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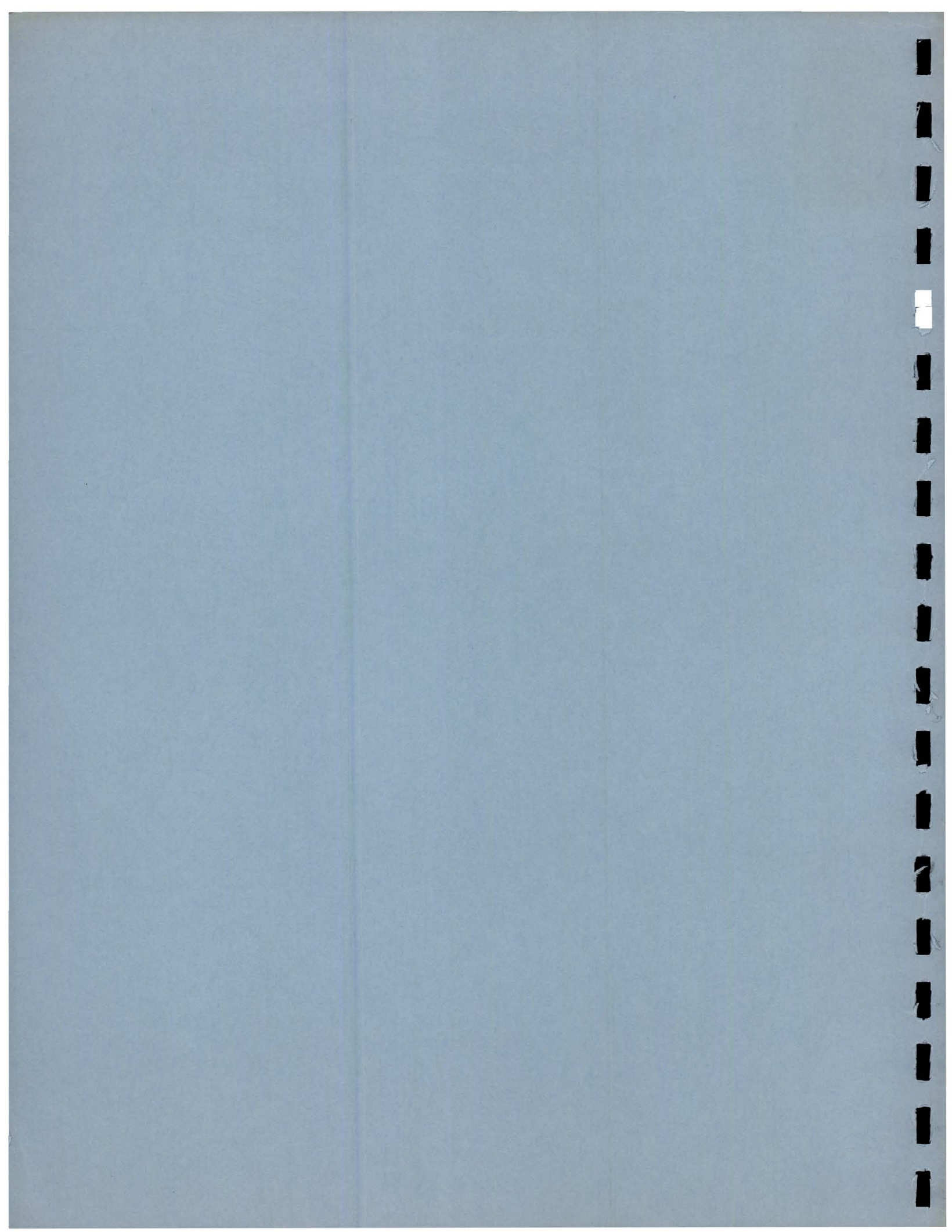
## PASADENA LIGHT RAIL SUPPLEMENTAL EIR

*Los Angeles County Transportation Commission*

818 West 7th Street, Suite 1100  
Los Angeles, California 90017  
(213) 623-1194



September 1992



**SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT  
FOR THE  
PASADENA-LOS ANGELES RAIL TRANSIT PROJECT  
STATE CLEARINGHOUSE (SCH) NO. 92071005  
PREVIOUSLY CERTIFIED EIR SCH NO. 89082327**

Prepared for:

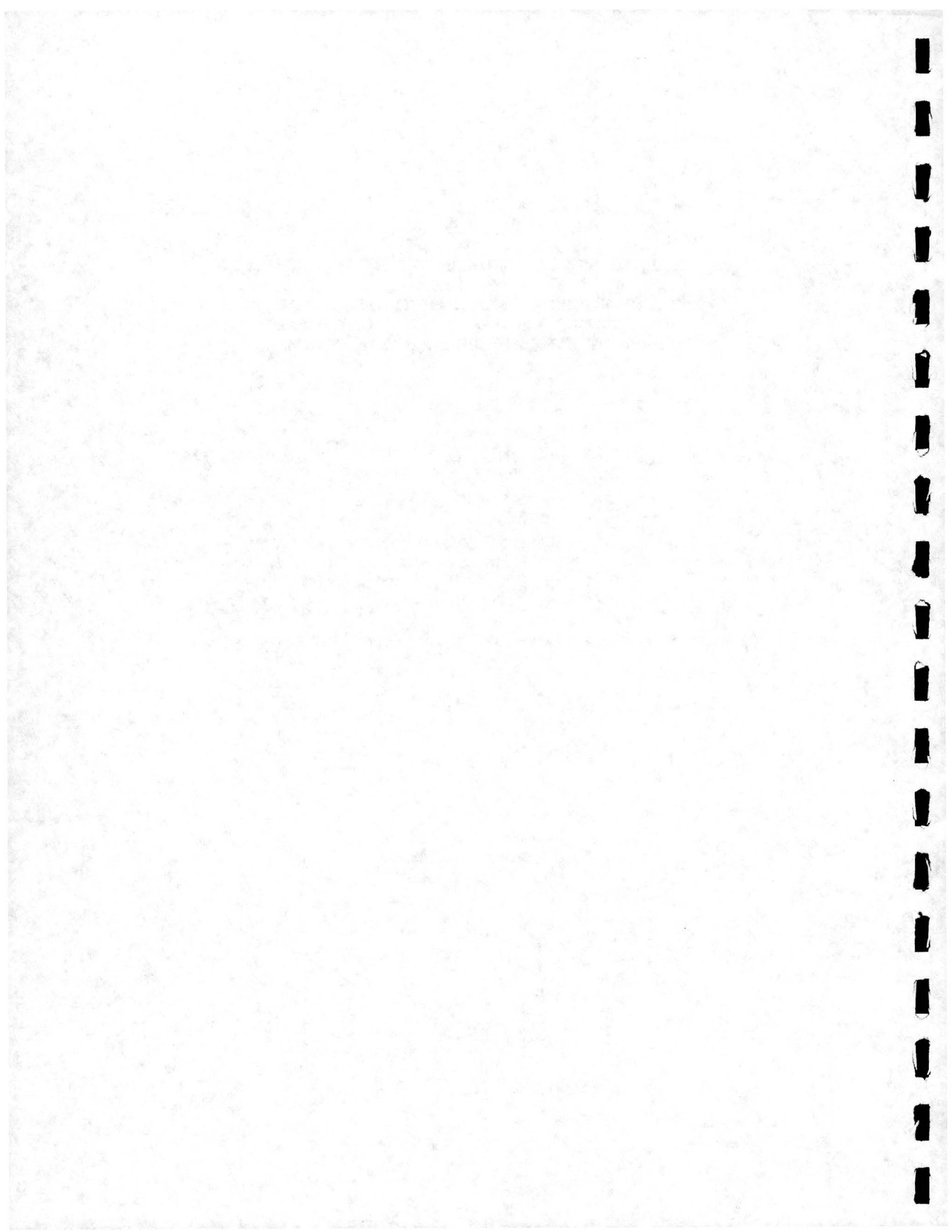
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- A Initial Study/Notice of Preparation (NOP)
- B Traffic Study (Katz, Okitsu Associates)
- C Section 6.0 of Previously Certified EIR Alternatives to the Proposed Project

**Appendices Under Separate Cover**

- D Engineering Drawings (Separate Report)

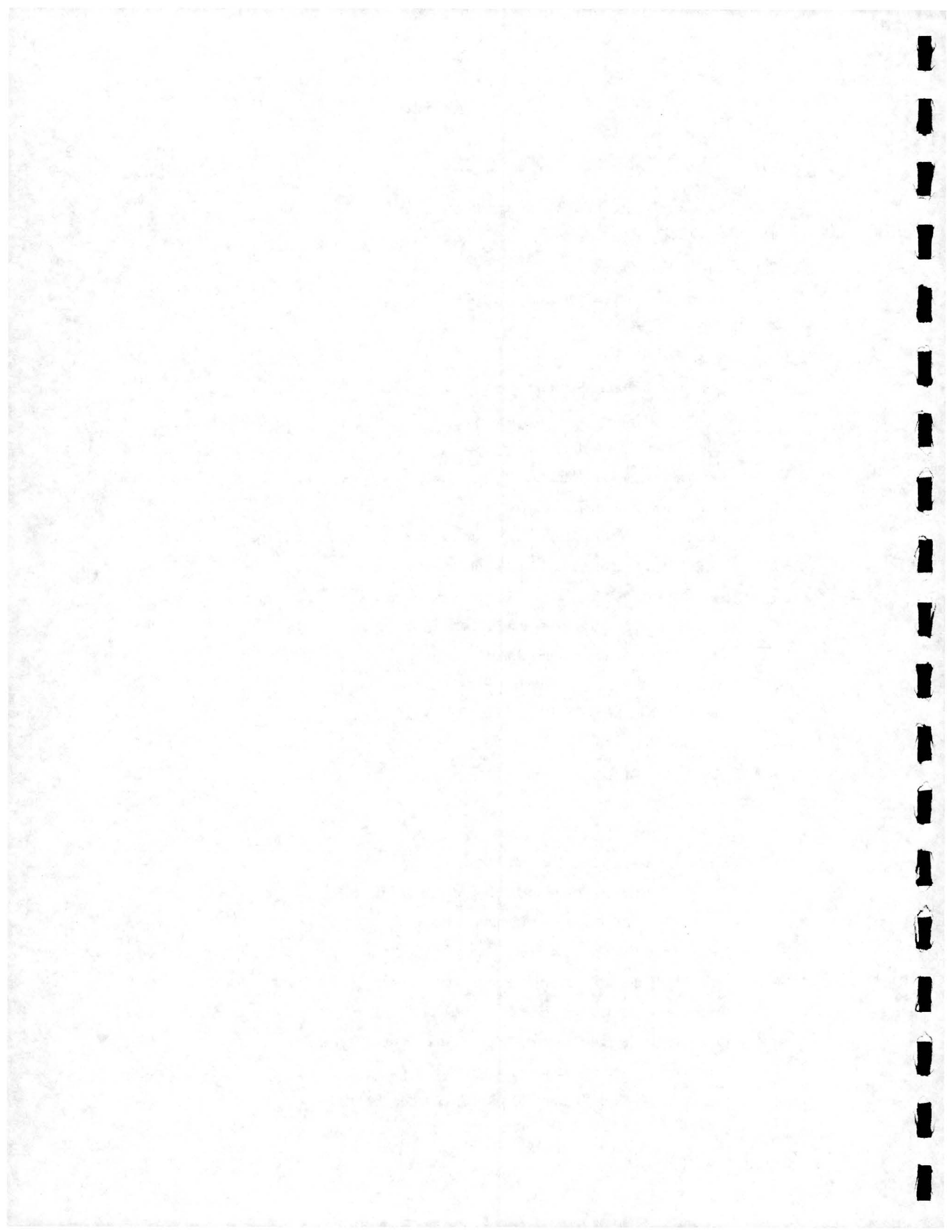
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**SECTION 1**  
**INTRODUCTION**

**1.1      PURPOSE AND USE OF THE EIR**

This supplemental environmental impact report (SEIR) analyzes the potential environmental impacts that may result from the construction and operation of designated alternatives and modifications to the approved Pasadena-Los Angeles Rail Transit Project EIR (State Clearinghouse Number 88042713, February 1990). This SEIR has been prepared for the Los Angeles County Transportation Commission (LACTC) in accordance with the California Environmental Quality Act (CEQA) and state "Guidelines for the Implementation of the California Environmental Quality Act," as amended. The LACTC is the designated lead agency for this project.

The proposed light rail transit (LRT) maintenance and storage yard alternatives, station location modifications, and grade separations constitute 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 LRT project is an individual project of a regional transportation improvement plan as defined in Section 15276.

The LACTC as lead agency has determined that an SEIR is required pursuant to Section 15163 of the state CEQA Guidelines to assess new information of substantial importance to the project.

Per Section 15163 (a)(1) of the CEQA Guidelines, an SEIR may be prepared when the following conditions arise:

- New information of substantial importance to the project becomes available and only minor additions or changes would be necessary to make the certified EIR adequately apply to the project in the changed condition.
  - (A) The information was not known and could not have been known at the time the certified EIR was certified as complete, and
  - (B) The new information shows any of the following:
    1. The project will have one or more significant effects not discussed previously in the EIR;

2. Significant effects previously examined will be substantially more severe than shown in the EIR;
3. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project; or
4. Mitigation measures or alternatives which were not previously considered in the EIR would substantially lessen one or more significant effects on the environment.

This report discusses alternatives to and mitigation measures for the proposed Pasadena to Los Angeles Light Rail Project which would substantially lessen one or more significant effects on the environment. These are design alternatives or modifications to the proposed project and, therefore, were not previously considered in the approved Pasadena-Los Angeles Rail Transit Project (State Clearinghouse No. 88042713). Where alternative maintenance yard facilities and station locations are being considered, this document assesses potential significant impacts that were not addressed in the certified EIR. The intent of this SEIR is to address only the information necessary to make the previously certified EIR (State Clearinghouse No. 88042713) adequate for the project as revised (CEQA Guidelines, Sec. 15163 sub(2)(b)).

## **1.2 SEIR FOCUS AND EFFECTS FOUND NOT TO BE SIGNIFICANT**

The Initial Study included in Appendix A indicates those issue areas that may be adversely affected by construction or operation of the LRT project alternatives considered. This SEIR analyzes the project's potentially significant environmental effects for those issues identified in the Initial Study. Based on the results of the preliminary environmental assessment prepared for the Initial Study and the Notice of Preparation (NOP), LACTC determined that the analysis should focus on the issues identified in Table 1.2-1.

The preliminary environmental analysis contained as part of the Initial Study prepared for the original EIR 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, plant/animal life, population/housing, natural resources, and human health. The Initial Study for this SEIR indicated that the proposed design alternatives and modifications would not result in any significant impacts on these same issues; therefore, these issues are not discussed in the SEIR as well.

**TABLE 1.2-1**

**FOCUS OF ENVIRONMENTAL ANALYSIS**

| <u>Issue Area</u>              | <u>Section of EIR</u> |
|--------------------------------|-----------------------|
| Land Use                       | 4.1                   |
| Transportation and Circulation | 4.2                   |
| Geology, Soils, and Seismicity | 4.3                   |
| Air Quality                    | 4.4                   |
| Noise and Vibration            | 4.5                   |
| Light and Glare                | 4.6                   |
| Risk of Upset                  | 4.7                   |
| Aesthetics                     | 4.8                   |
| Cultural Resources             | 4.9                   |

Source: Michael Brandman Associates, July 1992.

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**1.3 PUBLIC REVIEW PROCESS**

The LACTC is committed to providing extensive public involvement in the environmental review process for the Pasadena-Los Angeles Rail Transit Project. The preparers of the SEIR will respond, in writing, to those substantive comments received during the public circulation of the SEIR. The comments and the responses to comments will be provided in the FEIR prepared following the public review period for the SEIR.

Public officials, affected agencies, and the general public have the opportunity to review and comment on this SEIR through a 45-day review period established and administered by the State of California Office of Planning and Research (OPR). During this review period, persons and organizations wishing to comment on the content of this document may submit their comments in writing to LACTC at the following address: 818 West 7th Street, Suite 1100, Los Angeles, California 90017; Attention: Mr. Art Cueto, Project Manager, San Gabriel Valley Team.

#### 1.4 FORMAT OF THIS SEIR

The format of this SEIR is similar to that of the previously certified EIR prepared for the proposed Pasadena-Los Angeles Rail Transit project. This SEIR consists of the following sections:

1. Introduction. Includes purpose and focus of the SEIR and an overview of the public review process.
2. Summary. Summarizes the proposed project and includes a summary table outlining the environmental setting, anticipated impacts, and those measures that would be effective in reducing or eliminating potential adverse impacts.
3. Project Description. Describes the maintenance yard alternatives, station relocations, and grade separations under consideration. An overview summary of the project alternatives is presented.
4. Environmental Impact Analysis. Discusses the existing environmental setting, potential environmental impacts anticipated to result from the construction and operation of the proposed rail transit project, and recommended mitigation measures.
5. Significant Unavoidable Environmental Effects. Describes the potential significant adverse impacts resulting from the construction and/or operation of the proposed project.
6. Long-Term Implications of the Proposed Project. Discusses the project's relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity. In addition, the irreversible environmental changes that would be involved with the implementation of the proposed project are discussed.
7. Growth-Inducing Impacts. The manner in which the proposed project would generate growth-inducing impacts is discussed.
8. List of Preparers and References. Those persons and agencies responsible for the preparation of the EIR are identified as are the agencies and individuals contacted in the course of its preparation.

The EIR also includes an appendix that contains the technical reports to support the conclusions stated in this document and detailed engineering drawings.

## SECTION 2 SUMMARY

### 2.1 SUMMARY DESCRIPTION OF THE PROPOSED PROJECT

The proposed project consists of three areas of modifications and addition to the previously certified and approved Pasadena- Los Angeles Rail Transit (LRT) Project EIR (MBA, February 1990). These three areas of modification and addition require environmental analysis supplemental to the certified EIR and include: (1) three alternative locations for the previously approved light rail vehicle maintenance facilities, (2) three station locations, and (3) two grade separations. The regional context of the proposed project is indicated in Exhibit 2.3-1. The project modifications and additions, as analyzed in this SEIR, are referred to as "alternatives" to the previously certified project as approved.

Additional analysis beyond the certified EIR has been requested for the proposed light rail maintenance facility at Taylor Yard. In addition, other sites for the maintenance facility are under consideration, including a large parcel northeast of the Chinatown community referred to as the "Cornfield", and along the site on the west bank of the Los Angeles River between Macy Street and the Santa Ana Freeway.

The City of Pasadena has requested a station at Allen Street (replacing the previously cleared stations at Hill Street and Altadena Avenue) and a station at Fillmore Street (replacing stations at Glenarm and California Streets). Previously cleared stations at Fair Oaks Avenue and Los Robles Avenue have also been dropped from consideration. An new station site is also being considered along the approved alignment adjacent to the Southwest Museum on Marmion Way in Mount Washington.

Finally, two grade separations are under consideration: (1) in the vicinity of Colorado Boulevard in the City of Pasadena, and (2) at Figueroa Street and Marmion Way in the City of Los Angeles. Section 3.0 discusses the project characteristics in greater detail.

### 2.2 ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Table 2-1, located at the end of Section 2, summarizes environmental impacts and mitigation measures for the alternative rail alignments. Impacts that remain after mitigation are noted in the summary as "unavoidable adverse impacts" if the project is approved as proposed (CEQA Section 21081).

Impacts of the project are rated in the table according to the following:

- Not significant. Adverse effects are not substantial according to CEQA, but should be mitigated to the extent feasible.
- Significant. Substantial adverse impacts or changes to the environment as defined by CEQA.
- Beneficial Impact. Beneficial impacts resulting from the implementation of the proposed project.

Mitigation measures are listed for each impact in Table 2-1; those that have been incorporated into the project design by the LACTC are noted with an asterisk (\*). Others are recommended for incorporation into the project by the SEIR prior to project approval.

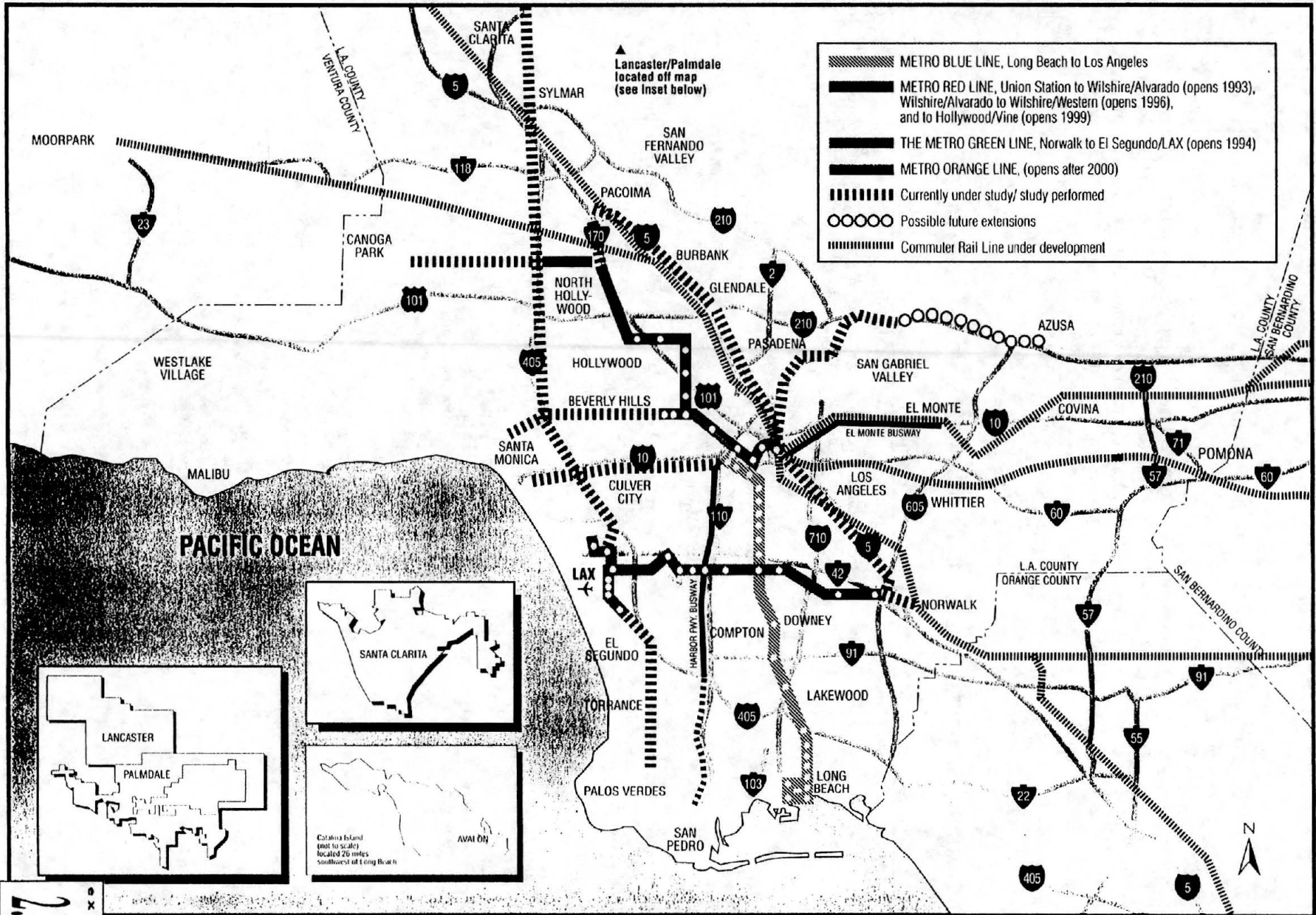
### 2.3 CUMULATIVE IMPACTS

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 developments or improvements that are closely related to the proposed project from an operational standpoint. For the purposes of this supplemental analysis, regional transit projects currently under construction, planned, or proposed are considered the cumulative related projects set.

The related projects described in Table 2.3-1 will have a bearing on the number of persons that use the Pasadena LRT. Each of the rail lines (heavy and light) will provide increased mobility and accessibility to transit dependents and voluntary riders. As the regional mass transit system depicted in Exhibit 2.3-1 nears completion, ridership is anticipated to increase over time. The following points summarize the impacts that would result from implementation of the related projects.

- Development of the related projects would result in the intensification of transit related development. Although the intensification of development generally results in increased trip generation to dense areas of development, the cumulative effects of urban densification near regional modes of transportation would result in the reduction of the number of vehicle miles travelled and increased mobilization of the





# LOS ANGELES 300-MILE METRO RAIL PLAN

Pasadena Light Rail Supplemental EIR

Michael Brandman Associates

2.3-1  
exhibit

exhibit  
2.3-1

region's population. This, in turn, could lead to reduced air pollutant levels in the region.

- Development of the related projects would result in increased demands on electrical and fossil fuel sources. However, increased utilization of the related projects will be effective in reducing automobile traffic, which consumes greater amounts of fossil fuels, and could result in a net reduction in demand on nonrenewable energy sources.

**TABLE 2.3-1**

**CUMULATIVE DEVELOPMENT OF TRANSIT-ORIENTED RELATED PROJECTS**

| Number | Project  | Description   | Status  |
|--------|--|---|---|
| 1.     | Glendale Municipal Transportation Center <sup>a</sup>                                    | Multi-Modal Transit facility. At full buildout would include LRT, Commuter Rail, Amtrak, SCRTD bus service, Bee Line shuttle, and Greyhound. Improvements would include 1,500 parking spaces, restoration of Rail Depot, and streetscape enhancements on Cerritos Avenue.   | Pending completion of environmental documentation.            |
| 2.     | Burbank Multi-Modal Transportation Facility <sup>b</sup>                                 | Multi-Modal Transit Facility. At full buildout would include LRT, Commuter Rail, Amtrak, Intercity Monorail, and bus bay terminals. Improvements would include 1,300 parking spaces and pedestrian bridge over I-5.   | Pending completion of environmental documentation.            |
| 3.     | Commuter Rail Metrolink: <sup>c</sup> Moorpark and Santa Clarita to Downtown Los Angeles | Commuter rail lines using SPTC and SP Coast Mainline rights-of-way. Lines would connect cities in Ventura and Los Angeles counties with Downtown Los Angeles.   |   |
| 4.     | San Fernando Valley East-West Rail Transit Project <sup>c</sup>                          | Fundable rail project under LACTC's 30-year Plan. Extends from North Hollywood to Warner Center in Canoga Park. Would use either advanced aerial technology on Ventura Freeway or rail vehicle along SP Burbank Branch on Chandler Boulevard. Would be constructed in two segments:<br><br>1. North Hollywood to I-405<br>2. I-405 to Warner Center | Pending completion of final EIR.<br><br>Expected development. |

TABLE 2.3-1 (continued)

| Number | Project   | Description   | Status   |
|--------|---|---|--|
| 5.     | Burbank Intercity Monorail <sup>b</sup>   | Aerial guideway that would interconnect Burbank-Glendale-Pasadena Airport, Burbank Media District, Burbank City Center, and Universal City.   | Initial Feasibility Study completed in September 1989. Continued planning and pre-engineering work expected to be completed in fall 1992.    |
| 6.     | Foothill Freeway, Carpool Lane Program: <sup>c</sup> Fundable Plan 10-Year Implementation Program <ul style="list-style-type: none"> <li>• Golden State Freeway</li> <li>• Ventura Freeway</li> </ul> | Component of LACTC's 30-year plan to build over 200 miles of carpool lanes to ease congestion of heavily used freeways. Plan supported by Caltrans  | Golden State Freeway (from Route 134 to Route 10): 1998-2000.<br>Ventura Freeway: 1995-1999.   |
| 7.     | Foothill Freeway Express Bus System <sup>c</sup> <ul style="list-style-type: none"> <li>• Ventura Freeway</li> <li>• Golden State Freeway</li> </ul>  | Component of LACTC's 30-year plan. Express service uses carpool lanes. Station planned on Ventura Freeway in Glendale near Brand Boulevard.   | Based on conceptual plan developed by Automobile Club of Southern California Plan and implementation schedule will be updated by LACTC.      |
| 8.     | Bus Electrification Program <sup>c</sup>  | Component of LACTC's 30-year plan. Would supplant existing conventional bus service on high-ridership routes. Routes 190/191 and 92/93 in Glendale and Burbank are candidate corridors.   | Preliminary engineering and formal route selection underway. First electric trolleybus service expected to begin operation in December 1994. |
| 9.     | Burbank/Glendale Rail Transit Project   | Component of LACTC's 30-year plan. Comprises an LRT candidate route that would extend from the Pasadena-Los Angeles rail line junction in the City of Los Angeles to the vicinity of Burbank-Glendale-Pasadena Airport, in the City of Burbank. | Depot grounds acquired. Preparation.   |

<sup>a</sup> City of Glendale, June 1992.

<sup>b</sup> City of Burbank Advanced Planning Division, June 1992.

<sup>c</sup> LACTC 30-Year Integrated Transportation Plan, May 1992.

#### 2.4 IDENTIFIED AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

The primary issues to be resolved and the subject of this SEIR are selection of the maintenance and storage yard location, and identification of the alternative station locations to be constructed in Los Angeles and Pasadena. Also, consideration of the extent of mitigation (future grade separations) to be included in the project needs to be resolved through the public review process and FEIR preparation.

A number of important issues were raised in community workshops held prior to the preparation of this SEIR. Additional analysis beyond the certified EIR has been requested for the light rail maintenance facility at Taylor Yard. Issues raised included potential noise, traffic, safety, and visual impacts of the Taylor Yard maintenance facility alternative on residences and businesses located in the vicinity of the proposed yard site.

Table 2.4-1 summarizes environmental impacts and mitigation measures identified for the alternative project considerations. Impacts that remain after mitigation are noted as "unavoidable adverse impacts." Mitigation measures that have been incorporated into the project design by LACTC are noted with an asterisk (\*).

## **2.5 PROJECT ALTERNATIVES**

Section 6.0 of the previously certified EIR for the approved Pasadena-Los Angeles Light Rail Transit Project analyzed a range of reasonable project alternatives as defined by the state CEQA Guidelines, Section 15126(d). A description of these alternatives and their evaluation is included as Appendix C of this report. The Highland Park Alternative with the Union Station "no subway" option was selected and approved by the Commission in the spring of 1990.

While none of the alternatives considered in the earlier route refinement studies or in the previously certified EIR were completely free of adverse environmental impacts, the Highland Park Alternative represented the best alternative in terms of traffic impacts and in terms of structural displacement, as it will use its own separate right-of-way.

Inasmuch as this alignment alternative is approved and presently funded in the LACTC 30-year Integrated Transportation Plan and may proceed with construction at this time, no additional alignment alternatives are considered in this analysis. The "project" as described in Section 1.1, Purpose and Use of the EIR, comprises light rail transit (LRT) maintenance and storage yard alternatives, station location modifications, and grade separations not previously considered in the EIR certified and approved in the spring of 1990. These "alternatives" are addressed throughout Sections 3.0 and 4.0 of this EIR and are under consideration by the Commission. This SEIR ensures that all reasonable requests for alterations to the approved alignment have been analyzed, that sufficient environmental review has been provided, and that the approved project demonstrates integration of environmentally

superior project alternatives that can mitigate previously identified project impacts, and that the final project implementation, construction, and operation incorporates the results of this analysis.

#### **2.5.1 NO-BUILD ALTERNATIVE**

The no-build alternative would result in construction and operation of the previously approved LRT alignment absent of the project modifications analyzed in Section 4.0 of this SEIR. The alternatives analyzed in this SEIR represent minor modifications to the approved Pasadena-Los Angeles Light Rail Transit Project. The certified EIR prepared for the previously approved project recommended selection of the Highland Park, Union Station "no subway" alternative as the environmentally superior alternative in terms of environmental impacts. Selection of the no-build alternative would result in implementation of the previously identified environmentally superior alternative, and would therefore still achieve the transit provision objectives of the previously approved project.

Selection of the no-build alternative would preclude the alternative improvements and benefits related to specific areas along the alignment for traffic and circulation, aesthetics (provision of additional landscaping/buffers), and land-use compatibility.

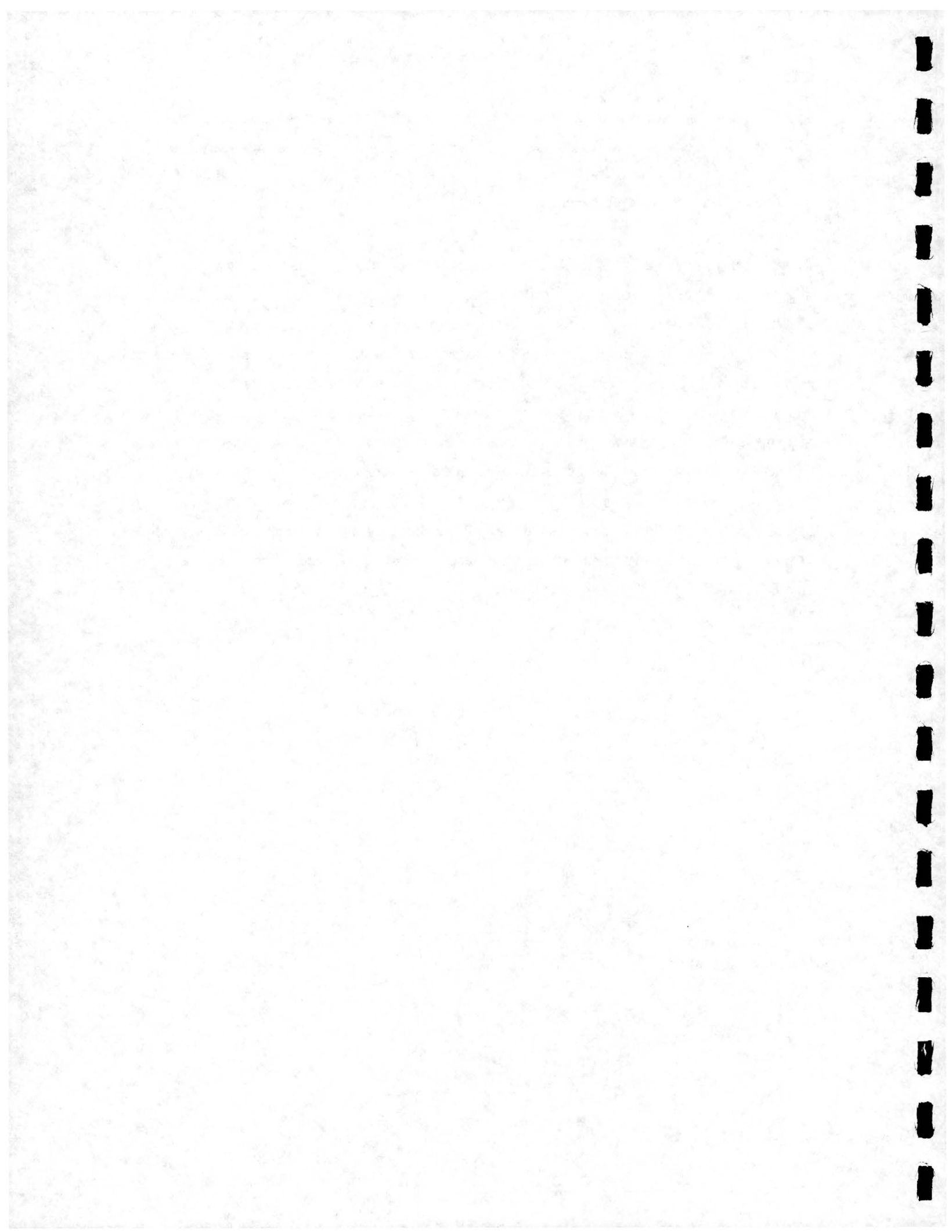


TABLE 2.4-1

## SUMMARY TABLE

| Environmental Impact   | Mitigation Measures   | Unavoidable Adverse Impacts  |
|--|---|--|
| <b>4.1 LAND USE</b>  |   |  |
| <p>Implementation of the Taylor Yard Wye would result in the demolition of a LADOT storage and maintenance yard, the Old City Jail and an Anhing Corporation storage structure. Additionally, development of various components discussed in this Supplemental EIR will require partial and full takings for completion of criteria curves and a service and maintenance yard, respectively.</p> | <p>The LACTC would provide just and appropriate compensation in accordance with California law to property owners. 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.</p>  | <p>Implementation of the above mitigation measures would reduce land use impacts to an acceptable level.</p> |
| <p>In areas where proposed stations do not include parking facilities, parking overflow may become a problem. The extent of this problem cannot be identified until the Light Rail Transit system is in operation.</p>   | <p>The following mitigation measures are recommended:</p> <ol style="list-style-type: none"> <li>1. Once the light rail facility is in operation, a parking analysis shall be prepared to identify any parking overflow problems. Special parking permit programs in residential areas or enforcement of time limits in commercial areas can be implemented to reduce the impact of parking overflow if supported by the findings of the parking analysis.</li> <li>2. If Taylor Yard is chosen for the Police Bond Programs, a Burbank/Glendale Transit station, and the LRT service and maintenance facility, the LACTC development activities shall be coordinated with the City of Los Angeles, Bureau of Engineering.</li> </ol> |  |

TABLE 2.4-1 (continued)

| Environmental Impact   | Mitigation Measures   | Unavoidable Adverse Impacts  |
|--|---|--|
| <b>4.2 TRANSPORTATION AND CIRCULATION</b>  |   |  |
| <p>Traffic circulation around the Figueroa Street/Marmion Way grade separation will be impacted during construction.</p> <p>The following intersections would be significantly impacted by project related traffic:</p> <p>Arroyo Parkway/California Boulevard<br/>Glenarm Street/Arroyo Parkway<br/>Fair Oaks Avenue/Colorado Boulevard</p> | <ol style="list-style-type: none"> <li>1. At the Taylor Yard Wye Connector, construction activity shall keep clear of driveways for Anhing and M&amp;M to allow truck movements into these businesses, and to avoid impacting existing traffic and parking demands of adjacent businesses, that use Avenue 19 for employee parking and for delivery access.</li> <li>2. Closure of lanes and/or entire roadways to allow for the construction of the Marmion Way and Figueroa Street grade separation shall be avoided during the peak commute hours of 6 a.m. to 9 a.m. and 3 p.m. to 6 p.m.</li> <li>3. Complete closure of Marmion Way for construction of the Southwest Museum Station shall be avoided.</li> <li>4. During construction of the Colorado Boulevard grade separation, all east-west streets shall be maintained at full capacity.</li> <li>5. Construction of the Allen Avenue Station shall be conducted so that one lane of traffic in each direction is maintained at all times on Allen Avenue.</li> <li>6. If Fillmore Street is not closed, Arroyo Parkway at California Boulevard should be widened on the southbound approach to provide a southbound right turn lane. Arroyo Parkway at Glenarm Street should be widened on the northbound approach to provide a northbound right turn lane.</li> </ol> | <p>Construction of the Marmion Way and Figueroa Street grade separation would result in temporary, but unavoidable, significant adverse impacts on traffic circulation during construction.</p> <p>The intersection of Fair Oaks Avenue/Colorado Boulevard would be impacted beyond an acceptable level of service under all Colorado Boulevard grade separation scenarios; no-build, at grade, or subway. There are no reasonably feasible mitigation measures that would reduce the level of impact to an acceptable level of service.</p> |



TABLE 2.4-1 (continued)

| Environmental Impact   | Mitigation Measures   | Unavoidable Adverse Impacts   |
|--|---|---|
| <b>4.3 GEOLOGY, SOILS, AND SEISMICITY</b>  |   |   |
| <p>The proposed project will not generate significant impacts. The proposed project will comply with the seismic criteria set forth in the Seismic Safety Element of the Pasadena and Los Angeles City General Plans, all applicable portions of the municipal Codes, the seismic safety requirements of the Departments of Building and Safety, the current Uniform Building Code, and the seismic design parameters of the Structural Engineers Association of California.</p> | <p>With incorporation of measures required for all projects built within the City and standard engineering practices, the project will not generate significant impacts.</p> <ol style="list-style-type: none"><li>1. The project shall conform to the City of Los Angeles Seismic Safety Plan and applicable portions of the Municipal Code and seismic safety requirements of the Department of Building and Safety.</li><li>2. All structures shall be designed in accordance with the current Uniform Building Code and the seismic design perimeters of the Structural Engineers Association of California.</li><li>3. Frequent in-grading inspections should be conducted during construction. These inspections are necessary to substantiate previous geologic findings and to discover unforeseen conditions that may be exposed during grading. Any unanticipated adverse conditions encountered should be evaluated by the project engineering geologist and the soils engineer. Appropriate recommendations made will be followed.</li><li>4. All soils disturbed during excavation shall be compacted to at least 90 percent of the maximum density as determined by ATSM D-1557-78 standard.</li></ol> | <p>No unavoidable significant adverse impacts are anticipated with implementation of recommended mitigation measures.</p> |

TABLE 2.4-1 (continued)

| Environmental Impact   | Mitigation Measures  | Unavoidable Adverse Impacts   |
|--|--|---|
| <b>4.4 AIR QUALITY</b>   |  |   |
| <p>No significant impacts are expected. Air quality mitigation measures are proposed to reduce any potential adverse impacts and comply with regional air quality regulations.</p> | <p><b><u>Short-Term (Construction) Emissions</u></b></p> <p>Concurrent with an application for a grading permit, the applicant shall propose measures to suppress fugitive dust generated during construction activities. These measures shall be incorporated as conditions of grading permit approval. SCAQMD Rule 403 requires that fugitive dust be controlled so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance offsite.</p> <p>Suppression measures may include:</p> <ul style="list-style-type: none"><li>● Twice daily watering (With use of reclaimed water or chemical soil binder where feasible)</li><li>● Suppression of grading activities during periods of high winds</li><li>● Wheelwashing of construction equipment</li><li>● Revegetating graded areas immediately after soil disturbance</li></ul> | <p>Although project-specific emissions associated with the short-term use of construction equipment and long-term consumption of energy may cause measurable increases in existing exceedances of ambient air quality standards, the remaining air quality impacts assessed in this analysis would either be beneficial, below a level of significance, or reduced to a level below that of significance through mitigation. Overall implementation of the project would substantially reduce long-term mobile emissions, offsetting emissions from other existing and reasonably foreseeable projects. No significant cumulative impacts to air quality are anticipated.</p> |

TABLE 2.4-1 (continued)

Environmental Impact

Mitigation Measures

Unavoidable  
Adverse Impacts

**Long-Term Emissions**

The proposed project would have a beneficial impact in the long-term with respect to mobile source emissions. However, generation of electricity required to serve the project would represent a significant impact with respect to stationary source emissions. The following measures would reduce long-term stationary source emissions:

1. Prior to the issuance of building permits for development onsite, the applicant shall provide evidence demonstrating compliance with all SCAQMD regulations, including Regulation XIII, New Source Review.
2. LACTC shall evaluate available options to reduce the amount of energy required to operate the Pasadena Light Rail Transit project alternatives, including alternative energy sources, use of clean fuel generators at maintenance facilities, energy-efficient equipment, limitation of operating hours, and implementation of energy-efficient automated controls for system operation. Additional measures would include the use of energy-efficient, low sodium parking lot lights in the park-and-ride facilities, the provision of adequate ventilation systems in enclosed parking facilities, use of lighting controls and energy-efficient lighting, provision of recycling bins in addition to trash bins (including contracting for recycling services), and the provision of dedicated parking spaces with electrical outlets for electrical vehicles.

TABLE 2.4-1 (continued)

| Environmental Impact   | Mitigation Measures   | Unavoidable Adverse Impacts  |
|--|---|--|
| <b>4.5 NOISE AND VIBRATION</b>   |   |  |
| No significant impacts are expected. Noise and vibration mitigation measures are proposed to reduce any potential adverse impacts. | <p>The following mitigation measures are required by law or are included in the project to minimize impacts of project noise in the vicinity of the proposed project site:</p> <ol style="list-style-type: none"><li>1. Short-term construction noise:<ol style="list-style-type: none"><li>a. Heavy construction activities shall be limited to weekday hours from 7 a.m. to 6 p.m. with minimal activity on weekends, to the extent required by the Cities of Los Angeles and Pasadena exterior noise limits.</li><li>b. Properly muffled construction equipment and trucks shall be used.</li><li>c. During construction, portable sound barriers, or other techniques, shall be used at noise sensitive locations to ensure compliance with local noise ordinances. For example, an 8-foot perimeter barrier along both sides of the corridor during construction would help reduce the noise level by approximately 6 to 8 dB for ground floor construction. Portable barriers could also be used to surround noisy equipment during operation; this would help to reduce levels by 6 to 8 dB.</li></ol></li></ol> | No unavoidable adverse noise or vibration impacts would be associated with the proposed project. |

TABLE 2.4-1 (continued)

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| Environmental Impact                             | Mitigation Measures   | Unavoidable Adverse Impacts |
|--|---|-----------------------------|
| 2. Vibration from Light Rail Transit Operations: | <ul style="list-style-type: none"> <li>a. For the Colorado Avenue subgrade segment, the rail subgrade structure shall not be in direct contact with a building structure or foundation. In cases where this is not possible, an elastomer element should be placed between the rail subgrade structure and the building or foundation to prevent direct transmission of groundborne noise and vibration into the building. If preliminary engineering concludes that vibration impacts cannot be adequately addressed, this grade separation may not be pursued.</li> </ul> |                             |

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**4.6 LIGHT AND GLARE**

No additional impacts beyond those identified in the certified EIR. Mitigation measures included in the certified EIR are applicable, and have been included in this Supplemental EIR.

1. During construction of the Light Rail Transit alternative modifications, all safety lighting, construction equipment, and additional sources of lighting shall be shielded so as not to be visible 50 feet from the construction site.
2. Station area and guideway lighting fixtures shall incorporate directional shielding where needed to avoid the intrusion of unwanted light and glare into adjacent sensitive land uses, such as residential areas.
3. Traction power substations shall be shielded from adjacent sensitive land uses.
4. Walls constructed for noise abatement and landscaping will also screen lighting from land uses adjacent to the Light Rail Transit system.

Localized significant unavoidable adverse effects will exist on streets and at crossing stations and maintenance yard facilities where lighting is necessary for safe operation of the Light Rail Transit.

TABLE 2.4-1 (continued)

| Environmental Impact   | Mitigation Measures   | Unavoidable Adverse Impacts   |
|--|---|---|
| <b>4.7 RISK OF UPSET/HEALTH AND SAFETY</b>   |   |   |
| <p>No significant impacts are expected. Implementation of mitigation measures should maintain a level of risk consistent local, state and federal regulatory agencies.</p> | <p><b><u>Taylor Yard</u></b></p> <ol style="list-style-type: none"><li>1. Prior to project operation, the current compliance efforts for hazardous materials used by LACTC shall be expanded to ensure compliance with applicable laws and regulations.</li><li>2. If the linear configuration is implemented, remediation of the entire sale parcel will be completed to the satisfaction of DTSC prior to the onset of grading operations.</li></ol> <p><b><u>Cornfield Yard</u></b></p> <ol style="list-style-type: none"><li>1. Prior to project operation, the current compliance efforts for hazardous materials initiated by LACTC shall be expanded to ensure compliance with applicable laws and regulations.</li><li>2. Prior to the issuance of grading permits, investigation for the presence of cryptic tanks and abandoned oil wells using geophysical methods shall be conducted by a qualified environmental professional to assess any potential presence of hazardous materials. Soil sampling or a soil organic vapor survey shall be preformed prior to excavation or grading. The results of these studies shall be submitted to the DTSC for review.</li></ol> | <p>With implementation of the mitigation measures, impacts associated with hazardous materials will be reduced to a level considered less than significant.</p> |

TABLE 2.4-1 (continued)

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| Environmental Impact | Mitigation Measures   | Unavoidable Adverse Impacts |
|----------------------|---|-----------------------------|
|                      | <p>3. If warranted, subsurface investigation and sampling shall be undertaken prior to development and appropriate remediation measures developed, prior to the issuance of grading permits. The results of the remediation activities shall be submitted to DTSC for review and approval. These remedial actions shall consist of the removal and disposal or treatment of affected soils according to all applicable federal, state, and local regulations.</p> |                             |

**West Bank Option**

1. Prior to project operation, the current compliance efforts for hazardous materials initiated by LACTC shall be expanded to ensure compliance with applicable laws and regulations.
2. Prior to purchase of the site by LACTC, a Phase I Environmental Site Assessment shall be conducted.

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**4.8 AESTHETICS**

Development of the aerial structures at the West Bank Option and the Figueroa Street/Marmion Way grade separation will result in an unmitigable impact.

The following mitigation measures will be effective in reducing the adverse visual impacts associated with modifications to the approved Light Rail Transit alignment.

1. During station construction activity, all safety lighting, construction equipment, and other visually obstructive sources shall be shielded from view.

The aerial structures proposed for the grade separation at Marmion/Figueroa and the West Bank Option are considered an unavoidable visual impact. Partial mitigation of the aerial structures is possible through attractive and community-sensitive

TABLE 2.4-1 (continued)

Environmental Impact

Mitigation Measures

Unavoidable  
Adverse Impacts

architectural design  
treatments.

2. Stations shall 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. In the case where station platforms and parking facilities would be constructed adjacent to architecturally interesting buildings, design standards should be established for rail-related facilities in order to be sensitive to the style and cultural representation of both the building and the surrounding community.
3. Community workshops shall be performed to provide input during design of individual stations.
4. Landscaping shall be used to shield or enhance stations, traction power substation sites, the yards, and the right-of-way. Low maintenance plants and ground cover that are compatible with the Southern California climate and the architecture of the surrounding area will be selected.
5. Additional shielding of track and station structures shall be accomplished by the construction of sound walls and fencing at points along the rail way.
6. An arts program shall commit 0.5 percent of the project's construction budget toward art projects related to Light Rail Transit facilities.



TABLE 2.4-1 (continued)

| Environmental Impact | Mitigation Measures | Unavoidable Adverse Impacts |
|----------------------|---------------------|-----------------------------|
|----------------------|---------------------|-----------------------------|

**4.9 CULTURAL RESOURCES**

**Cornfield Yard**

Construction and operation of the maintenance yard would result in adverse effects on historic resources. As defined by CEQA, an adverse effect on historic resources is considered a significant impact.

1. Prior to commencement of construction, the project sponsor will be required to obtain approval from the City of Los Angeles Cultural Heritage Commission to alter the Cornfield Yard site, Cultural Landmark #82. Preservation of any at-grade resources is the preferable action, and should be undertaken to the maximum extent feasible. If in the course of construction, any suspected historical resources are discovered, activity will cease and a mitigation plan will be designed and implemented before any construction is resumed.
  
2. Should historic and/or archaeological resources be unearthed during excavation, significant earthmoving and/or grading activities will immediately cease. A qualified archaeologist will be called in to assess the significance of the find, and recommend appropriate protection measures. In the event human remains of possible Native American origin are encountered during the course of construction, the Los Angeles County coroner's office and the Native American Heritage Commission will be contacted for preservation and protection of the remains.

Project development and operational impacts (i.e., demolition, excavation, construction) on historic structures and/or resources can be mitigated to a level of insignificance with implementation of Mitigation Measures 1 through 6.

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TABLE 2.4-1 (continued)

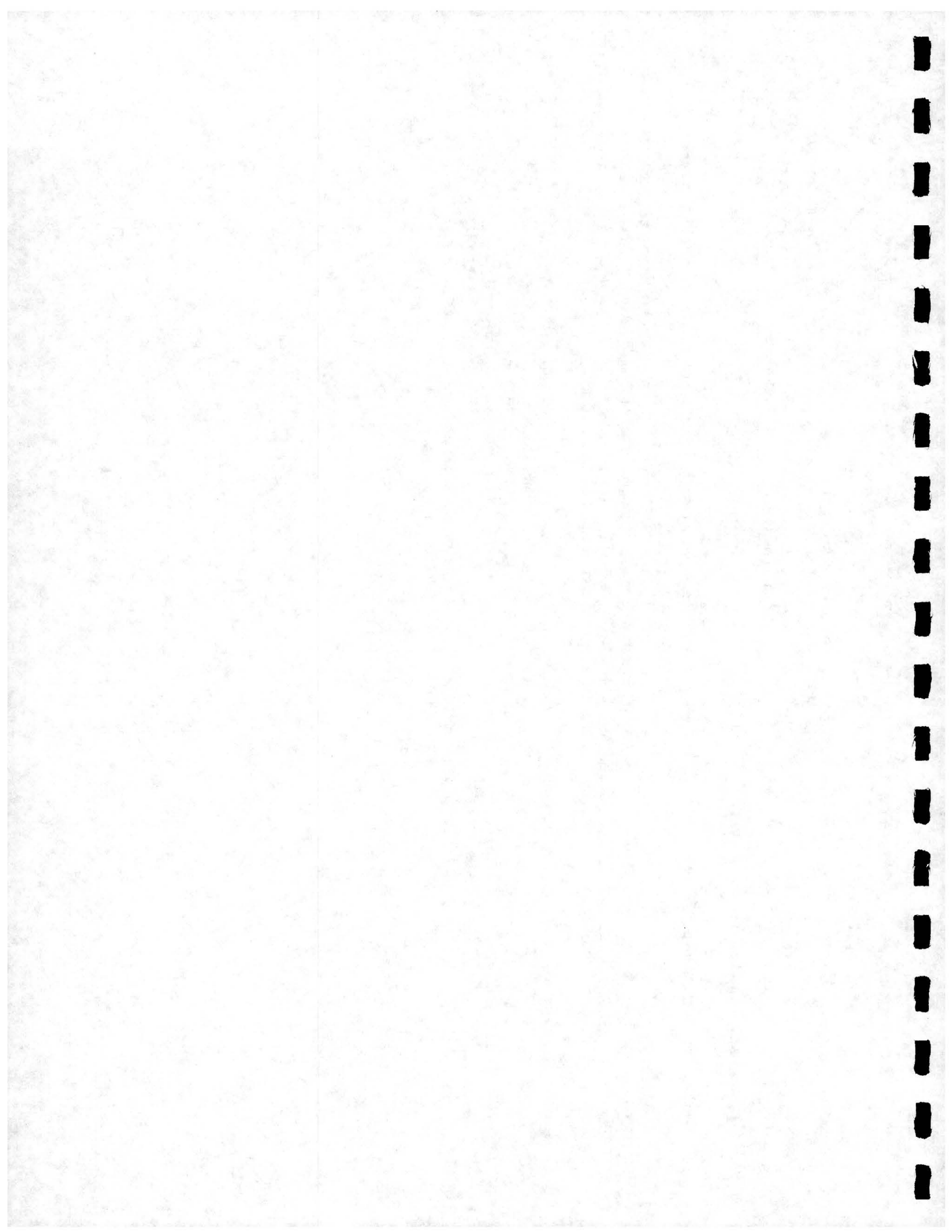
| Environmental Impact   | Mitigation Measures  | Unavoidable Adverse Impacts |
|--|--|-----------------------------|
| <b>Southwest Museum Station</b>  |  |                             |
| No significant impacts are expected at the Southwest Museum site.  | 3. The project sponsor will consult with the Los Angeles Cultural Heritage Commission to ensure that the configuration, design, materials, colors, and signage of the Southwest Museum Station will be consistent with the architecture of the existing structures in the area.  |                             |
| <b>Colorado Boulevard Subgrade</b>   |  |                             |
| Construction of the Colorado Boulevard Subgrade could result in adverse effects on historic resources. As defined by CEQA, an adverse effect on historic resources is considered a significant impact. | 4. Appropriate engineering studies shall take place prior to commencement of construction of the Colorado Boulevard Subgrade to determine the capability of adjacent structures in the Old Pasadena National Register Historic District to withstand the level of vibration anticipated from construction and operation of the proposed light rail system. Engineering studies may conclude that this option should not be implemented due to adverse effects on existing structures.<br><br>5. Prior to the issuance of any demolition or grading permits, an adequate monitoring and/or bonding program shall be established between the City of Pasadena and property owners to ensure that demolition and construction vibration impacts do not adversely affect offsite structures. |                             |

TABLE 2.4-1 (continued)

| Environmental Impact                    | Mitigation Measures   | Unavoidable Adverse Impacts   |
|---|---|---|
| <b>4.10 PUBLIC UTILITIES RELOCATION</b> |   |   |
| No significant impacts are anticipated. | <p>The following mitigation measures are suggested to prevent loss of service to utility consumers.</p> <ol style="list-style-type: none"><li>1. LACTC shall prepare and maintain a list of persons that would be affected by losses of power, sewer, gas, and/or water main ruptures for notification and emergency service purposes.</li><li>2. All potentially affected utility consumers shall receive advanced notification by LACTC/RCC of construction activities.</li><li>3. Emergency back up service shall be made available by LACTC in the event of disruption in service.</li></ol> | No unavoidable significant adverse effects are anticipated following implementation of the mitigation measures. |

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**SECTION 3**  
**PROJECT DESCRIPTION**

**3.1 PROJECT HISTORY**

A number of studies have been prepared by various agencies that are related to the development of the Pasadena-Los Angeles Rail Transit Project. A brief chronology is provided below.

- Pasadena-Los Angeles Expanded Route Refinement Study: General Environmental Analysis, Technical Memorandum -- Task 2.5 (1987).

From 1986 through 1988, route refinement studies involved examining a number of alternatives to extend the Long Beach-Los Angeles Rail Transit Project (Blue Line) from downtown Los Angeles to the proposed I-710 extension in El Sereno or South Pasadena. Options involved the Los Angeles communities of Lincoln Heights, El Sereno, Mount Washington, and Highland Park, as well as South Pasadena. Following this phase, the Highland Park and North Main Street alignments and a number of downtown options were selected for environmental clearance.

- Draft Environmental Impact Report (DEIR), Pasadena-Los Angeles Rail Transit Project, State Clearinghouse No. 88042713 (December 1988).

This DEIR analyzed the environmental impacts associated with the construction and operation of a light rail line from downtown Los Angeles to South Pasadena or El Sereno, using either the Highland Park or North Main Street alternatives with route variations in the downtown Los Angeles area. Public review of this draft occurred in early 1989.

- Pasadena-Los Angeles Rail Transit Route Refinement Study -- Northern Portion: Preliminary Evaluation of Routes in the City of Pasadena (1989).

Concurrent with the preparation of the Draft EIR for the southern portion of the Pasadena-Los Angeles line, a study examining a number of alignment alternatives in the City of Pasadena was conducted, leading to the selection of the ATSF right-of-way as the City of Pasadena's preferred alternative.

- Revised Draft Environmental Impact Report (DEIR), Pasadena-Los Angeles Rail Transit Project (November 1989).

Comments to the December 1988 DEIR and selection of a preferred alternative in the City of Pasadena led to the LACTC expanding the scope of the project and preparing a Revised DEIR. This revised draft added two variations to the downtown connection options; revised rail yard locations; added the ATSF right-of-way through the City of Pasadena; and adjusted station options in South Pasadena. This Revised DEIR was circulated in December 1989.

- Final Environmental Impact Report (FEIR), Pasadena-Los Angeles Rail Transit Project (February 1990).

An FEIR was completed and certified in the spring of 1990. The Highland Park Alternative using the Union Station "No Subway" Option was adopted as the approved project.

- Mitigated Negative Declaration for the Relocation of Approved Chinatown Station and Alignment for the Pasadena-Los Angeles Light Rail Transit Project (July 1991).

Responding to concerns expressed during the EIR process, the LACTC further refined the alignment and station location in the Chinatown vicinity. The LACTC adopted the Mitigated Negative Declaration in August 1992.

Since adoption of the Pasadena-Los Angeles Light Rail alignment, additional analysis beyond the Certified EIR has been requested regarding maintenance facilities, additional stations, and inclusion of two grade separations.

### **3.2 PROJECT OBJECTIVES**

The Pasadena-Los Angeles Rail Transit Project objectives are outlined in Section 3.2, page 3-2, of the Certified EIR. In addition to the project-wide objectives stated therein, LACTC intends to accomplish the following specific objectives by considering implementation of the alternatives and project modifications analyzed in this document.

- Consider project modifications requested by the City of Los Angeles and the City of Pasadena.
- Optimize efficiencies in maintenance yard locations by establishing direct access to facilities without the need for a long yard line.
- Incorporate the needs identified by local communities to integrate transit facilities with adjacent/proposed land uses, toxic soil issues, and visual and noise mitigation.

### **3.3 PROJECT CHARACTERISTICS**

#### **3.3.1 PROJECT OVERVIEW**

The analysis of project modifications (see Exhibit 3.3-1) focuses only on those environmental issues specific to the modification that could alter the findings of the previously certified EIR or were not previously environmentally cleared. The previous EIR focused on environmental analysis of two main alignment alternatives: the Highland Park alignment through Highland Park, South Pasadena, and Pasadena; and a North Main Street alignment through Lincoln Heights and El Sereno. Downtown alignment options to connect with the Long Beach LRT and two maintenance yard locations were also analyzed. This SEIR, however, differs from the previous EIR in that alignment alternatives are not being considered. This SEIR analyzes specific project modifications not cleared in the certified EIR. These are as follows:

- Maintenance yards
- Grade separations
- Station locations

A matrix of the alternative modifications sought by LACTC and the environmental issues analyzed specific to those modifications is shown in Table 3.3-1.







#### **3.3.2 MAINTENANCE AND STORAGE YARD ALTERNATIVES**

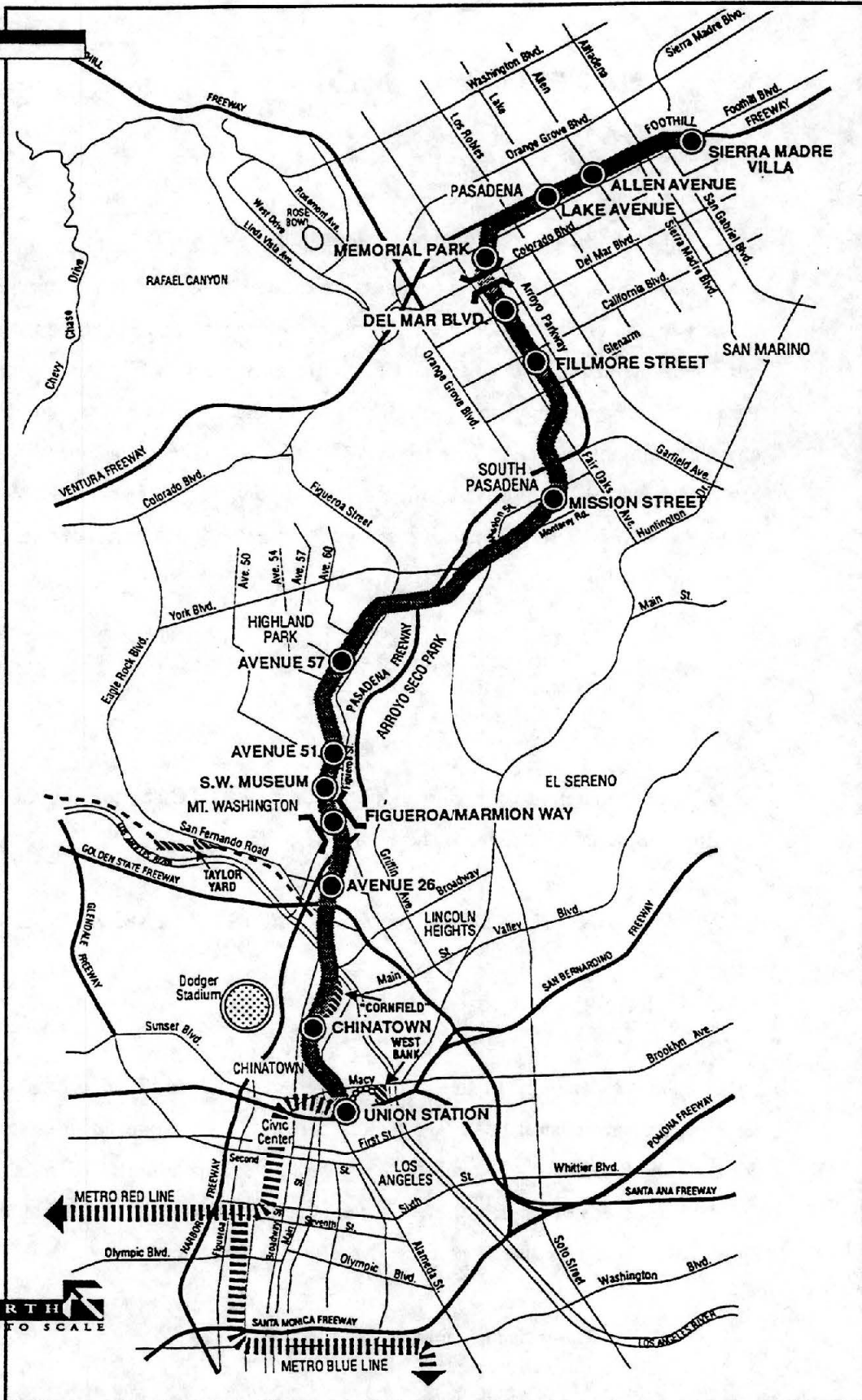
##### **SITING CRITERIA**

Because the Pasadena-Los Angeles light rail line does not directly connect with any other existing light rail line, a maintenance and storage facility is required. An assessment of storage and maintenance needs for the Pasadena-Los Angeles line was performed, including the potential of using other existing rail maintenance storage facilities. It was determined that a facility should be provided for the Pasadena-Los Angeles line to perform the following functions:

- Daily maintenance
- Inspection
- Major component removal (e.g., wheels, compressors, and trucks)
- Vehicle cleaning

**LEGEND**

-  ALIGNMENT
-  STATION LOCATION
-  PROPOSED GRADE SEPARATIONS
-  PROPOSED MAINTENANCE YARD SITES
-  GLENDALE LINE
-  NON-REVENUE CONNECTOR



**PASADENA LRT ALIGNMENT**

Pasadena Light Rail Supplemental EIR

Michael Brandman Associates

exhibit 3.3-1



TABLE 3.3-1

MATRIX OF PROJECT MODIFICATIONS AND ENVIRONMENTAL ISSUE AREAS

| Proposed Alternative Modification            | Environmental Issue <sup>a</sup> |                |         |             |                     |                 |               |            |            |                     |
|--|----------------------------------|----------------|---------|-------------|---------------------|-----------------|---------------|------------|------------|---------------------|
|  | Land Use                         | Trans./Circul. | Geology | Air Quality | Noise and Vibration | Light and Glare | Risk of Upset | Aesthetics | Cult. Res. | Public Util. Reloc. |
| Taylor Yard                                  | X                                |                | X       | X           | X                   | X               | X             | X          |            |                     |
| Cornfield Yard                               | X                                |                | X       | X           | X                   | X               | X             | X          | X          |                     |
| West Bank Option                             | X                                |                | X       | X           | X                   | X               |               | X          |            |                     |
| Glendale WYE Connector                       |                                  | X              | X       | X           | X                   | X               |               |            |            |                     |
| Southwest Museum Station                     | X                                | X              |         | X           | X                   | X               |               | X          | X          |                     |
| Fillmore Street Station                      | X                                | X              |         | X           | X                   | X               |               | X          |            |                     |
| Allen Avenue Station                         | X                                | X              |         | X           | X                   | X               |               | X          |            |                     |
| Marmion Way/Figueroa Street Grade Separation | X                                | X              | X       | X           | X                   | X               |               | X          |            |                     |
| Colorado Boulevard Grade Separation          | X                                | X              | X       | X           | X                   | X               |               | X          | X          | X                   |

<sup>a</sup> Issues not marked with an "X" indicate that the analysis in the previous EIR adequately assesses the environmental impact of the project alternative. Implementation of the project alternative would not alter the findings of the previously certified EIR.

Source: Michael Brandman Associates, July 1992.

JOB/13620004.3

3-4

This facility would not need to perform heavy maintenance needs (such as wheel truing, overhauls, and painting). These functions can be done using the existing Blue Line maintenance yard in Long Beach, or other RCC/SCRTD facilities, since these activities are expected to be infrequent.

A minimum of 10 to 15 acres would be needed to provide sufficient space for the maintenance and storage of 38 to 42 light rail vehicles initially, and ideally up to 80 vehicles in the future. In addition, the Pasadena-Los Angeles line's branch with the proposed Glendale-Burbank line allows the opportunity to service vehicles for both lines in a single location. An ideal site for such a facility would be in the vicinity of the juncture of the two light rail lines.

A search for vacant or underused property was conducted adjacent to the Pasadena-Los Angeles line. The alternative sites analyzed in this Supplemental Environmental Impact Report reflect the most viable options.

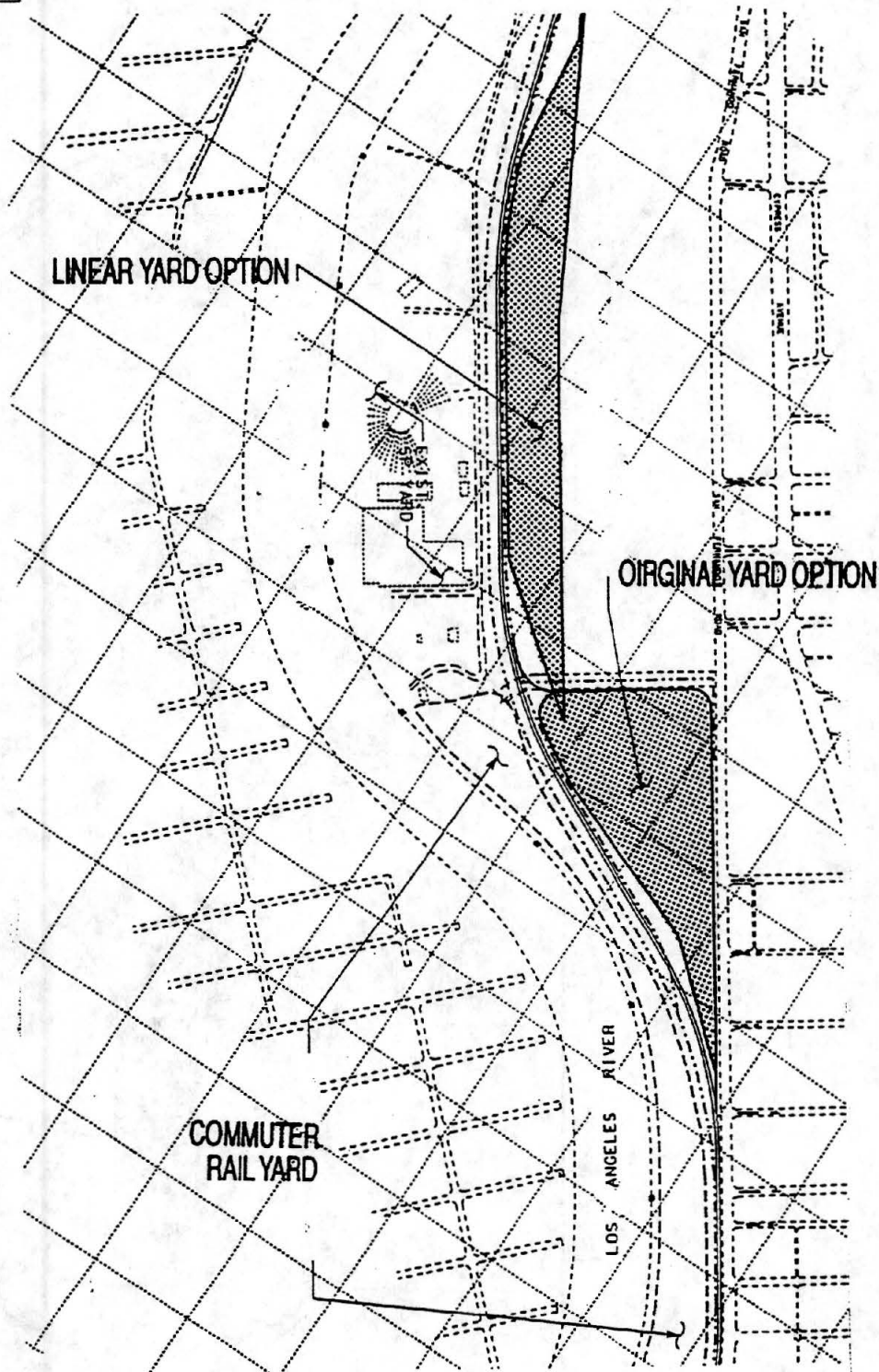
### **Taylor Yard Site**

Two options for the proposed light rail transit (LRT) maintenance facility at Taylor Yard are being considered. Both options consider use of the facility for short- and long-term maintenance, storage, and inspection of the LRT vehicles. Although a Taylor Yard site was examined in the previous EIR, much of the originally-identified area is being used by the Southern California Regional Rail Authority (SCRRA) for a Metrolink Commuter Rail Central Maintenance Facility. As a result, two adjusted options within the greater Taylor Yard site are being considered: an "original" option using the site presently owned by the LACTC adjacent to the Metrolink facility, and a "linear" option adjacent to Southern Pacific's rail yard on property not presently owned by LACTC.

### **Original Taylor Yard Option**

This maintenance yard facility option is located on a 17-acre wedge-shaped parcel within Taylor Yard and adjacent to the Metrolink Central Maintenance Facility (CMF) site. The CMF is a 29.3-acre crescent-shaped parcel at the southern end of the larger 70-acre acquisition by LACTC in Taylor Yard. The 17-acre parcel under consideration is bounded by the northerly property line of LACTC's acquisition and fronts San Fernando Road opposite Elm Street on the east (see Exhibit 3.3-2).

LEGEND

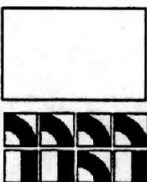


# TAYLOR YARD OPTIONS

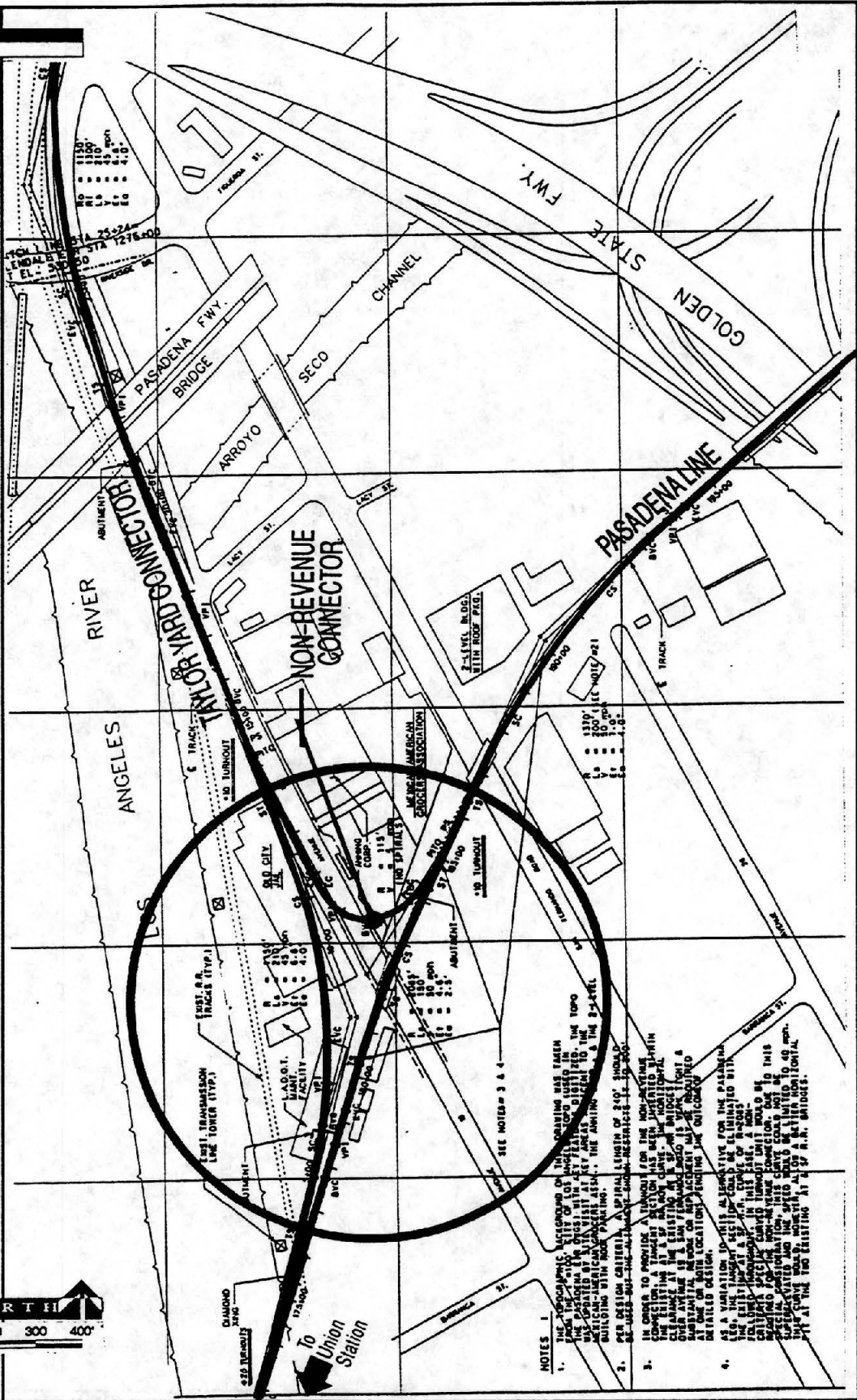
Pasadena Light Rail Supplemental EIR

Michael Brandman Associates

exhibit  
3.3-2



**LEGEND**

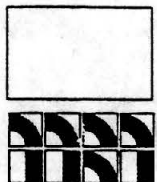


**NOTES**

1. THE TOPOGRAPHIC RECORDS OF THE OPERATING ARE TAKEN FROM THE 1911 CITY OF PASADENA TOPOGRAPHIC RECORDS. THE TOPO MAPS LOCATED AT THE OFFICE OF THE PASADENA LIGHT RAIL. THE PASADENA LIGHT RAIL AUTHORITY HAS REVIEWED THE TOPO MAPS FOR ANY ERRORS. THE DESIGNER HAS NOT CONDUCTED A FIELD SURVEY TO VERIFY THE TOPOGRAPHIC RECORDS. THE DESIGNER HAS NOT CONDUCTED A FIELD SURVEY TO VERIFY THE TOPOGRAPHIC RECORDS. THE DESIGNER HAS NOT CONDUCTED A FIELD SURVEY TO VERIFY THE TOPOGRAPHIC RECORDS.
2. PER DESIGN CRITERIA, A TYPICAL LENGTH OF 240' SHALL BE MAINTAINED BETWEEN ALL OVERCROSSINGS AND UNDERCROSSINGS.
3. IN ORDER TO PROVIDE A MAINTENANCE YARD FOR THE PASADENA LINE, THE PASADENA LINE SHALL BE MAINTAINED WITHIN THE EXISTING AT & P AVENUE DRIVE. THE MAINTENANCE YARD SHALL BE MAINTAINED WITHIN THE EXISTING AT & P AVENUE DRIVE. THE MAINTENANCE YARD SHALL BE MAINTAINED WITHIN THE EXISTING AT & P AVENUE DRIVE.
4. AS A RESULT OF THIS DESIGN, THE PASADENA LINE SHALL BE MAINTAINED WITHIN THE EXISTING AT & P AVENUE DRIVE. THE MAINTENANCE YARD SHALL BE MAINTAINED WITHIN THE EXISTING AT & P AVENUE DRIVE. THE MAINTENANCE YARD SHALL BE MAINTAINED WITHIN THE EXISTING AT & P AVENUE DRIVE.

**TAYLOR YARD WYE CONNECTOR**




Pasadena Light Rail Supplemental EIR

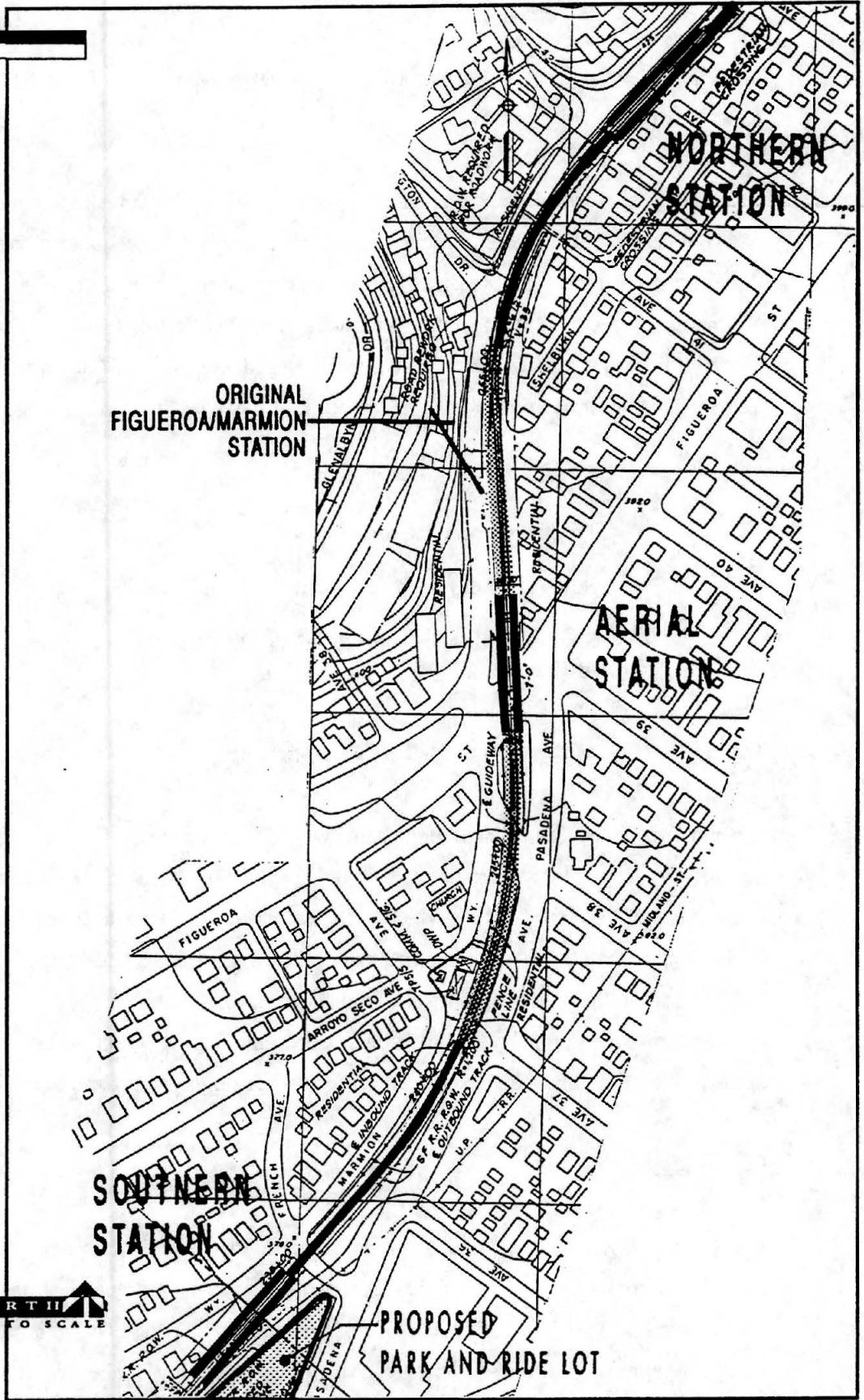


Michael Brandman Associates

exhibit  
3.3-3

**LEGEND**

-  ALIGNMENT
-  AERIAL
-  STATION



# FIGUEROA/MARMION GRADE SEPARATION

Pasadena Light Rail Supplemental EIR

Michael Brandman Associates

exhibit  
3.3-10

## **Linear Taylor Yard Option**

This option considers placement and development of the LRT maintenance facility on a linear-shaped parcel adjacent to the northerly property line of the LACTC acquisition on the south, and fronts on the Southern Pacific's maintenance facility. This option provides for approximately 700 feet of clearance between the LRT Maintenance Facility and San Fernando Road. The intent of this option is to explore ways to minimize the visual presence and effects of the LRT maintenance facility, while integrating its positive effects to achieve both LACTC and City of Los Angeles objectives for this area, such as:

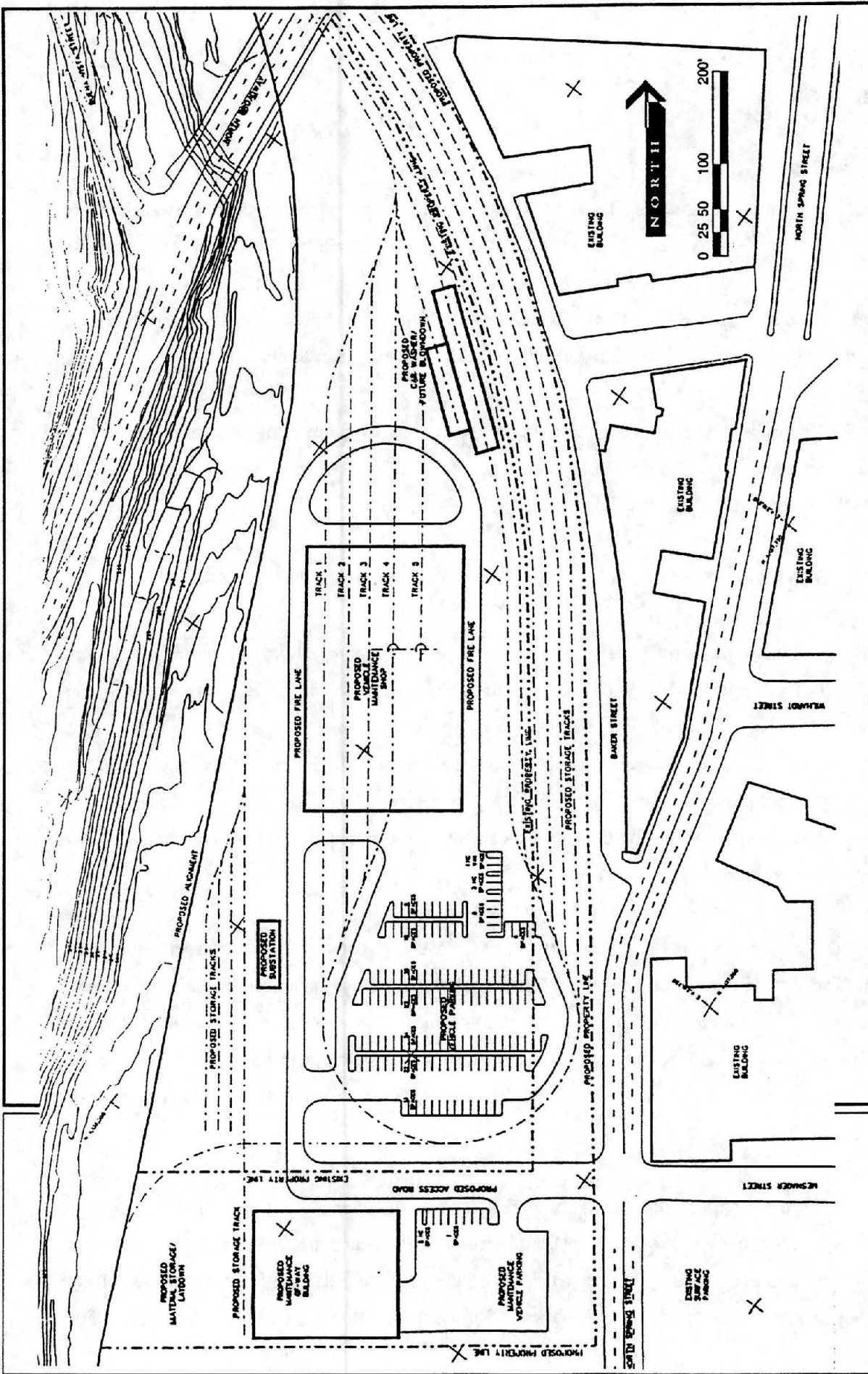
- Promoting local employment.
- Stimulating development of desirable land uses.
- Preserving developable property adjacent to the community for more community-oriented use.

This property is not currently under LACTC ownership.

A component to the Taylor Yard options involves a WYE connection near Avenue 19 at the Santa Fe right-of-way, allowing trains to access the yard (see Exhibit 3.3-3). The main connector leg between Union Station and Taylor Yard, which will also serve the Glendale-Burbank line when built, will likely displace the old city jail and onsite city facilities (LADOT maintenance facility) located on 19th street. An additional leg allowing southbound trains to access the yard would require use of the Anting Corporation property. Without this nonrevenue leg, it would be necessary to route vehicles to the Taylor Yard using a pocket track and crossover on the west bank of the river.

## **Cornfield Site**

The Cornfield site is located immediately adjacent to the approved Pasadena-Los Angeles LRT alignment, optimizing efficiency by having direct access to maintenance facilities without the need for a long yard lead (see Exhibit 3.3-4). Use of the northern portion of what is called the "Cornfield," a large Southern Pacific (SP) holding north of Chinatown, is one of the alternative locations. Although not currently in LACTC ownership, this alternative option provides direct access from the Pasadena LRT and is located before the branch between the Pasadena LRT and Glendale LRT alignments.



# CORNFIELD YARD

3.3-4



Pasadena Light Rail Supplemental EIR

Michael Brandman Associates

exhibit 3.3-4

### West Bank Option

The site follows the west bank of the Los Angeles River from Mission Tower southward to US-101. This area would be used for daily LRT maintenance and storage. When light rail extensions are constructed beyond Glendale and Pasadena, the West Bank Yard will not be able to accommodate additional maintenance and storage requirements, and additional facilities would need to be provided at the outlying ends of these extensions (Exhibit 3.3-5). Therefore, this alternative is effective as a short-term solution until an adequate maintenance facility can be permanently sited.

In order for light rail vehicles to reach the maintenance yard without impacting passenger service into Union Station, an aerial structure would have to be constructed over existing rail lines leading to Union Station's boarding platforms.

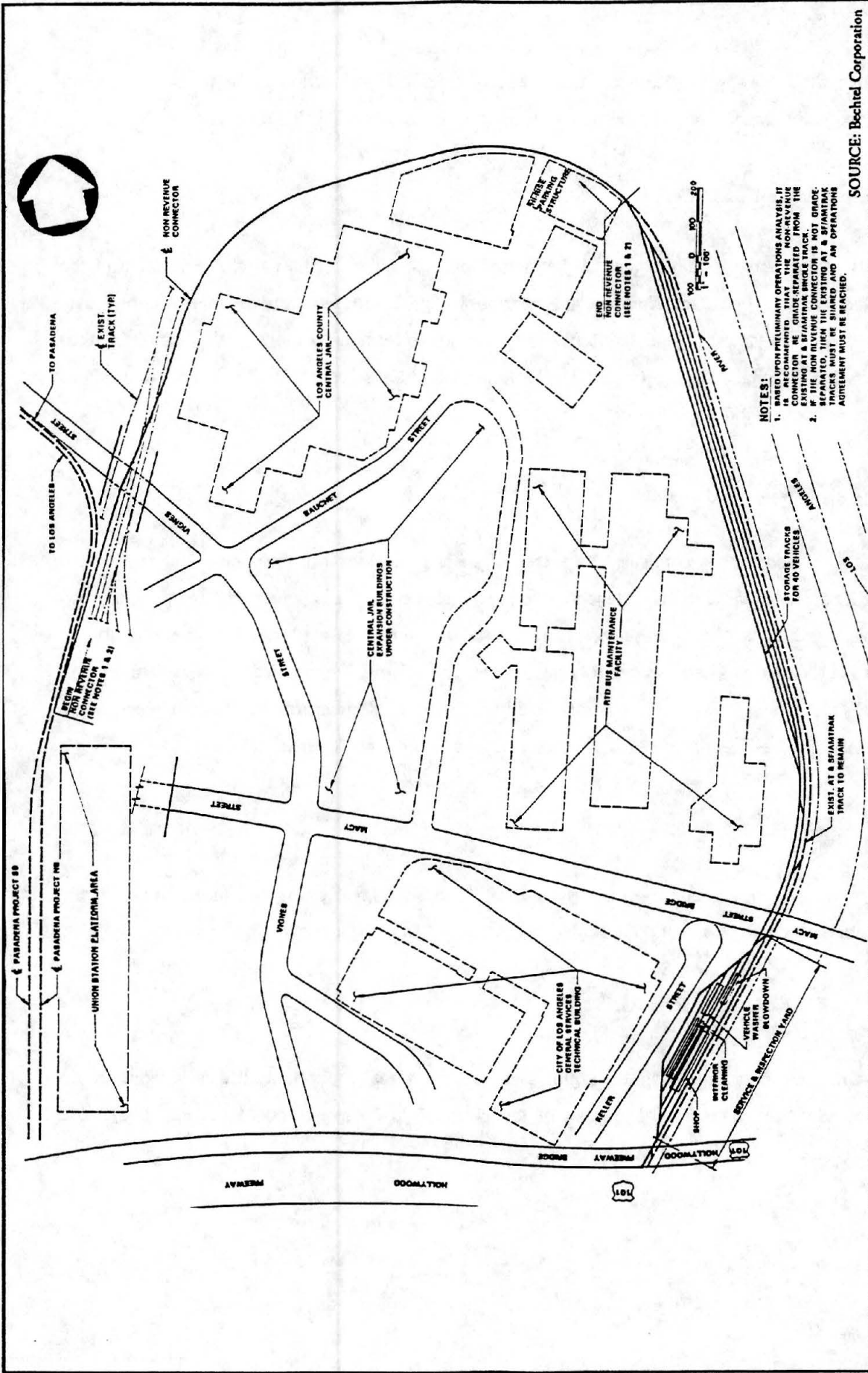
#### **3.3.3 STATION LOCATIONS**

Thirty-six candidate stations (of which 17 stations related to the approved project) were examined in Section 3.2B of the certified EIR with the caveat that not all stations identified as candidates would be selected for construction once the alignment was approved. Three types of prototypical stations were considered: at-grade, subway, and aerial. Station design will be standardized throughout the system to the extent possible using a center platform, except when conditions require a side platform. At-grade and aerial stations will be covered by canopies for protection from weather; lighting and benches will be provided at each station.

Station locations will provide opportunities for connection between the different modes of transportation serving each station area. Depending on the site characteristics of each station, provisions for long-term parking lots, "kiss-and-ride" drop-offs, and short-term parking for passenger loading and unloading would be included. Key parking and circulation factors were considered in the certified EIR, and therefore are not reiterated in this document. See Section 3.4B of the certified EIR for evaluation of potential station parking sites.

As identified in the certified EIR, additional stations or station entrances may be added over time to better serve communities and to take advantage of future development patterns that could benefit future LRT ridership and operations. Since certification of the previous EIR, the following stations have been dropped from consideration: Fair Oaks, California, Los Robles, Hill, and Altadena. The





**NOTES:**

1. BASED UPON PRELIMINARY OPERATIONS ANALYSIS IT IS RECOMMENDED THAT THE NON-REVENUE CONNECTOR BE GRADE SEPARATED FROM THE EXISTING AT & SE/ANTRAK TRACK.
2. THE TRACKS FROM THE NON-REVENUE CONNECTOR TO THE EXISTING AT & SE/ANTRAK TRACKS MUST BE SHARED AND AN OPERATIONS AGREEMENT MUST BE REACHED.

SOURCE: Bechtel Corporation

# WEST BANK OPTION

Pasadena Light Rail Supplemental EIR

Michael Brandman Associates

3.3-5

exhibit 3.3-5

Chinatown Station was amended under the Mitigated Negative Declaration in August of 1991. This SEIR focuses on three potential modifications to the stations identified in the certified EIR.

#### **Southwest Museum Station**

The City of Los Angeles has requested that a station be considered adjacent to the location of the Southwest Museum in Mount Washington at Marmion Way and Museum Drive along the previously approved LRT alignment. The station would be directly accessible to users of the Senior Citizens Convalescent Hospital and the proposed Ziegler Estate Child Care Facility located immediately across from the at-grade station (see Exhibit 3.3-6).

#### **Fillmore Street Station**

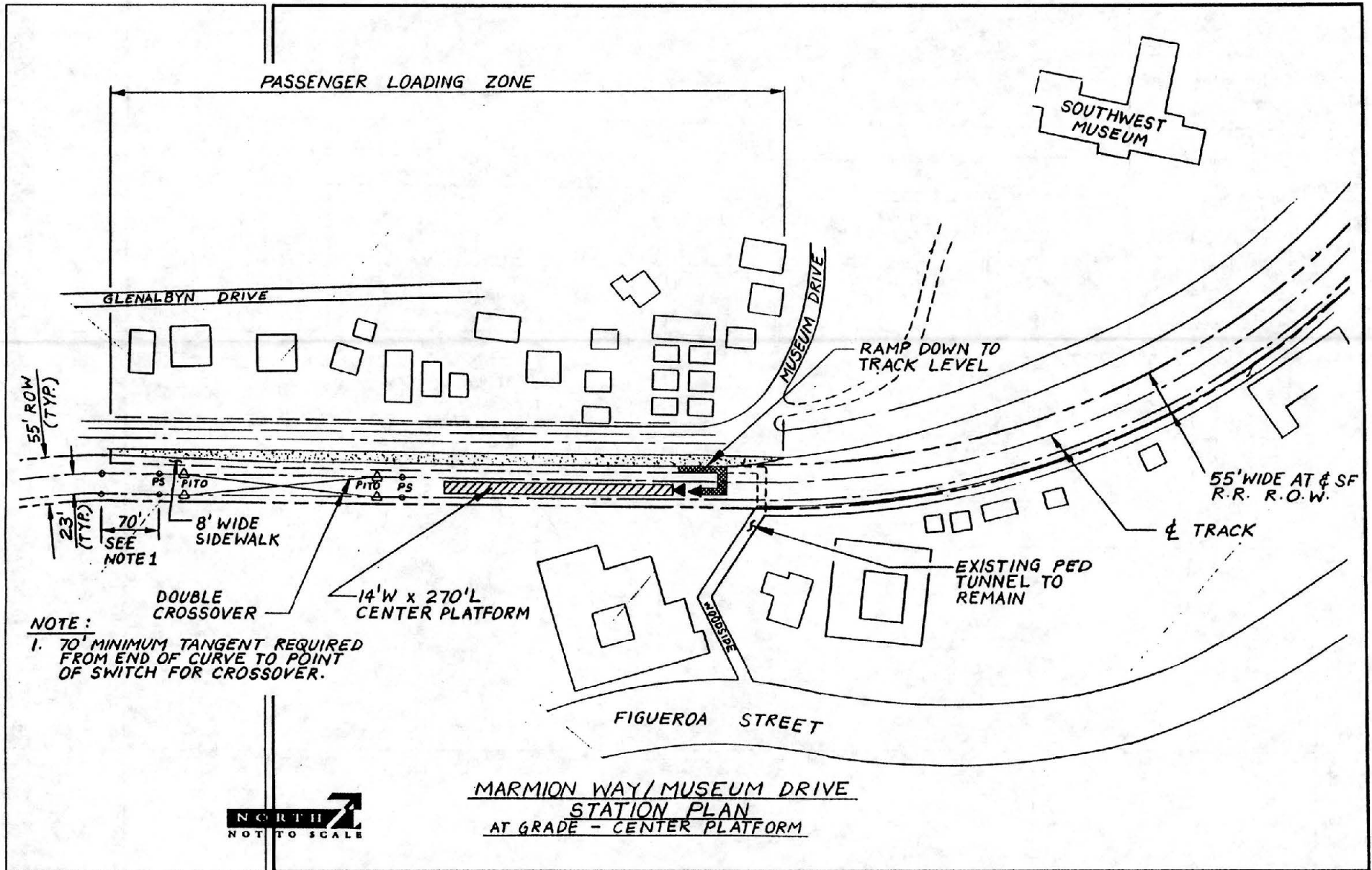
The City of Pasadena has confirmed its preferred station locations within its city boundaries. As expected, several of the stations included in the previously certified EIR have been dropped, and two new station locations have been added. The City of Pasadena has approved a station at Fillmore Avenue between Arroyo Parkway and Raymond Avenue, north of Glenarm Street, to serve Huntington Hospital (see Exhibit 3.3-7). This station would consist of a side platform which would require the closing of Fillmore Street between Arroyo Parkway and Raymond Avenue.

#### **Allen Avenue Station**

The City of Pasadena has approved a preferred station location at Allen Avenue (see Exhibit 3.3-8). The Allen Avenue Station would be located within the AT&SF right-of-way in the median of I-210.

### **3.3.4 GRADE SEPARATIONS**

The certified EIR concluded that no additional grade separations would be needed to mitigate traffic and circulation impacts. At the request of the cities of Los Angeles and Pasadena, two grade separations are now being considered.



3.3-6  
exhibit



# SOUTHWEST MUSEUM STATION

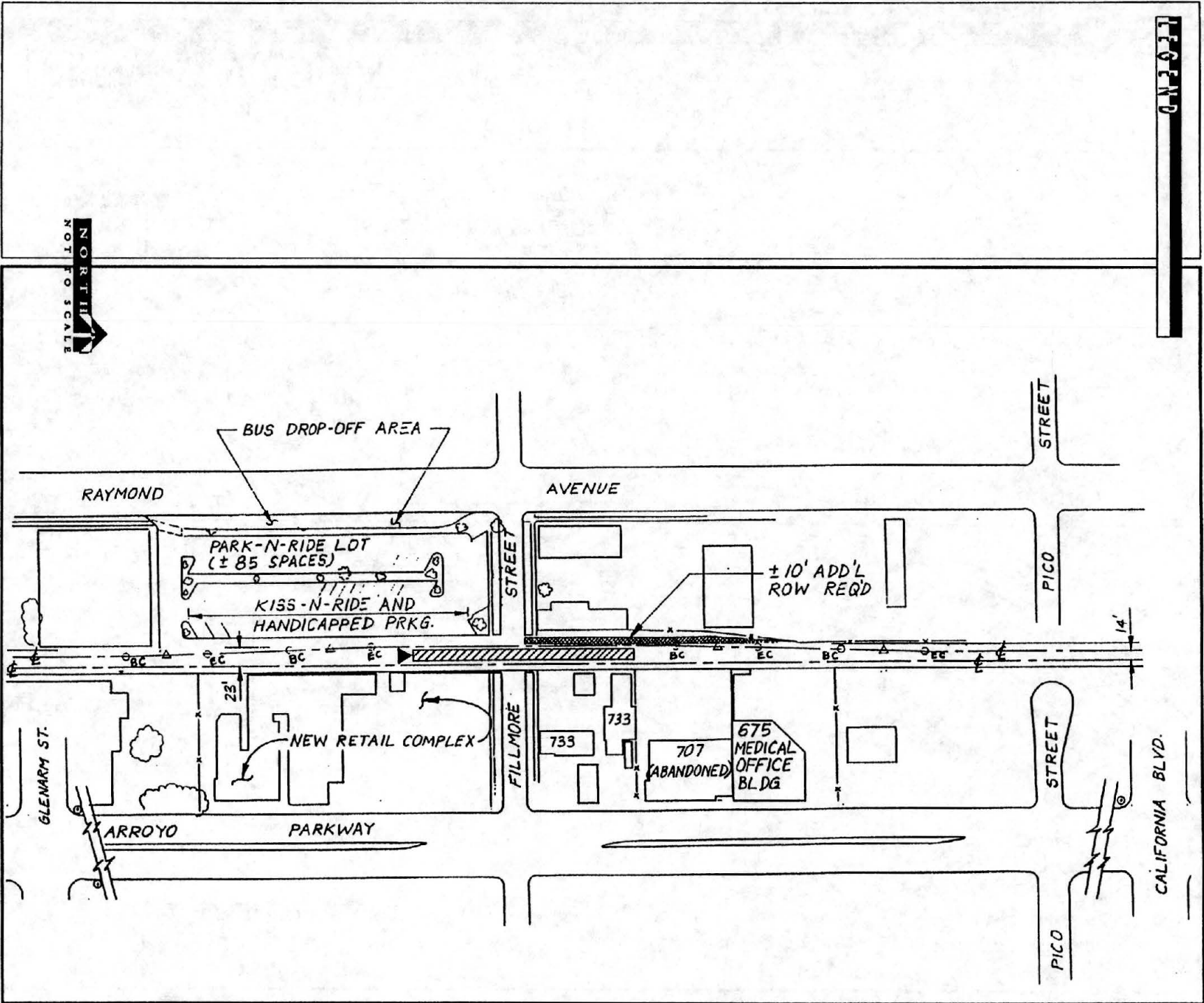
Pasadena Light Rail Supplemental EIR

Michael Brandman Associates

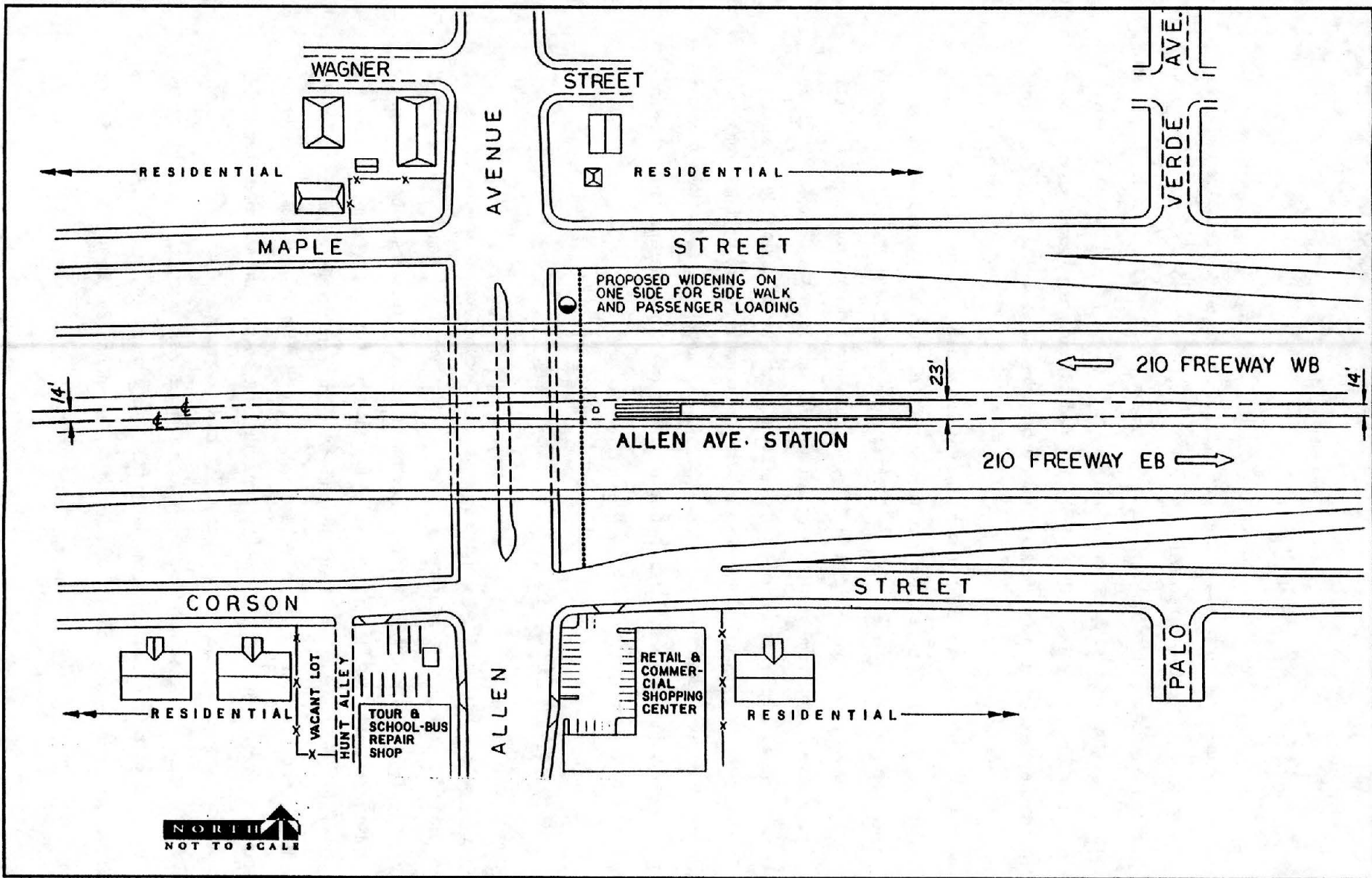
exhibit  
3.3-6



# FILLMORE STATION



LEGEND



3.3-8  
 exhibit



# ALLEN AVENUE STATION

Pasadena Light Rail Supplemental EIR

Michael Brandman Associates

exhibit  
 3.3-8

### **Marmion Way and Figueroa Street Grade Separation**




An aerial flyover at the intersection of Marmion Way, Figueroa Street, and Pasadena Avenue is being analyzed in response to the City of Los Angeles' concern over the previously approved at-grade crossing due to the awkward street configuration at this intersection. As in the previously approved EIR, the rail line, Figueroa Street, Marmion Way, and Pasadena Avenue would all meet in the same general area (see Exhibit 3.3-10). Although the certified EIR identifies and assesses impacts associated with the at-grade alignment, the alignment can be reconsidered as either at-grade or aerial.

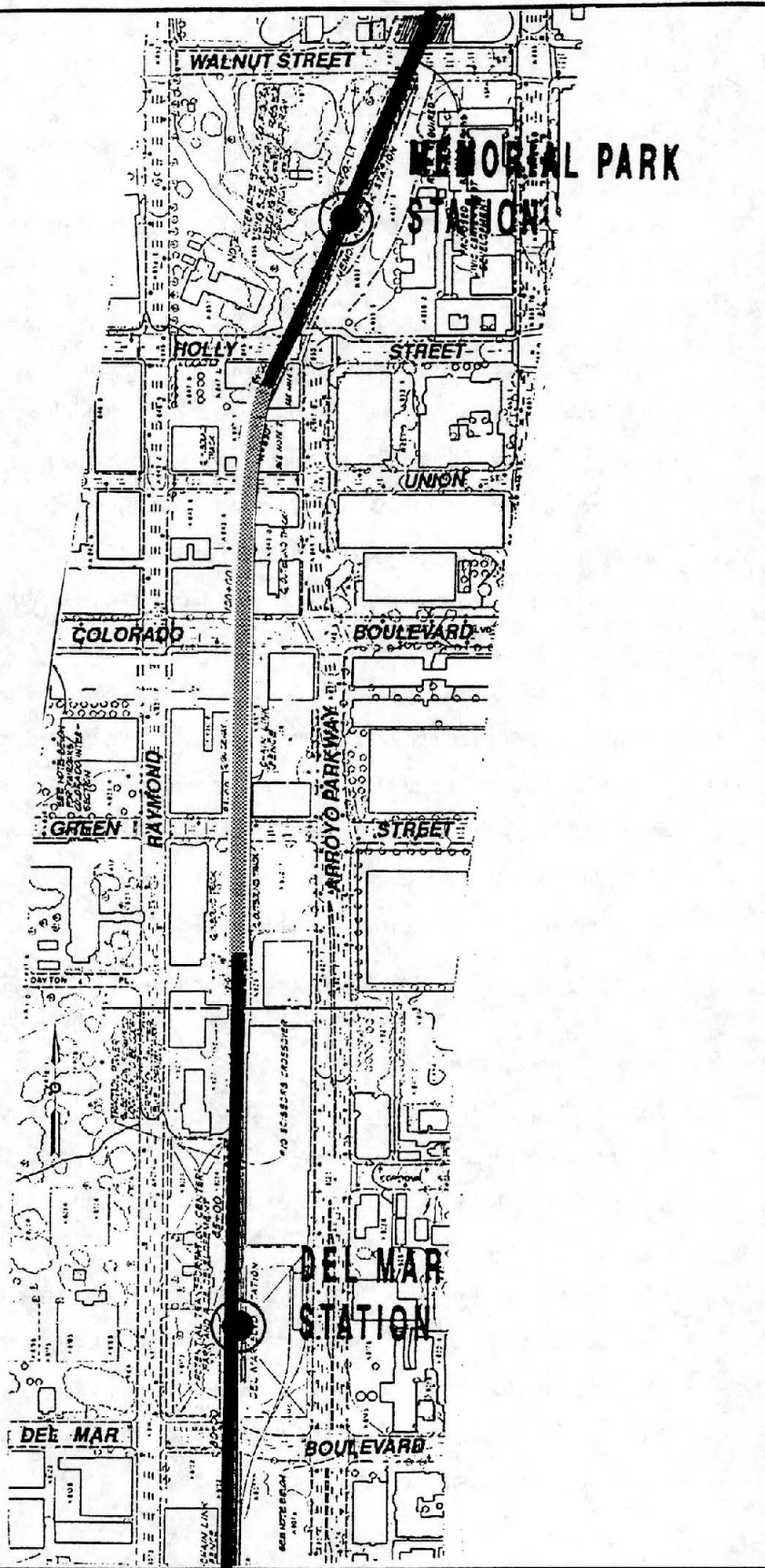
Constructing the at-grade Figueroa Street/Marmion Way station at the site cleared in the certified EIR would no longer be feasible if the elevated structure were constructed. An at-grade station would either have to be shifted farther to the south or north along the alignment, or an elevated station would have to be constructed over Figueroa Street. Each of the three new locations for this station would provide similar accessibility to light rail transit patrons in the communities of Lincoln Heights and Mount Washington, with the following distinctions: (1) building an elevated station adds construction costs; (2) placing the station north of the elevated structure could create operational problems if constructed in conjunction with the proposed Southwest Museum Station, due to its close proximity; and (3) placing the station south of the elevated structure could provide the opportunity for a park-and-ride lot adjacent to the station (see Exhibit 3.3-10).

### **Colorado Boulevard Grade Separation**

The City of Pasadena has requested that the feasibility and environmental analysis of a grade separation along a four block portion of the approved LRT alignment at Colorado Boulevard (about 2,600 feet long) be studied in order to mitigate operational and safety concerns associated with the currently planned at-grade crossings in this area. The grade separation is being considered with the understanding that it must be constructed entirely within the existing and previously analyzed right-of-way and that several historic buildings immediately adjacent to the right-of-way must be preserved. A preliminary engineering and feasibility study is currently being prepared to determine whether this subgrade configuration is feasible, given the criteria it must adhere to (i.e., avoidance of historic structures, safe foundation characteristics and structural properties). Due to the sensitivity and complexity of the construction conditions, should the feasibility study identify unavoidable constraints or impacts associated with construction of this alternative, this option would be dropped from further consideration.

**LEGEND**

-  ALIGNMENT
-  SUBGRADE
-  STATION



**NORTH**  
NOT TO SCALE

# COLORADO BOULEVARD SUBGRADE

Pasadena Light Rail Supplemental EIR

Michael Brandman Associates

exhibit  
3.3-9

### **3.4 PHYSICAL CHARACTERISTICS**

#### **3.4.1 MAINTENANCE AND STORAGE YARD ALTERNATIVES**

The three maintenance and storage yard sites are being considered to provide for daily inspection and maintenance of light rail vehicles, central yard operations, and personnel changes. Both the Cornfield and Taylor Yards would include storage tracks for vehicles and rail mounted maintenance equipment, as well as turn-back tracks. Because of its constrained size, limited storage space and a reduced maintenance facility for vehicles are provided at the West Bank site. The location of each storage and maintenance facility is indicated in both Exhibits 3.3-2 and 3.3-3. Conceptual engineering drawings for the rail storage and maintenance yard facilities are provided in Appendix F.

All three maintenance yard sites would consist of a building for the repair and regularly scheduled maintenance of vehicles, and storage of tools and equipment. A work pit would be installed for access to vehicle undercarriages for maintenance, cleaning, and inspections. A smaller structure would be provided for vehicle washing and interior cleaning, and several smaller structures may also be provided for various related uses. Both the Taylor Yard and Cornfield sites would provide several storage tracks with switching capabilities. Taylor Yard would have the capacity of approximately 100 vehicles, while the Cornfield would be able to store approximately 75 vehicles. Because of its reduced size, the West Bank alternative would have a storage capacity of only 40 vehicles. This option would require future expansion in order to accommodate the maintenance and storage requirements of an increased vehicle fleet due to the extension of the rail lines beyond Pasadena and Glendale. A grade separated yard lead, approximately 0.5 miles in length, and 30 feet high would have to be constructed in order to mitigate conflicts with Amtrak and Commuter rail operations.

The same type of light rail vehicle currently operating on the Long Beach/Los Angeles Line would be used for the Pasadena Line and other future Blue Line branches and extensions. The vehicle is 90 feet long and 8½ feet wide. The car body height is 11 feet 6 inches. The catenary height can range from 13 feet 5 inches to 23 feet 5 inches. Multiple rail tracks and overhead catenary wires would have an overall aesthetic impact on the current rail facility.

Maintenance requirements for the light rail vehicles include daily cleaning and inspection. Exterior cleaning is done by an automated car washer in the yard. Current practice is to run the cars through the washer immediately following servicing activity. Cars are returned to the car washer building



which has an interior platform for equipment access in order to perform interior cleaning. An additional platform used exclusively for interior cleaning is recommended as maintenance activities increase.

The service and inspection facility would be used for preventative maintenance and minor repairs. Preventative maintenance is normally performed at 5,000-mile intervals (approximately every 30 days). More extensive maintenance occurs at 180-day and 365-day intervals.

It is anticipated that major repairs and overhaul work would not occur at either of the three sites under consideration. During the first 5 to 10 years of Pasadena Line operations, heavy repair or overhaul requirements would be relatively sporadic, particularly because the vehicles would be relatively new. It is anticipated that heavy repairs would be accommodated elsewhere. In many cases, this would be done by removing major components and shipping them to the Del Amo Light Rail Facility, the Metrolink Facility at Taylor Yard, SCRTD's Central Maintenance Facility (for certain electronic equipment), or to a private contractor. The choice would depend on the specific equipment and the workload at the locations cited above. Therefore, most of the specialized work such as wheel truing, painting, and body repairs would occur at locations other than this light rail facility.

### **3.5 OPERATIONAL CHARACTERISTICS**

Running time estimates for the Pasadena-Los Angeles LRT Line were made by Manuel Padron and Associates using a computer model that reflects station spacing and acceleration/deceleration rates for the light rail vehicles. The maximum speed is 55 mph, although there are several curves where trains would be restricted to slower speeds. The station dwell time is assumed to be 20 seconds. The model was recently recalibrated to reflect actual observations of travel times on the Blue Line to Long Beach. This resulted in an increase of about 10 percent from earlier run time estimates.

The station changes that are reflected in this analysis had offsetting results. The substitution of the Fillmore Station for the California and Glenarm Stations resulted in a reduction of end-to-end travel time of about 45 seconds. On the other hand, the addition of the Southwest Museum Station would add about 45 seconds.

As a result of these changes, Manuel Padron and Associates have estimated that it will take a total elapsed time of 28.7 minutes to travel from Union Station in downtown Los Angeles to the Sierra

Madre Villa Avenue Station in Pasadena. Trains will travel at an average speed of 28.3 mph. Table 3.5-1 outlines the estimated running time of the Pasadena-Los Angeles LRT Line.

**TABLE 3.5-1**

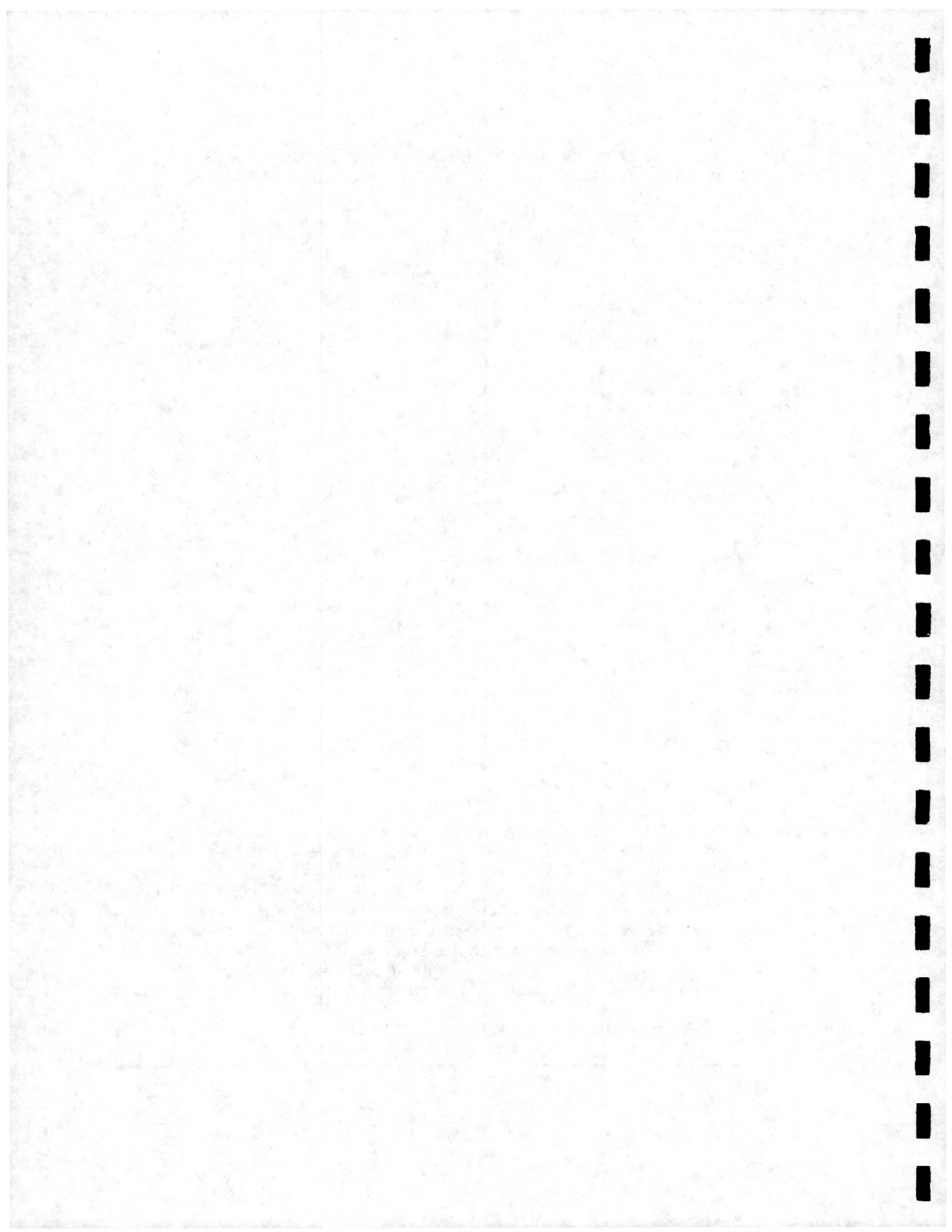
**ESTIMATION OF BLUE LINE RUNNING TIME  
UNION STATION TO SIERRA MADRE VILLA (VIA HIGHLAND PARK)**

| Station/Line Section      | Max. Speed | Dist. (miles) | Cumul. Dist. (miles) | Running Time (min.) | Sta-Sta Time Inc. Dwell | Elapsed Run Time (min.) |
|---------------------------|------------|---------------|----------------------|---------------------|-------------------------|-------------------------|
| Union Station (surface)   | 35         | 0.72          | 0.00                 | 1.55                | 1.89                    | 0.0                     |
| Chinatown (Alt. 4 5/3/90) | 45         | 0.28          | 0.72                 | 0.60                | 0.60                    | 1.9                     |
| Curves 77+00 to 92+15     | 55         | 1.19          | 1.01                 | 1.60                | 1.93                    | 2.5                     |
| Avenue 28/SF Row          | 55         | 0.90          | 2.20                 | 1.53                | 1.86                    | 4.4                     |
| Marmion Way/Figueroa      | 45         | 0.38          | 3.09                 | 0.73                | 0.73                    | 6.3                     |
| Curve 255+00 to 269+00    | 45         | 0.22          | 3.48                 | 0.46                | 0.79                    | 7.0                     |
| Southwest Museum Station  | 45         | 0.64          | 3.69                 | 1.25                | 1.58                    | 7.8                     |
| Marmion Way/Avenue 51     | 25         | 0.61          | 4.33                 | 1.71                | 2.05                    | 9.4                     |
| Marmion Way/Avenue 57     | 45         | 1.27          | 4.94                 | 1.97                | 1.97                    | 11.4                    |
| Curve 413+00 to 417+00    | 45         | 0.76          | 6.20                 | 1.06                | 1.06                    | 13.4                    |
| Curve 443+00 to 453+00    | 45         | 0.13          | 6.96                 | 0.34                | 0.68                    | 14.5                    |
| Mission Street            | 45         | 0.46          | 7.09                 | 0.84                | 0.84                    | 15.1                    |
| Curve 484+00 to 32+00     | 45         | 1.00          | 7.55                 | 1.56                | 1.90                    | 16.0                    |
| Fillmore Street           | 25         | 0.58          | 8.55                 | 1.63                | 1.96                    | 17.9                    |
| Del Mar Boulevard         | 25         | 0.35          | 9.13                 | 0.94                | 0.94                    | 19.8                    |
| Curve 101+50 to 107+00    | 35         | 0.15          | 9.48                 | 0.39                | 0.72                    | 20.8                    |
| Memorial Park             | 35         | 0.32          | 9.63                 | 0.70                | 0.70                    | 21.5                    |
| Curve 118+00 to 126+00    | 45         | 0.7           | 9.94                 | 1.16                | 1.50                    | 22.2                    |
| Lake Avenue               | 55         | 1.1           | 10.64                | 1.76                | 2.10                    | 23.7                    |
| Allen Avenue              | 55         | 1.8           | 11.74                | 2.56                | 2.90                    | 25.8                    |
| Sierra Madre Villa Avenue |            |               | 13.54                |                     |                         | 28.7                    |

Average Speed - 28.3 mph

- Notes: 1. Between Union Station and Avenue 26, distances are based on Chinatown Alternative No. 4 (5/3/90). Between Avenue 26 and Monterey/Pasadena, distances are based on 9/15/87 plan and profile drawings, except Marmion/Avenue 57 and East Pasadena distances based on plan and profile drawings prepared by Bechtel (5/1/89). Freeway station locations shifted, and California Street added, per Susan Rosales 8/14/91. Southwest Museum Station added; Fillmore substituted for California and Glenarm 7/92.
2. Run times assume signal pre-emption at all crossings.
3. Run and dwell times based on actual Blue Line (LB-LA) performance.
4. Station dwell time = 0.33 minutes (20 seconds).

Source: Manuel Padron & Associates, July 1992.



**SECTION 4**  
**ENVIRONMENTAL IMPACT ANALYSIS**

**4.1      LAND USE**

This section of the SEIR discusses the proposed project's impacts on existing land uses and development located adjacent to the modified project. This discussion is focused on only those land use impacts associated with revisions to the previously approved project as described in the previously certified EIR. The analysis considers direct land use impacts, such as displacement, land use conflicts, and potential changes in land use and/or land use patterns, which would occur over time once the project is operational.

**4.1.1      ENVIRONMENTAL SETTING**



This SEIR analyzes a number of maintenance yards, grade separations, and new proposed station locations. The Pasadena Light Rail Transit alignment originates at Union Station in downtown Los Angeles. From there it proceeds on an elevated structure approaching Chinatown, then descends to at-grade as it proceeds past the Cornfield Yard before crossing the Los Angeles River. Once across the river, the predominantly at-grade alignment follows the Atchison Topeka & Santa Fe rail right-of-way through the communities of Lincoln Heights, Mount Washington, and Highland Park, and the City of South Pasadena before reaching its terminus in the City of Pasadena. The entire route will be approximately 14 miles in length. Generalized existing land uses along the alignment are depicted on Exhibit 4.1-1 and 4.1-2.

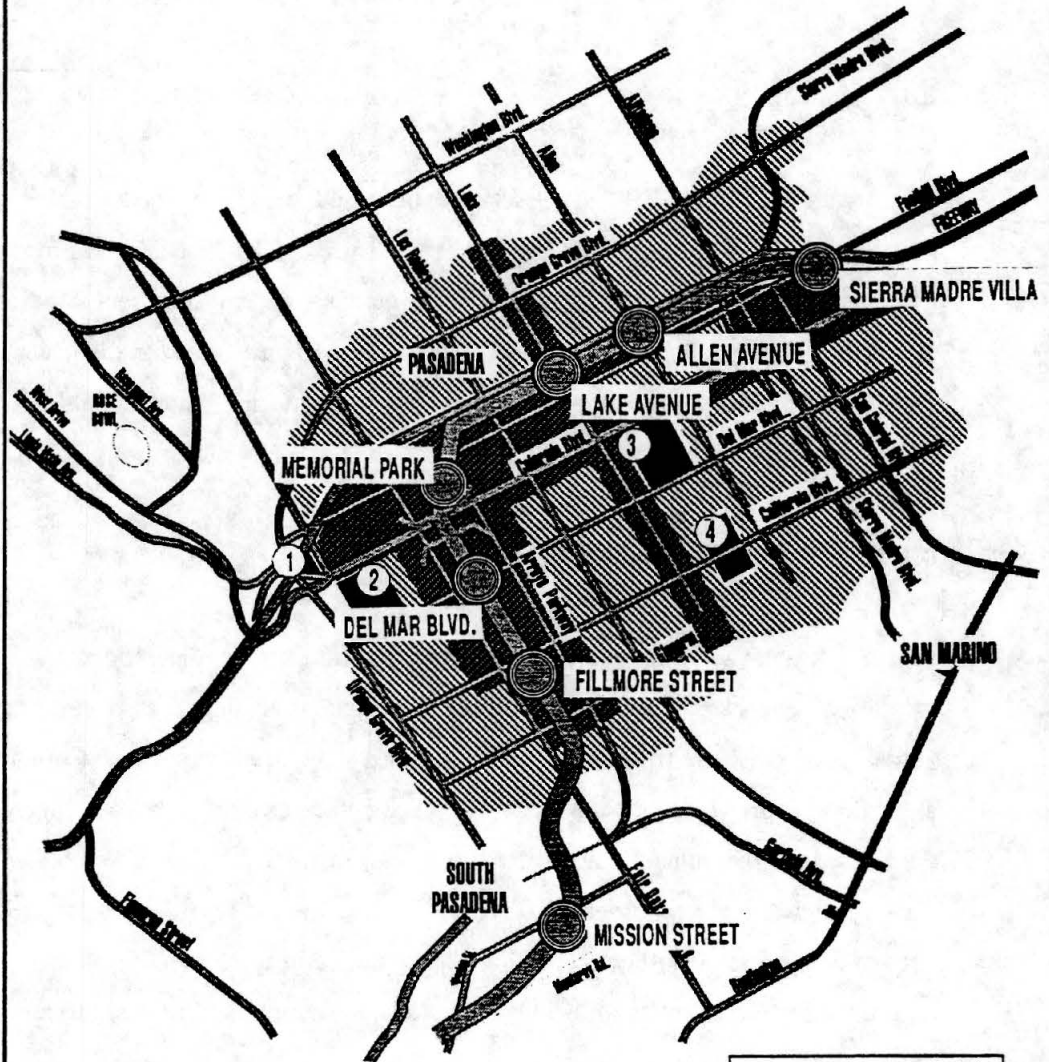
**Yards and Connectors**

**Taylor Yard**

The Southern Pacific Transportation Company's (SPTCo) Taylor Yard property is approximately 243 acres and is defined by the Los Angeles River to the west and San Fernando Road to the east, SR-2 to the north, and I-5 to the south. Taylor Yard has served as a rail storage and maintenance facility since the early 1900s. Since that time, various activities such as the coupling and decoupling of freight trains, locomotive repair, operation and maintenance of insulated box cars, and storage of railcars have occurred onsite. In the last 10 years, Taylor Yard has experienced a reduced level of






**LEGEND**

-  RESIDENTIAL
-  COMMERCIAL
- 1** INSTITUTIONAL
  - 1** Norton Simon Museum
  - 2** Ambassador College
  - 3** Pasadena City College
  - 4** Cal Tech



**NORTH**  
NOT TO SCALE

**LEGEND**

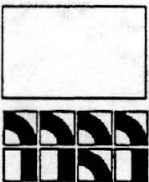
-  Alignment
-  Station
-  Proposed Grade Separations
-  Proposed Maintenance Yard Sites
-  Non-Revenue Connector

**GENERALIZED EXISTING LAND USE (north leg)**





Pasadena Light Rail Supplemental EIR

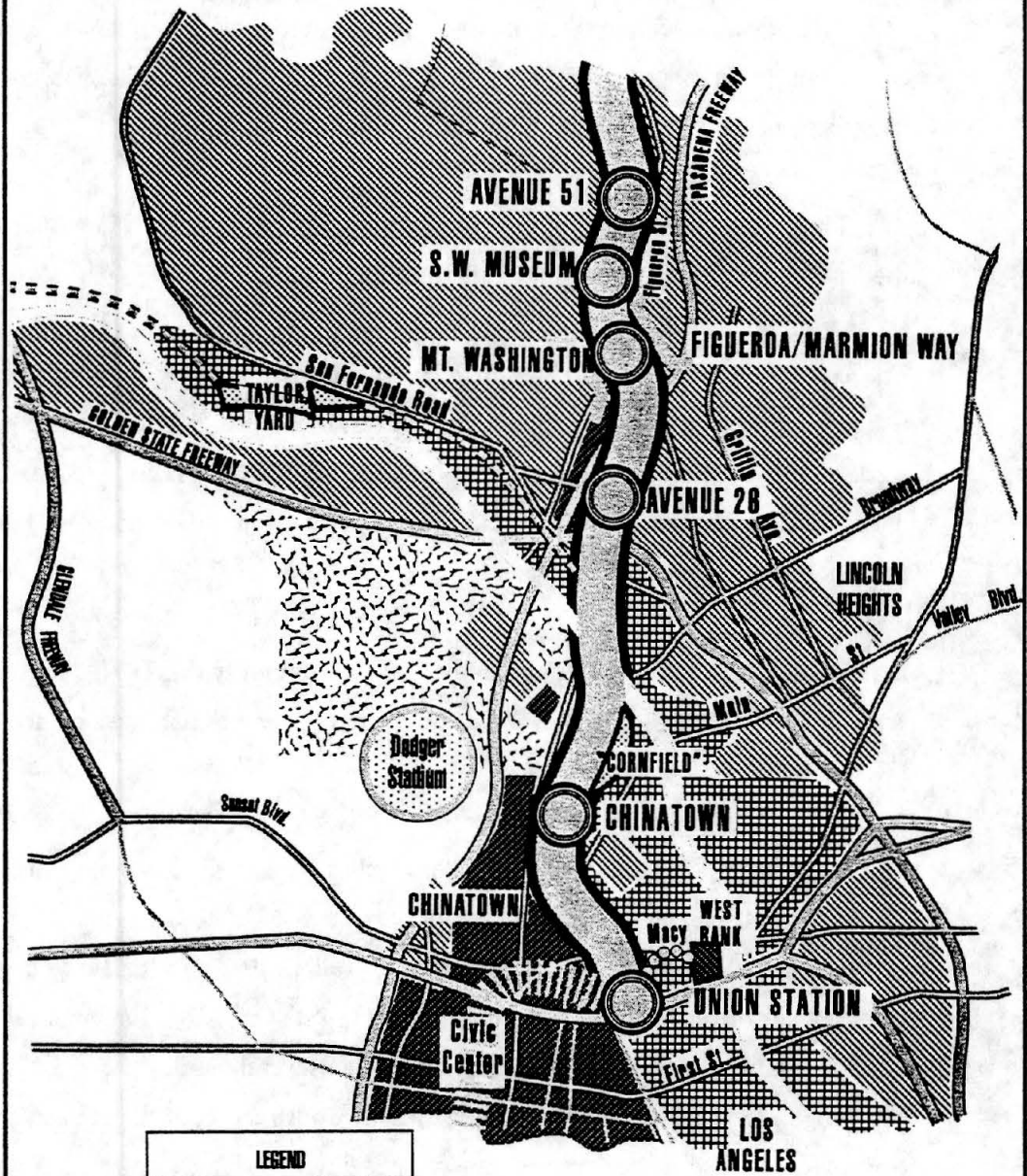
Michael Brandman Associates

**exhibit**  
**4.1-1**








**LEGEND**

-  RESIDENTIAL
-  COMMERCIAL
-  INDUSTRIAL
-  ELYSIAN PARK



**LEGEND**

-  Alignment
-  Stations
-  Proposed Grade Separations
-  Proposed Maintenance Yard Sites
-  Non-Revenue Connector

**NORTH**  
NOT TO SCALE

**GENERALIZED EXISTING LAND USE (south leg)**

Pasadena Light Rail Supplemental EIR

Michael Brandman Associates

**exhibit**  
**4.1-2**

activity associated with freight uses. Currently, the majority of the maintenance structures and operations occur on the western portion of the site, an area still held by the Southern Pacific Transportation Company (parcels G and H on Exhibit 4.1-3).

The Southern Pacific Transportation Company is offering for sale a large portion of Taylor Yard to the east (parcels D, E, and F on Exhibit 4.1-3).

The Los Angeles Police Department (LAPD) is considering development of a new police academy and a driver training facility within the same "for sale" area. These facilities are being considered under separate proposals which reserve Taylor Yard as one of a number of potential sites. According to the notices of preparation circulated for these two development proposals, both facilities could be accommodated on parcels D, E and F.

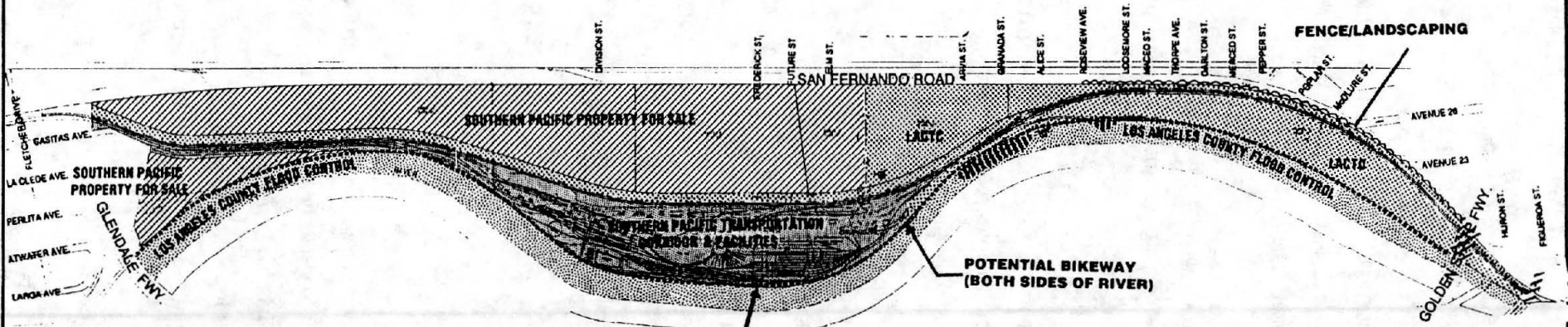
LACTC and the Southern California Regional Rail Authority (SCRRA) have purchased 70 of the 243 acres at the south end of Taylor Yard for transit-related use and development (parcels B and C on Exhibit 4.1-3).

The crescent-shaped parcel on the southern end of Taylor Yard is being constructed as a Metrolink commuter rail maintenance facility for the Southern California Regional Rail Authority, of which LACTC is a member agency. The commuter rail facility will maintain, clean, refuel, store, and service locomotives for the five-county regional rail system. The commuter rail facility will have one main shop building, a smaller washer building, and several minor structures. The majority of the site will be occupied by storage and service tracks. Construction of the commuter rail facility began in November 1991 and is expected to continue through March 1993. Commuter rail service is anticipated to begin in October 1992. Most of the activities associated with the commuter rail portion of Taylor Yard are anticipated to occur between the hours of 7:30 a.m. and 3:30 p.m.

The remaining LACTC site is presently vacant except for utility poles, a small number of equipment sheds, and railroad tracks along the eastern edge of the property which run parallel to San Fernando Road. Aerial utility lines traverse the site along the eastern bank of the Los Angeles River. The property is separated from San Fernando Road by a 6-foot chain link fence along the eastern border of the property. The western border of the proposed site is shared with the Southern Pacific Transportation Company.



**LEGEND**



-  SCRR COMUTER RAIL/LIGHT RAIL
-  SOUTHERN PACIFIC TRANSPORTATION CORRIDOR & FACILITIES
-  LOS ANGELES FLOOD CONTROL
-  SOUTHERN PACIFIC FOR SALE
-  CITY OF LOS ANGELES DEPARTMENT OF WATER AND POWER
-  CITY OF LOS ANGELES-PUBLIC ROAD EASEMENT-RIVERSIDE DRIVE
-  STATE OF CALIFORNIA-PUBLIC ROAD EASEMENT-GOLDEN STATE FWY.



**4.1-3**  
 exhibit  


# TAYLOR YARD PROPERTY OWNERSHIP

Pasadena Light Rail Supplemental EIR

Michael Brandman Associates

exhibit  
4.1-3

Various proposals to build on the vacant "for sale" portions of Taylor Yard have been developed. Through its efforts to subdivide and sell lots, SPTCo has entertained three (3) development concepts. The largest of the concepts would be a grocery warehouse and distribution center located on 30 acres; parcel D and the southern half of parcel E on Exhibit 4.1-3. A Costco and Food 4 Less comprise the other two concepts. They would be located on portions of parcels E and F, respectively. The remainder of parcels E and F would be developed with "power center" uses.

In relation to the development proposals noted above, the community has voiced a concern for a development that would include amenities for area residents, new housing opportunities, jobs for locals, and access to the Los Angeles River. These interests have initiated an open community planning process. With the cooperation of the local council district and LACTC, the Los Angeles Chapter of the American Institute of Architects (AIA/LA) is sponsoring the Taylor Yard Area Planning and Urban Design Workshop. This process is utilizing community meeting and workshops to identify the primary community concerns and develop realistic alternatives for Taylor Yard. LACTC intends on further developing the resulting alternative through an additional transit related development feasibility study.

The Northeast Area Plan of the City of Los Angeles General Plan designates the Taylor Yard as "Heavy Industrial". This designation accommodates zones "M3" and "P" of the City of Los Angeles Planning and Zoning Code. Zone "P" is applied to land to accommodate automobile parking. Zone "M3" is applied to accommodate heavy industry such as gas, alcohol, ammonia, petroleum, paper, plastic and asphalt manufacturing; automobile dismantling and junk yards; quarry and stone mills; and railroad repair shops.

#### **Original Taylor Yard Option**

The Light Rail Transit service and maintenance facility currently proposed by LACTC would be located on a 17-acre, triangular shaped portion of the LACTC property discussed above. A narrow strip of light industrial and commercial buildings run parallel to the proposed site and are located east of the site between San Fernando Road and Cypress Boulevard. Light industrial and manufacturing facilities are also present across the Los Angeles River to the west of the site. Residential land uses are located both east and west of the proposed site on the far side of the industrial and commercial areas mentioned.

### **Linear Taylor Yard Option**

This alternative consists of a 16-acre strip of the yard set back 700 feet west of San Fernando Road, adjacent to the existing SPTCo maintenance and operations area previously noted. The operational characteristics would be the same as those at the currently proposed yard. This alternative location would be isolated from existing non-railroad uses in the area. Other differences between the two proposals in Taylor Yard are lot configuration and ownership of property.

Residential neighborhoods comprised of single-and multiple-family residences are located within one-half mile of the project site, just east of Cypress Boulevard. Additional residential neighborhoods are located within the general vicinity of the proposed project, largely to the east and west of the proposed sites.

Four elementary schools and one junior high school are located within one-half mile of Taylor Yard. Cypress Park and Elysian Valley Recreational Center are situated in the neighborhoods surrounding the Taylor Yard site. Both Elysian Park and Dodger Stadium are located approximately three-quarters of a mile to the southwest of the proposed project site across the Los Angeles River. Other nearby recreational uses include a Class III bike route which crosses the Los Angeles River via Riverside Drive south of Taylor Yard and then follows the western bank of the Los Angeles River northward into the Griffith Park area. At present, a pathway is located between Taylor Yard and the Los Angeles River and is delineated by a barbed wire chain link fence.

### **Taylor Yard Wye Connector**

As indicated in Exhibit 3.3-3, the Taylor Yard Wye Connector would be located immediately adjacent to the east bank of the Los Angeles River and follow the Avenue 19 roadway alignment from the Pasadena Light Rail Transit alignment to the intersection of Avenue 19 and San Fernando Road. The proposed path of this component is bordered by the Pasadena Freeway and Arroyo Seco Channel to the north, industrial land uses to the south east, and an SPTCo right-of-way and the Los Angeles River to the west. The connector is surrounded by industrial uses such as warehouses and vehicle and equipment storage yards. The southern leg of the Wye would also function as part of the Burbank/Glendale Line as it branches away from the Pasadena-Los Angeles Line. The northern leg of this connector would function as a link from the Pasadena line to the proposed Taylor Yard Light Rail Transit maintenance facility for movement of southbound trains directly to Taylor Yard.

## **Cornfield Yard**

The Cornfield Yard, comprising approximately 14 acres, would be located on the south side of the proposed alignment in a large parcel owned by the Southern Pacific Transportation Company. The Cornfield Yard is defined by North Broadway on the north and west, North Spring Street on the east, the Los Angeles River to the north, and Chinatown to the south. All at-grade surrounding uses are industrial manufacturing, distribution and warehousing. A small residential/commercial area northwest of the Cornfield Yard is separated from the site by a 50-foot grade separation and North Broadway. All uses north and west of this yard are separated by the 50-foot grade separation that runs from the Broadway Bridge on the north, southward into Chinatown. This option is an alternative to both of the potential Taylor Yard sites.

The Central City North Community Plan of the City of Los Angeles General Plan designates the Cornfield Yard as "Light Industrial". This designation accommodates zones "M2", "MR2" and "P" of the City of Los Angeles Planning and Zoning Code. Zone "P" is applied to land to accommodate automobile parking. The "M2" zone accommodates uses such as airports or aircraft landing fields; automobile dismantling and junk yards; correctional or penal institution storage yards of all kinds; electric railroad yards; and rifle ranges. Zone "MR2" provides for the development of industrial uses such as breweries, canvas and cloth manufacturing, fencing and woven wire manufacturing, aircraft factories and recycling centers.

## **West Bank Option**

The West Bank Option is located at the northwest corner of the Hollywood Freeway/Los Angeles River intersection. This option would be divided into two sections. The southern segment is bound by the Hollywood Freeway on the south, Keller Street on the west, Macy Street Bridge on the north, and the Los Angeles River on the east. The northern segment is bound by Macy Street on the south, an SCRTD bus maintenance facility and the Los Angeles County main jail on the west, SPTCo rights-of-way on the north, and the Los Angeles River on the east. Adjacent land uses consist of public works projects, government buildings and facilities, and industrial uses. The closest residential area to this option is located approximately 200 yards to the northwest of the non-revenue connector (see Exhibit 4.1-2).

The Central City North Community Plan of the City of Los Angeles General Plan designates the area of the West Bank Option for "Heavy Industrial." This designation accommodates zones "M3" and "P" of the City of Los Angeles Planning and Zoning Code. Zone "P" is applied to land to accommodate automobile parking. Zone "M3" is applied to accommodate heavy industry such as gas, alcohol, ammonia, petroleum, paper, plastic and asphalt manufacturing; automobile dismantling and junk yards; quarry and stone mills; and railroad repair shops.

### **Stations and Grade Separations**

#### **Southwest Museum Station**

The Southwest Museum Station would be located east of, and adjacent to, Marmion Way within the Santa Fe right-of-way alignment discussed in the certified EIR. The platform would be located approximately 100 feet south of the intersection of Museum Drive and Marmion Way.

Uses adjacent to this proposed station include a mix of multiple-family dwellings and institutional uses. The institutional uses are the Southwest Museum and its Casa de Adobe Annex situated north of the site and the Sycamore Convalescent Hospital, a church, and a senior citizen center and residential facility located on the eastern boundary of the alignment right-of-way. Residential properties make up the remainder of adjacent properties. As the alignment is stepped into the side of a southwesterly facing hillside, the aforementioned uses are grade-separated from the proposed station. An existing pedestrian tunnel passes beneath the rail right-of-way, providing protected pedestrian access between Figueroa Street and Marmion Way. The Southwest Museum is located on the hillside approximately 100 feet above the rail alignment. Light Rail Transit patrons approaching the station from Figueroa Street would have to pass under the alignment through the pedestrian tunnel which is also utilized for Museum access. Patrons approaching from Marmion Way would walk down stairs to the platform.

#### **Fillmore Street Station**

This station would be located at the intersection of the AT&SF right-of-way and Fillmore Street. LACTC intends to acquire properties adjacent to the westerly edge of the alignment and south of the intersection for limited parking and other Light Rail Transit related services. The area is bounded by commercial and warehouse uses, some of which will be redeveloped near the time of this project's implementation.

### **Allen Avenue Station**

The Allen Avenue Station would be located fully within the alignment approved in the 1989 draft EIR. The precise location is at the intersection of Interstate 210 and Allen Avenue in the Santa Fe right-of-way between the east and west bound lanes of the freeway. This area is in the northeastern portion of the City of Pasadena. The intersection of Interstate 210 and Allen Avenue is generally bound by single-family residential to the north and a mix of various residential densities and commercial uses to the south.

### **Marmion Way and Figueroa Street Grade Separation**

This grade separation would consist of an elevated structure to bypass the at-grade crossing of the Figueroa Street, Marmion Way, Pasadena Avenue intersection. The proposed elevated structure would be located in an area bounded by Marmion Way to the west, French Street to the south, Pasadena Avenue and Figueroa Street to the east, and the extension of Avenue 42 to the north. Surrounding land uses adjacent to the northern portion of the elevated structure (north of Figueroa Street) consist of multi-family residential, with adjacent to the southern portion consisting of neighborhood serving commercial.

The north and southbound tracks would be elevated above the existing grade from approximately 1,400 feet north of the Figueroa Street right-of-way until approximately 1,050 feet south of the Figueroa street right-of-way, for a total of 2,600 feet (about one-half mile). The high point of the flyover would be approximately 25 feet above the existing street level. The grade separation would require adjustments to the station location at Marmion/Figueroa as analyzed in the certified EIR. One potential shift southward positions the station adjacent to a warehouse on one side and residences on the other. The warehouse location is under consideration as a parking facility.

### **Colorado Boulevard Grade Separation**

The location of this subgrade is in Pasadena's Old Town District, an area characterized by historic buildings, antique shops, restaurants, and movie theaters. Old Town is one of the central focal points within the city and receives heavy use for entertainment activities. The proposed site is located within a commercial/retail business district bound by Memorial Park on the north, the Amtrak Pasadena Rail Passenger Station on the south, Raymond Avenue to the west, and Arroyo Parkway to the east.

The subgrade section would extend approximately 2,800 feet between the proposed Del Mar and Memorial park stations and require closure of Holly Street. As the alignment is located between buildings that face the streets, the subgrade section is bound by old freight car loading docks, parking lots, and many buildings that are immediately adjacent to the alignment, some of which are registered as historic landmarks (see Section 4.9, Cultural Resources).

#### **4.1.2 ENVIRONMENTAL IMPACTS**

This section examines the potential land use impacts associated with the revisions to the approved Highland Park alignment, including Light Rail Transit maintenance facilities, stations, and grade separations, which would arise from the construction and operation of the Pasadena-Los Angeles Light Rail Transit. The focus of this analysis is on impacts associated with project components not addressed in the previously certified EIR such as the grade separation, new station locations, and maintenance facility sites. Impacts addressed include the displacement of existing land uses and possible land use conflicts between the Light Rail Transit and adjacent uses, such as parking and access.

##### **Yards and Connectors**

The candidate service and maintenance yards are proposed on sites which have either currently or have in the past been used for diesel locomotive operations. Land use compatibility impacts associated with light rail service and maintenance facilities would be less than those associated with diesel locomotive switching and loading facilities.

##### **Taylor Yard**

The light rail service and maintenance facilities proposed by LACTC are consistent with the provisions of the Northeast Area Plan of the City of Los Angeles General Plan and the requirements of the City of Los Angeles Planning and Zoning Code.

### Construction Impacts

Construction activities associated with the proposed facility consist of the construction of onsite parking areas, storage tracks, a car washer, a vehicle maintenance shop, equipment storage areas, and a power substation(s). Construction would take place over a 9-month period.

Potential construction impacts generated by the proposed light rail facility include grading activities, the export of graded materials, parking, disruption of traffic, noise associated with construction activities, and fugitive dust emissions. Discussion of short-term traffic, noise, and air quality impacts are included in Sections 4.2, 4.5, and 4.4. Mitigation measures proposed in these sections are anticipated to reduce construction impacts to a level considered less than significant. Parking for construction vehicles and equipment would occur onsite and not on adjacent residential streets.

### Operational Impacts

Most of the daily activities would occur in the evening hours, after the light rail vehicles have come out of service. Noise and vibration associated with the movement of the light rail vehicles in the late evening and early morning hours would be a long-term, operational impact. In addition, the storage yard and maintenance facilities would be brightly lit in the evening hours for both security and safety purposes. Access to the light rail facility would be highly restricted. Preventative maintenance and inspection activities shall occur in bays within the vehicle maintenance shop, thus buffering potential noise impacts generated by repair activities.

### Original Taylor Yard Option

Because the current use of the Taylor Yard is for diesel locomotive operations, utilization of the yard for light rail maintenance facilities would not result in any increase in land use compatibility impacts above existing conditions. Based on the currently proposed site configuration, structures housing the service and maintenance operations and procedures would be located between 150 and 500 feet from existing businesses fronting on San Fernando Road in Cypress Park. At this distance from the Cypress Park Community, operational impacts are likely to result. Operational impacts resulting from implementation of the Light Rail Transit service and maintenance facility are discussed in Section 4.4, Air Quality; Section 4.5, Noise and Vibration; Section 4.6, Light and Glare; and Section 4.7, Risk of Upset.



### Linear Taylor Yard Option

This alternative would, with its 700-foot setback from San Fernando Road, provide an additional buffer between Cypress Park businesses and homeowners. Based on a conceptual site plan sketch, service and maintenance facilities would be located between 800 and 850 feet away from structures fronting on San Fernando Road. Development of the Light Rail Transit service and maintenance yard at this location would result in a lower level potential for operational impacts on the adjacent Cypress Park community. Operational impacts resulting from implementation of the Light Rail Transit service and maintenance facility are discussed in Section 4.4, Air Quality; Section 4.5, Noise and Vibration; Section 4.6, Light and Glare; and Section 4.7, Risk of Upset.

### Taylor Yard Wye Connector

Implementation of the Taylor Yard Wye Connector will result in the displacement of a LADOT maintenance and storage facility, the Old City Jail and an Anhing Corporation storage building. Property owners will be justly compensated in accordance with state law. Additional discussion of employment and community services impacts related to the displacement of the Old City Jail are discussed in the Burbank/Glendale Rail Transit Project Draft EIR; Chapter 5, Environmental Issues Analysis; Section 5.2.2, Land Acquisition and Displacement Impacts; page 85.

### **Cornfield Yard**

The light rail service and maintenance facilities proposed by LACTC are consistent with the specific provisions of the Central City North Community Plan of the City of Los Angeles General Plan and the requirements of the City of Los Angeles Planning and Zoning Code.

This alternative yard site is located in an industrial area and is currently used for locomotive operations. Implementation of this alternative would result in a less intensive use of the site than current diesel locomotive operations. Selection of this site is not anticipated to result in any adverse land use compatibility impacts. Operational impacts resulting from implementation of the Light Rail Transit service and maintenance facility are discussed in Section 4.4, Air Quality; Section 4.5, Noise and Vibration; Section 4.6, Light and Glare; and Section 4.7, Risk of Upset.

## **West Bank Option**

The light rail service and maintenance facilities proposed by LACTC are generally consistent with the provisions of the Central City North Community Plan of the City of Los Angeles General Plan and the requirements of the City of Los Angeles Planning and Zoning Code.

This option would be used as a temporary maintenance facility because the site provides limited space for light rail vehicle storage in addition to lot configuration constraints for service and maintenance facilities. Because the Light Rail Transit facilities would be located behind existing industrial uses and adjacent to the Los Angeles River, no land use compatibility impacts are expected to result from implementation of this option. Operational impacts resulting from implementation of the Light Rail Transit service and maintenance facility are discussed in Section 4.4, Air Quality; Section 4.5, Noise and Vibration; Section 4.6, Light and Glare; and Section 4.7, Risk of Upset.

While LACTC would have to acquire property to develop this option, this impact would not result in the displacement of any structures or tenants. The law provides that all owners shall be given just compensation.

## **Stations and Grade Separations**

### **Southwest Museum Station**

Development of the Southwest Museum Station would require removal of approximately 600 feet of onstreet parking which is currently underused, while potentially increasing the demand for parking facilities in the immediate area. This may cause an impact on on-street parking in adjacent neighborhoods.

Due to the grade separation between adjacent land uses and the Light Rail Transit alignment, land use incompatibilities are not anticipated. Implementation of the Southwest Museum Station could result in a beneficial impact to transit-dependent residents of the nearby senior center and multiple-family dwellings by providing increased accessibility to Pasadena, South Pasadena, and downtown Los Angeles. With this station located only 100 feet from the Southwest Museum entrance access ramp, museum patrons would benefit from increased accessibility though users would still need to negotiate a significant slope to reach the museum. It should be noted that the Long-Range Planning Committee

of the Southwest Museum Board of Trustees recently contracted a consultant to prepare an economic feasibility study to assess the possibilities of either remodeling or relocating the Southwest Museum. The preliminary report is expected to be complete some time in the fall of this year. At this juncture, museum officials are exploring alternatives for future management of museum resources and have no specific proposals for renovation or relocation. If the museum were to relocate, there would not be any museum accessibility benefits from this station location. However, this station's proximity to senior citizen medical facilities, residences, and the proposed CRA child care facility on the Zeigler Estate, warrants consideration beyond that of museum accessibility. This station would be located 0.55 mile from the Marmion/Figueroa station and 0.60 mile from the Avenue 51 station. The issue of station spacing becomes further complicated in light of decisions made on whether to provide an aerial flyover at the intersection of Marmion Way/Figueroa, which in turn affects placement of the Marmion/Figueroa station upon the location of the Marmion/Figueroa Aerial Flyover Station. If the Marmion/Figueroa option is shifted northward to allow at-grade access, then the close spacing of the Southwest Museum and Marmion/Figueroa stations is particularly awkward.

Development of this station would occur within the approved right-of-way and not result in any right-of-way impacts.

#### **Fillmore Street Station**

Development of this alternative would require vacating Fillmore Street where it intersects with the alignment right-of-way and, thus, result in an impact to traffic circulation and through traffic. This station will not impact adjacent uses. Discussions of specific impacts relating to the Fillmore Street vacation are included in Section 4.2; Transportation and Circulation.

#### **Allen Avenue Station**

As the Allen Avenue Station would be located within the AT&SF right-of-way between the east and westbound lanes of I-210, land use compatibility, parking displacement, and takings impacts would not occur.

### **Marmion Way and Figueroa Street Grade Separation**

Implementation of the Marmion Way and Figueroa Street aerial flyover would not displace any existing land uses or result in right-of-way impacts.

As indicated on Exhibit 3.3-10, there are three alternative station locations. The northernmost station is shifted about 1,000 feet north of the original location, placing it fairly close to the proposed Southwest Museum Station location. Under this configuration, pursuit of both stations would not be recommended. The second alternative provides an elevated station above the Marmion Way/Figueroa intersection. Finally, the southernmost station is located approximately 1,300 feet south of the proposed aerial flyover. Selection of this site allows consideration of a park-and-ride facility using adjacent industrial property.

### **Colorado Boulevard Grade Separation**








Development of this alternative would require vacating Holly Street where it intersects with the alignment right-of-way and, thus, result in an impact to traffic circulation and through traffic. Discussions of specific impacts relating to the Holly Street vacation are included in Sections 4.2, Transportation and Circulation, and 4.8, Aesthetics.

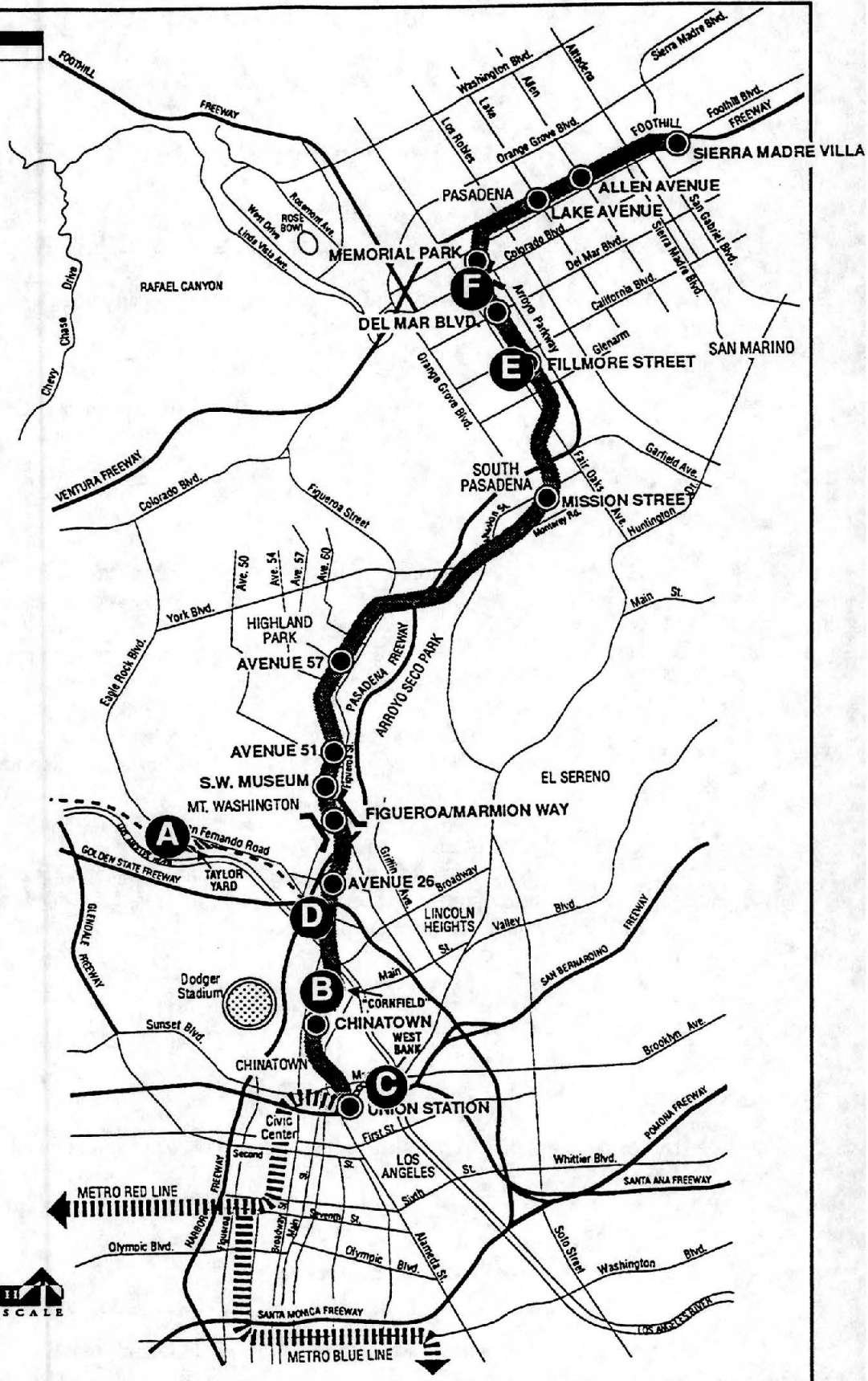
#### **4.1.3 SUMMARY OF IMPACTS**

##### **Displacement/Right-of-Way Impacts**

Table 4.1-1 indicates the land use impacts that would result along the right-of-way of the proposed alignment, grade separations, and station locations currently under consideration. The potential displacement impacts will involve removal of existing development and its replacement with Light Rail Transit facilities, such as stations and station entrances, parking, and other transit station facilities. The table also indicates the corresponding map reference (Exhibit 4.1-4) where the displacement will occur.

**LEGEND**

-  ALIGNMENT
-  STATIONS
-  PROPOSED GRADE SEPARATIONS
-  PROPOSED MAINTENANCE YARD SITES
-  GLENDALE LINE
-  NON-REVENUE CONNECTOR
-  DISPLACEMENT & R.O.W. IMPACTS



**DISPLACEMENT AND RIGHT-OF-WAY IMPACTS**

Pasadena Light Rail Supplemental EIR

Michael Brandman Associates

exhibit 4.1-4

**TABLE 4.1-1**

**DISPLACEMENT/RIGHT-OF-WAY IMPACTS**

| Map References <sup>a</sup> | Location                               | Description of Impact   |
|-----------------------------|--|---|
| A                           | Taylor Yard                            | Property acquisition from SPTCo.  |
| B                           | Cornfield Yard                         | Property acquisition from SPTCo.  |
| C                           | West Bank Option                       | Property acquisition from Santa Fe Railroad.  |
| D                           | Taylor Yard Wye                        | Demolition of LADOT maintenance facility, Old City Jail, and an Anhing Corporation structure. |
| E                           | Fillmore Station                       | Partial taking for criteria curves.<br>Real estate at station.                                |
| F                           | Colorado Boulevard<br>Grade Separation | Partial <sup>b</sup> takings for criteria curves.   |
| G                           | Figueroa/Marmion<br>Grade Separation   | Potential real estate for parking if station adjusted to the South.                           |

<sup>a</sup> Letters refer to locations shown in Exhibit 4.1-4.

<sup>b</sup> Partial takings result when implementation of the Light Rail Transit would require acquisition of a small portion of an impacted site. In such cases, LACTC would not acquire the parcel in full, they would only take the part needed.

Source: Bechtel Civil, Inc., 1992.

A more complete list of affected property owners would be compiled as part of the right-of-way acquisition process.

**Displacement Related to Parking and Access**

Development of the Southwest Museum Station would require removal of on-street parking along the northbound lane of Marmion Way. This space will be used for a "kiss-n-ride" area. According to field observations, the existing on-street parking is not fully used. However, as the station will create an increased demand for parking in the immediate area, an impact will result.

Additionally, development of the Colorado Boulevard grade separation and Fillmore Station would require closure of Holly Street and Fillmore Street where they intersect with the Light Rail Transit right-of-way. These closures would reduce access to the surrounding uses and complicate existing circulation patterns. However, as the closures would not eliminate access to any uses, they are not considered significant impacts.

#### **Impacts on Sensitive Land Uses**

Impacts to adjacent sensitive land uses could result from implementation of the alternative yard proposals. The level of significance of land use incompatibility impacts to sensitive land uses generated by operation of the alternative yard proposals is contingent upon the magnitude of other substantive impacts (i.e., noise, air quality, light and glare, etc.). Section 4.4, Air Quality; Section 4.5, Noise and Vibration; Section 4.6, Light and Glare; and Section 4.7, Risk of Upset discuss the magnitude of specific substantive impacts.

#### **Construction Impacts**

As construction impacts are short-term effects of project development and not associated with the long-term characteristics of land uses, the primary short-term impacts of construction activities are discussed in Section 4.2, Transportation and Circulation, Section 4.4, Air Quality, and Section 4.5, Noise and Vibration.

#### **4.1.4 MITIGATION MEASURES**

The LACTC would provide just and appropriate compensation in accordance with California law to property owners. 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.

In areas where proposed stations do not include parking facilities, parking overflow would become a problem. The extent of this problem cannot be identified until the Light Rail Transit system is in operation. The following mitigation measures are recommended:

1. Once the light rail facility is in operation, a parking analysis shall be prepared to identify any parking overflow problems. Special parking permit programs in residential areas or enforcement of time limits in commercial areas can be implemented to reduce the impact of parking overflow if supported by the findings of the parking analysis.
2. If Taylor Yard is chosen for the Police Bond Programs (New Academy and Driver Training Facility), a Burbank/Glendale Rail Transit station and the LRT service and maintenance facility, the LACTC development activities shall be coordinated with the Los Angeles City Bureau of Engineers.

#### **4.1.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION**

Implementation of the above mitigation measures would reduce land use impacts to an acceptable level.



## 4.2 TRANSPORTATION AND CIRCULATION

The traffic and circulation analysis prepared by Katz, Okitsu and Associates analyzes the traffic impacts of revised route and station options along the proposed Pasadena-Los Angeles Light Rail Transit corridor. Each new option which warranted updating traffic impacts to the year 2010 is described below. The findings of this analysis on impacted intersections and potential mitigations supplement two traffic impact studies performed earlier. The traffic study dated October 13, 1988, for the Southwest Corridor EIR submitted by DKS Associates covered the southwest portion of the proposed Highland Park route option, from downtown Los Angeles to the Monterey/Pasadena Station in South Pasadena. That study also covered the North Main Street route option through Lincoln Heights and El Sereno. A second traffic study dated October 6, 1989, for the revised draft EIR, submitted by DKS Associates in association with Katz, Okitsu & Associates, covered the corridor's northeast portion from South Pasadena to the terminus at Sierra Madre Villa Avenue in Pasadena.

An earlier June 9, 1989, traffic study for the Route Refinement Study by DKS Associates was superseded by the October 6, 1989, report. However, the earlier report provides useful information about existing transit service in Pasadena, the base traffic conditions for the Year 2010 in downtown Pasadena, and the proposed roadway configuration at the Light Rail Transit terminus in northeast Pasadena, as well as other proposed Light Rail Transit routes along Colorado Boulevard and Green Street.

### 4.2.1 ENVIRONMENTAL SETTING

#### Yard and Connector Options

Traffic impacts related to yard activities are generally considered to be minimal. The sole area of concern related to traffic circulation impacts is in connection with establishing a "Wye" connector to Taylor Yard in the vicinity of Avenue 19 and the ATSF Row.

Directly north of the Santa Fe Railroad bridge, Avenue 19 is 43.5 feet wide with two travel lanes and parking on each side of the street. The old city jail and a Los Angeles Department of Transportation facility occupy the west side of Avenue 19. Several industrial facilities front the east side of Avenue 19, including Anhing Corporation, M&M Wholesale Distributors, and Angelica Health Services. These businesses generate parking demands on both sides of Avenue 19, using the

roadway's full parking capacity. M&M Distributors also use Avenue 19 for truck turning movements adjacent to its loading facility. North of the old city jail, northbound and southbound traffic separate into two roadways, each carrying two travel lanes under the Pasadena Freeway and Riverside Drive.

At its T-intersection with San Fernando Road, Avenue 19 is a four-lane roadway, carrying an average daily traffic (ADT) of 5,400 vehicles, according to a Los Angeles Department of Transportation (LADOT) 1989 traffic count. This intersection is controlled by stop signs for northbound traffic on Avenue 19, and for westbound traffic from San Fernando Road. Left turns are prohibited for westbound traffic on San Fernando Road. An analysis of manual traffic counts performed on April 22 and April 24, 1992, is depicted in Table 4.2-1.

**TABLE 4.2-1**

**EXISTING LEVELS OF SERVICE - AVENUE 19/SAN FERNANDO ROAD**

| Intersection                | Period | Existing                 |                        |
|-----------------------------|--------|--------------------------|------------------------|
|                             |        | Volume to Capacity (V/C) | Level of Service (LOS) |
| Avenue 19/San Fernando Road | A.M.   | 0.45                     | A                      |
|                             | P.M.   | 0.35                     | A                      |

Source: Katz, Okitsu Associates, July 1992.

**Southwest Museum Station**

Marmion Way at the intersection of Museum Drive is 42 feet wide, two lanes, with parking on each side of the street. Very light parking demand was observed on Marmion Way during day and evening observations. The Average Daily Traffic on Marmion Way at Museum Drive is approximately 7,600 vehicles (per LADOT 1988 traffic count). Museum Drive forms a T-intersection with Marmion Way. This intersection is controlled by stop signs on all approaches only at southbound Marmion Way and eastbound Museum Drive. Several garages abut the west side of Marmion Way south of Museum Drive, adjacent to the 5-foot sidewalk. A pedestrian tunnel crosses under the Santa Fe railroad tracks east of Marmion Way, serving the adjacent residences.

### Fillmore Street Station

Fillmore Street is a 30-foot wide, two-lane roadway, with parking on each side of the street. The intersection of Fillmore Street and Arroyo Parkway is controlled by stop signs for Fillmore Street traffic. The nearest traffic signals along Arroyo Parkway are at California Boulevard to the north, and at Glenarm Street to the south. These intersections were analyzed in the October 6, 1989, traffic impact study. For the existing conditions analysis, traffic volumes for the Arroyo Parkway/California Boulevard and Arroyo Parkway/Glenarm Street intersections have been adjusted from the 1989 volumes, using an annual growth rate of 1 percent. The existing p.m. peak hour levels of service at the study intersections are as shown in Table 4.2-2.

**TABLE 4.2-2**

**EXISTING TRAFFIC LEVELS OF SERVICE - ARROYO PARKWAY**

| Intersection                    | Period | Existing |     |
|---------------------------------|--------|----------|-----|
|                                 |        | V/C      | LOS |
| Raymond Avenue/California Blvd. | P.M.   | 0.56     | A   |
| Raymond Avenue/Glenarm Street   | P.M.   | 0.46     | A   |
| Arroyo Pkwy./California Blvd.   | P.M.   | 0.61     | B   |
| Arroyo Pkwy./Fillmore St.       | P.M.   | 0.43     | A   |
| Arroyo Pkwy./Glenarm St.        | P.M.   | 0.92     | E   |

Source: Katz, Okitsu Associates, July 1992.

### Allen Avenue Station

Allen Avenue is a four-lane roadway, with raised median, on-street parking, and left turn lanes at its intersections with Corson Street and Maple Street. It carries 20,500 vehicles per day north of I-210, and 17,000 vehicles per day south of I-210 (per City of Pasadena Traffic Flow Map).

Corson Street is a two-lane eastbound frontage road on the south side of I-210, carrying 4,500 vehicles per day west of Allen Avenue, and 4,000 vehicles per day east of Allen Avenue. Parking is permitted on the south side of Corson Street, along with an eastbound bicycle lane which begins east of Allen Avenue.

Maple Street is a two-lane westbound frontage road on the north side of I-210. It carries 13,700 vehicles per day west of Allen Avenue, and 10,800 vehicles per day east of Allen Avenue. Parking is prohibited during daytime hours, and a westbound bicycle lane begins west of Allen Avenue. The intersection levels of service for existing p.m. peak hour conditions are shown on Table 4.2-3.

**TABLE 4.2-3**  
**EXISTING LEVELS OF SERVICE - ALLEN AVENUE**

| Intersection          | Period | Existing |     |
|-----------------------|--------|----------|-----|
|                       |        | V/C      | LOS |
| Allen Ave./Maple St.  | P.M.   | 0.50     | A   |
| Allen Ave./Corson St. | P.M.   | 0.66     | B   |

Source: Katz, Okitsu Associates, July 1992.

**Marmion Way and Figueroa Street Grade Separation**

The intersection of Marmion Way, Figueroa Street, and Pasadena Avenue is an "H"-shaped intersection. It was analyzed in the Southwest Corridor EIR, and documented in the October 13, 1988 traffic impact study. The existing level of service at the time of that study is shown in Table 4.2-4.

**TABLE 4.2-4**  
**EXISTING LEVELS OF SERVICE - FIGUEROA/MARMION AND PASADENA**

| Intersection                  | Period | Existing                 |                        |
|-------------------------------|--------|--------------------------|------------------------|
|                               |        | Volume to Capacity (V/C) | Level of Service (LOS) |
| Figueroa/Marmion and Pasadena | A.M.   | 0.49                     | A                      |
|                               | P.M.   | 0.48                     | A                      |

Source: Katz, Okitsu Associates, July 1992.

## **Colorado Boulevard Grade Separation**

Existing conditions are addressed in the October 6, 1989, traffic impact study. Table 4.2-5 below shows the intersections analyzed in this study, along with the existing p.m. peak hour levels of service at the time of the 1989 study. The only change from the 1989 study is at the intersection of Fair Oaks Avenue and Colorado Boulevard, where the addition of left turn lanes on Colorado Boulevard has improved the level of service from E to C (Table 4.2-5).

### **4.2.2 ENVIRONMENTAL IMPACTS**

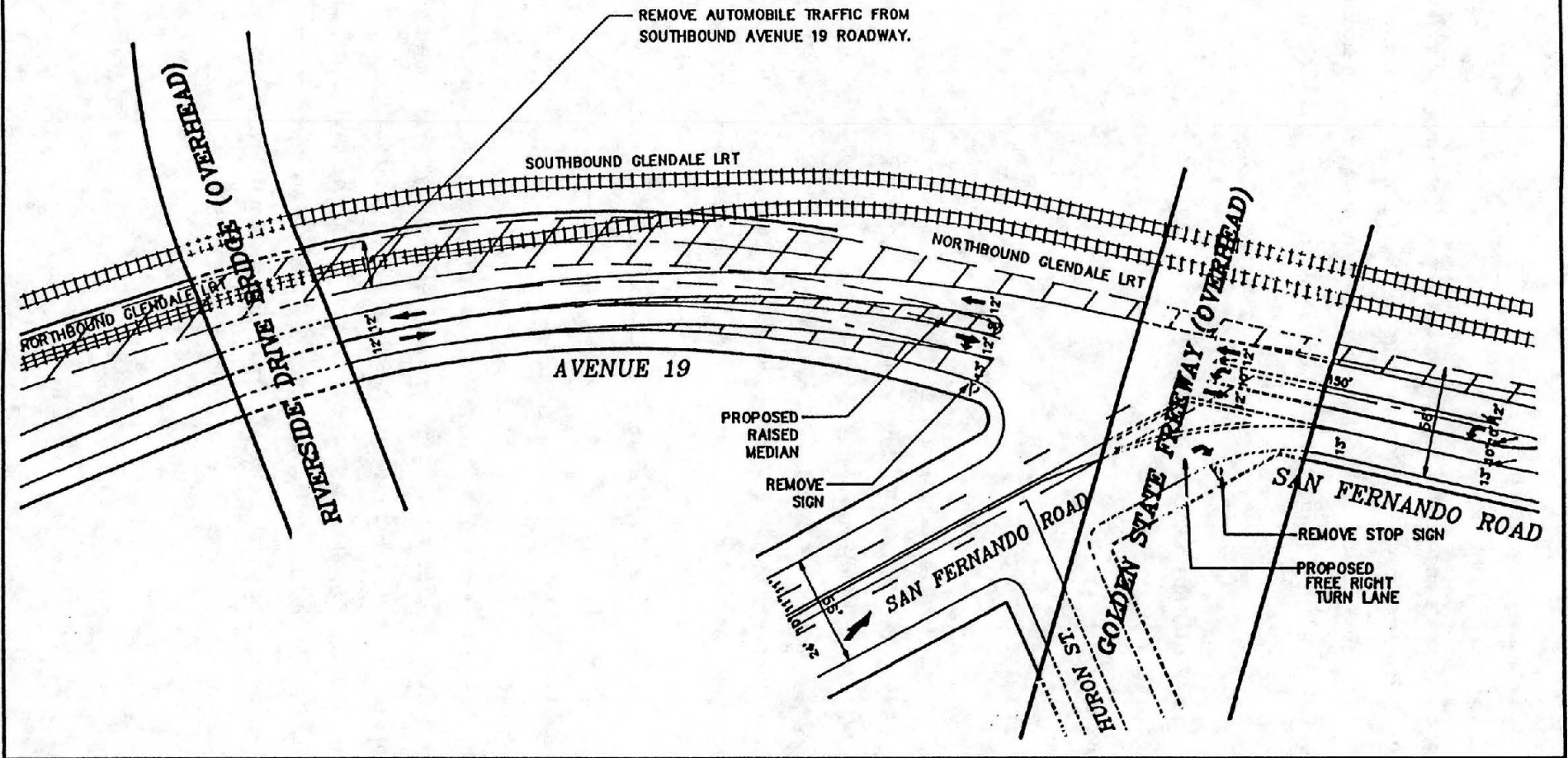
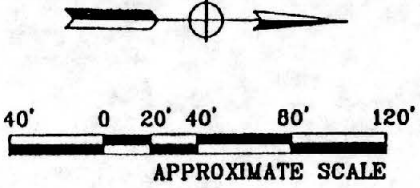
#### **Operational**

##### **Taylor Yard Wye Connector**

The tracks for the Glendale Light Rail Transit Project, which would also serve northbound trains entering a Taylor Yard maintenance facility, will occupy parts of the existing southbound lanes of Avenue 19. This will force all Avenue 19 traffic onto the existing northbound lanes. A possible layout is shown in Exhibits 4.2-1 and 4.2-2. The intersection of San Fernando Road and Avenue 19 could be modified as shown. The intersection could be uncontrolled, with southbound left turns yielding to northbound traffic. Intersection levels of service are as shown on Table 4.2-6.

Projected volumes for the year 2010 were derived from the existing conditions, using a 1 percent annual growth rate. The Light Rail Transit project is not expected to generate an increase in traffic over no-build conditions.

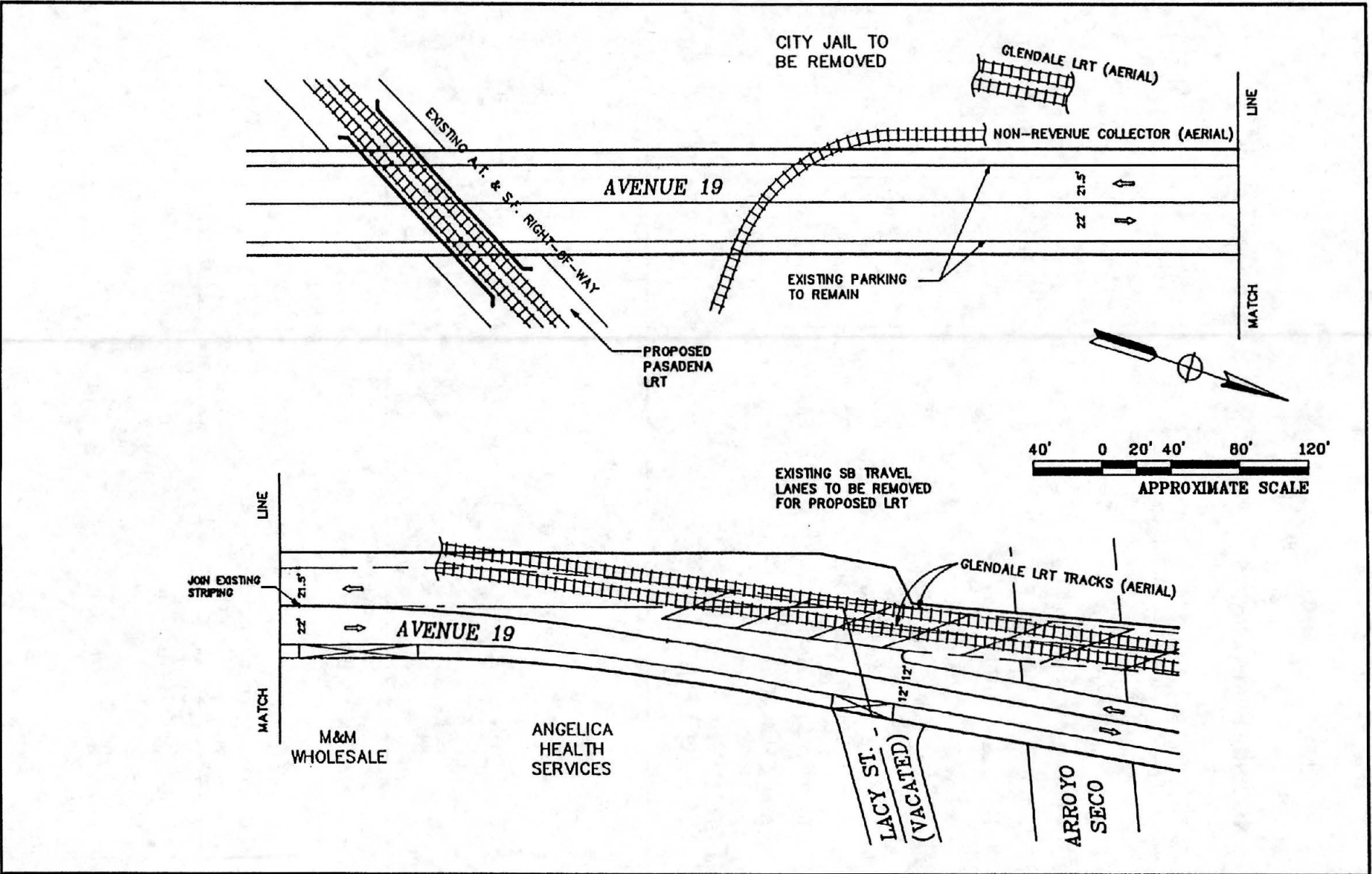
The V/C ratios for the year 2010 with Light Rail Transit are acceptable, so that no further mitigation measures are needed. The V/C ratio for the Year 2010 with Light Rail Transit may appear to be higher than the no-build. However, this merely represents the relocation of the bottleneck for southbound traffic. The point of convergence from two southbound lanes to one, currently adjacent to the old city jail, will move to the intersection of Avenue 19 and San Fernando Road. Since the southbound through lane represents the only critical movement at the intersection, the level of service will be the same as the midblock level of service adjacent to the old city jail.



4.2-1  
exhibit



# AVENUE 19 AT SAN FERNANDO ROAD



# AVENUE 19 AT PASADENA/GLENDALE WYE CONNECTOR

Pasadena Light Rail Supplemental EIR

Michael Brandman Associates

exhibit  
4.2-2

**TABLE 4.2-5**

**EXISTING LEVELS OF SERVICE VOLUMES - COLORADO SUBGRADE**

| Intersection                | Period | Existing |     |
|-----------------------------|--------|----------|-----|
|                             |        | V/C      | LOS |
| Fair Oaks Ave./Walnut St.   | P.M.   | 0.54     | A   |
| Fair Oaks Ave./Holly St.    | P.M.   | 0.51     | A   |
| Arroyo Pkwy./Holly St.      | P.M.   | 0.27     | A   |
| Fair Oaks Ave./Union St.    | P.M.   | 0.32     | A   |
| Arroyo Pkwy./Union St.      | P.M.   | 0.17     | A   |
| Fair Oaks Ave./Colorado Bl. | P.M.   | 0.79     | C   |
| Fair Oaks Ave./Green St.    | P.M.   | 0.41     | A   |
| Arroyo Pkwy./Colorado Bl.   | P.M.   | 0.46     | A   |
| Raymond Ave./Holly St.      | P.M.   | 0.20     | A   |
| Arroyo Pkwy./Green St.      | P.M.   | 0.35     | A   |

Source: Katz, Okitsu Associates, July 1992.

**TABLE 4.2-6**

**INTERSECTION LEVELS OF SERVICE - TAYLOR YARD WYE CONNECTOR**

| Intersection                   | Period | Existing |     | 2010<br>No Build |     | 2010<br>With LRT |     |
|--------------------------------|--------|----------|-----|------------------|-----|------------------|-----|
|                                |        | V/C      | LOS | V/C              | LOS | V/C              | LOS |
| San Fernando Rd &<br>Avenue 19 | A.M.   | 0.45     | A   | 0.53             | A   | 0.80             | D   |
|                                | P.M.   | 0.35     | A   | 0.42             | A   | 0.57             | A   |

Source: Katz, Okitsu Associates, July 1992.



The east roadway of Avenue 19 south of San Fernando Road is 24 feet wide. This roadway width is sufficient in terms of roadway capacity to handle one lane of traffic in each direction. However, vehicle speeds should be reduced because of the increased possibility of a head-on collision.

Near the old jail site, the Glendale Light Rail Transit tracks and the non-revenue connector structure should be situated so that no parking spaces are lost. Furthermore, Avenue 19 at the M&M driveway should be maintained at its current width so that trucks can maneuver into the loading dock.

### **Southwest Museum Station**

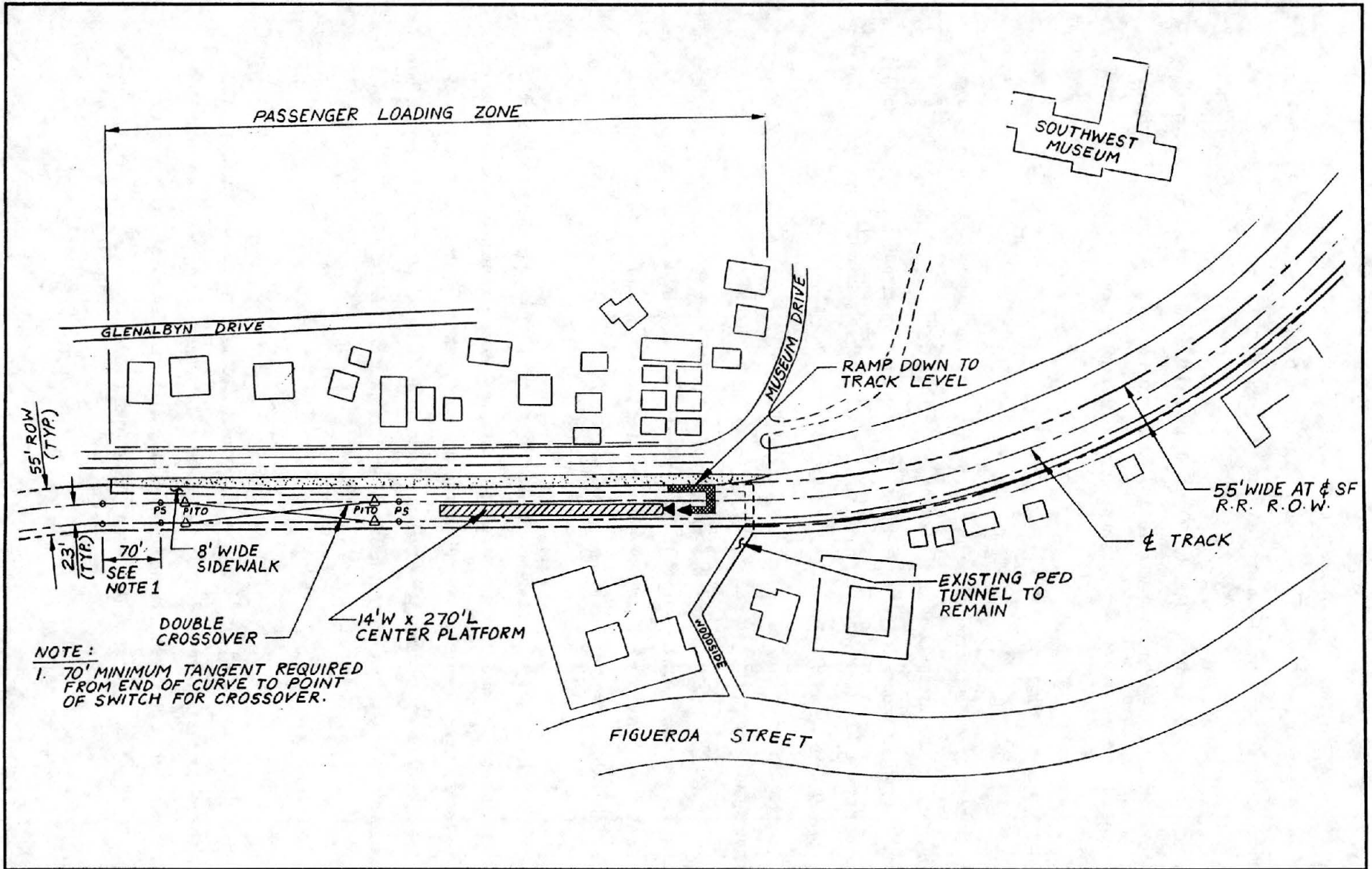
The proposed station at this location will be located on the existing Santa Fe right-of-way, to the south of the intersection of Museum Drive and Marmion Way. The existing 42-foot roadway width for Marmion Way will be widened by about 2 feet on the east side to provide a turnout for automobile and bus loading. A 10-foot sidewalk will be provided as well along this turnout. A possible layout and cross-section are shown in Exhibits 4.2-3 and 4.2-4.

The number of automobile trips generated by this station are expected to be low. Only a few kiss-and-ride trips are expected. Some impact to traffic capacity will occur because of parallel parking movements, as well as an increase in pedestrian activity. However, the traffic impacts are expected to be insignificant. Curbside parking will be lost adjacent to the station, but field observations reveal little use of the existing curbside parking space.

The pedestrian path that currently crosses beneath the railroad tracks will be upgraded from Woodside Drive so that it provides safe and convenient pedestrian access from Marmion Way to the station platform. The existing pedestrian tunnel will remain but will be upgraded to ensure personal security and to meet federal safety standards. Observations of current usage reveal that pedestrians avoid the existing tunnel for personal security reasons, preferring to walk across the Santa Fe Railroad tracks.

### **Fillmore Street Station**

A park-and-ride lot is proposed for the southwest corner of Raymond Avenue and Fillmore Street. This station replaces the Glenarm Station proposed earlier. The number of p.m. peak hour automobile trips generated by the Fillmore Station should be the same as for the Glenarm Station, which was 65 park-and-ride trips from the station, 10 park-and-ride trips to the station, and 31 kiss-and-ride trips



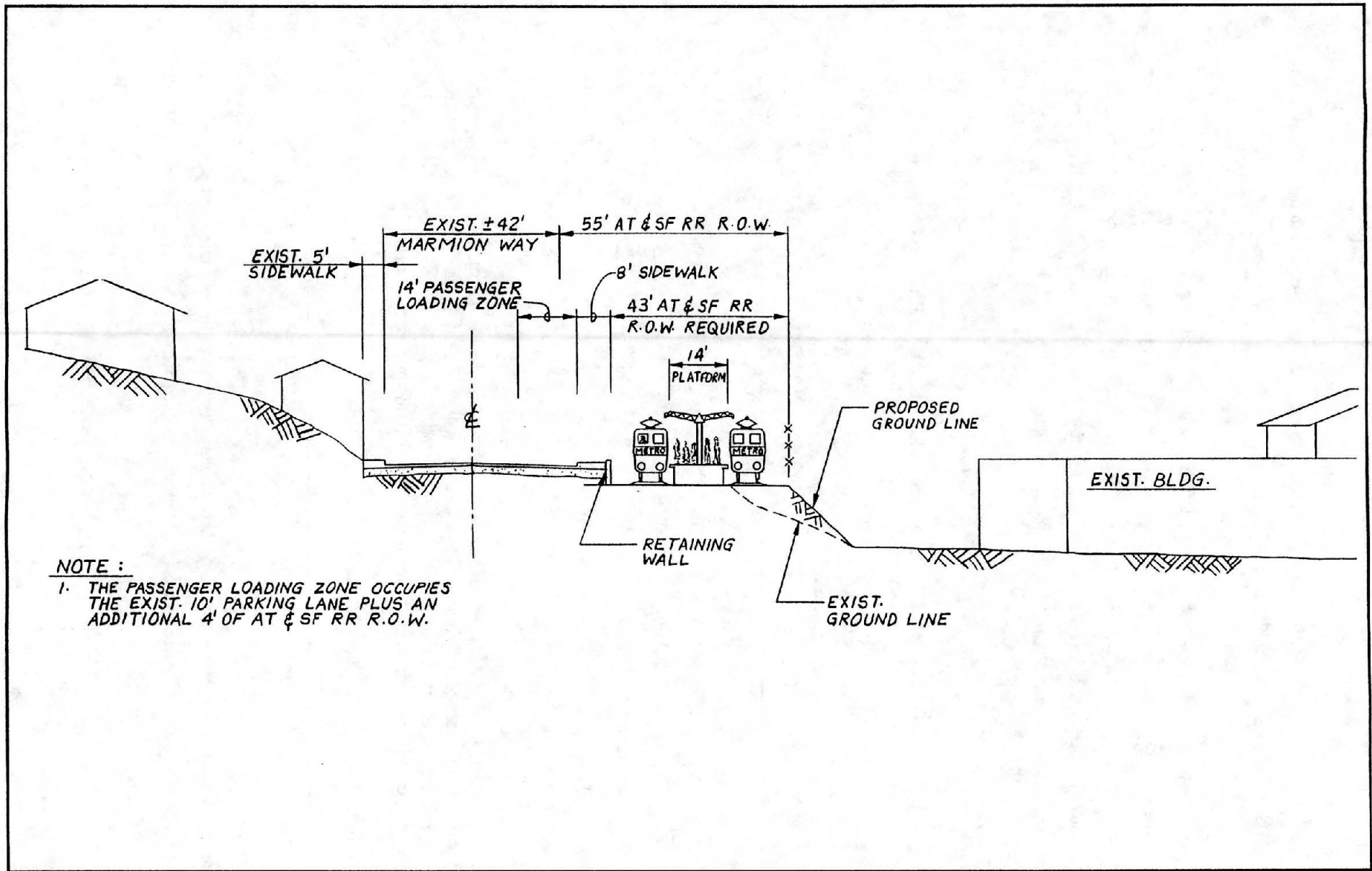
423  
 exhibit

# MARMION WAY/MUSEUM DRIVE PLAN VIEW

Pasadena Light Rail Supplemental EIR

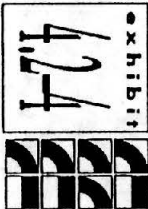
Michael Brandman Associates

exhibit  
 4.2-3



**NOTE :**

- 1. THE PASSENGER LOADING ZONE OCCUPIES THE EXIST. 10' PARKING LANE PLUS AN ADDITIONAL 4' OF AT & SF RR R.O.W.



# MARMION WAY/MUSEUM DRIVE CROSS SECTION

(Pasadena-Los Angeles Traffic Impact Study, October 6, 1989). Ambient growth in traffic is assumed to be 1 percent per year (refer to Table 4.2-7).

A variation on the proposed Fillmore Street Station requires the closing of Fillmore Street. This requires diverting traffic from Fillmore Street onto either California Boulevard or Glenarm Street. Traffic on California Boulevard will increase by over 50 vehicles during the p.m. peak hour, and traffic on Glenarm Street will increase by over 100 vehicles during the p.m. peak. Capacity analysis results for the year 2010 p.m. peak hour are shown in Table 4.2-7.

**TABLE 4.2-7**

**PROJECTED LEVELS OF SERVICE: FILLMORE STREET STATION**

| Intersection                | 2010<br><u>No Build</u> |     | Fillmore<br><u>Open</u> |     | Mitigated<br>Fillmore<br><u>Open</u> |                | Fillmore<br><u>Closed</u> |     | Mitigated<br>Fillmore<br><u>Closed</u> |                |
|-----------------------------|-------------------------|-----|-------------------------|-----|--------------------------------------|----------------|---------------------------|-----|--|----------------|
|                             | V/C                     | LOS | V/C                     | LOS | V/C                                  | LOS            | V/C                       | LOS | V/C                                    | LOS            |
| Arroyo Pkwy./California Bl. | 0.81                    | D   | 0.93                    | E   | 0.90                                 | D <sup>a</sup> | 0.97                      | E   | 0.95                                   | E <sup>a</sup> |
| Arroyo Pkwy./Fillmore St.   | 0.60                    | A   | 0.60                    | A   | --                                   | --             | 0.57                      | A   | --                                     | --             |
| Arroyo Pkwy./Glenarm St.    | 1.12                    | F   | 1.17                    | F   | 0.96                                 | E <sup>b</sup> | 1.17                      | F   | 0.97                                   | E <sup>b</sup> |
| Raymond Ave./California Bl. | 0.67                    | B   | 0.80                    | D   | --                                   | --             | 0.80                      | C   | 0.89                                   | D              |
| Raymond Ave./Glenarm St.    | 0.55                    | A   | 0.62                    | B   | --                                   | --             | 0.63                      | B   | --                                     | --             |

<sup>a</sup> Mitigation could be obtained if Fillmore Street is kept open by widening the southbound approach to provide a right turn lane. However, this measure will only partially mitigate the traffic impact where Fillmore Street is closed.

<sup>b</sup> Mitigation could be obtained by widening the northbound approach to provide a right turn lane.

Source: Katz, Okitsu Associates, July 1992.

The capacity analysis for the intersection of Arroyo Parkway and Fillmore Street was performed as if it were signal-controlled. However, traffic volumes are not sufficient to warrant a signal, even with the Light Rail Transit station.

The Arroyo Parkway/California Boulevard intersection is significantly impacted by traffic generated from both the Fillmore and Del Mar Stations. Mitigation measures may be required because the V/C ratio exceeds 0.90. The proposed mitigation measure is to widen the southbound approach to the intersection and provide a southbound right turn lane. This is the same mitigation measure recommended in the October 6, 1989, report for the Glenarm Station.

The intersection of Glenarm Street and Arroyo Parkway will be impacted by either of Fillmore Station options. The impact can be mitigated by widening the northbound approach to the intersection to provide a northbound right turn lane. This is the same mitigation measure recommended in the previously certified EIR for the Glenarm Station.

**Allen Avenue Station**

A Light Rail Transit station has been proposed for the median of I-210, with access to the sidewalk of Allen Avenue by way of stairs and elevator. The station will generate some kiss-and-ride traffic. The estimated number of trips generated is 11 during the evening peak hour.

The intersection levels of service for the p.m. peak hour conditions are shown in Table 4.2-8.

**TABLE 4.2-8  
PROJECTED LEVEL OF SERVICE: ALLEN AVENUE STATION**

| Intersection          | Period | Existing |     | 2010<br>No-Build |     | 2010<br>With LRT |     |
|-----------------------|--------|----------|-----|------------------|-----|------------------|-----|
|                       |        | V/C      | LOS | V/C              | LOS | V/C              | LOS |
| Allen Ave./Maple St.  | P.M.   | 0.52     | A   | 0.63             | B   | 0.64             | B   |
| Allen Ave./Corson St. | P.M.   | 0.67     | B   | 0.80             | D   | 0.81             | D   |

Source: Katz, Okitsu Associates, July 1992.

Volumes for the year 2010 were projected from the existing conditions using a 1 percent annual growth rate. The 2010 with Light Rail Transit V/C ratios are well beneath the threshold V/C ratio

of 0.99 set by the City of Pasadena for intersections near I-210, so the traffic impact would be insignificant.

### Marmion Way and Figueroa Street Grade Separation

This intersection was analyzed in the certified EIR for the year 2010 no-build and year 2010 with at-grade Light Rail Transit options. An alternative proposal for this intersection is to provide grade separation between the Pasadena Light Rail Transit and traffic, with the Light Rail Transit tracks on an aerial structure. A variation of this alternative will provide for a park-and-ride station, located at French Avenue at the southern end of the aerial structure.

If no park-and-ride lot is provided, the projected number of trips generated by the station for both the a.m. and p.m. peak hours is 107, as documented in the October 1988 traffic study. If park-and-ride is provided, the number of trips generated increases to 200 park-and-ride trips and 112 kiss-and-ride trips. The proposed site of the parking lot is approximately 2 acres. Using an estimated rate of 100 parking spaces per acre, the parking lot should hold about 200 parking spaces. Discussions with SCAG staff indicate that demand for parking spaces is expected to be extremely high for this area. Given this high demand, it is assumed that all 200 parking spaces will fill up during the morning peak hour. The evening peak hour trips generated will also be 200. Kiss-and-ride demand is estimated using the same method used in the October 1988 and October 1989 traffic reports, where morning peak hour boardings onto the LRT are multiplied by a 25% factor. The number of boardings is estimated at 449, so the number of kiss-and-ride trips is 112 vehicles per hour for both the morning and evening peak hours. The results are summarized in Table 4.2-9.

**TABLE 4.2-9**

**PROJECTED LEVELS OF SERVICE: MARMION WAY/FIGUEROA STREET  
GRADE SEPARATION**

| Intersection                   | Period | Existing |     | 2010<br>No Build |     | 2010<br>At-Grade |     | 2010<br>Aerial |     | 2010<br>Aerial<br>+ P&R |     |
|--------------------------------|--------|----------|-----|------------------|-----|------------------|-----|----------------|-----|-------------------------|-----|
|                                |        | V/C      | LOS | V/C              | LOS | V/C              | LOS | V/C            | LOS | V/C                     | LOS |
| Figueroa/Marmion<br>& Pasadena | A.M    | 0.49     | A   | 0.64             | B   | 0.84             | D   | 0.68           | B   | 0.69                    | B   |
|                                | P.M    | 0.48     | A   | 0.64             | B   | 0.72             | D   | 0.71           | C   | 0.66                    | B   |

Source: Katz, Okitsu Associates, July 1992.

The intersection will operate at an acceptable level of service, with the volume-to-capacity ratio (V/C) under 0.90 for both A.M. and P.M. peak hours.

### **Colorado Boulevard Grade Separation**

A modification to the Light Rail Transit profile is proposed between the Del Mar Boulevard and Holly Street stations, creating a subway for the tracks. This will eliminate conflicts with vehicular traffic at Green Street, Colorado Boulevard, and Union Street. The tracks will elevate to the proposed at-grade station near the intersection of Arroyo Parkway and Holly Street. In conjunction with this proposal, the west leg of the Holly Street/Arroyo Parkway intersection will be eliminated, creating a cul-de-sac on Holly Street east of Raymond Avenue. The north leg of the intersection, which serves as a driveway for the existing police department building, will be closed as part of the Civic Center West development. This will leave an "L" shaped intersection, with the east leg of Holly Street and the south leg of Arroyo Parkway remaining.

This modification could affect traffic volumes at 10 study intersections. The October 6, 1989, traffic impact study analyzed the level of service at these intersections, assuming that the Light Rail Transit tracks would be at-grade. The revised levels of service shown in the right column labeled "2010 subway" reflect the elimination of train preemptions along Arroyo Parkway, and also reflects the diversion of traffic from the closure of Holly Street. The projected number of kiss-and-ride trips generated by the Holly Street/Memorial Park station during the p.m. peak hour is 39, as documented in the 1989 study. Ambient growth in traffic is assumed to be 1 percent per year. P.M. peak hour level of service is shown in Table 4.2-10.

Fair Oaks Avenue/Colorado Boulevard is the only intersection which is impacted beyond an acceptable level of service. This impact occurs whether or not Holly Street is closed. Even with implementation of the mitigation measure recommended in the certified EIR, this intersection would be impacted beyond an acceptable level of service. Although traffic volumes are projected well beyond the intersection's capacity, no additional mitigation measures are recommended. Any increase in capacity would require the purchase of additional right-of-way, which would be infeasible given the nature of adjacent development. The addition of left turn lanes on Colorado Boulevard has significantly improved the level of service since the 1989 study. Further improvement is attainable by a stringent enforcement of existing left turn prohibitions for Fair Oaks Avenue traffic.

**TABLE 4.2-10**

**PROJECTED LEVELS OF SERVICE: COLORADO SUBGRADE**

| Intersection              | Period | Existing |     | 2010<br>No-Build |     | 2010<br>At-Grade |     | 2010<br>Subway |     |
|---------------------------|--------|----------|-----|------------------|-----|------------------|-----|----------------|-----|
|                           |        | V/C      | LOS | V/C              | LOS | V/C              | LOS | V/C            | LOS |
| Fair Oaks Ave./Walnut St. | P.M.   | 0.54     | A   | 0.85             | D   | 0.87             | D   | 0.83           | D   |
| Fair Oaks Ave./Holly St.  | P.M.   | 0.51     | A   | 0.69             | B   | 0.73             | C   | 0.57           | A   |
| Fair Oaks Ave./Green St.  | P.M.   | 0.41     | A   | 0.57             | A   | 0.63             | B   | 0.63           | B   |
| Arroyo Pkwy./Holly St.    | P.M.   | 0.27     | A   | 0.38             | A   | 0.30             | A   | 0.12           | A   |
| Raymond Ave./Holly St.    | P.M.   | 0.20     | A   | 0.25             | A   | 0.28             | A   | 0.21           | A   |
| Fair Oaks Ave./Union St.  | P.M.   | 0.32     | A   | 0.50             | A   | 0.56             | A   | 0.58           | A   |
| Arroyo Pkwy./Union St.    | P.M.   | 0.17     | A   | 0.28             | A   | 0.34             | A   | 0.29           | A   |
| Fair Oaks Ave./Colorado   | P.M.   | 0.79     | C   | 1.29             | F   | 1.31             | F   | 1.31           | F   |
| Arroyo Pkwy./Colorado     | P.M.   | 0.46     | A   | 0.73             | C   | 0.86             | D   | 0.77           | C   |
| Arroyo Pkwy./Green St.    | P.M.   | 0.35     | A   | 0.47             | A   | 0.49             | A   | 0.49           | A   |

Source: Katz, Okitsu Associates, July 1992.

**Taylor Yard Wye Connector**

Because Avenue 19 will be modified at its intersection with San Fernando Road, closure of Avenue 19 will be required just south of San Fernando Road. Access to businesses on Avenue 19 will be from the south.

Construction of the bridges for the Pasadena Light Rail Transit and the non-revenue connector may also require temporary closure of Avenue 19. Access to businesses on Avenue 19 will be from the north. This work must be staged so that access to businesses such as Anhing and M&M is maintained. Furthermore, construction work should keep clear of the driveways for Anhing and M&M to allow truck movements into these businesses.



### **Southwest Museum**

The widening of Marmion Way to provide for a station drop-off zone will require temporary parking prohibitions on both sides of the street, and the relocation of an SCRTD bus zone. Complete closure of Marmion Way should be avoided since there are no satisfactory parallel detour routes.

### **Fillmore Street Station**

Construction of the Fillmore Street light rail crossing will require the complete closure of the roadway. Since Fillmore Street is lightly traveled, the impact of this closure is minimal. Roadway widening associated with the suggested mitigation measure at the Arroyo Parkway/California Boulevard intersection will require temporary lane closures.

### **Allen Avenue Station**

Construction of the Light Rail Transit station should be conducted so that one lane of traffic in each direction is maintained at all times on Allen Avenue.

### **Marmion Way and Figueroa Street Grade Separation**

Construction of an aerial guideway for Light Rail Transit over the intersection of Marmion Way, Figueroa Street, and Pasadena Avenue may require closure of lanes, or occasionally entire roadways, which would result in a temporary but significant impact to existing traffic conditions. Since there are no attractive alternate routes across the existing Santa Fe right-of-way during construction, care should be taken to avoid closing this crossing for longer than a few hours at a time.

### **Colorado Boulevard Grade Separation**

Construction of the subgrade may necessitate temporary street closures at Green Street, Colorado Boulevard, and Union Street. During the closure of any one of these roadways, it is vital that all other east-west streets are maintained at full capacity.

#### **4.2.3 MITIGATION MEASURES**

1. At the Taylor Yard Wye Connector, construction activity shall keep clear of driveways for Anhing and M&M to allow truck movements into these businesses, and to avoid impacting existing traffic and parking demands of adjacent businesses, that use Avenue 19 for employee parking and for delivery access.
2. Closure of lanes and/or entire roadways to allow for the construction of the Marmion Way and Figueroa Street grade separation shall be avoided during the peak commute hours of 6 a.m. to 9 a.m. and 3 p.m. to 6 p.m.
3. Complete closure of Marmion Way for construction of the Southwest Museum Station shall be avoided.
4. During construction of the Colorado Boulevard grade separation, all east-west streets shall be maintained at full capacity.
5. Construction of the Allen Avenue Station shall be conducted so that one lane of traffic in each direction is maintained at all times on Allen Avenue.
6. If Fillmore Street is not closed, Arroyo Parkway at California Boulevard should be widened on the southbound approach to provide a southbound right turn lane. Arroyo Parkway at Glenarm Street should be widened on the northbound approach to provide a northbound right turn lane.

#### **4.2.4 LEVEL OF SIGNIFICANCE AFTER MITIGATION**

Construction of the Marmion Way and Figueroa Street grade separation would result in temporary, but unavoidable, significant adverse impacts on traffic circulation during construction.

The intersection of Fair Oaks Avenue/Colorado Boulevard would be impacted beyond an acceptable level of service under all Colorado Boulevard grade separation scenarios; no-build, at grade, or subway. There are no reasonably feasible mitigation measures that would reduce the level of impact to an acceptable level of service.

### 4.3 GEOLOGY, SOILS, AND SEISMICITY

#### 4.3.1 ENVIRONMENTAL SETTING

##### General Topography and Physiography

The terrain within the project area exhibits considerable variation, ranging from relatively level topography in the vicinity of downtown Los Angeles to sloping dissected hills in northeast Los Angeles. Major physiographic features within and immediately adjacent to the project area include the Elysian Hills and the Repetto Hills which are separated from each other by the Los Angeles river plain. The Repetto Hills are further bisected by the Arroyo Seco, which empties into the Los Angeles River near Elysian Park.

The topography within the planning area is gently sloping toward the Los Angeles River and forms gentle hills to the north and southwest of the Arroyo Trabuco junction with the Los Angeles River, where the Light Rail Transit alignment begins in downtown Los Angeles. In the vicinity of the river, topography is nearly flat, except near the Elysian Hills which rise behind and along the western border of the Cornfield Yard site.

Through the San Rafael Hills, the Arroyo Seco has formed a narrow valley consisting of gently sloping topography surrounded by moderate hills. The Light Rail Transit alignment follows the Arroyo Seco closely as it provides one of the few fairly level passages through the San Rafael Hills.

##### Geology/Soils

The proposed maintenance facility sites, storage yards, and stations under study are generally underlain by fine to very coarse grained Holocene (last 11,000 years) and Pleistocene (11,000 to 1.6 million years before present) alluvial and stream channels deposits. The more recent deposits are primarily unconsolidated silty clayey, fine to medium coarse sands, and moderately coarse gravels with lenses of medium to coarse sands. These soils are assumed to have high susceptibility to ground failure and seismic response. The Pleistocene deposits are moderately to well consolidated and locally cemented sands and minor gravels, and finer deposits of silt and clay.

## **Taylor Yard**

Taylor Yard is located along the northeast margin of the Los Angeles River floodplain. The site parallels the river and is oriented approximately northwest-southeast, and is situated in a relatively flat, low-lying area between topographic highs to the northeast and southwest. The average site elevation is approximately 350 above the Geodetic Vertical Datum of 1929.

Taylor Yard is underlain by more than 55 feet of unconsolidated recent (Holocene) alluvial sediments. These sediments were deposited by the Los Angeles River System and consist of clay, silt, sand, and gravel. In general, the upper 10 feet of the soil profile consists of interstratified sand and silty sand, in varying proportions. However, in localized areas, between 5 and 15 feet of clayey fill underlies the surface gravel.

At depths of 20 to 28 feet below grade, an organic-rich clay or silty clay is encountered across most of the site. Leaf and wood fragments and a sulfurous odor are frequently detected within samples of this clay. The clay is typically underlain by 3 feet to more than 12 feet of sand and gravelly sand.

At depths of 25 to 30 feet below grade, the Bellflower Aquitard is encountered across the southern and central portions of the site. An aquitard is a semi-impermeable rock layer that, although it allows water to pass through it, it inhibits the movement of water. This unit consists of bluish-grey sandy clay, with increasing sand content to the north.

Taylor Yard lies within the San Fernando Groundwater Basin. At Taylor Yard, the Gaspar Aquifer (one of the many aquifers that comprise the San Fernando Groundwater Basin) is a shallow, unconfined aquifer consisting primarily of sand and silty sand with subordinate gravelly lenses. Groundwater is encountered at approximately 30 to 42 feet below the ground surface. The Bellflower Aquitard, which overlies a portion of the Gaspar Aquifer, has been detected below portions of the site. The aquitard is relatively permeable due to the sand content in the area, and it appears to confine groundwater only at the south end of the Sale Parcel.

## **Cornfield Yard**

The Technical Appendix to the Safety Element of the Los Angeles County General Plan; Hazard Reduction in Los Angeles County (Leighton and Associates 1990) indicates that Holocene stream

channel and alluvial deposits of fine to medium to coarse grained texture and Pleistocene alluvium deposits of fine to medium coarse grained texture underlie the Cornfield Yard site.

Water level measurements by the Los Angeles County Department of Public Works, Groundwater Division, indicate that groundwater has historically occurred about 30 to 40 feet beneath the ground surface in the vicinity of the proposed alignment. The highest recorded water levels in the area over the past 58 years were 24 feet beneath the ground surface in 1980 in a well 0.4 miles north of the site and 26 feet in 1938 in a well 0.4 miles east of the site.

#### **Taylor Yard Wye Connector**

The Technical Appendix to the Safety Element of the Los Angeles County General Plan; Hazard Reduction in Los Angeles County (Leighton and Associates 1990) indicates that Pleistocene alluvium deposits of fine to medium coarse grained texture and recent (Holocene) stream channel or alluvial deposits of fine to medium-coarse grained texture underlie the proposed Taylor Yard Wye Connector site. As mentioned above, the more recent deposits are primarily unconsolidated silty, clayey, fine to medium, coarse sands and moderately coarse gravels with lenses of medium to coarse sands. These soils are assumed to have high susceptibility to ground failure and seismic response. The Pleistocene deposits are moderately to well consolidated and locally cemented sands and minor gravels, and finer deposits of silt and clay

#### **Marmion Way and Figueroa Street Grade Separation**

The Technical Appendix to the Safety Element of the Los Angeles County General Plan; Hazard Reduction in Los Angeles County (Leighton and Associates 1990) indicates that fine to medium coarse grained Pleistocene alluvium deposits and fine to medium-coarse grained Holocene stream channel or alluvial deposits underlie the proposed Figueroa Grade Separation.

#### **Colorado Boulevard Grade Separation**

Native soils underlying the proposed Colorado Subgrade are a predominantly granular material consisting of silty sand, gravelly sand, and relatively clean sand soils. These soils are generally dense and maintain moderate to high strengths and low to moderate compressibility. Groundwater is not

known to exist within 30 feet of ground surface, thus, it is assumed that water will not be encountered during construction.

### Seismicity

The project site is located in a seismically dynamic area. The faulting and deformation operating in Southern California, and affecting the subject site, are governed by regional north-south compression, a product of the continued motion between the Pacific and North American plates (Yerkes 1985).




Geologic evidence is used to determine the likelihood of future rupture along a fault. The potential for activity on a fault can be described as active, potentially active, or not active. Those faults that give evidence of surface displacement within the last 11,000 years have the highest potential of generating earthquakes again and are described as active. Distinct landforms suggesting fault movement within the last 11,000 years include sag ponds, offset drainages, linear valleys, and springs. Faults that are poorly defined or inadequately studied, but have shown activity within the last 1.6 million years are considered potentially active. As such, their recurrence rates may be tens of thousands of years long, but still capable of producing moderate to large earthquake within the design life of many critical or long-lifetime structures.

Various methods are used to determine the impact an earthquake can have on the areas surrounding a fault. These methods can be used as planning and engineering tools and include the maximum probable and maximum credible magnitudes. The magnitude scale measures the amount of energy released during an earthquake.

A maximum credible earthquake is the largest earthquake that appears capable of occurring under the presently known seismic conditions. The maximum probable earthquake is the largest earthquake that is likely to occur during a 100-year interval. Neither a maximum probable earthquake nor a maximum credible earthquake occurrence can be assured; however, their likelihood of occurring is great enough to be of concern (CDMG 1980).

Earthquakes from several active and potentially active faults in the region could affect the project site (see Exhibit 4.3-1). Table 4.3-1 shows the maximum credible and maximum probable earthquakes associated with these faults.

**LEGEND**

-  ACTIVE FAULT/ALQUIST-PRIOLO SPECIAL STUDIES ZONE
-  ACTIVE: MOVEMENT IN LAST 10,000 YEARS
-  POTENTIALLY ACTIVE: MOVEMENT IN LAST 11,000-1.6 MILLION YEARS

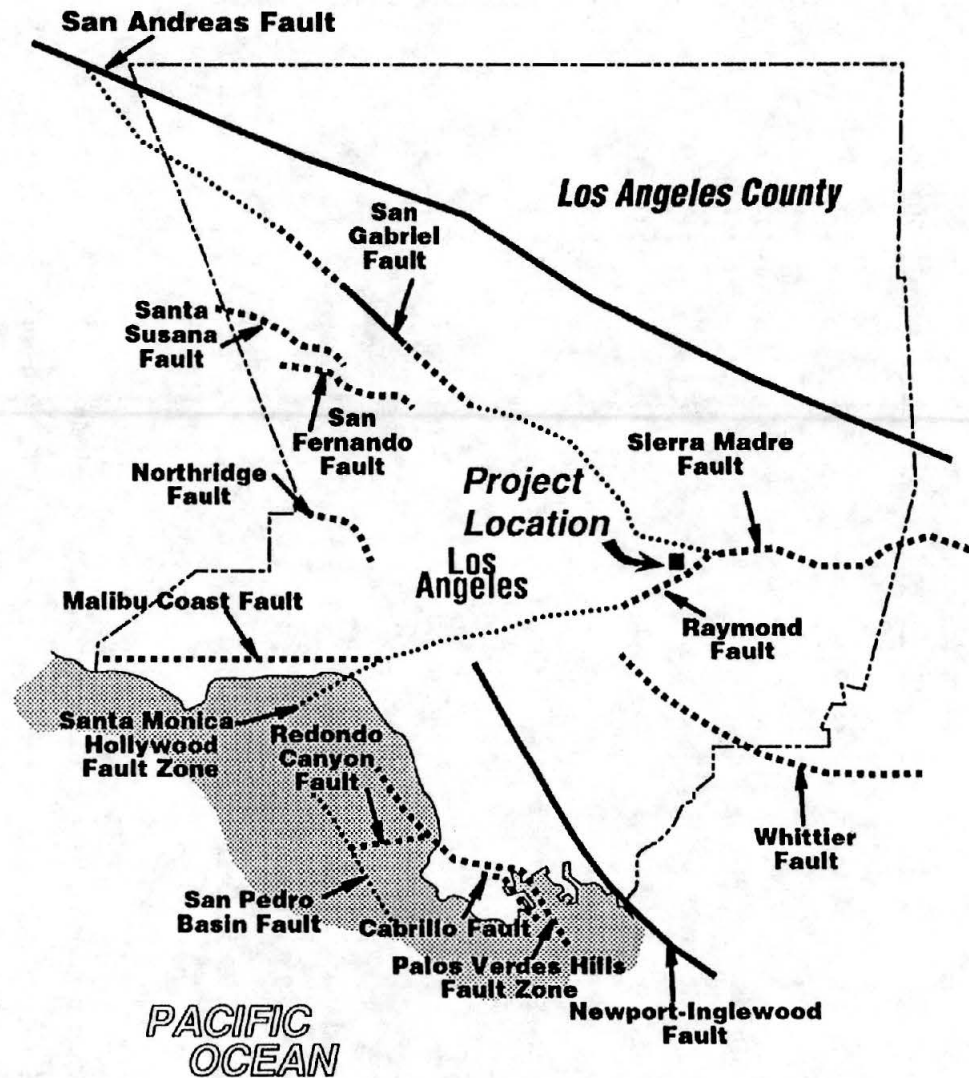


exhibit  
 4.3-1



# MAJOR FAULTS IN LOS ANGELES COUNTY

Pasadena Light Rail Supplemental EIR

Michael Brandman Associates

exhibit  
 4.3-1

**TABLE 4.3-1**

**MAXIMUM CREDIBLE EARTHQUAKE AND MAXIMUM PROBABLE EARTHQUAKE MAGNITUDES**

| Fault                              | Approximate Distance From Project Area | Maximum Credible Magnitude | Maximum Probable Magnitude |
|------------------------------------|--|----------------------------|----------------------------|
| Raymond Hill (active - APSSZ)      | Within study area                      | 7.5                        | 5.5                        |
| Whittier (active - APSSZ)          | 7.5                                    | 7.5                        | 6.25                       |
| Sierra Madre-San Fernando (active) | 7.5                                    | 7.5                        | 6.5                        |
| Verdugo (potentially active)       | 5 miles                                | 7.0                        | 4.5                        |
| Malibu Coast (active)              | 3 miles                                | 7.5                        | 5.0                        |
| Santa Monica (potentially active)  | 3 miles                                | 7.5                        | 6.0                        |
| Newport-Inglewood (active - APSSZ) | 10 miles                               | 7.5                        | 6.5                        |
| San Andreas (active - APSSZ)       | 32 miles                               | 8.5                        | 8.25                       |
| San Rafael (potentially active)    | Within study area                      | 7.0                        | 6.5                        |

APSSZ = Alquist-Priolo Special Study Zone

Source: CDMG 1980.

Major active faults considered capable of affecting the subject site include the San Andreas, Newport-Inglewood, Sierra Madre-San Fernando, and Raymond Hill faults. Potentially active faults in the vicinity of the site include the Santa Monica-Hollywood and Verdugo faults. The Raymond Hill fault is the closest active fault to the project site, and would have the strongest effect on the project site.

**4.3.2 ENVIRONMENTAL IMPACTS**

**Geology/Soils**

A project is considered to have significant impacts if the project is exposed to unstable geologic or soils conditions (unconsolidated, weak, or expansive soils; landslides; etc).



In general, the sites proposed for the Light Rail Transit maintenance facility sites, connector yards, and subgrades are relatively flat and the underlying alluvial soils are relatively dense, thus, the project site is free of any potential geologic or soil hazards such as landslides (level surface), differential settlement, or expansive soils. However, a detailed soils study should be performed at all sites prior to the finalization of construction plans in order to identify any unforeseen hazards.

It is assumed that water will not be encountered during construction of the Colorado Subgrade. However, cobbles up to 4 inches in diameter may be expected at 20 foot depths during construction and some larger boulders at 30-32 foot depths. The presence of boulders, up to 20 inches in diameter, are known to exist at the proposed subgrade site at depths of 6 feet. Because of the high degree of precision required to implement this option, any boulders encountered in the construction process may create serious impacts. Prior to construction, a detailed soils study should be performed to verify the soils condition at the site and to identify any potential risks. A preliminary engineering and feasibility study is currently being prepared to determine whether this subgrade configuration is feasible given the criteria it must adhere to (i.e., avoidance of historic structures, safe foundation characteristics, and structural properties).

Secant piles have been selected as the most feasible method of construction at the proposed Colorado Subgrade. This will eliminate the need for soil excavation which could potentially weaken nearby building supports. Secant piles will retain the old buildings in their current conditions, yet stay within the right-of-way, except for a short section on the curve. This method will maintain high traffic capacity on streets in the area and allow public utilities to remain operational during construction.

### Seismicity

#### **Groundshaking**

A project is considered to have significant impacts if the project is exposed to strong ground motions and the secondary effects of strong ground motions (i.e., settlement, liquefaction, landslides).

The historic seismic record and continuing activity of Southern California faults indicates the probability of a strong earthquake occurring relatively near the project site during the life of the proposed superior court. The San Andreas, Sierra Madre-San Fernando, Newport Inglewood, and Raymond Hill faults represent the most potentially damaging faults to the project site.

The proposed stations, yard connectors, and maintenance facility sites under study are generally underlain by Recent and Pleistocene aged alluvial and stream channels deposits. The soils of Recent age are assumed to have high susceptibility to ground failure and seismic response (Leighton and Associates 1990). The Pleistocene deposits are moderately to well consolidated and locally cemented sands and minor gravels, and finer deposits of silt and clay.

The presence of groundwater within 50 feet of the ground surface at the Cornfield Yard and Taylor Yard sites (30 to 40 feet below the surface) increases the possibility of liquefaction to a level of significance. Liquefaction potential is greatest where the groundwater level is shallow and loose fine sands occur within a depth of 50 feet or less.

### **Surface Rupture**

A project is considered to have significant impacts if an active fault passes through the project site or if the project site lies within an Alquist-Priolo Special Studies Zone (APSSZ). Although the Raymond Hill Fault, designated as APSSZ, passes through the study area, none of the proposed facilities lie within the special studies zone.

Additionally, the probability of surficial rupture at the any of the project sites due to movement along a fault is remote as no known faults underlie the sites. Although the San Rafael Fault lies within the study area, it does not cross any of the proposed site. No impacts associated with ground rupture are expected.

### **4.3.3 MITIGATION MEASURES**

The proposed project will comply with the seismic criteria set forth in the Seismic Safety Element of the Pasadena and Los Angeles City General Plans, all applicable portions of the Municipal Codes, the seismic safety requirements of the Departments of Building and Safety, the current Uniform Building Code, and the seismic design parameters of the Structural Engineers Association of California. The proposed project will comply with these requirements and will not generate significant impacts.

With incorporation of measures required for all projects built within the City and standard engineering practices, the project will not generate significant impacts.

1. The project shall conform to the cities of Pasadena and Los Angeles Seismic Safety Plans and applicable portions of the Municipal Code and seismic safety requirements of the Departments of Building and Safety.
2. All structures shall be designed in accordance with the current Uniform Building Code and the seismic design perimeters of the Structural Engineers Association of California.
3. Frequent in-grading inspections should be conducted during construction. These inspections are necessary to substantiate previous geologic findings and to discover unforeseen conditions that may be exposed during grading. Any unanticipated adverse conditions encountered should be evaluated by the project engineering geologist and the soils engineer. Appropriate recommendations made will be followed.
4. All soils disturbed during excavation shall be compacted to at least 90 percent of the maximum density as determined by ATSM D-1557-78 standard.

#### **4.3.4 LEVEL OF SIGNIFICANCE AFTER MITIGATION**

No unavoidable significant adverse impacts are anticipated with implementation of recommended mitigation measures.

## **4.4        AIR QUALITY**

### **4.4.1      ENVIRONMENTAL SETTING**

#### **Regional**

##### **Setting**





The proposed project is located in the South Coast Air Basin of California, a 6,600 square mile area encompassing Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. 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.

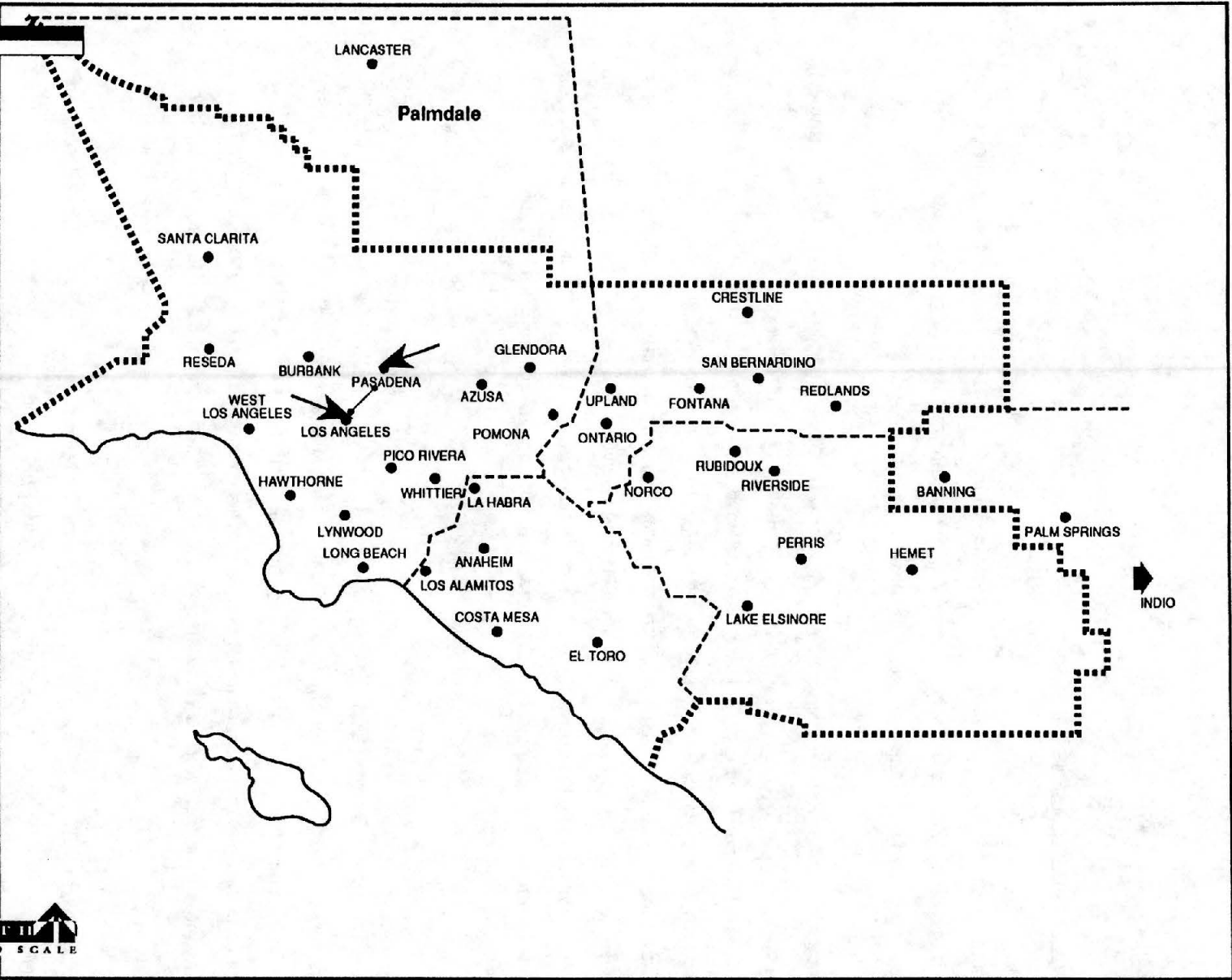
##### **Climate**

Climate and air quality are determined by the location, topography, and urbanization of an area. The climate of the coastal plain which comprises the South Coast Air Basin (Basin) is primarily governed by the strength and location of a semipermanent, subtropical high pressure cell over the Pacific Ocean. Climate is also influenced by the moderating effects of the nearby oceanic heat reservoir. Warm summers, mild winters, infrequent rainfall, moderate daytime onshore breezes, and moderate humidities characterize the climatic conditions for the majority of the region.

The terrain features of the Basin make it possible for various micro-climates to exist within the general area climate. The pattern of mountains and hills is primarily responsible for the wide variations of rainfall, temperatures, and localized winds that occur throughout the region. Temperature variations have an important influence on Basin wind flow, dispersion along mountain ridges, vertical mixing, and photochemistry. Due to 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. Precipitation is highly variable seasonally. Summers are often completely dry. There are frequent periods of four to five months with no rain. In the winter, an occasional storm from the high latitudes sweeps across the coast bringing rain. Annual rainfall is lowest in the coastal plain and inland valleys, higher in the foothills, and highest in the mountains.

**LEGEND**

-  PROJECT LOCATION
-  SOUTH COAST AIR BASIN
-  AIR MONITORING STATION
-  STATIONS REPRESENTATIVE OF STUDY AREA AIR QUALITY



**NORTH**  
NOT TO SCALE

**1-77**  
 exhibit

# AIR QUALITY MONITORING STATIONS

Pasadena Light Rail Supplemental EIR

Michael Brandman Associates

**exhibit**  
4.4-1

## **Air Quality**

### Monitoring in the South Coast Air Basin

The South Coast Air Quality Management District (SCAQMD) is responsible for monitoring air quality in the South Coast Air Basin. The SCAQMD samples ambient air at 31 monitoring stations in the Basin. Locations of these stations are shown on Exhibit 4.4-1.

Ambient air quality is described in terms of compliance with state and national standards. Ambient air quality standards (AAQS) are the levels of air pollutant concentration considered safe to protect the public health and welfare. They are designed to protect people most sensitive to respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. National AAQS were established by the U.S. Environmental Protection Agency (EPA) in 1971 for six air pollution constituents. States have the option to add other pollutants, to require more stringent compliance, or to include different exposure periods. California and National AAQS are listed in Table 4.4-1.

### Attainment Status

The Air Resources Board (ARB) is required to designate areas of the state as attainment, nonattainment, or unclassified for any state standard. An attainment designation for an area signifies that pollutant concentrations did not violate the standard for that pollutant in that area. A nonattainment designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation(s) was caused by an exceptional event, as defined in the criteria.

The South Coast Air Basin is designated nonattainment for several pollutants. Criteria pollutants and the levels at which they occur in the Basin are described below.

TABLE 4.4-1  
 AMBIENT AIR QUALITY STANDARDS

| Air Pollutant                        | California  | National <sup>b</sup>  |  |
|--------------------------------------|---|--|--|
|                                      | Concentration <sup>a</sup>  | Primary(>)   | Secondary(>)   |
| Ozone                                | 0.09 ppm, 1-hr. avg.  | 0.12 ppm, 1-hr. avg.   | 0.12 ppm, 1-hr. avg.   |
| Carbon Monoxide                      | 9.0 ppm, 8-hr. avg.<br>20 ppm, 1-hr. avg.   | 9.5 ppm, 8-hr. avg.<br>35 ppm, 1-hr. avg.  | 9.5 ppm, 8-hr. avg.<br>35 ppm, 1-hr. avg.  |
| Nitrogen Dioxide                     | 0.25 ppm, 1-hr. avg.  | 0.053 ppm, annual avg.   | 0.053 ppm, annual avg.   |
| Sulfur Dioxide                       | 0.05 ppm, 24-hr. avg. <sup>c</sup>  | 0.03 ppm, annual avg.<br>0.14 ppm, 24-hr. avg.                                       | 0.50 ppm, 3-hr. avg.   |
| Suspended Particulate Matter (PM 10) | 30 ug/m <sup>3</sup> annual geometric mean<br>50 ug/m <sup>3</sup> , 24-hr. avg.  | 50 ug/m <sup>3</sup> , annual arithmetic mean<br>150 ug/m <sup>3</sup> , 24-hr. avg. | 50 ug/m <sup>3</sup> , annual arithmetic mean<br>150 ug/m <sup>3</sup> , 24-hr. avg. |
| Sulfates                             | 25 ug/m <sup>3</sup> , 24-hr. avg.  |  |  |
| Lead                                 | 1.5 ug/m <sup>3</sup> , 30-day avg.   | 1.5 ug/m <sup>3</sup> , calender quarter   | 1.5 ug/m <sup>3</sup> , calender quarter   |
| Hydrogen Sulfide                     | 0.03 ppm, 1-hr. avg.  |  |  |
| Vinyl Sulfide                        | 0.010 ppm, 24-hr. avg.  |  |  |
| Visibility Reducing Particles        | In sufficient amount to reduce the prevailing visibility to less than 10 miles at relative humidity less than 70%, 1 obs. |  |  |

- a) California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour), nitrogen dioxide, suspended particulate matter-PM<sub>10</sub>, visibility reducing particles, are values that are not to be exceeded. The sulfur dioxide (24-hour), sulfates, Lake Tahoe carbon monoxide, lead, hydrogen sulfide, and vinyl chloride standards are not to be equaled or exceeded.
- b) National standards, other than ozone and those based on annual averages or annual arithmetic means, are not to exceed more than once a year. The ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one.
- c) At locations where the state standards for ozone and/or total suspended particulate matter are violated, National standards apply elsewhere.

Note: ppm = parts per million by volume.  
 ug/m<sup>3</sup> = micrograms per cubic meter.

SOURCE:  
 CALIFORNIA AIR RESOURCES BOARD,  
 1991.



## **Ozone**

Ozone is a colorless toxic gas that irritates the lungs and damages materials and vegetation. Levels of ozone exceed national and state standards throughout the Basin. Because ozone formation is the result of photochemical reactions between nitrogen oxides (NO<sub>x</sub>) and reactive organic compounds (ROC), peak concentrations of ozone occur downwind of precursor emission sources. Ozone readings in areas that lie at the base of the San Gabriel and San Bernardino Mountains are among the highest in the United States. The entire Basin is designated as a nonattainment area for state and national ozone standards.

## **Carbon Monoxide**

Carbon monoxide (CO) is a colorless gas, produced almost entirely from automobiles, that interferes with the transfer of oxygen to the brain. Peak levels of carbon monoxide occur in winter throughout the Basin, and are highest where there is heavy traffic. National and state standards for carbon monoxide are exceeded in the more densely populated areas of Los Angeles and Orange Counties, but generally not in Riverside and San Bernardino counties. The SCAB is classified as a nonattainment area for the national carbon monoxide standards. Only the San Bernardino portion of the Basin is designated in attainment of the state carbon monoxide standards.

## **Nitrogen Dioxide**

Nitrogen dioxide is a reddish-brown gas that can cause breathing difficulties at high levels. Peak readings of nitrogen dioxide occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries, and other industrial operations) in the vicinity. The national nitrogen dioxide standard is exceeded in Los Angeles County, the only area which still exceeds this standard. The state nitrogen dioxide standard is exceeded in both Los Angeles and Orange counties. The entire Basin is designated as a nonattainment area for both state and national nitrogen dioxide standards.

## **Total Suspended Particulates/Particulate Matter**

On July 1, 1987, the Environmental Protection Agency (EPA) replaced the total suspended particulate (TSP) standard with a new particulate standard known as PM<sub>10</sub>. PM<sub>10</sub> includes only particulate



matter 10 microns or less in diameter. PM10 levels regularly exceed the national standard in Los Angeles, Riverside, and San Bernardino counties. In 1988, the standard was also exceeded in Orange County. The more stringent state PM10 standard is exceeded in all four counties. The entire Basin is designated as nonattainment for PM10 standards.

#### **Sulfur Dioxide and Lead**

Sulfur dioxide and lead levels in all areas of the Basin are below national and state standards. The entire Basin is in attainment for these pollutants.

#### **Meteorological Influences on Air Quality**

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 air 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 the Basin is less than five miles per hour on 80 percent of the days during the summer smog season. This is a measure of daily stagnation.

During summer's longer daylight hours, plentiful sunshine provides the energy needed to fuel photochemical reactions between nitrogen dioxide and volatile organic compounds which result in ozone formation. Pollutants which react to help form ozone are often termed "ozone precursor emissions". Ozone formation 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 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 occur downwind of areas which emit high levels of nitrogen oxides, volatile organic compounds, and other precursor emissions.

### **Local**

The project involves the construction of alternatives and modifications to the approved light rail transit facility from downtown Los Angeles through the City of Pasadena. Baseline air quality in the study area can be inferred from ambient air quality measurements conducted by the South Coast Air Quality Management District (SCAQMD) at the Los Angeles and Pasadena monitoring stations, which are the closest monitoring stations in proximity to the alignment. Tables 4.4-1 and 4.4-2 summarize the last 5 years of published data from this monitoring stations.

### **Climate**

The project area experiences moderate temperatures and humidities. Temperatures average 64 degrees Fahrenheit annually. Daily temperatures range from approximately 90 degrees fahrenheit on summer afternoons to the low 40's on winter mornings. Temperatures above 90 degrees fahrenheit or below 40 degrees fahrenheit occur only in unusual weather conditions. 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. The study area lies approximately 20 to 25 miles inland from the coast (as air travels) and, therefore, temperature spreads are relatively large. Temperature has an important influence on Basin wind flow, dispersion along mountain ridges, vertical mixing, and photochemistry.

**TABLE 4.4-1**  
**SUMMARY OF ANNUAL AIR QUALITY DATA**  
**PASADENA AIR QUALITY MONITORING STATION**

|   | 1987    | 1988    | 1989   | 1990   | 1991   |
|---|---------|---------|--------|--------|--------|
| <b>Ozone (O<sub>3</sub>)</b>                                |         |         |        |        |        |
| State Standard (1-hr. avg. 0.09 ppm)                        |         |         |        |        |        |
| National Standard (1-hr. avg. 0.12 ppm)                     |         |         |        |        |        |
| Maximum Concentration                                       | 0.28    | 0.29    | 0.27   | 0.26   | 0.23   |
| Number of Days State Standard Exceeded                      | 150     | 175     | 140    | 118    | 70     |
| Number of Days Federal Standard Exceeded                    | 95      | 119     | 80     | 69     | 112    |
| <b>Carbon Monoxide (CO)</b>                                 |         |         |        |        |        |
| State Standards (1-hr./8-hr. avg., 20/9.1 ppm)              |         |         |        |        |        |
| Federal Standard (1-hr./8-hr. avg., 35/9.5 ppm)             |         |         |        |        |        |
| Maximum Concentration 1-hr./8-hr. period (ppm)              | 15/11.3 | 17/10.6 | 14/8.5 | 16/0.0 | 14/9.5 |
| Number of Days State 1-hr./8-hr. Standard Exceeded          | 0/2     | 0/3     | 0/0    | 0/1    | 0/2    |
| Number of Days Federal 1-hr./8-hr. Standard Exceeded        | 0/2     | 0/1     | 0/0    | 0/1    | 0/2    |
| <b>Nitrogen Dioxide (NO<sub>2</sub>)</b>                    |         |         |        |        |        |
| State Standard (1-hr. avg. 0.25 ppm)                        |         |         |        |        |        |
| Federal Standard (0.0534 AAM in ppm)                        |         |         |        |        |        |
| Maximum 1-hr. Concentration                                 | 0.21    | 0.27    | 0.34   | 0.23   | --     |
| Number of Days State Standard Exceeded                      | 0       | 2       | 2      | 0      | 2      |
| Percent Federal Standard Exceeded                           | 0       | 0       | 0      | 0      | 0      |
| <b>Total Suspended Particulates (TSP)<sup>b</sup></b>       |         |         |        |        |        |
| State Standard (24-hr. avg. 150 ug/m <sup>3</sup> )         |         |         |        |        |        |
| Federal Standard (24-hr. avg. 260 ug/m <sup>3</sup> )       |         |         |        |        |        |
| Maximum 24-hr. Concentration                                | 139     | 180     | 190    | 142    | 141    |
| Percent Samples State 24-hr. Standard Exceeded              | 0       | 2       | 5      | 0      | --     |
| Percent Samples Federal 24-hr. Standard Exceeded            | 0       | 0       | 0      | 0      | --     |
| <b>Suspended Particulates (PM<sub>10</sub>)<sup>b</sup></b> |         |         |        |        |        |
| State Standard (24-hr. avg. 50 ug/m <sup>3</sup> )          |         |         |        |        |        |
| Federal Standard (24-hr. avg. 150 ug/m <sup>3</sup> )       |         |         |        |        |        |
| Maximum 24-hr. Concentration                                | NM      | NM      | NM     | NM     | NM     |
| Percent Samples Exceeding State 24-hr. Standard             | --      | --      | --     | --     | --     |
| Percent Samples Exceeding Federal 24-hr. Standard           | --      | --      | --     | --     | --     |

<sup>a</sup> Pollutants shown are those monitored at this station.

<sup>b</sup> The state TSP standard was superseded by the state PM<sub>10</sub> standard in 1986 and the federal TSP standard was superseded by the federal PM<sub>10</sub> standard in 1987.

N/A = Standard not applicable.

NM = Pollutant not monitored.

Source: South Coast Air Quality Management District Air Quality Data 1987, 1988, 1989 1990, and 1991.

**TABLE 4.4-2**  
**SUMMARY OF ANNUAL AIR QUALITY DATA**  
**LOS ANGELES AIR QUALITY MONITORING STATION**

|   | 1987    | 1988    | 1989   | 1990   | 1991   |
|---|---------|---------|--------|--------|--------|
| <b>Ozone (O<sub>3</sub>)</b>                                |         |         |        |        |        |
| State Standard (1-hr. avg. 0.09 ppm)                        |         |         |        |        |        |
| National Standard (1-hr. avg. 0.12 ppm)                     |         |         |        |        |        |
| Maximum Concentration                                       | 0.22    | 0.21    | 0.25   | 0.20   | 0.19   |
| Number of Days State Standard Exceeded                      | 91      | 68      | 76     | 70     | 59     |
| Number of Days Federal Standard Exceeded                    | 36      | 24      | 34     | 32     | 23     |
| <b>Carbon Monoxide (CO)</b>                                 |         |         |        |        |        |
| State Standards (1-hr./8-hr. avg., 20/9.1 ppm)              |         |         |        |        |        |
| Federal Standard (1-hr./8-hr. avg., 35/9.5 ppm)             |         |         |        |        |        |
| Maximum Concentration 1-hr./8-hr. period (ppm)              | 15/10.9 | 16/11.4 | 14/9.8 | 13/9.0 | 12/9.0 |
| Number of Days State 1-hr./8-hr. Standard Exceeded          | 0/1     | 0/5     | 0/2    | 0/1    | 0/0    |
| Number of Days Federal 1-hr./8-hr. Standard Exceeded        | 0/1     | 0/3     | 0/1    | 0/1    | 0/0    |
| <b>Nitrogen Dioxide (NO<sub>2</sub>)</b>                    |         |         |        |        |        |
| State Standard (1-hr. avg. 0.25 ppm)                        |         |         |        |        |        |
| Federal Standard (0.0534 AAM in ppm)                        |         |         |        |        |        |
| Maximum 1-hr. Concentration                                 | 0.42    | 0.54    | 0.28   | 0.28   | 0.38   |
| Number of Days State Standard Exceeded                      | 4       | 6       | 1      | 3      | 5      |
| Percent Federal Standard Exceeded                           | 0       | 0       | 0      | 0      | 0      |
| <b>Total Suspended Particulates (TSP)<sup>b</sup></b>       |         |         |        |        |        |
| State Standard (24-hr. avg. 150 ug/m <sup>3</sup> )         |         |         |        |        |        |
| Federal Standard (24-hr. avg. 260 ug/m <sup>3</sup> )       |         |         |        |        |        |
| Maximum 24-hr. Concentration                                | 216     | 257     | 217    | 211    | 183    |
| Percent Samples State 24-hr. Standard Exceeded              | 8       | 10      | 20     | 10     | --     |
| Percent Samples Federal 24-hr. Standard Exceeded            | 0       | 0       | 0      | 0      | --     |
| <b>Suspended Particulates (PM<sub>10</sub>)<sup>b</sup></b> |         |         |        |        |        |
| State Standard (24-hr. avg. 50 ug/m <sup>3</sup> )          |         |         |        |        |        |
| Federal Standard (24-hr. avg. 150 ug/m <sup>3</sup> )       |         |         |        |        |        |
| Maximum 24-hr. Concentration                                | 158     | 130     | 137    | 152    | 151    |
| Percent Samples Exceeding State 24-hr. Standard             | 63      | 62      | 57     | 52     | 54     |
| Percent Samples Exceeding Federal 24-hr. Standard           | 2       | 0       | 0      | 2      | 2      |

<sup>a</sup> Pollutants shown are those monitored at this station.

<sup>b</sup> The state TSP standard was superseded by the state PM<sub>10</sub> standard in 1986 and the federal TSP standard was superseded by the federal PM<sub>10</sub> standard in 1987.

N/A = Standard not applicable.

NM = Pollutant not monitored.

Source: South Coast Air Quality Management District Air Quality Data 1987, 1988, 1989, 1990, and 1991

### Precipitation

Precipitation is highly variable seasonally. Rainfall in the study area averages 17.0 inches annually and occurs almost exclusively from November to early April. Summers are often completely dry, and there are frequent periods of four to five months with no rain. Annual rainfall is lowest in the coastal plain and inland valleys, higher in the foothills, and highest in the mountains.

### Winds

Winds across the project area are an important meteorological parameter because they control both the initial rate of dilution of locally generated air pollutant emissions and their regional trajectory. The onshore flow into the central Los Angeles basin disperses as it travels over the land. The prevailing summer winds in the area come from the southwest at an average speed of 4 miles per hour. Winter winds come from the north at an average speed of 3 miles per hour. Approximately 5 to 10 times a year, the basin experiences hot, dry easterly winds called Santa Anas, which usually occur during autumn months.

## **4.4.2 ENVIRONMENTAL IMPACTS**

Criteria for determining whether the potential air quality impacts of a project need to be analyzed in an EIR have been determined by the South Coast Air Quality Management District. The criteria include emissions thresholds and conformity with the existing air quality management plan. Although determination that a project would have a significant impact on air quality must be made by the lead agency, the SCAQMD has prepared guidelines for making this determination in Rule 1303, adopted in June 1990. The rule establishes emissions screening levels and allowable changes in ambient air concentrations for nitrogen dioxide, carbon monoxide, PM10, and sulfate. No modeling limits have been set for reactive organic gas (ROG) and sulfur oxide (SOx) emissions.

The potential air quality impacts of the proposed project have been analyzed using the emission factors developed by the California Air Resources Board. Emissions from the project fall into three major categories:

- **Short-Term Construction Emissions.** Airborne dust and emissions from heavy equipment used during the construction phases of the proposed project.

- **Long-Term Mobile Emissions.** Vehicle emissions resulting from traffic traveling to and from the proposed project.
- **Long-Term Stationary Emissions.** Stationary emissions resulting from offsite electrical power generation consumed by the various project components.

Since certification of the 1990 EIR, the proposed project has been altered to include alternative options for the location of a maintenance facility, revised station locations, and grade separations. In keeping with the objective of a supplemental environmental analysis, this air quality study will assess only the incremental impact associated with project alterations proposed under the current project. In other words, this analysis will focus primarily on how the revised project would alter the findings of the previously certified EIR.

### **Short-Term Impacts**

The preparation of the study area for facility construction would produce two types of air contaminants: exhaust emissions from construction equipment and fugitive dust generated as a result of demolition and soil movement. These construction impacts could be expected during project development. The emissions produced during grading and construction activities are short-term.

### **Exhaust Emissions From Construction Equipment**

Exhaust emissions from construction activities include those associated with the transport of workers and machinery to the site, as well as those produced onsite as the equipment is used. Although not completely quantified, exhaust emissions associated with construction equipment were discussed in the previously certified EIR.

The changes made to the proposed project include combining two stations at Glenarm and California to a central location at Fillmore Avenue, combining two stations at Hill Street and Altadena Avenue to a central location at Allen Avenue, replacing the Hill Street and Altadena Avenue stations with a station at Allen Avenue, the construction of the Southwest Museum station at Marmion Way, examination of three alternative options for the location of the maintenance facility, and the use of grade separations at Colorado Boulevard (below grade) and at the Figueroa/Marmion Way station (aerial flyover ramps). While the total number of stations would be reduced by one, implementation of the proposed grade separations (including the construction of aerial fly-over ramps and

underground) entails an increase in construction-related activities over that considered in the certified EIR. In addition, the maintenance facility was not included in the air quality analysis contained in the certified EIR.

The previous document identified construction-related equipment emissions as less than significant because these emissions would be minor in comparison to average daily emissions and because the emissions would be distributed along the entire alignment. The anticipated emissions from construction activities will be substantially less when considering average daily emissions. In addition, the emissions will be distributed along the entire alignment, further reducing the adverse effects of those emissions; therefore, it is unlikely that construction emissions will be significant. Based on subsequent review of the previous analysis, and taking into consideration the changes proposed under the current project, construction-related emissions would not constitute a measurable contribution to existing air quality exceedances.

#### **Fugitive Dust Emissions**

Heavy construction is a source of dust emissions that may have substantial temporary impact on local air quality. Building and road construction are the construction categories with the highest emissions potential. Construction emissions are associated with land clearing, blasting, ground excavation, cut and fill operations, and the construction of the particular facility itself. Dust emissions also vary substantially from day to day, depending on the level of activity, the specific operations, and weather conditions.

The EPA estimates that each acre of soil disturbed creates about 110 pounds of dust per workday during the construction life of any project. This value depends on soil moisture, silt content, wind speed, construction density, and many other factors. It must be noted that although construction dust contributes to the regulated pollutant PM10 (particulate matter of 10 microns or less in diameter), the dust generated during construction activities is also composed of large particles which settle out rapidly on horizontal surfaces very near the source. These large particles (or visible dust) are easily filtered by human breathing passages and represent a nuisance, rather than a health concern.

The proposed project is to be constructed primarily within existing rail right-of-way, which limits the amount of grading needed to construct the project. Grading would be required to build the stations, grade separations, and the maintenance facility. In addition, sensitive receptors (residences, schools,

etc.) are located in the immediate vicinity of the Taylor Yard location, the Southwest Museum Station, and the Marmion Way and Figueroa Street grade separation. However, site-specific grading plans for proposed stations and maintenance yards have not yet been finalized. Thus, a quantitative analysis of fugitive dust generated by construction of the proposed project components cannot be conducted at this time. Considering the proximity of sensitive receptors along many portions of the alignment, the continued exceedances of PM10 standards in the South Coast Air Basin, and assuming a worst case scenario of all construction activities occurring simultaneously, project construction may result in a short-term significant impact on air quality with respect to generation of fugitive dust. These emissions would also temporarily contribute on a cumulative basis to continued exceedances of PM10 standards.

The SCAQMD (Rule 403) requires that fugitive dust be controlled so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance offsite. Implementation of these dust suppression techniques as required by the SCAQMD can reduce the fugitive dust generation (and thus the PM10 component) by 50 to 75 percent. Compliance with these rules would also reduce or eliminate impacts on nearby sensitive receptors.

### **Long-Term Impacts**

Long-term emissions would be generated by both stationary and mobile sources associated with the proposed project. Project-related emissions from both stationary and mobile sources were quantified according to SCAQMD methods and/or use of ARB-approved models where appropriate.

### **Stationary Sources**

#### **Utility Emissions**

Long-term air quality impacts associated with stationary sources are related to the generation of energy required for system operation. In this case, energy consumption can be divided into that required for light rail vehicle operation/maintenance and that required for station operation. As discussed in the certified EIR, electrical power for the project would be provided by the City of Los Angeles Department of Water and Power and the City of Pasadena Department of Water and Power. Most



of the power provided by LADWP is generated outside of the South Coast Air Basin and would not affect air quality in the region. In addition, a portion of this power is generated by hydrogeneration which does not result in pollutant emissions. The certified EIR identifies the percentage of LADWP electrical power generated by oil and gas-fired plants within the South Coast Air Basin to be 20 percent. An additional 60 percent of electricity is generated by plants (nuclear and coal) located outside the basin, and the remaining 20 percent of power generation comes from hydrogeneration.

As discussed previously, the changes to the project include combining the Glenarm and California Stations to a central location at Fillmore Avenue, combining the Hill Street and Altadena Street stations to a central location at Allen Avenue, the construction of the Southwest Museum Station at Marmion Way, the elevation of alternative options for the location of the maintenance facility, and the use of grade separations at Colorado Boulevard (below grade) and at the Figueroa/Marmion Way Station (aerial flyover ramps). These changes would result in the net reduction of one station over the project analyzed in the certified EIR. However, the certified EIR did not include specific analysis on the proposed maintenance facility. Therefore, while the reduction in the number of stations would result in a decrease in utility consumption associated with the project, the inclusion of the maintenance yard within the analysis would at least counter-balance this reduction. Thus, the electrical requirements of the previous project are expected to be similar to that required for the operation of the current proposal. These estimates do not take into account energy conservation control measures currently required in new development or new emission controls on electrical power generating equipment.

The previous document identifies the percentage of LADWP electrical power generated by oil and gas-fired plants within the South Coast Air Basin to be 20 percent of the total power required for facility operation. Under this assumption, stationary source emissions associated with the project would not be considered significant.

#### Onsite Equipment Emissions

Some equipment used by the completed project, such as maintenance/repair equipment or other sources which have the potential to emit or significantly alter criteria pollutant concentrations (as defined in Rule 1303), could be subject to SCAQMD regulations. Amendments to the SCAQMD's Regulation XIII, adopted June 1990, require that all emission increases of any size be offset before

a permit to construct can be issued by the SCAQMD. In compliance with Regulation XIII, any increase in emissions resulting from equipment to be used onsite would be offset accordingly.

### **Mobile Sources**

While a regional reduction in pollutant emissions due to the implementation of the proposed project is expected, it should be recognized that rail stations (particularly those with large parking lots located adjacent to major intersections) and rail lines (particularly those that restrict traffic flow) have the potential to affect local pollutant concentrations. The primary mobile source pollutant of local concern is carbon monoxide (CO). Carbon monoxide is a direct function of vehicle idling time, and, thus, traffic flow conditions. Carbon monoxide transport is extremely limited; it disperses rapidly with distance from the source under normal meteorological conditions. However, under certain meteorological conditions, carbon monoxide concentrations proximate to a congested roadway or intersection may reach unhealthful levels affecting local sensitive receptors (residents, school children, the elderly, hospital patients, etc).

Project-related localized CO emissions would result from increased vehicle activity related to transit parking lots and nearby intersections. As analyzed in the previously certified EIR, localized mobile source emissions associated with the proposed project would not constitute a substantial contribution to local CO concentrations, and would potentially result in a reduction in localized mobile emissions associated with home-work vehicle traffic in the Pasadena/Los Angeles Corridor.

The changes made to the project analyzed in the previously certified EIR are designed to minimize the impacts associated with the approved project. For the most part, these changes would result in either no change in traffic patterns or a reduction in roadway congestion associated with light rail operation. The following is a discussion of those aspects of the Pasadena Light Rail Transit Project which have been altered, and an analysis of the impacts associated with these changes.

### **Regional Air Quality**

#### **Light Rail Operation**

As discussed in the certified EIR, the primary objective of the Light Rail Transit Project is to provide residents living in and around the Pasadena-Los Angeles Corridor an alternative mode of transit. The

rail transit line would be expected to contribute to the improvement of regional air quality by transferring people from cars to light rail. The more people who are attracted to the transit system, the fewer cars that would travel the streets and highways of the region, and consequently the greater the benefit to regional air quality. It is estimated that the project would result in a peak trip reduction of between 2,500 and 4,600 private vehicles currently operated during work commute hours. The removal of these vehicles from local freeways and arterials would result in decreased regional emissions.

The certified EIR calculated the emissions that would have been generated by the estimated number of vehicles removed from the circulation network through implementation of the proposed project, and compared the data to the calculation of emissions generated by vehicles travelling to a light rail station. The analysis used SCAG data on the average home-to-work commute in comparison to an average home-to-light rail station commute. This analysis concluded that implementation of the current project would result in an emissions decrease due to the reduction in vehicle miles traveled (VMT). As the VMT reduction potential associated with the current project is similar to that analyzed in the certified EIR, the current project would result in a similar level of emissions reduction. Thus, the current project would not alter the finding of a beneficial regional air quality impact contained in the certified EIR.

#### **Maintenance Yards**

The proposed project includes evaluation of three permanent maintenance yard alternatives. These are the two Taylor Yard sites and the Cornfield site. The maintenance yard would provide for the storage of light rail vehicles and provide space for the daily inspection and light maintenance of rail vehicles, control of yard operations, and personnel changes. Both the proposed Pasadena-Los Angeles Light Rail Transit and Burbank/Glendale/Los Angeles Light Rail Transit Project would use the railyard. For purposes of this air quality impact analysis, these two options at Taylor Yard are interchangeable.

Residential neighborhoods exist to the north, east, and west of Taylor Yard. A mixture of residential and light industrial uses are located to the southwest and northeast. The operation that would occur at the proposed maintenance yard is described above under the regional air quality analysis. As discussed earlier, the maintenance yard would provide for the storage of light rail vehicles and provide space for the daily inspection and light maintenance of vehicles, control of yard operations, and

personnel changes. Vehicle trips to the maintenance facility would be minimal and no painting or other emission-generating activities would occur at the facility (with the exception of the compressors which would be operated under SCAQMD permits). Therefore, no localized impacts on air quality are anticipated as a result of the proposed maintenance yards.

Selection of the Taylor Yard option necessitates the use of the Taylor Yard Wye connector. This connector would occupy a portion of the existing roadway on Avenue 19, and would reduce the roadway capacity of the Avenue 19/San Fernando Road intersection. However, this intersection would still operate at an acceptable level of service. Therefore, no significant impacts on local air quality are expected to be associated with operation of the Taylor Yard Wye connector.

The second option for the maintenance yard facility is the Cornfield site located immediately adjacent to the approved Pasadena Light Rail Transit alignment. The Cornfield Maintenance Yard is an existing Southern Pacific holding yard located north of Chinatown. This site is located within a primarily industrial area, although a small area of residential land uses are located approximately 600 feet northwest of the site along North Broadway. In addition, nearby Chinatown contains a mixture of retail, commercial office, and residential land uses. Thus, sensitive receptors are located in the general area of the Cornfield Yard. However, the maintenance yard would not conduct painting or other large emission emitting activities, nor would a substantial amount of vehicle traffic be generated by the operation of this facility. Therefore, no significant impacts on local air quality are expected to occur with selection of the Cornfield site location.

## **Stations**

### Southwest Museum Station

Residential land uses are located approximately 100 feet in all directions from this proposed station. The number of automobile trips associated with this station is estimated to be relatively low, and few kiss-and-ride trips are expected. While some traffic congestion would occur due to the increase in pedestrian activity and in parallel parking, the effects on traffic circulation are expected to be less than significant. While sensitive receptors are located in the immediate vicinity of this station, the low level of vehicular activity and the acceptable level of service on local roadways indicate that localized vehicular emissions associated with access to the Southwest Museum Station would not result in a significant local air quality impact.

### Fillmore Street Station

The traffic analysis indicates that the local circulation system proximate to the proposed Fillmore Street Station could accommodate the projected trips associated with the park-and-ride and kiss-and-ride lot while maintaining an acceptable LOS. Based upon the fact that the LOS of the local circulation system that would serve the Fillmore Street Station would remain at an acceptable level, no significant local air quality impacts are expected as a result of this project component.

### Allen Avenue Station

No sensitive receptors are located within close proximity to this station. The traffic analysis indicates that the local circulation system could accommodate the projected vehicle trips associated with the station while maintaining an acceptable LOS. Based on the ability of the local circulation network to provide an acceptable LOS with project construction, no significant local air quality impacts are expected as a result of this project component.

### **Grade Separations**

The current proposal would involve the addition of two grade separations. The Colorado grade separation would entail creating a subway for the tracks between the Del Mar Boulevard and the Memorial Park station. This would eliminate conflicts with vehicular traffic at Green Street, Colorado Boulevard, and Union Street, thus reducing vehicle stops and idling. The grade separation, by reducing traffic congestion, would correspond to a reduction in local CO concentrations. (Please see Section 4.2 for a detailed analysis of these design changes and their impact on circulation). Therefore, the Colorado grade separation would provide a beneficial local air quality impact over the at-grade option analyzed in the certified EIR.

The Marmion Way and Figueroa Street grade separation involves the construction of an aerial flyover. This structure would not have any columns that would delay or obstruct street traffic. Thus, the intersection of Figueroa/Marmion and Pasadena Avenue would operate at an improved level of service over that analyzed in the certified EIR. As with the Colorado grade separation, this configuration would reduce the Light Rail Transit traffic impacts and improve the LOS at intersections evaluated over the previous project design (please see Section 4.2 for an analysis of the traffic impacts associated with the current proposal). The improved traffic circulation would correspond to reduced local CO

concentrations. Although the certified EIR did not identify any significant impacts on local air quality, the LOS's associated with the grade separations would be improved or remain the same over that evaluated for the at-grade. Therefore, the Marmion Way and Figueroa Street grade separation would provide a beneficial local air quality impact.

#### **Conformity with the Air Quality Management Plan**

As stated in the 1989 conformity guidelines (SCAG 1990), "by definition, transportation projects included in the 1989 RMP meet the test of AQMP/FIP conformity." "Constrained" projects, defined as those for which funding was assured at the time of Plan adoption, are determined to be consistent with the AQMP. Additional, "unconstrained," projects, those for which funding was not assured, are also listed in the guidelines. The Pasadena Light Rail Transit Project is listed as a constrained project in the 1989 AQMP Transportation Project Conformity Guidelines, and would therefore be in conformance with the 1989 AQMP.

#### **4.4.3 MITIGATION MEASURES**

##### **Short-Term (Construction) Emissions**

Concurrent with an application for a grading permit, the applicant shall propose measures to suppress fugitive dust generated during construction activities. These measures shall be incorporated as conditions of grading permit approval. SCAQMD Rule 403 requires that fugitive dust be controlled so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance offsite.

Suppression measures may include:

- Twice daily watering (With use of reclaimed water or chemical soil binder where feasible)
- Suppression of grading activities during periods of high winds
- Wheelwashing of construction equipment
- Revegetating graded areas immediately after soil disturbance

### Long-Term Emissions

The proposed project would have a beneficial impact in the long-term with respect to mobile source emissions. However, generation of electricity required to serve the project would represent a significant impact with respect to stationary source emissions. The following measures would reduce long-term stationary source emissions:

1. Prior to the issuance of building permits for development onsite, the applicant shall provide evidence demonstrating compliance with all SCAQMD regulations, including Regulation XIII, New Source Review.
2. LACTC shall evaluate available options to reduce the amount of energy required to operate the Pasadena Light Rail Transit project alternatives, including alternative energy sources, use of clean fuel generators at maintenance facilities, energy-efficient equipment, limitation of operating hours, and implementation of energy-efficient automated controls for system operation. Additional measures would include the use of energy-efficient, low sodium parking lot lights in the park-and-ride facilities, the provision of adequate ventilation systems in enclosed parking facilities, use of lighting controls and energy-efficient lighting, provision of recycling bins in addition to trash bins (including contracting for recycling services), and the provision of dedicated parking spaces with electrical outlets for electrical vehicles.

#### **4.4.4 LEVEL OF SIGNIFICANCE AFTER MITIGATION**

Although project-specific emissions associated with the short-term use of construction equipment and long-term consumption of energy may cause measurable increases in existing exceedances of ambient air quality standards, the remaining air quality impacts assessed in this analysis would either be beneficial, below a level of significance, or reduced to a level below that of significance through mitigation. Overall implementation of the project would substantially reduce long-term mobile emissions, offsetting emissions from other existing and reasonably foreseeable projects. No significant cumulative impacts to air quality are anticipated.

## **4.5        NOISE AND VIBRATION**

The analysis of noise and vibration consist of analyzing the potential impacts that may result from the construction and operation of designated alternatives and modifications to the approved Pasadena-Los Angeles Rail Transit Project. Predicted future noise and vibration conditions were compared with relevant standards and criteria to determine impacts.

Noise sources contributing to the environment of the proposed Pasadena-Los Angeles Light Rail Transit (LRT) alignment variations and station modifications include rail and motor vehicle traffic, occasional aircraft overflight, and rail maintenance equipment and operations. Noise and vibration scales and standards are described in detail in Section 4.5 of the certified EIR and, therefore, are not reiterated in this noise section analysis.

### **4.5.1        ENVIRONMENTAL SETTING**

In evaluating the potential noise impact of new transportation noise sources, there are generally two factors that should be considered. First, the expected noise of the new system should be compared to applicable criteria to ensure compliance with local, state, or federal regulations and guidelines to minimize interference with specific activities as a function of the land use. Second, expected system levels should be compared with existing levels in areas along the alignment to ensure that the noise environment is not degraded.

Existing noise and vibration sources in the project study areas include the existing AT & SF rail operations, and vehicular traffic along highways and local streets.

#### **Field Measurements**

Field measurement surveys were conducted in June and July 1988 along the proposed alignment to document the existing noise and vibration environment for the 1989 EIR. An additional noise measurement survey was conducted by MBA on July 2, 1992, at the RTD Metro Blue Line's Long Beach Maintenance Yard to provide supplemental information for the nighttime washdown facility, a system similar to the proposed train wash facility at the Taylor Yard. The following text summarizes results of these measurements.



Based on observation and conversations between MBA personnel and staff at the Long Beach Yard, light rail commuter trains come in from main lines to the maintenance yard between 6 p.m. and 11 p.m. every night. These light rail vehicles (LRV) enter the car wash facility to be cleaned first externally by the machine, then internally by members of a cleaning team. LRVs do not leave the yard until the next morning.

The Long Beach Yard washdown facility is approximately 70 feet from the Long Beach Freeway (I-710), which is partially blocked by an 8-foot barrier wall along the freeway right-of-way. Traffic on I-710 is the dominant noise source for exterior noise levels in this area. Noise from occasional aircraft overflight can reach as high as 81 dBA at the yard.

A Larson-Davis 700 sound level meter was placed 50 feet from one of the car wash facility openings facing a southwest direction. It was placed 5 feet above the ground, approximately 70 feet from I-710, and 5 feet from rail tracks leading to the car wash facility. For a period of an hour and half (7:30 p.m. to 9:00 p.m.), the measured sound levels showed an Leq of 72 dBA and a peak level of 103.5 dBA.

During a period when the freeway traffic was low, the ambient noise level was measured to be 70 dBA. The LRV pass-by noise was measured to be at 75.5 dBA at 5 feet from the rail tracks. When a second sound level meter (Larson-Davis 800 model) was placed on the other side of the rail tracks, where the freeway traffic was blocked by the train, lower noise levels of 69 or 64 dBA were measured for a slowly moving or idling train, respectively. This is a difference of up to 11.5 dB with freeway traffic. On the two sides where the train wash activity was shielded by the structure, exterior noise levels were more than 10 dBA below the opening sides, when effects from other noise sources were excluded.

A measurement survey was also conducted inside the car wash facility to minimize the freeway influence. The ambient noise level without any cleaning activity was measured to be between 58 and 60 dBA inside the facility. When the LRV bell rang inside the facility, 86 dBA was measured. When an LRV engine was idling and the cleaning crew was working on the interior of the train, 83 dBA was measured inside the facility. The car wash machine was measured to be generating 70 dBA before the train was in the wash. It was measured to be 83 dBA during a train wash. The rinse activity, although lasting approximately 30 seconds individually, was the loudest and was measured between

91 and 93 dBA at a distance of 15 feet. Noise generated by the rinse activity decreased when the distance to it increased (i.e., when the sound level meter moved away from it).

A car wash facility is considered to be a point source and, therefore, noise levels will decrease 6 dB for every doubling of the distances (6 dB/DD, this noise reduction rate does not apply to noise inside the car wash facility because noise is contained mostly inside the facility until it reaches one of the openings at the two ends). A distance of 50 feet may not be considered far enough to qualify for the 6 dB/DD attenuation rate due to the approximately 15 feet of opening height, however, the measured 64 dBA noise level during a train wash 50 feet away (there was additional 100 feet distance from the southwest opening to the actual washing activity) and an idling second train 5 feet away (and the freeway traffic was shielded by the idling train) would be the worst case scenario noise level generated by the train wash activity. For a receptor at a distance of 200 feet from one of the openings, the noise level would reduce to 52 dBA. It should be kept in mind that on the side of the opening closer to the rinse activity, noise level could be as much as 5 dBA higher than the other side, depending on how close the rinse activity is from the openings.

#### **4.5.2 ENVIRONMENTAL IMPACTS**

The potential noise impact of the proposed project can be divided into construction period and operational effects. Construction period impacts would be due to noise generated by grading and construction equipment. Operational impacts would be associated with future train-related noise and vibration impacts to the project area along the route and from noise generated by vehicular traffic near the proposed stations. The proposed closure of Holly Street east of Raymond Avenue would reduce traffic volumes on portions of Holly Street and Arroyo Parkway, therefore, traffic noise levels will be lower than present levels along these street segments.

##### **Construction Period Noise Impacts**

Construction noise will affect ambient noise levels on and around the site over the entire period of project construction. The noise and vibration from construction of a transit system can disturb quiet areas and further impact areas that are already noisy. Many of the machines or techniques used in construction produce high noise levels, and residents close to the construction site may be exposed to these levels for time periods of more than a year. The U.S. Environmental Protection Agency has found that the noisiest equipment types operating at construction sites typically range from 88 dBA

to 91 dBA at 50 feet. Typical operating cycles may involve two minutes of full power, followed by three or four minutes at lower settings. Although noise ranges were found to be similar for all construction phases, the erection phase tends to be less noisy. Noise levels vary from 79 dBA to 88 dBA at 50 feet during the erection phase of construction.

Since noise from localized sources (such as construction activities) typically diminishes by about 6 dBA with each doubling of distance from source to receptor, outdoor receptors within 100 feet of construction sites that have an uninterrupted view of the construction site would experience noise greater than 85 dBA when noise on the adjacent part of the construction site exceeds 91 dBA. Construction activities would cause annoyance to noise-sensitive land uses in the surrounding area for periods when construction equipment is operating near the edge of the property closest to the receptors. Offsite noise-sensitive receptors would be impacted by the construction activities along the project route and proposed station areas. Sustained high noise levels at noise sensitive locations are likely to be disruptive to normal activity during daytime hours, while nighttime construction noise can be expected to be most objectionable for residential areas.

The certified EIR developed several types of estimates for different construction operations to assess the potential noise impact along the proposed corridor. These different construction operations include (1) trench, retaining wall, and fill construction; (2) required at-grade construction along city streets, pavement removal, and utility relocation required; (3) at-grade construction with little or no pavement removal; (4) subway cut and cover; (5) subway tunneling; and (6) aerial guideway. For each type of operation, usage factors for equipment and the potential length of time the equipment would be used were estimated.

### **Operational Period Noise Impacts**

#### **Noise Impacts in Areas Adjacent to Proposed Passenger Stations**

Based on the proposed Light Rail Transit alternative maintenance facilities, station modifications, and grade separations, potential operational noise sources include train passbys along the route and vehicular traffic near passenger stations.

## Light Rail Vehicle Noise Impacts

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, primarily arises from the increase in traffic flow in the vicinity of the station rather than from rail operations. A straightforward way of assessing the potential impact is to look at the increase in traffic noise level increases resulting from projected increases in traffic flow.

In order for CNEL values to increase by as much as 3 dB, which would be barely noticeable, traffic volumes would have to increase by a factor of 2. Preliminary estimates of the changes in traffic flow in the vicinity of passenger stations resulting from the light rail system are relatively small, typically well below 20 percent at proposed stations. Such an increase in traffic flow would result in less than a 1 dB increase in noise exposure, which is clearly an insignificant increase in exposure. A look at the peak hour average sound level,  $Leq_{(h)}$ , would not only show the general trend of the change in traffic noise adjacent to a passenger station, but also show the worst case traffic noise in the vicinity of the station.

Year 2010 traffic noise levels were calculated for traffic along roadway segments in the vicinity of the proposed stations with the Federal Highway Administration's Highway Noise Prediction Model, FHWA-RD-77-108 (1978). Model input data included average daily traffic levels (converted from peak hour traffic volumes provided by Katz, Okitsu & Associates); day/night percentages of autos, medium trucks, and heavy trucks; vehicle speeds; ground attenuation factors; and roadway widths.

Future increases in roadway noise in the study area can be separated into the following two cases: year 2010 without project and year 2010 with project. Table 4.5-1 lists the calculated distance from roadway centerline to  $Leq$  levels (in dBA) along segments of the roadway and the  $Leq$  value at 50 feet from the centerline of the near travel lane for existing roadways in the project vicinity for the year 2010 without the proposed project condition. Table 4.5-2 lists the year 2010 with the proposed project condition. The roadway noise levels presented assumes no natural or man-made shielding between the roadway and the noise receptor.

**TABLE 4.5-1**

**YEAR 2010 NO PROJECT ROADWAY NOISE LEVELS**

| Roadway Segment                  | Distance From Roadway<br>Centerline to Leq (in feet) <sup>a</sup> |        |        | LEQ at 50 ft.<br>from Centerline<br>of Near<br>Travel Lane |
|----------------------------------|---|--------|--------|--|
|                                  | 72 Leq  | 65 Leq | 55 Leq |  |
| <b>Fillmore Station</b>          |   |        |        |  |
| California Boulevard             |   |        |        |  |
| west of Arroyo Pkwy.             | < 20 <sup>b</sup>   | 78     | 754    | 65.6   |
| east of Arroyo Pkwy.             | < 20  | 85     | 828    | 66.0   |
| Fillmore Street                  |   |        |        |  |
| west of Arroyo Pkwy.             | < 20  | < 20   | 73     | 56.1   |
| east of Arroyo Pkwy.             | < 20  | < 20   | 77     | 56.4   |
| Glenarm Street                   |   |        |        |  |
| west of Arroyo Pkwy.             | < 20  | 36     | 354    | 63.0   |
| east of Arroyo Pkwy.             | < 20  | 82     | 816    | 66.7   |
| Arroyo Parkway                   |   |        |        |  |
| north of California Blvd.        | < 20  | 97     | 956    | 66.6   |
| California Blvd. to Fillmore St. | < 20  | 121    | 1,194  | 67.6   |
| Fillmore St. to Glenarm St.      | < 20  | 114    | 1,122  | 67.3   |
| south of Glenarm St.             | < 20  | 123    | 1,216  | 67.7   |
| <b>Allen Station</b>             |   |        |        |  |
| Maple Street                     |   |        |        |  |
| west of Allen Ave.               | < 20  | 20     | 194    | 60.4   |
| east of Allen Ave.               | < 20  | 29     | 280    | 62.0   |
| Carson Street                    |   |        |        |  |
| west of Allen Ave.               | < 20  | 44     | 437    | 64.0   |
| east of Allen Ave.               | < 20  | 43     | 427    | 63.8   |
| Allen Avenue                     |   |        |        |  |
| north of Maple St.               | < 20  | 62     | 621    | 65.5   |
| Maple St. to Carson St.          | < 20  | 74     | 736    | 66.2   |
| south of Carson St.              | < 20  | 76     | 762    | 66.4   |
| <b>Holly Station</b>             |   |        |        |  |
| Walnut Street                    |   |        |        |  |
| west of Fair Oaks Ave.           | < 20  | 61     | 584    | 64.5   |
| east of Fair Oaks Ave.           | < 20  | 80     | 780    | 65.8   |

TABLE 4.5-1 (continued)

| Roadway Segment                                      | Distance From Roadway<br>Centerline to Leq (in feet) <sup>a</sup> |        |        | LEQ at 50 ft.<br>from Centerline<br>of Near<br>Travel Lane |
|--|---|--------|--------|--|
|  | 72 Leq  | 65 Leq | 55 Leq |  |
| <b>Holly Street</b>                                  |   |        |        |  |
| west of Fair Oaks Ave.                               | < 20  | 20     | 191    | 60.4   |
| Fairoaks Ave. to Raymond Ave.                        | < 20  | 22     | 208    | 60.7   |
| Raymond Ave. to Arroyo Pkwy.<br>east of Arroyo Pkwy. | < 20  | 20     | 192    | 60.4   |
|  | < 20  | 25     | 246    | 61.5   |
| <b>Union Street</b>                                  |   |        |        |  |
| west of Fair Oaks Ave.                               | < 20  | 20     | 190    | 60.3   |
| Fairoaks Ave. to Raymond Ave.                        | < 20  | 27     | 259    | 61.7   |
| Raymond Ave. to Arroyo Pkwy.<br>east of Arroyo Pkwy. | < 20  | 22     | 211    | 60.8   |
|  | < 20  | 26     | 255    | 61.6   |
| <b>Colorado Boulevard</b>                            |   |        |        |  |
| west of Fair Oaks Ave.                               | < 20  | 119    | 1175   | 67.5   |
| Fairoaks Ave. to Raymond Ave.                        | < 20  | 125    | 1235   | 67.8   |
| Raymond Ave. to Arroyo Pkwy.<br>east of Arroyo Pkwy. | < 20  | 85     | 835    | 66.1   |
|  | < 20  | 86     | 842    | 66.1   |
| <b>Arroyo Parkway</b>                                |   |        |        |  |
| north of Holly St.                                   | < 20  | < 20   | < 20   | 53.5   |
| Holly St. to Union St.                               | < 20  | 29     | 226    | 60.4   |
| Union St. to Colorado St.<br>south of Colorado St.   | < 20  | 35     | 300    | 61.6   |
|  | < 20  | 52     | 491    | 63.7   |
| <b>Fairoaks Avenue</b>                               |   |        |        |  |
| north of Walnut St.                                  | < 20  | 87     | 848    | 66.1   |
| Walnut St. to Holly St.                              | < 20  | 89     | 867    | 66.2   |
| Holly St. to Union St.                               | < 20  | 71     | 686    | 65.2   |
| Union St. to Colorado St.<br>south of Colorado St.   | < 20  | 81     | 790    | 65.8   |
|  | < 20  | 100    | 982    | 66.8   |

<sup>a</sup> Day Peak Leq. Does not consider any obstructions to the noise path.

<sup>b</sup> Traffic noise levels within 20 feet of the roadway centerline calculated with this model are not considered accurate.

Source: Michael Brandman Associates 1992.

TABLE 4.5-2

## YEAR 2010 WITH PROJECT ROADWAY NOISE LEVELS

| Roadway Segment                                   | Distance From Roadway<br>Centerline to Leq (in feet) <sup>a</sup> |        |        | Leq at 50<br>ft. from<br>Centerline<br>of Near<br>Travel Lane | Increase<br>Over<br>Year 2010<br>Base<br>Levels |
|---|---|--------|--------|---|---|
|   | 72 Leq  | 65 Leq | 55 Leq |   |   |
| <b>Fillmore Station</b>                           |   |        |        |   |   |
| California Boulevard                              |   |        |        |   |   |
| west of Arroyo Pkwy.                              | < 20 <sup>b</sup>   | 78     | 754    | 65.6  | 0.0   |
| east of Arroyo Pkwy.                              | < 20  | 89     | 871    | 66.2  | 0.2   |
| Fillmore Street                                   |   |        |        |   |   |
| west of Arroyo Pkwy.                              | < 20  | < 20   | 103    | 57.7  | 1.6   |
| east of Arroyo Pkwy.                              | < 20  | < 20   | 78     | 56.4  | 0.0   |
| Glenarm Street                                    |   |        |        |   |   |
| west of Arroyo Pkwy.                              | < 20  | 36     | 354    | 63.0  | 0.0   |
| east of Arroyo Pkwy.                              | < 20  | 82     | 819    | 66.7  | 0.0   |
| Arroyo Parkway                                    |   |        |        |   |   |
| north of California Blvd.                         | < 20  | 99     | 976    | 66.7  | 0.1   |
| California to Fillmore St.                        | < 20  | 122    | 1211   | 67.7  | 0.1   |
| Fillmore St. to Glenarm St.                       | < 20  | 114    | 1121   | 67.3  | 0.0   |
| south of Glenarm St.                              | < 20  | 122    | 1203   | 67.6  | -0.1  |
| <b>Allen Station</b>                              |   |        |        |   |   |
| Maple Street                                      |   |        |        |   |   |
| west of Allen Ave.                                | < 20  | 21     | 196    | 60.5  | 0.1   |
| east of Allen Ave.                                | < 20  | 29     | 282    | 62.0  | 0.0   |
| Carson Street                                     |   |        |        |   |   |
| west of Allen Ave.                                | < 20  | 44     | 438    | 64.0  | 0.0   |
| east of Allen Ave.                                | < 20  | 43     | 429    | 63.9  | 0.1   |
| Allen Avenue                                      |   |        |        |   |   |
| north of Maple St.                                | < 20  | 63     | 625    | 65.5  | 0.0   |
| Maple St. to Carson St.                           | < 20  | 75     | 744    | 66.3  | 0.1   |
| south of Carson St.                               | < 20  | 77     | 766    | 66.4  | 0.0   |
| <b>Holly Station with Closure of Holly Street</b> |   |        |        |   |   |
| Walnut Street,                                    |   |        |        |   |   |
| west of Fair Oaks Ave.                            | < 20  | 72     | 696    | 65.3  | 0.8   |
| east of Fair Oaks Ave.                            | < 20  | 93     | 913    | 66.4  | 0.6   |

TABLE 4.5-2 (continued)

| Roadway Segment                                    | Distance From Roadway<br>Centerline to Leq (in feet) <sup>a</sup> |        |        | Leq at 50<br>ft. from<br>Centerline<br>of Near<br>Travel Lane | Increase<br>Over<br>Year 2010<br>Base<br>Levels |
|--|---|--------|--------|---|---|
|  | 72 Leq  | 65 Leq | 55 Leq |   |   |
| <b>Holly Street</b>                                |   |        |        |   |   |
| west of Fairoaks Ave.                              | < 20  | 20     | 193    | 60.4  | 0.0   |
| Fairoaks to Raymond Ave.                           | < 20  | < 20   | 93     | 57.2  | -3.5  |
| Raymond to Arroyo Pkwy.<br>east of Arroyo Pkwy.    | ---   | ---    | ---    | n/a   | n/a   |
|  | < 20  | 18     | 166    | 59.7  | -1.8  |
| <b>Union Street</b>                                |   |        |        |   |   |
| west of Fairoaks Ave.                              | < 20  | 20     | 194    | 60.4  | 0.1   |
| Fairoaks to Raymond Ave.                           | < 20  | 27     | 265    | 61.8  | 0.1   |
| Raymond to Arroyo Pkwy.<br>east of Arroyo Pkwy.    | < 20  | 25     | 246    | 61.5  | 0.7   |
|  | < 20  | 29     | 280    | 62.0  | 0.4   |
| <b>Colorado Boulevard</b>                          |   |        |        |   |   |
| west of Fairoaks Ave.                              | < 20  | 121    | 1192   | 67.6  | 0.1   |
| Fairoaks to Raymond Ave.                           | < 20  | 125    | 1235   | 67.8  | 0.0   |
| Raymond to Arroyo Pkwy.<br>east of Arroyo Pkwy.    | < 20  | 87     | 856    | 66.2  | 0.1   |
|  | < 20  | 87     | 850    | 66.1  | 0.0   |
| <b>Arroyo Parkway</b>                              |   |        |        |   |   |
| north of Holly St.                                 | ---   | ---    | ---    | n/a   | n/a   |
| Holly St. to Union St.                             | < 20  | < 20   | 128    | 57.9  | -2.5  |
| Union St. to Colorado St.<br>south of Colorado St. | < 20  | 31     | 253    | 60.9  | -0.7  |
|  | < 20  | 53     | 495    | 63.8  | 0.1   |
| <b>Fairoaks Avenue</b>                             |   |        |        |   |   |
| north of Walnut St.                                | < 20  | 89     | 870    | 66.2  | 0.1   |
| Walnut St. to Holly St.                            | < 20  | 87     | 856    | 66.2  | 0.0   |
| Holly St. to Union St.                             | < 20  | 75     | 727    | 65.5  | 0.3   |
| Union St. to Colorado St.<br>south of Colorado St. | < 20  | 85     | 826    | 66.0  | 0.2   |
|  | < 20  | 105    | 1032   | 67.0  | 0.2   |

<sup>a</sup> Day Peak Leq. does not consider any obstructions to the noise path.

<sup>b</sup> Traffic noise levels within 20 feet of the roadway centerline calculated with this model are not considered accurate.

Source: Michael Brandman Associates 1992.



Background noise level increases in year 2010 are due to the cumulative condition of population growth and area buildout in the project vicinity. Noise level increases in year 2010 with the implementation of the Light Rail Transit would be within 1 dB of the corresponding background levels, except along Fillmore Street west of Arroyo Parkway. These noise level changes over year 2010 background noise levels from project-related traffic would not be considered significant. Due to the proposed Holly Street closure, traffic noise levels would decrease from their corresponding year 2010 background levels along the following roadway segments:

- Holly Street east of Fair Oaks Avenue.
- Arroyo Parkway north of Colorado Street.

### **Noise Impacts in Areas Adjacent to the Proposed Rail Maintenance Yards**

There are three separate maintenance and storage yard alternative locations being considered: the Taylor Yard Site and the Cornfield Yard Site and the West Bank site. These maintenance and storage yards would provide for rail storage yards for light rail vehicles and provide space for the daily inspection and light maintenance of vehicles, control of yard operations, and personnel changes. Both the proposed Pasadena-Los Angeles Light Rail Transit and Burbank/Glendale/Los Angeles Light Rail Transit projects would use the rail yard.

The maintenance facility would consist of a maintenance building for the repair of vehicles and storage of tools and equipment. A smaller washer building and several minor structures would be constructed as well. A work pit would be positioned for access to vehicle undercarriages for maintenance and inspection.

#### Taylor Yard

Two options for the proposed Taylor Yard light rail transit (LRT) maintenance facility are being considered. Both options consider use of the facility for short- and long-term maintenance, storage, and inspection of the Light Rail Transit vehicles.

Potential current onsite receptors include employees and workers at Taylor Yard. Depending on the future land use of the property, potential future onsite receptors may include commercial/industrial occupants or residential occupants.

Residential neighborhoods exist to the north, east, and west of Taylor Yard. A mixture of residential and light industrial uses exist to the southwest and northeast. Within a one-mile radius of the Yard, there are 21 schools, 3 hospitals, the city jail, 2 public parks, 3 recreation centers, and Dodger Stadium. Among them, the closest receptors are the Aregon Avenue Elementary School and the Dorris Place Elementary School; both are approximately 1/4 mile from the site. Glassell Park Elementary School and Benedict Recreation Center are 1/2 mile from the site. Divine Savior Elementary School and a proposed neighborhood recreational park are approximately 3/4 mile from the site. Nightingale Junior High School is approximately 1 mile from the site.

**Original Taylor Yard Option.** This option of the proposed Taylor Yard Commuter/Light Rail Central Maintenance Facility would be located at the southern end of the larger Taylor Yard. The parcel is bound by the Southern Pacific freight right-of-way on the east and the Department of Water and Power property along the Los Angeles River on the west. The southern boundary is defined by a single-track railroad bridge across the Los Angeles River and the northern limit is defined by the single-track railroad approximately 6,075 feet to the north of the bridge. The proposed washdown facility for this option would be located at northeast corner of the site. The washdown facility would be enclosed on two sides and the two openings would be facing northwest and southeast. The closest residences are approximately 1/4 mile from the project site, in the northeast direction, with the light industrial uses between them. Based on measurement results from MBA's Long Beach Yard noise survey, the highest noise level from the proposed washdown facility would be between 64 to 69 dBA at a distance of 50 feet from the facility openings. At a distance of 1/4 mile, or approximately 1,320 feet, a 28 dBA noise reduction would be achieved through distance attenuation. Therefore, the highest noise levels, attributable to the washdown facility, would be between 36 and 41 dBA at the closest residences adjacent to this site. These levels would be much lower than the existing local ambient noise levels, and would not be considered a significant impact.

**Linear Taylor Yard Option.** This option considers placement and development of the Light Rail Transit maintenance facility on a linear-shaped parcel adjacent to the northly property line of the LACTC acquisition on the south and fronts on the west bank of the Los Angeles River to the west. This option provides for approximately 700 feet of clearance between the Light Rail Transit Maintenance Facility and San Fernando Road. The proposed washdown facility would be enclosed on two sides and the two openings would be facing northwest and southeast. The closest residences from this site are approximately 1/2 mile away. Based on measurement results from the Long Beach Yard noise survey, the highest noise level from the proposed washdown facility would be between 64

to 69 dBA at a distance of 50 feet from the facility openings. At a distance of 1/2 mile, or approximately 1,320 feet, a 34 dBA noise reduction would be achieved through distance attenuation. Therefore, the highest noise levels, attributable to the washdown facility, would be between 30 and 35 dBA at the closest residences adjacent to this site. These levels would be much lower than the existing local ambient noise levels, and would not be considered a significant impact.

#### Cornfield Yard

The Cornfield Site is located immediately adjacent to the approved Pasadena-Los Angeles Light Rail Transit alignment, optimizing efficiency by having a direct access to facilities without the need for a long yard lead. Use of the northern portion of what is called the "Cornfield," a large Southern Pacific (SP) holding northeast of Chinatown, is one of the alternative locations to Taylor yard being considered.

Existing noise-sensitive receptors adjacent to this site include residences approximately 600 feet northwest along North Broadway, which is approximately 50 feet higher than the site. Elysian Park is approximately 1/2 mile northeast of this site. Vehicular traffic along North Broadway is the dominant noise source in this area. The highest noise level attributable to activity on this site would be 48 dBA at the nearest residence. No significant noise impact would be anticipated from this site.

#### West Bank Option

The West Bank Yard would be used for interim daily and short-term maintenance. The site is located at the northwest corner of US-101/Los Angeles River intersection. There are no existing noise-sensitive land uses immediately adjacent to this site and no significant impacts are expected. Long-term maintenance would be handled at the Blue Line Del Amo Yard with vehicles hauled by railroad or truck.

#### **Noise Impacts in Areas Adjacent to the Proposed Grade Separations**

In areas adjacent to the proposed Colorado Boulevard and Marmion Way and Figueroa Street grade separations, the dominant noise impact would come from construction equipment and road closure during the construction period. Long-term noise impacts would be reduced due to improved traffic flow. The stop-and-go vehicular traffic pattern and traffic congestion would be replaced by smoother

traffic movement and would be less noisy. Although light rail trains on elevated tracks would generate 2 to 3 dB higher noise levels than at-grade tracks, the noise level would be comparable to those of street traffic. An apartment building is approximately 80 feet from the existing tracks. The proposed light rail trains are not anticipated to generate noise levels higher than existing heavy rail operations, even after the higher number of light rail train operations is factored into the projection.

The two below-grade construction and operation options being considered for the Colorado Boulevard grade separation would have reduced noise impacts as compared to the at-grade alignment previously assessed. The noise generated by the proposed light rail transit would be greatly reduced in this area, due to the shielding provided by the subgrade facility. Noise impacts from the proposed project would be less than previously assessed with at-grade train passbys.

### **Vibration Impacts**

#### **Construction Period**

The vibration generated by construction activities can be a serious concern, particularly in vibration sensitive locations. Mitigation measures have been proposed to ensure acceptable levels from construction activities.

#### **Operational Period**

Groundborne vibration is generated during light rail vehicle operations as the steel wheels of the rail vehicle impact the rail. In the vicinity of existing roadway transportation facilities in which there are only rubber-tired vehicles, groundborne vibration is generally low. However, in the vicinity of existing rail corridors, the wheel/rail-generated vibration is transmitted to the ground via the connection through the tie and ballast; it travels through the ground to nearby building foundations and is transmitted through the structural members of the building to its occupants.

Estimates of light rail vehicle vibration levels were made using vibration data gathered on the Tasman Corridor Light Rail Project (MBA 1992). The Tasman Corridor measurements provide a database for vibration prediction with a reasonable degree of accuracy. The project Route Refinement Noise and Vibration Study presented vibration levels at nearby land uses to the proposed alignment in terms of vertical velocity level.

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, type of soil, and condition of track. Vibration levels would be expected to increase in the vicinity of track discontinuities or if the track became rough and worn. Low rail vehicle speed will produce a lower source level. Closer receptor locations also experience higher rail vibration levels. Further, light rail operations on concrete aerial guideways or in subway structures typically produce vibration levels below those generated on an at-grade structure.

Along the alignment, groundborne vibration generated by the light rail system is not expected to create an impact on sensitive structures for two reasons. First, the expected vibration levels from the proposed light rail operations are lower than the APTA criteria. Second, comparison of the expected vibration levels from the Light Rail Transit with measured levels along the alignment resulting from railroad activity shows that existing vibration levels from train passbys are higher than those projected for the Light Rail Transit vehicles.

#### **4.5.3 MITIGATION MEASURES**

The following mitigation measures are required by law or are included in the project to minimize impacts of project noise in the vicinity of the proposed project site:

1. Short-term construction noise:
  - a. Heavy construction activities shall be limited to weekday hours from 7 a.m. to 6 p.m. with minimal activity on weekends, to the extent required by the Cities of Los Angeles and Pasadena exterior noise limits.
  - b. Properly muffled construction equipment and trucks shall be used.
  - c. During construction, portable sound barriers, or other techniques, shall be used at noise sensitive locations to ensure compliance with local noise ordinances. For example, an 8-foot perimeter barrier along both sides of the corridor during construction would help reduce the noise level by approximately 6 to 8 dB for ground floor construction. Portable barriers could also be used to surround noisy equipment during operation; this would help to reduce levels by 6 to 8 dB.

2. **Vibration from Light Rail Transit Operations:**

- a. For the Colorado Avenue subgrade segment, the rail subgrade structure shall not be in direct contact with a building structure or foundation. In cases where this is not possible, an elastomer element should be placed between the rail subgrade structure and the building or foundation to prevent direct transmission of groundborne noise and vibration into the building. If preliminary engineering concludes that vibration impacts cannot be adequately addressed, this grade separation may not be pursued.

**4.5.4 LEVEL OF SIGNIFICANCE AFTER MITIGATION**

No unavoidable adverse noise or vibration impacts would be associated with the proposed project.

## **4.6**      **LIGHT AND GLARE**

Light and glare impacts are defined as excessive or undesirable light or reflection sources that induce aesthetic impacts by introducing light at inappropriate times or locations. Light and glare impacts are adverse to the extent that they impact sensitive receptors such as residential neighborhoods, schools, and medical facilities.

### **4.6.1**      **ENVIRONMENTAL SETTING**

The entire project area is generally well lit due to the degree of existing urbanization, although the existing light and glare environment of the proposed project varies in intensity over the various route segments. The main sources of light and glare include commercial and industrial land uses and other urban features. In addition, a substantial amount of light and glare impacts occur along roadways in the project area.

The Taylor Yard, Cornfield Yard, West Bank Option, and Taylor Yard Wye Connector are all proposed within industrial areas containing few uses that may be sensitive to light and glare impacts. These areas are lit primarily for security and evening freight delivery.

The Southwest Museum station would be located in the approved alignment near the intersection of Museum Drive and Marmion Way, paralleling Marmion Way. The adjacent residential neighborhood is currently subject to some street lighting and traffic light and glare impacts.

The Fillmore Station and Colorado Boulevard subgrade are both situated in a commercial district within the City of Pasadena. The alignment in which the Fillmore Station and Colorado subgrade are located parallels Arroyo Parkway, a well-lit and heavily traveled arterial.

The Allen Avenue Station would be located in the center of I-210, which is extremely impacted by light and glare sources such as automobile traffic and night lighting.

The proposed location of the Marmion Way/Figueroa Street aerial flyover is in a commercial business area with peripheral residential development. Located at the intersection of the two streets, the project site receives light and glare impacts from auto and bus traffic and street lighting.

#### 4.6.2 ENVIRONMENTAL IMPACTS

As all of the alternative components contained in this SEIR are contained within the alignment approved in the previously certified EIR, operational light and glare impacts will remain approximately the same and, thus, will not invalidate the approved findings.

During the construction phase of the Light Rail Transit project, construction equipment, safety lighting, and other sources of lighting will create excessive light and glare. In some segments of the route alignment, these impacts will be severe. In the areas of the Marmion Way and Figueroa Street aerial flyover and the Southwest Museum Station, where light and glare impacts would most directly affect residences, light and glare impacts and noise standards may prevent 24-hour construction activities.

The maintenance yard and storage facilities will be lighted. Lighting is necessary to illuminate the facilities during evening and early morning operations. Lighting at the maintenance facilities would introduce new sources of light and glare to each of the three alternative sites. Directional shielding will be used at all yard options, thus, no significant impact is expected to occur.

The Figueroa/Marmion Way aerial station, Southwest Museum Station, Fillmore Street Station, and Allen Avenue Station will be lighted. Lighting at stations is necessary for security and illuminating signage, platform edges, advertising, seating, fare areas, ramps, and stairs. Walkways, rail and pedestrian crossings, driveways, and parking areas are also lighted. Signal lights will be used at crossing gates. The intensity of lighting is similar to normal street and parking lot levels, thus, no significant impact is expected in this already urbanized corridor.

The impact of reflections from Light Rail Transit vehicles and stations has been analyzed in the previously certified EIR. No additional impacts are anticipated with implementation of the alternative alignments and variation in station locations and grade separations. Mitigation measures to reduce impacts associated with implementation of the Light Rail Transit are summarized from the draft EIR and are listed below.



#### **4.6.3 MITIGATION MEASURES**

1. During construction of all Light Rail Transit alternative modifications, all safety lighting, construction equipment, and additional sources of lighting shall be shielded so as not to be visible 50 feet from the construction site.
2. Station area and guideway lighting fixtures shall incorporate directional shielding where needed to avoid the intrusion of unwanted light and glare into adjacent sensitive land uses, such as residential areas.
3. Walls constructed for noise abatement and landscaping will also screen lighting from land uses adjacent to the Light Rail Transit system.

#### **4.6.4 LEVEL OF SIGNIFICANCE AFTER MITIGATION**

Localized significant unavoidable adverse effects will exist on streets and at crossing stations and maintenance yard facilities where lighting is necessary for safe operation of the Light Rail Transit.

#### 4.7 RISK OF UPSET/HEALTH AND SAFETY

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 presence of subsurface contamination in the areas where hazardous materials were either used, stored, or disposed. As determined by the Notice of Preparation/Initial Study for this SEIR, these areas are limited to the Taylor Yard, Cornfield Yard, and West Bank sites. Additionally, the proposed activities for the Cornfield Yard, West Bank, and Taylor Yard maintenance facilities will involve the employment, storage, transportation, and disposal of hazardous materials and substances which may also increase the risk to human health and welfare.

##### 4.7.1 HISTORIC REVIEW

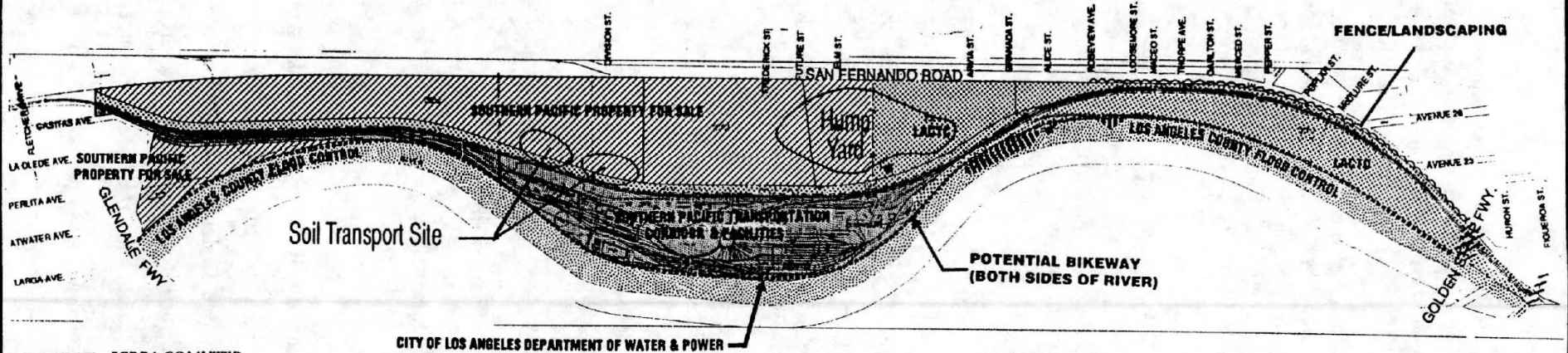
###### Taylor Yard

Taylor Yard has historically been used by the Southern Pacific Transportation Company (SPTC) for the storage, repair, and maintenance of railroad machinery, equipment, and supplies. In 1989, the California Department of Toxic Substance Control (DTSC) and the SPTC entered an Enforceable Agreement for the remediation of the Taylor Yard property. Under this agreement, Taylor Yard is separated into two parcels known as the Sale Parcel and the Active Parcel. The Sale Parcel includes 154 acres currently used for rail car storage and switching and 15 acres currently used for equipment storage and maintenance. The remaining 74 acres of Taylor Yard comprises the Active Parcel and is used for locomotive service and maintenance. The LACTC has acquired approximately 67 acres, the Purchased Parcel, of the southernmost portion of the Sale Parcel (See Exhibit 4.7-1). As part of the sale agreement between LACTC and the SPTC, SPTC was to remediate the LACTC Purchased Parcel of Taylor Yard to standards approved by regulatory agencies by the end of 1991.

Operations involving hazardous materials that have historically affected the Purchased Parcel include:

- Offsite Plastic, Metal Working, and Metal Plating Shops. Total Petroleum Hydrocarbons (TPH) have occurred in localized areas over the entire site with the highest concentrations occurring in the eastern portion. Halocarbons (PCE, TCE,

**LEGEND**



-  SCRR COMUTER RAIL/LIGHT RAIL
-  SOUTHERN PACIFIC TRANSPORTATION CORRIDOR & FACILITIES
-  LOS ANGELES FLOOD CONTROL
-  SOUTHERN PACIFIC FOR SALE
-  CITY OF LOS ANGELES DEPARTMENT OF WATER AND POWER
-  CITY OF LOS ANGELES-PUBLIC ROAD EASEMENT-RIVERSIDE DRIVE
-  STATE OF CALIFORNIA-PUBLIC ROAD EASEMENT-GOLDEN STATE FWY.



exhibit  
**4.7-1**

**RISK OF UPSET**

Pasadena Light Rail Supplemental EIR

Michael Brandman Associates

exhibit  
**4.7-1**

and TCA) and aromatic compounds (xylenes and ethyl benzene) were detected along the Northeast Property Boundary of the Sale Parcel. Elevated concentrations of chromium, arsenic, copper, nickel, and cadmium are present in surface soils in localized areas.

- **Hump Yard** (lead). The Hump Yard occupies a large portion of the southern central industrial area and extends into the south track area. High concentrations of lead occur in this area as the result of the scraping of metal and flaking paint that occurred when rail cars were coupled while making up trains. The lead compounds present are not highly mobile at the site; soluble lead in the Hump Yard needs to be remediated to protect the groundwater.
- **Storage Areas**. (TPH) 32 underground storage tanks, 3 sumps, and 1 aboveground tank were removed from Taylor Yard between April 7, 1988 and May 16, 1988. One of these tanks, containing J.B. Oil, was located on the LACTC Purchased Parcel and maintained a high concentration of contamination.

A Remedial Investigation and Feasibility Study, a Remedial Action Plan, and a Remedial Design were designed for the Sale Parcel portion of Taylor Yard, approved by the DTSC, and implemented by SPTC. The Remedial Design describes the Interim Remedial Measures for accelerating the remediation of the soils on the Sale Parcel. As of January 1992, the following remedial measures have taken place on the Purchased Parcel (the southernmost portion of the Sale Parcel acquired by LACTC):

- All surface petroleum contaminated areas have been remediated by the SPTC.
- Lead-contaminated soils have been removed from the Hump Yard, which encompasses the northwesternmost portion of the Purchased Parcel.
- Contaminated soil, generated as part of the remedial measures, is being store on the portion of the Sale Parcel which does not encompass the Purchase Parcel. SPTC is treating, and then transporting, the contaminated soils from Taylor Yard to a proper transfer, storage, and disposal facility in Ventura County. Complete removal of the soils was expected to be accomplished by mid-February 1992.

Groundwater occurs beneath the project site at a depth of 35 feet. Three LADWP municipal water wells are located upgradient of Taylor Yard and contain halogenated solvents at concentrations in excess of Maximum Contaminant Levels (MCLs). DTSC has requested that an investigation to determine the extent of groundwater contamination be performed at the Taylor Yard site. However, because the LACTC Purchased Parcel is at the most southerly end of the potentially impacted area, DTSC has stated that it is an unlikely source for groundwater contamination. The Purchased Parcel would likely require well monitoring and sampling.

#### 4.7.2 ENVIRONMENTAL SETTING

##### Taylor Yard

In January 1992, the DTSC confirmed that all required cleanup activities on the LACTC Purchased Parcel had been completed and verified by soil sampling. According to the DTSC, all activities identified in the Interim Remedial Measures Workplan and the Remedial Action Plan have been successfully completed on the LACTC portion of the Sale Parcel. However, cleanup activities have not been completed on the remainder of the Sale Parcel, and the DTSC can not formally certify the site until remedial activities on the adjoining property are also complete.

##### Cornfield Yard

In contrast to the Taylor Yard site, the Cornfield Yard has not undergone any remediation, nor have any investigations been completed to determine the extent of contamination on the Cornfield site. However, in June 1992, Law/Crandall, Inc. performed a Phase I Environmental Site Assessment in order to develop an opinion regarding the likelihood of the soil or groundwater contamination on the Cornfield Site. The Law/Crandall Phase I Investigation involved a historical review to determine the likelihood of contamination on and around the Cornfield Yard. This review involved a site reconnaissance, review of maps and aerial photographs, review of regulatory agency lists to identify sites on or adjacent to the site that have known or suspected contamination, and review of previous environmental reports and documents prepared by others.

##### **Offsite Contamination**

Law/Crandall determined that there are a few known areas of contamination within the vicinity of the Cornfield Yard. Potential offsite sources of contamination that could potentially affect the Cornfield Yard include an existing gasoline station, an iron works foundry, two or three former gasoline stations, a former auto repair facility, a car dealership, and a boiler/heating works business. There is a possibility that contamination from these sites may have migrated into the soil and groundwater beneath the Cornfield Yard. Additionally, several former and existing industrial businesses southeast of the site may also present a risk to the Cornfield Site.

The Cornfield Yard is immediately east of the Los Angeles City Oil Field. There are four known abandoned oil wells in proximity to the project site, thus, there is a potential for methane gas along the Light Rail Transit alignment within the vicinity of the Cornfield Yard.

### **Onsite Contamination**

Law/Crandall identified several reported incidents of soil and groundwater contamination within the Cornfield Property, including four storage tanks, a redwood sump, an oil/water separator, a wash rack, an automobile repair facility, vehicle parking areas, as well as a materials battery and waste oil storage area. The following discussion summarizes the results of the Law/Crandall Investigation (1992).

Of the four storage tanks, one was an aboveground tank and was removed without any subsurface investigations for contaminations. The remaining three tanks were underground storage tanks, of which two were removed; the third has not be located. Borings from the center of one of the tank pits indicated stained soils above the water table. Hydrocarbon-contaminated soils from the second underground storage tank were removed.

No contamination was detected in soil samples taken in the area of the redwood sump and oil/water separator; however, the detection limits for VOCs were high compared to limits currently required by regulatory agencies. Investigations at a former gasoline station showed elevated levels of TPH beneath three former tanks; however, the contaminated soils were not removed. Oily staining was observed in the area of the auto repair facility, the vehicle parking area, and the materials, battery, and waste oil storage area.

### **West Bank Option**

Although the proposed West Bank maintenance facility site is currently vacant, railroad tracks exist onsite. The site extends north and south of the Macy Street Bridge and runs parallel to the Los Angeles River on the east. North of the Macy Street Bridge, an SCRTD Bus Maintenance facility lies adjacent to the western boarder of the site. To the south, Keller Street marks the western site boarder and a Los Angeles City general services technical building is located to the west, across Keller Street.

The West Bank site has not undergone any remedial investigation to determine the potential for onsite contamination. Although the project site is currently vacant, onsite contamination could have occurred as the result of historical use of the property. Additionally, the site lies within a highly urbanized area of Los Angeles County; industrial and manufacturing developments comprise a majority of the surrounding land uses. As a result of this urbanization, it is possible that soil and groundwater contamination may have taken place in the vicinity of the proposed project site. There is a possibility that these contaminants may have migrated beneath the site.

#### **4.7.3 ENVIRONMENTAL IMPACTS**

As noted in the introduction of this section, the impact analysis for risk of upset focuses on the Taylor Yard and Cornfield Yard sites. Potential risk of upset impacts specific to the project are analyzed in the certified EIR. Mitigation measures as adopted in the certified EIR will reduce impacts to a level considered not significant. Implementation of the Taylor Yard, Cornfield Yard, and West Bank Option are project modifications that may alter the findings or analysis of the certified EIR.

##### **Taylor Yard**

In January 1992, the LACTC had remediated the Purchased Parcel of Taylor Yard (the site of the original Taylor Yard option) to the satisfaction of the DTSC. Thus, the risk of exposure to contaminated soils during construction and operation of the facility is minimal.

However, if implemented, the linear maintenance yard design would extend into the portion of the Sale Parcel which has not been remediated. As with the Purchased Parcel, the DTSC will require that the soils within the linear configuration be cleaned to meet current state health standards prior to the onset of grading operations. The clean-up activities which took place on the Purchase Parcel were a part of the Remedial Action Plan and Remedial Design designed for the entire Sale Parcel. Remediation measures, as outlined in these reports, will continue on the remainder of the Sale Parcel in order to receive certification by the DTSC. Once clean-up activities are completed, to the satisfaction of DTSC, the risk of exposure to contaminated soils during construction and operation of the Linear Taylor Yard configuration will be remote.

The proposed activities for the Taylor Yard site will involve the employment, storage, transportation, and disposal of hazardous materials and residual wastes. The following proposed activities will include the handling of hazardous materials:

- Vehicle shop
- Wash down facility
- Hazardous materials storage
- Vehicle storage

A hazardous material is any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment. During operations of the Taylor Yard facility, such materials contained onsite would include solvents, paint, oil, grease, fuels (petroleum and diesel), degreasers, etc. Potential hazards associated with hazardous materials include leaks, explosions, and fires. To diminish the possibility of an accident occurring, the operating agency will develop policies for the handling, storage, transport, and disposal of hazardous materials in accordance with the Resource Conservation and Recovery Act (RCRA), California Occupational Safety and Health Act, AB 2185 and 2187 (Waters, 1985 and 1986), and other local, state, and federal legislation.

AB 2185 and 2187 were intended to protect public health and safety, and the environment by establishing business and area plans relating to the handling, and release or threatened release of hazardous materials/wastes. An area plan has been developed for Los Angeles County and is implemented by the Los Angeles County Fire Department. Area plans define procedures and protocols among local jurisdictions for mutual aid and site command, public notification and evacuation, initial site containment and mitigation, and incident follow-up and critique. The area plan, covers all of Los Angeles County and includes an inventory of hazardous materials/wastes facilities in the County, procedures for emergency notification response, pre-emergency planning measures, and public safety information. Facilities with over a specified amount of hazardous materials/wastes onsite, must submit a business plan to the Los Angeles County Fire Department. The information in the above plans is available for public review.

The transport of hazardous materials/wastes and explosives is regulated by the California Department of Transportation (DOT). DOT has identified Interstate 10 to Pacific Coast Highway as the state route available to vehicles carrying hazardous materials/wastes. City streets are generally not designated as hazardous materials/wastes transportation routes, but a permit may be granted on a case-by-case



basis. Transporters of hazardous wastes are required to be certified by the DOT and manifests are required to track the hazardous waste during transport.

By adhering to local, state, and federal ordinances for the handling of hazardous materials and substances, the risk to the environment and human health is reduced to a level considered consistent with similar land uses.

### **Cornfield Yard**

According to the Law/Crandall Phase I Investigation, there is a potential for soil and/or groundwater contamination on the Cornfield Yard site from historical uses of the site and offsite industries. Thus, the likelihood of worker exposure to toxins would be high during both construction and operation of the Cornfield Yard Maintenance Facility.

LACTC has currently contracted with Law/Crandall to perform a Phase II environmental assessment at Cornfield Yard. The assessment will include borings and monitoring wells to sample and test the soil and groundwater to determine: (1) the type of contaminant, (2) the vertical and horizontal extent of contamination, and (3) the concentration of contamination. Additionally, the abandoned oil wells will be located so that any future building is located away from these wells to avoid a potential methane hazard or potential physical hazards associated with encountering abandoned wells during excavation.

Without remediation, the potential risk of exposing workers to toxins during construction and operation of the maintenance facility may be high. However, by implementing a remedial action plan and a remedial design similar to that used for the Sale Parcel portion of Taylor Yard, the risk of exposure can be reduced to a level considered consistent with state, federal, and local ordinances.

As discussed above for the Taylor Yard Facility, the proposed activities for the Cornfield Yard site will involve the employment, storage, transportation, and disposal of hazardous materials and substances. To diminish the risk associated with hazardous materials, the operating agency will develop policies for the handling, storage, transport, and disposal of hazardous materials in accordance with the Resource Conservation and Recovery Act (RCRA), California Occupational Safety and Health Act, AB 2185 and 2187 (Waters, 1985 and 1986), and other local, state and federal legislation. By adhering to local, state, and federal ordinances for the handling of hazardous materials and substances,

the risk to the environment and human health is reduced to a level considered consistent with like land uses.

### **West Bank Option**

In contrast to the Cornfield Yard and Taylor Yard sites, the presence of contaminated soils has been neither confirmed or refuted. A Phase I Environmental Site Assessment would be required to determine the likelihood of soil or groundwater contamination on the West Bank Site prior to purchase of the site by LACTC. If the Phase I Investigation concludes that there is a potential for onsite contamination, a Phase II investigations would be required to determine the extent of contamination and, if necessary, remediation would be undertaken. Remediation will reduce the risk of exposing workers to toxins during construction and operation of the maintenance facility to an insignificant level.

As with the Taylor Yard and Cornfield Yard facilities, operations at the West Bank site will involve the employment, storage, transportation, and disposal of hazardous materials and substances. However, the West Bank Yard would be an interim facility and any impacts associated with hazardous materials would be temporary. Additionally, as discussed above, these risks will be further reduced as the LACTC and/or operating agency will adhere to local, state, and federal ordinance for the handling of hazardous materials and substances.

#### **4.7.4 MITIGATION MEASURES**

##### **Taylor Yard**

1. Prior to project operation, the current compliance efforts for hazardous materials used by LACTC shall be expanded to ensure compliance with applicable laws and regulations.
2. If the linear configuration is implemented, remediation of the entire sale parcel will be completed to the satisfaction of DTSC prior to the onset of grading operations.

### **Cornfield Yard**

1. Prior to project operation, the current compliance efforts for hazardous materials initiated by LACTC shall be expanded to ensure compliance with applicable laws and regulations.
2. Prior to the issuance of grading permits, investigation for the presence of cryptic tanks and abandoned oil wells using geophysical methods shall be conducted by a qualified environmental professional to assess any potential presence of hazardous materials. Soil sampling or a soil organic vapor survey shall be performed prior to excavation or grading. The results of these studies shall be submitted to the DTSC for review.
3. If warranted, subsurface investigation and sampling shall be undertaken prior to development and appropriate remediation measures developed, prior to the issuance of grading permits. The results of the remediation activities shall be submitted to DTSC for review and approval. These remedial actions shall consist of the removal and disposal or treatment of affected soils according to all applicable federal, state, and local regulations.

### **West Bank Option**

1. Prior to project operation, the current compliance efforts for hazardous materials initiated by LACTC shall be expanded to ensure compliance with applicable laws and regulations.
2. Prior to purchase of the site by LACTC, a Phase I Environmental Site Assessment shall be conducted.

#### **4.7.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION**

With implementation of the mitigation measures, impacts associated with hazardous materials will be reduced to a level considered less than significant.

## 4.8 AESTHETICS

### 4.8.1 ENVIRONMENTAL SETTING

The aesthetic setting of the approved Pasadena-Los Angeles Light Rail Transit alignment is discussed in the certified EIR, Section 4.12. No changes to the existing environmental setting have occurred since preparation of the certified EIR and, therefore, no additional discussion is provided.

Aesthetic features and characteristics of the alternative components are as follows:

- Taylor Yard. The proposed Taylor Yard service and maintenance facility would be located in one of the two alternative areas with the SPTC's Taylor Yard. The Southern California Regional Rail Authority is currently building a commuter rail maintenance and storage facility in the southernmost area of the yard. The triangular parcel, purchased by LACTC, is also in the southern part of the yard and is presently vacant and undergoing hazardous materials contamination remediation. The eastern portion of the rest of the yard is vacant land with various levels of hazardous materials contamination. The western portion is the active service yard for SPTC. This western portion houses SPTC's locomotive repair and maintenance yard. A component to the Taylor Yard option involves a Wye connection near Avenue 19 at the Santa Fe right-of-way, allowing in-bound trains to access the yard directly. The Taylor Yard Wye would be an elevated Wye connection from the Pasadena line to the Taylor Yard. This component is proposed for an industrial warehousing area just east of the Los Angeles River and south of SR-110. Although the area does not possess significant aesthetic features, the defunct Los Angeles city jail, which is located within the proposed alignment, is a potential candidate for the National Register of Historic Landmarks according to the northeast Community Plan (City of Los Angeles 1991). Section 4.9, Cultural Resources, discusses the significance of this building.
- Cornfield Yard. The Cornfield Yard would be located in the SPTC main freight yard northeast of Chinatown. The portion of the yard under consideration is separated from an adjacent commercial area to the west by an approximate 50-foot vertical elevation separation between the yard and North Broadway. A heavy industry and warehousing district is adjacent to the east of the area under consideration. Rail spurs currently cover the project site.
- West Bank Option. The West Bank Option follows the west bank of the Los Angeles River from the Mission Tower southward to US-101. This yard option is located within an industrial area west of Union Station that includes an SCRTD bus maintenance facility, the Los Angeles County main jail, various public works projects (e.g., flood control, drainage and storage yards), government buildings and facilities, and warehouse and distribution centers. The site is located behind the SCRTD facility and adjacent to the Los Angeles River and would not be visible from ground level views on adjacent streets. Absent any other significant aesthetic features, Union Station is the primary landmark within the area.

- Southwest Museum Station. The proposed station location would be in an area occupied by residential and institutional uses. As the proposed alignment is an existing railroad right-of-way, neighboring uses are oriented away from the proposed site. Predominant aesthetic features of the area are the hillsides east and west of the alignment.
- Fillmore Street Station. This station would be located at the intersection of the Light Rail Transit right-of-way and Fillmore Street and may require the closure of Fillmore Street. The area adjacent to the proposed station is comprised of warehousing and industrial operations, commercial uses such as retail strip malls and gas stations, and some small office buildings. These uses are oriented toward Arroyo Parkway and Raymond Avenue with the rear of the business to the proposed Light Rail Transit right-of-way. There are no predominant aesthetic features in the immediate area.
- Allen Avenue Station. As the Allen Avenue Station would be located between the eastbound and westbound lanes of I-210, the aesthetic environment is primarily confined to the freeway right-of-way.
- Marmion Way and Figueroa Street Grade Separation. The area surrounding the intersection is comprised of one- to two-story residential dwellings and neighborhood serving business. Surrounding hillsides are the predominant aesthetic features of the area. The approved alignment north of Figueroa Street is situated behind residential dwellings. South of Figueroa Street, the alignment is located on a median between Marmion Way and Pasadena Avenue and is not adjacent to any structures.
- Colorado Boulevard Grade Separation. This component is located in Pasadena's Old Town District, or an area characterized by historic buildings, antique shops, restaurants, and movie theaters. Old Town is one of the central focal points within the city and receives heavy use from entertainment activities. The proposed site is primarily a commercial business district bound by Memorial Park on the north and the Amtrak Pasadena Rail Passenger Station on the south. The proposed suppressed alignment through this area will result in the closure of Holly Street where it intersects with the Light Rail Transit right-of-way.

#### 4.8.2 ENVIRONMENTAL IMPACTS

A significant visual impact arises from the introduction of at-grade and aerial transit and support structures along the alternative alignment. Station construction activity would also present a temporary but significant visual impact. Aesthetic impacts are those that change the appearance or visual character of the existing environment in some way. Whether a change enhances or impairs a visual impression is ultimately a subjective opinion.

### **Maintenance Yards**

The four yard options, the original Taylor Yard option, the linear Taylor Yard option, the Cornfield Yard, and the West Bank Option would be developed within existing railroad freight yards. Each of these proposals would involve the removal of existing locomotive storage and switching track and its replacement with newer light rail storage and maintenance facilities. All washdown and maintenance will occur in new enclosed buildings. As these yards are located in predominantly industrial/manufacturing areas, the characteristics and scale of the Light Rail Transit storage and maintenance facility should not adversely impact the existing aesthetic environment. Landscaped buffers, ornamental and native plant species will be used throughout the maintenance yard facility design to improve the visual environment, buffer the facility from any adjacent sensitive land uses, and enhance the "developed" context of the maintenance yard within the existing aesthetic environment.

The aerial structure considered for the West Bank option would result in an unmitigatable visual impact on the existing aesthetic character of the West Bank option land use area. However, given that the West Bank option is located in a predominantly industrial/manufacturing area, the impact can be minimized through sensitive architectural design treatments.

### **Stations and Grade Separations**

At-grade stations will impact the character of the neighborhood by introducing 300-foot long platforms from which patrons would board the Light Rail Transit. These platforms vary from 10 to 15 feet in width and will be approximately 3 feet high. A canopy fare vending machine, a closed circuit television (CCTV), and a phone will be located on the platform.

The Taylor Yard lead connector is generally consistent with the existing character and scale of the adjacent uses. However, development of this connector, which would also be needed for revenue operations of the Glendale-Burbank light rail transit line, would require demolition of the defunct Los Angeles city jail. See Section 4.9, Historic Resources, for additional discussion of potential impacts.

The Southwest Museum Station is located in close proximity to the Arroyo Seco. Predominant views in the area are of neighboring hillsides and of the skyline of downtown Los Angeles. Although this

station may block very close views of adjacent structures, it will not impact the predominant views noted above. The station will fit within the general character and scale of the community.

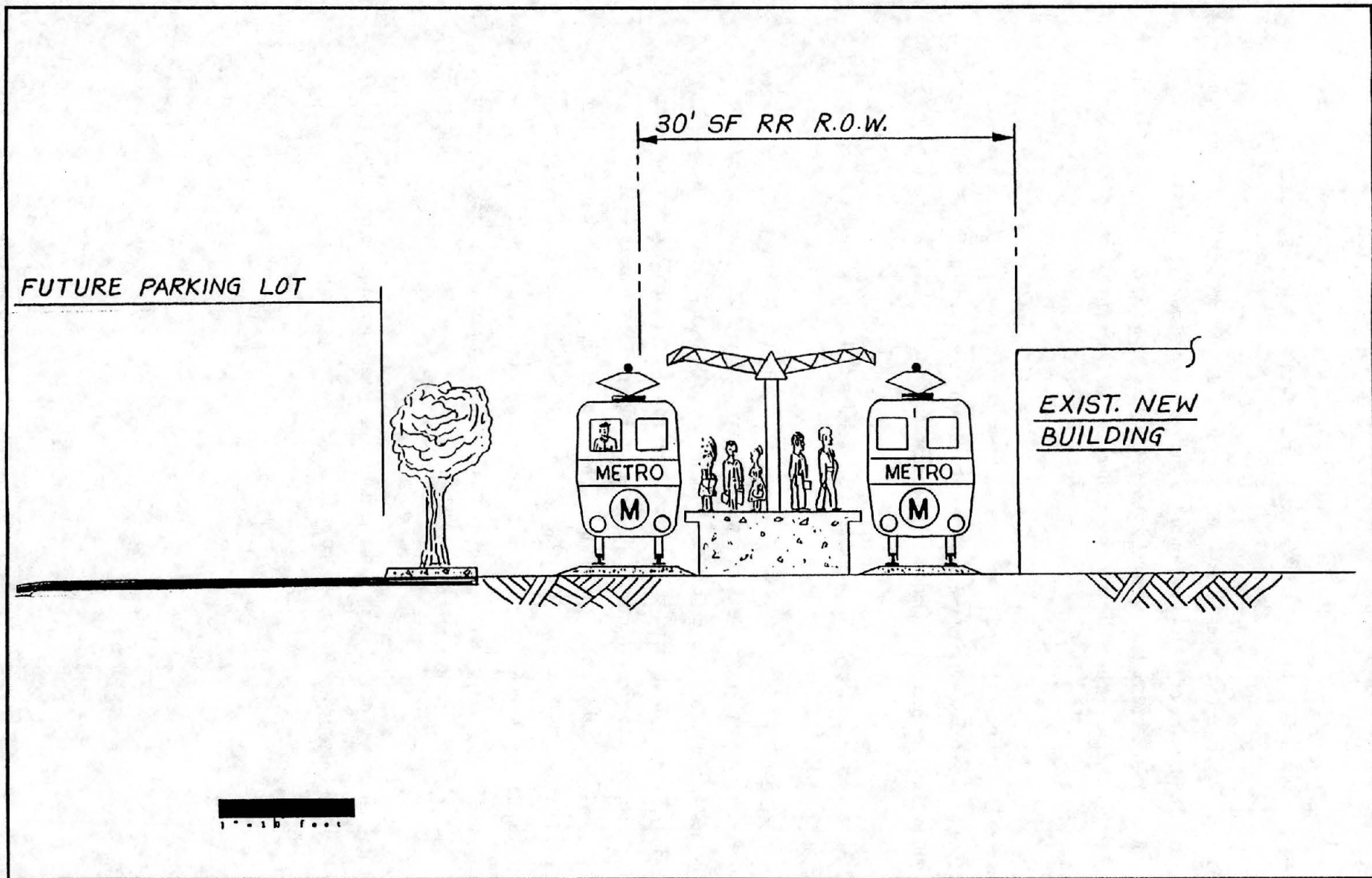
The Marmion Way/Figueroa Street grade separation would introduce an aerial structure into the community. The presence of an elevated structure would result in a significant impact to the existing visual character of this intersection. During design of the grade separation, community workshops will be held to solicit community input on the architectural design and character of the proposed elevated structure.

The Fillmore Street Station is generally consistent with the commercial/industrial character of adjacent uses. Additionally, because adjacent uses are oriented away from the proposed site such that it would not be within their viewshed, no aesthetic impacts are expected.

As the Allen Avenue Station would be located in the center of I-210, no aesthetic impacts are anticipated.

As the Colorado Boulevard Grade Separation will be below grade, this component, in and of itself, would not result in an adverse aesthetic impact. An impact could result from the closure of Holly Street. Holly Street can be characterized as a scenic view corridor from the Pasadena Old Town up to the City Hall. Although the closure of Holly Street under the preferred alternative of the Colorado Boulevard Grade Separation component will not physically block this view, it will prevent through vehicular traffic from Old Town to the City Hall and thus limit the community exposure to this scenic element. Additionally, the closure could, in effect, create a break in the continuity of pedestrian views and movement through the corridor, though it could also be an opportunity to promote a pedestrian environment which increases exposure to views.

Exhibit 4.8-1 illustrates a typical station cross section. Additional prototypical cross-sections of the Light Rail Transit line are indicated in Appendix C.



4.8-1  
 exhibit

# FILMORE STREET STATION SECTION-LOOKING NORTH

Pasadena Light Rail Supplemental EIR

Michael Brandman Associates

exhibit  
 4.8-1



#### **4.8.3 MITIGATION MEASURES**

The following mitigation measures will be effective in reducing the adverse visual impacts associated with modifications to the approved Light Rail Transit alignment.

1. During station construction activity, all safety lighting, construction equipment, and other visually obstructive sources shall be shielded from view.
2. Stations shall 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. In the case where station platforms and parking facilities would be constructed adjacent to architecturally interesting buildings, design standards should be established for rail-related facilities in order to be sensitive to the style and cultural representation of both the building and the surrounding community.
3. Community workshops shall be performed to provide input during design of individual stations and aerial structures.
4. Landscaping shall be used to shield or enhance stations, traction power substation sites, the yards, and the right-of-way. Low maintenance plants and ground cover that are compatible with the Southern California climate and the architecture of the surrounding area will be selected.
5. Additional shielding of track and station structures shall be accomplished by the construction of sound walls and fencing at points along the rail way.
6. An arts program shall commit 0.5 percent of the project's construction budget toward art projects related to Light Rail Transit facilities.

#### **4.8.4 LEVEL OF SIGNIFICANCE AFTER MITIGATION**

The aerial structures proposed for the grade separation at Marmion/Figueroa and the West Bank maintenance facility option are considered an unavoidable visual impact. Partial mitigation of the aerial structures is possible through attractive and community-sensitive architectural design treatments.

## **4.9        CULTURAL RESOURCES**

This section of the EIR assesses the proposed project's potential impacts on cultural resources in the project area. The analysis focuses on historic and prehistoric archaeological resources that may be affected by the construction and operation of the proposed project, as modified. Only the Cornfield Yard, Southwest Museum Station, and Colorado Boulevard Subgrade sites have the potential to affect cultural resources; therefore, only these three sites are discussed in this section.

### **4.9.1      ENVIRONMENTAL SETTING**

#### **Area History**

##### **City of Pasadena**

The archaeological record for the Pasadena area spans at least 10,000 years. By approximately 1,000 B.C., the area is thought to have been occupied by Hokan-speaking people, likely the Chumash. However, since this group left no written records, it is very difficult to know the exact history. The Hokan-speaking people were eventually replaced by the Shoshonean linguistic group, known as the Gabrielino, who are referred to as a cultural group rather than a tribe. They occupied the San Gabriel Valley and perhaps areas as far east as San Bernardino (Buchen, pers. comm., 1992).

Spanish settlers arrived in the area around 1770; most of the Gabrielinos were displaced to the Mission San Gabriel in the late 1700s. The area which approximates present downtown Pasadena was given as a land grant in the early 1800s. The area was eventually settled by Indiana colonists in 1874 who found the land to be agriculturally rich. By the late 1880s, because of its pleasant climate, Pasadena soon became a health resort and winter retreat for the wealthy. Assisted by close proximity to the various railroads, including the Southern Pacific, visitors from other parts of the country came to Pasadena. This activity facilitated an enormous housing and commercial boom. The central business district, located at Fair Oaks and Colorado Avenue, continued to expand as commercial development flourished to meet the needs of the expanding population. The Old Town Pasadena Historic District, which is basically the original commercial area, extends roughly north to Frontage Road, east to Arroyo Parkway, south to Del Mar Boulevard, and west to Pasadena Avenue. The historic district was recently placed on the National Register of Historic Places. Buildings in this district were built

in blocks that accommodated more than one tenant, and were named for their owners (City of Pasadena 1984). Many of the original buildings in downtown Pasadena still remain.

### **City of Los Angeles**

The archeological record for the Los Angeles area is similar to Pasadena's. The area was originally occupied by Hokan-speaking peoples, and replaced by Shoshonean peoples, specifically, the Gabrielino. The Gabrielino once occupied the entire area in which the proposed Cornfield Yard maintenance facility site is located. Due to the proximity of the Los Angeles River, the freight yard property would have been a logical location for permanent villages or campsites. However, the Gabrielino lifestyle was affected immediately upon European contact and the founding of the Pueblo de Los Angeles. The entire culture was virtually eliminated by the beginning of the 19th century. One remnant Indian town existed south of the Pueblo as late as 1842 (Buchen, pers. comm., 1992). As population increased dramatically in the early 1900s, the railroad site became a significant business location.

### **Historic Resources**

#### **Cornfield Yard**

The certified EIR looked at two alternatives for maintenance and storage yard facilities. As a result of an expanded scope, three additional sites are being analyzed, one of which is Cornfield Yard. The facility would provide daily inspection and light maintenance of vehicles, control of yard operations, and personnel changes. In addition to sources previously identified, resources analyzed for the Cornfield Yard site included the Cultural Resources section of the Draft EIR for the Belmont New Senior High School Alternative Site Assessment.

The Cornfield Yard site is 47.7 acres and is bounded by North Broadway on the west, North Spring Street on the east, the Los Angeles River to the north, and Elysian Park to the southeast. The Capital Milling Company Building is located south of the yard at 1231 North Spring Street.

The Cornfield Yard site is an inactive Southern Pacific Railroad switching yard; two-thirds of the area is railroad tracks. The site is used for storage and minor maintenance of rail freight cars. Features in the area of potential historical significance in this Southern Pacific Railroad Yard include Stearns

Mill (Capital Milling Company), and the site of the Jose Maria Ybarra House, located on the bluff north of North Broadway (Kellher 1875). The entire Southern Pacific Railroad Yard has been designated as Cultural Landmark #82 by the City of Los Angeles Cultural Heritage Commission. Table 4.9-1 identifies historic resources in the project vicinity and Exhibit 4.9-3 depicts their approximate location.

**TABLE 4.9-1**

**HISTORICAL RESOURCES - CORNFIELD YARD<sup>a</sup>**

| Map Ref. Number | Address               | Historic Use            | Historic Significance <sup>b</sup> | Source <sup>c</sup> |
|-----------------|-----------------------|-------------------------|------------------------------------|---------------------|
| 1.              | 1231 N. Spring Street | Stearns Mill            | MS, HS                             | 1,2,3               |
| 2.              |                       | Jose Maria Ybarra House | HS                                 | 2,3                 |

<sup>a</sup> Not identified in the FEIR.

<sup>b</sup> Historic Significance

MS City Of Los Angeles Monument Status

HS City of Los Angeles-Historically Significant

<sup>c</sup> Source

1 City of Los Angeles Cultural Heritage Commission

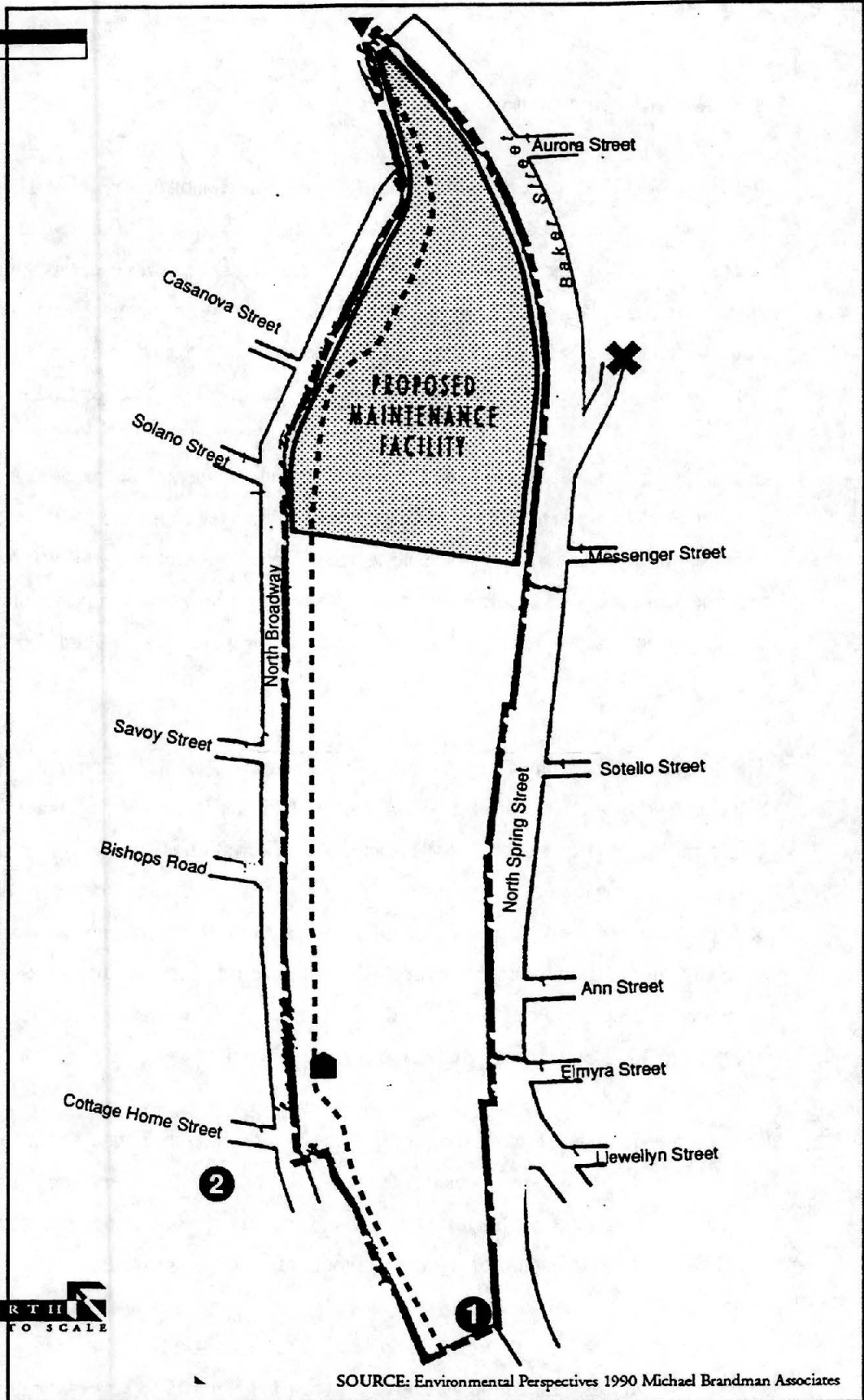
2 Map: The Old Zanza Madre - Ditches, Vineyard, and Old Town

3 DEIR Belmont New Senior High School Alternative Site Assessment

In addition to the specific resources listed in Table 4.9-1, there are numerous brick commercial buildings that appear to date back to the turn of the century (F.C. Kingston Company, pers. comm., 1992). Some of these structures, located adjacent to the yard along the southern edge, are dilapidated or currently abandoned. Others appear to be used as warehouses for international import/export businesses. There are two residential structures on North Broadway overlooking the rail yard which appear to date back to the 1930s. A California Historic Landmark plaque for the Portola Trail Campsite #1 is located on the bluff overlooking the North Broadway Bridge.

**LEGEND**

- 1 STEARNS MILL
- 2 JOSE MARIA YBARRA HOUSE
- ✕ WATER WHEEL
- ▼ TOMA (DAM)
- RIVER STATION DEPOT
- ZANJA MADRE



SOURCE: Environmental Perspectives 1990 Michael Brandman Associates

**HISTORIC AND CULTURAL RESOURCES-  
CORNFIELD YARD SITE**

Pasadena Light Rail Supplemental EIR

Michael Brandman Associates

exhibit  
4.9-3

## **Southwest Museum Station**

In the certified EIR, stations in the Mount Washington area of the approved Highland Park alternative alignment were analyzed at Figueroa and Marmion, Avenue 51, and Avenue 57. In response to a request by the City of Los Angeles, this SEIR looks at the proposed addition of a station located adjacent to the Southwest Museum. The location was chosen for its convenient access; however, the Southwest Museum's Board of Trustees has proposed to move the museum from its current location. A final decision regarding the potential move is pending (Los Angeles Conservancy 1992).

In addition to the sources consulted for the Colorado Boulevard Subgrade site, information from the Los Angeles Cultural Heritage Commission was also reviewed for the Southwest Museum Station site. Because the proposed station would be located in close proximity to the sites examined in the FEIR, that document provides baseline information for the Southwest Museum Station site. Table 4.9-2 lists the historic structures found in the vicinity of the proposed station, and Exhibit 4.9-2 depicts their location.

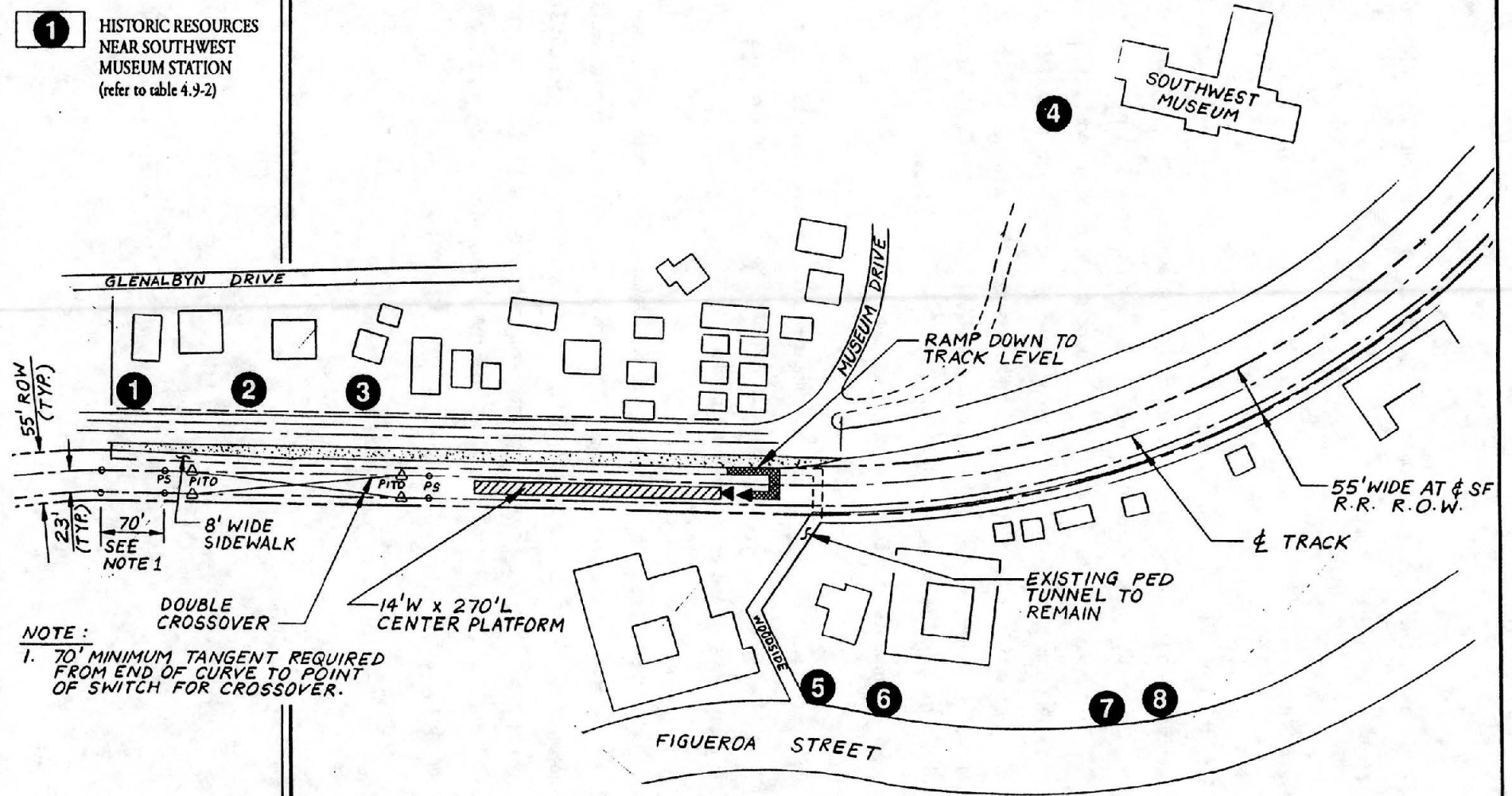
The Southwest Museum entrance and original building was the first museum established in Los Angeles. Founded by Charles F. Lummis, the building is the oldest privately endowed museum in California devoted to native American culture. The building, which is one of the three structures designated with Monument Status from the City, was constructed between 1912 and 1914, and is considered one of the first major examples in Los Angeles of the transition from Mission Revival to Spanish Colonial Revival architecture. The entrance on Museum Drive was built in 1920, and is a significant example of Pre-Columbian Revival design (City of Los Angeles 1987). The museum was designed in 1912 by architect Sumner Hunt.

The second Monument Status structure in the area is the Ziegler Estate. This home was built in 1904, and is an example of late Queen Anne architecture with Craftsman and Shingle features. It is surrounded by an arroyo stone wall. The Community Redevelopment Agency (CRA) recently acquired the Ziegler Estate for the development of a child care facility.

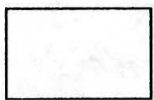
The third structure with this designation is the Casa de Adobe, which is owned by the Southwest Museum. The Casa de Adobe was built between 1916 and 1918 as a replica of an old adobe house. It was constructed out of adobe, and was used for many years as an exhibit area for the Southwest

**LEGEND**

- 1** HISTORIC RESOURCES NEAR SOUTHWEST MUSEUM STATION (refer to table 4.9-2)



**NOTE:**  
 1. 70' MINIMUM TANGENT REQUIRED FROM END OF CURVE TO POINT OF SWITCH FOR CROSSOVER.



**HISTORIC RESOURCES SOUTHWEST MUSEUM STATION**



Museum. Currently, the structure serves as additional storage capacity for the Southwest Museum artifacts not in present use.

### **Colorado Boulevard Subgrade**

In the certified EIR, the Old Town Pasadena Historic District, as well as other historic/cultural resources, were identified for the entire route traversing the downtown Pasadena area, and were contained within the previously approved Highland Park Alternative alignment. In response to a request by the City of Pasadena, this SEIR looks at the proposed subterranean construction and operation of the light rail system from Memorial Park Station near Holly Drive, south to the Del Mar Station. As a result, this section only addresses those historic resources which are located along the railway corridor within that subgrade area. Subsequent to certification of the EIR, the Old Town Pasadena Historic District was placed on the National Register List of Historic Places, and is referred to as the Old Pasadena National Register District throughout this section.

Several sources were consulted to identify the historic resources in the downtown Pasadena area. These include the City of Pasadena, the National Park Service, the final EIR for the Pasadena-Los Angeles Light Rail Transit Project, and the Southwest Museum.

The proposed alignment of the Colorado Boulevard Subgrade is adjacent to many structures included in the Old Pasadena National Register Historic District. There are no control restrictions nor design guidelines for resources listed on the National Register of Historic Places (Crow, pers. comm., 1992). Additionally, along the route, there are other structures which have been identified as significant historic/cultural resources by the City. Table 4.9-3 identifies these historic structures, and Exhibit 4.9-1 shows their location.



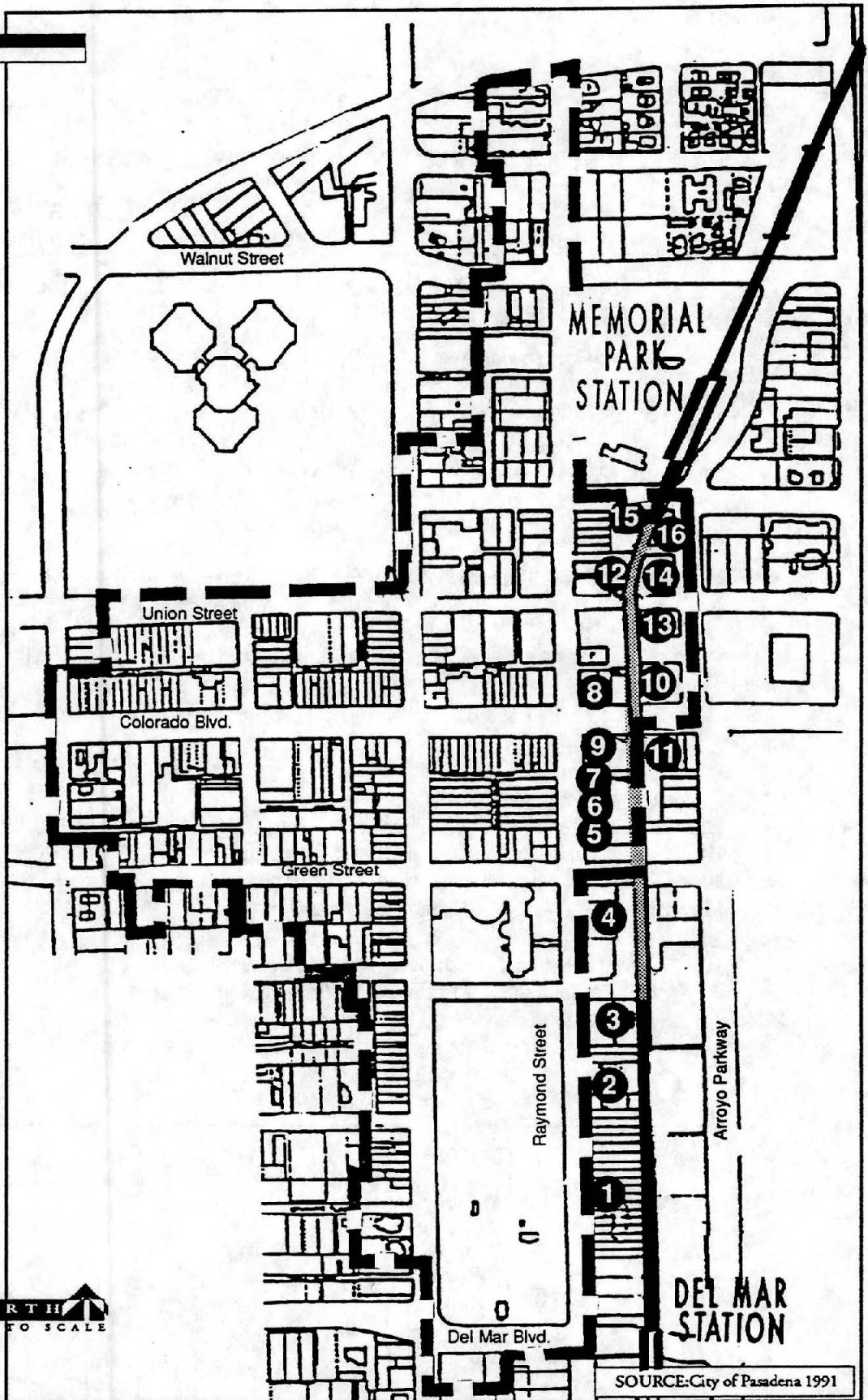
**LEGEND**



OLD PASADENA  
NATIONAL REGISTER  
DISTRICT



HISTORIC RESOURCES  
ALONG COLORADO  
BOULEVARD SUBGRADE  
(refer to Table 4.9-1)



SOURCE: City of Pasadena 1991

**HISTORIC RESOURCES-  
COLORADO BOULEVARD SUBGRADE**

Pasadena Light Rail Supplemental EIR

Michael Brandman Associates

exhibit  
4.9-1

TABLE 4.9-2

HISTORICAL RESOURCES-SOUTHWEST MUSEUM STATION

| Map Ref. Number | Address              | Current Use                                 | Historic Significance <sup>a</sup> | Source <sup>b</sup> |
|-----------------|----------------------|---|------------------------------------|---------------------|
| 1.              | 4521 Marmion Way     | Residence                                   | HS                                 | 2                   |
| 2.              | 4547 Marmion Way     | Residence                                   | HS                                 | 2                   |
| 3.              | 4563 Marmion Way     | Residence                                   | HS                                 | 2                   |
| 4.              | 234 Museum Drive     | Museum Drive Entrance                       | MS, HS                             | 1,2                 |
| 5.              | 4601 N. Figueroa St. | Ziegler Estate <sup>c</sup>                 | MS, HS                             | 1,2                 |
| 6.              | 4605 N. Figueroa St. | Southwest Museum Casa de Adobe <sup>d</sup> | MS, HS                             | 1,2,3               |
| 7.              | 4665 N. Figueroa St. | Residence                                   | HS                                 | 2                   |
| 8.              | 4671 N. Figueroa St. | Residence                                   | HS                                 | 2                   |

<sup>a</sup> Historic Significance

- NR National Register of Historic Places Listing
- HR City of Pasadena-Significant Historic Resource
- HS City of Los Angeles-Historically Significant
- MS City of Los Angeles-Monument Status

<sup>b</sup> Source

- 1 City of Los Angeles Cultural Heritage Commission
- 2 FEIR Pasadena-Los Angeles Light Rail Transit Project
- 3 Southwest Museum

<sup>c</sup> Identified as residence in the certified EIR.

<sup>d</sup> Not identified in the certified EIR.

Archaeological Resources

**Cornfield Yard**

No archaeological surveys have been done in the Cornfield Yard area. However, significant archaeological resources are expected to exist, in particular, the Zanja Madre. The Zanja Madre was the first ditch to lead water from the Los Angeles River to the Pueblo De Los Angeles. Constructed

in the 1700s by early Spanish settlers, the Zanja and its associated series of ditches were used for irrigation purposes. The source for the following analysis is the Belmont High School draft EIR.

The Zanja Madre cuts directly through the Cornfield Yard. It was constructed from the dam near the Broadway Bridge and along the west side of the bluff immediately below Broadway Street. This section is referred to as the original zanja. The dam is thought to be outside the boundary of the project site and is thought to have been entirely removed during the construction of the river channel in the 1930s. There were several private efforts to improve the original early open-ditch system. However, prior to 1877, the original system was still in operation. In 1877, voters approved bonds to improve upon the system, and much of it was lined with concrete and/or bricked over. Although their importance has declined through the years, the zanja system and the original Zanja Madre must be regarded as potentially significant archaeological resources.

The project site is also the first location of a Southern Pacific passenger depot in the City of Los Angeles. Construction began in March 1875, prior to the railroad reaching Los Angeles in 1876. The 1875/1876 construction of the River Station Depot was responsible for much of the growth and development within the immediate vicinity of the project site. The original depot was replaced by another in 1890, located at the foot of Main Street. The original River Station Depot was renamed the Southern Pacific Freight Depot in 1893, and by 1971, only freight sheds and some of the original foundation remained. The potential for significant subsurface deposits remains. Exhibit 4.9-3 depicts the approximate locations of the Zanja Madre, and those of the dam, water wheel, and original River Station Depot.

#### **Southwest Museum Station**

No archeological resources are known to exist in the proposed location of the Southwest Museum station (Blodgett 1989).

#### **Colorado Boulevard Subgrade**

No archaeological resources are known to exist in the vicinity of the Old Pasadena National Register Historic District (Blodgett 1989).

**TABLE 4.9-3**  
**HISTORICAL RESOURCES-COLORADO BOULEVARD SUBGRADE**

| Map Ref.<br>Number | Address             | Current Use                         | Historic<br>Significance <sup>a</sup> | Source <sup>b</sup> |
|--------------------|---------------------|-------------------------------------|---------------------------------------|---------------------|
| 1.                 | 222-250 S. Raymond  | Santa Fe Station                    | HR                                    | 2,3                 |
| 2.                 | 182 S. Raymond      | Casablanca Fan Company <sup>c</sup> | HR                                    | 2                   |
| 3.                 | 150 S. Raymond      | Fishbecks <sup>d</sup>              | HR                                    | 2                   |
| 4.                 | 96 S. Raymond       | Stats Floral <sup>e</sup>           | HR                                    | 2                   |
| 5.                 | 48-70 S. Raymond    | Fleur de Vin <sup>f</sup>           | NR                                    | 1,2                 |
| 6.                 | 44 S. Raymond       | The Art Store <sup>g</sup>          | NR                                    | 1,2                 |
| 7.                 | 26-38 S. Raymond    | Vandenburg Bldg <sup>h</sup>        | NR                                    | 1,2                 |
| 8.                 | 95-99 E. Colorado   | Vacant Commercial <sup>i</sup>      | NR                                    | 1,2,3               |
| 9.                 | 102-108 E. Colorado | Richardson Bldg. <sup>e</sup>       | NR                                    | 1,2                 |
| 10.                | 117 E. Colorado     | Chamber of Commerce <sup>e</sup>    | NR                                    | 1,2                 |
| 11.                | 120 E. Colorado     | Anderson Typewriter <sup>e</sup>    | NR                                    | 1,2                 |
| 12.                | 99 E. Union         | Silent Partners Resale <sup>i</sup> | NR                                    | 1,2,3               |
| 13.                | 110-114 E. Union    | Lucky Baldwin Bldg. <sup>e</sup>    | NR                                    | 1,2                 |
| 14.                | 119-121 E. Union    | Hardware Store <sup>e</sup>         | NR                                    | 1,2                 |
| 15.                | 110 E. Holly        | Tecolate Restaurant <sup>e</sup>    | NR                                    | 1,2                 |
| 16.                | 95 N. Arroyo        | Antiques Mall <sup>i</sup>          | NR                                    | 1,2                 |

<sup>a</sup> Historic Significance

NR National Register of Historic Places Listing

HR City of Pasadena Significant Historic Resource

<sup>b</sup> Source

1 National Register of Historic Places

2 City of Pasadena Urban Conservation

3 Certified EIR Pasadena-Los Angeles Light Rail Transit Project

<sup>c</sup> Identified as Wilkinson Building in the certified EIR.

<sup>d</sup> Identified as McLaren Body Works in the certified EIR.

<sup>e</sup> Not identified in the EIR.

<sup>f</sup> Identified as Morgan Block in the certified EIR.

<sup>g</sup> Identified as Mercantile Place in the certified EIR.

<sup>h</sup> Identified as Vandervort Building in certified EIR.

<sup>i</sup> Identified as structure in certified EIR.

#### **4.9.2 ENVIRONMENTAL IMPACTS**

A significant potential impact from the light rail system upon historic or archaeological resources identified in this survey is defined as the following:

- The disruption or adverse effect on a prehistoric or historic archaeological site or property of historic or cultural significance to a community or ethnic or social group (CEQA Appendix G).
- The introduction of any visual element, resulting from the permanent operation of the light rail system, which is out of character with the current architectural design of the area.

##### **Historic Resources**

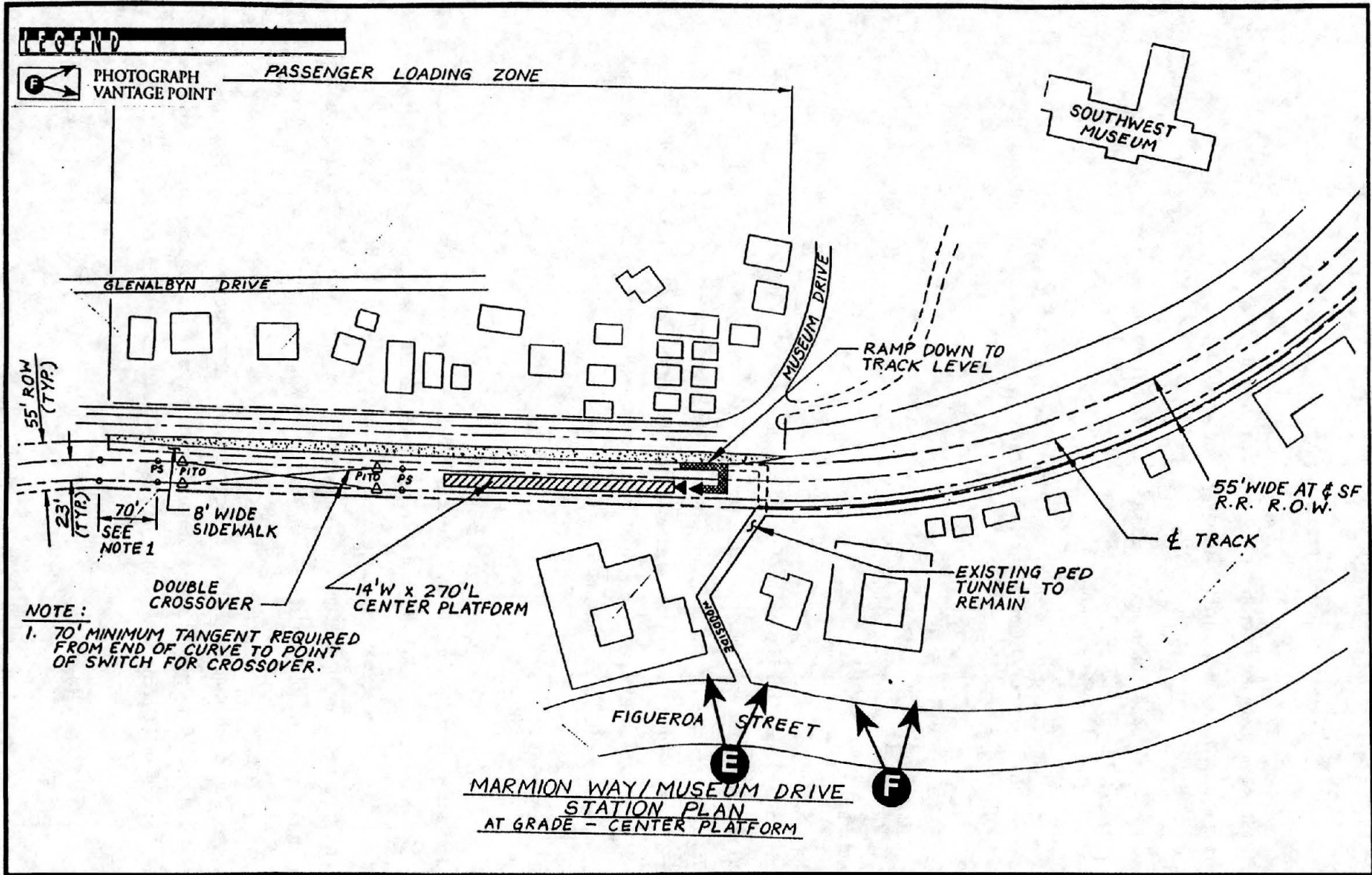
##### **Cornfield Yard**

It is likely that construction and operation of the maintenance yard at this site would adversely affect historical resources in the area. Under CEQA, adverse effects to historically significant resources is a significant adverse impact. Additionally, the City of Los Angeles requires that alterations to cultural landmarks be approved by the Cultural Heritage Commission. In the event that the proposed project is approved, Mitigation Measure 1 presented below would reduce the impacts associated with construction and operation of the light rail system.

##### **Southwest Museum Station**

Historic resources adjacent to the Southwest Museum Station are either west of the light rail route and separated from the alignment by Marmion Way and elevation differences, or are approximately 1/8 mile east of the alignment along Figueroa Street. As determined in the FEIR, no adverse effects to historic structures is anticipated, therefore, no significant impact from construction or operation of the light rail system would occur.

The proposed station will be at-grade. The architectural style and the station has not been determined. Exhibits 4.9-7 and 4.9-8 depict examples of architectural styles in the project vicinity: Spanish Colonial Revival and Queen Anne with Craftsman. The station should be designed to be



4.9-7  
 exhibit

# SOUTHWEST MUSEUM STATION-PHOTOGRAPH KEY MAP

Pasadena Light Rail Supplemental EIR

Michael Brandman Associates

exhibit  
 4.9-7

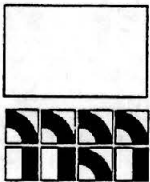


E



F

# SOUTHWEST MUSEUM STATION TYPICAL ARCHITECTURAL STYLES



Pasadena Light Rail Supplemental EIR

Michael Brandman Associates

exhibit  
4.9-8

architecturally compatible with the predominant historic architectural styles of the area. Mitigation Measure 3 presented below would ensure that no impacts would occur.

### **Colorado Boulevard Subgrade**





Construction and operation of the subterranean link of the light rail system could potentially affect historical resources located both in and immediately adjacent to the Old Pasadena National Register Historic District. Many of these buildings were constructed in the 1800s of unreinforced masonry. Table 4.9-4 lists the significant historic resources along the grade separation that have not been seismically retrofitted. The structures listed in Table 4.9-4 have the potential to be affected by vibration resulting from construction and operation of the light rail (Keizman, pers. comm., 1992). Depending upon the type of construction equipment used, the length of construction, and the number of times per day the rail is expected to operate, these historic buildings may experience adverse impacts. Mitigation Measures 4, 5, and 6 presented below would reduce the impacts associated with construction and operation of the light rail system.

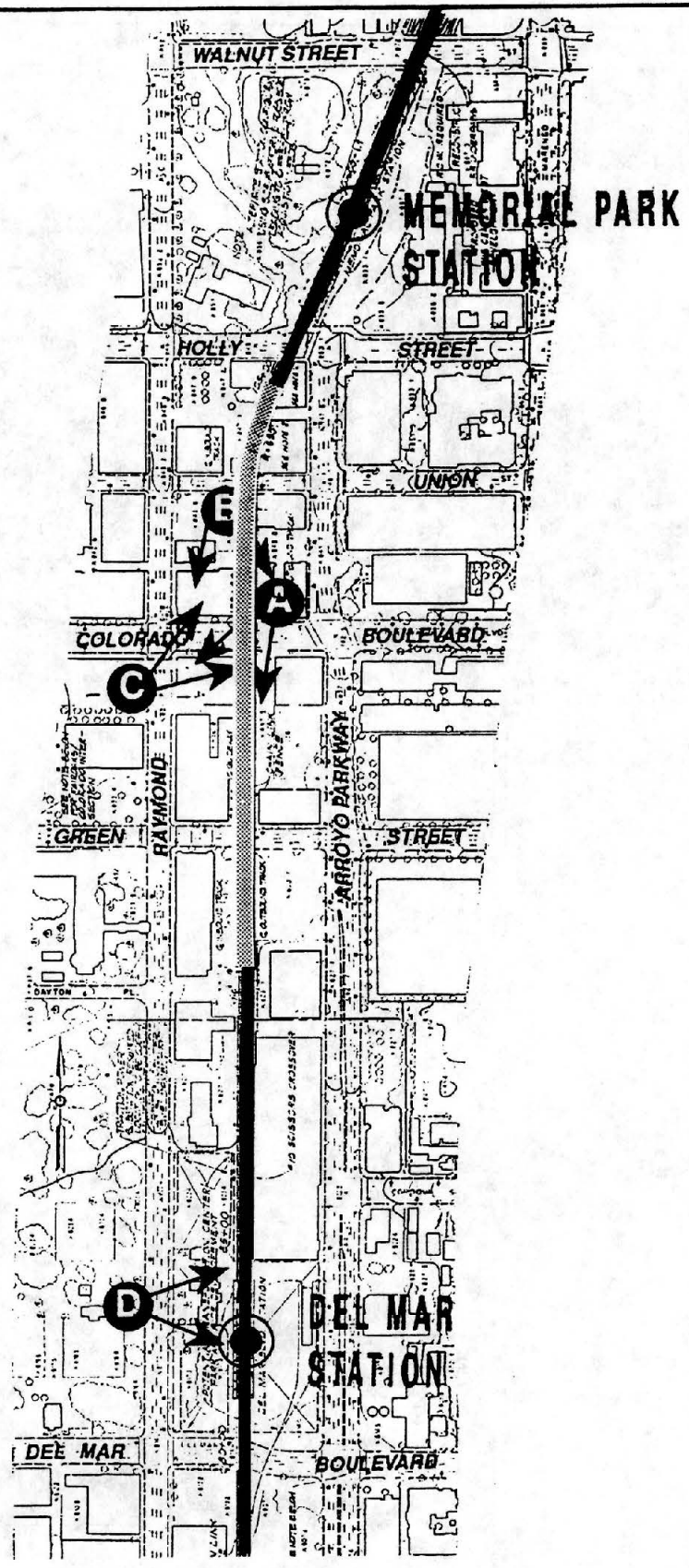
Although operation will be subterranean, the rail corridor is narrow. As depicted in the photographs in Exhibits 4.9-4 and 4.9-5, at some locations the rail alignment right-of-way will be directly adjacent to the structures. Depending on the amount of vibration produced by the continual operation of the light rail, deterioration of the structures could be experienced, which would be considered an adverse effect. As defined by CEQA, an adverse effect upon historic resources is considered a significant impact.

The proposed project will be contained underground, therefore, visual compatibility with the surrounding area is not an issue. No adverse visual impacts to the Old Pasadena National Register Historic District are anticipated. The proposed light rail would be at-grade at the Del Mar and Memorial Park stations. Compliance with the City of Pasadena Design Review standards will be required. Exhibit 4.9-6 shows typical architectural design contained within the Old Town Pasadena Historic District. Mitigation Measure 5 presented below lists the requirements of this ordinance, and will reduce impacts associated with the return to at-grade operation.



**LEGEND**

-  ALIGNMENT
-  SUBGRADE
-  STATION
-  PHOTOGRAPH VANTAGE POINT

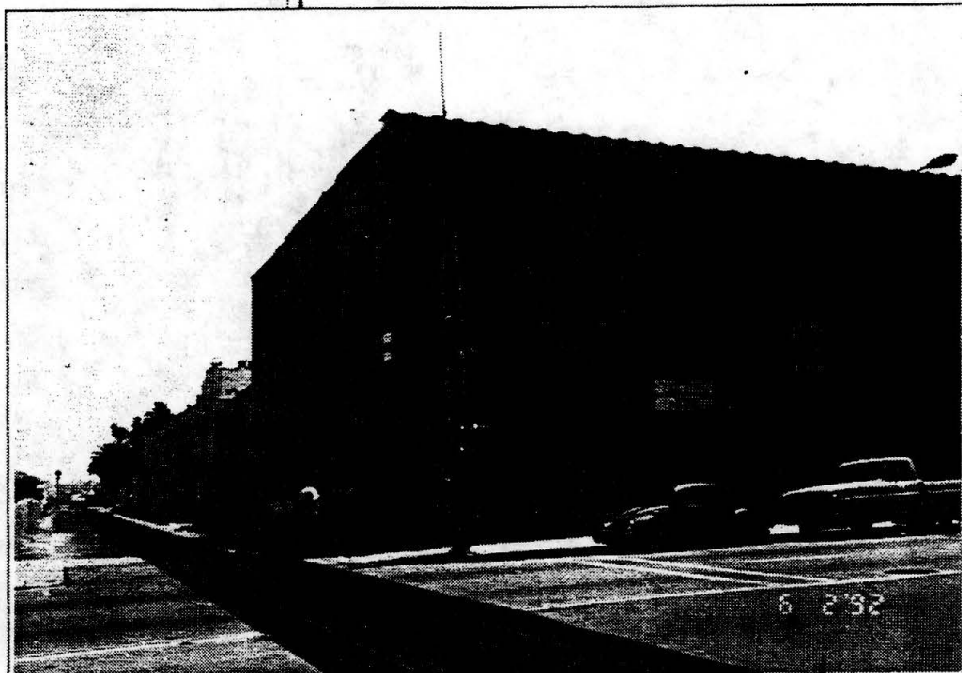


# COLORADO BOULEVARD SUBGRADE- PHOTOGRAPH KEY MAP

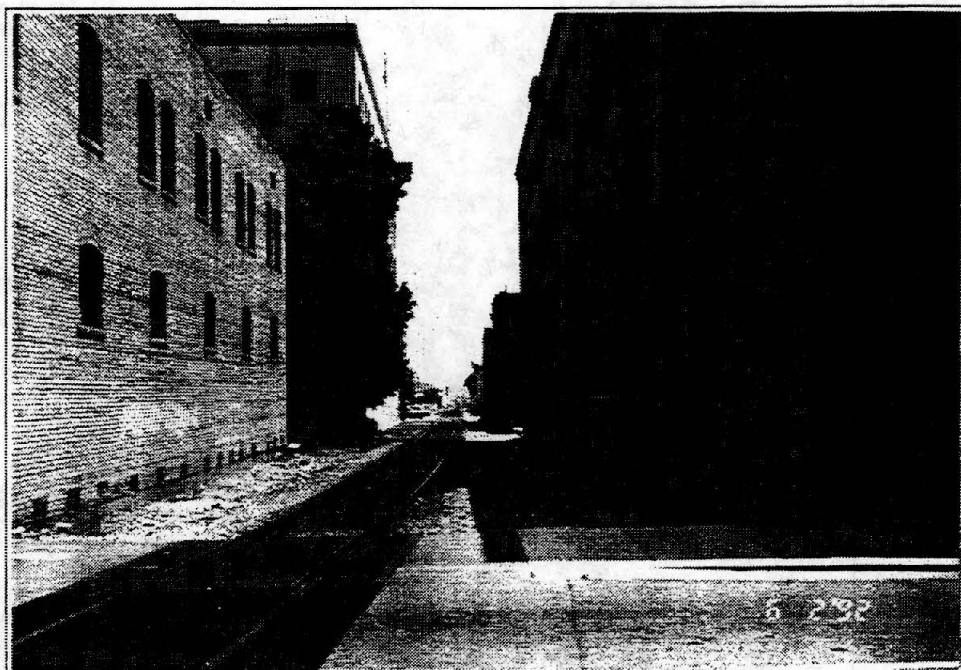
Pasadena Light Rail Supplemental EIR

Michael Brandman Associates

exhibit  
4.9-4



A



B

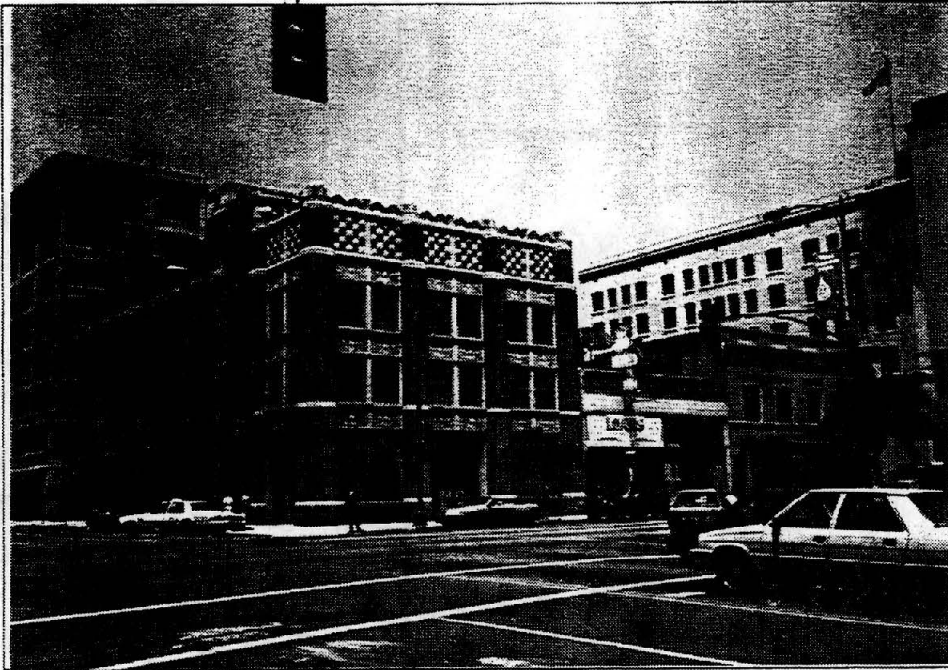
# COLORADO BOULEVARD SUBGRADE RAIL CORRIDOR

Pasadena Light Rail Supplemental EIR

Michael Brandman Associates

exhibit  
4.9-5





C



D

# COLORADO BOULEVARD SUBGRADE TYPICAL ARCHITECTURAL STYLES

Pasadena Light Rail Supplemental EIR

Michael Brandman Associates

exhibit  
4.9-6



## Archeological Resources

### **Cornfield Yard**

The following description of the Cornfield Yard site is based on the previously referenced Cultural Resources discussion for the Belmont New Senior High School DEIR.

**TABLE 4.9-4**

#### **SIGNIFICANT HISTORIC STRUCTURES WITH UNREINFORCED MASONRY**

| <b>Address</b>    | <b>Name</b>            |
|-------------------|------------------------|
| 182 S. Raymond    | Casablanca Fan Co.     |
| 48-70 S. Raymond  | Fleur de Vin           |
| 44 S. Raymond     | The Art Store          |
| 26-38 S. Raymond  | Vandenburg Bldg        |
| 95-99 E. Colorado | Vacant Commercial      |
| 117 E. Colorado   | Chamber of Commerce    |
| 120 E. Colorado   | Anderson Typewriter    |
| 99 E. Union       | Silent Partners Resale |
| 119-121 E. Union  | Hardware Store         |
| 110 E. Holly      | Tecolate Restaurant    |
| 95 N. Arroyo      | Antiques Mall          |

Source: City of Pasadena, Planning, Building and Neighborhood 1992.

Significant archaeological resources have been identified in the project area. The potential for finding additional artifacts is very high. The subsurface area is undisturbed. However, construction of the Cornfield Yard Maintenance facility may expose archaeological artifacts. Subsurface features are not included in the Cultural Heritage Landmark #82 designation.

An archaeological testing program should be conducted prior to construction and development on the Cornfield Yard site. The program would determine if any significant subsurface resources can be located. If so, a mitigation plan should be developed.

Appendix K of CEQA addresses mitigation, preservation, or salvage of significant archaeological resources affected by development. Mitigation Measure 2 presented below would be required if artifacts are discovered during the course of construction.

#### **4.9.3 MITIGATION MEASURES**

##### **Cornfield Yard**

1. Prior to commencement of construction, the project sponsor will be required to obtain approval from the City of Los Angeles Cultural Heritage Commission to alter the Cornfield Yard site, Cultural Landmark #82. Preservation of any at-grade resources is the preferable action, and should be undertaken to the maximum extent feasible. If in the course of construction, any suspected historical resources are discovered, activity will cease and a mitigation plan will be designed and implemented before any construction is resumed.
2. Should historic and/or archaeological resources be unearthed during excavation, significant earthmoving and/or grading activities will immediately cease. A qualified archaeologist will be called in to assess the significance of the find, and recommend appropriate protection measures. In the event human remains of possible Native American origin are encountered during the course of construction, the Los Angeles County coroner's office and the Native American Heritage Commission will be contacted for preservation and protection of the remains.

##### **Southwest Museum Station**

3. The project sponsor will consult with the Los Angeles Cultural Heritage Commission to ensure that the configuration, design, materials, colors, and signage of the Southwest Museum Station will be consistent with the architecture of the existing structures in the area.

##### **Colorado Boulevard Subgrade**

4. Appropriate engineering studies shall take place prior to commencement of construction of the Colorado Boulevard Subgrade to determine the capability of adjacent structures in the Old Pasadena National Register Historic District to withstand the level of vibration anticipated from construction and operation of the proposed light rail system. Engineering studies may conclude that this option should not be implemented due to adverse effects on existing structures.

5. Prior to the issuance of any demolition or grading permits, an adequate monitoring and/or bonding program shall be established between the City of Pasadena and property owners to ensure that demolition and construction vibration impacts do not adversely affect offsite structures.
6. Prior to submittal by the project sponsor, will require approval from the City of Pasadena Design Review Board. The design concept must ensure that the configuration, design, materials, colors, and signage of the Del Mar and Memorial Park Stations are architecturally compatible with the surrounding sites and structures, and will not unnecessarily block scenic views, or inappropriately dominate their surroundings.

#### **4.9.4 LEVEL OF SIGNIFICANCE AFTER MITIGATION**

Project development and operational impacts (i.e., demolition, excavation, construction) on historic structures and/or resources can be mitigated to a level of insignificance with implementation of Mitigation Measures 1 through 6.

#### **4.10      PUBLIC UTILITIES RELOCATION**

This section discusses the public utility relocation activities associated with the implementation of the Colorado Boulevard Grade Separation option of the Supplemental EIR. Public utility relocation activities associated with implementation of all other project components are adequately addressed in the certified EIR. No further analysis is required.

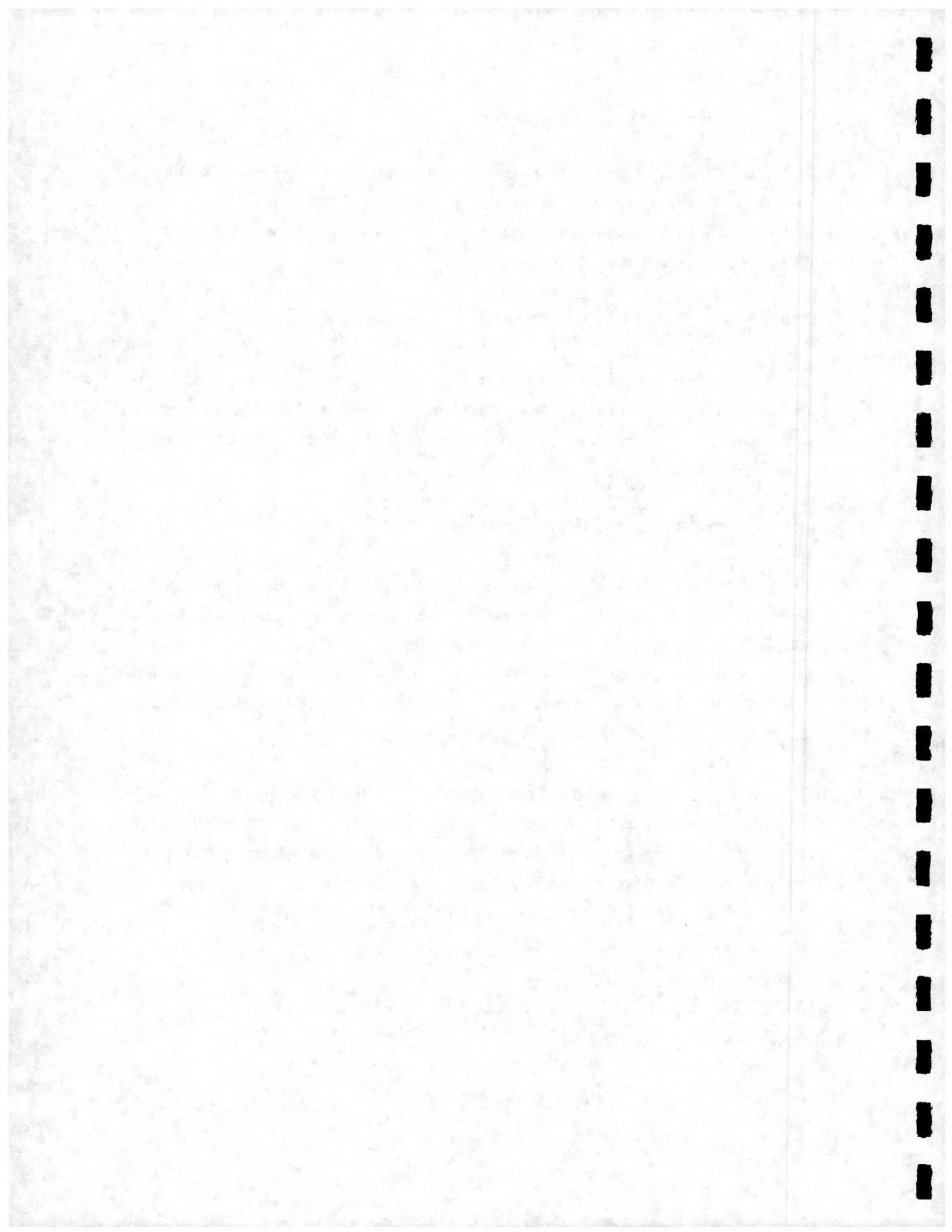
##### **4.10.1      ENVIRONMENTAL SETTING**

The Colorado Boulevard Grade Separation is proposed to extend beneath Old Town Pasadena from the Amtrak Train Station area north of Del Mar Boulevard up to Memorial Park. There are numerous underground public utility lines within the path of this grade separation, including telephone, electrical, storm drain, sewer, and water lines.

##### **4.10.2      ENVIRONMENTAL IMPACTS**

The Colorado Boulevard Grade Separation will extend through Old Town Pasadena from Del Mar Boulevard north to Walnut Street. The subgrade will extend beneath Green Street, Colorado Boulevard, and Union Street and require the closure of Holly Street. Utilities listed in Table 4.10-1 will be impacted by the grade separation. These utilities will be supported during construction of the subgrade. Construction activities will include relocation of many utility lines at each of the impacted intersections. Table 4.10-2 summarizes utility relocation activities.

The Feasibility Study for Below-Grade Construction (Metro Rail Transit Consultants 10/91) identifies the impacted utilities noted above and sets forth the aforementioned relocation program. Because the impacted utility lines have been adequately identified and support and replacement programs have been identified, no significant impacts are anticipated.





**TABLE 4.10-1**

**DESCRIPTION OF UTILITY IMPACTS**

---

**Green Street**

- 30' of 8" water main
- 30' of 36" storm drain
- 30' of 20 du telephone ductbank
- 30' of 9 du telephone ductbank
- 30' of 10 du electrical ductbank
- 30' of 4" gas main

**Colorado Boulevard**

- 30' of 24" water main
- 30' of 18" storm drain
- 30' of 6 du electrical ductbank
- 30' of 12" gas main
- 30' of 10" sanitary sewer
- 30' of 8 du telephone duct bank (2 sections)

**Union Street**

- 30' of 8" water main
- 30' of 39" storm drain
- 30' of 8" sanitary sewer
- 30' of 3 du electrical ductbank
- 30' of 2" gas main
- 30' of 1 du telephone ductbank

**Holly Street**

- 70' of 8 du electrical ductbank

Source: Bechtel, July 1992.

---

**TABLE 4.10-2**

**UTILITY RELOCATION ACTIVITIES**

---

**Green Street**

50' of 8" steel water main  
30' of 36" temporary storm drain  
40' of RCP storm drain

**Colorado Boulevard**

50' of 24" steel water main  
340' of RCP storm drain  
2 storm drain manholes  
60' of 18" temporary storm drain  
30' of 10" temporary sanitary sewer  
40' of 10" VCP sanitary sewer

**Union Street**

50' of 8" steel water main  
40' of 39" RCP storm drain  
30' of 39" temporary storm drain  
30' of 8" temporary sanitary sewer  
40' of 8" VCP sanitary sewer

**Holly Street**

Inverted Siphon, including junction structures  
60' of 78" RCP storm drain  
150' of 60" RCP storm drain  
40' of 18" RCP storm drain  
30' of 18" temporary storm drain  
150' of electrical ductbank  
2 intercept manholes  
2 deep manholes  
100' of deep ductbank

Source: Bechtel, July 1992.

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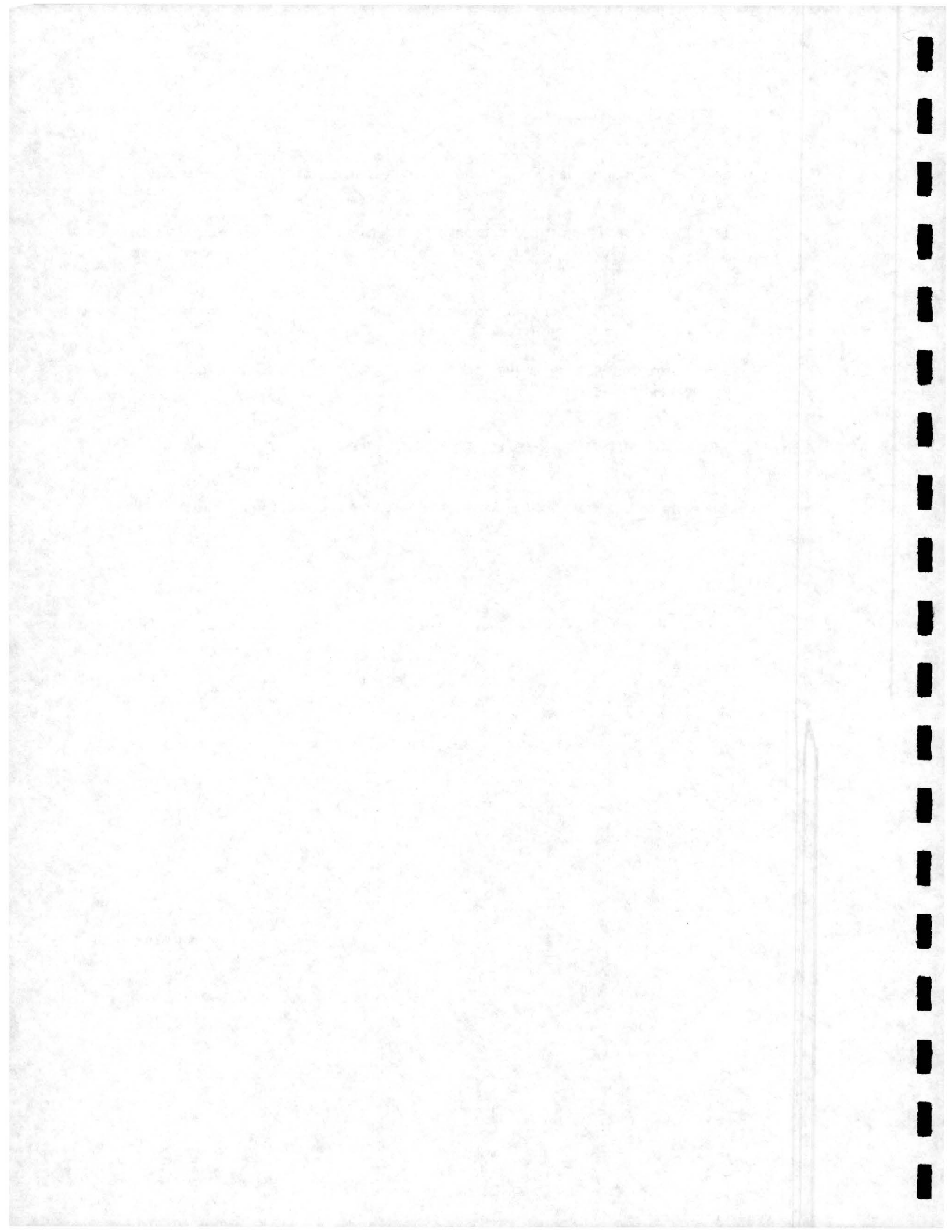
#### **4.10.3 MITIGATION MEASURES**

The following mitigation measures are suggested to prevent loss of service to utility consumers.

1. LACTC shall prepare and maintain a list of persons that would be affected by losses of power, sewer, gas, and/or water main ruptures for notification and emergency service purposes.
2. All potentially affected utility consumers shall receive advanced notification by LACTC/RCC of construction activities.
3. Emergency back up service shall be made available by LACTC in the event of disruption in service.

#### **4.10.4 LEVEL OF SIGNIFICANCE AFTER MITIGATION**

No unavoidable significant adverse effects are anticipated following implementation of the mitigation measures.



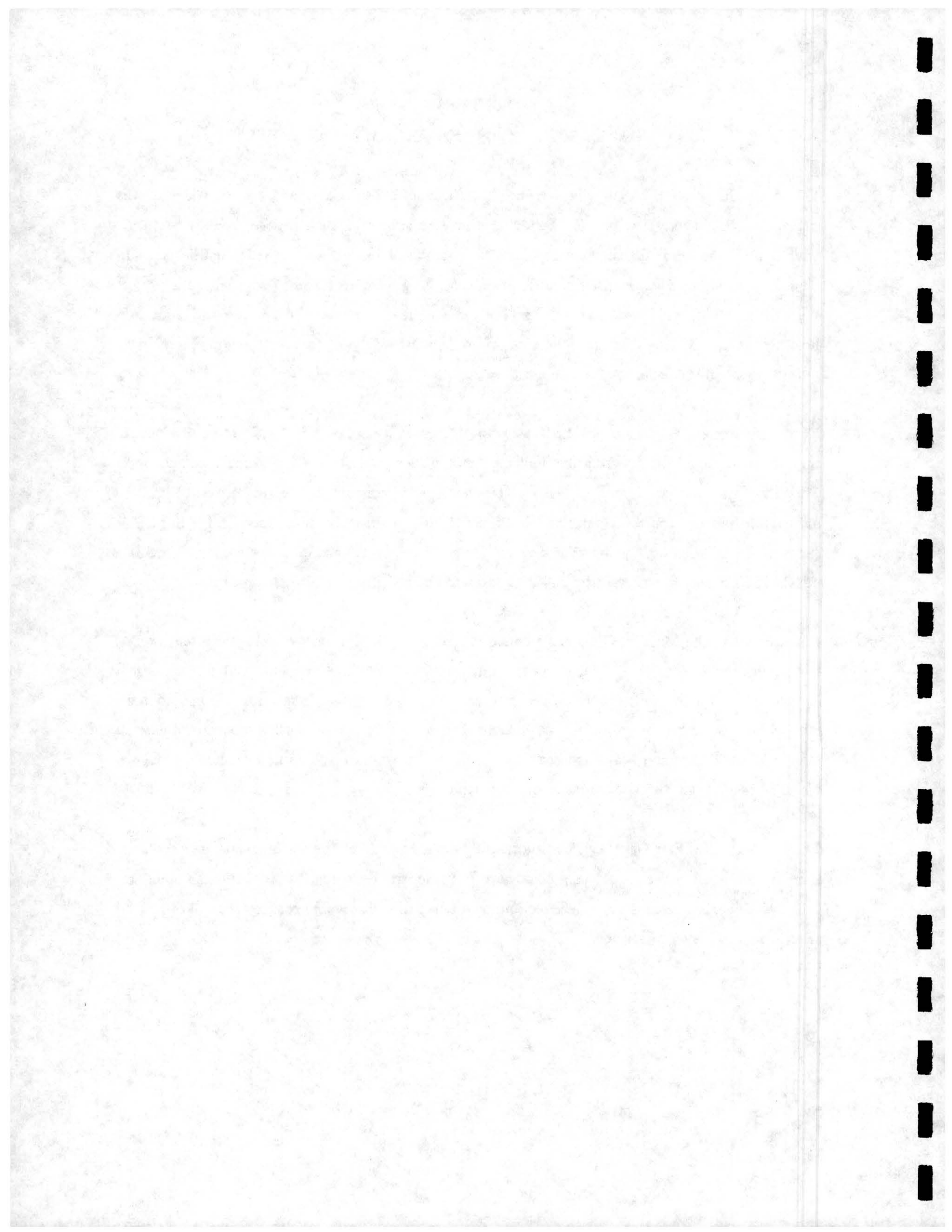
**SECTION 5**  
**UNAVOIDABLE SIGNIFICANT ENVIRONMENTAL EFFECTS**

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 an EIR 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. Where an impact is unavoidably significant, specific reasons why mitigation is not successful or feasible must be identified.

This Supplemental Environmental Impact Report identifies a number of significant environmental impacts anticipated to result from the implementation of the proposed LRT alternative components. Mitigation measures are identified that will be effective in reducing the degree of overall impact, although certain environmental impacts are still anticipated to be significant as identified in this SEIR (Section 4.0). Findings with regard to each significant effect and a statement of overriding considerations must be prepared by LACTC, the lead agency, prior to project approval.

Construction of the Marmion Way and Figueroa Street grade separation would result in temporary, but significant, unavoidable adverse impacts on traffic circulation at that intersection. Localized impacts on streets, at-grade crossings, and stations where lighting is necessary for safe operation of the LRT is considered a significant unavoidable adverse impact. The visual presence of an aerial structure at the Marmion Way/Figueroa Street intersection would result in an unavoidable adverse visual impact on the aesthetic character of the existing site.

The intersection of Fair Oaks Avenue/Colorado Boulevard would be impacted beyond an acceptable level of service under all Colorado Boulevard grade separation scenarios: no-build, at-grade, or subway. There are no reasonably feasible mitigation measures that would reduce the level of impact to an acceptable level of service.



## SECTION 6

### LONG-TERM IMPLICATIONS OF THE PROPOSED PROJECT

#### 6.1 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 EIRs 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 EIR must also identify those reasons or justifications why the implementation of the proposed project should proceed now rather than in the future.

The components proposed in this Supplemental Environmental Impact Report do not invalidate the findings of the previously certified EIR. As stated in the previously certified EIR, the proposed Pasadena-Los Angeles Rail Transit Project would result in a number of long-term impacts when the system becomes operational. The proposed project would provide residents living in the Pasadena-Los Angeles Corridor with an alternative to the private automobile as a means to get from home to work. The operation of a safe, convenient, and efficient mass transit line would also lessen regional dependence on the private automobile and the need for additional freeway capacity. Any significant reduction in the number of vehicles used in home-to-work commutes would also benefit local air quality, reduce fuel consumption, and improve roadway service levels throughout the corridor over that which would be expected in the absence of an operational mass transit system.

The operation of the proposed Pasadena-Los Angeles Rail Transit Project may represent a risk to persons within the LRT right-of-way. There is a potential that vehicles and pedestrians may be struck by LRT vehicles if certain precautions and warnings are not followed. Mitigation measures identified throughout Section 4 of the previous EIR focus on reducing potential risks to motorists and pedestrians.

If selected, the proposed LRT project modifications should proceed now rather than in the future for the following reasons:

- To optimize efficiencies in maintenance yard locations by establishing direct access to facilities from two rail lines without the need for a long yard line.
- To maximize benefit of reducing traffic congestion and delays at congested intersections by implementing grade separated routes.
- To incorporate the needs identified by local communities to integrate transit facilities with adjacent/proposed land uses, toxic soil issues, and visual and noise mitigation.
- To mitigate operational impacts associated with the approved LRT alignment.
- To minimize additional construction impacts by incorporating project modifications with overall project construction.

**6.2 IRREVERSIBLE ENVIRONMENTAL CHANGES WHICH WOULD BE INVOLVED IN THE PROPOSED PROJECT IF IT WERE IMPLEMENTED**

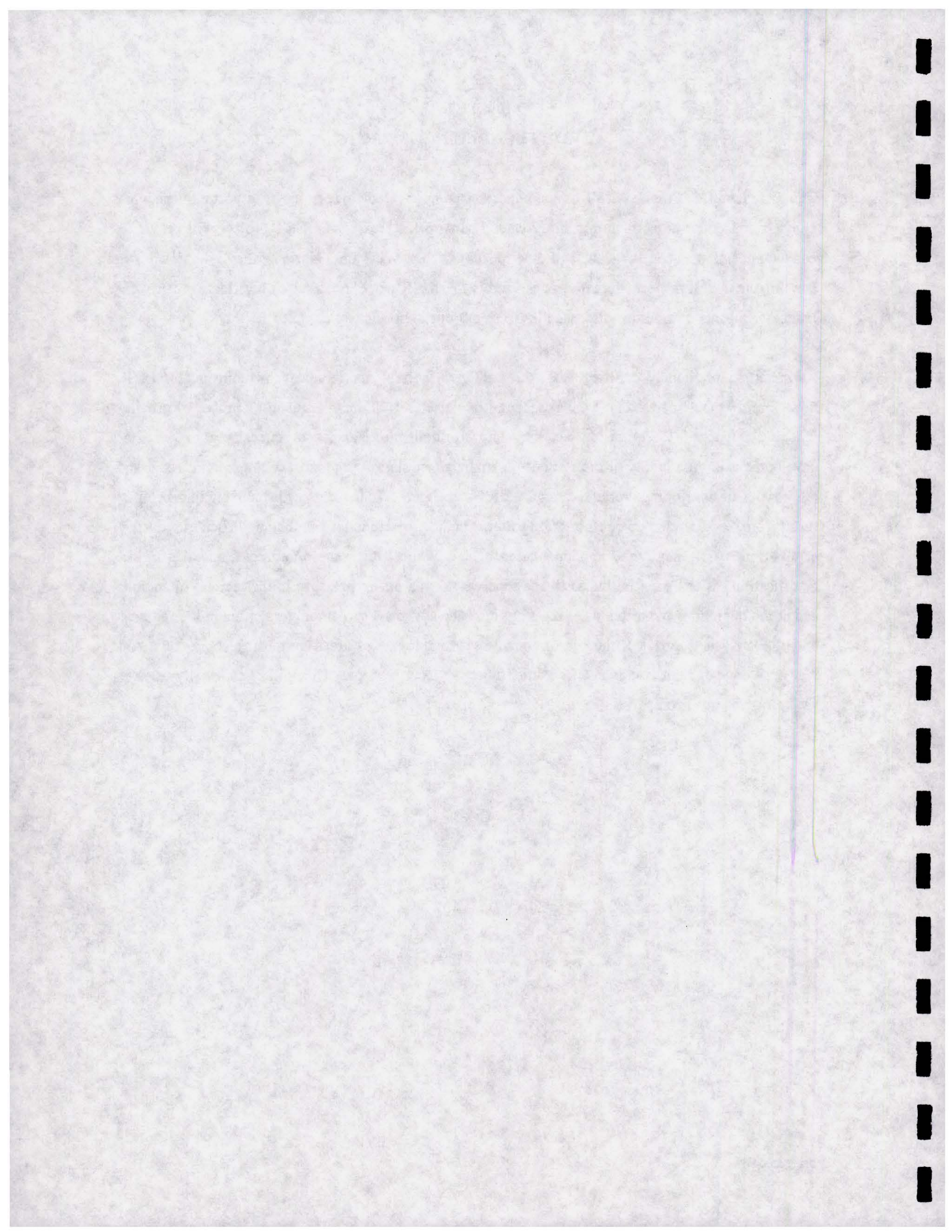
As stated in the previously certified EIR, the implementation of the proposed Pasadena-Los Angeles LRT project will commit nonrenewable resources to the construction and operation of the project. These resources will include materials used in the project's construction, as well as nonrenewable fuels used to power the stations, and will involve a continued commitment of the site to urban land use. This commitment will also preclude other development options for land occupied by the Pasadena-Los Angeles Rail Transit Project over the life of the project and will preclude other types of rail service (such as freight and commuter service) in the corridor.



## SECTION 7 GROWTH-INDUCING IMPACTS

The Pasadena-Los Angeles LRT is an important component of a regional transportation network planned and under construction in the greater Los Angeles area. This LRT project will provide a convenient link between Pasadena and other portions of the West San Gabriel Valley with downtown Los Angeles. The project alternatives analyzed in this SEIR would not alter or invalidate the growth-inducing impacts or findings discussed in Section 9 of the previously certified EIR.

As stated in previously certified EIR, the LRT project will not induce growth in and of itself, however, the implementation of the Pasadena-Los Angeles LRT may result in a number of growth-inducing impacts. First, the project may allow responsible agencies to intensify zoning and/or development in the vicinity of the stations. A number of stations may attract commercial retail and other types of development oriented toward LRT passengers. Indirect growth-inducing impacts may result from the alteration of transportation patterns in the project vicinity which are difficult to identify at this time. In general, the implementation of any of the LRT route alternatives and the project modifications as analyzed in this SEIR may increase development pressure in the vicinity of stations and at the beginning and terminus of the rail line. The advantages to employers of being located near the LRT may also provide impetus for businesses to relocate to areas permitting commercial and industrial development along the LRT route, especially near stations. This will be especially true for vacant or underutilized parcels.





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**Persons Consulted**

City of Los Angeles

Barbara Di Gennaro . . . . . Cultural Heritage Commission

City of Pasadena

Pam Keitzman . . . . . Operations Assistant, Planning and Building

Mary Jo Winder . . . . . Senior Planner, Urban Conservation

National Park Service

Michael Crow . . . . . Architectural Historian

Southwest Museum

Richard Buchen . . . . . Historian

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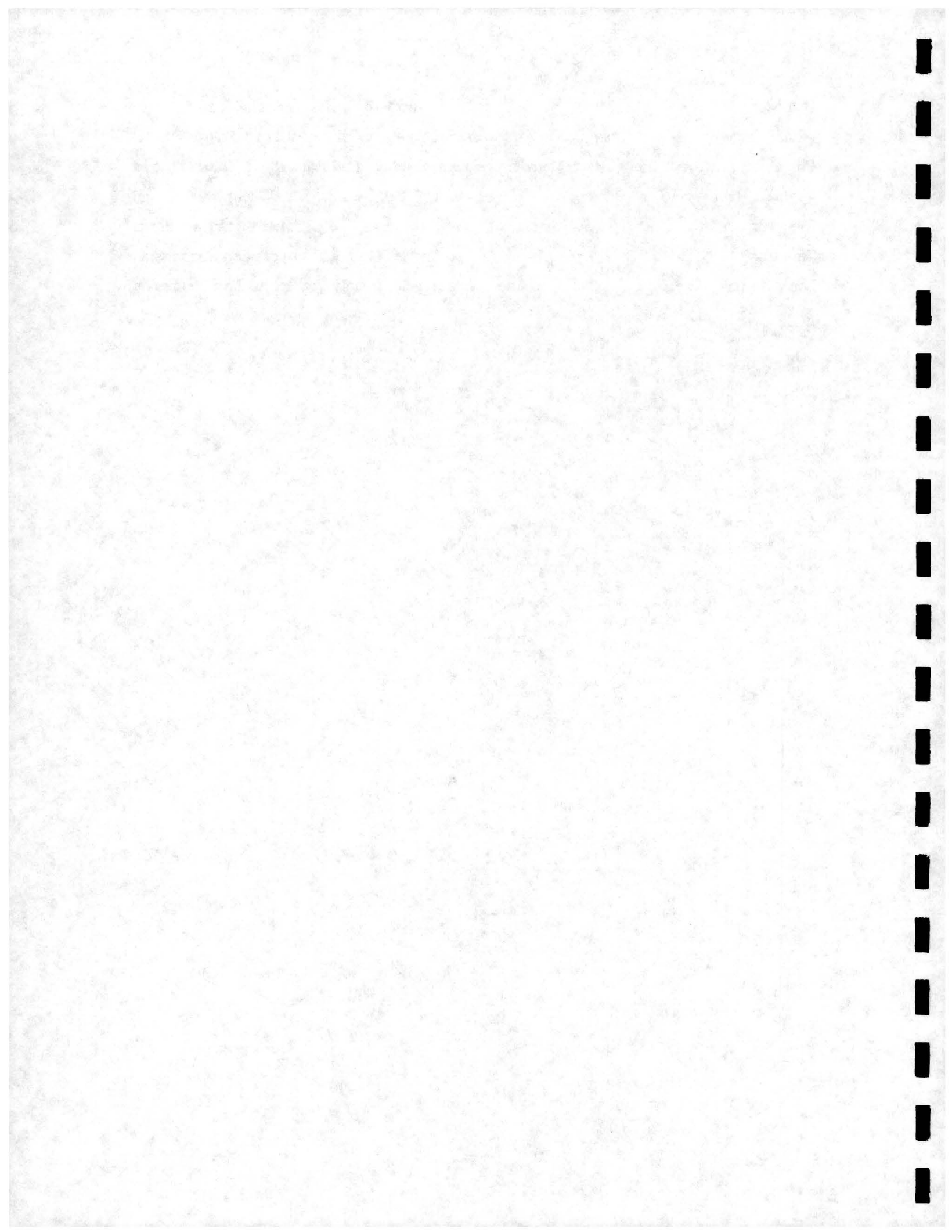
**8.4 PERSONS CONTACTED**

Paul Berkley . . . . . Long Beach Maintenance Yard, Southern California Rapid Transit District

Richard Morton . . Long Beach Yard Superintendent, Southern California Rapid Transit District

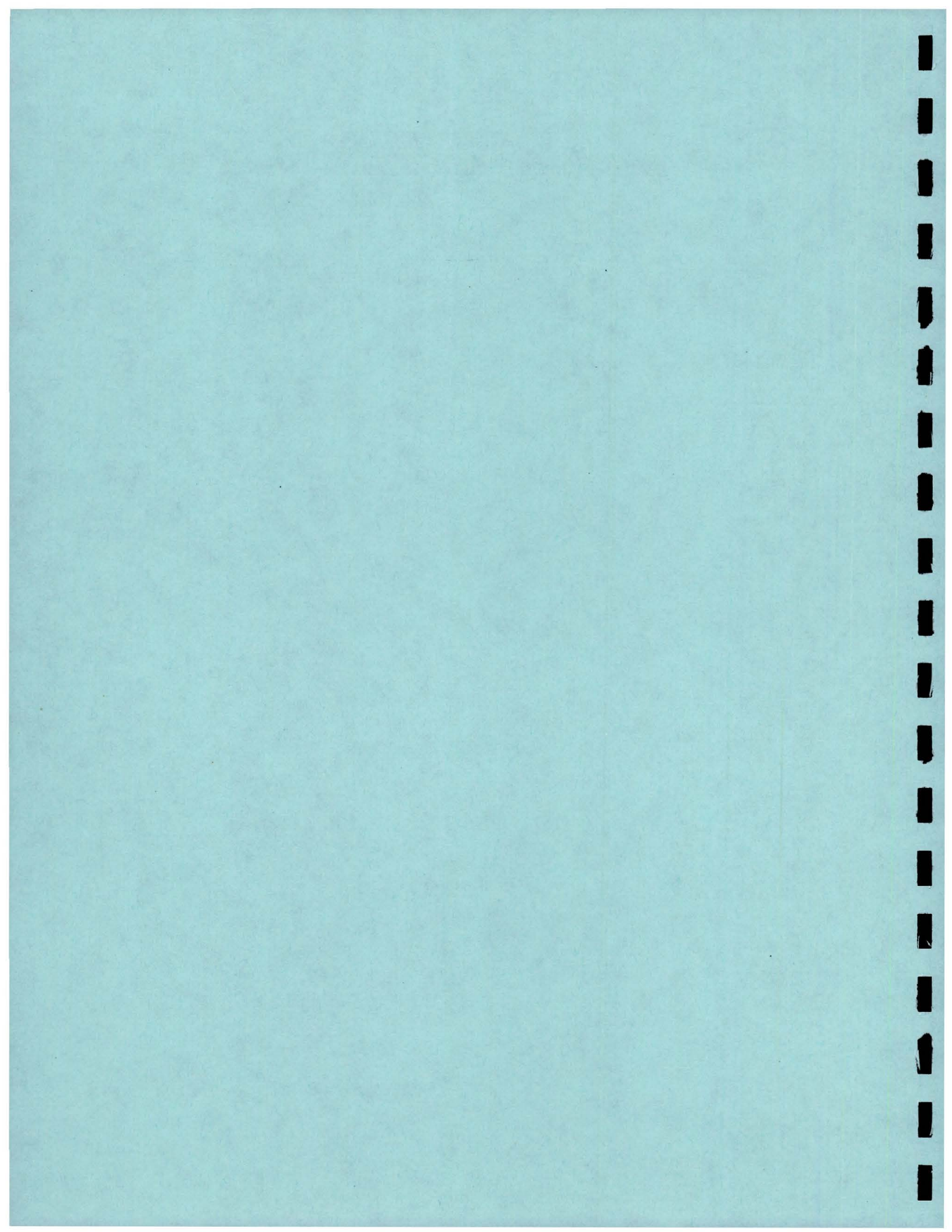
Ed Richardson . . . . . Los Angeles County Transportation Commission

Bud Moor ..... Southern California Rapid Transit District  
Arthur Crabtree ..... Long Beach Yard Manager, Southern California Rapid Transit District  
Bob Ogus ..... Long Beach Maintenance Yard, Southern California Rapid Transit District  
Reginald Huntley ..... Southwest Museum  
Gene Ginther ..... Metro Rail Consultants  
Tom Cook ..... Los Angeles County Transportation Commission  
Larry Kelsey ..... Los Angeles County Transportation Commission





**APPENDIX A**  
**INITIAL STUDY/NOTICE OF PREPARATION (NOP)**



**NOTICE OF PREPARATION**

**TO:**

**FROM:** Ms. Susan Rosales  
Los Angeles County  
Transportation Commission  
818 West Seventh Street, Suite 1100  
Los Angeles, California 90017

**SUBJECT:** Notice of Preparation of a Draft Supplemental Environmental Impact Report (SEIR)

The County of Los Angeles, Transportation Commission, will be the lead agency and will prepare an environmental impact for the project identified below. We wish to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's responsibilities.

The project description, location map, and probable environmental effects are contained in the attached materials. A copy of the Initial Study is also attached.

Due to the time limits mandated by state law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice. All responses to the Notice of Preparation must be in writing. Comments received will be incorporated into the draft SEIR, as appropriate.

Please send your responses to Ms. Susan Rosales at the address shown above. We will need the name of a contact person in your agency.

**PROJECT TITLE:** Pasadena-Los Angeles Rail Transit Project

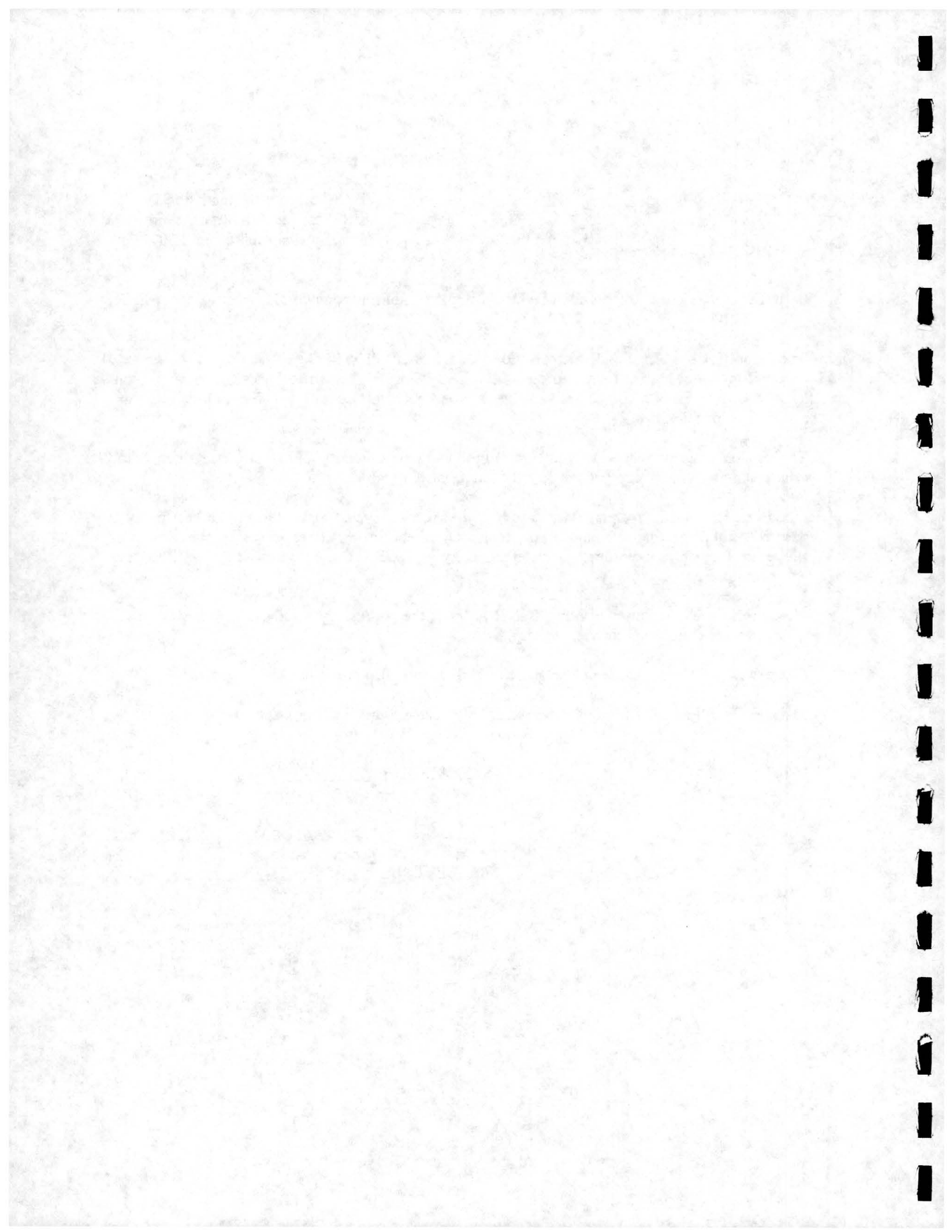
**PROJECT APPLICANT:** Los Angeles County Transportation Commission

**DATE:** June \_\_, 1992

**SIGNATURE:** \_\_\_\_\_  
Susan Rosales

**TITLE:** Director, San Gabriel Valley Area

**TELEPHONE:** (213) 623-1194



**PRELIMINARY DRAFT INITIAL STUDY  
FOR THE  
PASADENA-LOS ANGELES RAIL  
TRANSIT PROJECT**

**Lead Agency:**

**Los Angeles County  
Transportation Commission  
818 West Seventh Street, Suite 1100  
Los Angeles, California 90017  
(213) 623-1194**

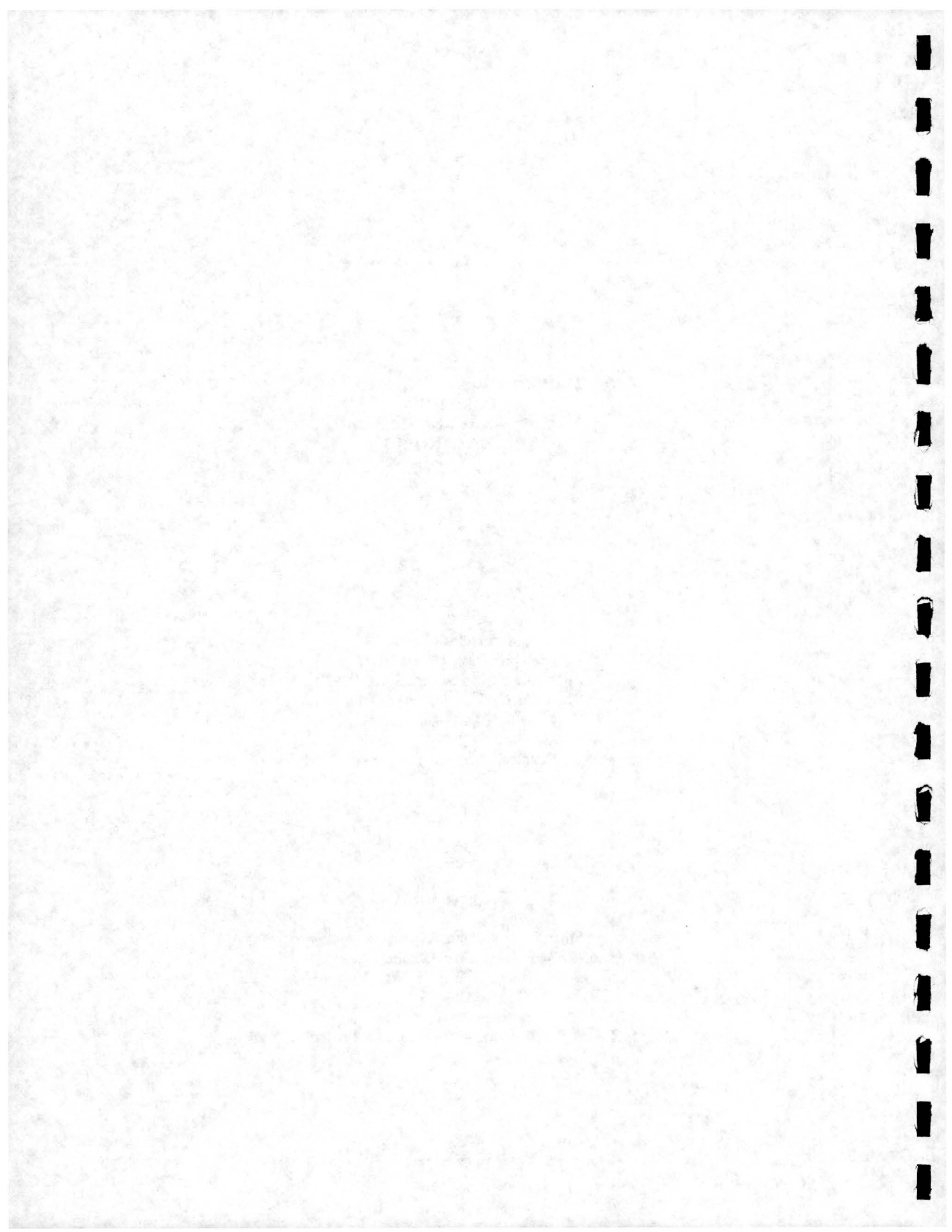
**Contact: Susan Rosales, Director, San Gabriel Valley Area**

**Prepared by:**

**Michael Brandman Associates  
606 South Olive Street, Suite 600  
Los Angeles, California 90014  
(213) 622-4443**

**Contact: Laura Worthington-Forbes, Senior Project Manager**

**June 1, 1992**



## SECTION 1 INTRODUCTION

### 1.1 THE PROJECT

In the spring of 1990, the Los Angeles County Transportation Commission (LACTC) certified the environmental impact report (EIR) for the Pasadena-Los Angeles Light Rail Transit Project (MBA November 1989). However, in the last 2 years, requests for alterations to the project and further environmental review have made it necessary to prepare a supplemental EIR (SEIR). The proposed project consists of three areas of modification and addition that require analysis supplemental to the certified EIR: (1) three alternative locations for the previously approved light rail vehicle maintenance facilities, (2) three station locations, and (3) two grade separations.

Additional analysis beyond the certified EIR has been requested for the light rail maintenance facility at Taylor Yard. In addition, other sites for the maintenance facility are under consideration, including a large parcel north of the Chinatown community referred to as the "Cornfield," and a linear site west of the Los Angeles River between Macy Street and the Santa Ana Freeway.

The City of Pasadena has requested a station at Allen Street (replacing the previously cleared stations at Hill Street and Altadena Avenue) and a station at Fillmore Avenue (replacing stations at Glenarm and California streets). Previously cleared stations at Fair Oaks Avenue and Los Robles Avenue have also been dropped from consideration. A new station site is also being considered along the approved alignment adjacent to the Southwest Museum on Marmion Way in Mount Washington.

Finally, two grade separations are under consideration: (1) in the vicinity of Colorado Boulevard in the City of Pasadena, and (2) at Figueroa and Marmion Way in the City of Los Angeles. Section 2 discusses the proposed project in greater detail.

The Los Angeles County Transportation Commission (LACTC) is the Lead Agency for the project as defined by Section 21067 of the California Environmental Quality Act (CEQA). The Lead Agency is the public agency that has the principal responsibility for carrying out or approving a project that may have a significant effect upon the environment. The LACTC, as the Lead

Agency, has the authority for project approval and to determine whether a negative declaration, mitigated negative declaration, or environmental impact report shall be prepared for the project based on this Initial Study. The LACTC is proposing the project modifications and is also the project applicant.

Changes to a proposed project may necessitate the preparation of a supplemental EIR. A supplemental EIR is prepared when new information of substantial importance to the project becomes available, information which was not known and could not have been known at the time the previous EIR was certified as complete. If only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation, the Lead Agency could choose to prepare a supplement to the previously certified EIR. The supplement to the EIR need contain only the information necessary to make the previous EIR adequate for the project as revised (CEQA Guidelines section 15163 subd. (b)).

## **1.2 PURPOSE OF THE INITIAL STUDY**

The purpose of the environmental assessment and Initial Study as stated in Section 15063(c) of the CEQA Guidelines is as follows:

- To identify potential environmental impacts arising from implementation of the proposed project.
- To provide the Lead Agency with information to use as the basis for deciding whether to prepare an environmental impact report (EIR) or negative declaration for the project.
- To enable an applicant or Lead Agency to modify a project, mitigating adverse impacts prior to a decision on the need for an EIR, and enabling the project to qualify for a mitigated negative declaration.
- To provide factual documentation for the finding in a negative declaration that a project will or will not have a significant effect on the environment.
- To eliminate unnecessary EIRs.

This Initial Study provides the following information:

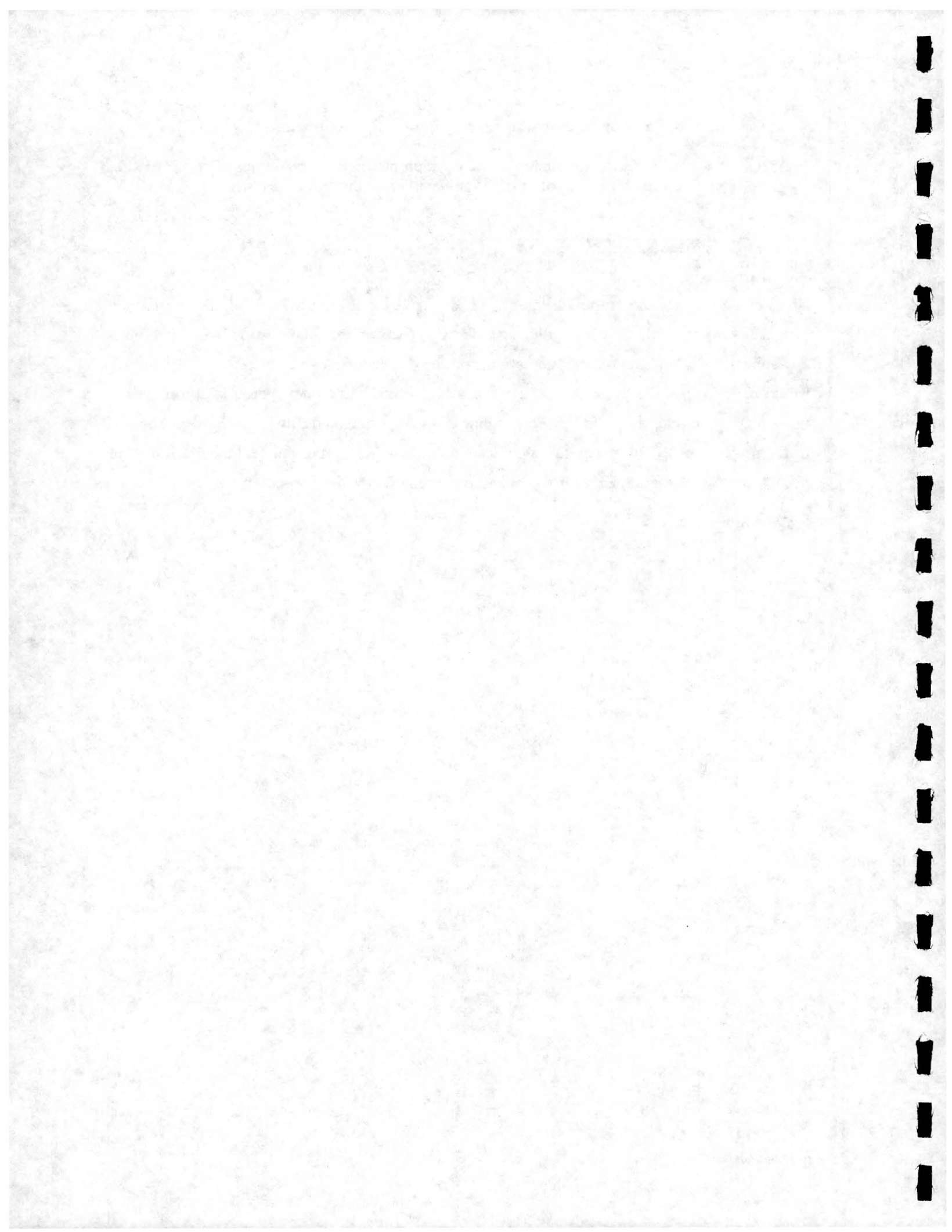
- A description of the project, including the project location, and a discussion of the existing environmental setting.



- The identification and discussion of potentially significant environmental effects of the project, as indicated on the Initial Study Checklist in Section 3.
- A discussion of impacts and mitigation measures to be discussed in the EIR for issues that have potentially significant environmental effects.

**1.3      SUMMARY OF FINDINGS**

The Initial Study for the proposed Pasadena-Los Angeles Rail Transit Project indicates that the proposed project would have no significant adverse impacts on the following CEQA issues: plant and animal life, natural resources, population, housing, public services, and recreation. The project would have, or has the potential to have, impacts on earth, air, water, noise, land use, risk of upset, transportation, circulation, energy, utilities, human health, and cultural resources. Because of the project's potential to generate significant impacts in areas where project modifications are proposed, a supplemental EIR for the proposed alternatives will be prepared.



**SECTION 2**  
**PROJECT DESCRIPTION**

**2.1 PROJECT LOCATION/BACKGROUND**

**PREVIOUS DOCUMENTATION**

An EIR for the Pasadena-Los Angeles Light Rail Transit project was prepared in November 1989. The EIR was certified by the LACTC in the spring of 1990 and findings were prepared to approve the Highland Park Alternative with the Union Station no-subway option in the downtown/Chinatown area (Michael Brandman Associates, November 1989). The Pasadena-Los Angeles Rail Transit Project involves the construction of a light rail transit (LRT) facility from downtown Los Angeles through Pasadena. The rail alignment will extend through Mount Washington, Highland Park, South Pasadena, and Pasadena. In the vicinity of downtown Los Angeles, the alignment serves the Chinatown community and Union Station. Eventually, the Pasadena-Los Angeles LRT will connect with the Long Beach LRT (Blue Line) at its present terminus at 7th and Flower streets. The LACTC is currently proceeding with a study of downtown connection alignments.

From Union Station, the alignment proceeds in aerial structure through Chinatown to Broadway, providing an elevated station near Spring and College streets. The alignment then proceeds at-grade as it parallels the south side of North Broadway. At the Los Angeles River, the alignment travels primarily at-grade on an existing Santa Fe Railroad line through Mount Washington, Highland Park, and South Pasadena, continuing on into Pasadena. The line terminates in the vicinity of I-210 and Sierra Madre Villa Avenue in eastern Pasadena. Exhibit 1 illustrates the regional location of the alignment.

While initial work has begun (final engineering, station site planning/design), associated activity in resolving the maintenance yard issues has led to the potential of exploring alternative maintenance yard sites. In addition, the City of Pasadena and the City of Los Angeles have requested other variations. Thus, in September 1991, the LACTC approved the preparation of a supplemental EIR. A supplemental EIR is prepared when there are substantial changes to the proposed project (CEQA Section 15163(a)(1)). The LACTC determined that a supplemental EIR was necessary to resolve maintenance facility issues; to further address the Allen Street and

Fillmore Street stations in Pasadena, and a Southwest Museum Station in Mount Washington; and finally the Colorado Boulevard and Figueroa/Marmion Way grade separations.

## 2.2 PROJECT DESCRIPTION

The proposed project consists of three areas of modification and addition that require analysis supplemental to the certified EIR: (1) LRT maintenance facilities, (2) station locations, and (3) grade separations. This Initial Study identifies the potential environmental impacts associated with the following variations to the project that will be included in the SEIR:

- LRT Maintenance Yard. LACTC is pursuing options for the location of light rail transit maintenance facility: (1) two separate configurations at Taylor Yard, (2) the Cornfield, and (3) an area west of the Los Angeles River between Mission Tower and the Santa Ana Freeway, referred to as the "West Bank." The certified EIR only considered a site at Taylor Yard.
  1. Taylor Yard Options. The supplemental EIR focus will be on the integration of the LRT facility with adjacent/proposed land uses, toxic soil issues, and usual and noise mitigations. Further analysis of neighborhood impacts has been requested since the certified EIR. Two variations for siting the facility will be explored. One option uses the area under LACTC ownership. The second option places the yard in a more linear configuration directly adjacent to the existing Southern Pacific facility, allowing the area adjacent to San Fernando Road to be freed up for other desired land uses. A component to the Taylor Yard options involves a "WYE" connection near Avenue 19 at the Santa Fe right-of-way, allowing in-bound trains to access the yard directly. The main connector leg between Union Station and Taylor Yard, also serving the Glendale-Burbank Line, will likely displace the old city jail and onsite city facilities (LADOT maintenance facility) located on 19th Street.
  2. Cornfield Option. The Cornfield site is a large Southern Pacific holding northeast of Chinatown. This alternative would involve using the northern portion of the site. Because this site is located south of the branch, between the Pasadena-Los Angeles and the future Glendale line, it would provide for ideal operations. The Cornfield site is immediately adjacent to the alignment, optimizing efficiency by having direct access to facilities without the need for a long yard lead. Should the Cornfield site be selected for the Light Rail Maintenance Facility, LACTC would cooperate with the City of Los Angeles to implement a joint development or joint use project on the LACTC-owned property in order to facilitate community acceptance.
  3. West Bank Option. This alternative is only effective as a short-term solution until an adequate maintenance facility can be permanently sited. The site follows the west bank of the Los Angeles River from Mission

Tower southward to U.S. 101. This area would be used for daily LRT maintenance and storage. When light rail extensions are constructed beyond Glendale and Pasadena, yard and storage needs will be located near the outlying ends of these extensions.

- Station Locations. The City of Pasadena has requested combining two stations located at Hill Street and Altadena Avenue to a "central" location at Allen Street, and two stations at Glenarm and California to a "central" location at Fillmore Avenue to serve Huntington Hospital.

In response to a request by the City of Los Angeles, LACTC is also considering a new station site on Marmion Way to serve the Southwest Museum in Mount Washington. According to preliminary studies, a station can be accommodated within the existing Santa Fe right-of-way.

- Grade Separations. Two grade separations are under consideration: (1) in the vicinity of Colorado Boulevard in the City of Pasadena and (2) at Figueroa and Marmion Way in the City of Los Angeles. Although the certified EIR did not identify the need for additional grade separations, LACTC is reexamining a few of the locations that have raised concerns.
  1. Colorado Boulevard. The City of Pasadena is requesting that environmental review be conducted for a grade separation depressed under Colorado Boulevard. Initial engineering has identified that basic feasibility is dependent on specific soil conditions, leaving little room for error.
  2. Figueroa/Marmion Way. This grade separation is being considered due to an awkward street configuration as the rail line, Figueroa, Marmion Way, and Pasadena Avenue all meet in the same general area. This separation would consist of an aerial flyover.

## 2.3 PROJECT OBJECTIVES

In addition to complying with the public mandate outlined in Proposition A, the LACTC expects to accomplish the following objectives through the previously approved transit project:

- To provide the citizens in the Pasadena-Los Angeles Corridor with a safe and efficient light rail transit system.
- To alleviate overcrowding and traffic congestion on local freeways that presently serve the region extending from Pasadena/West San Gabriel Valley to downtown Los Angeles.
- To improve transportation mobility in the Pasadena-Los Angeles Corridor.
- To connect Pasadena and the San Gabriel Valley with the regional transportation network consisting of Metro Rail, light rail, and busway facilities.

- To improve regional air quality through the reduction of vehicle trips and roadway congestion.

#### 2.4 DISCRETIONARY APPROVALS

The LACTC is responsible for providing transportation operations and facilities for the county. As the Lead Agency with regard to preparation of this Initial Study and the EIR to be prepared, LACTC will consider the information revealed in the EIR to determine the appropriate location for the maintenance facility, and station sites, as well as the appropriateness of the grade separations.

SECTION 3

ENVIRONMENTAL CHECKLIST FORM

I. Background

1. Name of Proponent: County of Los Angeles, Transportation Commission
2. Address and Phone Number of Proponent: 818 West Seventh Street, Suite 1100  
Los Angeles, California 90017  
Attn: \_\_\_\_\_  
(213) 623-1194
3. Date Checklist Submitted: June \_\_, 1992
4. Agency Requiring Checklist: County of Los Angeles
5. Name of Proposal, if applicable: Pasadena-Los Angeles Rail Transit Project

II. Environmental Impacts

(Explanations of all answers are provided in Section 4).

- | 1. Earth. Will the proposal result in:   | <u>Yes</u> | <u>Maybe</u> | <u>No</u> |
|--|------------|--------------|-----------|
| a. Unstable earth conditions or in changes in geologic substructures?  | ___        | ___          | <u>X</u>  |
| b. Disruptions, displacements, compaction or overcovering of the soil?   | <u>X</u>   | ___          | ___       |
| c. Change in topography or ground surface relief features?   | ___        | ___          | <u>X</u>  |
| d. The destruction, covering or modification of any unique geologic or physical features?  | ___        | ___          | <u>X</u>  |
| e. Any increase in wind or water erosion of soils, either on or off the site?  | ___        | ___          | <u>X</u>  |
| 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 inlet or lake? | ___        | ___          | <u>X</u>  |

|  | <u>Yes</u> | <u>Maybe</u> | <u>No</u> |
|--|------------|--------------|-----------|
| g. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards?                      | —          | <u>X</u>     | —         |
| <b>2. Air. Will the proposal result in:</b>  |            |              |           |
| a. Substantial air emissions or deterioration of ambient air quality?  | —          | <u>X</u>     | —         |
| b. The creation of objectionable odors?  | —          | —            | <u>X</u>  |
| c. Alteration of air movement, moisture, or temperature, or any change in climate, either locally or regionally?   | —          | —            | <u>X</u>  |
| <b>3. Water. Will the proposal result in:</b>  |            |              |           |
| a. Changes in currents, or the course or direction of water movements, in either marine or fresh waters?   | —          | —            | <u>X</u>  |
| b. Changes in absorption rates, drainage patterns, or the rate and amount of surface runoff?   | —          | <u>X</u>     | —         |
| c. Alterations to the course of flow of flood waters?  | —          | —            | <u>X</u>  |
| d. Change in the amount of surface water in any water body?  | —          | —            | <u>X</u>  |
| e. Discharge into surface waters, or in any alterations of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity? | —          | —            | <u>X</u>  |
| f. Alteration of the direction or rate of flow of ground waters?   | —          | —            | <u>X</u>  |
| g. Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?  | —          | —            | <u>X</u>  |
| h. Substantial reduction in the amount of water otherwise available for public water supplies?   | —          | —            | <u>X</u>  |
| i. Exposure of people or property to water related hazards such as flooding or tidal waves?  | —          | —            | <u>X</u>  |



|   | <u>Yes</u> | <u>Maybe</u> | <u>No</u> |
|---|------------|--------------|-----------|
| <b>4. Plant Life.</b> Will the proposal result in:  |            |              |           |
| a. Change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops and aquatic plants)?                                   | —          | —            | <u>X</u>  |
| b. Reduction of the number of any unique, rare or endangered species of plants?   | —          | —            | <u>X</u>  |
| c. Introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species?   | —          | —            | <u>X</u>  |
| d. Reduction in acreage of any agricultural crop?   | —          | —            | <u>X</u>  |
| <b>5. Animal Life.</b> Will the proposal result in:   |            |              |           |
| a. Change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms or insects)? | —          | —            | <u>X</u>  |
| b. Reduction of the number of any unique, rare or endangered species of animals?  | —          | —            | <u>X</u>  |
| c. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals?   | —          | —            | <u>X</u>  |
| d. Deterioration to existing fish or wildlife habitat?  | —          | —            | <u>X</u>  |
| <b>6. Noise.</b> Will the proposal result in:   |            |              |           |
| a. Increases in existing noise levels?  | —          | <u>X</u>     | —         |
| b. Exposure of people to severe noise level?  | —          | —            | <u>X</u>  |
| <b>7. Light and Glare.</b> Will the proposal produce new light and glare?   | —          | <u>X</u>     | —         |
| <b>8. Land Use.</b> Will the proposal result in a substantial alteration of the present or planned land use of an area?   | —          | <u>X</u>     | —         |
| <b>9. Natural Resources.</b> Will the proposal result in:   |            |              |           |
| a. Increase in the rate of use of any natural resources?  | —          | —            | <u>X</u>  |

|   | <u>Yes</u> | <u>Maybe</u> | <u>No</u> |
|---|------------|--------------|-----------|
| <b>10. Risk of Upset.</b> Will the proposal involve:  |            |              |           |
| a. A risk of an explosion or the release of hazardous substances (including, but not limited to, oil, pesticides, chemical or radiation) in the event of an accident or upset conditions? | —          | <u>X</u>     | —         |
| b. Possible interference with an emergency response plan or an emergency evacuation plan?   | —          | —            | <u>X</u>  |
| <b>11. Population.</b> Will the proposal alter the location, distribution, density, or growth rate of the human population of an area?  | —          | —            | <u>X</u>  |
| <b>12. Housing.</b> Will the proposal affect existing housing, or create a demand for additional housing?   | —          | —            | <u>X</u>  |
| <b>13. Transportation/Circulation.</b> Will the proposal result in:   |            |              |           |
| a. Generation of substantial additional vehicular movement?   | —          | <u>X</u>     | —         |
| b. Effects on existing parking facilities, or demand for new parking?   | <u>X</u>   | —            | —         |
| c. Substantial impact upon existing transportation systems?   | —          | <u>X</u>     | —         |
| d. Alterations to present patterns of circulation or movement of people and/or goods?   | <u>X</u>   | —            | —         |
| e. Alterations of waterborne, rail or air traffic?  | —          | —            | <u>X</u>  |
| f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians?  | —          | <u>X</u>     | —         |
| <b>14. Public Services.</b> Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas:                            |            |              |           |
| a. Fire protection?   | —          | —            | <u>X</u>  |
| b. Police protection?   | —          | —            | <u>X</u>  |
| c. Schools?   | —          | —            | <u>X</u>  |

|  | <u>Yes</u> | <u>Maybe</u> | <u>No</u> |
|--|------------|--------------|-----------|
| d. Parks or other recreational facilities?   | —          | —            | <u>X</u>  |
| e. Maintenance of public facilities, including roads?  | —          | —            | <u>X</u>  |
| f. Other governmental services?  | —          | —            | <u>X</u>  |
| <b>15. Energy.</b> Will the proposal result in:  |            |              |           |
| a. Use of substantial amounts of fuel or energy?   | —          | <u>X</u>     | —         |
| b. Substantial increase in demand upon existing sources or energy, or require the development of new sources of energy?  | —          | <u>X</u>     | —         |
| <b>16. Utilities.</b> Will the proposal result in a need for new systems, or substantial alterations to the following utilities?   |            |              |           |
| a. Power or natural gas?   | —          | <u>X</u>     | —         |
| b. Communications system?  | —          | —            | <u>X</u>  |
| c. Water?  | —          | —            | <u>X</u>  |
| d. Sewer or septic tanks?  | —          | <u>X</u>     | —         |
| e. Storm water drainage?   | —          | <u>X</u>     | —         |
| f. Solid waste and disposal?   | —          | —            | <u>X</u>  |
| <b>17. Human Health.</b> Will the proposal result in:  |            |              |           |
| a. Creation of any health hazard or potential health hazard (excluding mental health)?   | —          | <u>X</u>     | —         |
| b. Exposure of people to potential health hazards?   | —          | <u>X</u>     | —         |
| <b>18. Aesthetics.</b> Will the proposal result in the obstruction of any scenic vista or view open to the public, or will the proposal result in the creation of an aesthetically offensive site open to public view? | —          | <u>X</u>     | —         |
| <b>19. Recreation.</b> Will the proposal result in an impact upon the quality or quantity of existing recreational opportunities?  | —          | —            | <u>X</u>  |

Yes   Maybe   No

**20. Cultural Resources.**

- |    |  |   |          |          |
|----|--|---|----------|----------|
| a. | Will the proposal result in the alteration of or the destruction of a prehistoric or historic archaeological site?             | — | —        | <u>x</u> |
| b. | Will the proposal result in adverse physical or aesthetic effects to a prehistoric or historic building, structure, or object? | — | <u>x</u> | —        |
| c. | Does the proposal have the potential to cause a physical change which would affect unique ethnic cultural values?              | — | —        | <u>x</u> |
| d. | Will the proposal restrict existing religious or sacred uses within the potential impact area?                                 | — | —        | <u>x</u> |

**21. Mandatory Findings of Significance.**

- |    |   |   |          |          |
|----|---|---|----------|----------|
| a. | Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | — | —        | <u>x</u> |
| b. | Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time while long-term impacts will endure well into the future.)   | — | —        | <u>x</u> |
| c. | Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environment is significant.)  | — | <u>x</u> | —        |
| d. | Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?  | — | —        | <u>x</u> |

## SECTION 4

### DISCUSSION OF ENVIRONMENTAL EVALUATION

#### Explanation of "Yes" and "Maybe" Answers

Each of the following issue areas will be analyzed in the environmental impact report for the Pasadena-Los Angeles Rail Transit Project

1. **Earth, b.:** Yes. Construction of the proposed project would involve excavation activities for the foundations for the maintenance facilities, non-revenue connector, stations, and grade separations. Some, but not all, of the excavated soil would be used as fill material, while the excess excavated soil would be hauled offsite.  
  
**Earth, g.:** Maybe. Because the Southern California region is known to be seismically active, the project has the potential to expose people or property to seismic activities and related geologic hazards. The proposed structures will be built according to current seismic design parameters, thus, the project's potential for exposing people to seismic activities may be considered reduced.
2. **Air, a.:** Maybe. Grading and construction activities would generate short-term fugitive dust and equipment emissions. The proposed project consists of new station locations which will involve redistribution of motorists from stations identified in the previous environmental documentation. Because the project will redistribute traffic rather than increase vehicular trips, no long-term increases in air emissions are anticipated.
3. **Water, b.:** Maybe. Currently, the Taylor Yard and Cornfield sites are undeveloped so that rainfall can freely infiltrate the ground. Development of the maintenance yard site with structures such as the maintenance facility, access roads, and driveways may result in a decrease of permeable surfaces.
6. **Noise, a.:** Yes. The proposed project alternatives, notably Taylor Yard and the Cornfield would result in increases in existing noise levels. It is anticipated that proposed landscape buffers and physical set-backs would mitigate any increase in noise levels above existing levels.
7. **Light and Glare.** Maybe. The proposed project may produce new light and glare impacts at the Southwest Museum Station and the Fillmore Station, as well as at the light rail maintenance facility alternative site.
8. **Land Use:** Maybe. All sites currently or historically have had some level of railroad use, similar to a rail maintenance facility. Because of the large acreages involved, other development opportunities have been considered that may be inconsistent with an LRT maintenance facility.

10. **Risk of Upset, a.:** Maybe. The operations which have historically occupied the proposed Taylor Yard and Cornfield maintenance facility sites have employed or stored hazardous materials and substances onsite. Thus, excavation and grading activities may expose workers to risks from hazardous materials. Additionally, visitors and employees may be exposed to hazardous materials during operation of the facilities. However, LACTC will remediate the sites in accordance with the regulations and guidance of the County Department of Health Services prior to the onset of grading operations. Remedial actions will reduce the project's potential for exposing people to hazardous substances.
13. **Transportation/Circulation, a. and f.:** Maybe. The proposed project involves development of new maintenance facility and station sites instead of, and in addition to, those sites identified in the previous environmental documentation. Development will result in a redistribution of motorist rather than an increase in vehicular trips. Because the project will redistribute traffic, different arterial and intersections than those analyzed in the previous EIR will be impacted. Where no grade separations are provided, the proposed project may present a hazard to pedestrians and bicyclists while crossing the street. This includes the Fillmore and Museum stations. Construction of the stations and grade separation may result in additional congestion along arterials; however, this represents a short-term impact on traffic patterns. Where grade separations are proposed (Colorado Street; Marmion Way/Figueroa), it is anticipated that the alternatives proposed would mitigate intersection impacts identified in the previously certified EIR.
13. **Transportation/Circulation, b. through e.:** Yes. A majority of the commuters using the Pasadena-Los Angeles route will drive to the station closest to their residence and park their car. Thus, the station will need to provide an adequate amount of parking. If not enough parking is provided, commuters may park along the streets or drive to a station further away that provides adequate parking. Development of the new stations and maintenance facilities will result in a redistribution of motorists, impacting different arterials and intersections than those identified in the previous EIR.
14. **Public Services, f.:** Maybe. The project will be owned and operated by a county agency, and thus would require additional governmental services.
15. **Energy, a. and b.:** Maybe. Project development would result in the use of fuel and energy for construction equipment. The continual operation of the additional stations and maintenance facilities proposed by the project will require additional amounts of fuel and energy at the project sites. The project would be large enough to result in a substantial increase in demand upon existing local energy sources or may require the development of new energy sources.
16. **Utilities, a., d., and e.:** Maybe. Construction of the proposed stations, grade separations, and maintenance facilities (including right-of-way acquisitions) may require the relocation of power, natural gas, sewer, and storm drains facilities. This will result in a temporary impact on the provision of gas, sewer, and storm drain service. No long-term impacts are anticipated. Currently, the Taylor Yard and Cornfield sites are undeveloped so that rainfall can freely infiltrate the ground. Development of a maintenance yard will result in covering a large percentage of the land with impermeable surfaces so that rainwater runs over the ground surface into the storm drains.

17. **Human Health, a and b.:** Maybe. The proposed Taylor Yard and Cornfield maintenance facility sites have historically maintained land uses that have employed or stored hazardous materials and substances onsite. Thus, excavation and grading activities may expose workers to risks from hazardous materials. Additionally, visitors and employees may be exposed to hazardous materials during operation of the facilities. However, LACTC will remediate the sites in accordance with the regulations and guidance of the County Department of Health Services prior to the on-set of grading. Remedial actions should reduce the project's potential for exposing people to hazardous substances. Additionally, where no grade separations are provided, the proposed project may present a hazard to pedestrians and bicyclists. This includes the Fillmore, Allen, and the Southwest Museum stations.
18. **Aesthetics:** Maybe. The proposed Taylor Yard and Cornfield maintenance facility sites lie adjacent to residential uses. The facilities may be visible by offsite land uses and could be considered aesthetically offensive. However, the proposed Taylor Yard Maintenance Facility would be developed in a manner that frees previously identified onsite acreage for community oriented uses. This mitigated yard configuration would minimize the presence and effects of the LRT maintenance facility and result in a beneficial impact on land use. Should the Cornfield site be selected for the Light Rail Maintenance Facility, LACTC would cooperate with the City to implement a joint development or joint use project on the LACTC-owned property in order to facilitate community acceptance. This too would result in a beneficial impact on land use. The aerial configuration for the Figueroa/Marmion Way grade separation would result in aesthetic impacts and mitigation measures specific to station locations. These impacts are addressed in the previously certified EIR.
20. **Cultural Resources, b.:** The proposed Colorado Boulevard grade separation is located in proximity to historic buildings. Excavation activities to lay the foundation for the grade separation may pose a risk to the structural integrity of these buildings. However, the engineering feasibility studies will determine the type of foundation which will pose the least risk to these buildings. The now-defunct Lincoln Heights city jail located along 19th Avenue is identified on the Northeast Los Angeles Community Plan as a potential candidate for historical listing. Implementation of the Taylor Yard option, in connection with the Glendale-Burbank Rail Transit Project, may result in removal of this structure.
21. **Mandatory Findings of Significance, c.:** Maybe. The proposed project has the potential to degrade the quality of the environment and could have impacts that are individually limited, but cumulatively considerable. The proposed project may have a significant impact on the environment and an EIR is recommended.

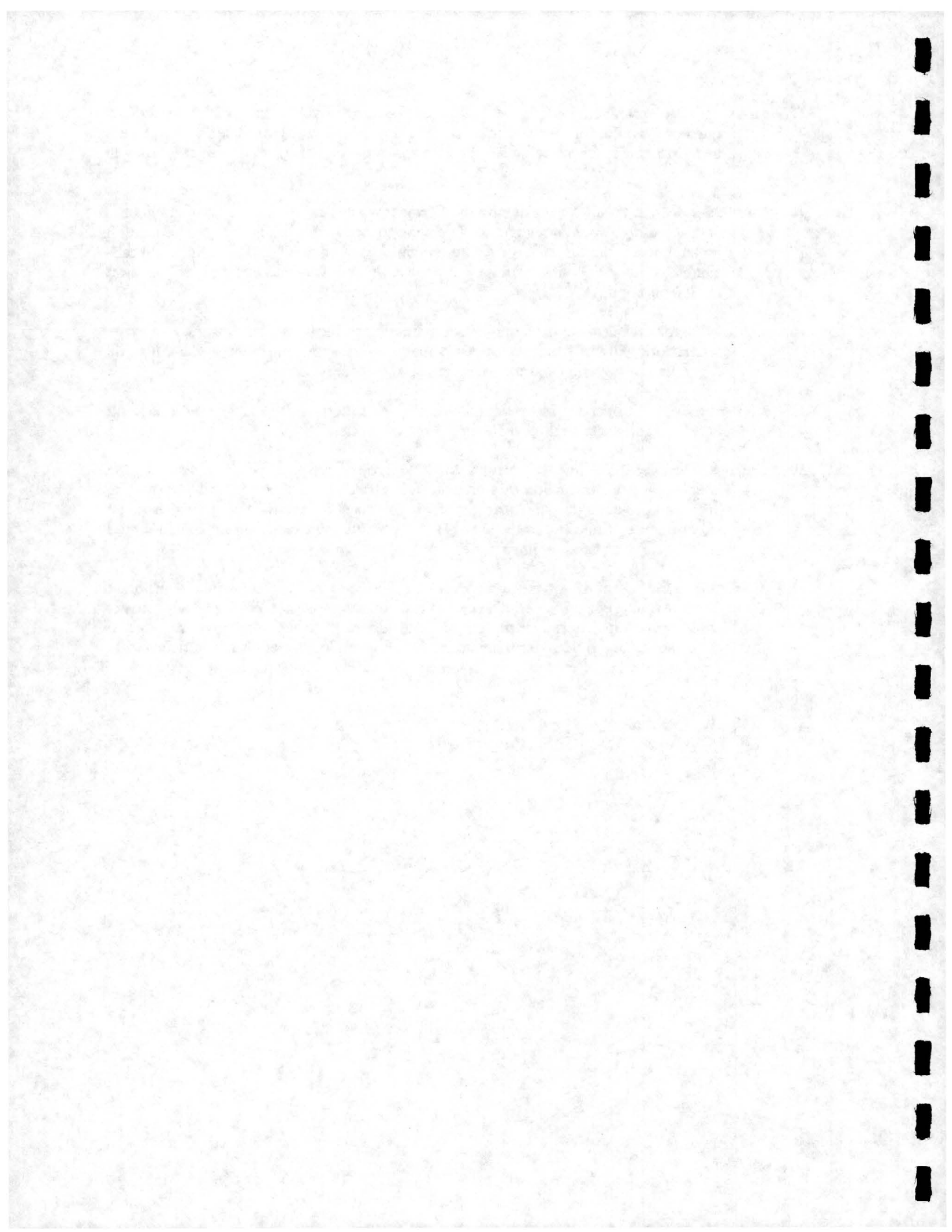
#### Explanation of "No" Answers

1. **Earth, a. and c. through f.:** There are no known unstable earth conditions at the project site and no ground surface relief features. Project development would not modify any unique features, increase wind or water erosion, or change the deposition or erosion of beach sands, rivers, or streams.
2. **Air, b. and c.:** The proposed project consists of grade separations, station locations, and maintenance facilities. These uses would not create objectionable odors, nor would the project be large enough to alter air movement, moisture, or temperature.

3. **Water, a. and c. through i.:** Although a portion of the project (Taylor Yard and the nonrevenue connector site) are located along the Los Angeles River, the project site is not located near a body of surface water and the project would not result in new groundwater wells or interception of an aquifer. Project development, therefore, would not result in changes in the amount or direction of water movements, alterations of flow of flood waters, discharge into surface water, alteration of groundwater flows or quantities, or exposure of people or property to water related hazards. The project would not result in a substantial reduction in the amount of water otherwise available for public water supplies.
4. **Plant Life, a. through d.:** The project sites are currently developed and do not maintain any vegetation onsite. Development of the proposed project would not result in a decrease in the diversity of species or number of plants; reduction in the number of unique, rare, or endangered species; or introduction of new species. Additionally, development of the sites will not result in the reduction in acreage of agricultural crop.
5. **Animal Life, a. through d.:** Because of the lack of native vegetation, there is no native habitat for animal species. Additionally, the proposed sites are surrounded by urban uses. Animals existing onsite, if any, consist of species common to urban areas, such as species of rodents and birds. Project development would not result in a decrease in the diversity of animal species, unique or endangered species, or deterioration to existing wildlife habitat. The project would not introduce new animal species into the area. There are no existing fish or wildlife habitats in the project vicinity that would be impacted by the project.
6. **Noise, a and b.:** The proposed rail transit project center would involve the movement of vehicles, trains, and pedestrians into the building. Severe noise levels are not a part of typical rail complex activities and exposure of people to severe noise levels is not anticipated. Additionally, extreme increases in noise associated with construction are not anticipated and any construction noise will be short-term. No change in the previous EIR noise and vibration analysis around the station locations is anticipated.
7. **Light and Glare:** The proposed rail stations, maintenance facilities, and grade separations would require low level night security lighting. The building materials are not expected to include reflective glass or other reflective materials and are not expected to generate additional daytime glare.
9. **Natural Resources, a.:** Project development would require the use of renewable and nonrenewable natural resources for construction and operation. However, the project is not large enough to cause an increase in the rate of use of these resources.
10. **Risk of Upset, b.:** The project would not interfere with existing emergency response plans for the area.
11. **Population:** Project development would not require the removal of any existing dwelling units. The project would not involve the construction of dwelling units and would not substantially alter the location, distribution, density, or growth rate of the human population.



12. **Housing:** Project development would not require the removal of any existing residential units and would not involve the construction of housing. Medical center employees and visitors are not expected to create a substantial demand for additional housing in the area.
14. **Public Services, a. through e.:** The proposed project would not involve residential buildings and, therefore, would not generate a demand for schools or parks. Nor would it result in an impact on the emergency system in Los Angeles County. No additional cumulative impact on fire or police service in the area is expected with project implementation.
16. **Utilities, b., c., and f.:** The development of maintenance facilities, rail stations, and grade separations will not generate a great demand on the communication system, nor will it generate a high demand for water or solid waste services.
19. **Recreation:** The proposed project would not involve residential units and would not result in a substantial demand on recreational opportunities.
20. **Cultural Resources, a., and c. through d.:** The project proposal will not result in the alteration of or destruction of a prehistoric archaeological site, nor would any of the proposed project alternatives cause a physical change in the environment which would affect unique ethnic cultural values. There are no known existing religious or sacred uses within the potential impact area.
21. **Mandatory Findings of Significance, a., b. and d.:** The proposed project would incorporate measures to reduce or eliminate environmental impacts resulting from project implementation. Therefore, the project is not expected to achieve short-term goals to the disadvantage of long-term environmental goals. The project is not anticipated to have substantial adverse effects on humans, either directly or indirectly.



**SECTION 5  
DETERMINATION**

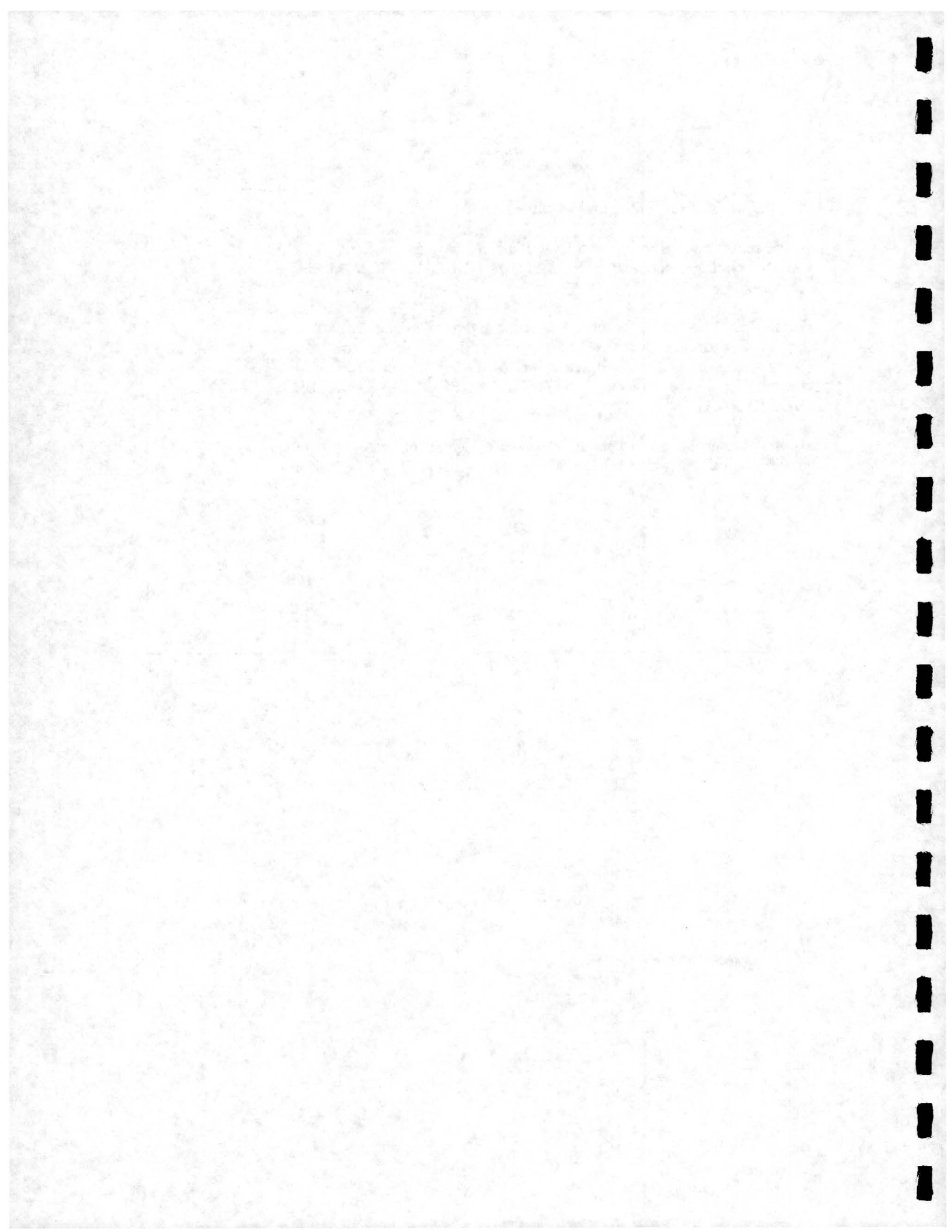
On the basis of this initial evaluation:

I find that the proposed project **COULD NOT** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared. \_\_\_\_\_

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. **A NEGATIVE DECLARATION WILL BE PREPARED.** \_\_\_\_\_

I find the proposed project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.   **x**  

\_\_\_\_\_ Date \_\_\_\_\_





818 West Seventh Street, 12th Floor • Los Angeles, California 90017-3435 ☐ (213) 236-1800 • FAX (213) 236-1825

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June 30, 1992

Art Cueto  
Los Angeles County Transportation Commission  
818 West Seventh Street, Suite 1100  
Los Angeles, CA 90017

RE: Notice of Preparation of a Draft Supplemental Environmental Impact Report for the Pasadena-Los Angeles Rail Transit Project  
SCAG CLEARINGHOUSE # LA-55844-NPR

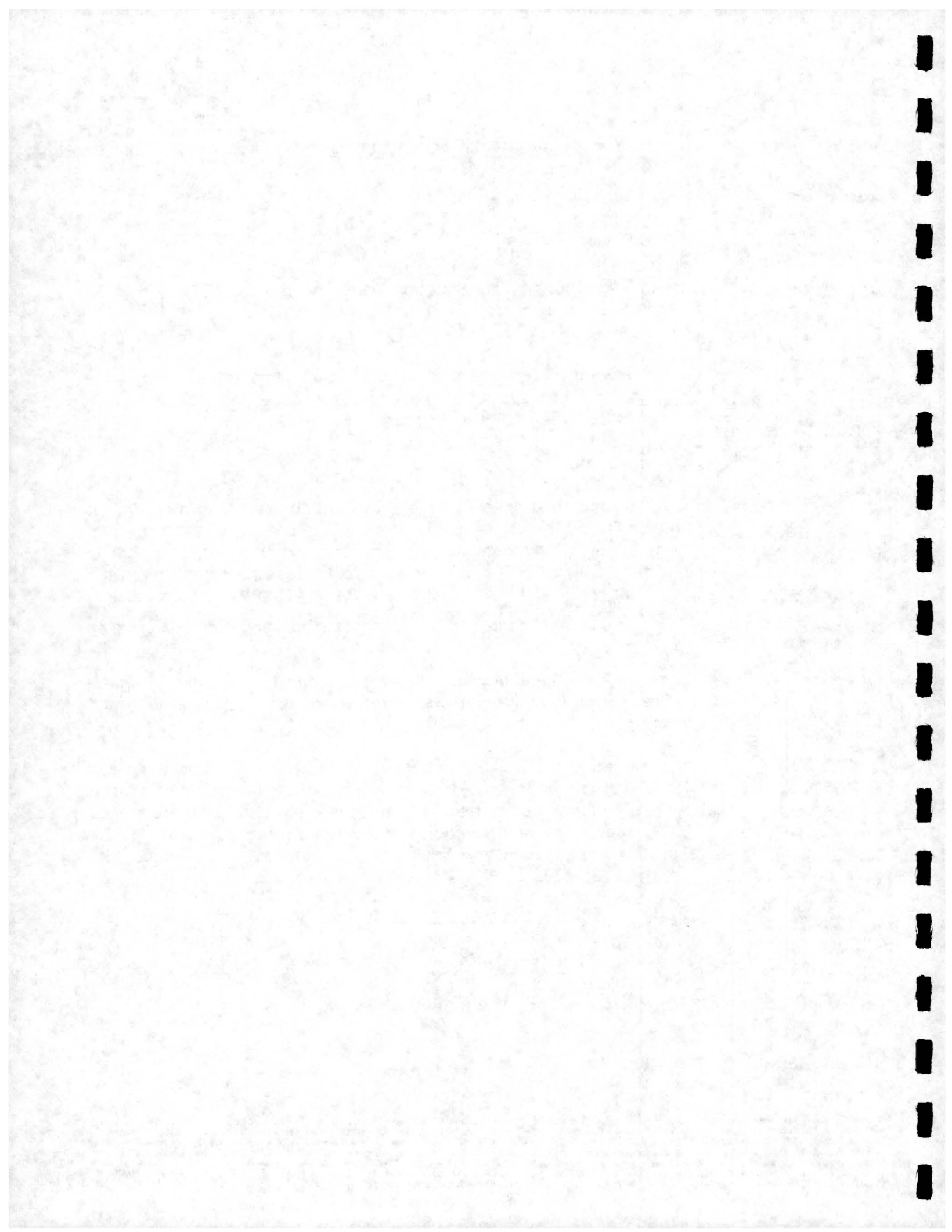
Dear Mr. Cueto:

We have concluded review of the above project and determined that it is regionally significant. Enclosed you will find a copy of our general requirements for environmental documents being prepared for regionally significant projects. The EIR should also address conformity with the South Coast Air Quality Management Plan (AQMP) using procedures included in the Guidance for Implementation of AQMP Conformity Procedures.

A description of the project will be published in the July 15 Semi-Monthly Intergovernmental Review Listing for public review and comment.

The project title and SCAG number should be used in all correspondence with SCAG concerning this project. Correspondence should be sent to the Clearinghouse Coordinator. When additional documents are sent to SCAG, please provide three copies so that the project is generated to the respective analysts. If you have any questions, please contact Mike Ouellett (213) 236-1886.

Sincerely,  
*Eric H. Roth by m.o.*  
ERIC H. ROTH  
Manager, Intergovernmental Review



**ENVIRONMENTAL DOCUMENTATION AND REVIEW  
GENERAL REQUIREMENTS  
for  
NEGATIVE DECLARATIONS, MITIGATED NEGATIVE DECLARATIONS,  
NOTICES OF PREPARATION, ENVIRONMENTAL IMPACT REPORTS, ENVIRONMENTAL  
ASSESSMENTS, AND RELATED DOCUMENTS**

The general requirements for the review of regionally significant projects are based on the disclosure of information, identification of impacts and a program for their mitigation, as required under CEQA. The requirements used presently by SCAG are revised as shown below to provide for the adoption of the Growth Management Plan, Regional Mobility Plan, and Air Quality Management Plan. (Revised November 1, 1989)

If any proposed project(s) will or could cause environmental impacts, such impacts must be consistent with the forecasts included in the Growth Management Plan and the Regional Mobility Plan (approved in February 1989) and the Air Quality Management Plan (approved in March 1989).

The relationships of the forecasts and policies mentioned above must be addressed and evaluated wherever applicable. Therefore, all of the documents listed above and other such studies and reports should address the issues below. (Not all issues will apply to every project.)

1. What are the impacts of the proposed project on population, employment, and housing? Give the growth forecast for each phase of the project, if phased.
2. Are the growth management goals and policies complied with?
3. Are the Jobs/Housing Balance performance goals being met?
4. Is housing availability discussed in terms of the income and wage levels of the local workforce?
5. What will be the cumulative impacts of the project in the subregion? How is this related to the Growth Management Plan forecast at the expected date of project completion or phase completion?
6. Are the provisions of the Air Quality Management Plan implemented at the local level and within the subregion? What are the air quality impacts of the projects? Are they being addressed?
7. For any project with transportation corridor-level impacts, what are the long-term impacts?
8. What assumptions are used in estimating the total trips generated by the project?
9. What are the related vehicular emissions?

10. What is the annual impact on total trips generated by this project?
11. Discuss the transportation demand management program chosen for the project. Will mass transit, ridesharing, and other trip-reduction strategies be promoted? Quantify the effects of each component of these programs. Provide an implementation schedule for each component. Identify the person or agency responsible for monitoring and administering the program. Who will operate the program? How will the program be funded?
12. Does the project impact a highway, either directly or indirectly? Does it include a highway in a mitigation measure? If so:  
The document must state where the project includes High Occupancy Vehicles (HOV), transitway, and/or mixed-flow improvements;  
It must state how mitigation measures will promote the use of HOVs, transitway, and/or mixed-flow improvement;  
It must state whether the highway improvement is included in the Caltrans District Service Management Plan.
13. Transportation improvements/projects must adhere to the following criteria:  
The impact of the overall project on air quality in the long term must be analyzed on a transportation corridor level, even if the project is phased or incrementally developed. The impact of the project on air quality must be compared with the impacts of the project alternatives, on a transportation corridor level. The alternatives must also be compared with each other.  
The demand management strategies, HOV improvements, and transit are required to be evaluated as alternatives (and as mitigation measures if necessary.)
14. **ALL PROJECTS MUST STATE THE FOLLOWING:**
- Whether they are included in the Regional Transportation Improvement Program;
  - Whether they are consistent with local planning documents;
  - Whether they are identified as constrained or unconstrained in the Regional Mobility Plan;
  - Whether they are consistent with the specific policy elements of the Regional Mobility Plan, Section IV.
15. What are the impacts (if any) of the project on:  
Water,  
Wastewater treatment,  
Solid and hazardous waste,  
Energy,  
School facilities?

Environmental documents will be reviewed by SCAG at the appropriate time within the public review period, or under public hearing procedures.

Please send three copies of the documents when they are ready for distribution.

**FOR ADDITIONAL INFORMATION, PLEASE CALL  
THE SCAG CLEARINGHOUSE  
(213) 236-1800**



On your slowest days and/or slowest times of the day (night time events) you could allocate a number of cars up to the Bowl (run the line up the

Mr. Art Cueto  
LA County Trans Comm  
818 West 7th St #1100  
Los Angeles CA 90017

222145

RE: Pasadena LRT -- Full Support of LACTC

Dear Mr. Cueto:

I write in response to the LACTC's efforts to complete a line into Pasadena. As shown on a map titled "Pasadena Light Rail Transit Project" (supplemental environmental impact report) I fully support efforts towards completion of this line:

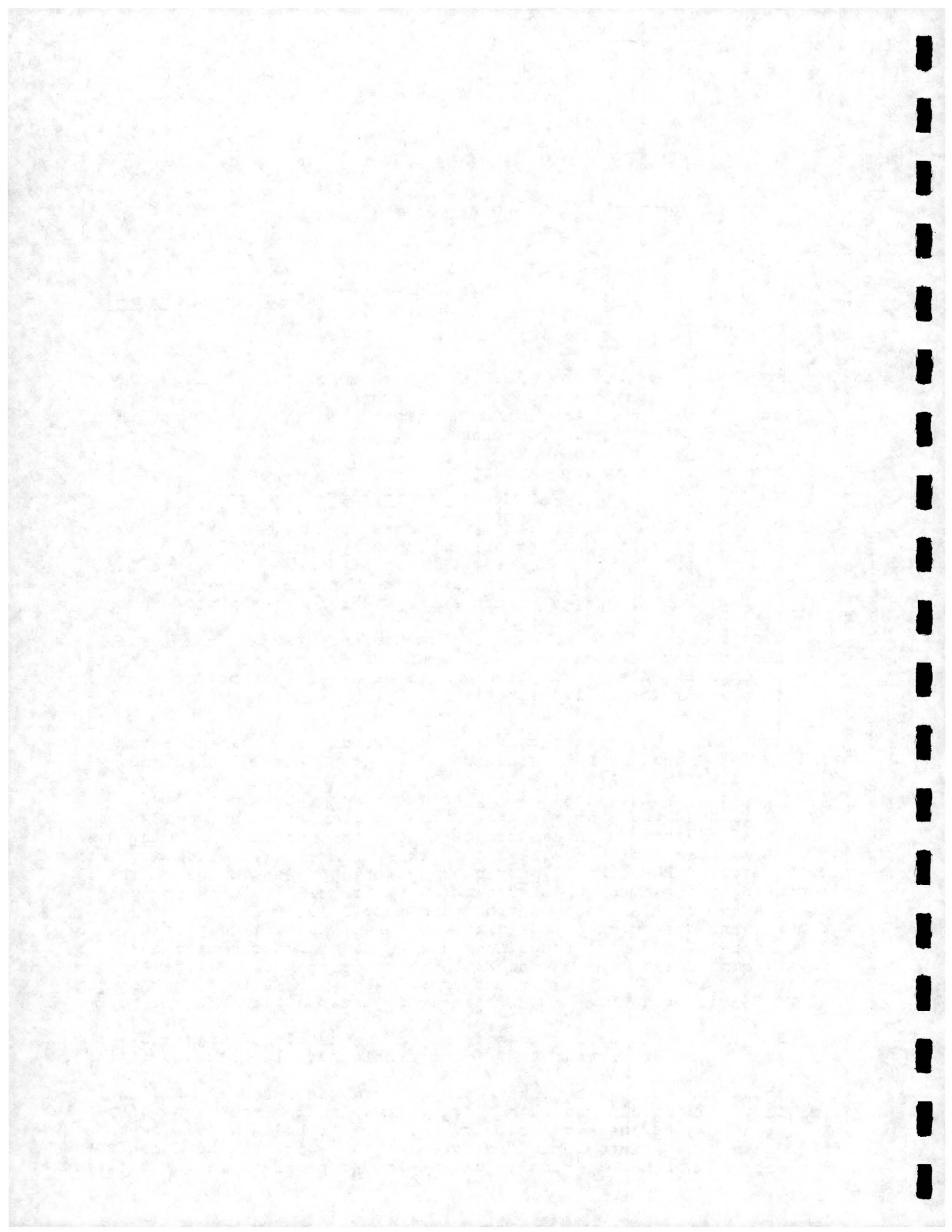
- 1) reduce pollution from autos
- 2) provide more reliable and quicker access to downtown LA
- 3) in lightening local traffic, will provide for more efficient police, fire and ambulatory services in the West SGV
- 4) utilize presently unused trackage highly underutilized
- 5) reduce congestion in downtown LA simultaneously (provided DASH and other forms of public transportation run frequently, i.e., subway lines using a common subway vehicle to minimize change of vehicles for users)
- 6) create a regional "hub" where the present Pasadena train station is so that citizens can "park and ride"; the present train station sits idle and is highly underutilized (except for two Amtrak trains daily, sometimes!)

Also, the line's present terminus is not good. Arcadia residents would greatly benefit by a small cost to extend the LRT into the ex-Santa Fe station in Arcadia with its plentiful capabilities for parking. Not only would these highly affluent people get behind your efforts to push the line through to its completion, they would be BIG users and provide an eastern terminus that would allow many users of the East San Gabriel Valley to "park and ride" without coming into the traffic of Pasadena (I suspect many would prefer to go to Arcadia -- missing the jammed up Interstate 210 / Foothill Freeway through Pasadena -- but also to avoid the jammed up I-10 or SB Fwy's daily grind). The present terminus makes no sense, has little parking without crossing a major thoroughfare (not to mention purloining space in private commercial lots of the Foothill shopping malls). The Arcadia station has loads of room without crossing busy streets to get on the LRT. Space is available and comparatively cheap in Arcadia for your needs.

This LRT line would also be a godsend to the people of Highland Park and Lincoln Heights areas. These good people have been long suffering!

I do think you'd be wise to have a spur track into Dodger Stadium. At a minimum, you should have a moving stairway so the thousands of people who attend events there can come by LRT. Don't build a "pie-in-the-sky" that doesn't take into account citizen needs -- forget LACTC needs in this regard (not being "rude", just saying your market is the citizenry).

*Handwritten signature/initials*



41

**T.A. NELSON, P.E.**  
**CONSULTING ENGINEER**  
**TRANSPORTATION CONSULTANT**

2563 Dearborn Dr., Los Angeles, CA 90068 (213) 462-5500

223379

July 17, 1992

Art Oseto  
L. A. County Transp. Commission  
818 West 7th Street  
Los Angeles, CA 90017

Dear Mr. Oseto:

The Preliminary Study toward preparation of a Supplemental Environmental Impact Report for the Pasadena - L. A. Rail Transit Project provides a reasonable evaluation of the environmental considerations. However, in the Section 3 checklist, Item 6a, Noise is marked "Maybe," but the explanation in Section 4 is for a "Yes." Relevant to Taylor Yard, the "Maybe" would be more accurate.

As you know, the area encompassing Taylor Yard has historically been the scene of railroad operations, including a classification yard with diesel switchers revving their engines, cars banging into each other, and trains passing. Freight and passenger trains still travel through the area, and this traffic will increase as more Amtrak trains are added and Metrolink service begins. This, plus the noise of constant vehicle traffic on San Fernando Road, would surely be louder than any possible sound from an LRT maintenance facility. The higher-scale sound-producing LRT activities most likely would be contained within a shop building. A wall and shrubs along San Fernando Road would further reduce the sound level from rail sources, probably to less than the street traffic noise.

From the standpoint of highest and best use of property, it would appear that the "Cornfield," due to its more central location, would be better reserved to development for other than rail yard use. The West Bank site seems poorly situated and limited in space. To access it, LRT cars would be required to cross several railroad tracks leading into Union Station, or a flyover would have to be built.

Placing a station at the Southwest Museum is most appropriate as a ridership generator. The proposal is especially welcome, considering the tragic bypassing of Hollywood Bowl by the Red Line.

Unfortunately, the routing of the LRT line in Pasadena, as chosen by that

**T.A. NELSON, P.E.**  
**CONSULTING ENGINEER**  
**TRANSPORTATION CONSULTANT**

2563 Dearborn Dr., Los Angeles, CA 90088 (213) 462-5500

(page 2, Pasadena - L. A., 7-17-92)

city's local officials, is not compatible with the shopping environment of the commercial district, because LRT will not offer easy access to it. Not one proposed station is within a block of Colorado Blvd. Surface LRT lines in other cities go right into the heart of downtown shopping areas, e.g., San Diego, Long Beach, San Jose, Sacramento, Portland, and Calgary. Although the route crosses Colorado, no station is to be there, perhaps due to insufficient right-of-way width, but surely one could have been sited no more than a block away. Thus, why ride LRT to or within Pasadena when convenient automobile parking is available at the stores?

Sincerely,

*T. A. Nelson*

C. SAN ROSALES AND TEAM - A.C.T.C / R.C.C.

The perspective of boosting  
REVENUE IN SERVICE AND MORE IMPORTANTLY  
THE VALUE OF MOBILITY FOR PEOPLE AND AND USE  
WITH PUBLIC TRANSPORTATION IN EFFORT TO  
WORK A BALANCE OF SITUATION IS TO USE  
THE PRESENT AND ADJUSTABLE <sup>66</sup> VALLEY  
BOULEVARD - MAIN STREET - SAN FERNANDO ROAD -  
EAGLE ROCK BOULEVARD - GLENDALE 2  
CORRIDOR PORTIONS WHICH WILL OFFER  
POTENTIAL CONNECTION FOR EITHER AVENUE 57  
BLUE LINE STATION OR CHINA TOWN BLUE LINE  
STATION TO BE A TRANSFER POINT! THIS  
POSSIBLE ALTHOUGH AMBRA OR EL MONTE TO THE  
NORTH GLENDALE / MONTROSE / LA CANADA / FLINTRIDGE  
AND LA CRESCENT A REGION CAN WORK ALSO  
LINKING CONNECTION WITH THE TRI CITIES  
RAIL ROUTING FOR TRANSFER IN ADDITION  
TO THE BLUE LINE - MISS ROSALES 1/11/11

yes, metrolink would also link into  
it possibly at Glendale station  
which can be a branch connection  
from the proposed El Monte or Alhambra  
to LA Crescenta/LA Canada/Flintbridge Area line!  
Another metrolink station would be the  
Los Angeles Union Station linkable from  
this rail line! The El Monte station  
would work better than the Baldwin Park  
station!

This line would not have to connect  
to the SANTA FE RAIL diagonal that  
branches from 210/Huntington DRIVE to  
SANTA FE Springs/Los Nietos where the  
MAIN line lies north from its Losan  
Corridor! THAT would be a further  
extension, *miss Rashed!!*

Otherwise, the proposed line  
could be split from the blue line.

from it whether at Chinatown, Avenue 57  
or the Union Station development area!  
The Chinatown: College/Spring Street Station  
vicinity is a developmental area of  
environment linkable to Union Station,  
Chinatown North Los Angeles Area developable area  
even Cornfield property! Does EL Monte truly  
now need that Airport property <sup>Reserve</sup> <sub>And</sub>  
Home?

Then, Inc. MAY interest the joint  
development team AND Smart-Street  
TEAM! It is definitely worth studying  
the application! Yes, trees AND landscape must  
be included!

Steffen REED

Send a copy of the notice of preparation  
AND a copy of the draft initial study (prelim)  
including the extension list

6/30/92

2:25

Ref: Pasadena Light Rail Transit project

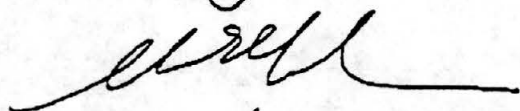
220094

Dear Susan Rosclas,

According to NOP and SEIR or EIR on dated 6/26/92 letter. I would like to recommend you to choose the site along the west bank of Los Angeles River on Macy / Union stations because the existing facilities. Cornfield should be reserved for Los Angeles Unified School District, this will make light rail transit more profitable. Chinatown needs more business to survive, not a rail station. Your station here can't bring in more than 100 jobs, and more business in Chinatown. In my personal opinion, you will destroy wonderful Chinatown if the station is here at Cornfield.

Your favorable consideration will be deeply appreciated.

Sincerely yours,



Tom Yeh  
president

**Osemand Realty**

935 N. Main St.  
Los Angeles, CA 90012  
Tel: 725.0722 617.7152





# CITY OF SOUTH PASADENA

1414 Mission Street • South Pasadena • California 91030 • 799-9101

221566

July 14, 1992

Mr. Art Cueto  
Los Angeles County Transportation Commission  
818 West 7th Street, Suite 1100  
Los Angeles, CA 90017

Dear Mr. Cueto:

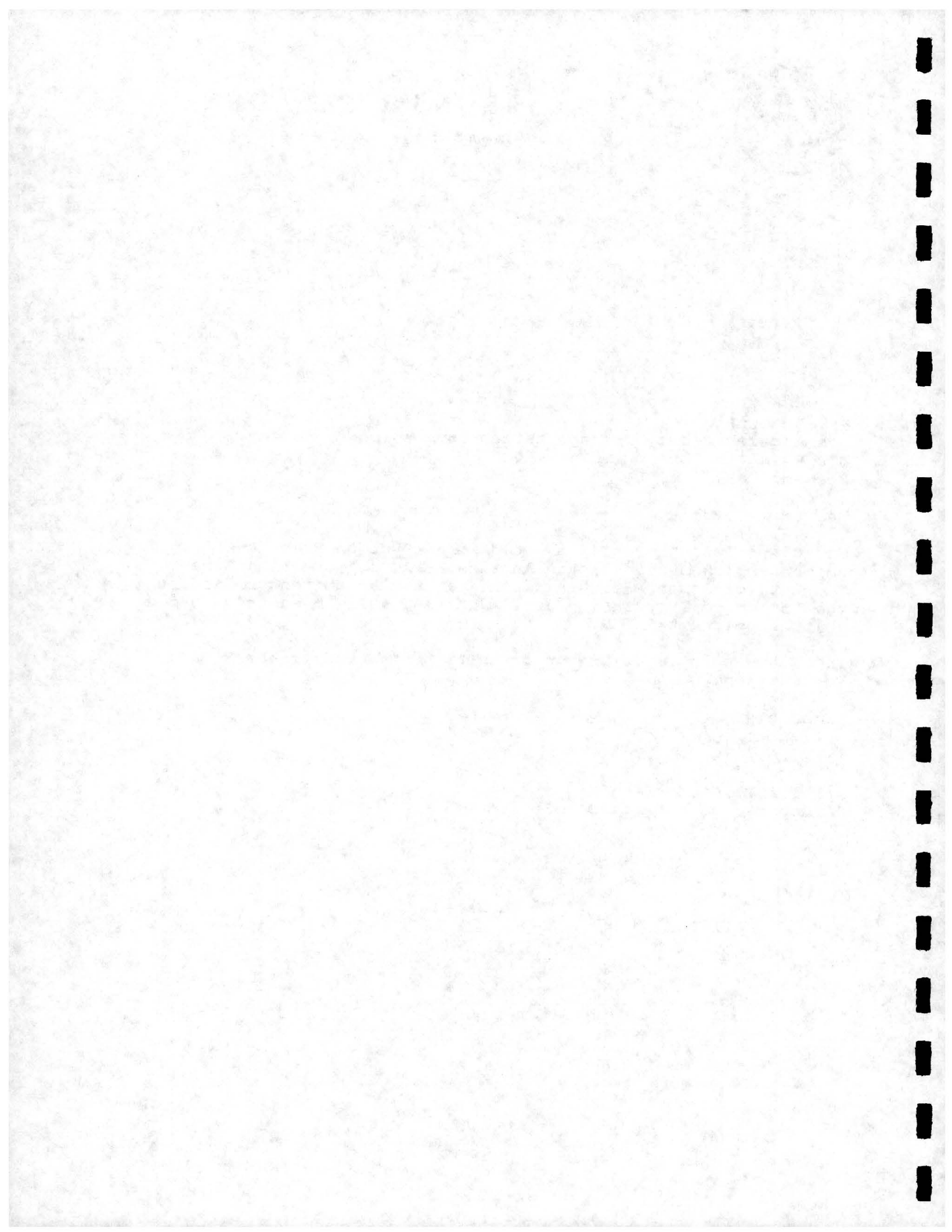
The City of South Pasadena would like to go on record as supporting the Pasadena/Los Angeles Rail project (Blue Line). The City of South Pasadena has no particular comment regarding the Notice of Preparation dated June 14, 1992 in regards to the draft supplemental EIR.

The City appreciates the opportunity to respond to the Notice of Preparation.

Sincerely,

William F. Campbell  
Director of Community Development

sk



EX341

6/30/92

2:25

Ref: Pasadena Light Rail Transit project

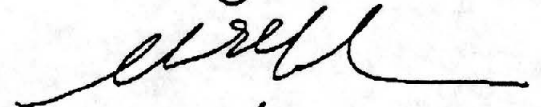
22009.1

Dear Susan Rosclas,

According to NOP and SEIR or EIR on dated 6/26/92 letter. I would like to recommend you to choose the site along the west bank of Los Angeles River on Macy / Union stations because the existing facilities. Cornfield should be reserved for Los Angeles Unified School District. This will make light rail transit more profitable. Chinatown needs more business to survive, not a rail station. Your station here can't bring in more than 100 jobs, and more business in Chinatown. In my personal opinion, you will destroy Wonderful Chinatown if the station is here at Cornfield.

Your favorable consideration will be deeply appreciated.

Sincerely yours,

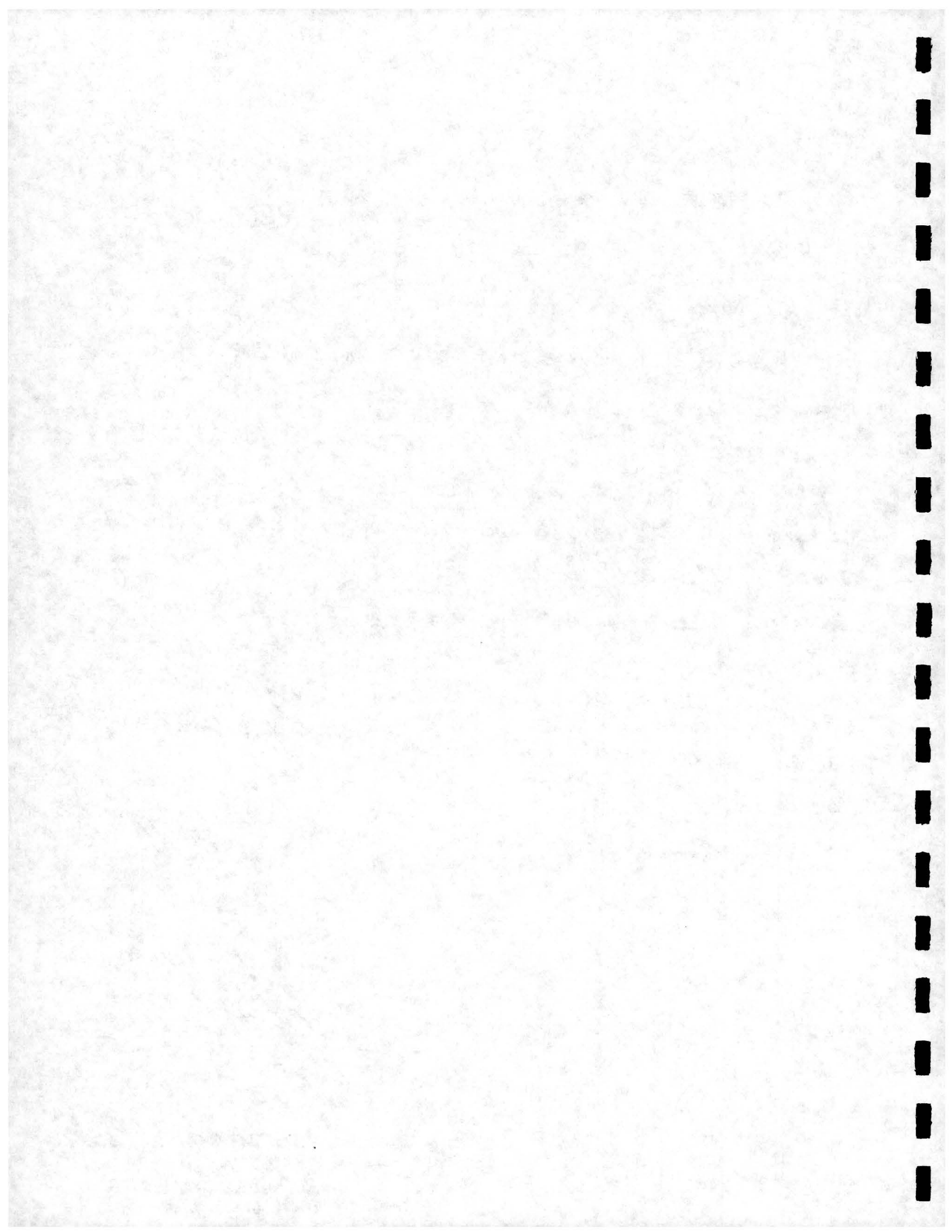

Tom Yeh  
president

Osem and Realty

935 N. Main St

Los Angeles, CA 90012

Tel: 725-0722 617-7452



**CITY OF LOS ANGELES**  
CALIFORNIA

**BOARD OF PUBLIC WORKS  
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**TOM BRADLEY**  
MAYOR

DEPARTMENT OF  
PUBLIC WORKS  
BUREAU OF  
ENGINEERING  
ROBERT S. MORE  
CITY ENGINEER  
ROOM 900, CITY HALL  
LOS ANGELES, CA 90012

Date: JUL 22 1992

Susan Rosales, Director  
San Gabriel Valley Area  
Los Angeles County Transportation  
Commission  
818 West Seventh Street, Suite 1100  
Los Angeles, California 90017

ATTN: Art Cueto

Ms. Rosales:

**REVIEW OF THE NOTICE OF PREPARATION OF THE DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT FOR THE PASADENA - LOS ANGELES RAIL TRANSIT PROJECT**

Thank you for the opportunity to comment on the draft Supplemental Environmental Impact Report (SEIR). With regard to the analysis of the LRT Maintenance Yard alternatives, the City of Los Angeles, Police Bond Program is also considering the Taylor Yard as a potential location for its Police Academy and Driver Training Facilities. If the Taylor Yard is chosen by the Police Bond Program and your project, and/or the Burbank - Glendale - Los Angeles Rail Transit Project is located at Taylor Yard, then close coordination needs to occur between LACTC and the city's Bureau of Engineering. The draft SEIR should also address the impacts of the worst case scenario of all three projects previously mentioned sharing the Taylor Yard. Besides the City of Los Angeles, the Cornfield option might also be coordinated with the Los Angeles Unified School District, which has previously showed interest in the site. As far as the West Bank option, address any potential impacts to AMTRAK/Santa Fe operations, especially with the new Metrolink activity planned for the same area in the near future.

With regards to any aerial structures, the draft SEIR should discuss any potential impacts of the structure on adjacent roadway and sidewalks. Will the columns holding the structure hinder future widening of the adjoining roadway? Will the columns impact the adjoining sidewalk capacity or usefulness (i.e. handicapped access)?

ADDRESS ALL COMMUNICATIONS TO THE CITY ENGINEER

AN EQUAL EMPLOYMENT OPPORTUNITY - AFFIRMATIVE ACTION EMPLOYER

Also, the draft SBIR should discuss the concerns raised that brought about the proposed changes. Are the new station locations superior in any way to those previously cleared?

If you have any questions, please contact Dorothy Meyer at (213) 485-6556.

Sincerely,

ROBERT S. HORII  
City Engineer

By

*Andres Santamaria*

ANDRES SANTAMARIA  
Division Engineer  
Project Management Division

100



MICROFILMED  
COPY IN RMC

222526

Pasadena Heritage

U.S. G.P.O.

FBI JUL 22 1992

20 July 1992

Mr. Art Cueto  
Los Angeles County Transportation Commission  
818 West Seventh Street--Suite 1100  
Los Angeles, California 90017

RE: Draft Supplemental Environmental Impact Report (SEIR)  
Pasadena--Los Angeles Rail Transit Project

Dear Mr. Cueto:

I am writing on behalf of the Board of Pasadena Heritage regarding the SEIR for the proposed light rail project between Pasadena and Los Angeles.

We wish to raise several issues that we believe should be explored in the SEIR:

#### **Grade Separation in Pasadena**

Pasadena Heritage, a historic preservation organization, nominated many buildings in Old Pasadena now listed on the National Register of Historic Places. A number of historic buildings line the proposed light rail track especially in the areas between Del Mar Boulevard and Walnut Street. We respectfully request that the SEIR consider the impacts of the light rail project on these National Register buildings--both during the construction period and when the trains are in operation.

How will the buildings adjacent to the tracks be shored during construction? Will the vibrations of the operating trains cause any damage to the old masonry buildings? Of special concern are the two historic masonry buildings that border both sides of the track on the south side of Holly Street.

#### **Proposed Station at Allen Street**

It would be helpful to Pasadena residents if the impacts of the light rail stations are explored in some detail. The City Council has discussed possible station locations at Allen, Sierra Bonita or Altadena Avenues. It is important that the impacts of a light rail station in each of

these neighborhoods be explored in detail for both the City Council and the Neighborhood Associations to review.

Pasadena Heritage appreciates the opportunity to comment on the light rail project. When the DSEIR is available, would you please send a copy to Pasadena Heritage.

We thank you for your kind assistance.

Sincerely,

*Claire W. Bogaard*

Claire W. Bogaard  
Executive Director





222395 L.A. 3710  
1552 JUN 30 12 00

# SAVE OUR SOUTHWEST MUSEUM

POST OFFICE BOX 42894 • LOS ANGELES, CA • 90050

July 15, 1992  
Susan Rosales, Director  
L.A.C.T.C. San Gabriel Valley  
818 West Seventh St. Suite 1100  
Los Angeles, Ca 90017

Re: Inclusion of a station site at the Southwest Museum

Dear Ms. Rosales:

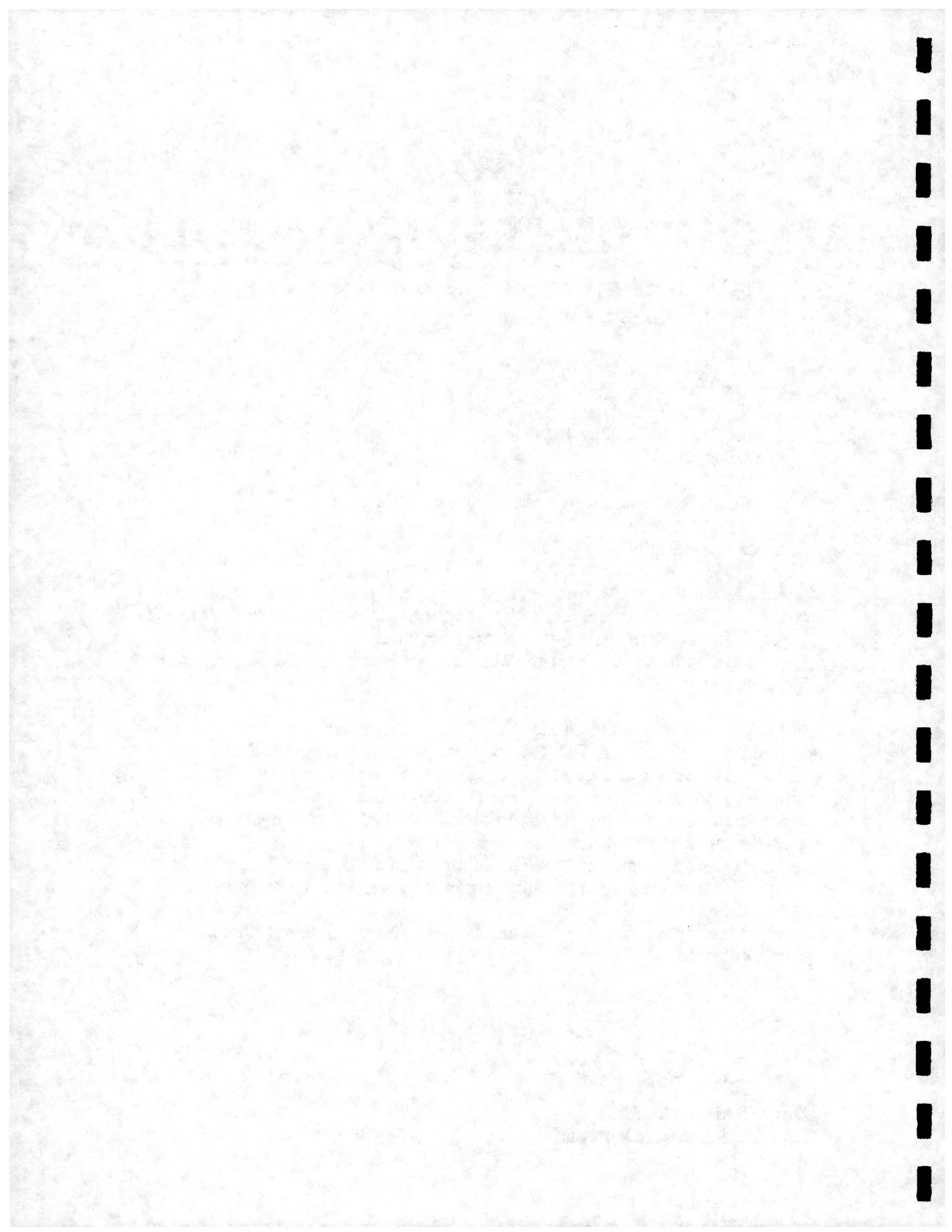
We are a coalition of community groups, political representatives, and concerned individuals seeking to support the Southwest Museum in many of its goals, including increased attendance. For many years now we have asked for a light rail station at the Museum, and are pleased to see one included in the SEIR.

Our comments on the station have not changed, and ample correspondence should be on file on this. The Southwest Museum is currently a City Historical landmark and is being proposed for National Registry. It is a very visually prominent and distinct piece of architecture. It would be appropriate to design this station to complement or reflect the Mission style architecture of the Museum. In addition we would like to suggest a diorama or display space be included. We are not certain if this comes under the art budget or other agency, and would appreciate your direction on this.

Please consider our request, and thank you for including this station in the proposed route.

Sincerely,

Louise Padden, Co-Chair  
Save Our Southwest Museum



S.E. (ED) ROWE  
GENERAL MANAGER

# CITY OF LOS ANGELES

CALIFORNIA



TOM BRADLEY  
MAYOR

DEPARTMENT OF  
TRANSPORTATION  
ROOM 1200, CITY HALL  
LOS ANGELES, CA 90012  
(213) 485-2265  
FAX (213) 237-0960

July 27, 1992

Mr. Art Cueto  
San Gabriel Valley Area Team  
Los Angeles County Transportation Commission  
818 West Seventh Street, Suite 1100  
Los Angeles, CA 90017

## NOTICE OF PREPARATION OF A DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT (DSEIR) FOR THE PASADENA-LOS ANGELES LIGHT RAIL LINE

The City of Los Angeles Department of Transportation (LADOT) has reviewed the Initial Study for the Pasadena-Los Angeles Rail Transit Project leading to preparation of the DSEIR. The following comments are submitted for your consideration.

The Department fully supports LACTC's consideration of the need for a railroad grade separation for the intersection of Figueroa Street, Marmion Way, and Pasadena Avenue. In LADOT's previous response for the environmental impact reports, we pointed out the long-term access and safety concerns in addition to capacity concern with an at-grade rail operation at this intersection. In determining if a grade separation is justified, the only known analysis performed was the consultant's capacity study, which did not adequately address these concerns. Furthermore, LACTC's response to LADOT's comment on the grade separation (Page 3-21 of the Final EIR) indicated that traffic impact could be mitigated without grade separation, but failed to identify any specific mitigation measures for review.

Now that the opportunity is given to conduct a more comprehensive and thorough study for the grade separation, we believe that the following recommendations should be noted:

- o Any analysis performed should consider the overall impact on both crossings, across the intersection of Figueroa Street, Marmion Way, and Pasadena Avenue, and across Pasadena Avenue.
- o Re-calculate the level-of-service using the most current data, including updated traffic volume counts, intersection geometry, and traffic signal control. The latest proposed definition of "significant traffic impact" by LADOT, which is currently under review for adoption, is defined as:

| FINAL V/C RATIO | PROJECT-RELATED INCREASE IN V/C |
|-----------------|---------------------------------|
| 0.00 - 0.70     | equal to or greater than 0.06   |
| 0.71 - 0.80     | equal to or greater than 0.04   |
| 0.81 - 0.90     | equal to or greater than 0.02   |
| 0.91 or greater | equal to or greater than 0.01   |

July 27, 1992

- o Assess impact on safety arising from potential conflicts between pedestrians, vehicles, and trains, through this complex six-legged intersection, assuming an at-grade operation and the ultimate train frequency expected when service expands for increased ridership.
- o Conduct a vehicle queue length storage analysis on the approaches to both crossings at the intersection and at Pasadena Avenue, with an at-grade operation.
- o Although the warrant for constructing a grade separation should not be tied to the location of the Figueroa/Marmion Way Station, the result of having the grade separation may also necessitate reconsideration of the station location. Therefore, the DSEIR should include a discussion of this station.

If we can be of any assistance or if additional information is needed, please do not hesitate to call Joseph Kennedy or the Rail Transit Division staff at (213) 485-3039.

*S. E. Rowe*

S.E. Rowe  
General Manager

JMO/JAK/PC:pc  
PASNOP.LT1

cc: Councilman Mike Hernandez, First District  
Councilman Richard Alatorre, Fourteenth District  
Linda Waade, Mayor's Office  
Keith Comrie, Chief Administrative Officer  
William McCarley, City Legislative Analyst  
Melanie Fallon, Department of Planning  
Robert Horii, Bureau of Engineering  
Dave Simpson, RCC

STATE OF CALIFORNIA—BUSINESS AND TRANSPORTATION AGENCY

PETE WILSON, Governor

## DEPARTMENT OF TRANSPORTATION

DISTRICT 7, 120 SO. SPRING ST.  
LOS ANGELES, CA 90012-3606  
TDD (213) 897-6610

July 27, 1992

LACTC  
IGR/CEQA/NOP  
PASADENA-LOS ANGELES RAIL  
TRANSIT PROJECT  
Vic LA-VARIOUS  
SCH # 92071005Ms. Susan Rosales  
Los Angeles County Transportation Commission  
818 West Covina Street, Suite 1100  
Los Angeles, CA 90017

Dear Ms. Rosales:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above-referenced NOP. Based on the information received, we have the following comments:

We suggest that any impact to State facilities (Freeways, Highways) should be discussed and submitted well in advance of the DEIR to this office. This can be done by means of a brief summary report and/or traffic study, either of which address the following information:

- a) Level of service before and after development.
- b) Traffic impacts on Golden State Freeway (I-5), Pasadena Freeway (SR-2), Foothill Freeway (SR-210), Ventura Freeway (SR-134), and all significantly affected streets, crossroads and controlling intersections, as well as an analysis of existing and future conditions on mainline Freeways (I-5), (SR-2), (SR-210), and (SR-134).
- c) Traffic generation (AM and PM peak hour); distribution; and assignments.
- d) Future conditions which includes both project and project + cumulative traffic generated.
- e) Traffic mitigation, if any, to be proposed.

The environmental document should address park-and-ride needs to prevent parking overflow into surrounding neighborhoods and to encourage patronage at all stations.

We recommend the preparation of a cost-benefit analysis and include the highway network as part of the study.

Ms. Susan Rosales  
Page Two  
July 27, 1992

The LRT line crosses our freeways at four separate locations, once at the Golden State and three times at the Pasadena Freeway. It also parallels the Foothill and Pasadena Freeways. We are concerned about the proximity of LRT grade crossings at local streets, as well as, relocation of streets and driveways near Freeway ramps and intersections.

Caltrans will be a responsible agency when issuing encroachment permits for any work proposed within the right-of-way of Routes 5, 2, 210, 134.

Thank you for this opportunity to comment. If you have any questions regarding these comments, please call me at (213) 897-1338.

Sincerely,

*Wilford Melton*  
WILFORD MELTON  
IGR\CEQA Coordinator  
Advance Planning Branch

cc: State Clearinghouse

ab/7037

# City of Pasadena

100 NORTH GARFIELD AVENUE  
P.O. BOX 7115, PASADENA, CA 91109-7215



ZONING AND SUBDIVISION  
ADMINISTRATION  
ROOM 102

July 27, 1992

Mr. Art Cueto  
Los Angeles County Transportation Commission  
San Gabriel Valley Area  
818 West Seventh St. Suite 1100  
Los Angeles, California 90017

Dear Mr. Cueto:

Thank you for the opportunity to comment on the Notice of Preparation (NOP) for a Supplementary Environmental Impact Report (SEIR) on the Pasadena-Los Angeles Rail Transit Project.

The City of Pasadena is in the midst of revising both the Land Use and the Mobility Elements of its General Plan. The SEIR in evaluating the land use, transportation/circulation and housing impacts of the Pasadena stations should use the interim General Plan land use element. This interim element will be adopted by the City Council in September, when a time extension on the General Plan is approved by the Council. This element will be the interim land use regulations during the extension. It will be released to the public August 3, 1992 and will be heard by the Planning Commission on August 12, 1992.

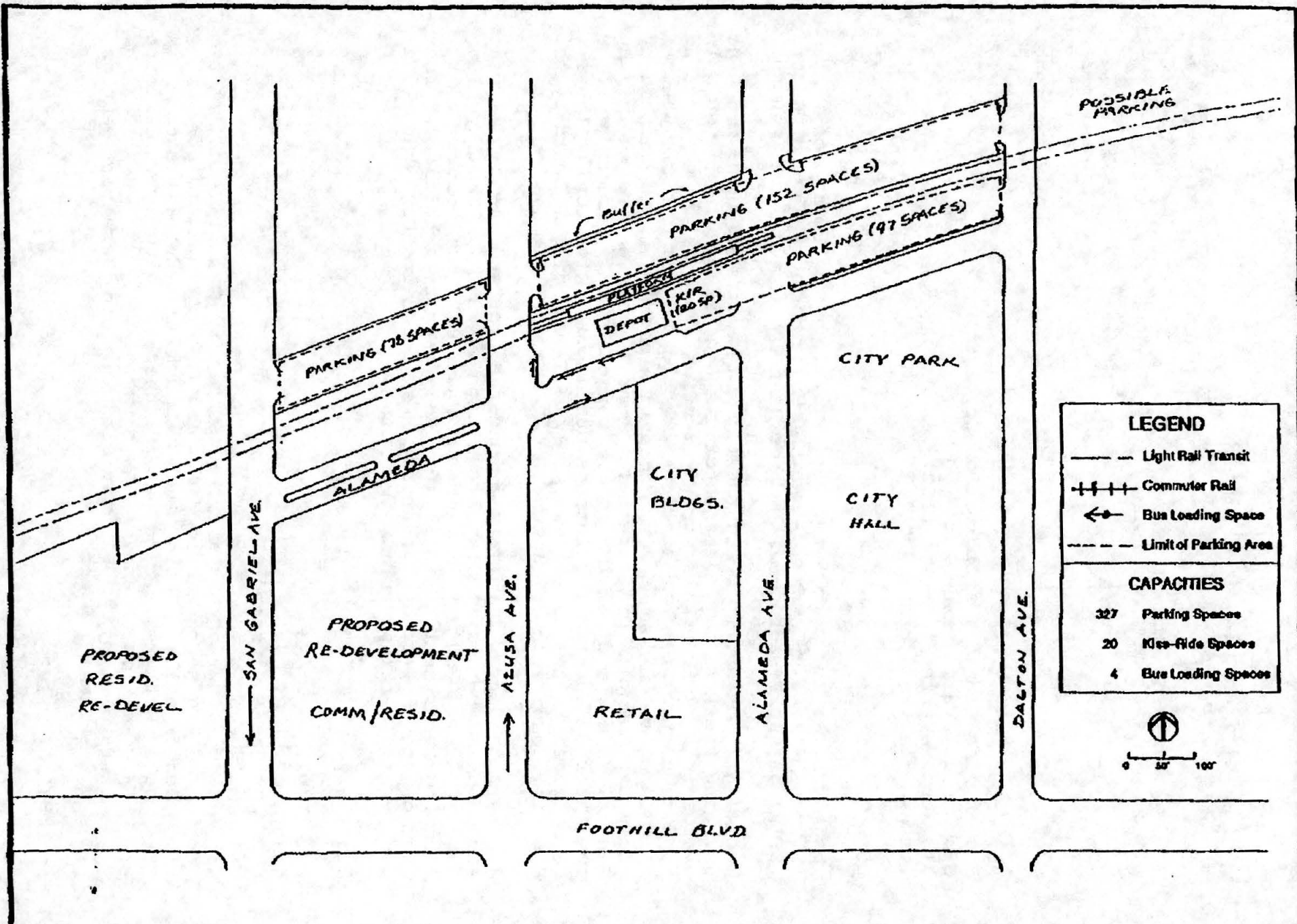
As envisioned now, the areas around the proposed light rail stations will be special plan areas with specific intensity standards. Please contact the Planning and Research Section of the Planning Department at (818) 405-4206 for more specific information on these special plan areas. Ask for Laura Dahl, Sr. Planner or Dave Watkins, Principal Planner.

Sincerely,

Nancy Key, AICP  
Sr. Planner, Environmental

CC: Serop Der-Boghossian, Transportation Manager and Traffic Engineer- Public Works and Transportation Dept.  
Denver Miller, Zoning and Environmental Administrator  
Dave Watkins, Principal Planner-Planning and Research Section, Planning Department  
Laura Dahl, Sr. Planner-Planning and Research Section, Planning Department

nopltrail 7.27.92



Korve Engineering  
Manuel Padron & Assoc.

N. SAN GABRIEL / SAN BERNARDINO VALLEY TRANSPORTATION CORRIDOR

AZUSA STATION - LIGHT RAIL

FIGURE

1-10

Alternatives E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z



PD513

CITY OF LOS ANGELES  
CALIFORNIA

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DEPARTMENT OF  
RECREATION AND PARKS  
200 NO. MAIN ST.  
13TH FLOOR  
LOS ANGELES, CALIF. 90012  
485

COMMISSIONERS  
DEAN D. PREGERSON  
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DOMINICK W. RUBALCAVA  
J. STANLEY SANDERS



TOM BRADLEY  
MAYOR

JACKIE TATUM  
GENERAL MANAGER

223352

July 28, 1992

L.A. County Transportation Commission  
818 West Seventh Street, Suite 1100  
Los Angeles, CA 90017  
Attn: Art Cueto

Dear Mr. Cueto

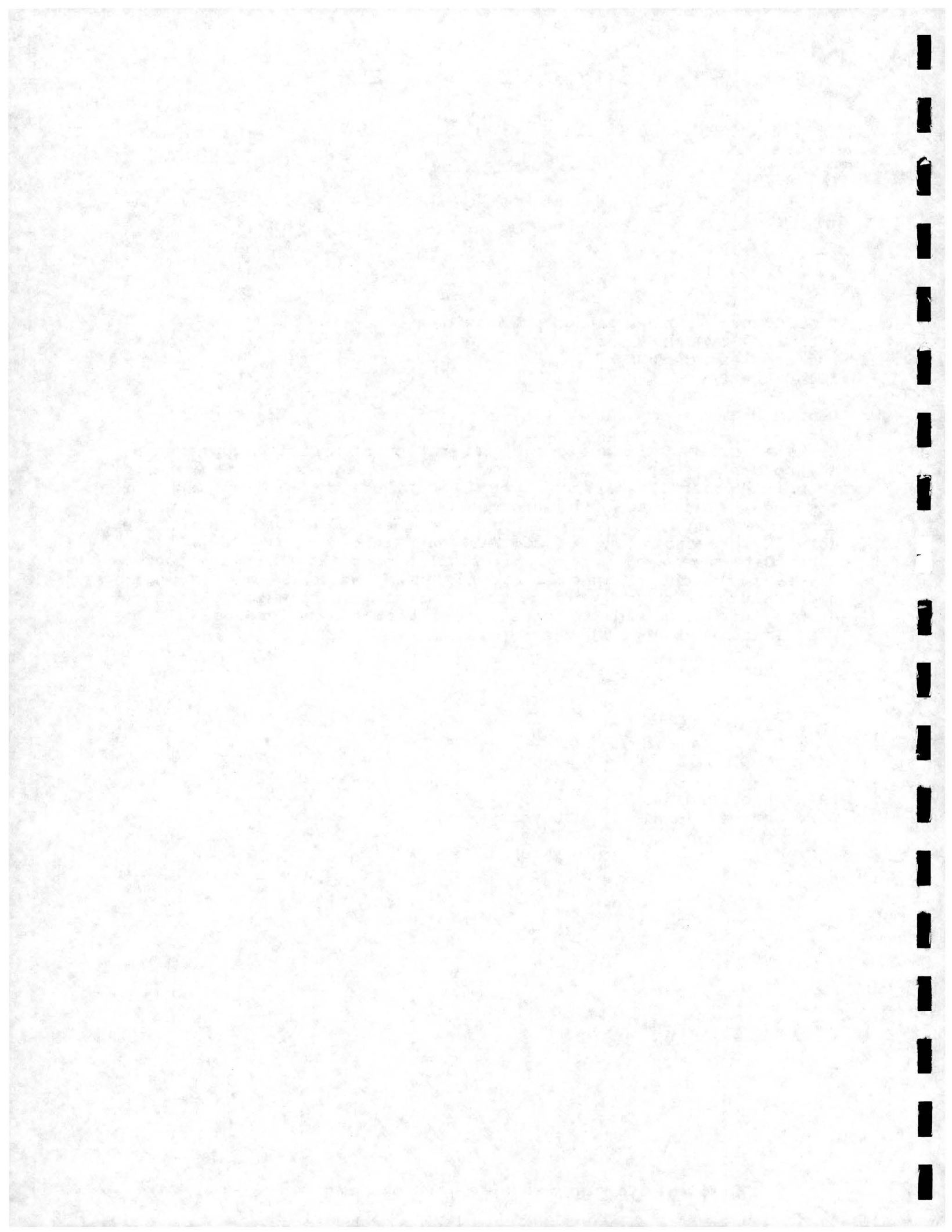
We have reviewed the Notice of Preparation of a Draft Supplemental Environmental Impact Report for the Pasadena-Los Angeles Rail Transit Project. Although your Initial Study (1.3 summary of findings) states that the proposal will not result in an impact upon existing recreational opportunities, the proposed route actually traverses Arroyo Seco Park, and this facility, as well as other City park and recreational facilities adjacent to the route, may be permanently impacted by this use. We would suggest some coordination with your office to discuss possible ways to enhance Arroyo Seco Park and to lessen the impact of the proposed Light Rail Transit Project upon the park.

Very truly yours,

JACKIE TATUM  
General Manager

FRANK S. CATANIA  
Director of Planning and Development

FSC/ACC:hc



EX 332  
DE 562

# Los Angeles Unified School District

**WILLIAM R. ANTON**  
*Superintendent of Schools*

**ROBERT BOOKER**  
*Chief Business & Financial Officer*

Business Services Division

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COPY IN RMC

**DAVID W. KOCH**  
*Division Administrator, Business Services*

**C. DOUGLAS BROWN**  
*Deputy Administrator, Business Services*

**BOB NICCUM**  
*Director of Facilities Planning & Real Estate*

Environmental Review File  
Pasadena-Los Angeles Rail Transit Project

July 27, 1992

223305

Mr. Art Cueto  
Los Angeles County Transportation Commission  
818 West Seventh Street, Suite 1100  
Los Angeles, CA 90017

Dear Mr. Cueto:

Re: Pasadena-Los Angeles Rail Transit Project

Thank you for providing us the opportunity to comment on the scope and content of the supplemental environmental impact report [SEIR] for the above-referenced project.

The Initial Study for the SEIR concluded that there would be no significant adverse impacts on public services, including schools. While there may be no significant impacts on student generation, it seems there may be impacts on schools in that the project may adversely impact safe routes to school, and may create noise or other impacts over and above those considered by the previously-approved EIR. Please change the determination accordingly, and consider the following in the SEIR:

The Los Angeles Unified School District expressed concern previously about noise impacts of the route as it passed adjacent to the Arroyo Seco School. The response was that the depressed rail configuration would form a natural noise barrier and adequately attenuate rail transit noise levels. Because of the recently-proposed station in this area, and the accompanying increases in traffic noise and congestion, we ask that the LACTC conduct thorough baseline measurements for noise, inside the classrooms which will be nearest to noise sources, with windows opened and closed. Measurements should also be taken on the playground, and in other appropriate locations. Please then estimate increased noise, and provide mitigation.

The District is also concerned about noise impacts at schools near the proposed Taylor Yard maintenance facility, especially because these schools are at a higher elevation than the Taylor Yard, and because of prevailing winds in the direction of some of the schools which will increase noise. Mitigation by the construction of noise barriers might not be effective because of the schools' elevation. Please therefore conduct ambient noise measurements at Glassell Park Elementary School or any other school likely to be subject to above-criteria noise from this project, or from the cumulative uses at Taylor Yard. Then add to these the projections of project noise, bearing in mind the prevailing winds, and the higher school elevations.

July 27, 1992

Please carefully analyze the traffic and parking impacts of the proposed Southwest Museum station. Traffic analysis should include pedestrian as well as vehicular traffic, and the parking analysis should review impacts of spillover parking on parking spaces which might now be available to school staff, parents, and visitors.

Attached is a map of pedestrian routes to school. Safety of schoolchildren that frequent this area should be of paramount importance in station design. Mitigation measures relating to communications about safe pedestrian routes to school may need to be in English, as well as in other languages, in order to be effective.

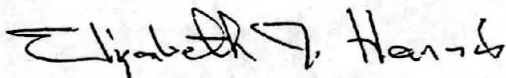
The District is concerned about transit stations in that they may contribute to localized pollution. Please comment on carbon monoxide or other emissions, as they may impact schoolchildren. Please discuss the air quality impacts on the Arroyo Seco School and at other schools near transit stations.

Is an interim terminus station still proposed at Marmion Way and Avenue 57?

In addition to the above-listed concerns, please consider the attached comments which are provided by the District's Environmental Health and Safety Branch, and by the Office of School Traffic and Safety Education Section. These comments should be incorporated by reference into this letter.

Thank you for your consideration of our concerns.

Very truly yours,



Elizabeth J. Harris  
California Environmental Quality Act Officer  
for the Los Angeles Unified School District

Attachments

|                |              |
|----------------|--------------|
| c: Ms. Quezada | Mr. Prescott |
| Mr. Slavkin    | Mr. Brown    |
| Dr. Anton      | Mr. Niccum   |
| Dr. Booker     | Ms. Wong     |
| Mr. Leichty    | Mr. Rector   |
| Ms. Stockwell  | Mr. Warnick  |
| Ms. Castillo   | Mr. Ziegel   |
| Mr. Koch       |              |

ATTACHMENT  
COMMENTS OF ENVIRONMENTAL HEALTH AND SAFETY BRANCH, LAUSD

1. Should the Taylor Yard be selected as the Light Rail Transit (LRT) maintenance facility location, cumulative adverse impacts may result in the surrounding communities. It is very important that the cumulative impacts which may result from having three rail maintenance facilities (Southern Pacific, Light Rail Transit and MetroLink) in such close proximity to each other be thoroughly evaluated. Of particular concern to the District are noise, air quality, traffic, and human health impacts.
2. The DIS should also indicate that the SEIR will examine sites in the City of Pasadena as potential locations for the LRT maintenance facility. The only options mentioned in the DIS are in the City of Los Angeles.
3. The DIS does not state that a below grade option for the Figueroa/Marmion Way intersection will be considered in the SEIR. The below grade option should be discussed similarly as discussed for Colorado Boulevard. If the below grade option is not feasible, the SEIR should indicate the factors which render it infeasible.
4. The DIS should note that environmental problems may be present at the Cornfield site and an environmental assessment of this property is certainly needed prior to construction at this location. The SEIR should report the results of any environmental assessments and include recommendations for remediation if necessary.

ATTACHMENT  
COMMENTS OF SCHOOL TRAFFIC AND SAFETY EDUCATION SECTION, LAUSD

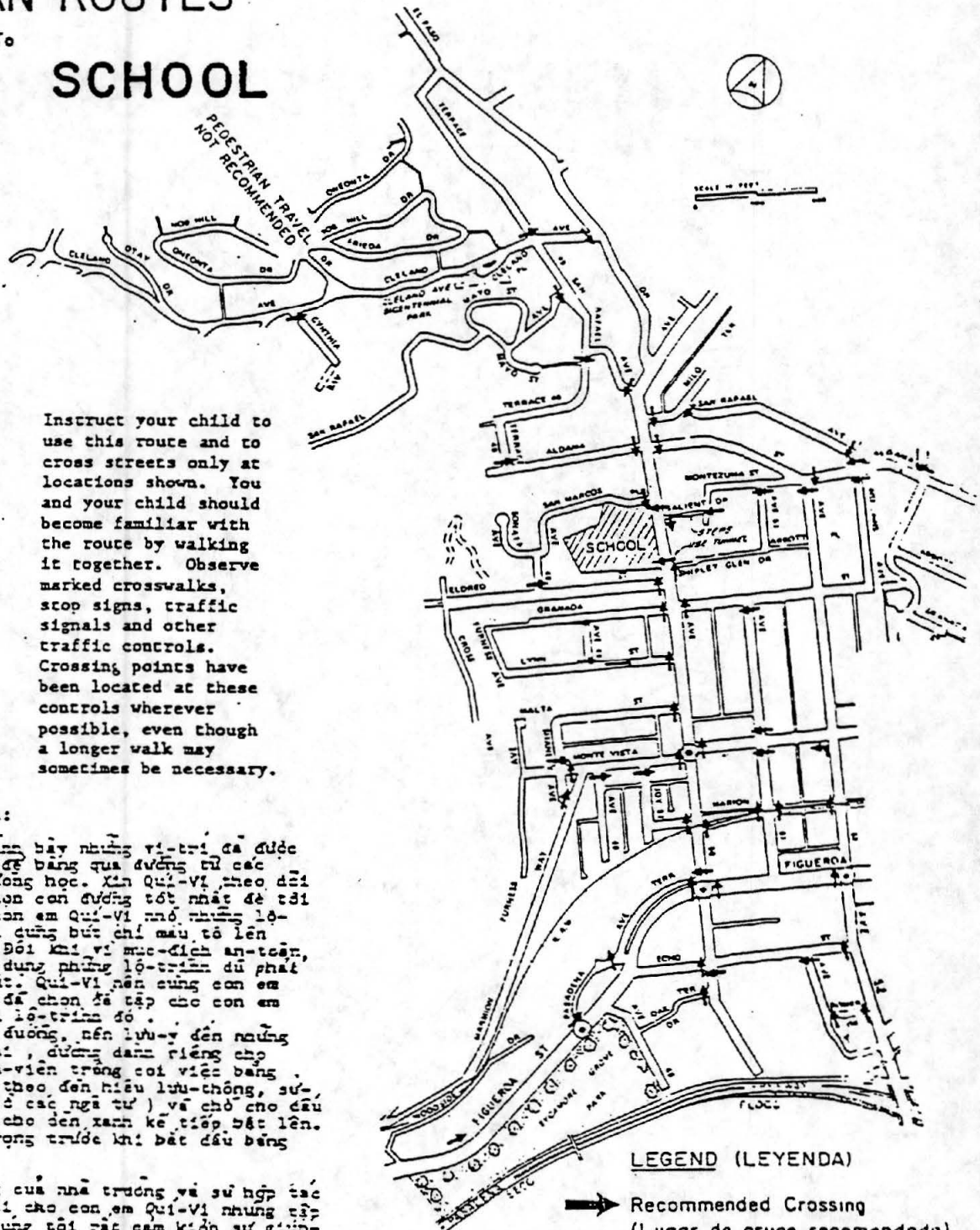
A. Traffic Volume Increases and Accountability

If traffic flows are projected as increases at any time to a point of warranting crossing guards for student safety, the cost should be provided by the developer generating that increase.

B. Access and School Bus Consideration

Since school buses serve each school in the area, a review should be made of how the construction or operation stages of the project could impact regular bus routes and emergency evacuations as well.

# PEDESTRIAN ROUTES To ALDAMA SCHOOL



**Parents:**

This map shows the recommended crossings to be used from each block in your school attendance area. Following the arrows, select the best route from your home to the school and mark it with a colored pencil or crayon. This is the route your child should take.

Instruct your child to use this route and to cross streets only at locations shown. You and your child should become familiar with the route by walking it together. Observe marked crosswalks, stop signs, traffic signals and other traffic controls. Crossing points have been located at these controls wherever possible, even though a longer walk may sometimes be necessary.

**Đưa Qui-Vi Đi Học:**

Bản đồ này trình bày những vị trí đã được Bộ Lưu-Trữ đề nghị để băng qua đường từ các ngã đường dẫn đến trường học. Xin Qui-Vi theo dõi mũi tên chỉ và lựa chọn con đường tốt nhất để tới trường. Để giúp cho con em Qui-Vi nhớ những lộ-trình này, xin Qui-Vi cũng bút chì màu tô lên những đoạn đường đó. Đôi khi vì mục-dịch an-toàn, chúng ta cũng nên sử dụng những lộ-trình dù phải đi bộ lâu hơn đôi phút. Qui-Vi nên cùng con em đi bộ trên con đường đã chọn và tập cho con em Qui-Vi quen thuộc với lộ-trình đó.

Khi băng qua đường, nên lưu-ý đến những dấu hiệu như ngừng lại, đường dành riêng cho người bộ hành và nhân-viên trông coi việc băng qua đường. Nên tuân theo đèn hiệu lưu-chống, sử dụng nút bấm (nếu có ở các ngã tư) và chờ cho đèn hiệu "ĐI" hoặc chờ cho đèn xanh kế tiếp bật lên. Luôn luôn nên thận-trọng trước khi bắt đầu băng qua đường.




Với sự cố-gắng của nhà trường và sự hợp tác của Qui-Vi, sẽ đem lại cho con em Qui-Vi những tập quán an-toàn tốt. Chúng tôi rất cảm kích sự giúp-đỡ của Qui-Vi.

**Padres de Familia:**

Este mapa le indica la ruta más segura de cada cuadra o manzana en el área de su Escuela. Siguiendo las flechas en el mapa, seleccione la ruta más conveniente de su casa a la Escuela y márquela con una línea gruesa. Esta será la que sus niños deban seguir.

Instruya a sus niños a usar esta ruta siempre y a cruzar las calles solamente en los lugares indicados. Usted y sus niños deberán familiarizarse con esta ruta recorriéndola juntos. Observe las señales de calles marcadas con cruce para peatones. Estos cruceros para peatones han sido instalados en aquellos lugares donde se ha determinado que son más necesarios. La ruta de su casa a la Escuela tal vez sea más larga, pero es la más segura.

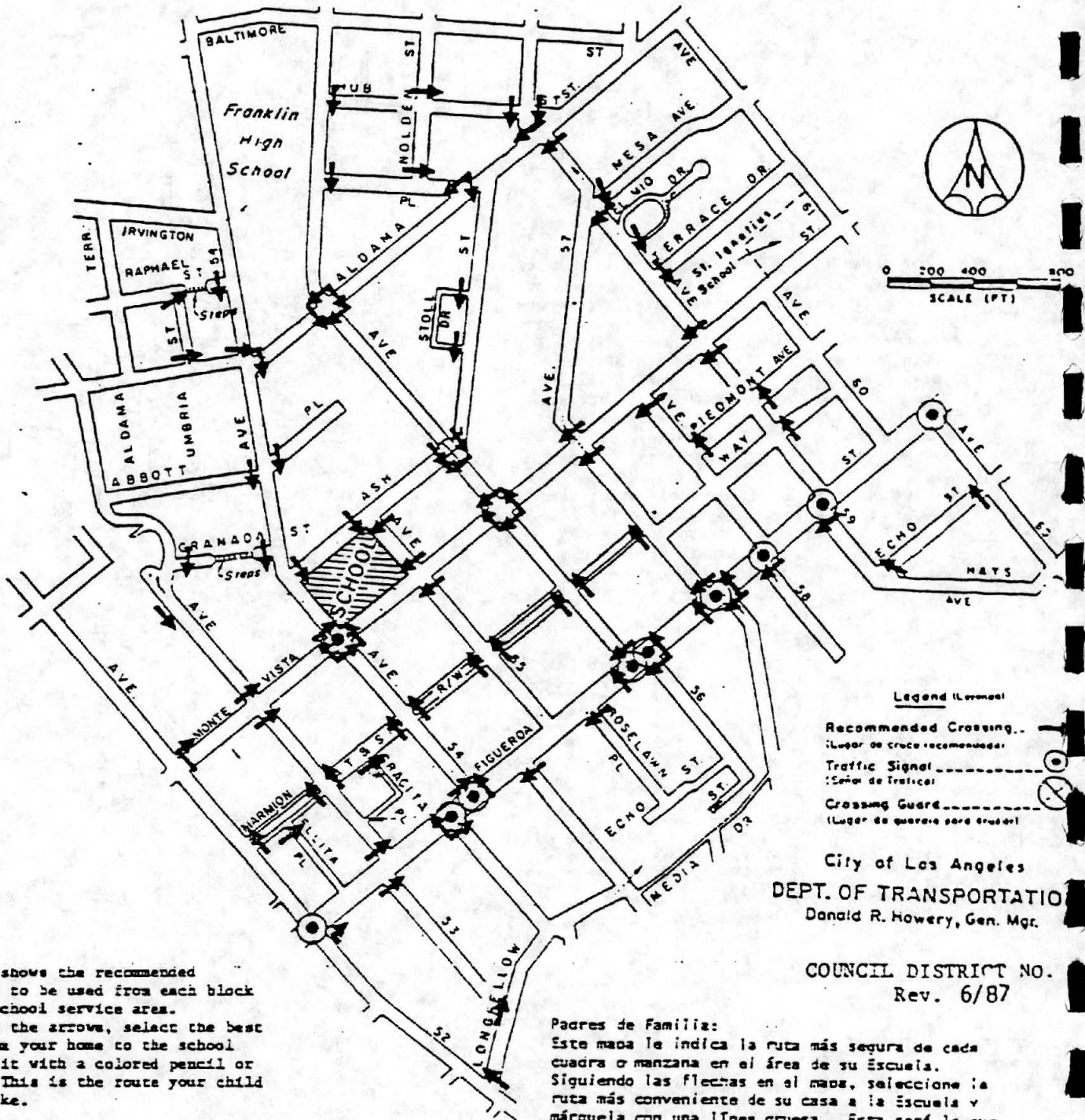
**LEGEND (LEYENDA)**

-  Recommended Crossing (Lugar de cruce recomendado)
-  Traffic Signal (Señal de Tráfico)
-  Crossing Guard (Lugar de guardia para cruzar)

CITY OF LOS ANGELES  
DEPARTMENT OF TRANSPORTATION  
DONALD R. HOWERY, General Manager

COUNCIL DISTRICT NO. 14  
Rev. 6/87

# PEDESTRIAN ROUTES To MONTE VISTA SCHOOL



**Parents:**

This map shows the recommended crossings to be used from each block in your school service area. Following the arrows, select the best route from your home to the school and mark it with a colored pencil or crayon. This is the route your child should take.

Instruct your child to use this route and to cross streets only at locations shown. You and your child should become familiar with the route by walking it together. Observe road crosswalks, stop signs, traffic signals and other traffic controls. Crossing points have been located at these controls wherever possible, even though a longer walk may sometimes be necessary.

**Padres de Familia:**

Este mapa le indica la ruta más segura de cada cuadra o manzana en el área de su Escuela. Siguiendo las flechas en el mapa, seleccione la ruta más conveniente de su casa a la Escuela y márquela con una línea gruesa. Esta será la que sus niños deban seguir.

Instruya a sus niños a usar esta ruta siempre y a cruzar las calles solamente en los lugares indicados. Usted y sus niños deberán familiarizarse con esta ruta recorriéndola juntos. Observe las señales de calles marcadas con cruces para peatones. Estos cruces para peatones han sido instalados en aquellos lugares donde se ha determinado que son más necesarios. La ruta de su casa a la Escuela tal vez sea más larga, pero es la más segura.

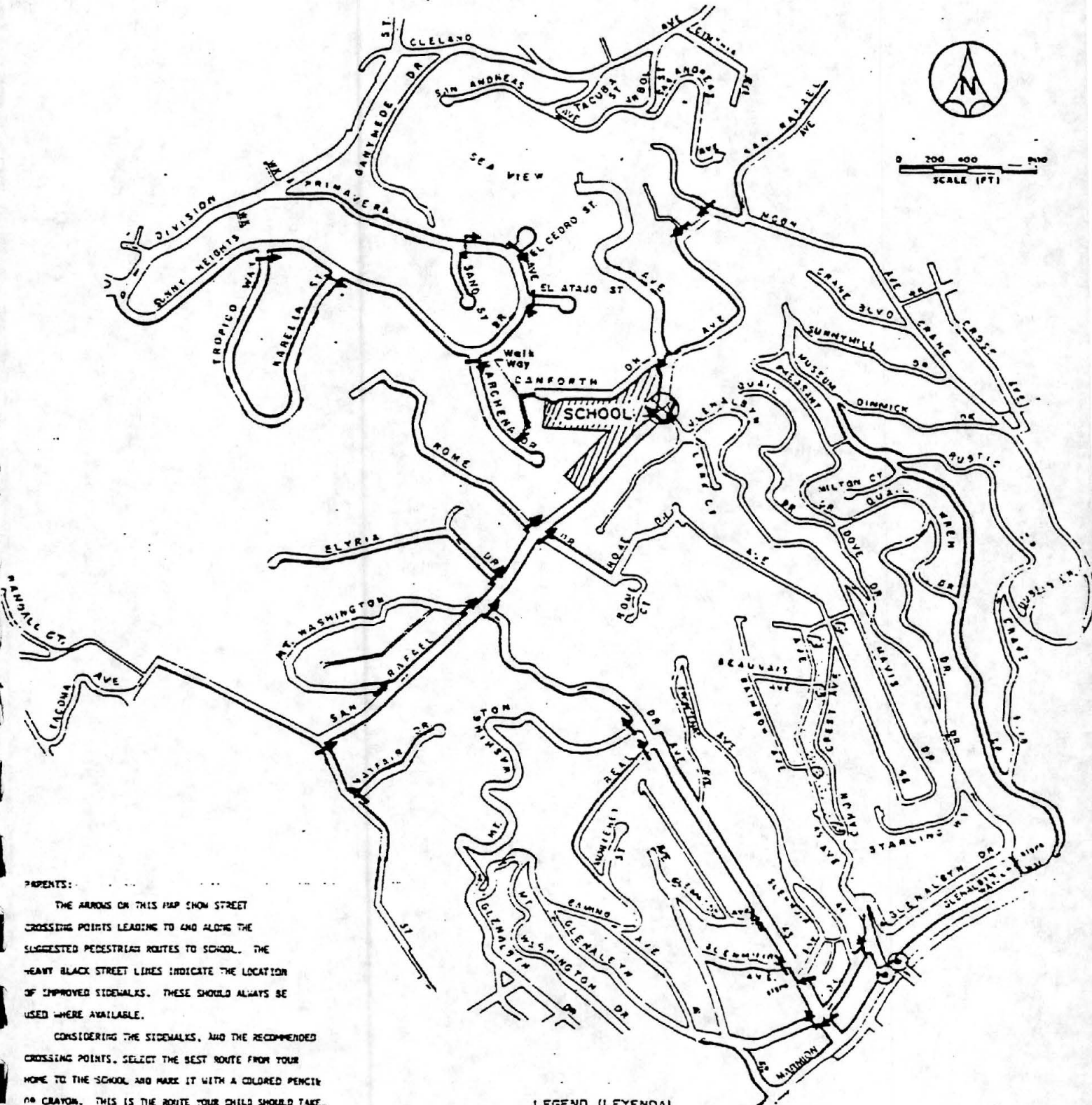
**Legend (Leyenda)**  
 Recommended Crossing.. (Lugar de cruce recomendado)  
 Traffic Signal (Señal de tráfico)  
 Crossing Guard (Lugar de guardia para cruces)

City of Los Angeles  
 DEPT. OF TRANSPORTATION  
 Donald R. Howery, Gen. Mgr.

COUNCIL DISTRICT NO.  
 Rev. 6/87



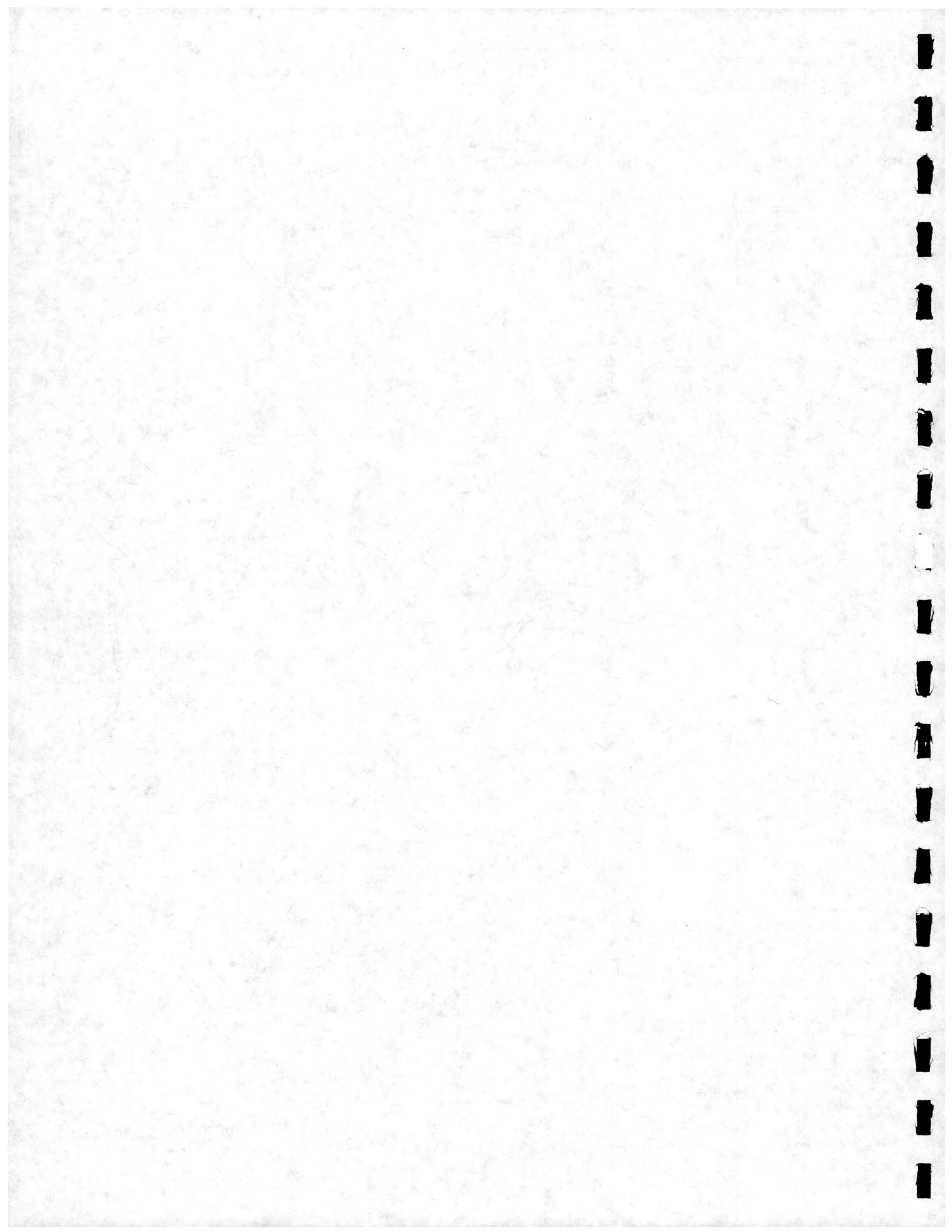
# PEDESTRIAN ROUTES To MT. WASHINGTON SCHOOL



**PARENTS:**  
 THE MARKS ON THIS MAP SHOW STREET CROSSING POINTS LEADING TO AND ALONG THE SUGGESTED PEDESTRIAN ROUTES TO SCHOOL. THE HEAVY BLACK STREET LINES INDICATE THE LOCATION OF IMPROVED SIDEWALKS. THESE SHOULD ALWAYS BE USED WHERE AVAILABLE.  
 CONSIDERING THE SIDEWALKS, AND THE RECOMMENDED CROSSING POINTS, SELECT THE BEST ROUTE FROM YOUR HOME TO THE SCHOOL AND MARK IT WITH A COLORED PENCIL OR CRAYON. THIS IS THE ROUTE YOUR CHILD SHOULD TAKE.  
 DO YOUR CHILD SHOULD BECOME FAMILIAR WITH THE ROUTE BY WALKING IT TOGETHER.  
 ENCOURAGE YOUR CHILD TO BE ALWAYS ALERT WHEN REQUIRED TO WALK IN STREETS OR AT LOCATIONS WITH GRADES OR RESTRICTED VISIBILITY.

- LEGEND (LEYENDA)**
- ➔ Recommended Crossing (Lugar de cruce recomendado)
  - ⊙ Traffic Signal (Señal de Tráfico)
  - ⊗ Crossing Guard (Lugar de guardia para cruzar)

City of Los Angeles  
 DEPT. OF TRANSPORTATION  
 Donald R. Howery, Gen. Mgr.  
 COUNCIL DISTRICT No. 14  
 Rev. 6/87




70513

DEPARTMENT OF TRANSPORTATION

DISTRICT 7, 120 SO. SPRING ST.  
LOS ANGELES, CA 90012-3606  
TDD (213) 897-6610

MICROFILMED  
COPY IN RMC

July 27, 1992

1992 JUL 21 10 11 30  


LACTC  
IGR/CEQA/NOP  
PASADENA-LOS ANGELES RAIL  
TRANSIT PROJECT  
Vic LA-VARIOUS  
SCH # 92071005

223403

Ms. Susan Rosales  
Los Angeles County Transportation Commission  
818 West Covina Street, Suite 1100  
Los Angeles, CA 90017

Dear Ms. Rosales:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above-referenced NOP. Based on the information received, we have the following comments:

We suggest that any impact to State facilities (Freeways, Highways) should be discussed and submitted well in advance of the DEIR to this office. This can be done by means of a brief summary report and/or traffic study, either of which address the following information:

- a) Level of service before and after development.
- b) Traffic impacts on Golden State Freeway (I-5), Pasadena Freeway (SR-2), Foothill Freeway (SR-210), Ventura Freeway (SR-134), and all significantly affected streets, crossroads and controlling intersections, as well as an analysis of existing and future conditions on mainline Freeways (I-5), (SR-2), (SR-210), and (SR-134).
- c) Traffic generation (AM and PM peak hour); distribution; and assignments.
- d) Future conditions which includes both project and project + cumulative traffic generated.
- e) Traffic mitigation, if any, to be proposed.

The environmental document should address park-and-ride needs to prevent parking overflow into surrounding neighborhoods and to encourage patronage at all stations.

We recommend the preparation of a cost-benefit analysis and include the highway network as part of the study.

Ms. Susan Rosales  
Page Two  
July 27, 1992

The LRT line crosses our freeways at four separate locations, once at the Golden State and three times at the Pasadena Freeway. It also parallels the Foothill and Pasadena Freeways. We are concerned about the proximity of LRT grade crossings at local streets, as well as, relocation of streets and driveways near Freeway ramps and intersections.

Caltrans will be a responsible agency when issuing encroachment permits for any work proposed within the right-of-way of Routes 5, 2, 210, 134.

Thank you for this opportunity to comment. If you have any questions regarding these comments, please call me at (213) 897-1338.

Sincerely,

  
WILFORD MELTON  
IGR\CEQA Coordinator  
Advance Planning Branch

cc: State Clearinghouse

ab/7037

August 3, 1992

Fred A. Glienna  
1431 Rollin Street  
South Pasadena,  
California  
91030-3826

Lupe C. Valdez  
LACTC  
818 West Seventh Street      Suite 1100  
Los Angeles                      CA                      90017

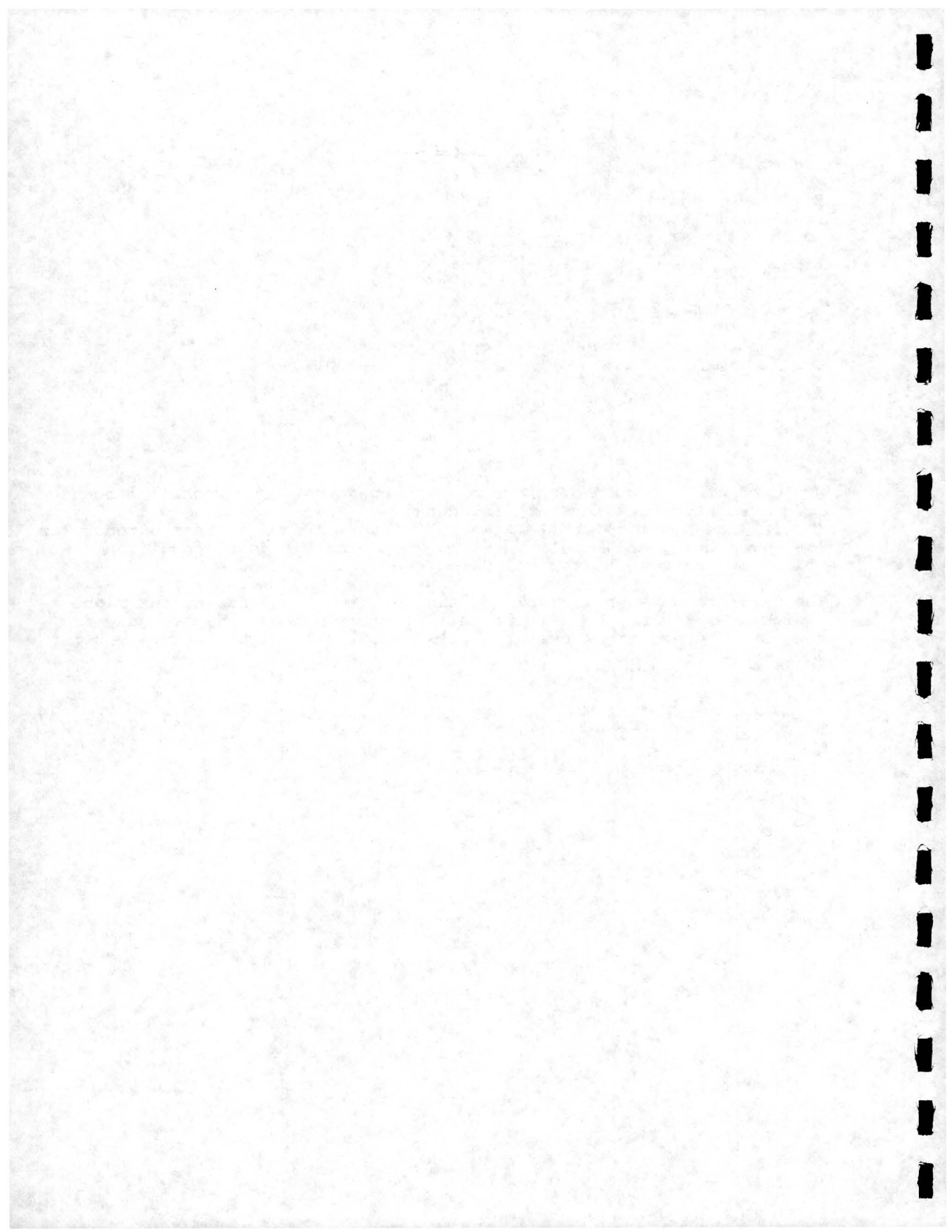
Dear Lupe,

Enclosed are a couple of pictures I snapped last week looking inbound from Fremont Avenue in South Pasadena. I think the house on the left was moved to its site since the route was last inspected, and I believe it may be South Pasadena's position that this home has some historical value.

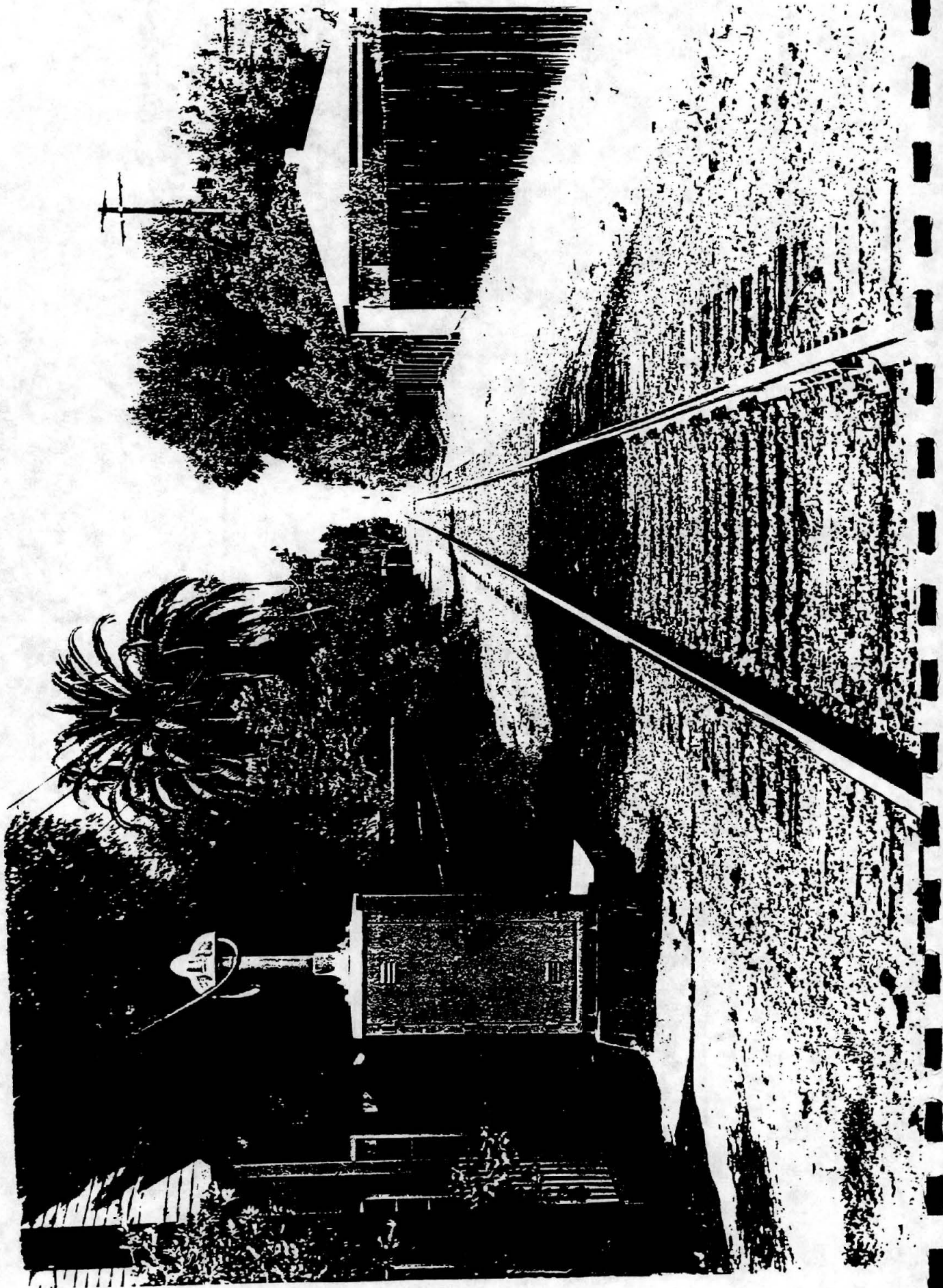
The distance between the wall on the left and the fence on the right is 30 feet. As you may be able to tell from the photos, the overhang from the house hovers right over the wall. I think it might be a very tight fit.

Best,











PDS13

MICROFILMED  
COPY IN RMC

Roger A. Backman  
585 W. Ave 46  
Los Angeles, CA 90065  
(213) 221-1884

1992 JUL 31 11 11 AM '92

25 July 1992

223404

Los Angeles County Transportation Commission  
818 West Seventh Street  
Los Angeles, CA 90017

Atten: Mr. Art Cueto

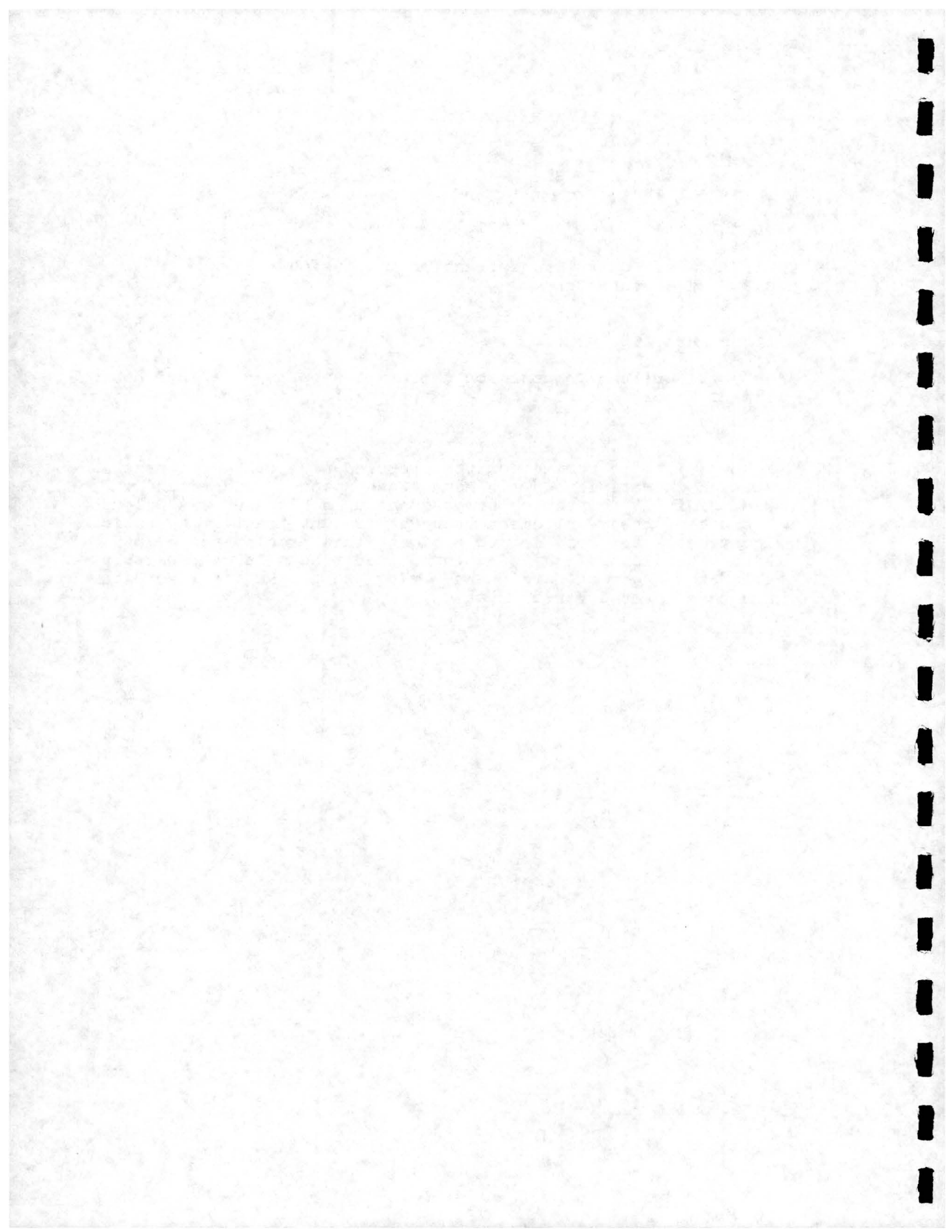
Subject: Written Comments on the Draft Supplemental Environmental  
Impact Report for the Pasadena-Los Angeles Rail Transit Project.

Mr. Cueto

I would like to comment on the proposed new South West Museum  
Station on Marimion Way in Mount Washington. I understand there  
was originally a station proposed at this site but was deleted  
because of the requirement to have straight tract at a station  
location. I am proposing to mitigate this problem as follows,  
since the grade of the of the railroad tracts is considerably  
below the grade of Marmion Way bring the tracks under Marmion Way  
and have a subterranean station.

Sincerely:

Roger A. Backman





COUNCILMEMBER  
**MIKE HERNANDEZ**  
First Council District

City Hall, Room 380  
Los Angeles, CA 90012  
(213) 483-3451

District Office  
163 S. Ave. 24  
Room 202  
Los Angeles, CA 90031  
(213) 485-0763

July 28, 1992

VIA TELECOPIER & US MAIL

Mr. Art Cueto  
Los Angeles County Transportation  
Commission  
818 West Seventh Street, Suite 1100  
Los Angeles, California 90017

Re: Response of First Council District To Notice  
of Preparation of a Supplemental Environmental  
Impact Report For The Los Angeles To Pasadena  
Light Rail Project

Dear Mr. Cueto:

This communication responds to the Los Angeles County Transportation Commission ("LACTC") Notice of Preparation ("NOP") for the preparation of a Supplemental Environmental Impact Report ("SEIR") for the Los Angeles to Pasadena Light Rail project dated June 26, 1992 received by this office on June 29, 1992.

On or about June 30, 1992, the Council Office received a document entitled "Preliminary Draft Initial Study For The Los Angeles Rail Transit Project," dated June 19, 1992 ("PDIS"). These comments are made after review of the content of the NOP which describes generally the project and the format of the proposed projects.

-----  
1 This response is submitted within thirty days after receipt of the NOP and in compliance with CEQA Guidelines Section 15082(b).

Mr. Art Cueto  
July 28, 1992  
Page 2

1. Purpose of NOP And Determining Scope Of EIR.

Under the California Environmental Quality Act<sup>2</sup>, the purpose of the NOP is to solicit guidance from interested agencies and the public concerning the scoping content of the environmental information to be analyzed and included in an environmental impact report. See CEQA Guidelines Sections 15082, 15083. CEQA Guideline Section 15083 (a) states the following concerning the importance of scoping:

Scoping has been helpful to agencies in identifying the range of actions, alternatives, mitigation measures, and significant effects to be analyzed in depth in an EIR and in eliminating from detailed study issues found not to be important.

It is recognized that scoping is an optional procedure in the preparation of an EIR, and that although early consultation with the public is encouraged by the CEQA Guidelines, it is not required. CEQA Guidelines Section 15083. However, when a lead agency utilizes the scoping process to narrow the range of potential alternatives to be analyzed in an EIR, it must describe the methodology by which rejected alternatives were deemed infeasible. Goleta, supra, 52 Cal. 3d at 569. Stated differently, the scoping process should be used by the lead agency to determine which project alternatives are feasible, and should be evaluated in detail in the EIR, and which are infeasible and therefore need not be evaluated.

2. NOP Project Description.

The first textual page of the PDIS purports to set forth the project description in providing an explanation as to why the SEIR is being prepared. This portion of the PDIS should be supplemented to succinctly state the

<sup>2</sup> Public Resources Code Section 21000 et seq. ("CEQA"). All references will be to the Public Resources Code unless otherwise noted. All references to CEQA Guidelines are to the State CEQA Guidelines, promulgated by the State Resources Agency found in Title 14 of the California Code of Regulations Section 15000 et seq. The CEQA Guidelines are accorded great weight by the courts in interpreting provisions of CEQA Citizens of Goleta Valley B. Board of Supervisors, 52 Cal. 3d 553, 564, fn.3 (1990)

Mr. Art Cueto  
July 28, 1992  
Page 3

project description which is now proposed to be analyzed by way of a supplemental environmental analysis, rather than stating the composition of the supplementary environmental analysis,

Further, the project description should acknowledge the "project" as it presently exists. For example, with respect to Taylor Yard, this office has executed a Memorandum of Understanding with the lead agency, the LACTC, and other interested parties concerning minimum mitigation measures which would be taken with respect to a proposed maintenance facility at the Taylor Yard. Because the SEIR purports to analyze the effects of changes to the underlying project on the "environment", this change in the project description would be a "man-made condition" which falls within the definition of the physical "environment" (CEQA Guidelines Section 15350) which must be assessed by the SEIR.

### 3. Scoping Comments.

The format of the project SEIR should contain feasible alternatives to those described. Inclusion of alternatives within the project definition does not satisfy the CEQA requirement of discussion of feasible alternatives to the project unless the project methodology before the selection of those project alternatives is set forth and subject to public review. Stated differently, it is unclear why only the analysis described under Section 1.1 of the PDIS is to be accomplished. Has the lead agency staff followed a methodology which has eliminated other project alternatives either in terms of route of the system or placement of stations or placement of maintenance facilities? If so, that methodology should be set forth, otherwise the PDIS is defective.

In analyzing those project alternatives, it is important that additional alternatives be presented which are capable of avoiding the identified significant environmental impacts associated with the project alternatives. Section 21002; CEQA Guidelines Sections 15002(a)(3), 15021(a)(2); Citizens for Quality Growth B. City of Mt. Shasta, 198 Cal. App. 23d 433, 443-445 (1988).

It is also respectfully suggested that this constrained, or limited analysis of the SEIR could be alleviated if there were a public scoping meeting concerning the content of the SEIR. This would be consistent with the preferred position of the public in the CEQA process of validly and consistently questioning and testing the method of environmental analysis.

Mr. Art Cueto  
July 28, 1992  
Page 4

Conceivably, there could be alternative geographic locations of the rail line alignment, maintenance facility and stations other than those proposed. If there are no such alternatives then the methodology or analysis as to why such alternatives are not included in the analysis should be set forth.

With respect to prospective alternative geographic sites, I believe the SEIR should address a reasonable number of alternatives so as to foster informed decision-making. Additionally, the alternative geographic sites selected should be capable of fulfilling the project goals.

In addition to consideration of project alternative geographic sites, the EIR should address the secondary economic and social impacts of both the project and the project alternatives identified. This economic and social impact analysis is different than a cost benefit analysis for each of the portions of the project proposed, as that is just a fiscal analysis for each of the project components. Regardless of the benefits of such an analysis, there will be economic and social impacts directly associated with the identified environmental impacts on the physical environment of : (1) traffic/noise/air quality and energy; (2) land use compatibility; (3) natural and cultural resources; (4) plans, policies, regulatory requirements; (5) public services and public health; and, (6) visual impacts. (See CEQA Guidelines Section 15131).

Stated simply, wherever the project is sited, it will have an economic effect on the area immediately adjacent to, and near, that site, which should be assessed in conjunction with identified significant impacts on the environment.

By way of general comment, several of the explanations for the notations on the PDIS checklist seem to be conclusionary rather than analytical and supported by actual data. For example, the reference to the notation in the Environmental Checklist Form No. 3.b. that there may be an effect on the environment in changes in absorption rates, drainage patterns or the rate and amount of surface run-off which specifically references Taylor Yard and it's approximate location to the Los Angeles River is, in fact, unsupported by any data. At a minimum, the conclusion that

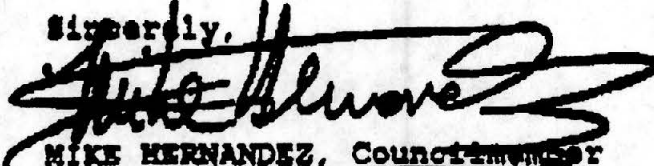
Mr. Art Cusato  
July 28, 1992  
Page 5

there would be no significant amounts of run-off or the direction of water movement should be supported by some type of analytical data which it seems reasonable to conclude could not be set forth until at least two other governmental agencies, the U.S. Army Corps of Engineers and the State Department of Fish & Game are consulted.

Finally, as the SEIR is part of a programmed, or tiered, environmental analysis, it is respectfully requested that there be a uniformity of terminology used in the method of the project environmental assessment. This type of analysis should ensure that the terminology in the SEIR for the project impacts is identical to that set forth in similar environmental analysis for other components of the project such as the Draft Environmental Impact Report for the Burbank-Glendale-Los Angeles Rail Transit project. Specifically, station sites and related technical terminology should be described, and visually portrayed, in the same manner. This, obviously, will facilitate informed public review of both projects.

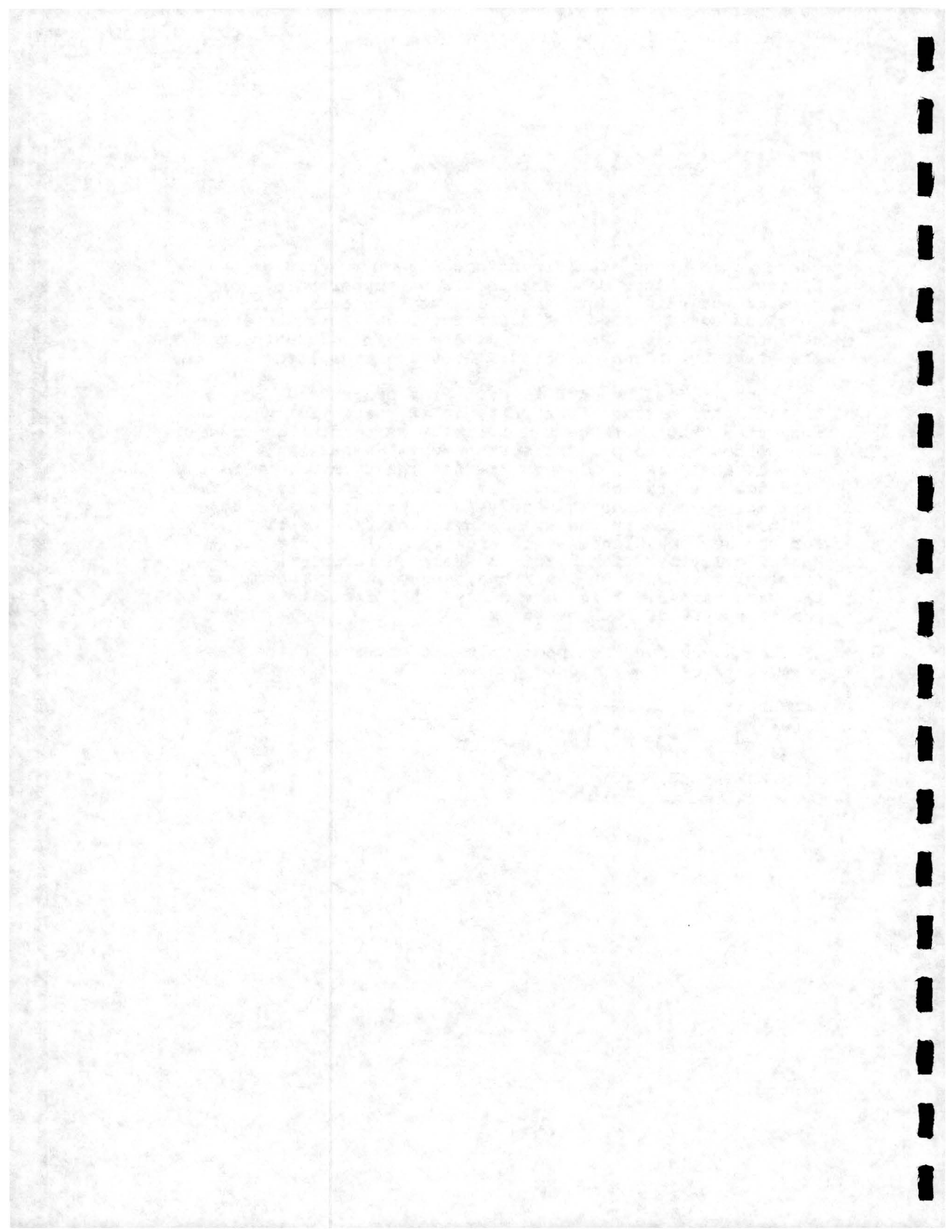
Thank you for the opportunity to comment on the parameters of the proposed project SEIR.

Sincerely,



MIKE HERNANDEZ, Councilmember  
First District

ME/ER/ag







**South Coast  
AIR QUALITY MANAGEMENT DISTRICT**

21865 E. Copley Drive, Diamond Bar, CA 91765-4182 (714) 396-2000

223172

July 23, 1992

Ms. Susan Rosales  
Los Angeles County Transportation Commission  
818 West Covina St., Suite 1100  
Los Angeles, CA 90017

Dear Ms. Rosales:

**Subject: Pasadena-Los Angeles Rail Transit Project**

**SCAQMD# LAC920710-03**

The South Coast Air Quality Management District (District) appreciates the opportunity to comment on the Notice of Preparation of a Draft Environmental Impact Report (Draft EIR) for the Pasadena-Los Angeles Rail Transit Project Highway/State Route Improvements Program. SCAQMD is responsible for adopting, implementing, and enforcing air quality regulations in the South Coast Air Quality Management District, which includes the project location. As a responsible agency, SCAQMD reviews and analyzes environmental documents for projects that may generate significant adverse air quality impacts. In this capacity, SCAQMD advises lead agencies in addressing and mitigating the potential adverse air quality impacts caused by projects.

To assist the Lead Agency in the preparation of the air quality analysis for the EIR, the following is a summarization for evaluating air quality impacts.

**Baseline Information:** Describe the existing climate and air quality of the region and project site location.

Identify and quantify all project **Sources of Emissions**.

Compare and assess anticipated project emissions with the District's **Thresholds of Significance** and the existing air quality of the region and project location.

Identify and assess **Toxic Source Emissions** at the project location.

Assess **Cumulative Air Quality Impacts** from related projects.

Assess **Consistency** with the AQMP.

July 23, 1992

Identify and quantify **Project Alternatives** that may attain the goals of the project with substantially fewer or less significant impacts including the No Project Alternative.

Identify **Mitigation Measures** necessary to reduce air quality impacts.

Discuss strategies to attain a 1.5 AVR by 1999.

Discuss vehicle miles traveled (VMT) reduction strategies.

Discuss consistency with locally adopted **Congestion Management Programs (CMPs)**. x

For additional information please refer to SCAQMD's Air Quality Handbook for Preparing Environmental Impact Reports to assess and mitigate adverse air quality impacts. Attached is a list of potential mitigation measures to reduce air quality impacts if incorporated into the project.

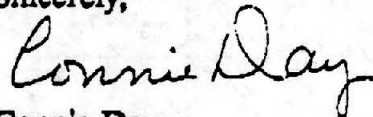
Upon completion of the Draft Environmental Impact Report, please forward two copies to:

Office of Planning & Rules  
South Coast Air Quality Management District  
21865 Copley Drive  
P O Box 4939  
Diamond Bar CA 91765-0939

Attn: Local Government - CEQA

If you have any questions, please call me at (714) 396-3055

Sincerely,



Connie Day  
Program Supervisor  
Local Government - CEQA

Attachment  
(tranop2)

## ATTACHMENT

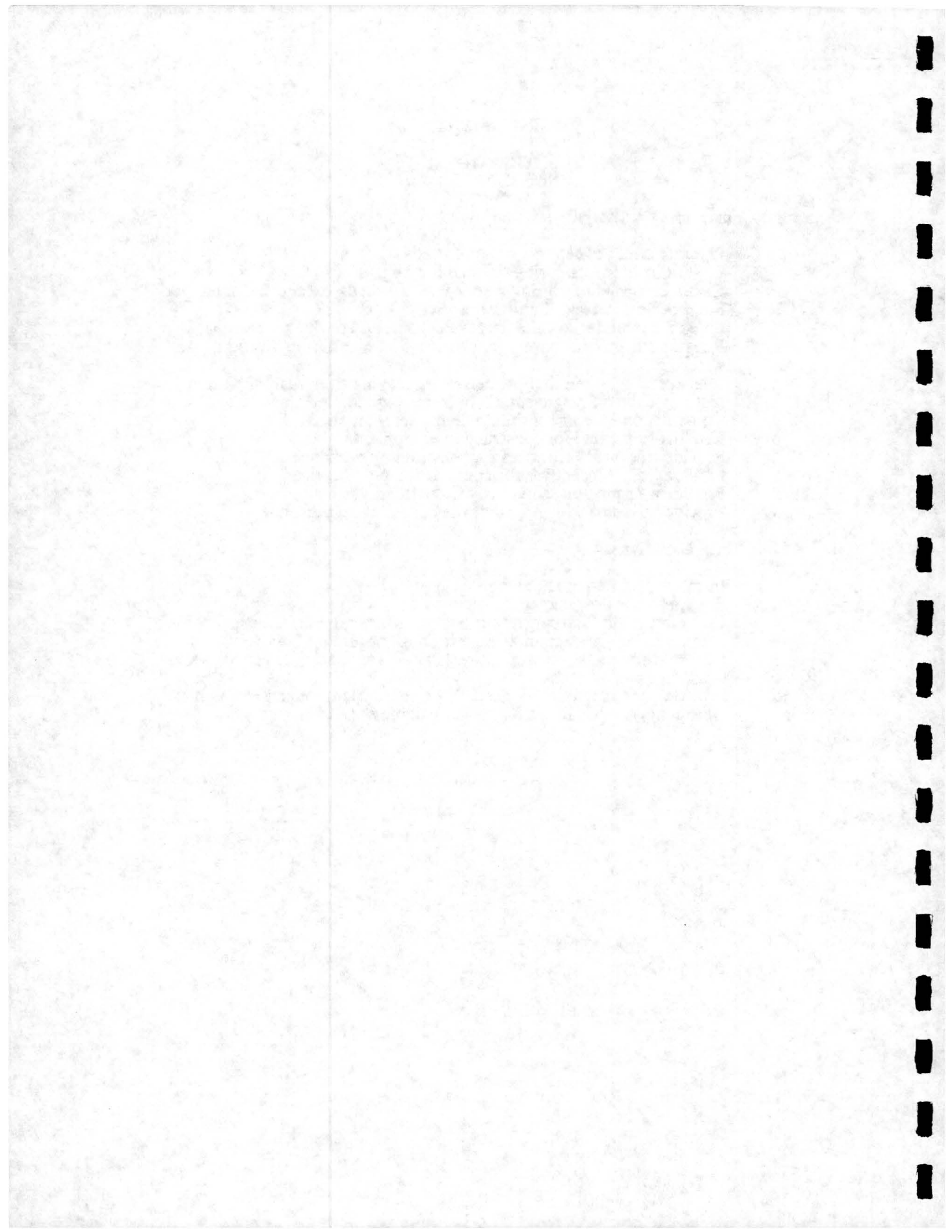
### MITIGATION MEASURES

#### Minimize Construction Activity Emissions:

- o Operate street-sweepers on paved roads adjacent to site.
- o Cover dirt in trucks during on-road hauling.
- o Cease construction during periods when winds exceed 25 miles per hour, or during Stage 1 and 2 episodes.
- o Spread soil binders on site, unpaved roads, and parking areas.
- o Reestablish ground cover on construction site through seeding and watering.
- o Wash off trucks and their wheels when leaving site. A minimum of 2-feet of freeboard height should be kept by all loaded trucks.
- o Construction equipment should be properly tuned.
- o Use low-sulfur fuel for construction equipment.
- o Provide rideshare incentives for construction personnel.
- o Provide transit incentives for construction personnel.
- o Provide a flagperson as needed at construction sites.
- o Provide paved parking areas for the construction personnel.

#### Limit Long-Term Emissions:

- o Install automated traffic signals as appropriate.
- o Ensure traffic flow management.
- o Coordinate the Transportation System Management, Transportation Demand Management and Congestion Management Plan.
- o Landscape with native drought-resistant plant species to reduce water consumption.
- o Provide dedicated HOV lanes or equivalent Average Vehicle Occupancy (AVO) levels from the beginning of the project.



# Mount Washington Association

July 22, 1992

Mr. Art Cueto  
Los Angeles County Transportation Commission  
818 W. Seventh St., Suite 1100  
Los Angeles, Calif. 90017

Dear Mr. Cueto:

The Mt. Washington Association has long supported the addition of a Blue Line light rail station to serve the Southwest Museum. This important cultural landmark will benefit immensely from improved public transportation access.

We will watch carefully how the Supplemental Environmental Impact Report studies this station. The Mt. Washington Association is well aware of the importance that adjoining neighborhoods place on the already proposed stations at Figueroa/Marmion Way and Avenue 51. Both Lincoln Heights and Highland Park see these stations as important nodes of service in their communities. We hope that the needs of the Museum and the adjoining neighborhoods can be solved to the benefit of all concerned.

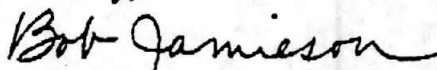
The Mt. Washington Association supports in principle the grade separation at Figueroa/Marmion Way, but we would prefer a subterranean separation rather than an aerial flyover. Although initially more expensive and disruptive to build, in the long run a subterranean separation will environmentally impact our neighborhood less.

From our point of view, the best design solution of this segment of the Blue Line would successfully combine a subterranean grade separation under Figueroa/Marmion Way, a station nearby to the south of this intersection in Lincoln Heights, and a station at the Southwest Museum. The Mt. Washington Association will enthusiastically support LACTC if its designers can creatively combine these three elements.

Finally, the Mt. Washington Association supports the Cornfield option for the LRT Maintenance Yard as long as the LACTC mitigates any objections by Chinatown residents. We oppose the use of parcels in the Taylor Yard. The adjacent communities are currently studying how best to develop this area. Taylor Yard already has an overabundance of poorly sited maintenance facilities.

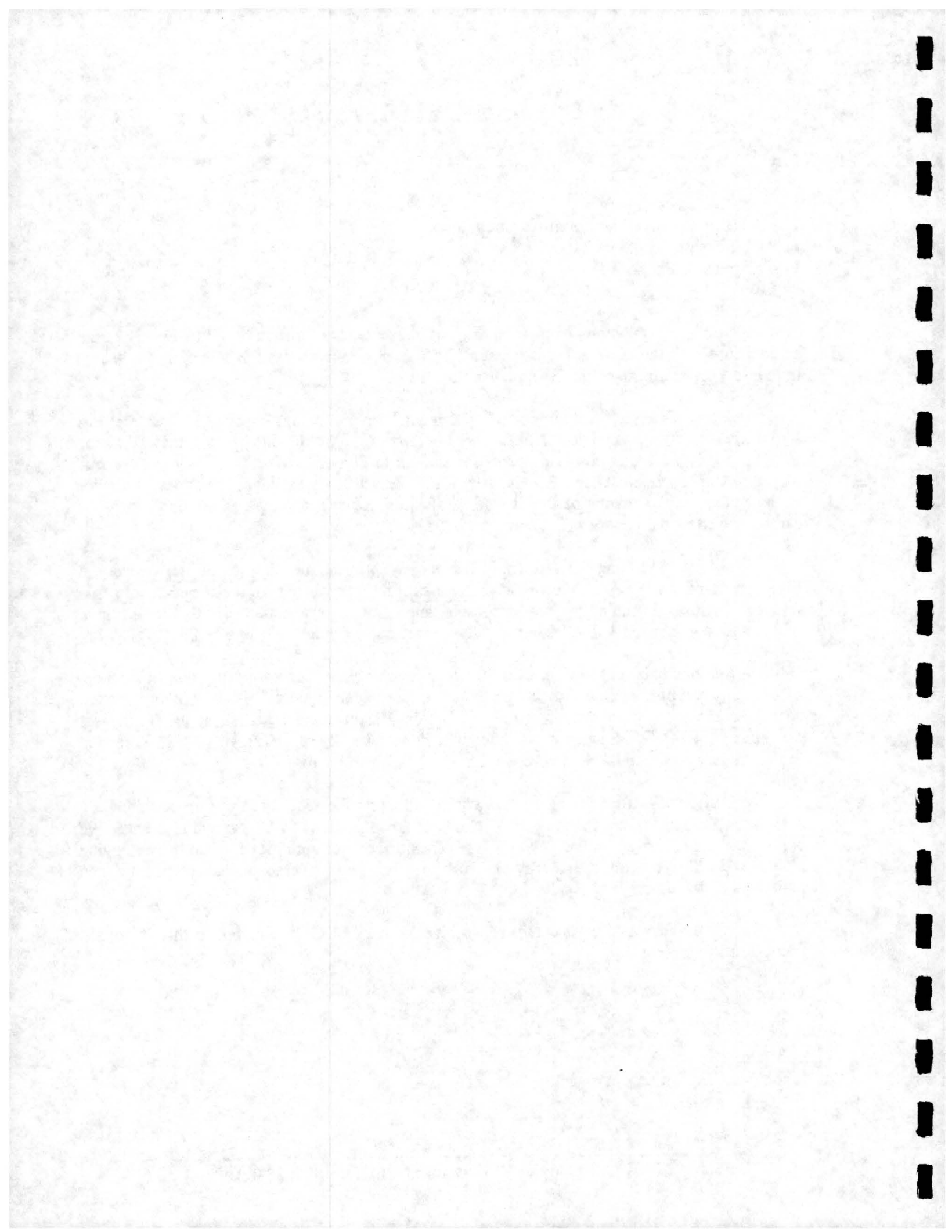
We look forward to successfully working with LACTC to accomplish this important transportation project.

Sincerely,



Bob Jamieson  
Light Rail Committee Chairman





17513

CITY OF LOS ANGELES 223130  
CALIFORNIA

BOARD OF PUBLIC WORKS  
MEMBERS

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DEPARTMENT OF  
PUBLIC WORKS  
BUREAU OF  
ENGINEERING  
ROBERT S. HORII  
CITY ENGINEER  
ROOM 800, CITY HALL  
LOS ANGELES, CA 90012

MICROFILM  
COPY

Date: JUL 22 1992

Susan Rosales, Director  
San Gabriel Valley Area  
Los Angeles County Transportation  
Commission  
818 West Seventh Street, Suite 1100  
Los Angeles, California 90017

ATTN: Art Cueto

Ms. Rosales:

**REVIEW OF THE NOTICE OF PREPARATION OF THE DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT FOR THE PASADENA - LOS ANGELES RAIL TRANSIT PROJECT**

Thank you for the opportunity to comment on the draft Supplemental Environmental Impact Report (SEIR). With regards to the analysis of the LRT Maintenance Yard alternatives, the City of Los Angeles, Police Bond Program is also considering the Taylor Yard as a potential location for its Police Academy and Driver Training Facilities. If the Taylor Yard is chosen by the Police Bond Program and your project, and/or the Burbank - Glendale - Los Angeles Rail Transit Project is located at Taylor Yard, then close coordination needs to occur between LACTC and the city's Bureau of Engineering. The draft SEIR should also address the impacts of the worst case scenario of all three projects previously mentioned sharing the Taylor Yard. Besides the City of Los Angeles, the Cornfield option might also be coordinated with the Los Angeles Unified School District, which has previously showed interest in the site. As far as the West Bank option, address any potential impacts to AMTRAK/Santa Fe operations, especially with the new Metrolink activity planned for the same area in the near future.

With regards to any aerial structures, the draft SEIR should discuss any potential impacts of the structure on adjacent roadway and sidewalks. Will the columns holding the structure hinder future widening of the adjoining roadway? Will the columns impact the adjoining sidewalk capacity or usefulness (i.e. handicapped access)?

ADDRESS ALL COMMUNICATIONS TO THE CITY ENGINEER

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Also, the draft SEIR should discuss the concerns raised that brought about the proposed changes. Are the new station locations superior in any way to those previously cleared?

If you have any questions, please contact Dorothy Meyer at (213) 485-6556.

Sincerely,

ROBERT S. HORII  
City Engineer

By

*Andres Santamaria*

ANDRES SANTAMARIA  
Division Engineer  
Project Management Division



DS13

# Lincoln Heights Preservation ASSOCIATION

1992 JUL 27 10 10 AM  
MICROFILMED

223134

July 24, 1992

Mr. Art Cueto  
Project Manager  
San Gabriel Valley Area  
Los Angeles County Transportation Commission  
818 West Seventh Street  
Los Angeles, CA 90017

RE: Notice of Preparation of a Draft Supplemental Environmental Impact Report (SEIR) - Pasadena-Los Angeles Rail Transit Project.

Dear Mr. Cueto:

Please enter into the record the following comments regarding this Notice of Preparation for the Pasadena-Los Angeles Rail Transit Project:

## I. AVENUE 26 AND MARMION WAY/FIGUEROA STATIONS

Because of their strategic locations (at the periphery of the Lincoln Heights, Cypress Park and Mount Washington neighborhoods), these two stations can naturally become major terminuses with feeder bus lines easily serving these communities, including the Southwest Museum. No consideration to eliminate either of these stations should be made.

## II. MARMION WAY/FIGUEROA STATION - Grade Separation

Every effort should be made to keep the rail lines a) at grade or b) underground. At this time we do not support an aerial grade separation.

## III. ADDITIONAL STATION - SOUTHWEST MUSEUM

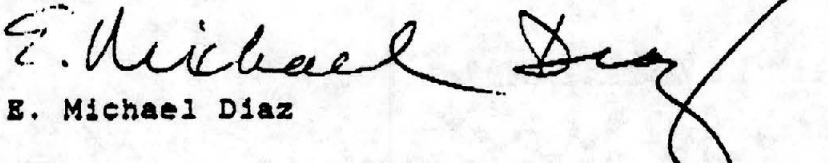
If this additional station is to be constructed, it should not be at the expense of the Marmion Way/Figueroa station which should remain as one of the major stations of this line. It should be noted that the Marmion Way/Figueroa station would more broadly serve the community at large than would the Southwest Museum station.

IV. LRT MAINTENANCE YARD

The use of the Taylor Yard as a maintenance yard is totally unacceptable for two reasons:

- ✓ 1. This parcel of land is currently being studied and planned for future development and a maintenance yard would be totally at odds with what is being considered.
- ✓ 2. This use (maintenance yard) would necessitate the demolition of the former Lincoln Heights Jail building, an action we strongly oppose.

Yours truly,



E. Michael Diaz

cc: Assemblyman Richard Polanco  
Supervisor Gloria Molina  
Councilman Richard Alatorre  
Councilman Mike Hernandez



# Highland Park Heritage Trust

Post Office Box 42894, Los Angeles, CA 90050-0894 - Telephone: (213) 258-4326

Art Cueto  
Project Manager  
LACTC  
818 W. Seventh St.  
Los Angeles, Ca. 90017

July 22, 1992

Dear Mr. Cueto:

I am following up our meeting last Thursday, July 16, 1992, with this written response to the "Notice of Preparation of a Draft Supplemental Environmental Impact Report".

We feel that the best location for the LRT Maintenance Yard would be the Cornfield Option. This location seems less disruptive than the Taylor Yard Option. The community and Councilman Mike Hernandez have worked hard to come up with an imaginative mixed-use project for the Taylor Yards that will benefit the surrounding neighborhoods. We would hate to see their efforts sidetracked.

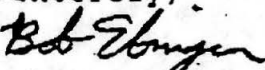
We are very concerned about the future of the old Lincoln Heights Jail. Not only does the Taylor Yard Option jeopardize the structure but also the Glendale Line. Other alternatives must be looked into to guarantee that this structure is not sacrificed in the name of light rail progress. Lincoln Heights has lost too many of their historic buildings already. We must stop thinking of historic structures as displaceable. Once these ties to the past are gone they can never be replaced or duplicated again.

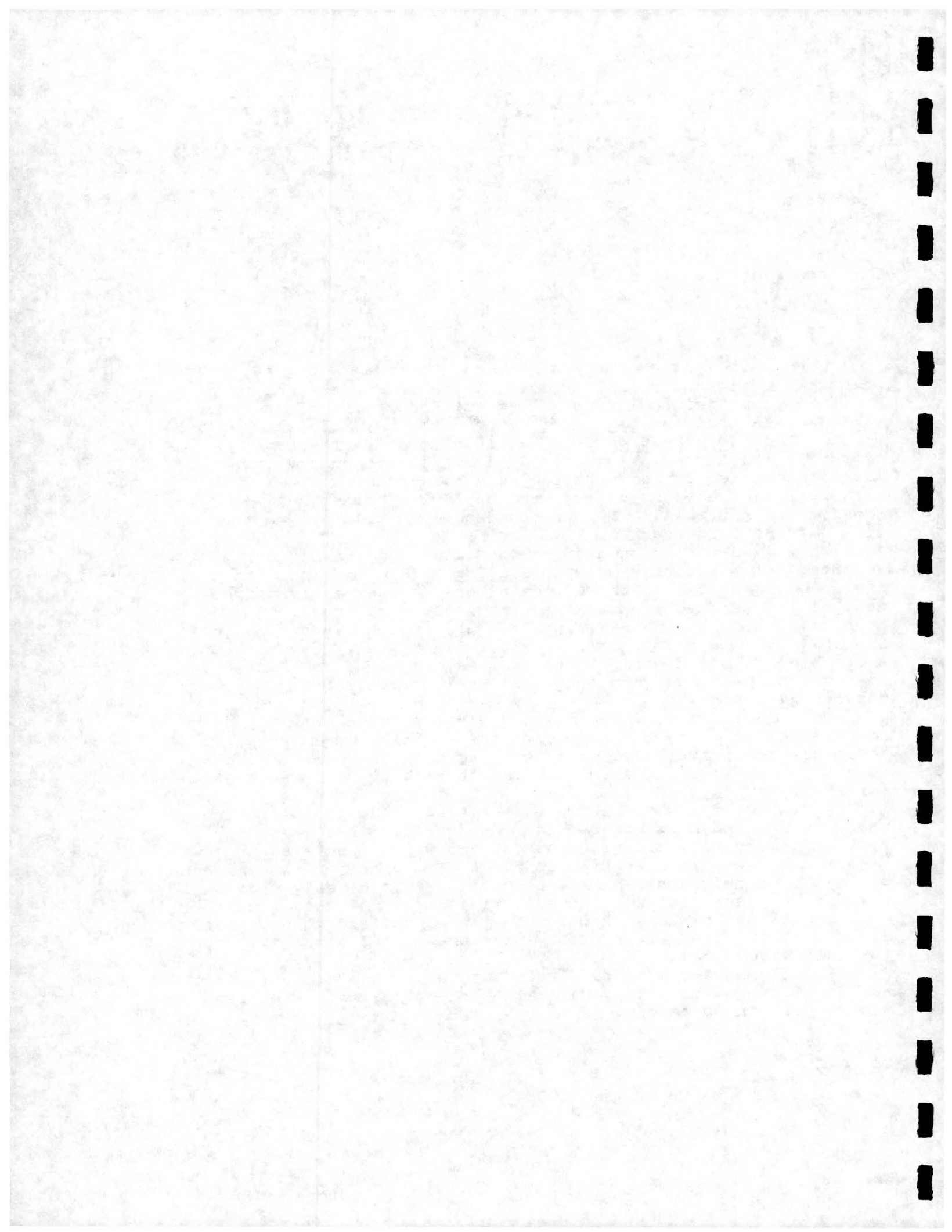
We understand the need for a grade separation at Figueroa/Marmion Way but hope that the architectural design and scale of the flyover will be in keeping with the surrounding neighborhood. This intersection is the gateway to lower Highland Park/Mt. Washington.

A station for the Museums of the Arroyo (Southwest Museum) near Ave. 45 and Marmion is a much needed addition. Highland Park is a very historic neighborhood and will soon have an Historic Preservation Overlay Zone. Not to plan for this museum station to service this historic corridor in the early stages would be a great mistake. However, this station must be an addition to the other stations. We can not afford to sacrifice other stations (Ave. 26, Figueroa/Marmion, Ave. 51) to make way for the Museum Station.

Thank you very much for including us in this comment period. We look forward to working with all parties to assure the best light rail line possible.

Sincerely,

  
Bob Ebinger



c341

223110

July 22, 1992

Mr. Art Cueto  
Los Angeles County Transportation Commission  
818 West Seventh Street, Suite 1100  
Los Angeles, CA 90017

RE: PASADENA-LOS ANGELES RAIL TRANSIT PROJECT

Dear Mr. Cueto:

Friends of the Los Angeles River is dissatisfied with the limited scope of alternatives presented for the LRT Maintenance Yard in the Notice of Preparation of the Draft SEIR for the Pasadena-Los Angeles Rail Transit Project.

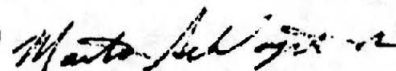
The "alternatives" suggested at Taylor Yard are unsatisfactory. Taylor Yard has tremendous potential to be developed with multiple benefits to the surrounding communities, including recreation, flood control, services and even housing. Another maintenance facility at this site will seriously limit these other opportunities, and siting it on property not already owned by LACTC is actually contradictory to freeing up area "for other desired land uses" as is suggested (NOP, p 5).

The West Bank option is insufficient, as well, as an alternative because it is just a temporary fix. If a permanent facility needs to be established, then alternatives for a permanent facility need to be presented for discussion and review.

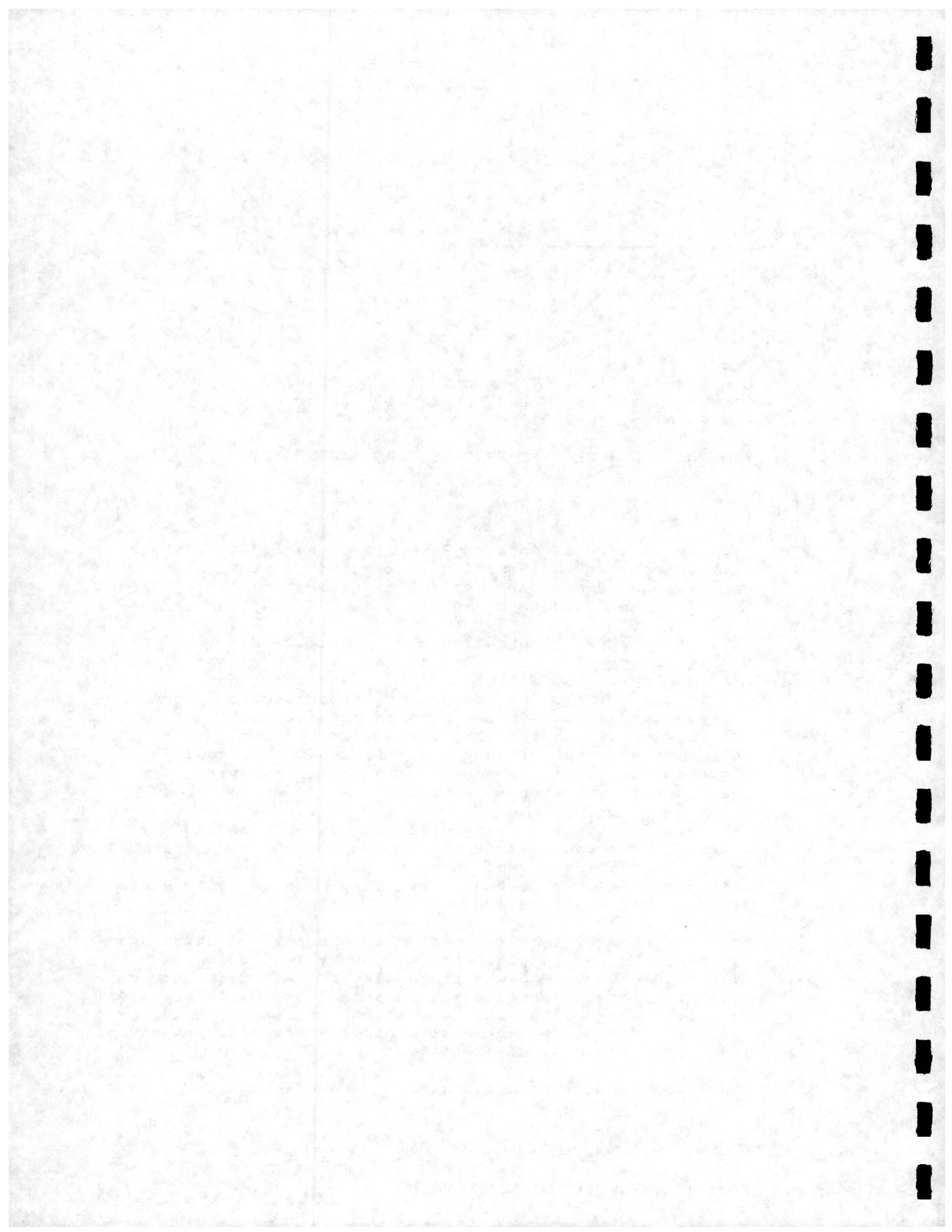
FoLAR is hopeful that the area's transportation system can be developed compatible with future revitalization and uses of the LA River. Present proposals for rail maintenance facilities are adverse to the potential at all three sites for river restoration and recreation. FoLAR urges LACTC to present and consider other alternatives, true alternatives, for a maintenance facility site.

Thank you for this opportunity to comment.

Sincerely,



MARTIN SCHLAGETER



# DRAFT

July 29, 1992

MEMO TO: SARAH SIWEK  
DIRECTOR, TRANSPORTATION DEMAND MANAGEMENT PROGRAM

FROM: LARRY TORRES  
PROJECT MANAGER, SAN GABRIEL VALLEY AREA

SUBJECT: COUNTY OF LOS ANGELES SHUTTLE SERVICE

*This letter is written in support of the proposed County of Los Angeles Children's Court Shuttle Service.*

The County of Los Angeles Department of Public Works submitted an application to implement a shuttle service to the Children's Court facility in Monterey Park. The requested funding for this program is Transportation Demand Management Program funds.

~~This letter is written in support of the proposed project.~~ *This*  
The project is of regional significance since it is a joint Countywide service improving passenger mobility and access to the Court from all areas of Los Angeles County. The shuttle will provide transportation to the Court from the bus/rail station at California State University Los Angeles and other interconnecting SCRTD lines. The County has estimated annual ridership of 255,000 which will serve to limit traffic congestion on streets and freeways in the San Gabriel Valley. The project also has the full support of the SCRTD, and they have cooperatively agreed to reroute buses to accommodate this service.

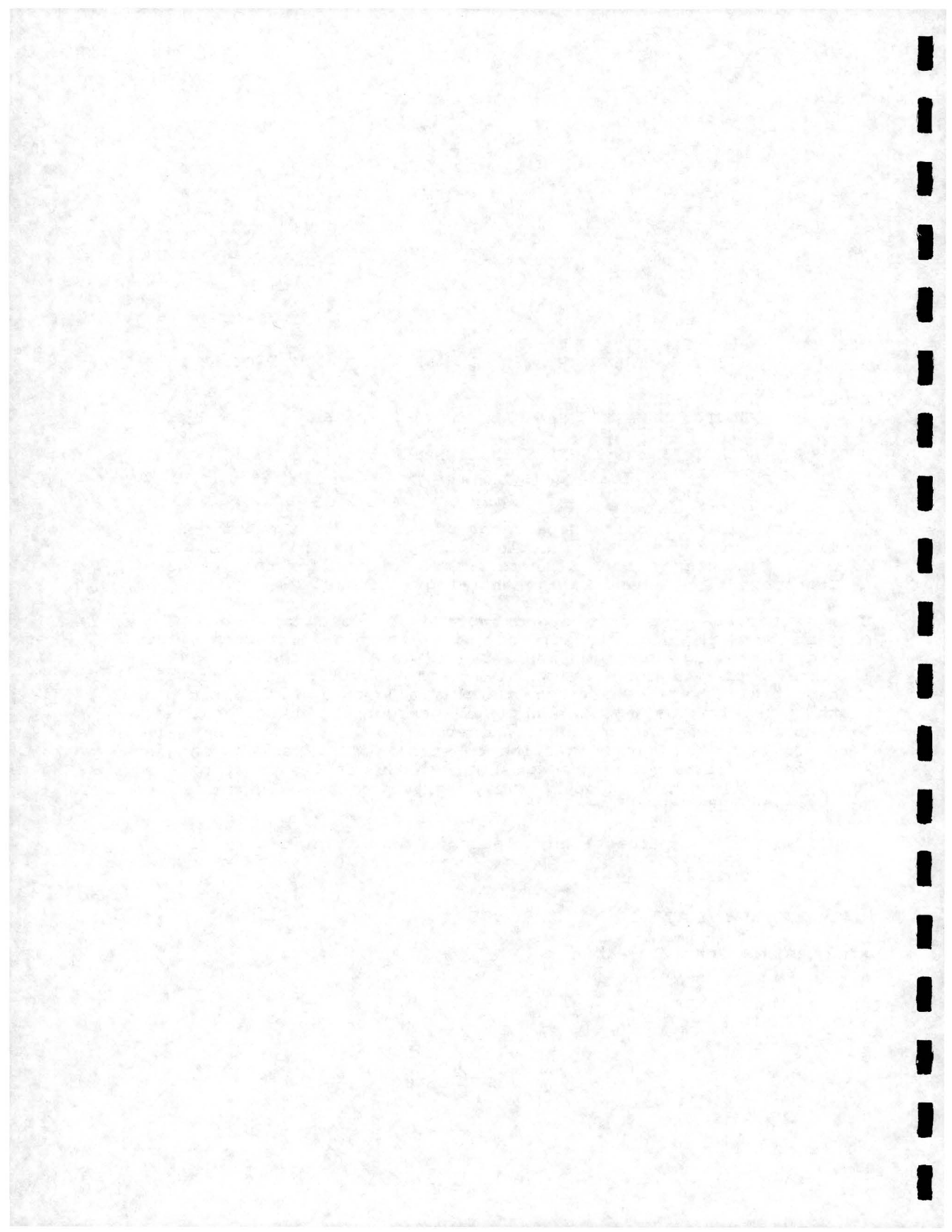
Should you have any questions, please contact me at ext. 6332.

LRT:lhms

b:Siwek729.LRT/SGVAT-2

cc: Desiree Portillo-Rabinov  
Susan Rosales

*Greg K. Kelly  
L. D. Stringer*





JUL 27 02 14:01  
L 360 011  
10:010 000 0000  
600 Rim Road  
Pasadena, Ca. 91107  
July 24, 1992

Mr. Art Cueto  
Los Angeles County Transportation Commission  
818 West Seventh Street  
Suite 1100  
Los Angeles, Ca. 90017

Re: Pasadena-Los Angeles Rail Transit Project

Dear Mr. Cueto:

In response to the Notice of Preparation of a Draft Supplemental Environmental Impact Report, I am requesting that LACTC keep its commitments to the citizens of Pasadena and Los Angeles County. Both Los Angeles County Transportation Commission and the City of Pasadena have failed to address the critical issues identified by the community in the Environmental Impact Review process several years ago. The effort to finalize the Environmental Impact Report for the Pasadena to Los Angeles Light Rail Transit Project included a clear and unequivocal commitment to conduct a detailed review of site-specific requirements of the proposed Sierra Madre Villa terminus (see page 4-27, comment C-15, submitted by Mr. Clifford L. Benedict, President, LHRA, Final EIR). To date, that promised review of site-specific requirements has yet to be commenced. Nonetheless, the City of Pasadena Transportation Advisory Commission, based upon City staff recommendations, moved forward with their station site selection recommendations. Without the additional study acknowledged as necessary by the LACTC in answer to Mr. Benedict's original EIR comments, the environmental documentation contained in the "Final" EIR is insufficient to build a terminus at the Sierra Madre Villa site.

Before a final determination on station locations is reached, it is imperative that the following issues be resolved.

1. That the promised review of site-specific requirements be conducted and presented for public comment;
2. That the "Evaluation of Potential Traffic Impacts at Additional Intersections" suggested in the "Final" EIR be conducted as originally promised;
3. That an evaluation of the impacts on air quality in East Pasadena due to increased traffic congestion caused by slow-moving automobiles and buses;
4. That any additional environmental work necessary to siting a

light rail terminus also be conducted and circulated to impacted parties.

These three issues need to be strongly addressed in any environmental studies undertaken by your agency.

Very truly yours,

*Diane Kirby*

Diane Kirby

cc: Mr. Michael Antonovich, Supervisor, Los Angeles County  
Mr. Neil Peterson, Executive Director, LACTC  
Mr. Philip Hawkey, Pasadena City Manager  
Mr. William Papanian, Pasadena City Councilman, District 4  
Ms. Jackie Matosian, Pasadena Transportation Commission  
Mr. Clifford Benedict, Lower Hastings Ranch Association  
Ms. Pat Rowan, Daisy-Villa Homeowners' Association  
Star News

600 Rim Road  
Pasadena, Ca. 91107  
July 24, 1992

Mr. Art Cuato  
Los Angeles County Transportation Commission  
818 West Seventh Street  
Suite 1100  
Los Angeles, Ca. 90017

Re: Pasadena-Los Angeles Rail Transit Project

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*Diane Kirby*

Diane Kirby

cc: Mr. Michael Antonovich, Supervisor, Los Angeles County  
Mr. Neil Peterson, Executive Director, LACTC  
Mr. Philip Hawkey, Pasadena City Manager  
Mr. William Papparian, Pasadena City Councilman, District 4  
Ms. Jackie Matosian, Pasadena Transportation Commission  
Mr. Clifford Benedict, Lower Hastings Ranch Association  
Ms. Pat Rowan, Daisy-Villa Homeowners' Association  
Star News



ADDRESS ALL COMMUNICATIONS  
TO THE COMMISSION  
107 SOUTH BROADWAY, ROOM 5108  
LOS ANGELES, CA 90012  
TELEPHONE: (213) 897-

8340

## Public Utilities Commission

STATE OF CALIFORNIA

July 27, 1992

FILE NO.

183/19/84L/EIR

Art Cueto  
Los Angeles County Transportation Commission  
818 West Seventh Street, Suite 1100  
Los Angeles, CA 90017

Dear Mr. Cueto:

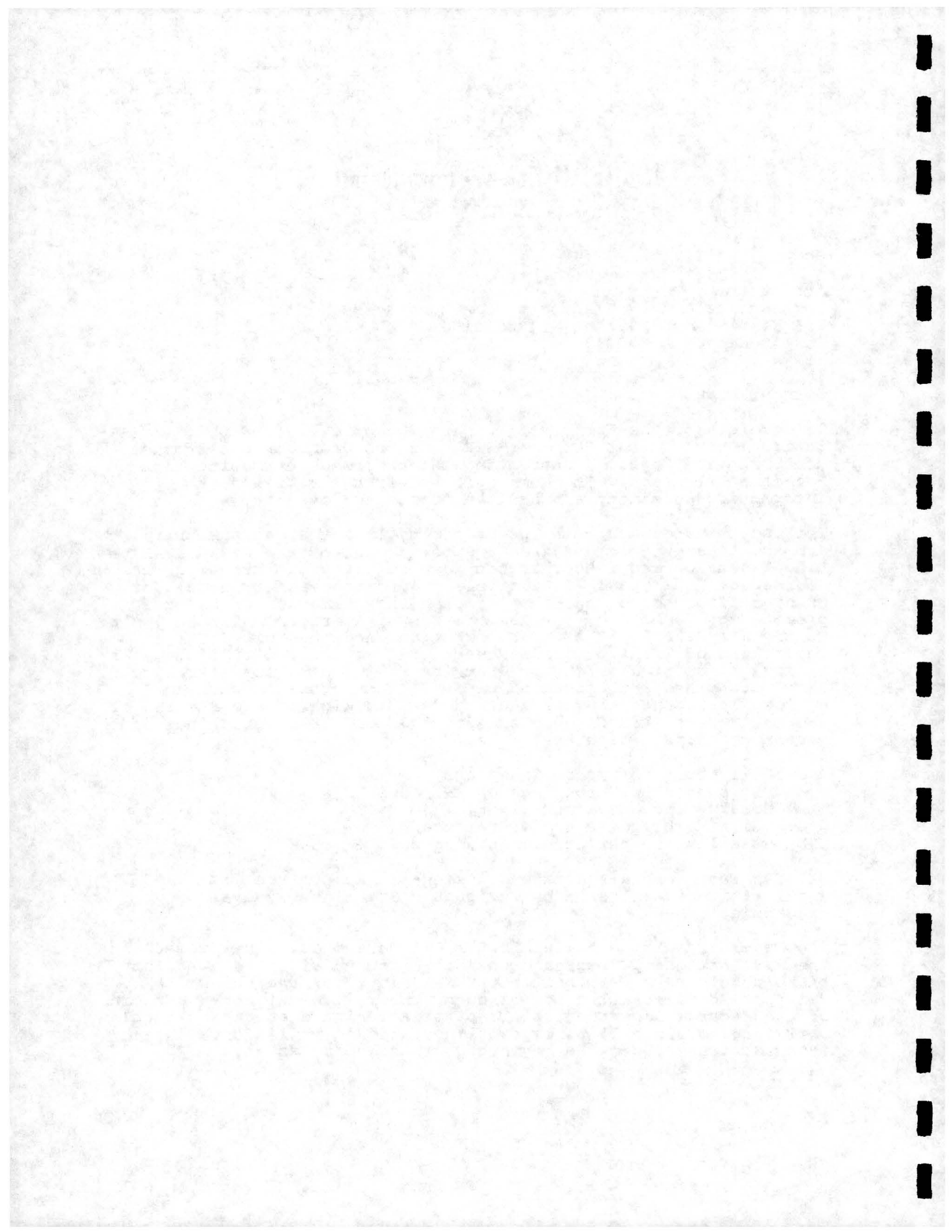
This refers to the Notice of Preparation of a Draft Supplemental Environmental Impact Report (SEIR) for the Pasadena-Los Angeles Rail Transit Project, concerning the proposed Metro Blue Line Pasadena Extension. The Commission staff has reviewed the information submitted and has the following comments:

The recent agreement with The Atchison, Topeka & Santa Fe Railway Company to acquire the Pasadena Subdivision for the Pasadena Blue Line Extension requires that the issue of at-grade crossings be addressed. The Staff, in its role to increase safety at all at-grade railroad crossings, has adopted the policy on crossings promoted by Members of the Association of American Railroads, the California Department of Transportation, and the United States Department of Transportation Federal Highway Administration. The policy calls for a safety program for the elimination of railroad grade crossings and upgrading present grade crossing warning devices in accordance with the Federal Aid Highway Program Manual and the Federal-Aid Highway Acts of 1973 and 1976 guidelines and recommendations, which are:

- I. Elimination of Grade Crossings
  - A. Close existing crossings where possible.
  - B. Construct grade separations.
  - C. Relocate highways and/or railroads.
  - D. Establish no new crossings at-grade.

- II. Upgrade remaining grade crossings in accordance with priorities established by designated State and Federal Agencies.

The Federal Railroad Administrator Gil Carmichael, in a speech at the 1991 National Conference on Rail-Highway Safety, stated that there should be a national initiative, in which the Federal Railroad Administration is joined by the railroads, other agencies of the Federal Department of Transportation, and state and local officials to close 25 percent of the nation's rail-highway intersections before the beginning of the next century.



**Community Redevelopment Agency**

City  
Angeles

354 South Spring Street  
Suite 800  
Los Angeles  
California 90013-1258  
213 977 1600

Telex  
Number 213 877 1665

Date JUL 27 1992

File Code

Susan Rosales  
Director, San Gabriel Valley Area  
LACTC  
818 West Seventh Street Suite 1100  
Los Angeles, CA 90017

Attn: Art Cueto

**SUBJECT: NOTICE OF PREPARATION OF A DRAFT  
SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT  
PASADENA - LOS ANGELES RAIL TRANSIT PROJECT**

Dear Mr. Cueto,

The following are comments for the subject Notice of Preparation.

**A. LRT MAINTENANCE YARD**

A fourth option should be added, which would provide that all maintenance be performed at the existing Blue Line maintenance facility in Long Beach and, therefore, no maintenance need be performed in the Taylor Yard or Chinatown areas. This could be accomplished by constructing a temporary, non-revenue connection between the Pasadena line and the Long Beach line, probably utilizing existing rail tracks along the Los Angeles River owned by LACTC. To reduce impact on the residential areas along the Blue Line, a small storage area could be identified (possibly in the Red Line yard area) so that the cars needed to begin morning service from Pasadena would not need to be moved along the Blue Line in the early morning hours.

The EIR should also recognize that the construction of the Blue Line Downtown Connector would also provide the connectivity needed to service vehicles at the existing yard. The Downtown Connector would directly connect the Pasadena and Long Beach segments of the Blue line and Glendale line is not constructed at all. In the adopted 30 Year Plan, the Downtown Connector is a funded project, while Burbank-Glendale is a candidate (thus lower-priority) project. A maintenance solution which recognizes the possibility of a Downtown Connector without a Burbank-Glendale project should be recognized.

- M. Wood
- v
- H. Emmons
- W. Hall, Jr.
- Thomas Klyne, Jr.
- Crashley
- Larson
- R. Lane
- J. A. ...
- ...

Commission records show that the AT&SF Pasadena subdivision has forty-two at-grade crossings from Los Angeles to Pasadena. The Staff feels that LACTC's SEIR should study the elimination of perhaps twenty five percent of the at-grade crossings along the AT&SF Pasadena subdivision. This is especially significant when considering that the conversion of the AT&SF line to light rail will result in a great increase in the number of trains per day, and that many of the crossings on this line are situated at one block intervals from each other.

Thank you for allowing us the opportunity to comment on this matter. We appreciate your keeping us informed of all the above matters, with which the Commission staff is concerned. If you require further information, please contact me at the above address and telephone number.

Very truly yours,



Jesus Escamilla  
Associate Transportation Engineer  
Traffic Engineering Section  
Safety Division



# Los Angeles Unified School District

WILLIAM R. ANTON  
Superintendent of Schools  
ROBERT BOOKER  
Chief Business & Financial Officer

## Business Services Division

DAVID W. KOCH  
Division Administrator, Business Services  
C. DOUGLAS BROWN  
Deputy Administrator, Business Services  
BOB NICCUM  
Director of Facilities Planning &  
Real Estate

Environmental Review File  
Pasadena-Los Angeles Rail Transit Project

July 27, 1992

Mr. Art Cueto  
Los Angeles County Transportation Commission  
818 West Seventh Street, Suite 1100  
Los Angeles, CA 90017

Dear Mr. Cueto:

Re: Pasadena-Los Angeles Rail Transit Project

Thank you for providing us the opportunity to comment on the scope and content of the supplemental environmental impact report [SEIR] for the above-referenced project.

The initial study for the SEIR concluded that there would be no significant adverse impacts on public services, including schools. While there may be no significant impacts on student generation, it seems there may be impacts on schools in that the project may adversely impact safe routes to school, and may create noise or other impacts over and above those considered by the previously-approved EIR. Please change the determination accordingly, and consider the following in the SEIR:

The Los Angeles Unified School District expressed concern previously about noise impacts of the route as it passed adjacent to the Arroyo Seco School. The response was that the depressed rail configuration would form a natural noise barrier and adequately attenuate rail transit noise levels. Because of the recently-proposed station in this area, and the accompanying increases in traffic noise and congestion, we ask that the LACTC conduct thorough baseline measurements for noise, inside the classrooms which will be nearest to noise sources, with windows opened and closed. Measurements should also be taken on the playground, and in other appropriate locations. Please then estimate increased noise, and provide mitigation.

The District is also concerned about noise impacts at schools near the proposed Taylor Yard maintenance facility, especially because these schools are at a higher elevation than the Taylor Yard, and because of prevailing winds in the direction of some of the schools which will increase noise. Mitigation by the construction of noise barriers might not be effective because of the schools' elevation. Please therefore conduct ambient noise measurements at Glassell Park Elementary School or any other school likely to be subject to above-criteria noise from this project, or from the cumulative uses at Taylor Yard. Then add to these the projections of project noise, bearing in mind the prevailing winds, and the higher school elevations.

July 27, 1992

Please carefully analyze the traffic and parking impacts of the proposed Southwest Museum station. Traffic analysis should include pedestrian as well as vehicular traffic, and the parking analysis should review impacts of spillover parking on parking spaces which might now be available to school staff, parents, and visitors.

Attached is a map of pedestrian routes to school. Safety of schoolchildren that frequent this area should be of paramount importance in station design. Mitigation measures relating to communications about safe pedestrian routes to school may need to be in English, as well as in other languages, in order to be effective.

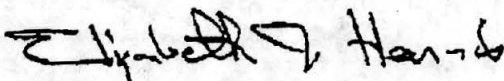
The District is concerned about transit stations in that they may contribute to localized pollution. Please comment on carbon monoxide or other emissions, as they may impact schoolchildren. Please discuss the air quality impacts on the Arroyo Seco School and at other schools near transit stations.

Is an interim terminus station still proposed at Marmion Way and Avenue 57?

In addition to the above-listed concerns, please consider the attached comments which are provided by the District's Environmental Health and Safety Branch, and by the Office of School Traffic and Safety Education Section. These comments should be incorporated by reference into this letter.

Thank you for your consideration of our concerns.

Very truly yours,



Elizabeth J. Harris  
California Environmental Quality Act Officer  
for the Los Angeles Unified School District

Attachments

- |                |              |
|----------------|--------------|
| c: Ms. Quezada | Mr. Prescott |
| Mr. Slavkin    | Mr. Brown    |
| Dr. Anton      | Mr. Niccum   |
| Dr. Booker     | Ms. Wong     |
| Mr. Leichty    | Mr. Rector   |
| Ms. Stockwell  | Mr. Warnick  |
| Ms. Castillo   | Mr. Ziegel   |
| Mr. Koch       |              |

ATTACHMENT  
COMMENTS OF ENVIRONMENTAL HEALTH AND SAFETY BRANCH, LAUSD

1. Should the Taylor Yard be selected as the Light Rail Transit (LRT) maintenance facility location, cumulative adverse impacts may result in the surrounding communities. It is very important that the cumulative impacts which may result from having three rail maintenance facilities (Southern Pacific, Light Rail Transit and MetroLink) in such close proximity to each other be thoroughly evaluated. Of particular concern to the District are noise, air quality, traffic, and human health impacts.
2. The DIS should also indicate that the SEIR will examine sites in the City of Pasadena as potential locations for the LRT maintenance facility. The only options mentioned in the DIS are in the City of Los Angeles.
3. The DIS does not state that a below grade option for the Figueroa/Marmion Way intersection will be considered in the SEIR. The below grade option should be discussed similarly as discussed for Colorado Boulevard. If the below grade option is not feasible, the SEIR should indicate the factors which render it infeasible.
4. The DIS should note that environmental problems may be present at the Cornfield site and an environmental assessment of this property is certainly needed prior to construction at this location. The SEIR should report the results of any environmental assessments and include recommendations for remediation if necessary.

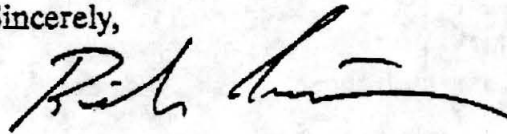
B. SOUTHWEST MUSEUM STATION

The Community Redevelopment Agency recently acquired the Ziegler Estate for the development of a child care facility. The property at 4601 North Figueroa Street is located immediately adjacent to the proposed Southwest Museum Station and is a Los Angeles City Historic-Cultural Monument. Agency staff has previously reviewed this project with LACTC staff and we request that the EIR recognize and evaluate the impact of a rail station on this property.

LA

Thank you for the opportunity to comment on the NOP. If you have any question regarding our comments, please contact Dan Beal, Director of Transportation, at (213) 977-1780.

Sincerely,



Rich Macias  
Principal Environmental Planner

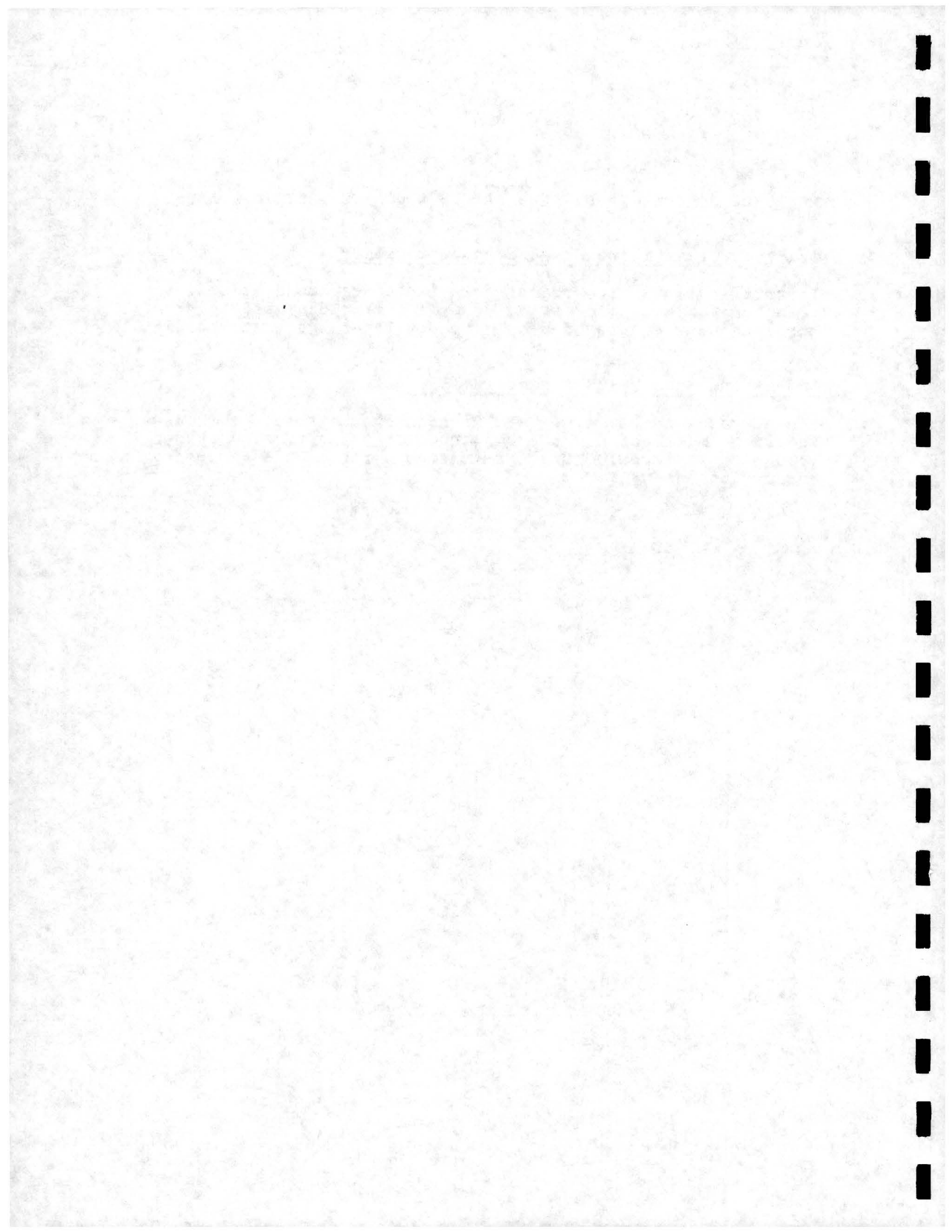
ATTACHMENT  
COMMENTS OF SCHOOL TRAFFIC AND SAFETY EDUCATION SECTION, LAUSD

A. Traffic Volume Increases and Accountability

If traffic flows are projected as increases at any time to a point of warranting crossing guards for student safety, the cost should be provided by the developer generating that increase.

B. Access and School Bus Consideration

Since school buses serve each school in the area, a review should be made of how the construction or operation stages of the project could impact regular bus routes and emergency evacuations as well.





**MWD**

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Office of the General Manager

JUL 23 1984

Mr. Art Cueto  
Los Angeles County Transportation Commission  
818 West Seventh Street  
Suite 1100  
Los Angeles, California 90017

Dear Mr. Cueto:

Notice of Preparation of a Draft Supplemental  
Environmental Impact Report  
for the Pasadena-Los Angeles Rail Transit Project

We have received the Notice of Preparation (NOP) of a Draft Supplemental Environmental Impact Report (DSEIR) for the Pasadena-Los Angeles Rail Transit Project. The project proposes to comply with the public mandate outlined in Proposition A and to provide the citizens in the Pasadena-Los Angeles Corridor with a safe and efficient light rail transit system. The comments herein represent Metropolitan's response as a potentially affected public agency.

Our review of the NOP indicates that Metropolitan has four facilities in the vicinity of your proposed project. Metropolitan's San Marino Lateral pipeline crosses the northern portion of the project area and travels in a southerly direction. Service Connection SMR-1 borders the northern portion of the project area. Metropolitan's Palos Verde Feeder pipeline crosses the project area and travels in a southerly direction and Service Connection LA-3 lies in the area of this crossing. The attached map shows Metropolitan's facilities in relation to your proposed project. It will be necessary to consider these locations in your project planning.

In order to avoid potential conflicts with Metropolitan's facilities, ~~we request that preliminary prints of all improvement plans for any activity in the area of Metropolitan's pipelines and rights-of-way be submitted for our review and written approval.~~ You may obtain detailed prints of drawings of Metropolitan's pipelines and rights-of-way by calling Metropolitan's Substructures Information Line at (213) 250-6564. A statement of guidelines for development in Metropolitan's facilities area, fee properties or easements has been attached for your information.

Mr. Art Cueto

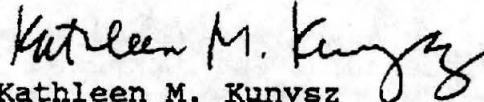
- 2 -

JUL 23 1992

Additionally, Metropolitan encourages projects within its service area to include water conservation measures. While Metropolitan continues to build new supplies and develop means for more efficient use of current resources, drought and rapid development have put increasing demands on the current system. Water conservation, reclaimed water use, and ground water recharge programs contribute to local supplies. Metropolitan supports mitigation measures such as using water efficient fixtures, drought tolerant landscaping, and reclaimed water to off-set any increase in water use associated with your proposed project.

We appreciate the opportunity to provide input to your planning process. If we can be of further assistance, please contact me at (213) 250-6272.

Very truly yours,



Kathleen M. Kunysz  
Manager, Environmental Affairs

DW/ch

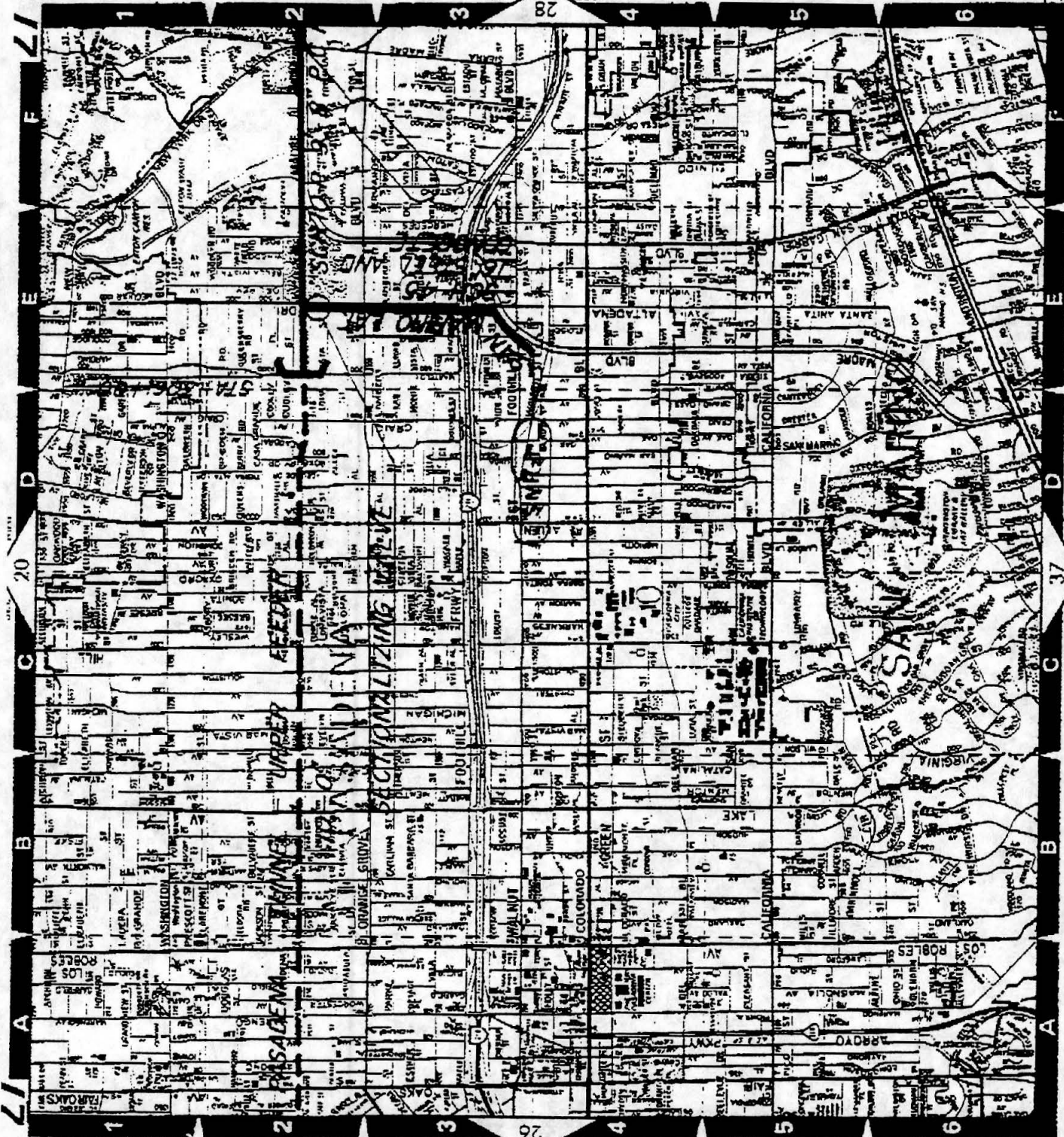
Attachments



SEE MAP 28

SEE MAP 26

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Vertical labels on the left side: A, B, C, D, E, F

Vertical labels on the right side: A, B, C, D, E, F

Horizontal labels at the top: 1, 2, 3, 4, 5, 6

Horizontal labels at the bottom: 1, 2, 3, 4, 5, 6

Vertical labels on the left side: A, B, C, D, E, F

Vertical labels on the right side: A, B, C, D, E, F

Horizontal labels at the top: 1, 2, 3, 4, 5, 6

Horizontal labels at the bottom: 1, 2, 3, 4, 5, 6



35

SEE MAP 25

35

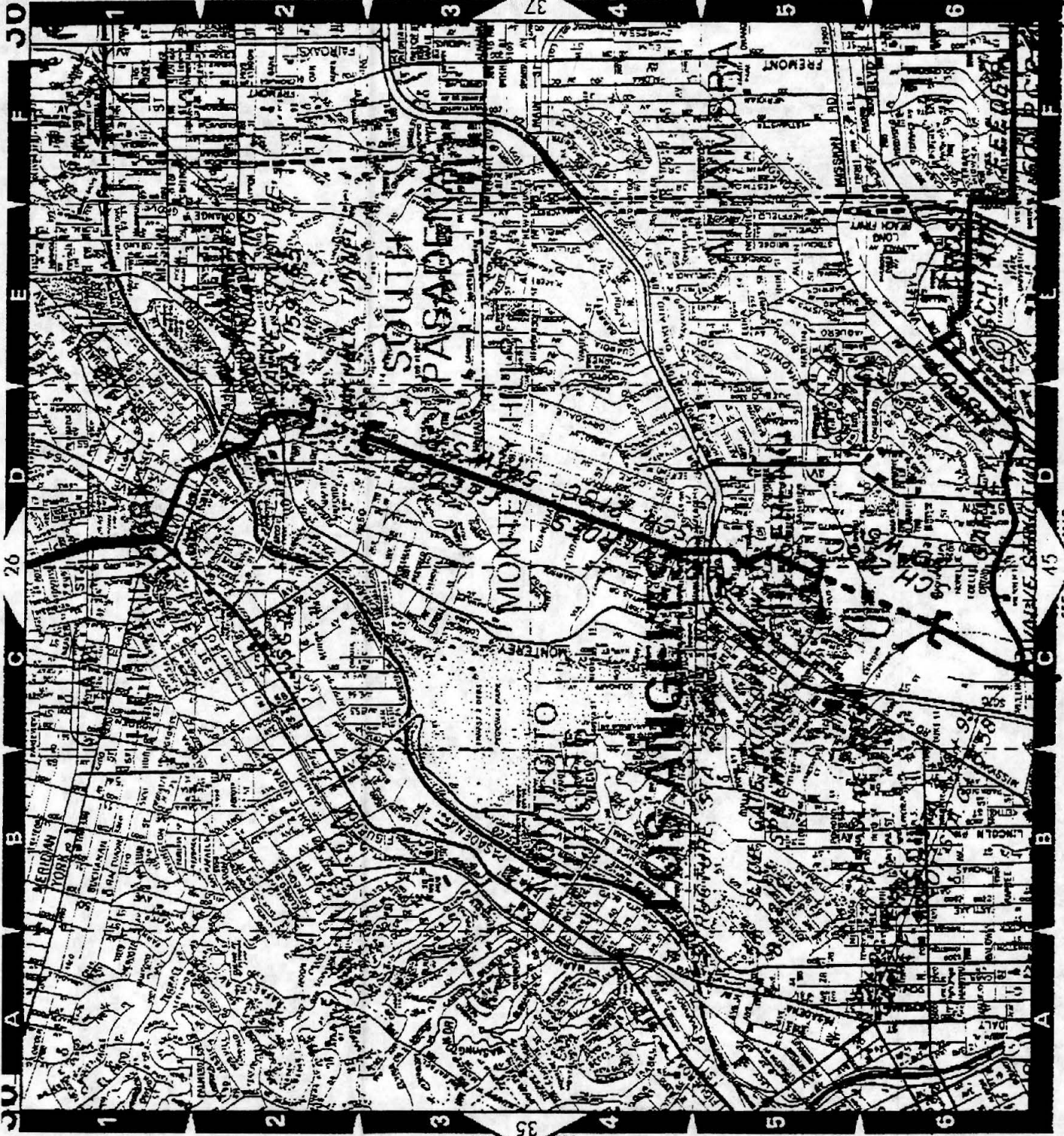
SEE MAP 36

SEE MAP 34

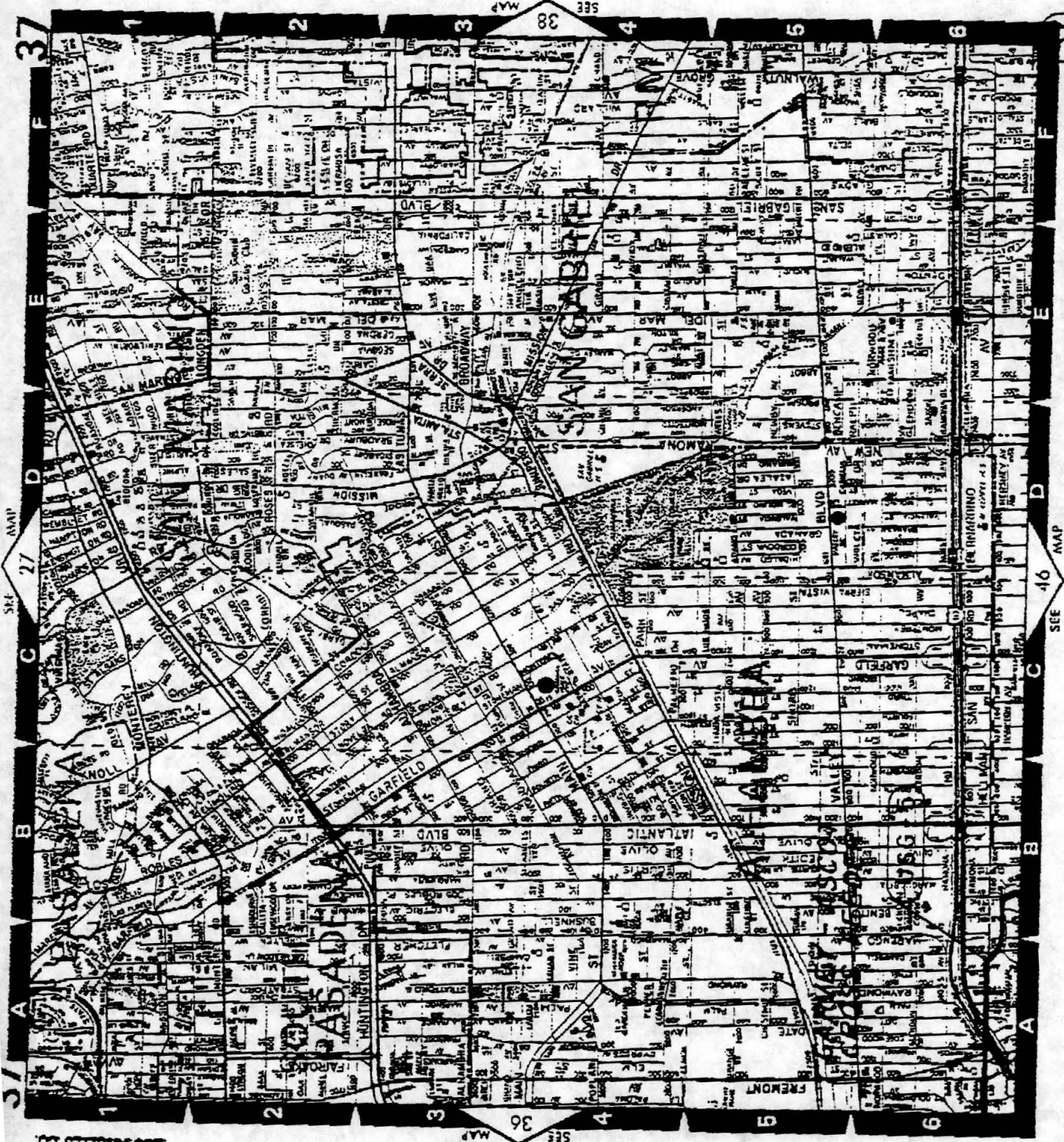
LOS ANGELES CO

DETAIL

SEE MAP 44



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LOS ANGELES CO.

LOS ANGELES CO.

DETAIL

SEE MAP 36

SEE MAP 46

SEE MAP 27

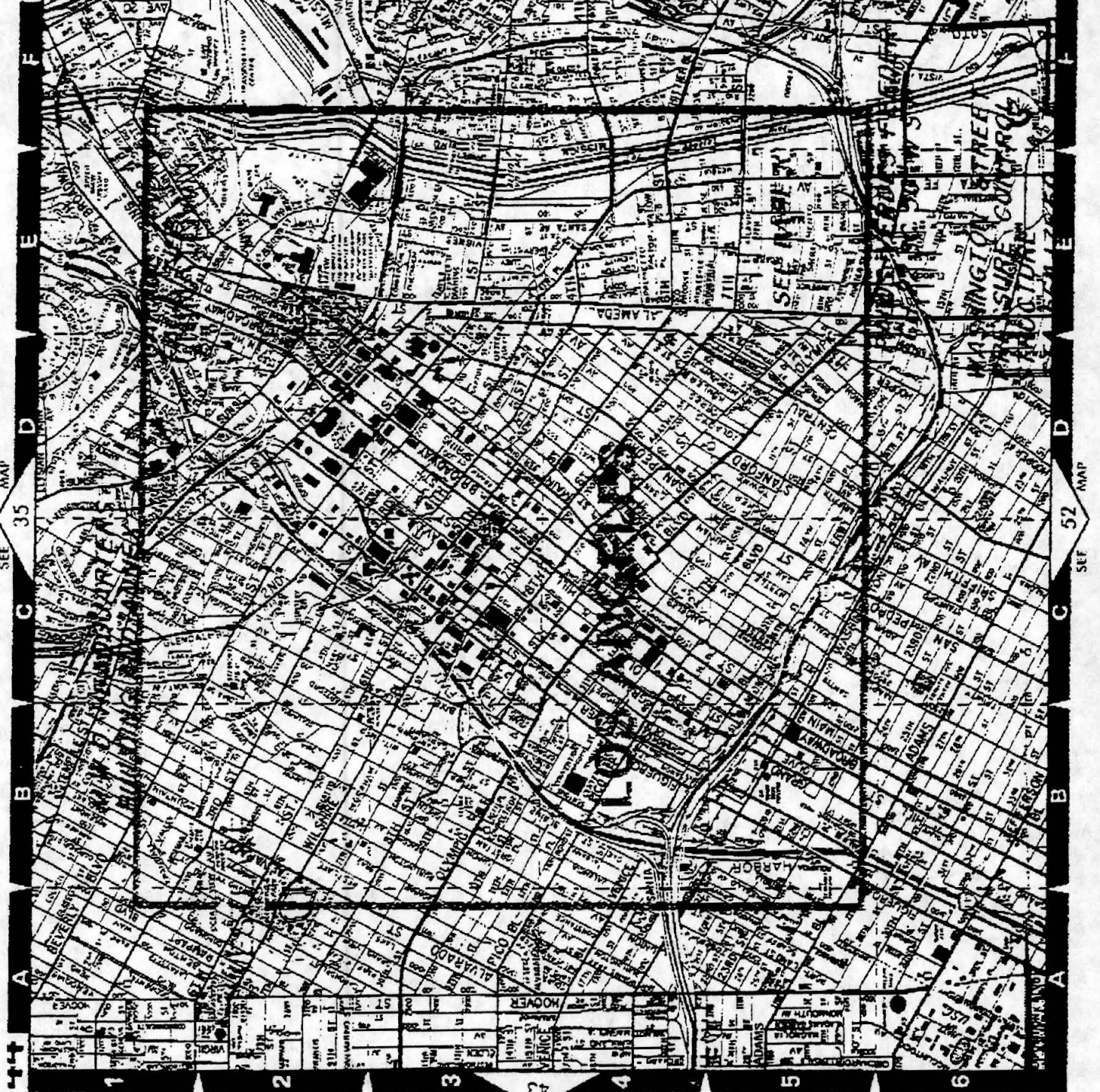
SEE MAP 38

LOS ANGELES CO.

DETAIL

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44



SEE MAP 35

SEE MAP 45

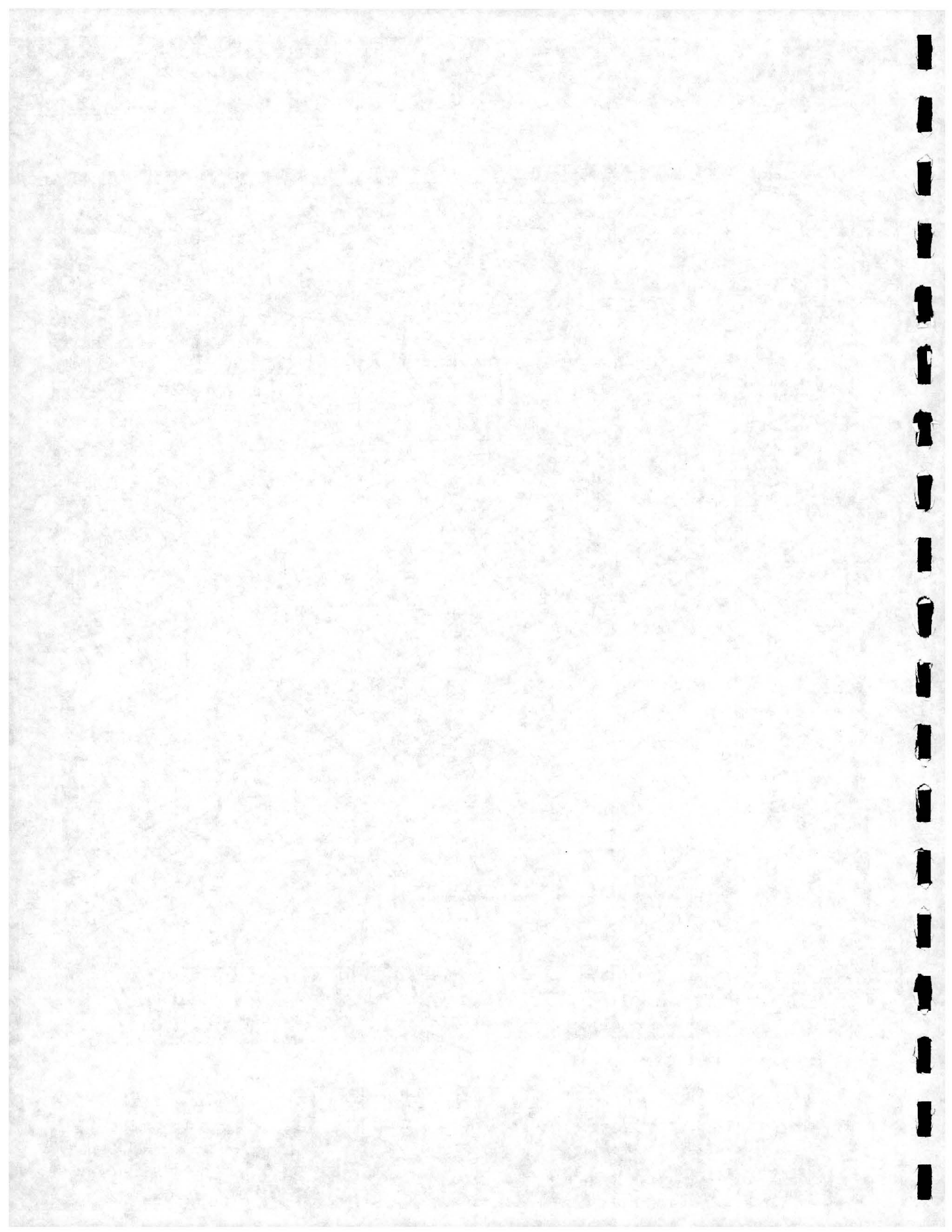
SEE MAP 52

44

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SEE MAP 43





Guidelines for Developments in the  
Area of Facilities, Fee Properties, and/or Easements  
of The Metropolitan Water District of Southern California

1. Introduction

a. The following general guidelines should be followed for the design of proposed facilities and developments in the area of Metropolitan's facilities, fee properties, and/or easements.

b. We require that 3 copies of your tentative and final record maps, grading, paving, street improvement, landscape, storm drain, and utility plans be submitted for our review and written approval as they pertain to Metropolitan's facilities, fee properties and/or easements, prior to the commencement of any construction work.

2. Plans, Parcel and Tract Maps

The following are Metropolitan's requirements for the identification of its facilities, fee properties, and/or easements on your plans, parcel maps and tract maps:

a. Metropolitan's fee properties and/or easements and its pipelines and other facilities must be fully shown and identified as Metropolitan's on all applicable plans.

b. Metropolitan's fee properties and/or easements must be shown and identified as Metropolitan's with the official recording data on all applicable parcel and tract maps.

c. Metropolitan's fee properties and/or easements and existing survey monuments must be dimensionally tied to the parcel or tract boundaries.

d. Metropolitan's records of surveys must be referenced on the parcel and tract maps.

e. Metropolitan's pipelines and other facilities, e.g. structures, manholes, equipment, survey monuments, etc. within its fee properties and/or easements must be protected from damage by the easement holder on Metropolitan's property or the property owner where Metropolitan has an easement, at no expense to Metropolitan. If the facility is a cathodic protection station it shall be located prior to any grading or excavation. The exact location, description and way of protection shall be shown on the related plans for the easement area.

4. Easements on Metropolitan's Property

a. We encourage the use of Metropolitan's fee rights-of-way by governmental agencies for public street and utility purposes; provided that such use does not interfere with Metropolitan's use of the property, the entire width of the property is accepted into the agency's public street system and fair market value is paid for such use of the right-of-way.

b. Please contact the Director of Metropolitan's Right of Way and Land Division, telephone (213) 250-6302, concerning easements for landscaping, street, storm drain, sewer, water or other public facilities proposed within Metropolitan's fee properties. A map and legal description of the requested easements must be submitted. Also, written evidence must be submitted that shows the city or county will accept the easement for the specific purposes into its public system. The grant of the easement will be subject to Metropolitan's rights to use its land for water pipelines and related purposes to the same extent as if such grant had not been made. There will be a charge for the easement. Please note that, if entry is required on the property prior to issuance of the easement, an entry permit must be obtained. There will also be a charge for the entry permit.

5. Landscaping

Metropolitan's landscape guidelines for its fee properties and/or easements are as follows:

a. A green belt may be allowed within Metropolitan's fee property or easement.

b. All landscape plans shall show the location and size of Metropolitan's fee property and/or easement and the location and size of Metropolitan's pipeline or other facilities therein.



a. Permanent structures, including catch basins, manholes, power poles, telephone riser boxes, etc., shall not be located within its fee properties and/or easements.

b. We request that permanent utility structures within public streets, in which Metropolitan's facilities are constructed under the Metropolitan Water District Act, be placed as far from our pipeline as possible, but not closer than 5 feet from the outside of our pipeline.

c. The installation of utilities over or under Metropolitan's pipeline(s) must be in accordance with the requirements shown on the enclosed prints of Drawings Nos. C-11632 and C-9547. Whenever possible we request a minimum of one foot clearance between Metropolitan's pipe and your facility. Temporary support of Metropolitan's pipe may also be required at undercrossings of its pipe in an open trench. The temporary support plans must be reviewed and approved by Metropolitan.

d. Lateral utility crossings of Metropolitan's pipelines must be as perpendicular to its pipeline alignment as practical. Prior to any excavation our pipeline shall be located manually and any excavation within two feet of our pipeline must be done by hand. This shall be noted on the appropriate drawings.

e. Utilities constructed longitudinally within Metropolitan's rights-of-way must be located outside the theoretical trench prism for uncovering its pipeline and must be located parallel to and as close to its rights-of-way lines as practical.

f. When piping is jacked or installed in jacked casing or tunnel under Metropolitan's pipe, there must be at least two feet of vertical clearance between the bottom of Metropolitan's pipe and the top of the jacked pipe, jacked casing or tunnel. We also require that detail drawings of the shoring for the jacking or tunneling pits be submitted for our review and approval. Provisions must be made to grout any voids around the exterior of the jacked pipe, jacked casing or tunnel. If the piping is installed in a jacked casing or tunnel the annular space between the piping and the jacked casing or tunnel must be filled with grout.

j. Potholing of Metropolitan's pipeline is required if the vertical clearance between a utility and Metropolitan's pipeline is indicated on the plan to be one foot or less. If the indicated clearance is between one and two feet, potholing is suggested. Metropolitan will provide a representative to assist others in locating and identifying its pipeline. Two-working days notice is requested.

k. Adequate shoring and bracing is required for the full depth of the trench when the excavation encroaches within the zone shown on Figure 4.

1. The location of utilities within Metropolitan's fee property and/or easement shall be plainly marked to help prevent damage during maintenance or other work done in the area. Detectable tape over buried utilities should be placed a minimum of 12 inches above the utility and shall conform to the following requirements:

1) Water pipeline: A two-inch blue warning tape shall be imprinted with:

"CAUTION BURIED WATER PIPELINE"

2) Gas, oil, or chemical pipeline: A two-inch yellow warning tape shall be imprinted with:

"CAUTION BURIED \_\_\_\_\_ PIPELINE"

3) Sewer or storm drain pipeline: A two-inch green warning tape shall be imprinted with:

"CAUTION BURIED \_\_\_\_\_ PIPELINE"

4) Electric, street lighting, or traffic signals conduit: A two-inch red warning tape shall be imprinted with:

"CAUTION BURIED \_\_\_\_\_ CONDUIT"

5) Telephone, or television conduit: A two-inch orange warning tape shall be imprinted with:

"CAUTION BURIED \_\_\_\_\_ CONDUIT"

o. Control cables connected with the operation of Metropolitan's system are buried within streets, its fee properties and/or easements. The locations and elevations of these cables shall be shown on the drawings. The drawings shall note that prior to any excavation in the area, the control cables shall be located and measures shall be taken by the contractor to protect the cables in place.

p. Metropolitan is a member of Underground Service Alert (USA). The contractor (excavator) shall contact USA at 1-800-422-4133 (Southern California), at least 48 hours prior to starting any excavation work. The contractor will be liable for any damage to Metropolitan's facilities as a result of the construction.

8. Paramount Right

Facilities constructed within Metropolitan's fee properties and/or easements shall be subject to the paramount right of Metropolitan to use its fee properties and/or easements for the purpose for which they were acquired. If at any time Metropolitan or its assigns should, in the exercise of their rights, find it necessary to remove any of the facilities from the fee properties and/or easements, such removal and replacement shall be at the expense of the owner of the facility.

9. Modification of Metropolitan's Facilities

When a manhole or other of Metropolitan's facilities must be modified to accommodate your construction or reconstruction, Metropolitan will modify the facilities with its forces. This should be noted on the construction plans. The estimated cost to perform this modification will be given to you and we will require a deposit for this amount before the work is performed. Once the deposit is received, we will schedule the work. Our forces will coordinate the work with your contractor. Our final billing will be based on actual cost incurred, and will include materials, construction, engineering plan review, inspection, and administrative overhead charges calculated in accordance with Metropolitan's standard accounting practices. If the cost is less than the deposit, a refund will be made; however, if the cost exceeds the deposit, an invoice will be forwarded for payment of the additional amount.

imposes loads no greater than AASHTO H-10. If the cover is between two and three feet, equipment must be restricted to that of a Caterpillar D-4 tract-type tractor. If the cover is less than two feet, only hand equipment may be used. Also, if the contractor plans to use any equipment over Metropolitan's pipeline which will impose loads greater than AASHTO H-20, it will be necessary to submit the specifications of such equipment for our review and approval at least one week prior to its use. More restrictive requirements may apply to the loading guideline over the San Diego Pipelines 1 and 2, portions of the Orange County Feeder, and the Colorado River Aqueduct. Please contact us for loading restrictions on all of Metropolitan's pipelines and conduits.

b. The existing cover over the pipeline shall be maintained unless Metropolitan determines that proposed changes do not pose a hazard to the integrity of the pipeline or an impediment to its maintenance.

13. Blasting

a. At least 20 days prior to the start of any drilling for rock excavation blasting, or any blasting, in the vicinity of Metropolitan's facilities, a two-part preliminary conceptual plan shall be submitted to Metropolitan as follows:

b. Part 1 of the conceptual plan shall include a complete summary of proposed transportation, handling, storage, and use of explosions.

c. Part 2 shall include the proposed general concept for blasting, including controlled blasting techniques and controls of noise, fly rock, airblast, and ground vibration.

14. CEQA Requirements

a. When Environmental Documents Have Not Been Prepared

1) Regulations implementing the California Environmental Quality Act (CEQA) require that Metropolitan have an opportunity to consult with the agency or consultants preparing any environmental documentation. We are required to review and consider the environmental effects of the project as shown in the Negative Declaration or Environmental Impact Report (EIR) prepared for your project before committing Metropolitan to approve your request.

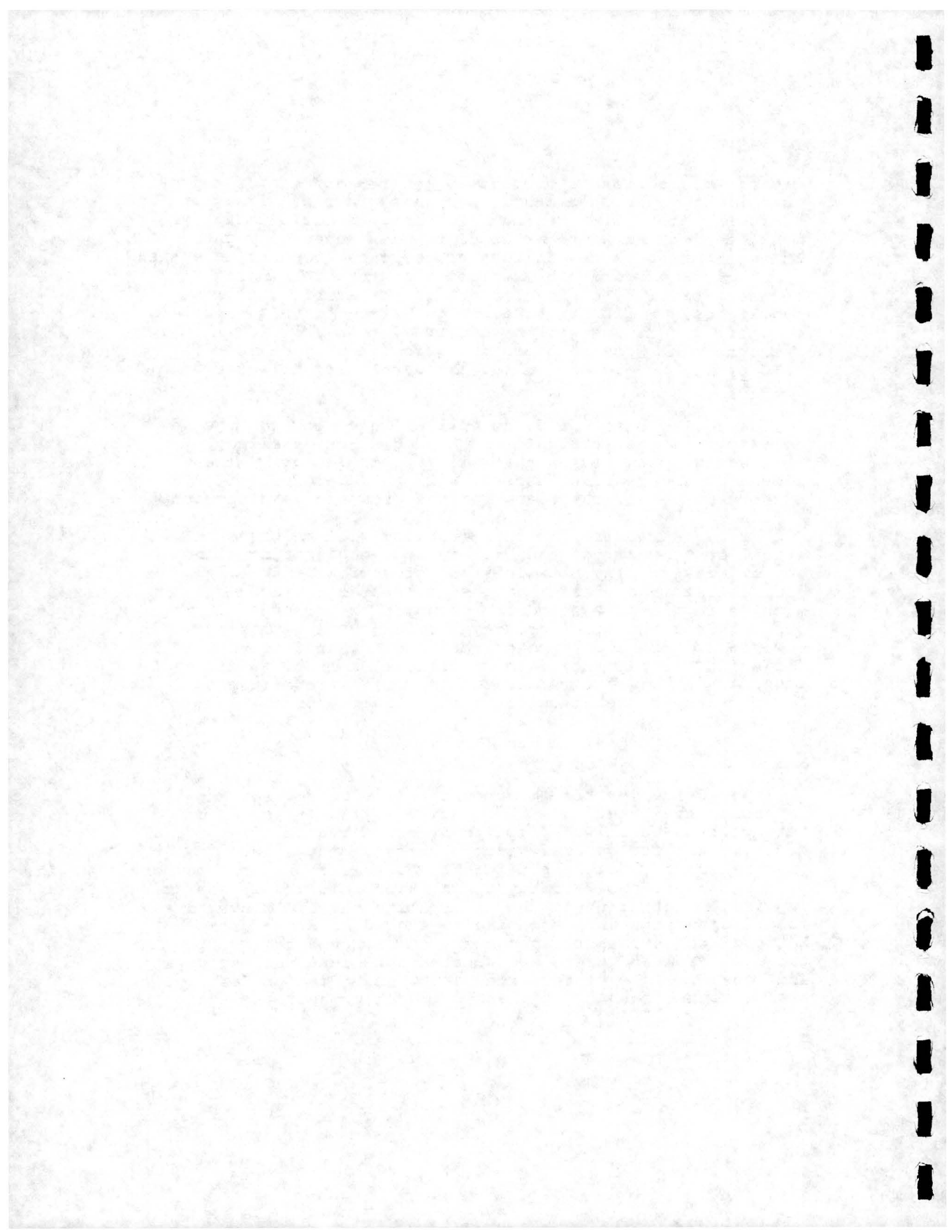
giving Metropolitan's comments, requirements and/or approval that will require 8 man-hours or less of effort is typically performed at no cost to the developer, unless a facility must be modified where Metropolitan has superior rights. If an engineering review and letter response requires more than 8 man-hours of effort by Metropolitan to determine if the proposed facility or development is compatible with its facilities, or if modifications to Metropolitan's manhole(s) or other facilities will be required, then all of Metropolitan's costs associated with the project must be paid by the developer, unless the developer has superior rights.

b. A deposit of funds will be required from the developer before Metropolitan can begin its detailed engineering plan review that will exceed 8 hours. The amount of the required deposit will be determined after a cursory review of the plans for the proposed development.

c. Metropolitan's final billing will be based on actual cost incurred, and will include engineering plan review, inspection, materials, construction, and administrative overhead charges calculated in accordance with Metropolitan's standard accounting practices. If the cost is less than the deposit, a refund will be made; however, if the cost exceeds the deposit, an invoice will be forwarded for payment of the additional amount. Additional deposits may be required if the cost of Metropolitan's review exceeds the amount of the initial deposit.

16. Caution

We advise you that Metropolitan's plan reviews and responses are based upon information available to Metropolitan which was prepared by or on behalf of Metropolitan for general record purposes only. Such information may not be sufficiently detailed or accurate for your purposes. No warranty of any kind, either express or implied, is attached to the information therein conveyed as to its accuracy, and no inference should be drawn from Metropolitan's failure to comment on any aspect of your project. You are therefore cautioned to make such surveys and other field investigations as you may deem prudent to assure yourself that any plans for your project are correct.



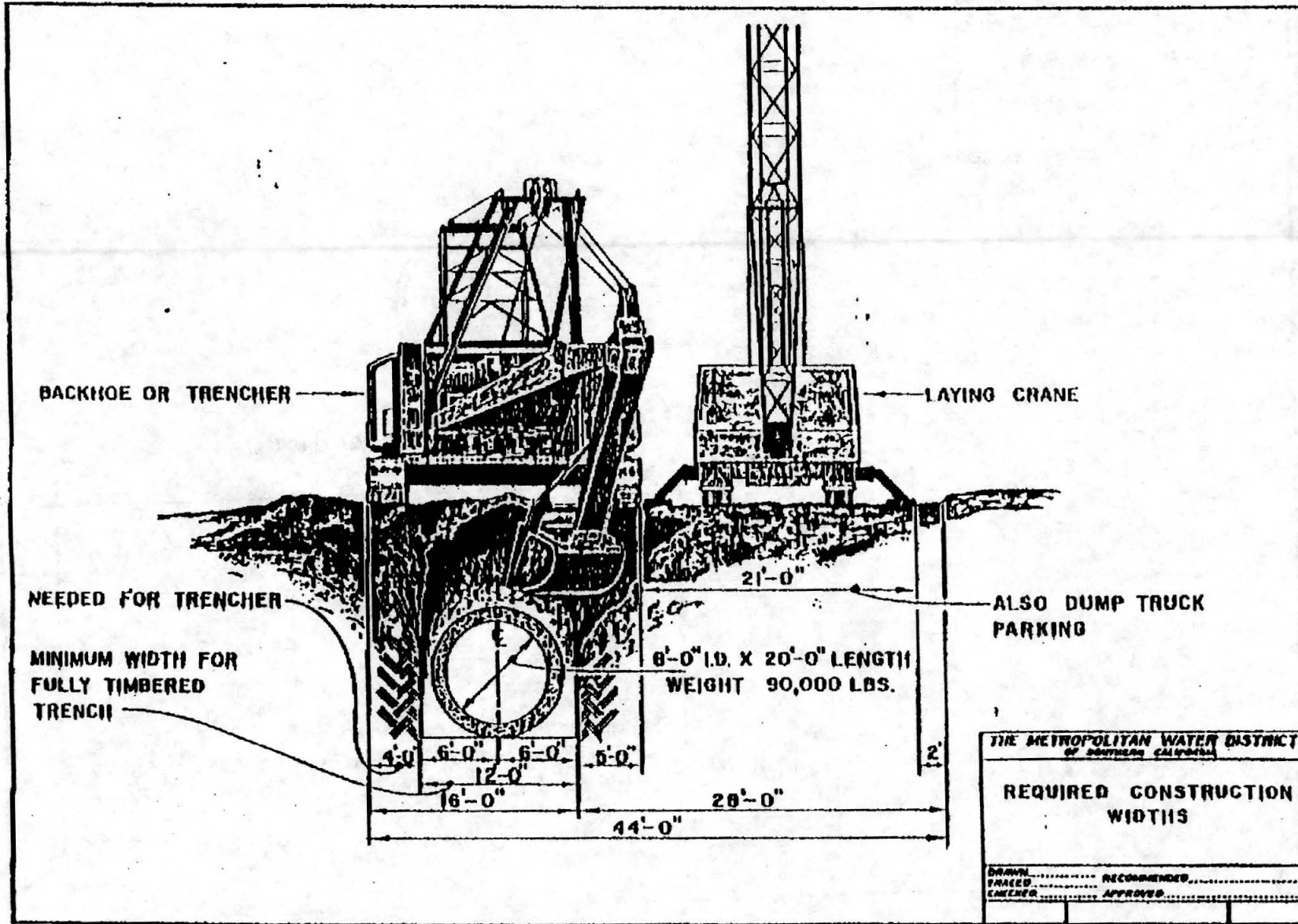


FIGURE 1

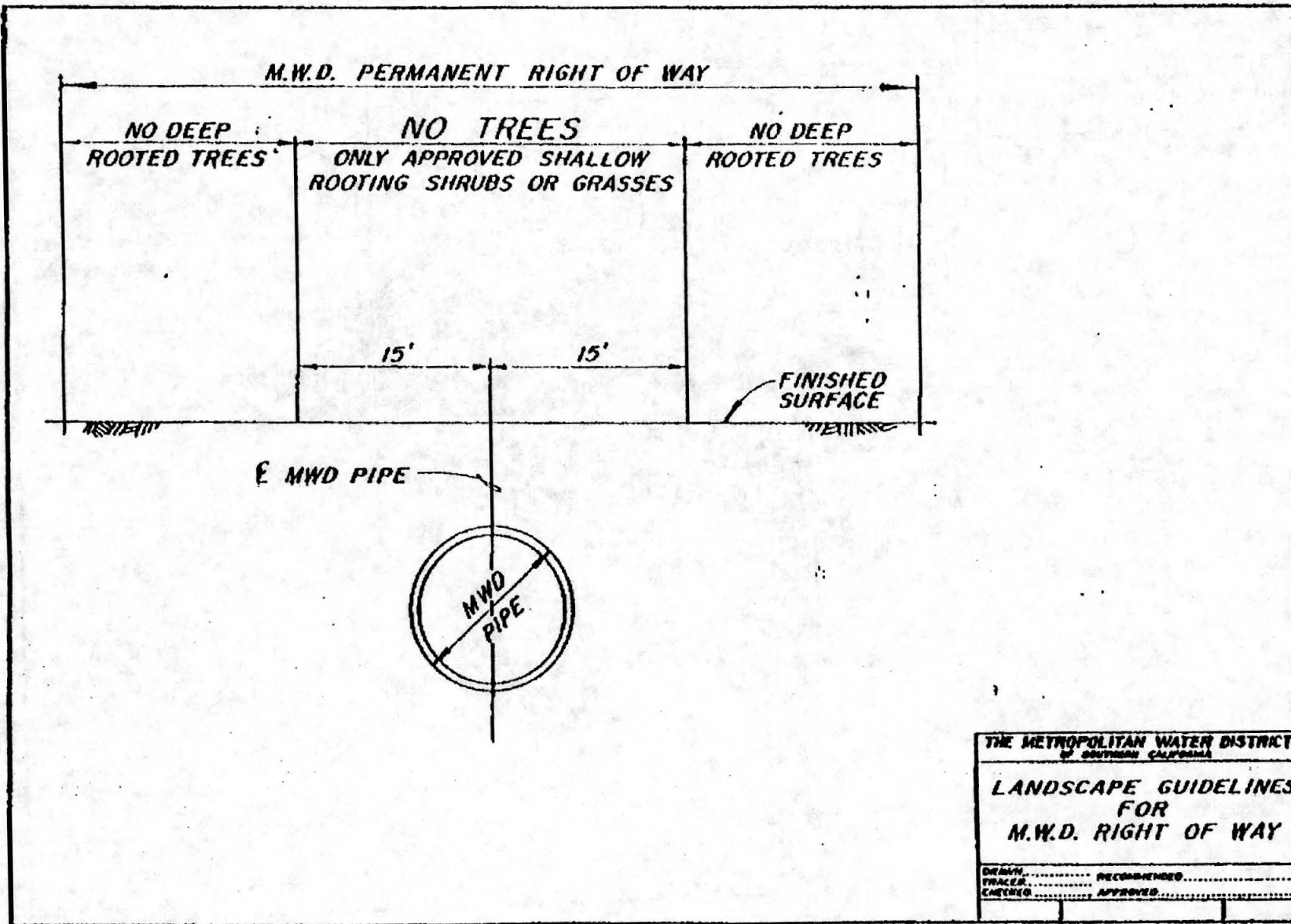
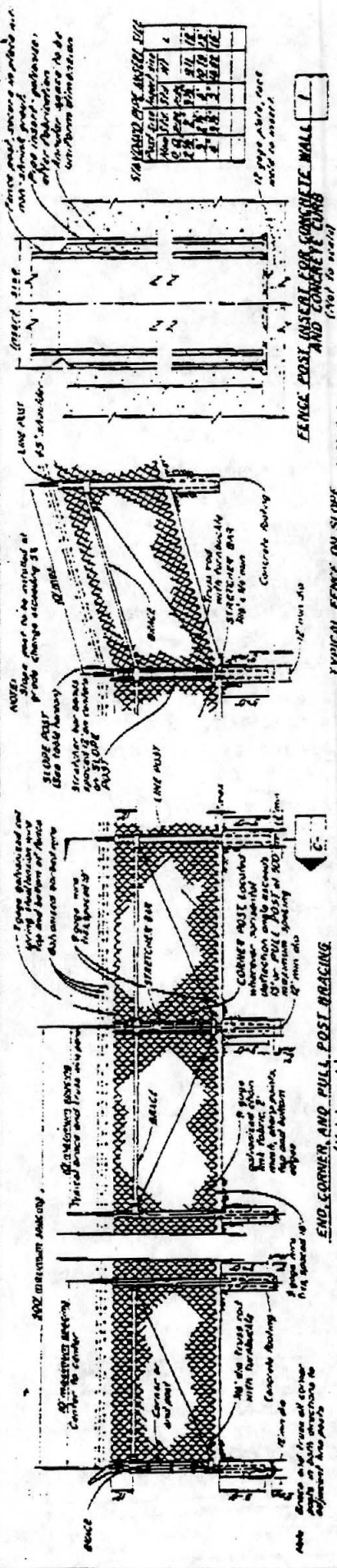


FIGURE 3





| Use   | Type | Amount | Size (ft) | Weight (lb) | Notes |
|---|------|--------|-----------|-------------|-------|
| One corner chain post and gate post for single gate | Post | 2      | 2 1/2     | 8.11        | 3.19  |
| One post for single gate                            | Post | 7      | 2         | 8.11        | 2.85  |
| One post for single gate                            | Post | 1      | 2 1/2     | 4.00        | 0.1   |
| One post for single gate                            | Post | 6      | 6         | 0.11        | 0.97  |
| One post for single gate                            | Post | 6      | 6         | 0.11        | 0.97  |
| One post for single gate                            | Post | 6      | 6         | 0.11        | 0.97  |
| One post for single gate                            | Post | 6      | 6         | 0.11        | 0.97  |
| One post for single gate                            | Post | 6      | 6         | 0.11        | 0.97  |
| One post for single gate                            | Post | 6      | 6         | 0.11        | 0.97  |
| One post for single gate                            | Post | 6      | 6         | 0.11        | 0.97  |
| One post for single gate                            | Post | 6      | 6         | 0.11        | 0.97  |

THE METROPOLITAN WATER DISTRICT  
OF BIRMINGHAM, ALABAMA  
BIRMINGHAM OFFICE

CHAIN LINK  
FENCE DETAILS

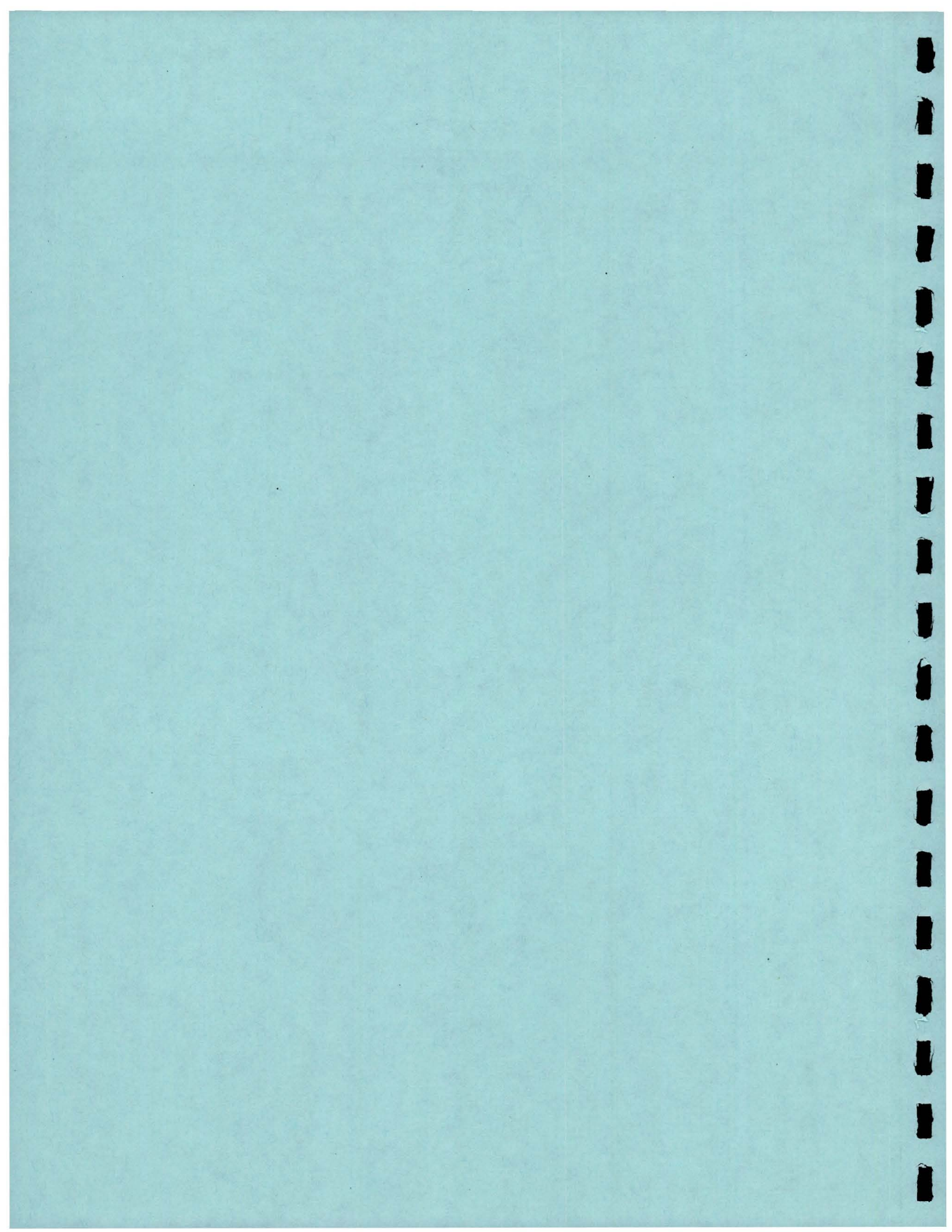
|     |      |    |         |
|-----|------|----|---------|
| NO. | DATE | BY | CHECKED |
|     |      |    |         |
|     |      |    |         |
|     |      |    |         |

FIGURE 1

|           |      |    |        |
|-----------|------|----|--------|
| REVISIONS | DATE | BY | REASON |
|           |      |    |        |
|           |      |    |        |
|           |      |    |        |



**APPENDIX B**  
**TRAFFIC STUDY**  
**(Katz, Okitsu Associates)**



**Traffic Impact Study**  
in support of the  
**Pasadena-Los Angeles  
Rail Transit Project  
Supplemental EIR**  
July 20, 1992

Prepared for:  
Los Angeles County Transportation Commission

under the direction of:  
Bechtel Corporation

submitted by:



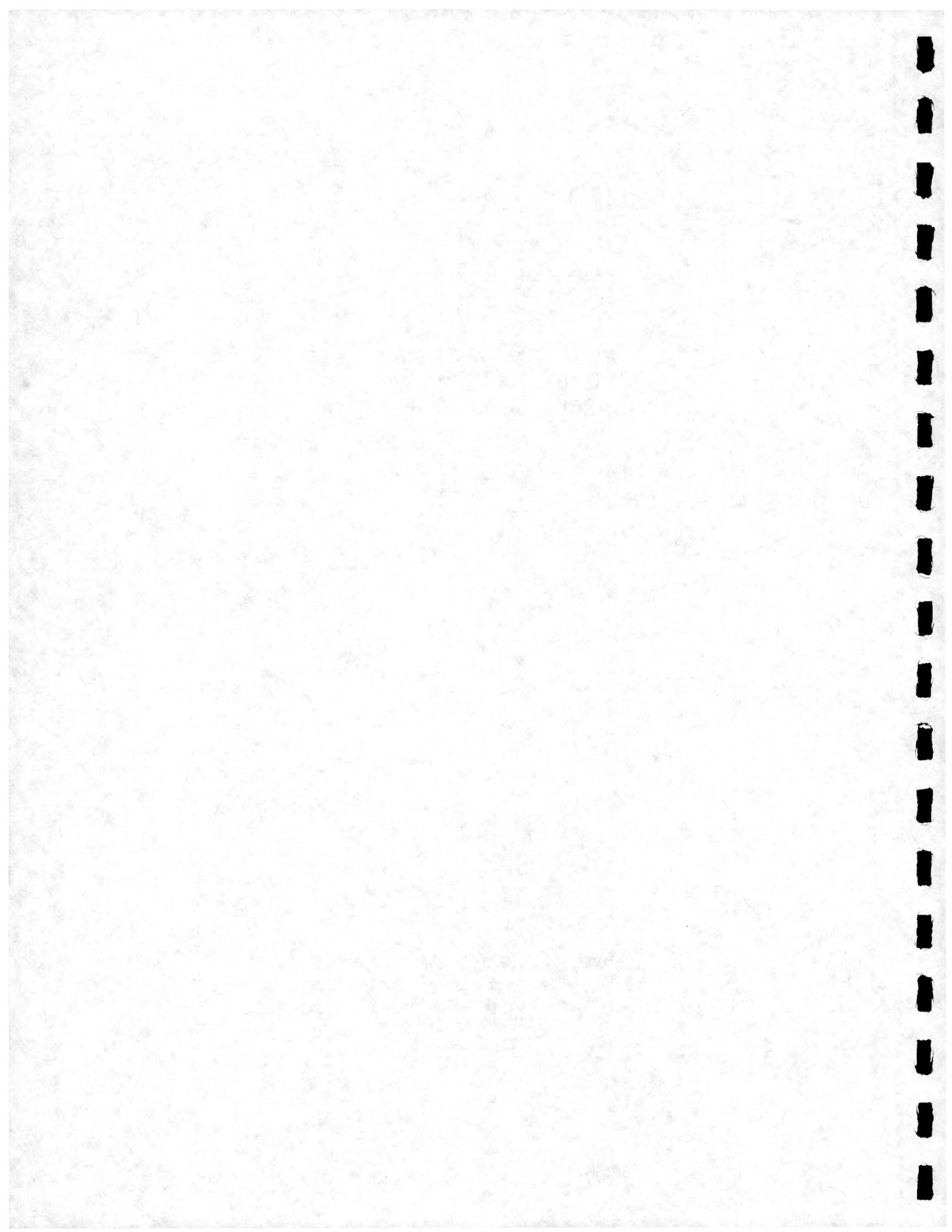
**Katz, Okitsu & Associates**

1200 Corporate Center Drive, Suite 140

Monterey Park, CA 91754

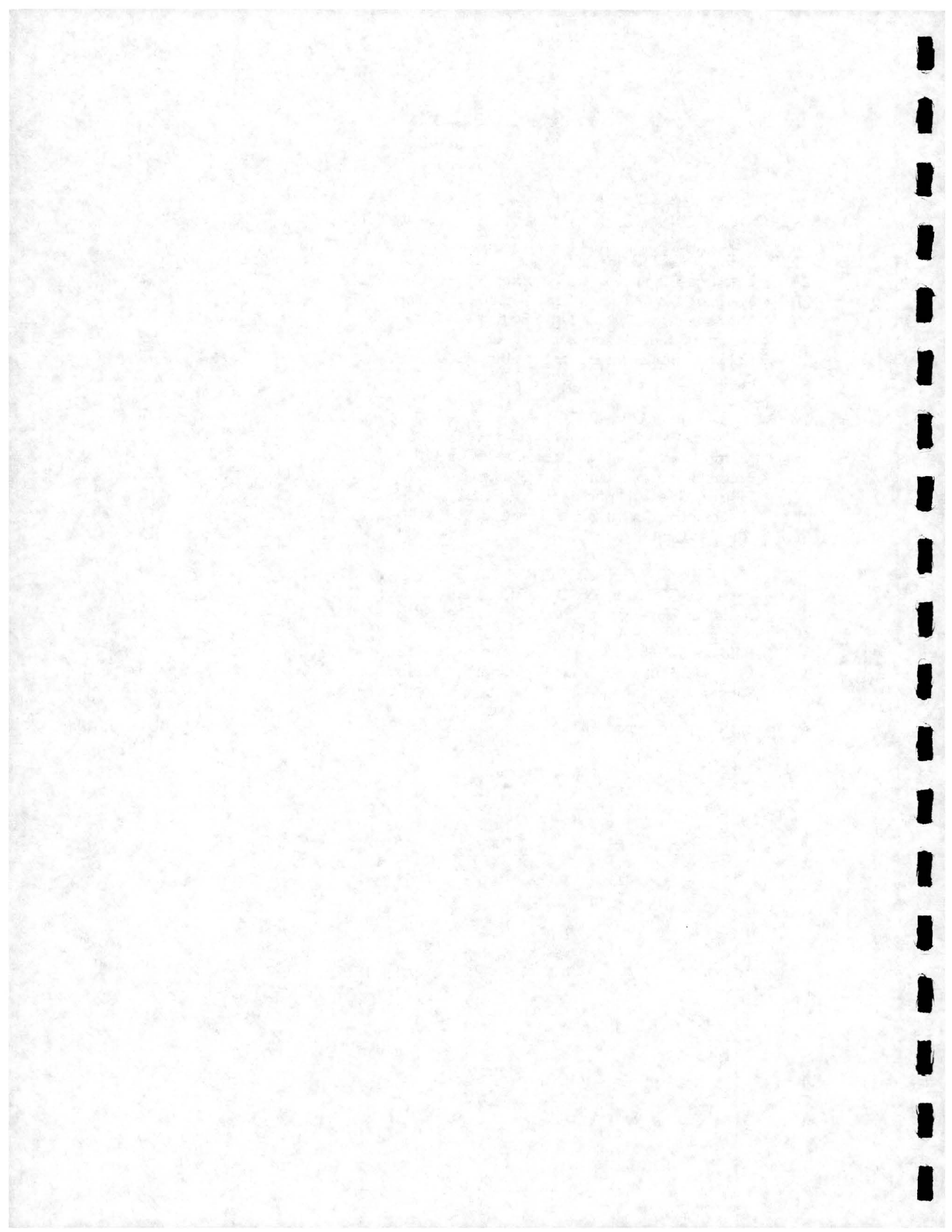
(213) 260-4703

Fax: (213) 260-4705



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PASADENA TO LOS ANGELES LRT - TRAFFIC IMPACT STUDY  
IN SUPPORT OF SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT

1. INTRODUCTION

This report analyzes the traffic impacts of revised route and station options along the proposed Pasadena-Los Angeles light rail transit (LRT) corridor. Each new option which warranted updating traffic impacts is described below. The findings of this report on impacted intersections and potential mitigations supplement two traffic impact studies performed earlier. The traffic study dated October 13, 1988 for the Southwest Corridor EIR submitted by DKS Associates covered the southwest portion of the proposed Highland Park route option, from Downtown Los Angeles to the Monterey/Pasadena Station in South Pasadena. That study also covered the North Main Street route option through Lincoln Heights and El Sereno. A second traffic study dated October 6, 1989 for the Revised Draft EIR, submitted by DKS Associates in association with Katz, Okitsu & Associates, covered the corridor's northeast portion from South Pasadena to the terminus at Sierra Madre Villa Avenue in Pasadena.

An earlier June 9, 1989 traffic study for the Route Refinement Study by DKS Associates was superseded by the October 6, 1989 report. However, the earlier report provides useful information about existing transit service in Pasadena, the base traffic conditions for the Year 2010 in downtown Pasadena, and the proposed roadway configuration at the LRT terminus in northeast Pasadena, as well as other proposed LRT routes along Colorado and Green Street.

This report analyzes modifications to the Highland Park Alternative. They consist of:

- A new configuration of the wye connection between the Glendale LRT and Pasadena LRT lines.
- A grade separation of the Pasadena LRT line over the intersection of Marmion Way and Figueroa Street.
- A new station near the Southwest Museum on Marmion Way at Museum Drive.
- A new station on Fillmore Street in Pasadena, in place of the Glenarm Street Station.
- A grade separation of the Pasadena LRT line under Colorado Boulevard, accompanied by the closure of Holly Street.
- A new station in the median of I-210 at Allen Avenue, in place of the Altadena Drive Station.

## 2. EXISTING CONDITIONS

### 2A. Pasadena-Glendale Wye Connector

Directly north of the Santa Fe Railroad bridge, Avenue 19 is 43.5 feet wide, with two travel lanes and parking on each side of the street. The old city jail and a Los Angeles Department of Transportation facility occupy the west side of Avenue 19. Several industrial facilities front the east side of Avenue 19, including Anhing Corporation, M & M Wholesale Distributors, and Angelica Health Services. These businesses generate parking demands on both sides of Avenue 19, using the roadway's full parking capacity. M & M Distributors also use Avenue 19 for truck turning movements adjacent to its loading facility. North of the old city jail, northbound and southbound traffic separate into two roadways, each carrying two travel lanes under the Pasadena Freeway and Riverside Drive.

At its T-intersection with San Fernando Road, Avenue 19 is a four lane roadway, carrying an Average Daily Traffic (ADT) of 5400 vehicles, according to a Los Angeles Department of Transportation (LADOT) 1989 traffic count. This intersection is controlled by stop signs for northbound traffic on Avenue 19, and for westbound traffic from San Fernando Road. Left turns are prohibited for westbound traffic on San Fernando Road. An analysis of manual traffic counts performed on April 22 and April 24, 1992 reveals the following levels of service:

| <u>Intersection</u>       | <u>Period</u> | <u>Existing</u> |            |
|---------------------------|---------------|-----------------|------------|
|                           |               | <u>V/C</u>      | <u>LOS</u> |
| Avenue 19/San Fernando Rd | AM            | 0.45            | A          |
|                           | PM            | 0.35            | A          |

The volume-to-capacity ratio (V/C) is low for the morning and evening peak hours, providing a good level of service (LOS).

### 2B. Marmion Way-Figueroa Street Grade Separation

The intersection of Marmion Way, Figueroa Street, and Pasadena Avenue is an "H"-shaped intersection. It was analyzed in the Southwest Corridor EIR, and documented in the October 13, 1988 traffic impact study. The existing level of service at the time of that study was as follows:

| <u>Intersection</u>            | <u>Period</u> | <u>Existing</u> |            |
|--------------------------------|---------------|-----------------|------------|
|                                |               | <u>V/C</u>      | <u>LOS</u> |
| Figueroa/Marmion<br>& Pasadena | AM            | 0.49            | A          |
|                                | PM            | 0.48            | A          |

### 2C. Marmion Way-Museum Drive Station

Marmion Way at the intersection of Museum Drive is 42 feet wide, two lanes, with parking on each side of the street. Very light on-street parking demand was observed on Marmion Way during day and evening observations. The Average Daily Traffic on Marmion Way at Museum Drive is approximately 7600 vehicles (per LADOT 1988 traffic count). Museum Drive forms a T-intersection with Marmion Way. This intersection is controlled by stop signs on all approaches. Several garages abut the west side of Marmion Way south of Museum Drive, directly adjacent to the five foot sidewalk. A pedestrian tunnel crosses under the Santa Fe railroad tracks east of Marmion Way at this location, serving the adjacent residences.

2D. Fillmore Street Station

Fillmore Street is a 30 foot wide, two lane roadway, with parking on each side of the street. The intersection of Fillmore Street and Arroyo Parkway is controlled by stop signs for Fillmore Street traffic. The nearest traffic signals along Arroyo Parkway are at California Boulevard to the north, and at Glenarm Street to the south. These intersections were analyzed in the October 6, 1989 traffic impact study. Traffic counts were recently performed at two other intersections, Raymond Avenue and Glenarm Street, and Raymond Avenue and California Boulevard. The existing P.M. peak hour levels of service at the study intersections are as follows:

| <u>Intersection</u>          | <u>Existing</u> |            | <u>Intersection</u>           | <u>Existing</u> |            |
|------------------------------|-----------------|------------|-------------------------------|-----------------|------------|
|                              | <u>V/C</u>      | <u>LOS</u> |                               | <u>V/C</u>      | <u>LOS</u> |
| Raymond Av./California Blvd. | 0.56            | A          | Arroyo Pkwy./California Blvd. | 0.56            | A          |
| Raymond Av./Glenarm St.      | 0.46            | A          | Arroyo Pkwy./Fillmore St.     | 0.50            | A          |
|                              |                 |            | Arroyo Pkwy./Glenarm St.      | 0.91            | E          |

2E. Colorado Boulevard Grade Separation

The existing conditions are addressed in the October 6, 1989 traffic impact study. The table below shows the intersections which are analyzed in this study, along with the existing P.M. peak hour levels of service at the time of the 1989 study. The only change from the 1989 study is at the intersection of Fair Oaks Avenue and Colorado Boulevard, where the addition of left turn lanes on Colorado Boulevard has improved the level of service from E to C.

| <u>Intersection</u>           | <u>Existing</u> |            | <u>Intersection</u>       | <u>Existing</u> |            |
|-------------------------------|-----------------|------------|---------------------------|-----------------|------------|
|                               | <u>V/C</u>      | <u>LOS</u> |                           | <u>V/C</u>      | <u>LOS</u> |
| - Fair Oaks Ave./Walnut St.   | 0.55            | A          | - Raymond Ave./Holly St.  | 0.20            | A          |
| - Fair Oaks Ave./Holly St.    | 0.51            | A          | - Arroyo Pkwy./Holly St.  | 0.27            | A          |
| - Fair Oaks Ave./Union St.    | 0.32            | A          | - Arroyo Pkwy./Union St.  | 0.17            | A          |
| - Fair Oaks Ave./Colorado Bl. | 0.77            | C          | Arroyo Pkwy./Colorado Bl. | 0.46            | A          |
| Fair Oaks Ave./Green St.      | 0.41            | A          | Arroyo Pkwy./Green St.    | 0.36            | A          |

2F. Allen Avenue Station

Allen Avenue is a four lane roadway, with raised median, on-street parking, and left turn lanes at its intersections with Corson Street and Maple Street. It carries 20,500 vehicles per day north of the Foothill Freeway, and 17,000 vehicles per day south of the Foothill Freeway (per City of Pasadena Traffic Flow Map).

Corson Street is a two lane eastbound frontage road on the south side of the Foothill Freeway, carrying 4500 vehicles per day west of Allen Avenue, and 4000 vehicles per day east of Allen Avenue. Parking is permitted on the south side of Corson Street, along with an eastbound bicycle lane which begins east of Allen Avenue.

Maple Street is a two lane westbound frontage road on the north side of the Foothill Freeway. It carries 13,700 vehicles per day west of Allen Avenue, and 10,800 vehicles per day east of Allen

Avenue. Parking is prohibited during daytime hours, and a westbound bicycle lane begins west of Allen Avenue.

The intersection levels of service for existing PM peak hour conditions are as follows:

| <u>Intersection</u>   | <u>Period</u> | <u>V/C</u> | <u>Existing<br/>LOS</u> |
|-----------------------|---------------|------------|-------------------------|
| Allen Ave./Maple St.  | PM            | 0.50       | A                       |
| Allen Ave./Corson St. | PM            | 0.66       | B                       |

### 3. IMPACTS DURING OPERATION

#### 3A. Pasadena-Glendale Wye Connector

The tracks for the Glendale Light Rail Transit project will occupy parts of the existing southbound lanes of Avenue 19. This will force all Avenue 19 traffic onto the existing northbound lanes. A possible layout is shown in Figures 1 and 2. The intersection of San Fernando Road and Avenue 19 could be modified as shown. The intersection could be uncontrolled, with southbound left turns yielding to northbound traffic. Intersection levels of service are as shown:

| <u>Intersection</u>            | <u>Period</u> | <u>Existing</u> |            | <u>2010 No Build</u> |            | <u>2010 With LRT</u> |            |
|--------------------------------|---------------|-----------------|------------|----------------------|------------|----------------------|------------|
|                                |               | <u>V/C</u>      | <u>LOS</u> | <u>V/C</u>           | <u>LOS</u> | <u>V/C</u>           | <u>LOS</u> |
| San Fernando Rd &<br>Avenue 19 | AM            | 0.45            | A          | 0.53                 | A          | 0.80                 | D          |
|                                | PM            | 0.35            | A          | 0.42                 | A          | 0.57                 | A          |

2010 volumes were projected from the existing using a 1% annual growth rate. The LRT project is not expected to generate an increase in traffic over No Build conditions.

The volume-to-capacity ratios for the Year 2010 with LRT are acceptable, so that no further mitigation measures are needed. The V/C ratio for the Year 2010 with LRT may appear to be higher than the No Build. However, this merely represents the relocation of the bottleneck for southbound traffic. The point of convergence from two southbound lanes to one, currently adjacent to the old city jail, will move to the intersection of Avenue 19 and San Fernando Road. Since the southbound through lane represents the only critical movement at the intersection, the level of service will be the same as the midblock level of service adjacent to the old city jail.

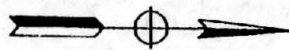
The east roadway of Avenue 19 south of San Fernando Road is 24 feet wide. This roadway width is sufficient in terms of roadway capacity to handle one lane of traffic in each direction. However, vehicle speeds should be reduced because of the narrower roadway.

Near the old jail site, the Glendale LRT tracks and the non-revenue connector structure should be situated so that no parking spaces are lost. Furthermore, Avenue 19 at the M&M driveway should be maintained at its current width so that trucks can maneuver into the loading dock.

#### 3B. Marmion Way-Figueroa Street Grade Separation

This intersection was analyzed in the Southwest Corridor EIR for the Year 2010 No Build and Year 2010 with At-Grade LRT options. An alternative proposal for this intersection is to provide grade separation between the Pasadena LRT and traffic, with the LRT tracks on an aerial structure. A variation of this alternative will provide for a park-and-ride station, located at French Avenue at the southern end of the aerial structure.

If no park-and-ride lot is provided, the projected number of trips generated by the station for both the A.M. and P.M. peak hours is 107, as documented in the October 1988 traffic study. If park-and-ride is provided, the number of trips generated increase to 200 park-and-ride trips and 112 kiss-and-ride trips. The proposed site of the parking lot is approximately 2 acres. Using an estimated rate of 100 parking spaces per acre, the parking lot should hold about 200 parking spaces. Discussions with SCAG staff indicates that demand for parking spaces is expected to be extremely high for this



40' 0 20' 40' 80' 120'



APPROXIMATE SCALE

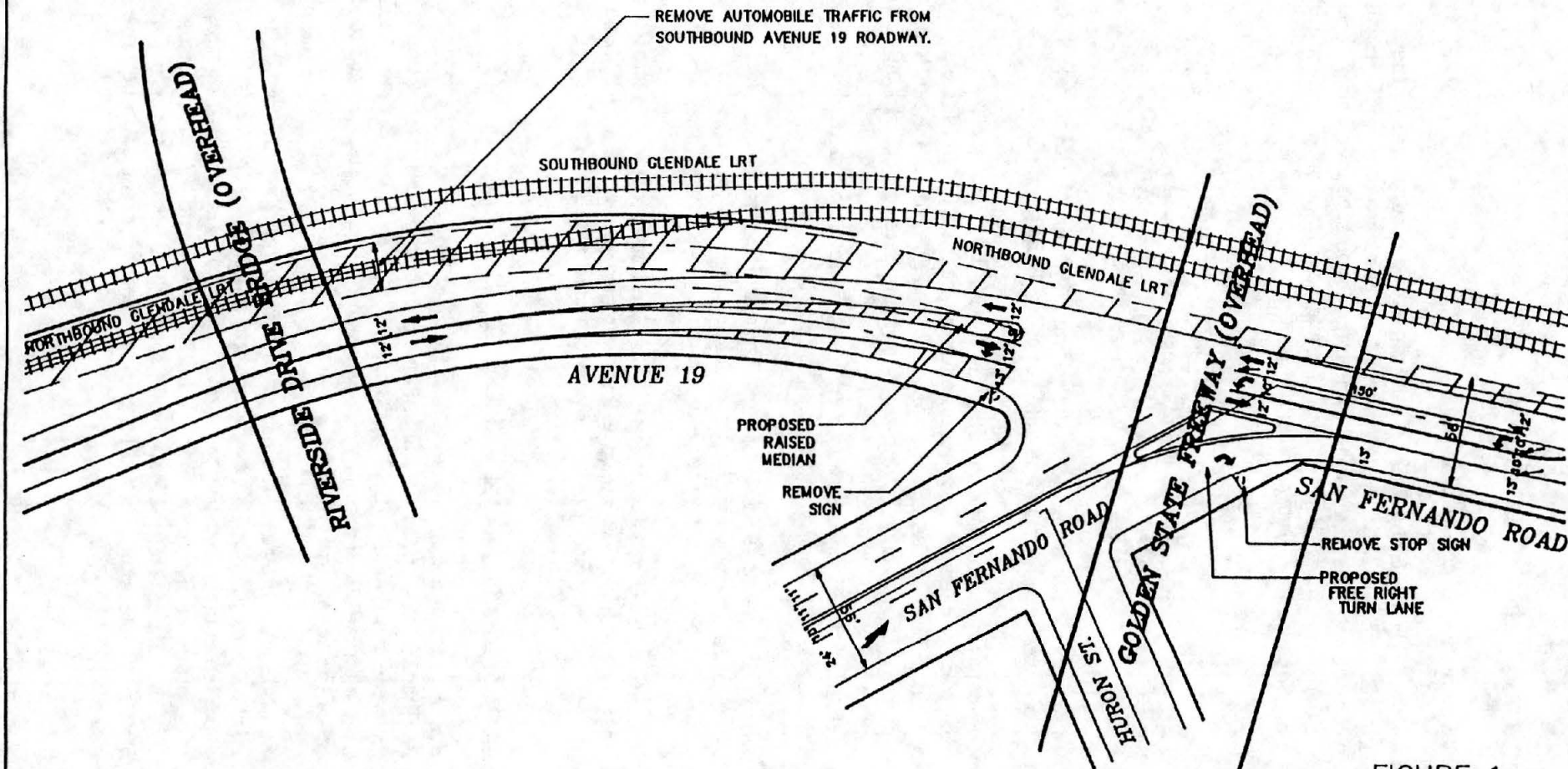
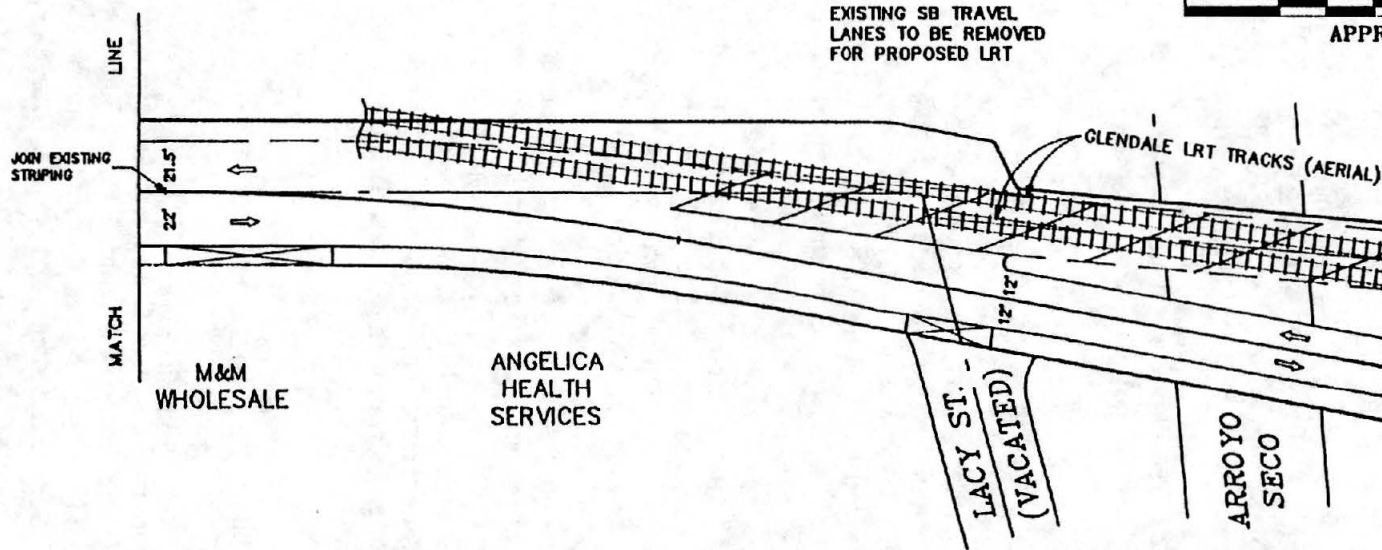
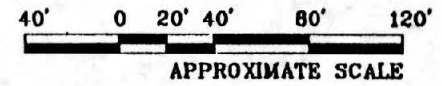
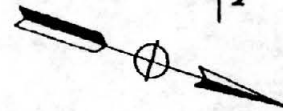
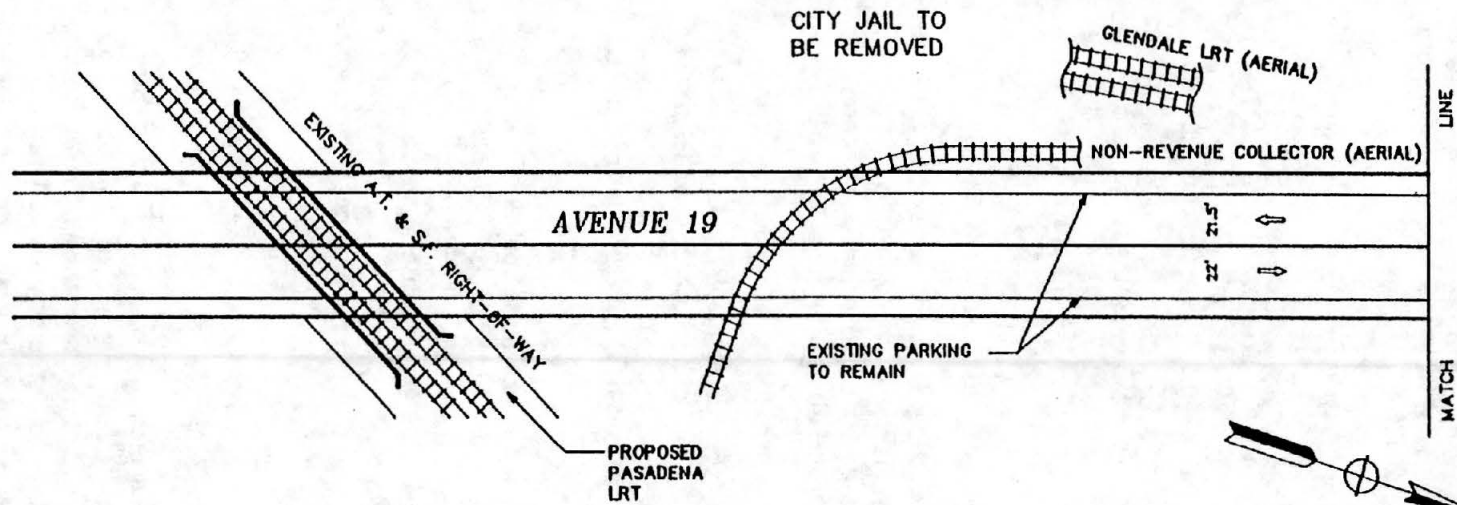


FIGURE 1  
AVENUE 19 AT SAN FERNANDO RD.



AVENUE 19 AT PASADENA/GLENDALE WYE CONNECTOR  
 FIGURE 2

area. Given this high demand, it is assumed that all 200 parking spaces will fill up during the morning peak hour. The evening peak hour trips generated will also be 200. Kiss-and-ride demand is estimated using the same method used in the October 1988 and October 1989 traffic reports, where morning peak hour boardings onto the LRT are multiplied by a 25% factor. The number of boardings is estimated at 449, so the number of kiss-and-ride trips is 112 vehicles per hour for both the morning and evening peak hours. The results are summarized below.

| <u>Intersection</u>         | <u>Period</u> | <u>Existing</u> |          | <u>2010 No Build</u> |          | <u>2010 At-Grade</u> |          | <u>2010 Aerial</u> |          | <u>2010 Aerial + P&amp;R</u> |
|-----------------------------|---------------|-----------------|----------|----------------------|----------|----------------------|----------|--------------------|----------|------------------------------|
|                             |               | <u>V/CLOS</u>   | <u>A</u> | <u>V/CLOS</u>        | <u>B</u> | <u>V/CLOS</u>        | <u>D</u> | <u>V/CLOS</u>      | <u>B</u> | <u>V/CLOS</u>                |
| Figueroa/Marmion & Pasadena | AM            | 0.49            | A        | 0.64                 | B        | 0.84                 | D        | 0.68               | B        | .69 B                        |
|                             | PM            | 0.48            | A        | 0.64                 | B        | 0.72                 | D        | 0.71               | C        | .66 B                        |

The intersection will operate at an acceptable level of service, with the Volume-Capacity Ratio (V/C) well under 0.90 for both AM and PM peak hours.

### 3C. Marmion Way-Museum Drive Station

The proposed station at this location will be located on the existing Santa Fe right-of-way, to the south of the intersection of Museum Drive and Marmion Way. The existing 42-foot roadway width for Marmion Way will be widened by about 4 feet on the east side to provide a turnout for automobile and bus loading. An 8-foot sidewalk will be provided along this turnout. A possible layout and cross-section are shown in Figures 3 and 4.

The number of automobile trips generated by this station are expected to be low. Only a few kiss-and-ride trips are expected. Some impact to traffic capacity will occur because of parallel parking movements and increased pedestrian activity. However, the traffic impacts are expected to be insignificant. Curbside parking will be lost adjacent to the station, but field observations reveal little use of the existing curbside parking space.

The pedestrian path that currently crosses beneath the railroad tracks will be upgraded, so that it provides pedestrian access from Marmion Way, and also from the east side of the LRT tracks. This path will cross the two LRT tracks at-grade, rather than beneath the tracks. The at-grade crossing will increase the potential for LRT-pedestrian conflict, but the LRT will operate at slow speeds in the vicinity of the station. Residents may perceive the at-grade crossings to be safer. Observations of current usage reveal that pedestrians avoid the existing tunnel for personal security reasons, preferring to walk across the Santa Fe railroad.

### 3D. Fillmore Street Station

A park-and-ride lot is proposed for the southwest corner of Raymond Avenue and Fillmore Street. This station replaces the Glenarm Station proposed earlier. The number of PM peak hour automobile trips generated by the Fillmore Station should be the same as for the Glenarm Station, which was 65 park-and-ride trips from the station, 10 park-and-ride to the station, and 31 kiss-and-ride trips. (Source: Pasadena-Los Angeles Traffic Impact Study, October 6, 1989). Ambient growth in traffic is assumed to be 1% per year.



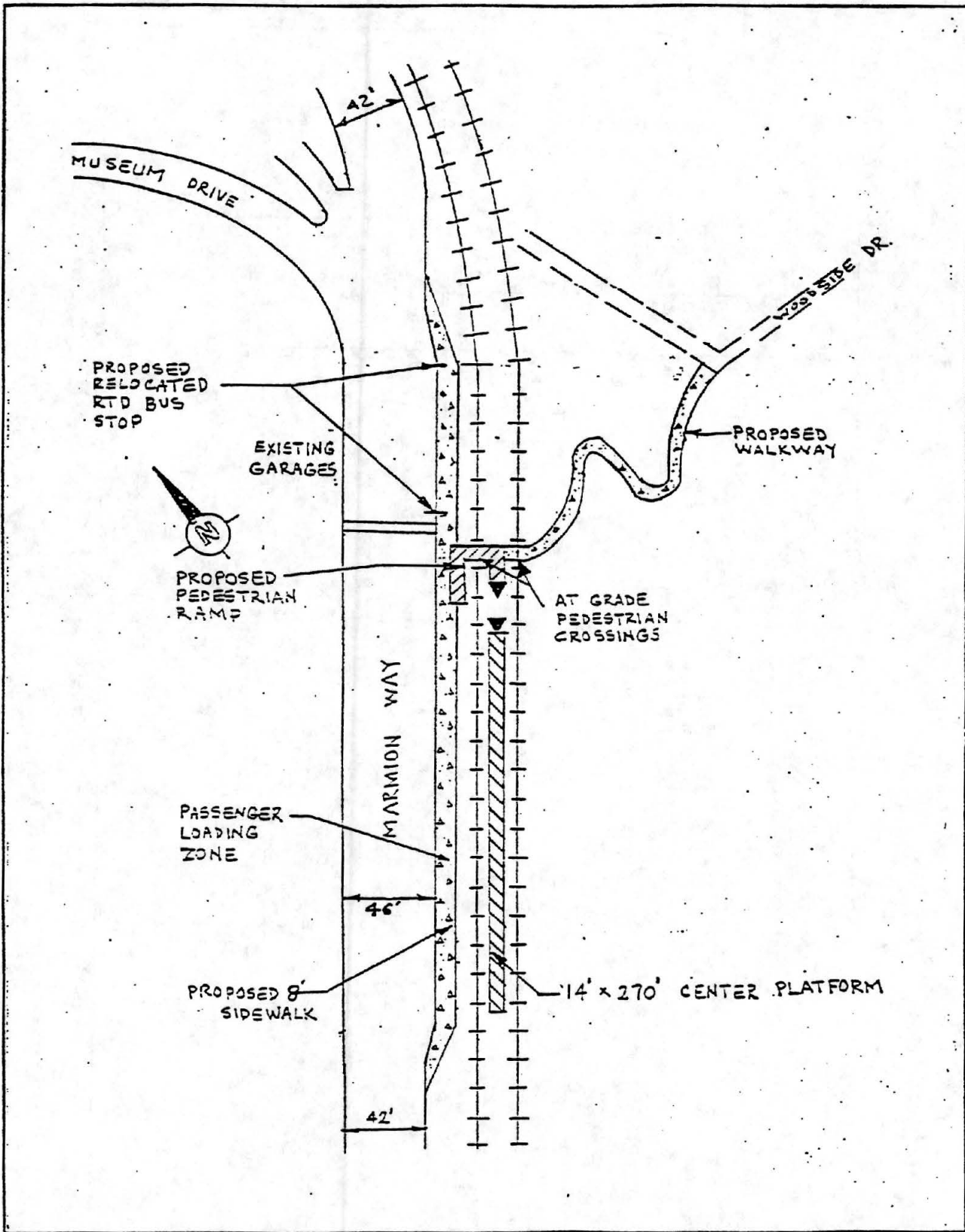


Figure 3 Marmion Way/Museum Drive Plan View

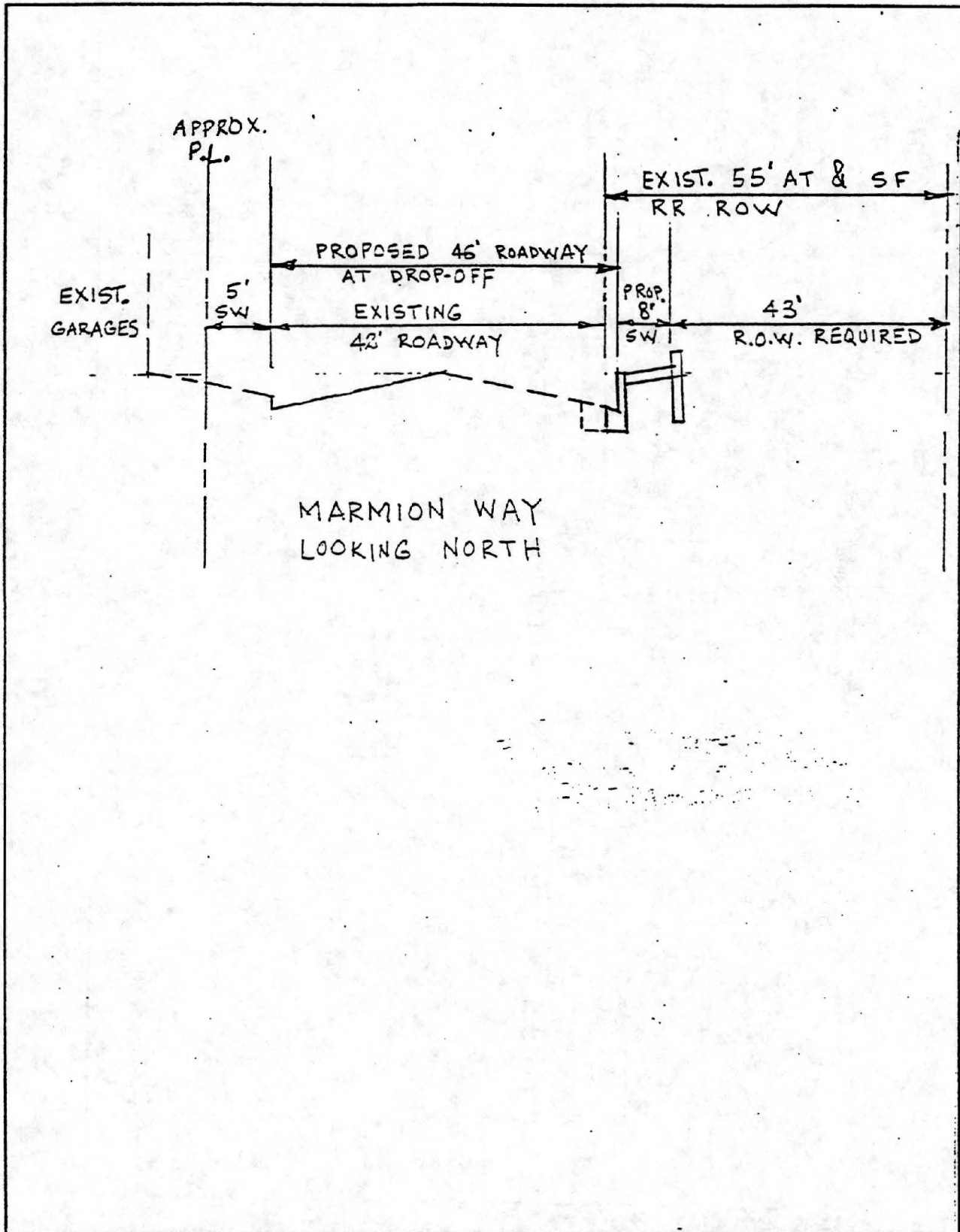


Figure 4 Marmion Way/Museum Drive Cross Section

A variation on the proposed Fillmore Street Station requires the closing of Fillmore Street. This requires diverting traffic from Fillmore Street onto either California Boulevard or Glenarm Street. Traffic on California Boulevard will increase by over 50 vehicles during the PM peak hour, and traffic on Glenarm Street will increase by over 100 vehicles during the PM peak. Capacity analysis results for the Year 2010 PM peak hour are shown below.

| <u>Intersection</u>       | <u>No Build</u> |            | <u>Fillmore Open</u> |            | <u>Mitigated Fillmore Open</u> |                | <u>Fillmore Closed</u> |            | <u>Mitigated Fillmore Closed</u> |                |
|---------------------------|-----------------|------------|----------------------|------------|--------------------------------|----------------|------------------------|------------|----------------------------------|----------------|
|                           | <u>V/C</u>      | <u>LOS</u> | <u>V/C</u>           | <u>LOS</u> | <u>V/C</u>                     | <u>LOS</u>     | <u>V/C</u>             | <u>LOS</u> | <u>V/C</u>                       | <u>LOS</u>     |
| Arroyo Pkwy/California Bl | 0.81            | D          | 0.93                 | E          | 0.90                           | D <sup>1</sup> | 0.97                   | E          | 0.95                             | E <sup>1</sup> |
| Arroyo Pkwy/Fillmore St   | 0.60            | A          | 0.60                 | A          |                                |                | 0.57                   | A          |                                  |                |
| Arroyo Pkwy/Glenarm St.   | 1.12            | F          | 1.17                 | F          | 0.96                           | E <sup>2</sup> | 1.17                   | F          | 0.97                             | E <sup>2</sup> |
| Raymond Av/California Bl  | 0.67            | B          | 0.80                 | D          |                                |                | 0.80                   | C          | 0.89                             | D              |
| Raymond Av/Glenarm St     | 0.55            | A          | 0.62                 | B          |                                |                | 0.63                   | B          |                                  |                |

<sup>1</sup> Mitigation could be obtained if Fillmore Street is kept open, by widening the southbound approach to provide a right turn lane. However, this measure will only partially mitigate the traffic impact where Fillmore Street is closed.

<sup>2</sup> Mitigation could be obtained by widening the northbound approach to provide a right turn lane.

The capacity analysis for the intersection of Arroyo Parkway and Fillmore Street was performed as if it were signal-controlled. However, traffic volumes are not sufficient to warrant a signal, even with the LRT station. It is assumed here that even if Fillmore Street crossing is kept open, traffic leaving the station will be directed towards Raymond Avenue, rather than towards Fillmore Street.

The Arroyo Parkway/California Boulevard intersection is significantly impacted by traffic generated from both the Fillmore and Del Mar Stations. Mitigation measures may be required, because the V/C ratio exceeds 0.90. The proposed mitigation measure is to widen the southbound approach to the intersection and provide a southbound right turn lane. This is the same mitigation measure recommended in the 1989 EIR for the Glenarm Station. However, if Fillmore Street is closed, traffic will increase on California Boulevard to the extent that the traffic impacts at the Arroyo Parkway/California Boulevard intersection cannot be fully mitigated back to Level of Service D. Traffic reduction due to automobile drivers switching to light rail transit was not quantified in this study. By encouraging a switch in mode of travel, the light rail system itself could contribute towards the mitigation of traffic impacts at this intersection.

The intersection of Glenarm Street and Arroyo Parkway will be impacted by either of the Fillmore Station options. The impact can be mitigated by widening the northbound approach to the intersection to provide a northbound right turn lane. This is the same mitigation measure recommended in the 1989 EIR for the Glenarm Station.

### 3E. Colorado Boulevard Grade Separation

A modification to the LRT profile is proposed between the Del Mar Boulevard and Holly Street stations, creating a subway for the tracks. This will eliminate conflicts with vehicular traffic at Green Street, Colorado Boulevard and Union Street. The tracks will elevate to the proposed at-grade station near the intersection of Arroyo Parkway and Holly Street. In conjunction with this proposal,

the west leg of the Holly Street/Arroyo Parkway intersection will be eliminated, creating a cul-de-sac on Holly Street east of Raymond Avenue. The north leg of the intersection, which serves as a driveway for the existing police department building, will be closed as part of the Civic Center West development. This will leave an "L" shaped intersection, with the east leg of Holly Street and the south leg of Arroyo Parkway remaining.

This modification could affect traffic volumes at ten study intersections. The October 6, 1989 traffic impact study analyzed the level of service at these intersections, assuming that the LRT tracks would be at-grade. The revised levels of service shown in the right column labeled "2010 subway" reflect the elimination of train preemptions along Arroyo Parkway, and also reflects the diversion of traffic from the closure of Holly Street. The projected number of kiss-and-ride trips generated by the Holly Street/Memorial Park station during the P.M. peak hour is 39, as documented in the 1989 study. Ambient growth in traffic is assumed to be 1% per year. PM peak hour level-of-service is shown below:

| <u>Intersection</u>           | Existing   |            | 2010<br>No Build |            | 2010<br>At-grade |            | 2010<br>Subway |            |
|-------------------------------|------------|------------|------------------|------------|------------------|------------|----------------|------------|
|                               | <u>V/C</u> | <u>LOS</u> | <u>V/C</u>       | <u>LOS</u> | <u>V/C</u>       | <u>LOS</u> | <u>V/C</u>     | <u>LOS</u> |
| Fair Oaks Ave./Walnut St.     | 0.55       | A          | 0.85             | D          | 0.87             | D          | 0.86           | D          |
| Fair Oaks Ave./Holly St.      | 0.51       | A          | 0.69             | B          | 0.72             | C          | 0.78           | C          |
| Fair Oaks Ave./Union St.      | 0.32       | A          | 0.49             | A          | 0.51             | A          | 0.53           | A          |
| Fair Oaks Ave./Colorado Blvd. | 0.77       | C          | 1.28             | F          | 1.33             | F          | 1.33           | F          |
| Fair Oaks Ave./Green St.      | 0.41       | A          | 0.57             | A          | 0.63             | B          | 0.63           | B          |
| Raymond Ave./Holly St.        | 0.20       | A          | 0.25             | A          | 0.28             | A          | 0.21           | A          |
| Arroyo Pkwy./Holly St.        | 0.27       | A          | 0.38             | A          | 0.40             | A          | 0.25           | A          |
| Arroyo Pkwy./Union St.        | 0.17       | A          | 0.28             | A          | 0.33             | A          | 0.35           | A          |
| Arroyo Pkwy./Colorado Blvd.   | 0.46       | A          | 0.74             | C          | 0.86             | D          | 0.74           | C          |
| Arroyo Pkwy./Green St.        | 0.36       | A          | 0.48             | A          | 0.50             | A          | 0.50           | A          |

Fair Oaks Avenue/Colorado Boulevard is the only intersection which is impacted beyond an acceptable level of service. This impact occurs whether or not Holly Street is closed. Although traffic volumes are projected well beyond the intersection's capacity, no mitigation measures are recommended. Any increase in capacity would require the purchase of additional right-of-way, which would be infeasible given the nature of adjacent development. The addition of left turn lanes on Colorado Boulevard has significantly improved the level of service since the 1989 study. Further improvement is attainable by a stringent enforcement of existing left turn prohibitions for Fair Oaks Avenue traffic.

### 3F. Allen Avenue Station

An LRT station has been proposed for the median of the Foothill Freeway, with access to the sidewalk of Allen Avenue by way of stairs and elevator. The east side of Allen Avenue will be widened under the Foothill Freeway bridge to provide a loading zone. The station will generate some kiss-and-ride traffic. The estimated number of trips generated is 11 during the evening peak hour.

The intersection levels of service for the PM peak hour conditions are as follows:

| <u>Intersection</u>   | <u>Period</u> | <u>Existing</u> |            | <u>2010 No Build</u> |            | <u>2010 With LRT</u> |            |
|-----------------------|---------------|-----------------|------------|----------------------|------------|----------------------|------------|
|                       |               | <u>V/C</u>      | <u>LOS</u> | <u>V/C</u>           | <u>LOS</u> | <u>V/C</u>           | <u>LOS</u> |
| Allen Ave./Maple St.  | PM            | 0.52            | A          | 0.63                 | B          | 0.64                 | B          |
| Allen Ave./Corson St. | PM            | 0.67            | B          | 0.80                 | D          | 0.81                 | D          |

2010 volumes were projected from the existing using a 1% annual growth rate. The 2010 with LRT V/C ratios are well beneath the threshold V/C ratio of 0.99 set by the City of Pasadena for intersections near the Foothill Freeway, so the traffic impact should be insignificant.

#### 4. IMPACTS DURING CONSTRUCTION

##### 4A. Pasadena-Glendale Wye Connector

Because Avenue 19 will be modified at its intersection with San Fernando Road, closure of Avenue 19 will be required just south of San Fernando Road. Access to businesses on Avenue 19 will be from the south.

Construction of the bridges for the Pasadena LRT and the non-revenue connector may also require temporary closure of Avenue 19. Access to businesses on Avenue 19 will be from the north. This work must be staged so that access to businesses such as Anhing and M&M is maintained. Furthermore, construction work should keep clear of the driveways for Anhing and M&M to allow truck movements into these businesses.

##### 4B. Marmion Way-Figueroa Street Grade Separation

Construction of an aerial guideway for LRT over the intersection of Marmion Way, Figueroa Street and Pasadena Avenue may require closure of lanes, or occasionally entire roadways, which would significantly impact traffic. Since there are no attractive alternate routes across the existing Santa Fe right-of-way during construction, care should be taken to avoid closing this crossing for longer than a few hours at a time.

##### 4C. Marmion Way-Museum Drive Station

The widening of Marmion Way to provide for a station drop-off zone will require temporary parking prohibitions on both sides of the street, and the relocation of an RTD bus zone. Complete closure of Marmion Way should be avoided, since there are no satisfactory parallel detour routes.

##### 4D. Fillmore Street Station

Construction of the Fillmore Street light rail crossing may require the complete closure of the roadway. Since Fillmore Street is lightly traveled, the impact of this closure is minimal. Roadway widening associated with the suggested mitigation measure at the Arroyo Parkway/California Boulevard and Arroyo Parkway/Glenarm Street intersections will require temporary lane closures.

##### 4E. Colorado Boulevard Grade Separation

Construction of the subway may necessitate temporary street closures at Green Street, Colorado Boulevard and Union Street. During the closure of any one of these roadways, it is vital that all other east-west streets are maintained at full capacity.

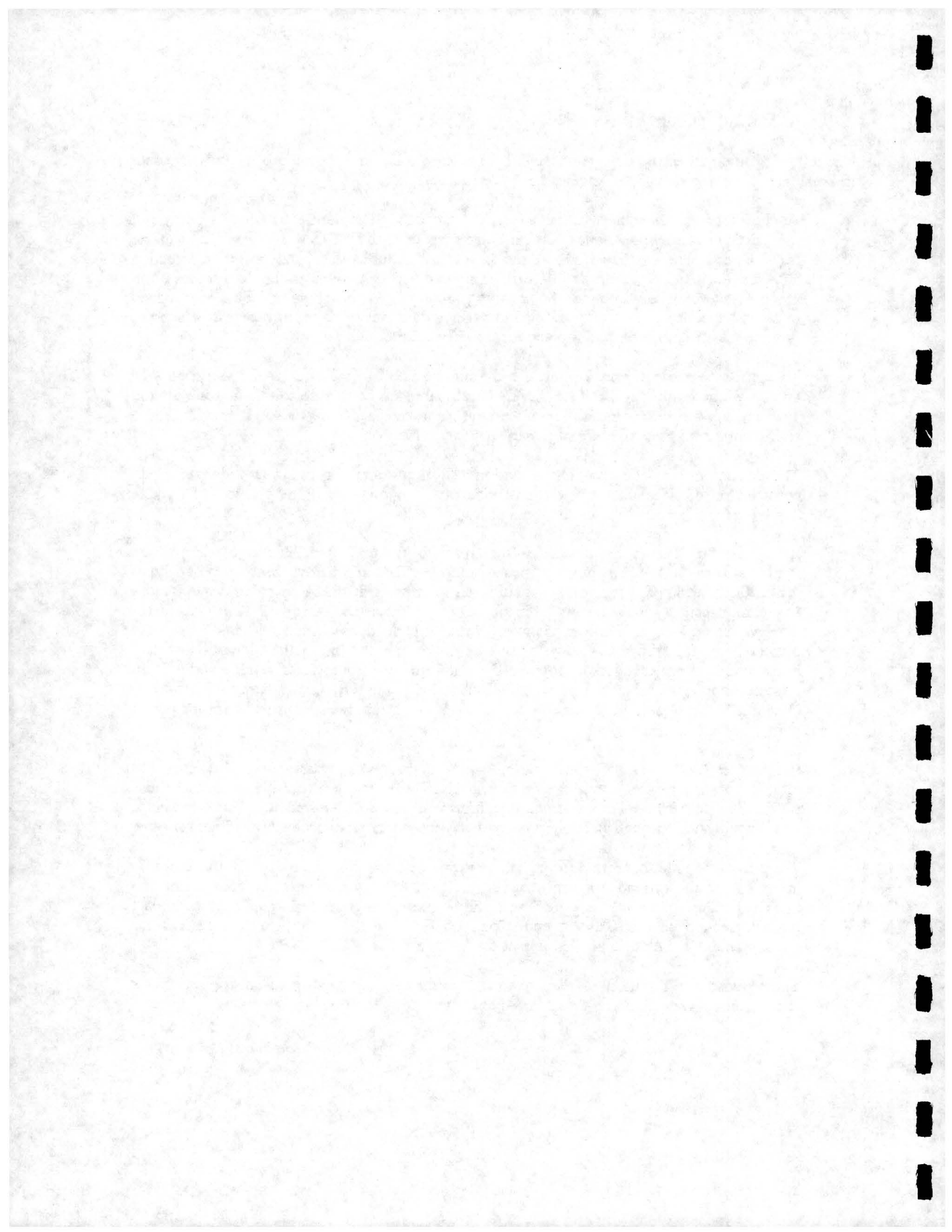
##### 4F. Allen Avenue Station

Construction of the LRT station should be conducted so that one lane of traffic in each direction is maintained at all times on Allen Avenue.

## 5. SUMMARY OF FINDINGS

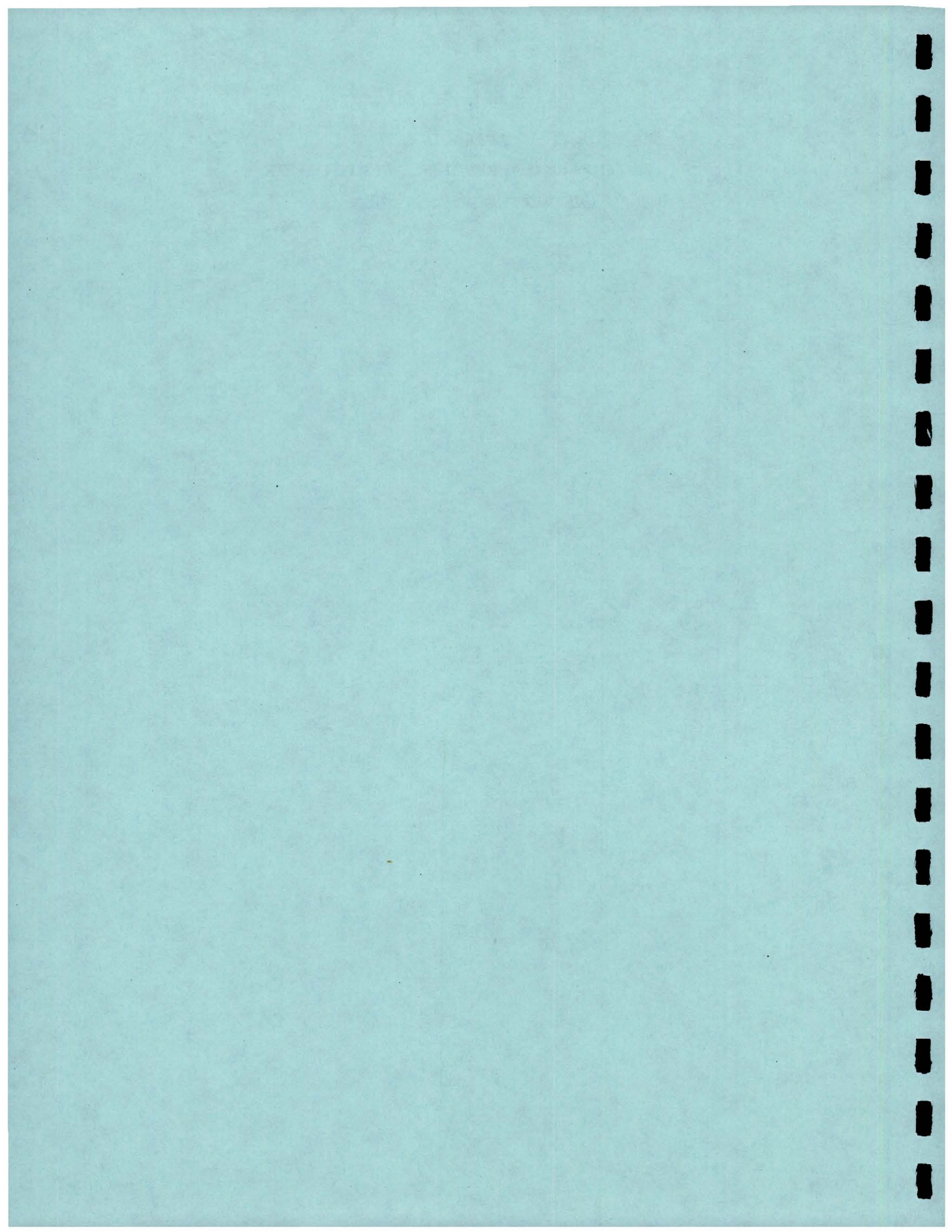
The following summarizes the traffic impacts for the revised route and station proposals, from south to north along the Pasadena-Los Angeles LRT corridor:

- At the Pasadena-Glendale wye connector, the proposed alignment will occupy a portion of the existing roadway on Avenue 19 near San Fernando Road. This will reduce the available travel lanes from four to two on Avenue 19, and will reduce the capacity at the intersection of Avenue 19 and San Fernando Road. This intersection, however should operate at an acceptable level of service under the proposed conditions. The alignment should be designed to avoid impacting the existing traffic and parking demands of adjacent business, which use Avenue 19 for employee parking and for delivery access.
- The proposed grade separation through the intersection of Figueroa Street, Marmion Way and Pasadena Avenue will reduce the LRT traffic impacts compared to the at-grade option. The impacts will be about the same, whether or not a park-and-ride lot is provided. No traffic mitigation measures are necessary at this intersection.
- The Marmion Way-Museum Drive station will require minor roadway widening, and construction of sidewalk along the east side of Marmion Way. The traffic and parking impacts of this proposal should be minimal.
- If Fillmore Street is not closed, the traffic impacts of the proposed Fillmore Station will be similar to those of the previously proposed station at Glenarm Street, which were analyzed in the October 6, 1989 traffic impact study. The impacts at the Arroyo Parkway/Fillmore Street intersection should be insignificant. The impacts at the Arroyo Parkway/California Boulevard and Arroyo Parkway/Glenarm Street intersections should be similar to those projected in the previous study; thus, the recommended mitigation measure at this intersection has not changed. Arroyo Parkway at California Boulevard should be widened on the southbound approach to provide a southbound right turn lane. Arroyo Parkway at Glenarm Street should be widened on the northbound approach to provide a northbound right turn lane.
- If Fillmore Street is closed, the same mitigation measures apply as above. However, the intersection of Arroyo Parkway and California Boulevard will be further impacted because traffic will divert from Fillmore Street to California Boulevard. This additional traffic cannot be fully mitigated through street improvements without extensive acquisition of right-of-way.
- The proposed grade separation through downtown Pasadena should have no significant traffic impacts over the at-grade option analyzed in the 1989 study, even after considering the impacts of the Holly Street closure. Both the at-grade and grade-separated options impact the intersection of Fair Oaks Avenue/Colorado Boulevard. No mitigation measures are recommended, since none are feasible at this intersection.
- The proposed LRT station at Allen Avenue should not create any significant traffic impacts at the Allen Avenue/Corson Street or Allen Avenue/Maple Street intersections.





**APPENDIX C**  
**SECTION 6.0 OF PREVIOUSLY CERTIFIED EIR**  
**Alternatives to the Proposed Project**



**SECTION 6**  
**ALTERNATIVES TO THE PROPOSED PROJECT**

**6.1 DESCRIPTION OF ALTERNATIVES**

This section identifies alternatives to the alignments addressed in this EIR. First, a description of route alternatives that were explored in previous studies and ultimately rejected is provided. Next, the "expanded bus service alternative" and "no project alternative" are identified.

Route refinement studies completed in earlier phases of this project for the downtown, Highland Park, Lincoln Heights and Pasadena portions of the project area examined a number of alignments prior to those selected for further analysis in this EIR (LACTC 1987, 1988, 1989). These studies involved a generalized analysis which outlined the advantages and disadvantages of each route and the potential environmental effects. This environmental analysis examined land use, planned developments, potential displacement impacts, residential proximity, potential business disruption, and key community issues.

**Highland Park, Lincoln Heights, and Downtown Route Alternatives**

The following candidate alignments were examined in the initial phase of the route refinement studies completed for Highland Park, Lincoln Heights, and the downtown Los Angeles area:

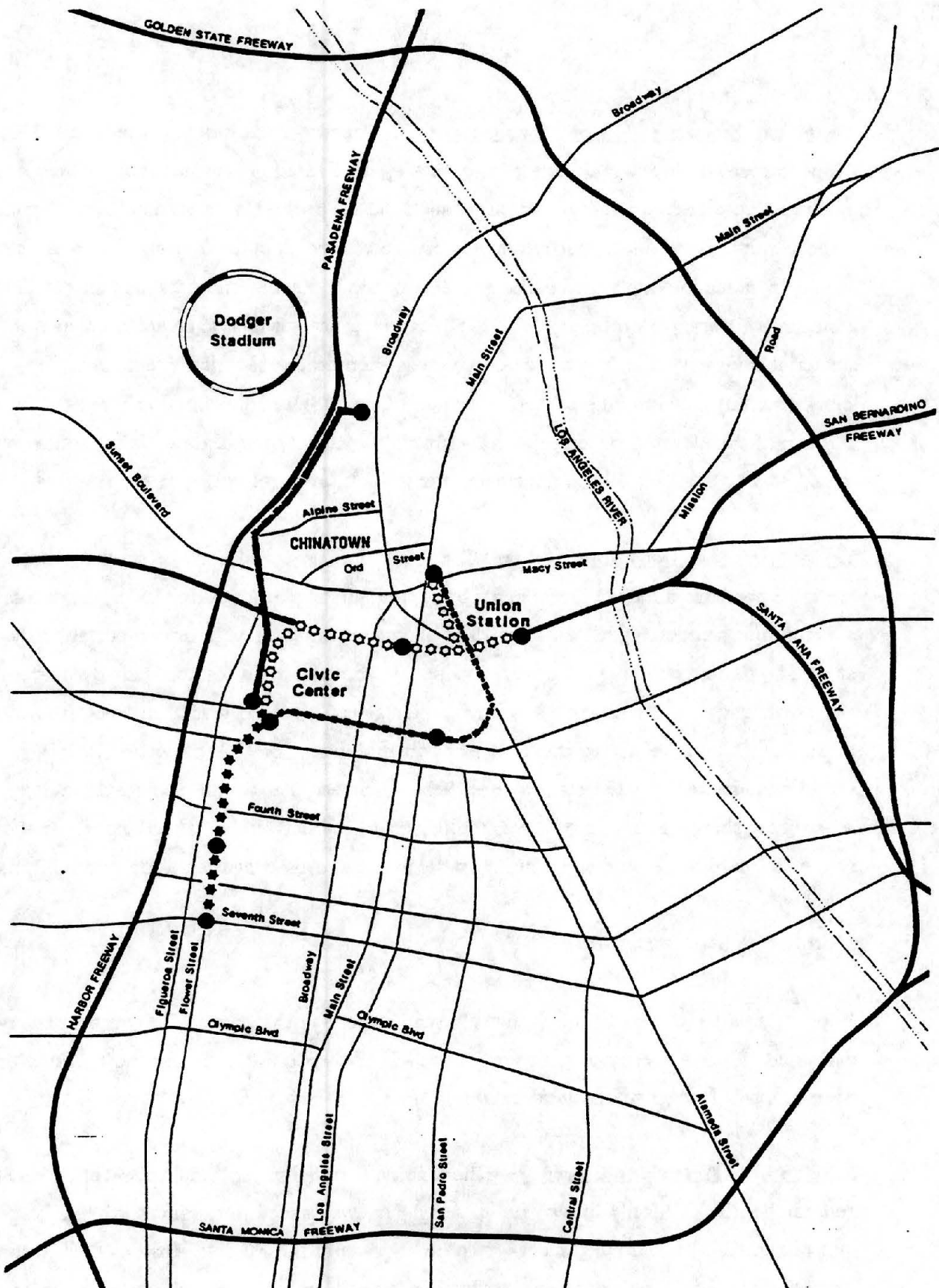
- Four downtown route options referred to as the 1st Street, I-5, Stadium, and Chinatown route options.
- Highland Park alignment along the Santa Fe Railroad right-of-way which is one of the two alignments selected for further study in this EIR.
- North Main Street alignment which is the second alignment selected for study in this EIR.
- Mission Road alignment.
- Soto Street alignment (busway segment).
- North Broadway alignment.

Following these earlier route refinement phases, the Second Street downtown route option was identified as an additional downtown segment that should be evaluated in the EIR. Following release of the previous EIR, the Second Street-Union Station option and Union Station "No Subway" alternative were added. This section of the EIR focuses on those alignments which were not selected during route refinement phases and includes the Mission Road alignment, the Soto Street alignment, the North Broadway alignment, and three downtown route options (1st Street, Santa Ana, and Stadium options). The route refinement study undertaken in Pasadena led to the omission of one north/south option (the I-710 extension) and four east/west options (Walnut Street, Union Street, Colorado Boulevard, and Green Street). In addition to those alternatives examined in the route refinement study, this analysis examines two other possible project alternatives. The first, referred to as the "no project" alternative, assumes the proposed Pasadena-Los Angeles LRT will not be constructed. The second alternative examines the feasibility of expanding existing bus service in the Pasadena-Los Angeles Corridor instead of implementing the Pasadena-Los Angeles LRT.

#### **Downtown Options**

Three other alternative route options were examined in the central business district in addition to the Chinatown, Second Street, and Union Station "No Subway" options ultimately selected for the proposed project. These included the 1st Street, I-5, and Dodger Stadium downtown route options. All downtown options share the Flower Street subway as a common segment. From 7th Street to 1st Street, the Flower Street subway runs beneath Flower and Hope Streets using a cut and cover method of construction. The locations of the downtown alignments are indicated in Exhibit 6-1.

**1st Street Downtown Option:** The First Street route would serve the Civic Center, Little Tokyo and Union Station in downtown Los Angeles. Near the Civic Center, the alignment is underground. The line would emerge from a portal located in front of the County Courthouse creating a barrier to pedestrians crossing 1st Street along with visual impacts near the courthouse's 1st Street entrance. Near Little Tokyo, the line would be on an aerial structure where it would pass the proposed 1st Street North redevelopment project creating a potential for design conflicts. Additional visual impacts would be anticipated from the aerial guideway structure as it passes El Pueblo State Historic Park/Olvera Street area and Union Station along Alameda Street.



- Legend**
- FLOWER STREET SUBWAY
  - FREEWAY ALTERNATIVE
  - POTENTIAL STATIONS
  - FIRST STREET ALTERNATIVE
  - STADIUM ALTERNATIVE



Alternative Alignments  
Pasadena-Los Angeles Light Rail Transit Project

**Santa Ana Freeway (I-5) Downtown Option:** The freeway route would continue north from the Hope Street/1st Street intersection in a subway configuration beneath Hope Street and turn northeast, to an aerial structure which parallels the I-5 to the Union Station area. A number of impacts would occur on the north side of Arcadia Street north of the freeway. The aerial structure would encroach into a planned parking garage for the El Pueblo International Antique Block and onto state historic park property. The LRT at this location would also create visual impacts where an aerial guideway structure would be located adjacent to the historically significant Pico-Garnier block (currently undergoing rehabilitation) and Olvera Street revitalization project. The visual impacts of the elevated structure along Alameda Street near the historic Union Station building would also be similar to those anticipated for the 1st Street route.

**Dodger Stadium Downtown Option:** The LRT line proposed for the stadium route would continue north from Flower Street in a subway configuration beneath Hope Street and cross under I-5 continuing under Figueroa Street. The alignment would emerge from a portal on the south side of I-110, and continue on an aerial guideway where it would connect with Bernard Street in the north end of Chinatown. Key environmental issues which would be associated with this alignment include the displacement of an apartment building on Yale Street. The aerial guideway would require an elevated station over Bernard Street that would also result in the loss of on-street parking, disruption of access to businesses, conflict with a planned garage on the south side of Bernard Street and rerouting of traffic in the already congested north end of Chinatown.

### **Lincoln Heights Alternatives**

Prior to initiating the EIR process, five alternatives serving the Lincoln Heights community were evaluated. Two of these options were selected for inclusion in the EIR, while the following the were dropped from further consideration.

**Mission Road Alignment Alternative:** The Mission Road alignment would begin at Union Station and parallel the El Monte busway on an aerial guideway structure turning north and descending into Mission Road. The alignment would be at-grade in the Mission Road median as the road crosses under I-5. The alignment would then ascend on a retained fill structure to an aerial guideway just north of the Mission Road/Valley Boulevard grade separation next to the Parque

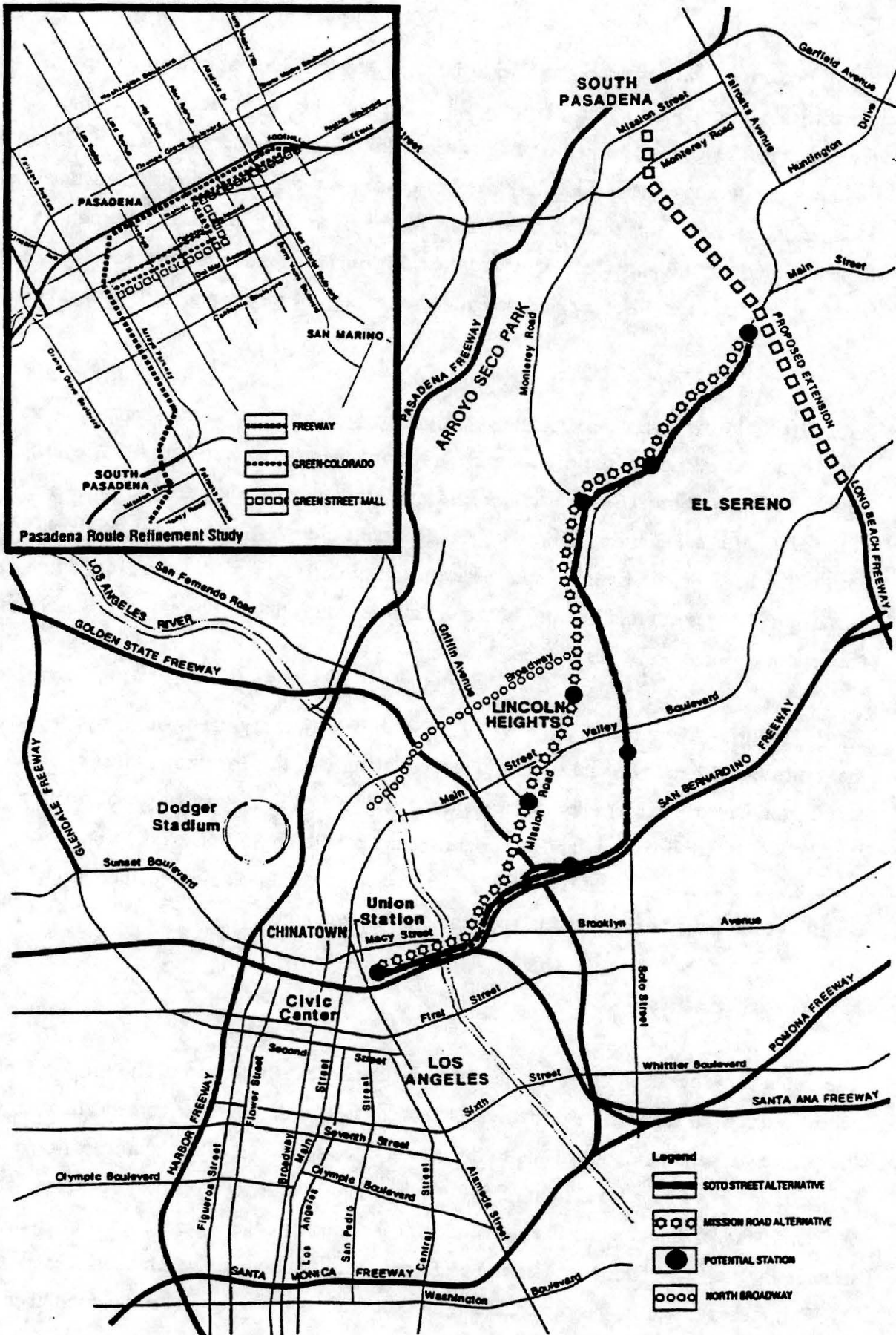
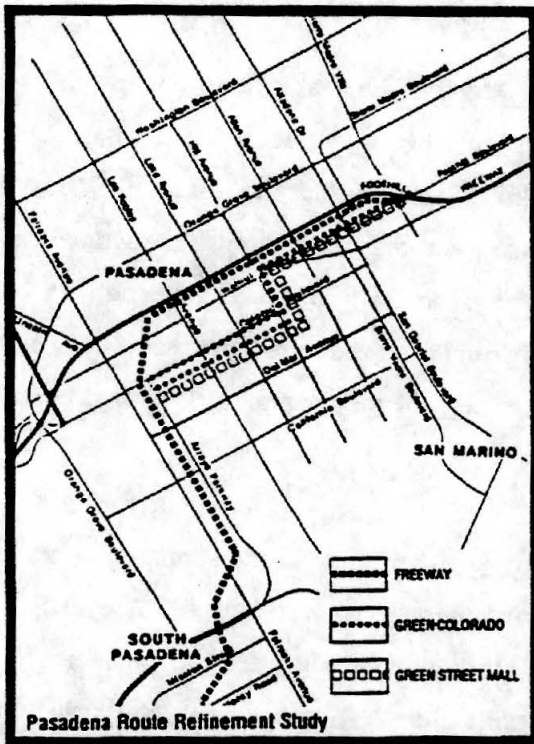
de Mexico. It would continue north with the same Mission Road alignment and profile as the North Main Street alternative. Existing land uses are primarily public (e.g., Union Station, freeway, medical center) or industrial between Union Station and the Mission Road/Valley Boulevard grade separation. Lincoln Park, warehouses, and residences abut the alignment along Mission Road north of this point (similar to the North Main Street alternative). The implementation of this alignment would require substantial road widenings and result in significant problems related to engineering and design. The location of this alignment is shown in Exhibit 6-2.

**Soto Street (busway segment) Alignment Alternative:** The Soto Street alignment alternative would convert a portion of the El Monte Busway from Union Station to the USC Medical Center station for light rail use. Buses from the El Monte station would allow for the transfer of riders at the USC Medical Center station onto the light rail system. The alignment would then swing onto a Southern Pacific Railroad spur adjacent to Soto Street, turning onto Huntington Drive. This alignment was omitted because of the difficulties connecting to downtown Los Angeles and the resulting reduction of bus service elsewhere.

**North Broadway Alignment Alternative:** The North Broadway alignment alternative would leave the downtown/Chinatown area, then proceed along North Broadway, Mission Road and Huntington Drive. Two variations were explored along North Broadway: an aerial structure down the center of North Broadway, and an aerial structure parallel to North Broadway, proceeding mid-block to the south. Both of these variations were dropped from further study due to environmental impacts that were unacceptable to the community.

#### **Pasadena Alternatives**

The initial route refinement studies prepared for the Pasadena portion of the proposed project considered several alignment alternatives. A second stage of the route refinement study narrowed the number of candidate alignments to three. All three of the selected alignments would utilize the existing Santa Fe Railroad right-of-way which parallels the Arroyo Parkway. The terminal site at Sierra Madre Villa was used as an endpoint for these studies. One alignment, I-210, was selected by the City of Pasadena as the preferred route. This route, which continues along the ATSF, is incorporated in this draft EIR. The other routes not selected are described below.





**Green Street Mall Option:** Turning east from the Santa Fe right-of-way, the double-track LRT line would run in the center of Green Street from west of Arroyo Parkway to the Hill Avenue "T" intersection. This would replace current one-way traffic with two-way lanes allowing local access only. The line would then turn north into the center of Hill Avenue, which would be widened in order to accommodate LRT. North of Walnut Street, the double-track LRT line would turn east and follow another railroad right-of-way. Beyond the San Gabriel Boulevard crossing, the line would turn north along Kinneola Avenue, go under I-210, and end west of Sierra Madre Villa Avenue.

**Green Street/Colorado Boulevard Option:** Turning east from the Santa Fe right-of-way, the double-track line would split into two single-track segments in downtown Pasadena. The inbound line would follow the north side of Green Street and would run contraflow with one-way eastbound traffic. The outbound line would follow the south side of Colorado Boulevard. The lines would join on Hill Avenue, north of Colorado Boulevard. Past Walnut Street, this LRT route would be identical to the Green Street Mall Option.

As does the Green Street-Colorado Boulevard Route, this segment connects to the Railroad Route Segment at Green Street and runs east to connect to the Hill Avenue-Railroad Connector Route Segment. This route, however, runs double track in the center of Green Street. The LRT tracks would be isolated from vehicular traffic by a curb which will be designed to permit vehicles to cross over the tracks when necessary.

#### **Expanded Bus Service Alternative**

The enhanced bus service alternative is similar to the no project alternative in that the Pasadena-Los Angeles Rail Transit Project would not be implemented if this alternative is selected. The major objective of this project alternative would be to increase the bus ridership and bus capacity along the Pasadena-Los Angeles Corridor. Possible strategies would include the use of larger buses (double deck and tandem), decreasing headways along existing routes, and adding new routes to the corridor.

## **No Project Alternative**

The no project alternative assumes that the proposed Pasadena-Los Angeles LRT will not be implemented and that existing facilities and transit services will handle future transit demands in the Pasadena-Los Angeles Corridor. Existing freeways which serve the corridor would also be required to handle greater peak hour traffic loads resulting in corresponding increases in congestion and delays for motorists and a decrease in regional air quality.

## **6.2 ENVIRONMENTAL ANALYSIS OF ALTERNATIVES**

### **Downtown, Lincoln Heights, Highland Park and Pasadena Alternatives**

The potential environmental impacts that were anticipated to result from the implementation of the alternatives were assessed in the preliminary environmental analysis completed as part of the route refinement (LACTC, 1988).

The preliminary environmental analysis, summarized in Table 6-1, looked at a number of variables including engineering feasibility, projected cost, traffic impacts, displacement, and other environmental effects. In addition, the analysis considered the feasibility of a future connection with a Glendale LRT line. The rationale for selecting the Highland Park and North Main Street alignments also involved a number of other considerations including the cost of right-of-way acquisition, access, and potential ridership. For this reason, the Highland Park and North Main alignments were identified as environmentally superior alternatives over those considered in the route refinement study.

The Dodger Stadium and I-5 options were discarded early in the route refinement process because of difficulties anticipated with the engineering and construction of both lines. The 1st Street route was removed from further consideration due to an awkward portal configuration. Following the route refinement study, this option was replaced by the Second Street option.

Table 6-1

PRELIMINARY EVALUATION OF PASADENA-L.A. CORRIDOR ALTERNATIVES

| ALTERNATIVE  | ENGINEERING ASSESSMENT                              | EXPECTED COST/07\$ | GLendale LINK | TRAFFIC IMPACTS   | DISPLACEMENT  | ENVIRONMENTAL ISSUES   | ADVERSE NOISE                | OTHER COMMENTS   | PRELIMINARY ASSESSMENT  |
|--|---|--------------------|---------------|---|---|--|------------------------------|--|---|
| HIGHLAND PARK<br>Variations:<br>(A) Chinatown-Broadway Route<br>(B) 1st Street Route | GOOD<br>(Majority of line at-grade)                 | \$450 to \$500M    | GOOD          | LOW IMPACT<br>-Install 9 new signals between Aves. 51-59<br>-1-way complete on Marmon Way<br>-Loss of 50 parking spaces<br>-Parking/traffic impacts around Ave. 50 and Ave. 57 stations                                     | LOW-MEDIUM IMPACT<br><10 residences, 1 business<br>(Additional displacement if greater buffer area desired) | -Pedestrian safety issues between Aves. 50 and 57<br>-Reconstruction of landmark Santa Fe bridge over freeway<br>-[A] Chinatown business access during construction<br>-[B] Visual impact and conflict w/developments on 1st | HIGH (about 120 structures)  | -Santa Fe abandonment project proceeding<br>-Amtrak service structure, though high cost and coordination w/ Santa Fe may render route unusable | STUDY IN EIR w/ VARIATION (A) provides good local service and ample construction, though high cost and coordination w/ Santa Fe may render route unusable |
| N. MAIN STREET<br>Variations:<br>(A) Chinatown-Ord Route<br>(B) 1st Street Route     | FAIR  | \$350 to \$400M    | FAIR          | HIGH IMPACT<br>-Extensive use of street widenings, "straddle bents" or left turn prohibitions<br>-Modify several intersection sections<br>-1-way complete on Huntington Drive<br>-Loss of 650 parking spaces reduces access | LOW IMPACT<br>5-20 residences, 5 businesses   | -Visual impact of elevated structure, esp. at Lincoln Park and along Mission<br>-[A] Chinatown business access during construction<br>-[B] Visual impact and conflict w/developments on 1st                                  | MEDIUM (about 40 structures) | -(A) serves Chinatown while (B) serves government area   | STUDY IN EIR w/ VARIATION (A) provides some coin heights & Medical Center. Though visual and parking impacts present, merits further study                |
| MISSION ROAD   | POOR<br>(# 1st St., Union Sta., Piper Tech. Center) | \$325 to \$350M    | POOR          | HIGH IMPACT<br>-Unmitigatable at 1-5<br>-Extensive street widenings<br>-1-way complete on Huntington Drive<br>-Loss of 500 parking spaces reduces access  | LOW IMPACT<br>5-20 residences, 5-10 businesses  | -Visual impact of elevated structure on segment of Mission<br>-Visual impact and conflict w/developments on 1st St.  | LOW (about 10 structures)    |  | PROP<br>-Practical due to two major engineering problems and dependency on 1st Street route   |
| SOTO STREET  | POOR<br>(# 1st St., Union Sta., along busway)       | \$325 to \$350M    | POOR          | LOW TO MEDIUM IMPACT<br>-Single reversible car-pool lane on busway<br>-1-way complete on Huntington Drive<br>-Loss of 170 parking spaces  | LOW IMPACT<br>5-20 residences, <5 businesses  | -Visual impact and conflict w/developments on 1st St.<br>-Route passes through Hazard Park   | LOW (under 10 structures)    | -Bus turnaround at Med Ctr decreases number of buses in downtown area  | PROP<br>-Dependency on 1st St. route and usurping busway makes route undesirable  |
| N. BROADWAY<br>Variations:<br>(A) Center Street Aerial<br>(B) Mid-Block Aerial       | FAIR  | \$150 to \$400M    | GOOD          | MEDIUM IMPACT<br>-(A) Left turns become shared w/turn lane<br>-(A) Loss of 350 parking spaces<br>-(B) Loss of 150 parking spaces<br>-(A or B) 1-way complete on Huntington Drive  | [A] LOW IMPACT<br>5-20 residences, 6 businesses<br>[B] HIGH IMPACT<br>45-60 residences, 6 businesses        | -Route passes Downey Recreation Center<br>-Visual impacts of elevated structure (Downtown/Chinatown impacts same as Highland Park)   | Not Available                | -Community concerns raised during previous study   | PROP (A)<br>-Provides strong service to Lincoln Hts.<br>[A] offers wide street with placement in-places makes (B) undesirable.                            |

The engineering assessment rated the Mission Road alignment as "poor" compared to the Highland Park and North Main Street alignments. Reasons cited for eliminating this alignment included: the route's dependency on the 1st Street route, engineering difficulties near the Piper Technical Center, and resulting traffic problems near I-5.

The Soto Street alignment alternative was eliminated following the route refinement study because it would adversely impact the existing express bus service into the downtown. Similar to the Mission Road alignment, this alternative would also require the 1st Street route to be implemented.

The North Broadway alternative was dropped due to community opposition to the proposal and a number of significant engineering and land use impacts which could not be fully mitigated.

For the route refinement process in the City of Pasadena, alternatives using surface streets led to various negative environmental impacts such as loss of parking, street trees, and access to business. In some cases, acquisition of private right-of-way would have been necessary.

Table 6-2 presents a general overview of the key environmental impacts and issues that were considered in this assessment. The I-210 alignment was selected over the other alignments considered because the other alternatives would result in significant adverse displacement and traffic impacts.

TABLE 6-2

PASADENA ALIGNMENT OPTIONS  
OVERVIEW OF ENVIRONMENTAL IMPACTS

| <u>Issue Area</u>           | <u>Freeway Alignment</u>  | <u>Green-Colorado Alignment</u>  | <u>Green Street Mall Alignment</u>   |
|-----------------------------|---|--|--|
| Land Use                    | Acquisition of AT&SF right-of-way<br>Minor land acquisition near stations | Acquisition of AT&SF right-of-way<br>Street widening on Colorado Boulevard<br>Land acquisition along Hill Avenue for street widening<br>Land acquisition near stations<br>One side of on-street parking removed along Green and Colorado | Acquisition of AT&SF right-of-way<br>Land acquisition near stations<br>Land acquisition along Hill Avenue for street widening<br>On-street parking removed along Green |
| Noise                       | Noise impacts restricted to existing AT&SF right-of-way                   | Noise impacts near residential neighborhood between Hill Avenue and Allen Avenue<br>Noise impacts on existing residential area south of Green Street   | Noise impacts near residential neighborhood between Hill Avenue and Allen Avenue<br>Noise impacts on existing residences south of Green Street                         |
| Aesthetics                  | Minor aesthetic impacts; LRT will use existing AT&SF right-of-way         | Aesthetic impacts in Old Town<br>Aesthetic impacts in central business district  | Aesthetic impacts in Old Town  |
| Street Trees/<br>Open Space | LRT will be near Central Park and Memorial Park                           | LRT will be near Central Park<br>Street tree removal on north side of Colorado Boulevard<br>Street tree removal along Hill Avenue  | LRT will be near Central Park<br>Street tree removal along Hill Avenue<br>Street tree removal along Green Street for street widening at station                        |

TABLE 6-2 (continued)

| <u>Issue Area</u>  | <u>Freeway Alignment</u>  | <u>Green-Colorado Alignment</u>  | <u>Green Street Mall Alignment</u>  |
|--------------------|---|--|---|
| Public Safety      | LRT will use existing AT&SF right-of-way, hazards at road crossings             | Hazards at road crossings<br>Hazards to vehicles crossing tracks into parking areas<br>Hazards to pedestrians in downtown area | Hazards at road crossings<br>Hazards to vehicles crossing tracked into parking areas<br>Hazards to pedestrians in downtown area |
| Earth              | No major grading or excavation  | No major grading or excavation   | No major grading or excavation  |
| Air                | Carbon monoxide concentrations near stations                                    | Carbon monoxide concentrations near Green Street and Colorado Boulevard<br>Carbon monoxide concentrations near stations        | Carbon monoxide concentrations near stations and along Green Street   |
| Light and Glare    | Increased light and glare along Freeway Route                                   | Light and glare along Colorado Boulevard, Green Street, and Hill Avenue  | Light and glare along Colorado Boulevard, Green Street, and Hill Avenue   |
| Natural Resources  | Consumption of non-renewable resources for construction and power generation    | Consumption of non-renewable resources for construction and power generation   | Consumption of non-renewable resources for construction and power generation  |
| Risk of Upset      | No significant risk of upset anticipated  | No significant risk of upset anticipated   | No significant risk of upset anticipated  |
| Population/Housing | No displacement of housing<br>Growth-inducing impacts on housing and population | No displacement of housing<br>Growth-inducing impacts on housing and population  | No displacement of housing<br>Growth-inducing impacts on housing and population   |

TABLE 6-2 (continued)

| <u>Issue Area</u>  | <u>Freeway Alignment</u>                                      | <u>Green-Colorado Alignment</u>                               | <u>Green Street Mall Alignment</u>                            |
|--------------------|---|---|---|
| Public Services    | No significant adverse impacts on public services anticipated | No significant adverse impacts on public services anticipated | No significant adverse impacts on public services anticipated |
| Energy Consumption | LRT will consume electricity for power generation             | LRT will consume electricity for power generation             | LRT will consume electricity for power generation             |

**Expanded Bus Service Alternative**

The expanded bus service alternative considers the feasibility of expanding bus service in the study area instead of implementing a rail transit project, such as the one proposed. The Pasadena-Los Angeles Corridor is currently well served by buses operated by the RTD. Table 6-3 summarizes existing bus service for each alignment alternative.

As indicated in Table 6-3, most of the heavily patronized bus lines have peak hour headways of less than 15 minutes with a number of lines operating at 10 minute headways. With this existing frequency of service, it does not appear practical to upgrade the frequency of bus service in the corridor to match the LRT's level of capacity. Adding buses to this corridor would result in increased traffic congestion, and additional noise and air quality impacts. As buses share the same right-of-way as vehicular traffic, travel times would deteriorate with future traffic growth. In addition, the selection of the bus alternative would not comply with the directives of Proposition A to develop a rail transit system. As a result, this alternative is not considered to be environmentally superior to the North Main and Highland Park alignment alternatives.

TABLE 6-3

## BUS SERVICE IN PROJECT AREA

| <u>Bus Line</u>                    | <u>Service Description</u>                                      | <u>Total Daily Boardings</u> | <u>Peak Hour Headways</u> |
|------------------------------------|---|------------------------------|---------------------------|
| <u>North Main Street Alignment</u> |   |                              |                           |
| 483                                | Express bus from Los Angeles to Altadena via El Monte Boulevard | 5,270                        | 12 min.                   |
| 485                                | Similar to 483  |                              | 25 min.                   |
| 76                                 | Downtown Los Angeles to El Monte via North Main Street          | 4,783                        | 12 min.                   |
| 78                                 | Downtown Los Angeles to Alhambra                                | 7,091                        | 9 min.                    |
| 79                                 | Downtown Los Angeles to Monrovia                                | 7,091                        | 24 min.                   |
| 378                                | Same as 78 except limited stop service                          | 7,091                        | 20 min.                   |
| 379                                | Same as 79 except limited stop service                          | 7,091                        | 20 min.                   |
| <u>Highland Park Alternative</u>   |   |                              |                           |
| 401                                | Express bus from downtown Los Angeles to Pasadena               | 1,740                        | 15 min.                   |
| 402                                | Similar to 401, peak hour service only                          | 1,740                        | 30 min.                   |
| 46                                 | Downtown Los Angeles to Highland Park                           | 1,560                        | 25 min.                   |
| 81                                 | Downtown Los Angeles to Glendale                                | 7,406                        | 10 min.                   |
| 83                                 | Downtown Los Angeles to Highland Park                           | 6,804                        | 10 min.                   |
| 176                                | El Monte to Highland Park                                       | 1,089                        | 50 min.                   |

Sources: Southern California Rapid Transit District, 1988.  
Southern California Association of Governments, 1988.

To make the bus alternative competitive with the travel times and capacity of the LRT line, enhanced bus service would require reserving exclusive bus lanes along existing arterials such as Figueroa Street, North Main Street, or Mission Road, or to build an exclusive busway facility. Reserving lanes along existing arterials would result in significant adverse impacts that are unlikely to be superior to those anticipated to result from the implementation of the light rail line. The



impacts associated with providing a busway facility would be similar to those of an elevated LRT structure.

### **No Project Alternative**

The no project alternative would result in no new transit services or facilities for the Pasadena-Los Angeles Corridor. This represents the least desirable alternative due to increased traffic congestion, noise, vehicle emissions, and other impacts in an already impacted corridor. In addition, the substantial number of people who live and work in this corridor would not have direct access to the County-wide rail transit network. Finally, the no project alternative would directly conflict with the voter mandate to provide rail service in this corridor. As a result, this alternative is not considered to be environmentally superior to the North Main and Highland Park alignments.

### **6.3 ENVIRONMENTAL SUPERIOR ALTERNATIVE**

Provision of transit has been identified as environmentally superior to the no project alternative based on the resulting reduction of total vehicle miles traveled and a corresponding improvement in regional mobility and air quality.

The proposed LRT project is also environmentally superior to the expanded bus service alternative due to operational advantages: the LRT allows for the movement of more people with a higher frequency. Buses currently serving the Pasadena-Los Angeles corridor have an average peak hour service of 20 minutes between buses. Bus headway times would be difficult to improve in a currently congested corridor. This LRT project will improve regional mobility by providing a 9-minute peak hour headway between vehicles. In addition, each electrically-powered two or three car LRT train on its own right-of-way would remove six to nine diesel-powered buses from the congested system resulting in improved traffic conditions and air quality.

While none of the alternatives considered in the earlier route refinement studies or in this EIR are completely free of adverse environmental impacts, the Highland Park alignment represents the best alternative in terms of traffic impacts (refer to Table 6-1) and in terms of structural displacement as it primarily uses its own separate right-of-way. In particular, the segment incorporated in the I-210 median represents the least impact in terms of traffic disruption and

displacement. All of the other alternatives considered in the City of Pasadena involved considerable traffic and circulation impacts for those portions of the alignments that would be located within roadway rights-of-way. In addition, major dislocation was projected to occur at numerous locations. The alignments considered as the project candidates in this EIR, particularly the Highland Park alternative, represent the superior alternatives in terms of environmental impacts.

