
LAMTA	-	Los Angeles County Metropolitan Transportation Authority
LAPD	-	Los Angeles Police Department
LAX	-	Los Angeles International Airport
Ldn	-	Day-Night Sound Level
Leq	-	The equivalent steady state sound level which in a stated period of time would contain the same acoustical energy as time-varying sound level during the same period.
Lmax	-	The maximum sound level measured.
LOS	-	Level of Service
LRT	-	Light Rail Transit
mph	-	Miles Per Hour
MTA	-	Metropolitan Transportation Authority
MTC	-	Multi-Modal Transportation Center
NOP	-	Notice of Preparation
NOx	-	Nitrous Oxides
NPL	-	National Priorities List
OCS	-	Overhead Contact System
PM10	-	Suspended Particulate Matter 10 microns or less in diameter
ppm	-	Parts Per Million

ROG	-	Reactive Organic Gases
RSA	-	Regional Statistical Area
RTD	-	Rapid Transit District
RWQCB	-	Regional Water Quality Control Board
SCAG	-	Southern California Association of Governments
SCAQMD	-	South Coast Air Quality Management District
SCRTD	-	Southern California Rapid Transit District
SEIR	-	Supplemental Environmental Impact Report
SOx	-	Sulfur Oxides
TSP	-	Total Suspended Particulates
Vdc	-	Volts of Direct Current
V/C	-	Volume-to-Capacity Ratio
VOC	-	Volatile Organic Compounds
USFWS	-	U.S. Fish and Wildlife Service

initial study and
notice of preparation

APPENDIX
A

LOS ANGELES
COUNTY
METROPOLITAN
TRANSPORTATION
AUTHORITY



Date: October 13, 1992

Dear Interested Agency/Citizen:

Subject: NOTICE OF PREPARATION OF A SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT (SEIR)

Enclosed is the Notice of Preparation from the Los Angeles County Transportation Commission (LACTC) for the preparation of a Supplemental Environmental Impact Report related to transit alternatives being studied in the Green Line Northern Extension between Aviation/Imperial Station (now under construction) and the proposed Westchester Station in the vicinity of the Los Angeles International Airport (LAX). LACTC will be the Lead Agency for this project and will supervise the preparation of the document. We need to know your views or, if you represent an agency, the views of your agency regarding the scope and content of the environmental information which is germane to your statutory responsibilities in connection with the proposed project. Please read the enclosed material carefully. Your agency may need to use the environmental document prepared by LACTC when considering your permit or other approval for the project.

The project description, location, and the probable environmental effects are contained in the attached materials. A copy of an Initial Study is attached.

Due to time limits mandated by state law, your response must be sent at the earliest possible date, but not later than November 13, 1992.

Please send your response, including the name of the contact person in your agency to:

Nelia Custodio
Los Angeles County Transportation Commission
818 West Seventh Street, Suite 1100
Los Angeles, California 90017-4606

If you have any questions, please call her at (213) 244-6732. Thank you for your cooperation.

Sincerely,

Nelia S. Custodio

GREEN LINE NORTHERN EXTENSION

CALIFORNIA ENVIRONMENTAL QUALITY ACT
INITIAL STUDY

Los Angeles County Transportation Commission
818 West Seventh Street, Suite 1100
Los Angeles, CA 90017-4606
Contact: Nelia Custodio
(213) 244-6732

Date: October 13, 1992

TABLE OF CONTENTS

SECTION 1

INTRODUCTION

BACKGROUND AND IDENTIFICATION OF ALTERNATIVES

The Green Line Light Rail Transit System (Green Line) is now under construction and will serve the communities between Norwalk and El Segundo. The Green Line Northern Extension, which is the subject of this Notice of Preparation (NOP), would provide service between the Aviation/Imperial Station (now under construction as part of the Green Line project) and a proposed station at Westchester Parkway. Figure 1 shows the project area. The line would operate either as a direct extension of the Green Line light rail transit (LRT) facility or else as an extension of the proposed Los Angeles International Airport (LAX) people mover. The transit vehicles would travel on elevated structure and, possibly, a subway segment, depending on which alternative is selected for implementation. The project will be funded by the Los Angeles County Transportation Commission (LACTC) and possibly by the Los Angeles Department of Airports (DOA), depending upon the alternative selected.

One of the major goals of the Green Line Northern Extension is to provide service to LAX. The system will interface with the planned people mover system, the ground transportation center proposed by DOA, and the multi-modal transportation center. The LAX people mover system is planned to facilitate movement of airline passengers between terminals, two airport parking lots, and the proposed ground transportation center. The ground transportation center has the following purposes: consolidation of airport rental car facilities and shuttle van services; provision of an auto drop-off/pick-up location outside the central terminal area; and connection to LAX people mover. In addition, there would be a multi-modal transportation center. This center would bring together the LAX people mover, the Green Line LRT, the LAX-Palmdale high speed line (if it is built), and local and regional bus service. The multi-modal transportation center may or may not be co-located with LAX's ground transportation center. Three locations are currently under consideration for construction of the multi-modal transportation center: LAX Lot B, LAX Lot C, and the Green Line's Aviation/Imperial Station. The LAX people mover and ground transportation center will be assessed in a separate environmental impact report (EIR) to be prepared by DOA. The multi-modal transportation center will be addressed in this supplemental environmental impact report (SEIR). Coordination of the LACTC's SEIR and the DOA's EIR studies is planned.

The Coastal Corridor Rail Transit Project - North Segment Environmental Impact Report was previously prepared in January 1989. That EIR assessed the impacts of the northerly extension of the Green Line between the Aviation/Imperial Station and Marina Del Rey. Since completion of that EIR, it has been determined that the phase 1 portion of the project (between Aviation/Imperial Station and Westchester Parkway) will need to be revised. The revisions are necessary because of DOA's concerns about the possibility of electromagnetic interference of the Metro Green Line vehicles and overhead contact system (OCS) with airport navigational aids and the intrusion of the rail guideway and OCS into the runway protection zone. Because of these changes to the original project, it has been determined that an SEIR will be needed to assess the impacts of the revised project. The SEIR will focus on alternatives to address these issues. The phase 2 project segment (Westchester Station to Marina Del Rey) was previously cleared under the CEQA process. No changes to that portion of the alignment assessed in the 1989 document are expected. Phase 2 would be built only after completion of the phase 1 CEQA approval, design, and construction processes.

The LAX Interagency Transit Study Task Force was convened in August 1991 to study feasible rail alternatives within the phase 1 segment which address the unresolved airport issues. This Task Force included representatives from: LACTC, City of Los Angeles (Mayor's Office; Councilwoman Ruth Galanter's Office; and Departments of Airports, Transportation, and Planning), Office of County Supervisor Deane Dana, Caltrans, Southern California Rapid Transit District (SCRTD), and the FAA. Three rail alternatives have been proposed by the Task Force for further refinement. (Figures 2 through 4 show these alternatives and their interface with the planned LAX people mover). These alternatives, to be reviewed under the California Environmental Quality Act (CEQA) review process, include:

Green Line Along Aviation Boulevard: This alignment would be the same as that adopted in the 1989 EIR except that a segment along Aviation Boulevard would be placed in a subway tunnel to remain clear of the runway protection zone envelope. The alignment would begin at the Green Line Aviation/Imperial Station and travel northward along the west side of Aviation Boulevard within the railroad right-of-way owned by LACTC. The line would be on an aerial structure until clearing 111th Street and then descend to a subway segment opposite runways 25L and 25R. Past these runways, the line would again ascend to an aerial structure and continue northward on Aviation Boulevard and then west along the south side of Century Boulevard. After crossing Avion Street, the alignment would swing north across property containing the Dollar car rental facilities and other surface parking lots. The alignment would then turn westerly along the proposed Westchester Boulevard terminating at the proposed Westchester Station just west of Sepulveda Boulevard. This alternative would use LRT technology. Intermediate stations would be located at the intersection of Century and Airport Boulevards and Lot C.

Green Line Through Lot B: This LRT alignment would also begin at Aviation/Imperial Station and extend northward. However, the alignment would then swing eastward near 111th Street through LAX Lot B to avoid the LAX runway protection zone. The line would turn north again within Lot B and continue to Century Boulevard where it would turn to the west. Once the alignment meets the AT&SF RR, it would then continue on the same route as the Green Line alternative along Aviation Boulevard, terminating at the proposed Westchester Station. Intermediate stations would be located in Lot B; at Century Boulevard between Aviation and La Cienega Boulevards; at the intersection of Century and Airport Boulevards; and LAX Lot C. This alternative would be on elevated structure.

People Mover Through Lot B: This alternative would be an extension of the proposed LAX people mover system and would be built on aerial structure. The system would also provide service between Aviation/Imperial and Westchester Stations, including connections with the Green Line LRT at those two stations. This alternative would be similar to the Green Line alternative through Lot B except in the southern segment. With the people mover technology, the line would initially extend northeastward from the Aviation/Imperial Station to the Century Freeway where it would turn north into Lot B and then continue along the same alignment as Green Line through Lot B. Intermediate station locations would also be the same.

Besides the three rail alternatives, the SEIR will also assess the following two additional alternatives:

No-Build: CEQA requires that a no-project alternative be evaluated. This alternative assumes only the current construction of the Metro Green Line LRT near the periphery of LAX at Aviation/Imperial Station. No transit service improvements would be designed to serve Green Line passengers destined for the LAX terminal area.

All-Bus: This alternative would include a shuttle bus line operating between the Aviation/Imperial Station and the People Mover Lot C Station. The buses used in operation of the shuttle station would operate in mixed traffic along Imperial Highway and Sepulveda Boulevard to 96th Street and then into the multi-modal transportation center. Under the proposed service concept, Metro Green Line passengers destined for the airport would transfer at the Aviation Station to the shuttle bus line connecting to the multi-modal center at Lot C. Upon arriving at the multi-modal center, the passengers would need to make an additional transfer to the LAX people mover which would make stops at all terminals. Because the new LAX people mover would provide service between the Lot C multi-modal transportation center and the terminal area, the existing LAX Lot C shuttle would be eliminated from the All-Bus Alternative.

Detailed descriptions and conceptual plans/profiles of the corridor and stations are available at LACTC offices. The plans include tail tracks and traction power substations.

PURPOSE OF THE INITIAL STUDY

An Initial Study provides an investigation of potentially significant environmental impacts to determine the scope of issues to be addressed in the SEIR. This Initial Study is prepared in compliance with Section 15063 of the State CEQA Guidelines. It assesses the potential for significant environmental impacts caused by the alternatives identified above. It consists of a checklist of environmental issue areas and supporting discussion of potential impacts. Based on this Initial Study and responses to a Notice of Preparation (NOP) sent to potentially affected agencies and persons, LACTC will determine the scope of issues for the Metro Green Line Northern Extension Project SEIR.

ENVIRONMENTAL SETTING OF THE CORRIDOR

The proposed transit facility will serve the area between the Green Line LRT's Aviation/Imperial Station (now under construction) and the proposed Westchester Station. The project area is dominated by LAX Airport facilities and related public, commercial, and industrial uses. North of the airport area, the alignment passes through vacant public owned lands in the area where the proposed Westchester Parkway would be built.

Existing sensitive natural resources are limited, reflecting the urban character of the corridor. Drainages have been contained in structural channels. Significant vegetation is restricted to trees along the existing streets.

Transportation in the corridor is currently provided by the surface street network, the San Diego Freeway, and, in 1993, by the Glenn Anderson Freeway (I-105). Existing transit in the corridor includes SCRTD, Torrance, Culver City and Santa Monica Municipal buses. Depending on which technology is selected, the project would operate as an extension of the Norwalk-El Segundo Rail Transit line or as an extension to the proposed LAX people mover system.

The existing air quality and noise setting of the corridor is typical of other urban areas in the City of Los Angeles. Motor vehicles are the primary source of air pollutants, and both motor vehicles and aircraft are the major sources of noise emissions. Existing air quality in the corridor can be characterized by the measurements at the nearest monitoring station at Hawthorne. Air pollutant concentrations at that station have exceeded state and/or federal health standards for carbon monoxide and ozone. Short term noise measurements were taken for the 1989 EIR at two locations in the project area: the Dollar Rent-A-Car lot on Century Boulevard; and the Bank of America parking lot near Westchester Parkway and Sepulveda Boulevard (this location is in proximity to several office and commercial structures). At these locations the dominant sources of noise include aircraft operations at LAX as well as roadway traffic. The noise environment was sampled for 20 minutes in two consecutive 10-minute samples. The measurements taken at Dollar Rent-A-Car were 69.4 and 67.4 Leq for the first and second samples, respectively. Measurements at Bank of America were 71.0 and 69.2 for the first and second readings, respectively. The Federal Highway Administration has established a noise abatement criteria of 72 Leq for offices and commercial establishments. The existing levels at the Dollar Rent-A-Car lot does not exceed criteria for its existing uses. Likewise, the existing levels at Bank of America do not exceed the criteria recommended for offices and commercial developments.

The SEIR will present a full description of existing conditions and project impacts for each environmental issue.

SECTION 2
ENVIRONMENTAL CHECKLIST

A checklist of environmental issues that complies with Section 15063 of the State CEQA Guidelines is presented as follows.

ENVIRONMENTAL STUDY CHECKLIST
GREEN LINE NORTHERN EXTENSION

	Yes	Maybe	No
1. EARTH. Will the proposal result in:			
a. Unstable earth conditions or in changes in geologic substructures?	( )	(XX)	( )
b. Disruptions, displacements, compaction or overcrowding of the soil?	( )	(XX)	( )
c. Change in topography or ground surface relief features?	( )	( )	(XX)
d. The destruction, covering or modification of any unique geologic or physical features?	( )	( )	(XX)
e. Any increase in wind or water erosion of soils, either on or off the site?	( )	(XX)	( )
f. Changes in deposition or erosion of beach sands, or changes in siltation, deposition, or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake?	( )	( )	(XX)
g. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards?	( )	(XX)	( )

The subway segment (Green Line Alternative Along Aviation Boulevard) would be built as a tunnel under properties and streets. Aerial structures of the transit system would require surface excavation for placement of columns.

The SEIR will examine the geotechnical impacts of the excavations, including substructure changes, slope stability, soil and rock removal and the potential for subsidence of surface soils over tunneling activity. The potential for surface damage due to subsidence, if any, will also be examined and mitigation will be recommended, if needed. Naturally occurring geologic conditions that may cause acidic corrosion will also be examined. Mitigation measures will be provided, as necessary.

No unique geological or physical features would be destroyed or modified. Topographic changes would be minor in sloped portions of the corridor; however, the insignificant changes need not be analyzed further in the SEIR.

Earthwork required for construction may create the potential for soil erosion during the construction period. The SEIR will examine the erosion potential and recommend erosion control measures for the project.

With regard to geologic and seismic hazards, the project does not cross any known major faults. However, seismic activity may affect the construction or operation of the proposed facility. The numerous active earthquake faults in the region may produce significant ground shaking. The project will include the following mitigation strategies to minimize impacts. Prior to construction, subsequent geotechnical analysis will be conducted along the subway segment, if this alternative is selected, to determine the stability of subsurface materials. Site-specific engineering studies will be conducted at all sites where subsequent geotechnical studies indicate there is an increased potential for seismic risk. Disturbed areas will be revegetated after construction to reduce the potential for erosion in areas of weak soil and steep topography. All structures above and underground will be constructed in anticipation of a major earthquake and will be designed to conform to the City of Los Angeles Seismic Safety Plan. Ground rupture could occur on or nearby the Charnock Fault, or places not previously affected by recent faulting. In the event of ground rupture, all rail activities should be halted. In the event of a major earthquake, rail activity should be stopped until it is ascertained that no damage to the rail has been incurred. A comprehensive emergency preparedness/evacuation plan will be prepared prior to operation of the transit system.

2. AIR. Will the proposal result in:

	Yes	Maybe	No
a. Substantial air emissions or deterioration of ambient air quality?	( )	(XX)	( )
b. The creation of objectionable odors?	( )	( )	(XX)
c. Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally?	( )	( )	(XX)

Construction activities for all routes would produce temporary mobile source and fugitive dust emissions. A beneficial effect on regional air quality may occur due to increased transit ridership, resulting in a decrease in the number of individual motor vehicle trips in the corridor. The proposed multi-modal transit center would also have the positive effect of reducing emissions in the airport terminal area; however, adverse air quality impacts could occur in the area of that center due to the presence of additional traffic.

The SEIR will analyze changes to local and regional air quality conditions due to facility construction and operation. Temporary, construction-related emissions will be estimated and assessed for impacts on nearby land uses. Changes to motor vehicle travel and congestion in the corridor will be evaluated to determine if significant local impacts to carbon monoxide concentrations will occur. Regional emissions will be estimated to describe the potential for a net decrease in mobile source pollutant emissions due to the provision of transit opportunities. The project's consistency with South Coast Air Quality Management District plans and the State Implementation Plan will be discussed.

The project would not create objectionable odors, nor cause changes in air movement, moisture, temperature or other climatic conditions.

3. WATER. Will the proposal result in:	Yes	Maybe	No
a. Changes in currents, or the course or direction of water movements, in either marine or fresh waters?	( )	( )	(XX)
b. Changes in absorption rates, drainage patterns or the rate and amount of surface water runoff?	( )	(XX)	( )
c. Alterations to the course or flow of flood waters?	( )	( )	(XX)
d. Change in the amount of surface water in any water body?	( )	( )	(XX)
e. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity?	( )	( )	(XX)
f. Alteration of the direction or rate of flow of ground water?	( )	( )	(XX)
g. Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?	( )	( )	(XX)
h. Substantial reduction in the amount of water otherwise available for public water supplies?	( )	( )	(XX)
i. Exposure of people or property to water-related hazards such as flooding or tidal waves? ( )	( )	(XX)	

The project corridor is located in an urban area where ground surfaces are already impermeable and flood hazard has been contained in control structures. No streams, rivers, or other surface water bodies are located near the project area. Subway construction (Green Line Alternative Along Aviation Boulevard) would occur at depths and in areas with subsurface conditions that should not affect groundwater resources.

4. PLANT LIFE. Will the proposal result in:	Yes	Maybe	No
a. Change in the diversity of species or number of any species of plants (including trees, shrubs, grass, crops, and aquatic plants)?	( )	(XX)	( )
b. Reduction of the numbers of any unique, rare or endangered species of plants?	( )	( )	(XX)
c. Introduction of new species of plants into an area, or result in a barrier to the normal replenishment of existing species?	( )	( )	(XX)
d. Reduction in acreage of any agricultural crop?	( )	( )	(XX)

The transit facility would be constructed in a developed urban area and would involve impacts to landscaping and urban plant species. The SEIR will examine vegetation removal requirements of the project and evaluate whether significant vegetative impacts will occur. There are no known state or federally designated rare, threatened or endangered plant species within the project area.

5. ANIMAL LIFE. Will the proposal result in:	Yes	Maybe	No
a. Change in the diversity of species or numbers of any species of animals (birds, land animals including reptiles, fish, and shellfish, benthic organisms or insects)?	( )	( )	(XX)
b. Reduction of the numbers of any unique, rare or endangered species of animals?	( )	( )	(XX)
c. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals?	( )	( )	(XX)
d. Deterioration of existing fish or wildlife habitat?	( )	( )	(XX)

Impacts to animal life should be minimal since the project is located within an urban area. The SEIR will address potential impacts to urban wildlife species. There are no known state or federally designated rare, threatened or endangered wildlife species within the project area.

6. NOISE. Will the proposal result in:

a. Increases in existing noise levels?	(XX)	( )	( )
b. Exposures of people to severe noise levels?	( )	( )	(XX)

Noise levels would increase along the project corridor during construction and operation of the transit system. Construction noise, while temporary, could be annoying. The SEIR will assess construction noise impacts and recommend mitigation measures, if needed. The operation of the LRT or people mover could also generate increased structural or ground-borne vibration. However, noise from train operations are not expected to be significant because of the existing land uses within the project area (mainly commercial, offices, and airport-related development) and because there are already substantial noise impacts to the area from LAX aircraft operations. The SEIR will evaluate the exposure of sensitive uses to potentially significant noise and vibration impacts. Exposure will be compared to city, state and American Public Transit Association (APTA) guidelines for land use compatibility. Mitigation measures will be recommended where needed.

7. LIGHT AND GLARE. Will the proposal:	Yes	Maybe	No
a. Produce new light or glare from street lights or other sources?	( )	(XX)	( )
b. Reduce access to sunlight of adjacent properties due to shade and shadow?	( )	(XX)	( )

Outdoor lighting would produce light at stations and at the multi-modal transit center. The elevated structures would create shadows and could cause some reduction in sunlight. The SEIR will assess lighting impacts and will identify appropriate mitigation measures, such as light standard design that minimizes side-cast glare in parking lots. Shade and shadow issues will also be addressed.

8. LAND USE. Will the proposal result in a substantial alteration of the present or planned land use of an area?	Yes	Maybe	No
	( )	(XX)	( )

Preliminary facility plans indicate that the project would encroach on airport property and private development. Business uses could also be disrupted due to a loss of parking facilities. The SEIR will analyze the displacement impacts of each alternative and determine mitigation requirements, as well as the compatibility of the transit system with relevant local plans and policies.

Construction period disruption may also affect businesses and residences that abut or are in the vicinity of the alignment. Construction of the subway segment (Green Line Alternative Along Aviation Boulevard) will include construction of a tunnel which would require the relocation of a portion of 104th Street, causing temporary disruption of vehicle access. Since the tunnel would

be constructed underground and out of the way of LAX's runway protection zone, no adverse impacts to airport operations would occur. The SEIR will assess construction period disruption to adjacent land uses.

9. NATURAL RESOURCES. Will the proposal result in:	Yes	Maybe	No
a. Increase in the rate of use of any natural resources?	( )	( )	(XX)
b. Substantial depletion of any non-renewable resources?	( )	( )	(XX)

The rate of use of any natural resources would not be increased significantly as a result of this project, and substantial depletion of any non-renewable resource would not occur.

10. RISK OF UPSET. Does the proposal involve:	Yes	Maybe	No
a. A risk of an explosion or the release of hazardous substances (including, but not limited to, oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions?	( )	(XX)	( )
b. Possible interference with an emergency response plan or an emergency evacuation plan?	( )	( )	(XX)

A hazardous materials investigation will be conducted for the SEIR to determine the risk of upset for the project. Subsurface contamination may be present in areas with historical industrial use or other developments for which hazardous materials were either used or disposed. A review of records and reports was undertaken for the 1989 EIR. The following summarizes the findings in that EIR. One site, Ogden Allied, at 5281 Imperial Highway, was placed on EPA's Comprehensive Emergency Response, Compensation and Liability Information System (CERCLIS) list in 1982. The identification of a site on this list does not necessarily confirm that an actual health or environmental threat exists. The site was preliminarily assessed and found not to be problematic. As of May 1, 1985, the case was closed, and the present facility is now operating normally.

On the southwest corner of Lincoln Boulevard and Sepulveda Boulevard within LAX property is a previous landfill area of unknown classification. The area may possibly be contaminated. A gas station and abandoned underground storage tanks may have been located here at one time. Other leaking underground storage tanks are located in the project vicinity. Another previous landfill of unknown classification is located at 5126 West 106th Street.

Several areas at LAX have been affected. The full extent of groundwater and soil contamination is not known, and could be found anywhere fuel is stored or transported. Contamination has

been found near the fuel farm, adjacent to the north-south trending taxiway, and between terminals 2 and 3. Contaminants consist primarily of hydrocarbons, chlorinated hydrocarbons, and solvents. Although leaks and spills may have occurred in the terminal areas, groundwater contamination is most problematic near the fuel farm and gas station areas. The Los Angeles Air Force Station in the Worldway Postal Center is suspected to contain solvents, fuels, heavy metals, and pesticides, all of which are associated with aerospace facilities.

No impacts to local emergency response or evacuation plans are anticipated.

11. POPULATION. Will the proposal result in:	Yes	Maybe	No
a. Altering the location, distribution, density or growth rate of the human population of an area?	( )	( )	(XX)

Overall growth rates are not expected to change due to the construction of the transit system. Since the few apartments nearby would not be impacted, the proposed stations should not affect the distribution or density of the population. The SEIR will discuss potential population distribution and growth inducing impacts of the transit facility.

12. HOUSING. Will the proposal:	Yes	Maybe	No
a. Affect existing housing or create a demand for additional housing?	( )	( )	(XX)

Construction of the LRT will not result in the displacement of residential units and no substantial demand for new housing would be created as a result of the project.

13. TRANSPORTATION/CIRCULATION. Will the proposal result in:	Yes	Maybe	No
a. Generation of substantial additional vehicular movement?	( )	(XX)	( )
b. Significant effects on existing parking facilities or demand for new parking?	(XX)	( )	( )
c. Impact upon existing transportation systems?	(XX)	( )	( )
d. Alterations to present patterns of circulation or movement of people and/or goods?	(XX)	( )	( )
e. Alterations to waterborne, rail or air traffic? ( )	(XX)	( )	
f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians?	( )	(XX)	( )

g. Increase in hazard to aircraft operations or passengers? ( ) (XX) ( )

Vehicular trips may increase at station areas and the transportation centers; however, these trips could eliminate longer trips that would be made if transit was not available. Construction of the system may eliminate some vehicular trips by providing an accessible alternative to individual automobile trips. The SEIR will evaluate the vehicular trip generation impacts of the project, including potential station area and transportation center traffic increases.

Demand for parking would be increased in the vicinity of the stations and multi-modal transportation center. The project may require removal of existing parking spaces from a monthly parking lot south of 96th Street, a parking lot on the southeast corner of Sepulveda Eastway and Westchester Boulevard, a lot on the southeast corner of Sepulveda Boulevard and Westchester Boulevard, and LAX Lot C. The SEIR will assess the impacts to parking demand around the stations and transportation center and parking space removal due to transit facilities along the project route.

The existing transportation system of streets would be affected by lane reconfigurations to accommodate the transit facility. Temporary construction period traffic congestion and parking impacts would occur. Traffic circulation may be affected at intersections by aerial guideway support columns. The objective of the transit system is to provide an alternate to automobile travel, so total traffic in the corridor may be reduced by the provision of the rail transit.

The SEIR will assess the traffic impacts of the system, construction period disruptions, changes in street configurations and intersection operation changes. Possible mitigation measures will be recommended, when needed, such as construction period traffic routing and improvements at congested intersections.

Two types of circulation pattern changes may occur. The objective of the project is to enhance transit ridership, so a shift in the mode of travel may occur within the corridor. Truck transport of goods may be affected by the construction of the facility in the center of industrial streets, such as Westchester Boulevard/Parkway, due to the constraints placed on truck turning movements and parking. The SEIR will evaluate both circulation pattern issues.

No impacts to waterborne traffic would occur. During construction, coordination would need to be undertaken with the Santa Fe Railroad to minimize impacts to railroad service, if the Green Line Alternative along Aviation Boulevard is selected. The construction of the tunnel section underneath the runway protection zone would avoid disruptions to airline service. The SEIR will address these issues.

Potential hazards to pedestrians could result from disrupted traffic patterns during construction. It is anticipated that construction procedures will include measures which protect pedestrians and minimize accident potentials during the short-term construction period. The SEIR will discuss pedestrian and traffic safety issues.

Potential hazards to aircraft operations will be evaluated. It is expected that any potential impacts will be mitigated.

14. PUBLIC SERVICES. Will the proposal have a significant effect upon or result in a need for new or altered governmental services in any of the following areas:

	Yes	Maybe	No
a. Fire protection?	( )	(XX)	( )
b. Police protection?	( )	( )	(XX)
c. Schools?	( )	( )	(XX)
d. Parks or other recreational facilities?	( )	( )	(XX)
e. Maintenance of public facilities including roads?	( )	(XX)	( )
f. Other government services?	( )	( )	(XX)

The project is expected to have minimal impact on the Los Angeles Fire Department (LAFD) in terms of increased demand for fire-fighting and paramedic units. Because of the project's proposed track, stations, and substations, an emergency response would require a minimum of one engine and one rescue unit. A first alarm response to many sites could affect the department if a simultaneous incident occurs elsewhere. The simultaneous demand may require additional manpower and equipment which is not currently available, and would necessitate automatic and mutual aid. The concentrations of pedestrians and traffic in and around stations during commuter periods may lengthen response times, particularly for medical emergencies. Increased volumes of commuters could also generate more frequent medical emergency calls.

The overwhelming majority of requests 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. Because of the distance of the proposed project to schools in the vicinity, no significant impacts to schools are anticipated.

The Westchester Golf Course, owned and operated by the Department of Airports, is located just north of Lincoln Boulevard and extends north to approximately 86th Place. The project would not encroach on the golf course, and no significant impacts are anticipated. Significant impacts to government services and public facilities, with the exception of roads, are not expected. The anticipated impact on roads is discussed in Item 13.

15. ENERGY. Will the proposal result in:

	Yes	Maybe	No
a. Use of substantial amounts of fuel or energy?	( )	( )	(XX)
b. Substantial increase in demand upon existing sources of energy or require the development of new sources of energy?	( )	( )	(XX)

Fuel would be used in the construction of the transit system. Operation of the system would use

electricity as its traction power source, which would increase the demand upon existing energy sources. The amount of new demand would be minimal compared to existing electrical demands in the area. The system also has the long-term potential for energy savings related to an increased transit share of riders in the corridor.

16. UTILITIES. Will the proposal result in a need for new systems or substantial alterations to the following utilities:

	Yes	Maybe	No
a. Power or natural gas?	(XX)	( )	( )
b. Communications systems?	(XX)	( )	( )
c. Water? (XX)	( )	( )	
d. Sewer and septic tanks?	(XX)	( )	( )
e. Storm water drainage?	(XX)	( )	( )
f. Solid waste disposal?	( )	( )	(XX)

The transit system construction is expected to require relocation of underground or overhead utility systems at various points along the project corridor, particularly where subway or aerial structures are located. Relocations of some storm sewers, sanitary sewers, water mains and CATV conduit may be necessary. Utilities such as gas, electric and telephone would remain in place for the most part, but may require minor relocations. The SEIR will discuss utility relocation requirements and present mitigation measures, where needed.

17. HUMAN HEALTH. Will the proposal result in:	Yes	Maybe	No
a. Creation of any health hazard or potential health hazard (excluding mental health)?	( )	( )	(XX)
b. Exposure of people to potential health hazards?	( )	( )	(XX)

The project is not expected to affect human health. The project creates no new sources of health hazards nor exposes people to new health-related risks.

18. AESTHETICS. Will the proposal result in:	Yes	Maybe	No
a. The obstruction of any scenic vista or view open to the public, or will the proposal result in the creation of an aesthetically offensive			

site open to public view? (XX) ( ) ( )

The construction of the project may introduce aerial structures and straddle bent supports, as well as stations, along existing streetscapes and in airport parking lots. Elevated structures are prominently visible to the community and may obstruct viewsheds in certain locations. However, no residential land uses are located in the project corridor, and no adverse impacts to residents would be expected. The SEIR will identify any sensitive community views and the aesthetic impacts of the transit facility. Mitigation measures will be discussed to address visual impacts, if necessary.

		Yes	Maybe	No
19.	RECREATION. Will the proposal result in an impact upon the quality or quantity of existing recreational opportunities?	( )	( )	(XX)

The only recreational facility in the project area is the Westchester Golf Course. No adverse impacts are expected since the project will not encroach upon golf course property.

20. CULTURAL RESOURCES.

		Yes	Maybe	No
a.	Will the proposal result in the alteration of or the destruction of a prehistoric or historic archaeological site?	( )	(XX)	( )
b.	Will the proposal result in adverse physical or aesthetic effects to a prehistoric or historic building, structure or object?	( )	( )	(XX)
c.	Does the proposal have the potential to cause a physical change which would affect unique ethnic cultural values?	( )	( )	(XX)
d.	Will the proposal restrict existing religious or sacred uses within the potential impact area?	( )	( )	(XX)

An assessment of these resources was done for the 1989 EIR. The results are summarized in the following discussion. No known historic resources which are listed on the National Register of Historic Places or which are potential candidates for the Register are located in the project corridor. Two monuments included on the City's Cultural Heritage Monuments List are in the project area: Hangar No. 1 Building and Loyola Theater. Neither monument would be disturbed by the project. The UCLA Archaeological and Information Center files and records show no recorded archaeological sites within the project area. In the event that artifacts and/or remains are found during construction, the lead agency will make the determination whether or not the resource is significant and require salvage according to CEQA and/or city guidelines. If the resource is found to be significant, proper and appropriate salvage of the resources will commence in a timely manner according to the provisions outlined in Section VII of Appendix

K of the CEQA law and guidelines. In the event that human remains are found, those procedures outlined in Section VIII of Appendix K contained in the CEQA law and guidelines will be followed.

21. MANDATORY FINDINGS OF SIGNIFICANCE.	Yes	Maybe	No
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	( )	( )	(XX)
b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time while long-term impacts will endure well in to the future.)	( )	( )	(XX)
c. Does the project have impacts which are individually limited but cumulatively considerable? (A project may impact on two or more separate resources where the impact of each resource is relatively small but where the effect of the total of those impacts on the environment is significant.)	( )	(XX)	( )
d. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	( )	(XX)	( )

The implementation of any of the proposed alternatives is not anticipated to cause significant adverse impacts upon wildlife and vegetative habitats and population, or cultural resources since the project area is urban in nature, and no cultural resources have been found.

A primary objective of the proposed project is to improve public transportation accessibility with LAX. Long-term environmental and planning goals of the project, therefore, should be achieved and not overridden by short-term impacts.

Cumulative development in the corridor will be documented in the SEIR to determine the

potential for significant impacts. Both urban development and other transportation projects planned in the corridor will be discussed.

The initial study indicated the potential for adverse impacts to the human environment in the areas of noise, land use, risk of upset, traffic circulation, utilities, aesthetics, and recreation resources. The SEIR will evaluate these issues, determine the significance of potential impacts, and identify mitigation measures, if needed.

DETERMINATION

On the basis of this initial evaluation, LACTC has determined that the proposed project may have a significant effect on the environment, and a Supplemental Environmental Impact Report will be prepared.

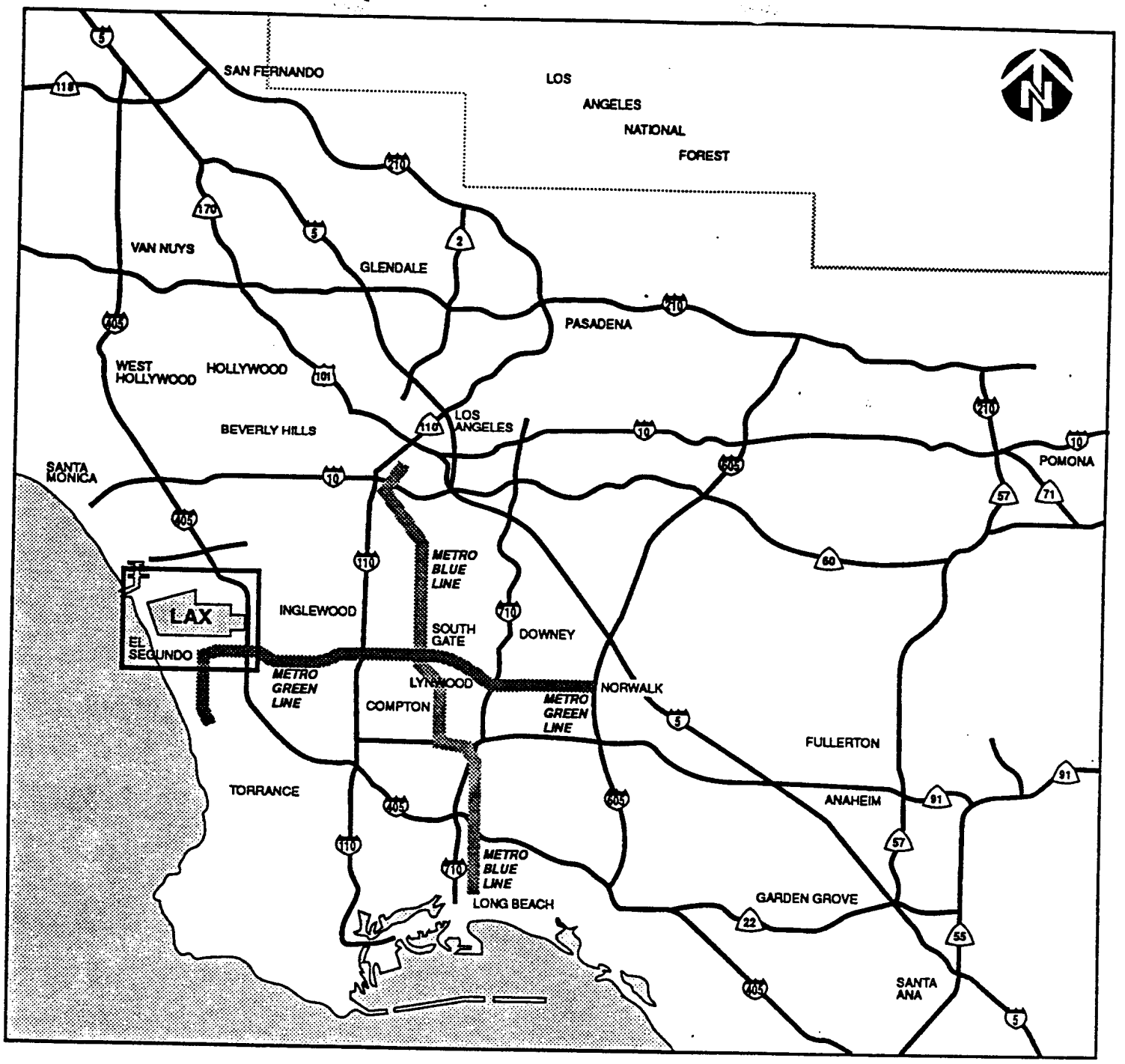
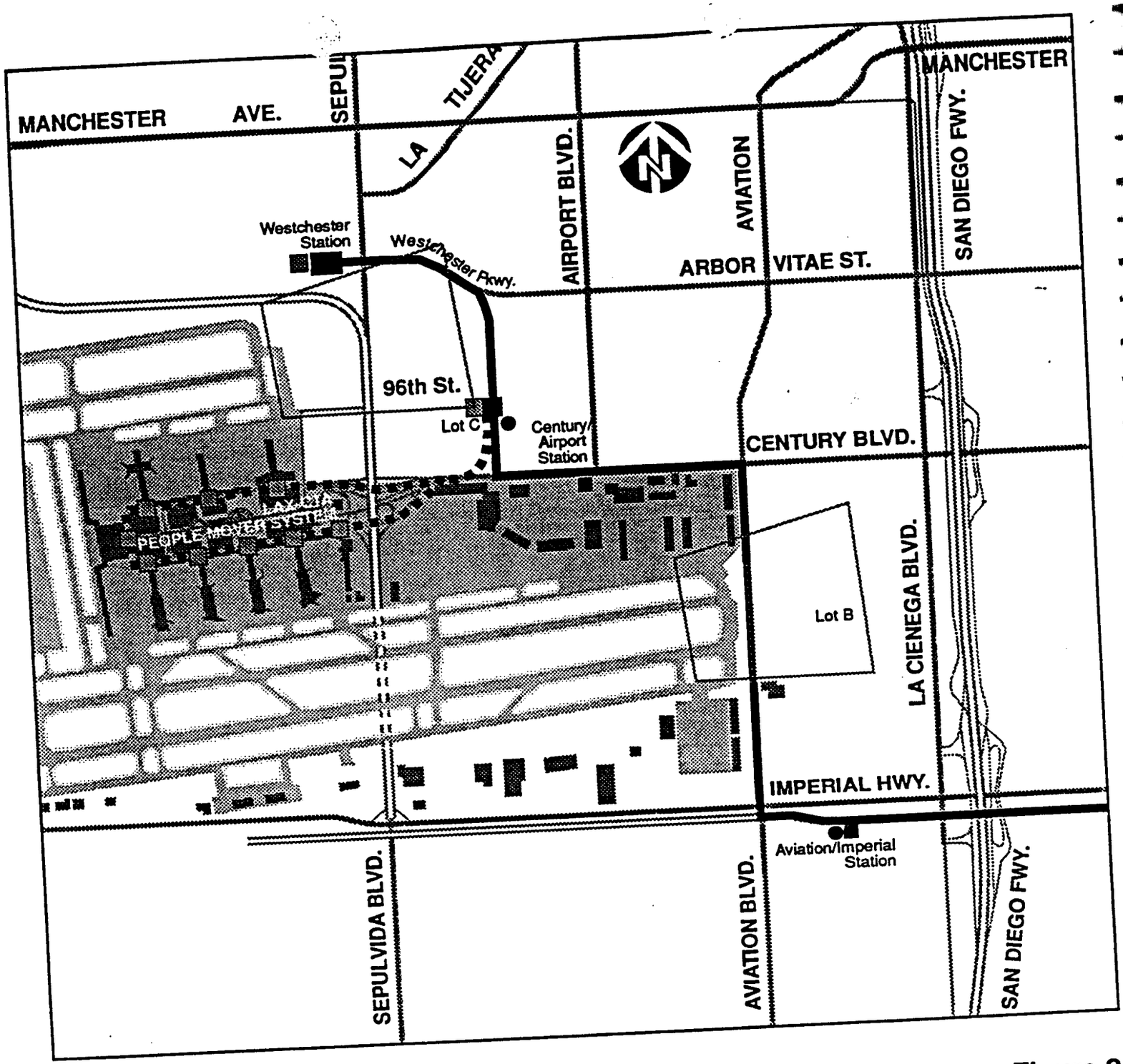


Figure 1
PROJECT LOCATION

ICF KAISER ENGINEERS
(California) Corporation



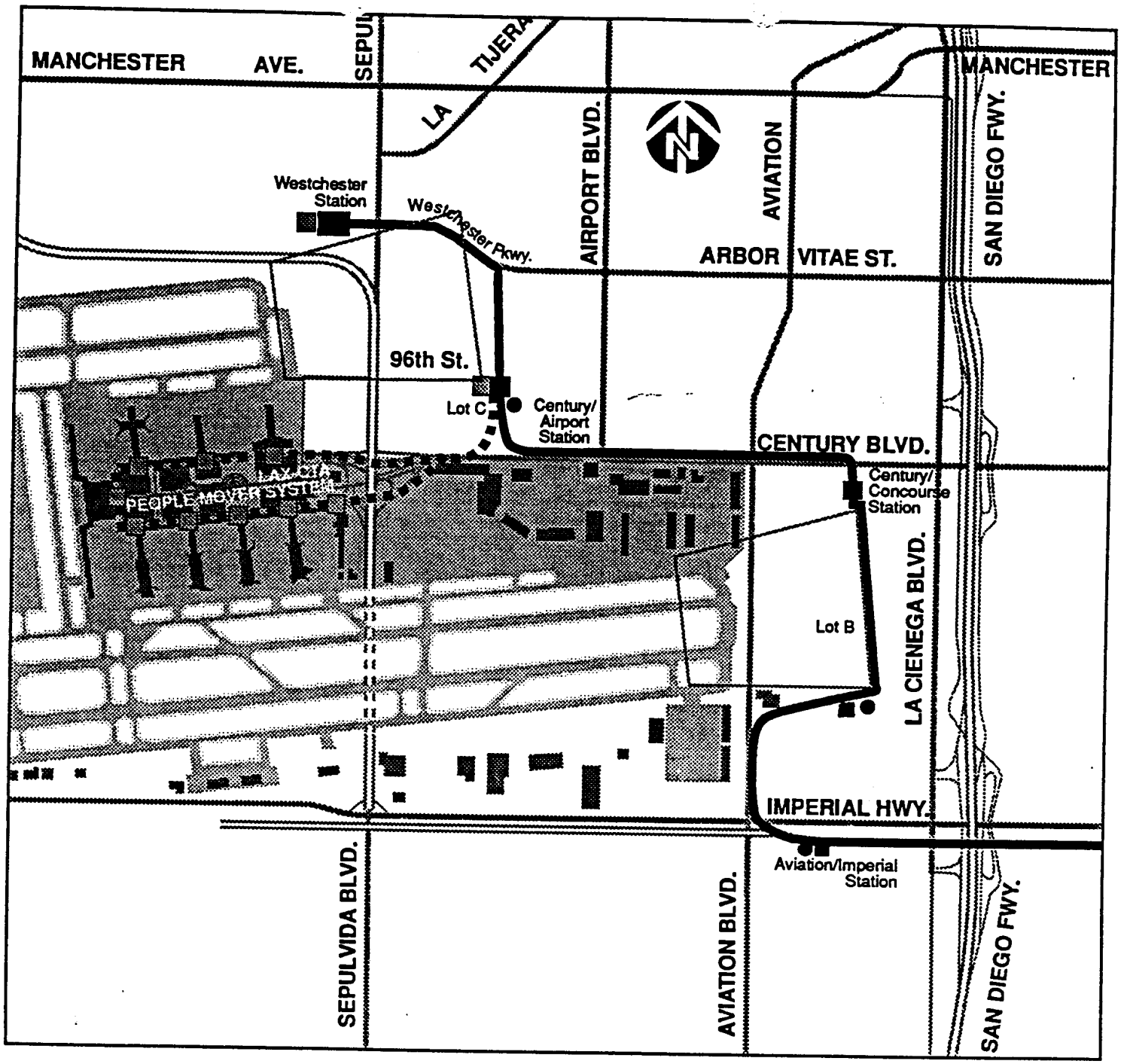
LEGEND

- Alignment
- Subway Segment
- Station
- LAX-CTA People Mover
- People Mover Station
- Transit Center Option
- Airport Clear Zones

Figure 2

GREEN LINE ALONG AVIATION BOULEVARD

ICF KAISER ENGINEERS
(California) Corporation



LEGEND

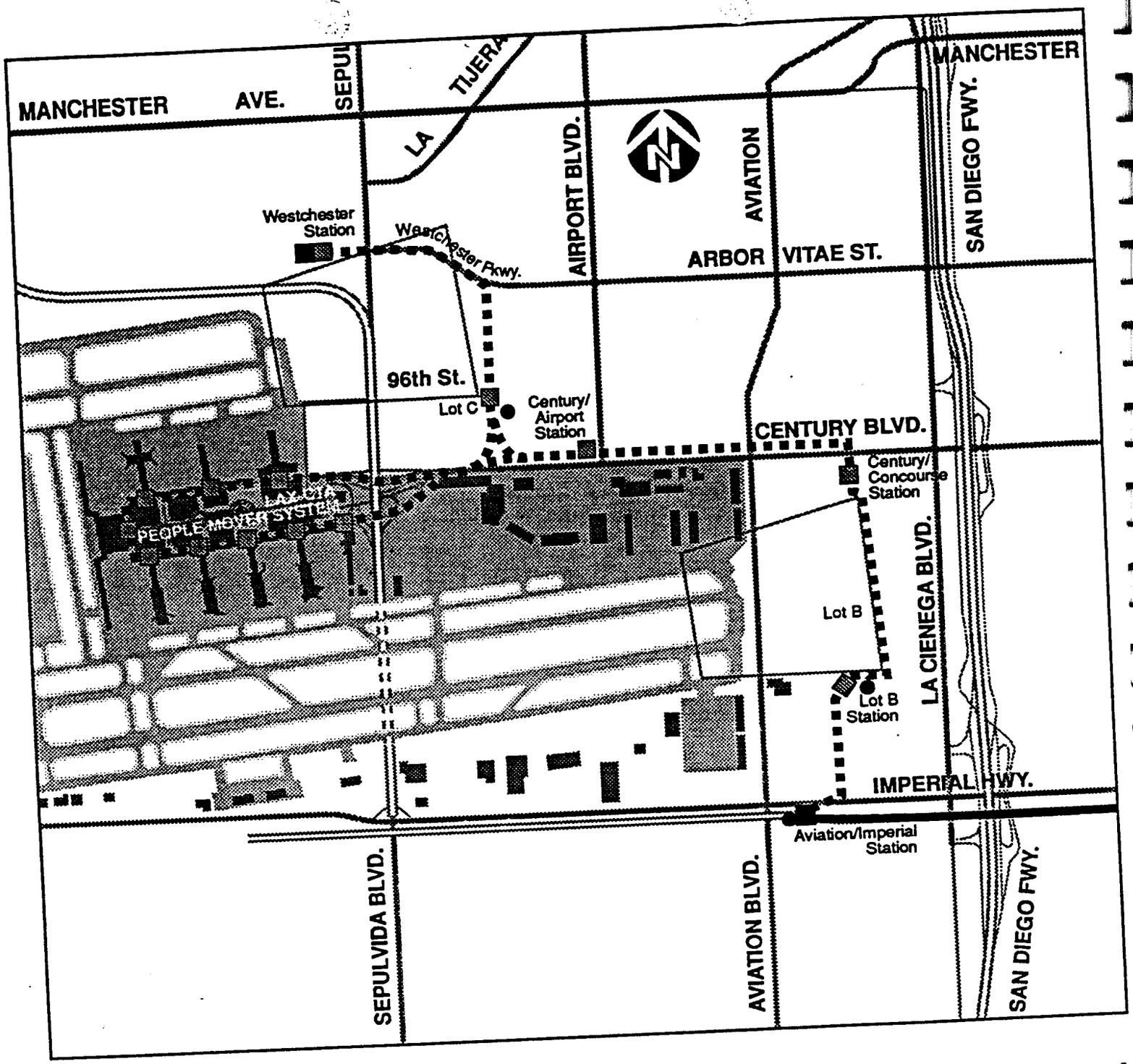
- Alignment
- Station
- Transit Center Option
- Airport Clear Zones
- LAX-CTA People Mover
- People Mover Station

Figure 3

GREEN LINE TECHNOLOGY THROUGH LOT B

METRO

ICF KAISER ENGINEERS
(California) Corporation



LEGEND

- People Mover Alignment
- Green Line Alignment
- People Mover Station
- Green Line Station
- Transit Center Option
- Airport Clear Zones

Figure 4

PEOPLE MOVER TECHNOLOGY THROUGH LOT B

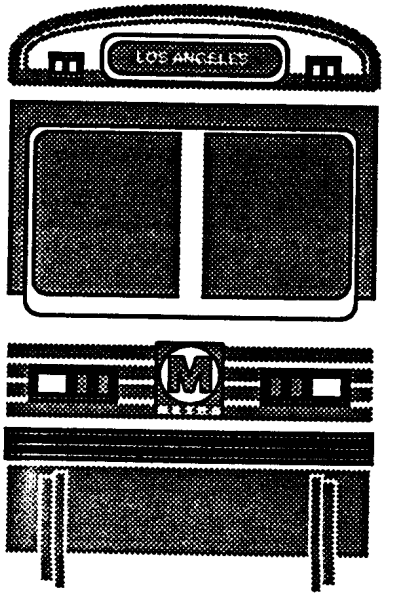
ICF KAISER ENGINEERS
(California) Corporation

plan and profile
drawings

APPENDIX
B

(Provided under separate cover)

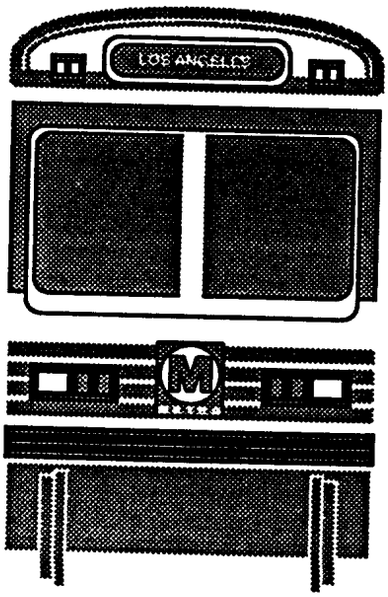
LOS ANGELES
COUNTY
METROPOLITAN
TRANSPORTATION
AUTHORITY



vista california radius
detailed report for the
rapid transit alignment

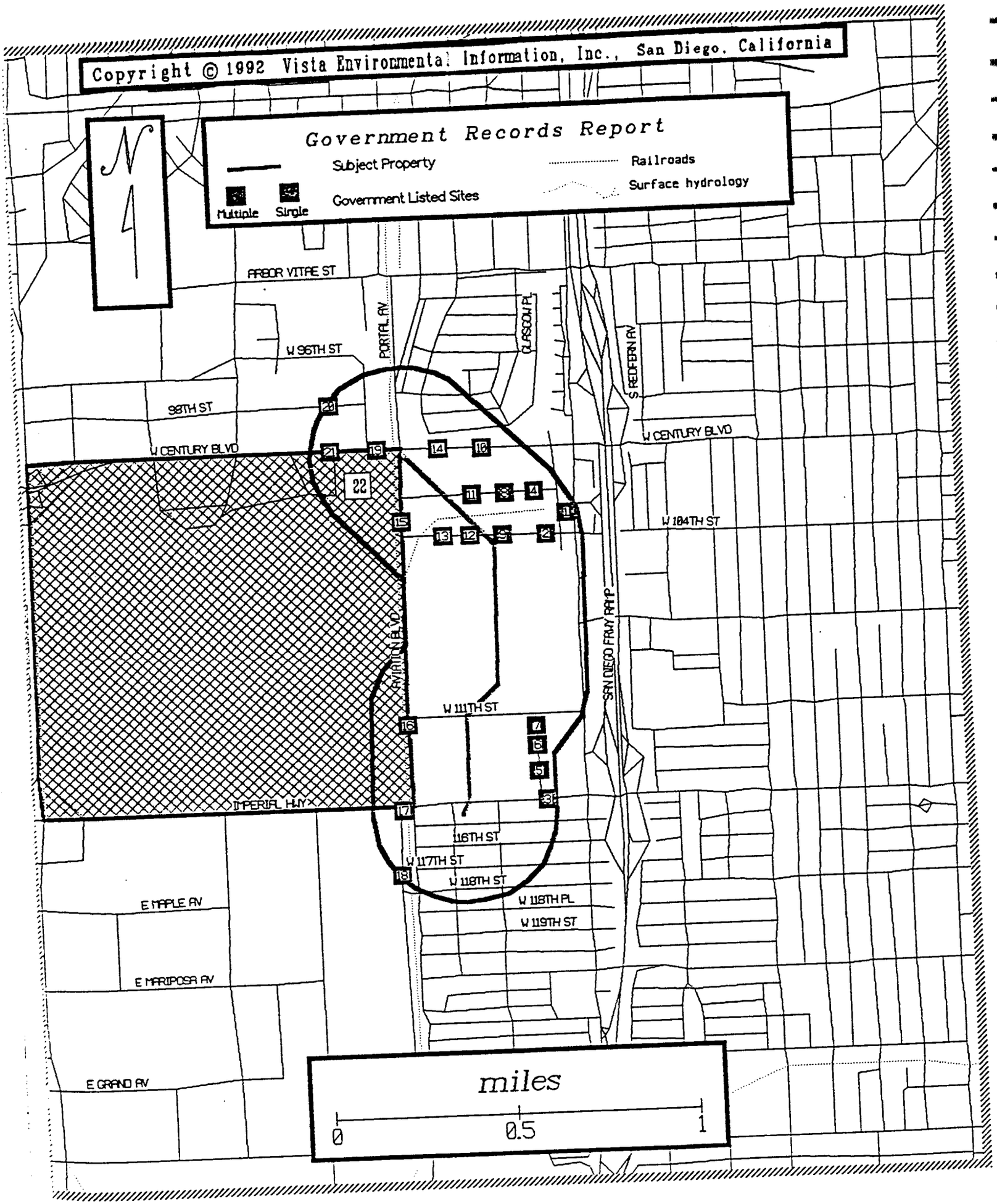
APPENDIX C

LOS ANGELES
COUNTY
METROPOLITAN
TRANSPORTATION
AUTHORITY



VISTA

VISTA ENVIRONMENTAL INFORMATION, INC.



LIST OF RECORDS SEARCHED

This report represents a search of the following government database sources:

DATABASE	*TYPE OF RECORDS*	*AGENCY*
CERCLIS :	Sites designated as actually or potentially contaminated sites under CERCLA	U.S. EPA
NPL :	Federal Superfund Sites	U.S. EPA
LIENS :	Filed Notices of Superfund Liens	U.S. EPA
CORTESE :	Hazardous Waste & Substances Site List	California Governor's Office of Planning & Research
CAL-SITES/ AWP :	Contaminated sites listed on the Annual Work Plan and authorized for cleanup under the Bond Expenditure Plan (BEP)	CAL-EPA
BZP :	Sites designated as Border Zone Properties (Deed Restrictions)	CAL-EPA
CAL-SITES/ ASPIS :	Actually or potentially contaminated sites under the Abandoned Site Program	CAL-EPA
HWIS :	Hazardous Waste Generators, Treatment, Storage & Disposal Facilities	CAL-EPA
SWIS :	Active & Inactive Sanitary Landfills, Transfer Stations and Waste Disposal Facilities	California Waste Management Board
LUST :	Leaking Underground Storage Tanks	California Regional Water Resources Control Boards
COUNTY DATA :	Landfills, Waste Disposal Facilities, LUSTs, & Contaminated Sites (see description)	County Departments of Health (only available for Southern California)

Due to the scale of the map, red and green squares on the map may represent more than one agency listing or location. For a detailed description of each source, please refer to the legends on the following pages.
For more information please call your VISTA account representative at (619) 450-6100.

CERCLIS

The information presented in this report is updated to January 9, 1992.

Since 1982, U.S. EPA has developed and maintained lists of contaminated properties under the federal Superfund program pursuant to the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA), 42 U.S.C. Section 9601 (1985). U.S. EPA discovers these sites from citizen reports, routine inspection of hazardous waste generators, treatment, storage and disposal facilities, and reporting requirements.

MAP ID No	EPA No.	SITE NAME	ADDRESS	CITY	ZIP	EVENTS:* TYPE-QUALIFIER	REGIONAL* UTILITY DESCRIPTION
2	CAD050810829	FANSTEEL PRECISION SHEET METAL	5235 W 104TH ST	LOS ANGELES	90045	DS1 PA1	N/A
3	CAD092516772	INTERWEB	5251 W IMPERIAL HWY	LOS ANGELES	90045	DS1 PA1-N	SOLVENTS. OTHER:ELECTROPLATING TREATMENT SLUDGE, SPENT BA. HAZARD UNCERTAIN. RCRA REGULATED: GENERATOR SEE NOTIFICATION FILE. FACILITY CLOSED.
9	CAD071917462	HUGHES AIRCRAFT AIRPORT SITE	5340 W 104TH ST	LOS ANGELES	90009	DS1 PA1-N	SOLVENTS. OTHER:WASTEWATER TREATMENT SLUDGE FROM INDUSTRI. OTHER:SPENT BATH SOLUTION FROM ELECTROPLATING O. OTHER:UNKNOWN. CLOSED FACILITY. RCRA REGULATED: GENERATOR SEE NOTIFICATION FILE.
22	CAD980636757	PUREX CORP	MINES FLD	INGLEWOOD	90301	DS1 PA1-N	SOLVENTS. DRUMS-ABOVE GROUND. OTHER-SMALL CONTAINERS. NOTIS 103(C) SITE.

* See key on last page for definition

NATIONAL PRIORITY LIST (NPL)

The information presented in this report is updated to January 23, 1992.

U.S. EPA maintains this list under the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) 42 U.S.C. Section 9601 (1985). Once sites have been designated on the CERCLIS List, U.S. EPA uses its Hazard Ranking System (HRS) to determine potential risks to human health and the environment. Only those CERCLIS sites which present the greatest risk are added to the NPL, which qualifies the sites to receive CERCLA remedial funding.

MAP ID NO.	EPA NO.	SITE NAME	STREET	CITY	ZIP	STATUS* INDICATOR	SITE* DESCRIPTION

As of the date listed above, no sites listed in this database are located within the mapped search zone.

* See key on last page for definition

FEDERAL SUPERFUND LIENS (LIENS)

The information presented in this report is updated to September 11, 1991.

Under Section 107(L) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) 42 U.S.C. Section 9607 (1), US EPA has authority to file liens against real property to recover clean up, response, and any other expenditure made by US EPA under the CERCLA program. US EPA has prepared a listing of filed notices of Superfund liens which is updated quarterly. Because these liens are "statutory liens," they arise when the agency spends money on a site or when notification of potential liability is received by the owner of the property. EPA maintains that these liens can arise without filing, however, and they suggest checking CERCLIS sites for lien status.

MAP ID NO.	SITE NAME	LOCATION	DATE FILED	ESTIMATED VALUE

As of the date listed above, no sites listed in this database are located within the mapped search zone.

HAZARDOUS WASTE AND SUBSTANCES SITES LIST
CORTESE

The information presented in this report is updated to November, 1990.

The California Governor's Office of Planning and Research annually publishes a listing of potential and confirmed hazardous waste sites throughout the State of California under Government Code Section 65962.5. This list is based on input from the following agencies:

1) DHS1: Records that have been compiled by the Toxic Substances Control Division of the Department of Health Services. This code indicates abandoned hazardous waste sites.

2) DHS2: Records that have been compiled by the Environmental Health Division of the Department of Health Services. This code indicates contaminated public water drinking wells that serve less than 200 connections ("small wells").

3) DHS3: Records that have been compiled by the Environmental Health Division of the Department of Health Services and consist of contaminated public water drinking wells that serve more than 200 connections ("large wells").

4) DHS5: Sites pursuant to Section 25356 of the Health and Safety Code (sites included under the Hazardous Substance Cleanup Bond Act).

5) WRCB: Records compiled by the Water Resources Control Board. These are sites of reported leaks that have been investigated by the WRCB. Leak sites do not necessarily lie within incorporated boundaries of listed cities.

6) CWMB: Records compiled by the California Integrated Waste Management Board. These are solid waste disposal facilities from which there is a known migration of hazardous waste.

MAP ID NO.	SITE	LOCATION	CITY	ZIP	SOURCE*	PROBLEM*
14	TEXACO STATION #	5551 CENTURY BLVD W.	LOS ANGELES	90045	WRCB	TANK LEAK
17	FAA	5885 IMPERIAL HWY W.	LOS ANGELES	90045	WRCB	TANK LEAK
17	FLYING TIGERS FREIGHT	5927 IMPERIAL HWY W.	LOS ANGELES	90045	WRCB	TANK LEAK
17	GARRETT AIRESEARCH	6201 IMPERIAL HWY W.	LOS ANGELES	90045	WRCB	TANK LEAK
17	ROCKWELL INTERNATIONAL	999 LAPHAM ST.	EL SEGUNDO	90245	WRCB	TANK LEAK
17	VACANT SO BAY PETROLEUM	5899 IMPERIAL HWY W.	LOS ANGELES	90045	WRCB	TANK LEAK

* See key on last page for definition

CAL-SITES (AWP)

The information presented in this report is updated to October 31, 1991.

The Annual Work Plan (AWP) contains a listing of all verified hazardous waste sites that are or will be targeted for abatement by the California Environmental Protection Agency under the Hazardous Substance Cleanup Bond Act of 1984 (Health and Safety Code Section 25356) and the Hazardous Substance Account (HSA). Hazardous waste sites may be discovered by the department directly or referred to the department for confirmation and follow up action by another government agency, such as a local health department, a Regional Water Quality Control Board, a responsible party or a concerned citizen. New sites are added to this database as they are verified and the "Preliminary Assessment, Site Investigation and Hazard Ranking System" processes are completed. This database is updated once annually after approval of the California state legislature and has been incorporated into the CAL-SITES database.

This database currently contains a list of approximately 450 sites in the State of California.

MAP ID NO	SITE NAME	STREET ADDRESS	CITY	ZIP	SITE INFORMATION*

As of the date listed above, no sites listed in this database are located within the mapped search zone.

* See key on last page for definition

BORDER ZONE PROPERTY ACT SITES
(DEED RESTRICTIONS)

The information provided in this report is updated to February 1, 1992.

In accordance with Assembly Bill 816, and the Hazardous Waste Property/Border Zone Property Law (Health & Safety Code 25220), the CAL-EPA, Toxic Substances Control Program (TSCP) enters into voluntary deed restriction agreements with owners of property who propose building residences, schools, hopitals or day care centers on property that is "on or within 2,000 feet of a significant disposal of hazardous waste". Restrictions may include "activities on, over, or under the land, including, but not limited to, a prohibition against building, filling, grading, excavating, or mining" without the written permission of the TSCP.

This bill requires the TSCP to "notify the planning and building department of each city, county, or regional council of governments when a land use restriction has been recorded, and would require the planning and building department to enforce the restriction," although the TSCP has compiled a list of properties subject to environmental deed restrictions which is used to notify various building and planning departments in local jurisdictions.

MAP ID NO.	SITE NAME	ADDRESS	CITY	ZIP

As of the date listed above, no sites listed in this database are located within the mapped search zone.

CAL-SITES (ASPIS)

The information presented in this report is updated to October 31, 1991.

Developed under Section 25359.6 of the Health and Safety Code, the California EPA Toxic Substance Control Program (TSCP) maintains a listing of potential and known hazardous waste sites. TSCP staff have interviewed officials from county health agencies, local fire departments, county agricultural commissioners, and other local agencies that could reasonably be expected to have information regarding potential waste sites. The Regional Water Quality Control Boards, Department of Fish and Game and other state environmental regulatory agencies' TSCP staffs also review historical land use data sources to generate lists of potentially contaminated sites.

This database was formerly known as the Abandoned Site Program Information System, but was integrated into the CAL-SITES database in 1991. Information concerning most of these sites should be considered preliminary although most confirmed sites from this database are merged into the AWP once they have been hazard ranked. This database currently contains more than 26,000 sites in the State of California.

MAP ID NO.	FACILITY NAME	LOCATION	CITY	ZIP	FACILITY NO.	STATUS CODE*
1	ALLIED RESEARCH & ENG	10300 GLASGOW PL	LOS ANGELES	90045	19360154	NFA
1	WALKIRT CO	10321 S LA CIENEGA BLVD	LOS ANGELES	90045	19360259	NFA
2	BMA CORP	5220 W 104 ST	LOS ANGELES	90045	19360094	PEARL
2	PRECISION SHEET METAL INC.	5235 W. 104TH ST.	LOS ANGELES	90045	19370048	NFA
3	INTERWEB	5251 W IMPERIAL HWY	LOS ANGELES	90045	19270325	PEARL
4	KINKEAD INDUSTRIES INC	5250 WEST 102ND STREET	LOS ANGELES	90045	19340269	SSR
7	A & J MANUFACTURING CO	11121 HINDRY AVENUE	LOS ANGELES	90045	19360414	NFA
8	COMPUTER MICROGRAPHICS, INC	5345 WEST 102ND STREET	LOS ANGELES	90045	19270220	PEARL
9	ACOUSTICA ASSOC. INC.	5331 W. 104TH ST.	LOS ANGELES	90045	19370041	PEARL
9	HUGHES AIRCRAFT AIRPORT SITE	5340 WEST 104TH STREET	LOS ANGELES	90045	19360516	NFA

* See "Key to Terms" on last page of report for definition

CAL-SITES (ASPIS) continued...

MAP ID NO.	FACILITY NAME	LOCATION	CITY	ZIP	FACILITY NO.	STATUS CODE*
9	MODERN PLATING COMPANY	5400 WEST 104TH STREET	LOS ANGELES	90045	19340282	SSR
9	SMITH PACIFIC CORPORATION	5300 WEST 104TH STREET	LOS ANGELES	90045	19270128	NFA
12	PERMAG PACIFIC CORP	5441 W 104 ST	LOS ANGELES	90045	19320141	PEARL
13	MERIT PRODUCTS (1)	5515 WEST 104TH STREET	LOS ANGELES	90045	19320025	NFA
17	AIRESEARCH AVIATION SERVICE CO.	6201 W. IMPERIAL HWY	LOS ANGELES	90045	19370061	PEARL
17	DEL MAR ENGINEERING LABORATORIES	6001 W IMPERIAL HWY	LOS ANGELES	90045	19370260	NFA
18	DOUGLAS AIRCRAFT CO (1)	827 LAPHAM ST.	EL SEGUNDO	90245	19370009	PEARL
19	ADAMS SUPPLY CO.	5625 W. CENTURY BLVD.	LOS ANGELES	90045	19370102	NFA
21	VIRTUE BROTHERS MANUFACTURING COMPANY #1	5701 WEST CENTURY BOULEVARD	LOS ANGELES	90045	19250001	SSR
22	PACIFIC AIRMOTIVE	1 WORLD WAY / MINES FIELD	INGLEWOOD	92600	19370002	NFA

* See "Key to Terms" on last page of report for definition

HAZARDOUS WASTE INFORMATION SYSTEMS (HWIS)

The information presented in this report is updated to September 30, 1991.

The California Department of Health Services, Toxic Substances Control Division, has developed and maintained lists of hazardous waste generators and hazardous waste treatment storage and disposal facilities in the State of California, pursuant to the Hazardous Waste Control Law (Health and Safety Code Section 25100 et seq.), and the Hazardous Waste Management Act of 1976 (Health and Safety Code Section 25179.1 et seq). In addition, this law requires all counties to prepare and submit hazardous waste management plans. To assist the counties,the Toxic Substances Control Division maintains lists containing generation and disposal data within each county. This information has been assembled by the Toxic Substances Control Division from manifest reports required from hazardous waste generators. This database currently lists over 50,000 sites in the state of California.

MAP ID NO.	EPA NO.	FACILITY NAME	ADDRESS	CITY	GEN/TSD*
2	CAD050810829	FANSTEEL INC	5235 W 104TH ST	LOS ANGELES	GEN
5	CAD981972854	LEAR SIGLER INC ASTRONICS	11307 S HINDRY AVE	LOS ANGELES	GEN
6	CAD981368145	AERO PRODUCTS RESEARCH	11201 HINDRY AVE	LOS ANGELES	GEN
8	CAL000002519	HUGHES AIRCRAFT COMPANY	5330 W 102ND STREET	LOS ANGELES	GEN
9	CAD008250383	MODERN PLATING COMPANY	5400 W 104TH ST	LOS ANGELES	GEN
9	CAD134482280	NATIONAL TECH SYST	5320 W 104TH ST	LOS ANGELES	GEN
10	CAD981649627	STOUFFER CONCOURSE HOTEL	5400 W CENTURY BLVD	LOS ANGELES	GEN
11	CAD981455108	1X LORIMAR - TELEPICTURES	5432 W 102ND STREET	LOS ANGELES	GEN
14	CAC000518440	1X BURLINGTON AIR EXPRESS	5500 W CENTURY BLVD	LOS ANGELES	GEN
15	CAC000261209	1X JOSEPH & BECKY PESKIN TRUST	10326 AVIATION BLVD	LOS ANGELES	GEN
16	CAC000223801	1X CONTINENTAL DEVELOPMENT CORP	11100 AVIATION BLVD	LOS ANGELES	GEN
16	CAD982011546	NORTHWEST AIRLINES CARGO	11101 AVIATION BLVD	LOS ANGELES	GEN
17	CA5690390450	USCG AIR STATION LOS ANGELES	5885 W IMPERIAL HWY	LOS ANGELES	GEN

* See "Key to Terms" on last page of report for definition

HWIS continued...

MAP ID NO.	EPA NO.	FACILITY NAME	ADDRESS	CITY	GEN/TSD*
17	CA5690590190	LOS ANGELES AFS	5885 W IMPERIAL HIGHWAY	LOS ANGELES	GEN
17	CAC000219817	1X AVIN DEVELOPMENT GROUP/LAX INC	5801 W IMPERIAL HWY	LOS ANGELES	GEN
17	CAC000233529	1X JAPAN AIRLINES	CARGO SERVICE OFFICE 6041 W. IMPERIAL HIGHWAY	LOS ANGELES	GEN
17	CAD149760530	FEDERAL EXPRESS	6401 WEST IMPERIAL	LOS ANGELES	GEN
17	CAD981650674	PAN AMERICAN AIRLINE	6501 W IMPERIAL HWY	LOS ANGELES	GEN
20	CAD981976913	EMERY WORLDWIDE	5705 W 98TH ST	LOS ANGELES	GEN

* See "Key to Terms" on last page of report for definition

SOLID WASTE INFORMATION SYSTEM (SWIS)

The information presented in this report is updated to October 1, 1991.

The California Integrated Waste Management Board maintains an inventory list of both open as well as closed and inactive solid waste disposal facilities and transfer stations pursuant to the Solid Waste Management and Resource Recovery Act of 1972, Government Code Section 2. 66790(b). Generally, the California Integrated Waste Management Board learns of locations of disposal facilities through permit applications and from local enforcement agencies. Since 1977, the SWIS system has grown to track over 1000 solid waste disposal facilities and transfer stations in the State of California.

MAP ID NO.	SWIS ID	FACILITY NAME	ADDRESS	CITY	ZIP	OPERATIONAL STATUS	WASTE RECEIVED	TONS/DAY

As of the date listed above, no sites listed in this database are located within the mapped search zone.

* See "Key to Terms" on last page of report for definition

LEAKING UNDERGROUND STORAGE TANKS (LUST)

The information presented in this report is updated to:

Region 1 - January 4, 1992: North Coast

Region 2 - November 5, 1991: San Francisco Bay Area

Region 3 - October 20, 1991 : Central Coast

Region 4 - November 19, 1991 : Greater Los Angeles Area

Region 5 - November 26, 1991 : Central Valley

Region 6 - October 1, 1991 : Lahontan Area

Region 7 - January 3, 1992 : Colorado River Basin

Region 8 - December 5, 1991: Santa Ana Area

Region 9 - January 31, 1992 : Greater San Diego Area

The California State Water Resources Control Board, in cooperation with the Office of Emergency Services, compiles lists of all leaks of hazardous substances from underground storage tanks in the State of California pursuant to Section 25295 (b) of the Health and Safety Code. The nine regional boards maintain information on all reported leak cases within their jurisdiction, both for those where the regional board and where other local agencies take the lead in overseeing investigations and remedial actions. Although the data reported here represents sites where at least one leak is known to have occurred, it is not uncommon for more than one tank to have leaked at a given site or cleanup case. The total number of cases reported statewide is over 5,900.

MAP ID NO.	FACILITY	ADDRESS	CITY	ZIP	SUBSTANCE*	GALLONS LOST	CASE TYPE*	STATUS*	REMEDIAL ACTION CODE*
2	FANSTEEL INC	5235 104TH STREET W.	LOS ANGELES	90045	13	N/A	S	9	N/A
14	TEXACO STATION #	5551 CENTURY BLVD W.	LOS ANGELES	90045	12035	N/A	S	5R	N/A
17	FAA	5885 IMPERIAL HWY W.	LOS ANGELES	90045	N/A	N/A	U	5C	N/A
17	FLYING TIGERS FREIGHT	5927 IMPERIAL HWY W.	LOS ANGELES	90045	8006619	6500	S	5C	ED
17	GARRETT AIRESEARCH	6201 IMPERIAL HWY W.	LOS ANGELES	90045	N/A	N/A	S	0	N/A
17	ROCKWELL INTERNATIONAL	999 LAPHAM ST.	EL SEGUNDO	90245	12035	N/A	U	8	N/A
17	SO. BAY PETROLEUM	5899 IMPERIAL HWY W.	LOS ANGELES	90045	8006619	N/A	S	0	N/A

* See "Key to Terms" on last page of report for definition

SOUTHERN CALIFORNIA COUNTY ENVIRONMENTAL HEALTH DEPARTMENT DATA

The information presented in this report is updated to: (see below)

Each county in the State of California maintains an environmental health department responsible for local monitoring and enforcement of various environmental laws. VISTA collects information from San Diego, Orange, San Bernardino, Riverside, Ventura, and Los Angeles counties. Each of these counties has provided the following specific information for inclusion in this report:

Los Angeles County
Active Landfill listing updated to 12/9/91
Inactive Landfill listing updated to 12/9/91
Site Mitigation log updated to 9/12/91

Orange County
Active landfill listing updated to 7/16/90
Inactive landfill listing updated to 7/16/90
Groundwater Cleanup updated to 1/6/92
Industrial Cleanup updated to 12/9/91

Riverside County
Active landfill listing updated to 9/9/91
Inactive landfill listing updated to 9/9/91
Transfer Stations updated to 3/12/91
Exempt Sites updated to 3/12/91
Underground Storage Tank Cleanup updated to 1/24/92
City of Indio listings to 5/21/90

San Diego County
Active Landfill listing updated to 2/4/91
Inactive Landfill listing update to 2/4/91
Unauthorized Release Listing updated to 6/26/91

Ventura County
Active Landfill listing updated to 11/14/91
Inactive landfill listing updated to 11/14/91
Underground Tank Cleanup program updated to 9/10/91

San Bernardino County
Active landfill listing updated to 11/15/91
Inactive landfill listing updated to 11/15/91
Landfills Private listings updated to 11/15/91

County health departments maintain numerous types of records other than those included in this report. For further information beyond that listed above please refer to the appropriate agency.

MAP ID NO.	SITE NAME	ADDRESS	CITY	ZIP	DESCRIPTION
9	MODERN PLATING	5400 W 104TH ST	LOS ANGELES	90045	LOS ANGELES COUNTY HAZARDOUS MATERIALS SITE MITIGATION LOG; DESCRTIPTION: HEAVY METALS IN SOIL.

KEY TO TERMS/ABBREVIATIONS USED IN THIS REPORT:

N/A: An entry having "N/A" in a field indicates no information is available at this time.

CERCLIS:

* *EVENT TYPE* - Evaluation and disposition information:

AR = Administrative Record
AS = Aerial Survey
CO = Combined RI/SI
CR = Remedial Community Relations
CT = Community Relations Technical Assistance
DA = Design Assistance
DS = Discovery
ED = Endangerment Assessment
EO = EDD
ER = Expedited Response Action
ES = Expanded Site Inspection
EV = Evacuation State/Local
FM = Forward Planning/Management Assistance
FP = Forward Planning Activity
(for Historical Purposes only)
FS = Feasibility Study
(Primarily for Historical Purposes)
GS = Geophysical Support/Mapping
HA = Health Assessment
HR = Final Hazard Ranking Determined
IM = Initial Remedial Measure
IR = Immediate Removal
LA = Long-Term Response
LR = Long-Term Response
MA = Management Assistance
NA = NAA
ND = NPL Deletion Process
NF = Final Listing on NPL
NP = Proposal to NPL
NR = Removed from Proposed NPL
OH = Other Event
OM = Operations and Maintenance
OS = Oversight of State by Fund
PA = Preliminary Assessment
PD = Public Comments on Deletion Package
PR = Planned Removal
RA = Remedial Action
RC = Removal Community Relations
RD = Remedial Design
RI = Remedial Investigation
(Primarily for Historical Purposes)
RM = RAMP -- Remedial Action Master Plan
(for Historical Purposes only)
RO = ROD
RS = Removal Investigation
RV = Removal Action
SE = Site Access
SI = Site Inspection
TA = Technical Assistance
TG = Community Relations Technical Assistance
TO = Topographical Mapping
TR = Temporary Relocation
UR = Underground Storage Tank Removal
WP = RI/FS Workplan Approved by HQ
Z_ = (For Internal Office Use only)

* *EVENT QUALIFIER* - Actual or anticipated actions and priorities:

C = Clean up.
D = Deferred.
E = Administrative record complilation / remedial event.
G = Recommended for HRS scoring.
H = Higher priority.
L = Lower priority.
M = Medium priority.
N = No further remedial action planned.
S = Stabilization.
U = Unknown.
V = Administrative record complilation / removal event.

* *REGIONAL UTILITY DESCRIPTION* - Provides information developed by U.S. EPA's regional office about the nature of contamination at a specific site.

NPL:

* *NPL/STATUS INDICATOR* -

"D" - Deleted from final NPL.
"F" - Site qualified to receive CERCLA remedial funding.
"N" - Not currently nor formerly on proposed or final NPL.
"O" - Non-site indicator - not a valid site as defined in CERCLIS.
"P" - Proposed for inclusion on the NPL.
"R" - Removed from the proposed NPL and no longer considered for the final NPL.
"S" - Has SCAP plan remedial activities.

NPL continued...

* *SITE DESCRIPTION* - Provides a brief explanation of the contaminants and circumstances of a particular site.

CORTESE:

* *SOURCE* - Identifies which agency reported the site for publication in the Hazardous Waste and Substances Sites List. Codes for each agency are identified on the original report page for the Hazardous Waste and Substances Sites List.

* *PROBLEM* - Identifies the cause/source of the contamination or the facility affected.

AWP (FORMERLY BEP):

* *SITE INFORMATION* - Provides a brief description of the hazardous wastes on the site, the potential threat to public health and the status of the site.

CAL-SITES (FORMERLY ASPIS):

* *STATUS CODE* - Indicates the current status of a site and whether it is scheduled for further investigation by DHS Toxic Substances Control Division.

"AWP"	"Annual Workplan" - in remediation.
"BKLG"	"Backlog" - potential AWP site which has been hazard ranked but which is not on the annual workplan.
"CNTY"	"County lead site" - not a candidate for the annual workplan and the local county has the lead.
"CERT"	"Certified" - has been remediated.
"COM"	"Certified Operation and Maintenance" - has been certified but is still in operation and maintenance.
"DLIST"	"Delisted" - taken off the AWP usually for administrative reasons, for example: if several sites are consolidated, the old sites could be given this status.
"EPA"	"EPA lead" - not on the NPL, yet EPA has assumed the lead.
"HRR"	"Hazard Ranking Required" - has had a Preliminary Endangerment Assessment or equivalent evaluation and needs to be hazard ranked. After hazard ranking it would normally receive a ranking of AWP or BKLG.
"OAL"	"Other Agency Lead" - not on the AWP and has a lead agency other than the county, the RWQCB, EPA, or RCRA.
"NFA"	"No Further Action" - based on the information available on the site's potential to threaten public health and/or the environment, DTSC staff have judged this site to require no further departmental action.

"PEARH" "Preliminary Endangerment Assessment Required, High priority" - judged by DTSC staff to have a high probability of posing a public health or environmental threat.

"PEARL" "Preliminary Endangerment Assessment Required, Low priority".

"PEARM" "Preliminary Endangerment Assessment Required, Medium priority".

"PRP" "Potential Responsible Party search required" - not on the AWP but needs a PRP search, after which would normally receive a ranking of AWP or BKLG.

"REFRC" "Referred to RCRA" - has been on the AWP or BEP in the past and is being mitigated under the lead of the permitting program.

"REFRW" "Referred to RWRQCB" - has been on the AWP or BEP in the past and is being mitigated under the lead of the Regional Water Quality Control Board.

"SSR" Site Screen Required. The site requires initial screening.

HWIS:

* GEN/TSD - Indicates whether the listed facility is a generator of hazardous waste or is a treatment, storage or disposal facility.

LUST:

* SUBSTANCE CODES

MOTOR OIL = 08
BOILER FUEL = 09
#6 FUEL OIL = 10
HEATER FUEL = 12
SOLVENTS = 13
HYDRAULIC OIL = 14
WASTE WATER = 32
MINERAL SPIRITS = 41
PAINT THINNER = 49
OIL\GREASE WASTE = 51
DRY CLEANING SOLVENT = 52
WATER\WASTE OIL MIX = 61
LUBRICATING OIL = 71
HYDROCARBONS = 76
COOLANT = 77
ALIPHATIC HYDROCARBONS = 78
TRANSMISSION FLUID = 80
LACQUER THINNER = 84
NAPTHA DISTILLATE = 101
V,M&P NAPTHA = 116

CUTTING OIL = 122
#5 FUEL OIL = 127
CHLORINATED HYDROCARBONS = 142
FREON = 171
ALCOHOL = 172
UNLEADED GASOLINE = 12031
REGULAR GASOLINE = 12032
PREMIUM GASOLINE = 12033
DIESEL = 12034
WASTE OIL = 12035
MISC. VEHICLE FUEL = 12036
CYANIDES, SALTS = 57125
ETHYL ALCOLHOL = 64175
ACETIC ACID = 64197
METHYL ALCOLHOL = 67561
ISOPROPYL ALCOHOL = 67630
ACETONE = 67641
BENZENE = 71432
METHYLENE CHLORIDE = 75092
METHYL ETHYL KETONES = 78933

TCE = 79016
PSEUDODOCUMENE = 95636
XYLENE = 106423
ETHYLENE DICHLORIDE = 107062
TOLUENE = 108883
TETRAHYDROFURAN = 109999
PERCHLORETHYLENE = 127184
DINITROTOLUENES = 610399
NICKEL OXIDE = 1313991
PCB = 1336363
LEAD = 7439921
NICKEL = 7440020
COPPER = 7440508
CRUDE OIL (HAZ.) = 8002059
GASOLINE = 8006619
COAL TAR = 8007452
KEROSENE = 8008206
STODDARD SOLVENTS = 8052413
ASPHALT = 8052424
POLYESTER RESIN = 25037665

* CASE TYPE CODES

D - One or more domestic or municipal supply wells have been contaminated.
G - Ground water has been affected.
S - Only soil has been affected.
U - The type of resources affected or extent of the resources affected are not known.

* STATUS CODES

C — Remedial action (cleanup) in progress.
F — No funds available (no responsible party or responsible party has insufficient funds, and no public funds available).
I — Site investigation in progress (defining extent of problem).
N — No action taken by lead agency (i.e., new case or backlog).
P — Post remedial action monitoring in progress.
R — Remedial action alternative evaluation in progress.
S — Signed off: remedial action completed or deemed unnecessary.

O — No Action
No action has been taken by the responsible party after the initial report of the leak.

1 — Leak Being Confirmed
A leak is suspected at a site, includes inspection of the excavation, and tank and appurtenant plumbing to determine existence of leak.

3A — Preliminary Site Assessment Workplan Submitted
A workplan\proposal has been requested of, or submitted by, the responsible party in order to determine whether groundwater has been, or will be, impacted as a result of a release from any underground tanks or associated piping.

3B — Preliminary Site Assessment Underway
Implementation of a workplan addressing the above described tasks.

5C — Pollution Characterization
Responsible party is in the process of installing additional monitoring wells and\or borings in order to fully define the lateral and vertical extent of contamination in soil and ground water and assess the Hydrogeology of the area. This phase of work may also include performing aquifer tests, soil gas surveys, continued ground water gradient determinations and monitoring, assessing impacts of surface and\or ground water.

5R — Remediation plan
A remediation plan has been submitted evaluating long term remediation options. A proposal and implementation schedule for an appropriate remediation option has also beeen submitted. This phase of work may also include preparing and submitting the necessary information for any permits needed prior to implementation of the plan (NPDES or WDR).

7 — Remedial Action
Implementation of corrective action plan.

8 — Post Remedial Action Monitoring
Periodic ground water or other monitoring at the site, as necessary, in order to verify and/or evalutate the effectiveness of remedial activities.

9 — Case Closed
The Regional Board and the Local Agency are in concurrence that no further work is necessary at the site.

9L — Closed by county
9R: Closed by RWQCB

10 — Cease and Abate Order

* REMEDIAL ACTION CODES

CB — Containment Barrier -- install vertical dike to block horizontal movement of contaminant.
CD — Cap Site -- install horizontal impermeable layer to reduce rainfall infiltration.
ED — Excavate and Dispose -- remove contaminated soil and dispose in approved site.
ET — Excavate and Treat -- remove contaminated soil and treat (includes spreading or land farming).
FP — Remove Free Product -- remove floating product from water table.
GT — Pump and Treat Ground Water -- generally employed to remove dissolved contaminants.
HU — Treatment at Hookup -- install water treatment devices at each dwelling or other place of use.
IT — Enhanced Biodegradation -- use of any available technology to promote bacterial decomposition of contaminants.
NA — No Action Required -- incident is minor, requiring no remedial action.
NT — No Action Taken -- no indication that action was taken.
RS — Replace Supply -- provide alternative water supply to affected parties.
UK — Unknown -- action not known, or unknown if action taken.
VE — Vapor Extraction
VS,VT — Vent Soil -- bore holes in soil to allow volatilization of contaminants.

COUNTY:

Class I	Hazardous Materials Accepted (No Radioactivity)	
Class II	Mixed Municipal rubbish	Type DB Debris Basin
Class III	Solid waste (concrete)	Type LF Landfill
Class LV	Large Volume transfer station	Type TS Transfer Station
Class SV	Small Volume transfer station	

NOTE: ALL DESIGNATIONS ARE SUBJECT TO CHANGE.