CERTIFICATION
Of
Final Supplemental Environmental Impact Statement/
Subsequent Environmental Impact Report:
Los Angeles Rail Rapid Transit Project -- Metro Rail

RESOLVED that the Board of Directors of the SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT HEREBY CERTIFIES THAT the Final Supplemental Environmental Impact Statement/Subsequent Environmental Impact Report: Los Angeles Rail Rapid Transit Project -- Metro Rail, published in July, 1989, has been completed in compliance with National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA); and

RESOLVED FURTHER that in accordance with Sec. 15090 (b) of CEQA Guidelines, all members of the Board of Directors of the Southern California Rapid Transit District have received copies of the Final SEIS/SEIR and have reviewed and considered its contents prior to arriving at their decision on project selection; and

RESOLVED FURTHER that, based on information contained in the Final SEIS/SEIR regarding the technical, social, economic, environmental, community and public hearing factors, the 17.3 mile Rail Rapid Transit alternative described in the report as the "New Locally Preferred Alternative" be, and the same hereby is, approved and adopted as the project for implementation; and

RESOLVED FURTHER that the attached Statement of Findings and Statement of Overriding Considerations related to the implementation of this project were considered prior to project selection and are hereby approved and adopted; and

RESOLVED FURTHER that the attached Notice of Determination is hereby approved and the District Secretary is directed to file same with the County Clerk of Los Angeles County and with the Secretary for Resources of the State of California.

CERTIFICATION

The undersigned, duly qualified and acting as District Secretary of the Southern California Rapid Transit District, certifies that the foregoing is a true and correct copy of a Resolution adopted at a legally convened meeting of the Board of Directors of the Southern California Rapid Transit District held on August 3, 1989.

District Secretary

DATED: August 3, 1989

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STATEMENT OF OVERRIDING CONSIDERATIONS

STATEMENT OF OVERRIDING CONSIDERATIONS

Pursuant to the preceding Statement of Findings on the Final Subsequent Environmental Impact Statement for the Los Angeles Rail Rapid Transit Project ("Metro Rail"), the Board of Directors of the Southern California Rapid Transit District is required by State law (Section 15093 of the CEQA Guidelines) to balance the benefits of a proposed project against its unavoidable environmental risks in determining whether to approve the project. Where the benefits of a proposed project outweigh the unavoidable environmental risks of the project, these adverse effects may be considered "acceptable" and the project may be approved.

The Board of Directors has reviewed the potential adverse effects identified and the findings made in the preceding Statement of Findings. The Board also has reviewed the Subsequent Environmental Impact Report (SEIR) and its identification of both potential positive and negative impacts. The Board holds the following as being among the benefits of the "New Locally Preferred Alternative" that outweigh the identified unavoidable adverse impacts as identified in the SEIR.

GENERAL BENEFITS

- o General benefits include increased accessibility to employment, commercial and recreational centers in the Regional Core, improved travel times and decreases in vehicle hours and miles of travel, and accommodation of more concentrated yet regulated growth pursuant to regional growth goals. The SCRTD Board finds the Project to be justified because of severe traffic congestion in the Regional Core, over-crowding of the present bus system and the need for a more efficient transit system. A more efficient transit system would save users time and money. The Metro Rail Project would accelerate the achievement of goals for transportation, air quality, energy policy, redevelopment, the City Centers Concept and commercial growth.

PATRONAGE

- o The New LPA is projected to have daily rail boardings of just under 300,000 by the year 2000. SCRTD expects daily rail boardings in the Year 2000 for the New LPA (including MOS-1) to be:

  - o **Case 1:** terminal stations at Wilshire/Western & Hollywood/Vine — 260,000
  - o **Case 2:** terminal stations at Wilshire/Western & Universal City —— 288,000
  - o **Case 3:** terminal stations at Wilshire/Vermont & Universal City —— 278,000
  - o **Full LPA:** terminal stations at Wilshire/Western & North Hollywood - 298,000

  Total daily regional transit boardings for the SCRTD system would be 1,946,000 of which 1,648,000 would be on the bus system. Projected peak vehicle requirements are 2,029 buses for the New LPA.

ACCESSIBILITY

- Seven of the proposed eleven stations along the Phase II route of the New LPA are located in communities with minority populations of 33 percent or greater. Wilshire/Normandie and Wilshire/Western each have 57 percent minority communities followed by Wilshire/Vermont (53 percent), Vermont/Beverly (49 percent), Vermont/Santa Monica (42 percent), North Hollywood (34 percent), and Vermont/Sunset (33 percent).

- Almost all of the proposed Phase II transit stations serve communities with youth populations of ten percent or greater. The only exception is Universal City, which serves a youth community of eight percent of the total population. The proposed Vermont/Santa Monica station would serve a youth population of 18 percent. All remaining station areas have youth populations which are ten to fifteen percent of the total population.

- The station areas with the greatest proportional population of persons aged 65 years and older are Vermont/Sunset and Hollywood/Western, each with sixteen percent. Over half of the Phase II station areas have elderly populations of fifteen percent or greater (6 of 11 stations).

- Persons of working age (16 to 65 years) with physical handicaps which restrict or prohibit normal use of transit facilities are considered to be "transit disabled." Proposed station areas with comparatively large populations of transit-disabled persons include North Hollywood, Universal City, Wilshire/Western and Hollywood/Western. To better serve handicapped patrons, all Metro Rail Stations will be designed in accordance with the Uniform Federal Accessibility Standards.

- In all but two of the proposed Phase II station locations, more than one third of the households in the surrounding communities are without access to private transportation. Station communities with the highest proportions of households lacking private transportation include Wilshire/Vermont with 51 percent, Hollywood/Highland with 46 percent, Wilshire/Normandie with 44 percent, and Hollywood/Vine with 41 percent.

- The 1980 median family income for Los Angeles was $21,125. The State of California defines low family income as not meeting or exceeding eighty percent of that figure ($16,900). With the exceptions of the Universal City station, all of the communities to be served by Metro Rail have median family incomes below $16,900.

- The Metro Rail alignments could improve local accessibility in two ways. First, as the number of commercial services around stations increases, those services become more accessible to residents, particularly to those without automobiles. Access to commercial services adjacent to stations would be particularly convenient for residents who commute by transit, because they would be able to shop on their way home from work.

- There are a number of regionally significant employment, shopping, educational, and cultural sites within the Los Angeles region to which Metro Rail can improve access. Additionally, the effective integration of bus and other surface transportation services with Metro Rail stations will further enhance regional accessibility.

- There are 3,970,164 jobs in Los Angeles County. Using transit services with the New LPA, 12.98 percent of those jobs (515,327) are within sixty-minute door-to-door travel time for all households in the county. Under the Null Alternative, 3.18 percent of countywide jobs (126,251) are within an hour's door-to-door travel time for all county households.

    - Under the New LPA, 14.80 percent of the 3,970,164 jobs in Los Angeles County (587,584) are within an hour's door-to-door transit travel time for all Asian residents in the County. Under the Null Alternative, 4.21 percent of jobs (167,144) are within the one-hour travel time.

    - Under the New LPA, 18.78 percent of all jobs in Los Angeles County (745,597) are within an hour's door-to-door transit travel time for all Black residents in the County. The Null Alternative serves 3.14 percent of Countywide jobs (124,663) for this group.

    - Under the New LPA, 16.57 percent of all jobs in Los Angeles County (657,856) are within sixty minutes' door-to-door transit travel time for all Hispanic residents in the county. The Null Alternative is less with 4.79 percent of Countywide jobs (190,171) served in 60 minutes for this group.

    - With the New LPA, 412,897 (10.40 percent) of the 3,970,164 jobs in Los Angeles County are within a sixty-minute door-to-door transit travel time of all Whites in the county. The Null Alternative benefits 111,165 of all countywide jobs (2.80 percent).

    - Under the New LPA, 735,274 (18.52 percent) of Los Angeles County's 3,970,164 jobs are within an hour's door-to-door transit travel time for all autoless households in the County. The Null Alternative benefits 185,407 jobs (4.67 percent).

    - Under the New LPA, 665,002 (16.75 percent) of Los Angeles County's 3,970,164 jobs are within an hour's door-to-door transit travel time for all poverty-level households in the County. The Null Alternative serves 158,410 jobs (3.99 percent) within one hour for this group.

LAND USE AND CITY CENTERS CONCEPT

- Metro Rail will help concentrate development at designated Centers (consistent with the City Centers Concept), will help maintain surrounding low-density residential areas and will reduce development pressures on sensitive undeveloped areas outside the Regional Core. Of the eleven new stations in the Phase II, eight reinforce the City Centers Concept of the Los Angeles City and County General Plans, supporting the revitalization of seven Designated Centers. The New LPA would support implementation of the Centers Concept by connecting Centers, by promoting development at designated growth centers, by revitalizing economically stagnant areas, and by providing commercial services and employment near established population concentrations. The majority of projected growth for all project options would be expected to occur in Centers in support of the Centers Concept.

- Phase II of the New LPA would serve the North Hollywood and Hollywood Redevelopment Projects and would have three stations located in Redevelopment Project Areas.

- For station areas where the projected residential growth would require 75 percent or less of the available residentially-zoned land susceptible to redevelopment, the impact of the residential growth was assessed to be potentially beneficial. This condition is expected to occur at the Vermont/Sunset and Vermont/Santa Monica station areas.

- For station areas where the projected commercial growth would require 75 percent or less of the commercially-zoned land susceptible to investment, the impact of the commercial growth was assessed to be potentially beneficial. These stations include: Wilshire/Vermont, Wilshire/Normandie, Wilshire/Western, Vermont/Santa Monica, Vermont/Sunset, Hollywood/Vine, Hollywood/Highland; and North Hollywood.

- The Project was designed to mitigate the effects of growth that have already occurred or are expected in the Regional Core.

JOINT DEVELOPMENT

- Potential revenues have been identified from the development of parcels that have been preliminarily identified for acquisition to support construction of specified stations and ancillary facilities for the New LPA. Assuming a simple ground lease rate of nine percent of land value, the potential annual lease income in December 1985 dollars to SCRTD along the New LPA could be as high as $1,649,000.

TRAFFIC

- Freeways serving the Regional Core become severely congested during peak commuter periods and operate at or near capacity during much of the day. The daily travel demand on freeways is projected to increase by approximately twenty percent by the year 2000. Given the capacity constraints on existing freeways, the majority of travel between major destinations within the Regional Core occurs on arterial streets. Without major improvement in transit service, traffic congestion will worsen significantly, affecting an increasing number of facilities.

  The screenline analysis predicted a 2.1 percent average reduction in auto trips in the east-west direction under "with project" conditions. For the north-south screenlines, a 1.25 percent average reduction in auto trips was calculated.

PARKING

- The rail project could reduce the need for parking facilities in the Los Angeles Central Business District and other regional centers. With improved accessibility to destinations in the station area, it is anticipated that auto drivers would become transit users. This shift to transit would increase the overall supply of available spaces in the station area.

ECONOMIC IMPACT

- The number of construction jobs associated with the New LPA is expected to be in the 3,000 to 5,000 range

- When the cumulative effect of direct, indirect, and induced impacts is considered, a dollar spent on operations is conservatively expected to generate between one and two additional dollars in total regional economic activity, as defined by the gross regional product. Applying this relationship, the New LPA would generate $35 million to $70 million secondary economic activity.

ENERGY SAVINGS

- The New LPA is projected to result in an annual regional energy savings over Null Alternative conditions of 2,759 billion BTU's, as fewer street vehicles would be manufactured, driven and maintained.

REGIONAL AIR POLLUTION

- A reduction in vehicular emissions of carbon monoxide, reactive hydrocarbons, oxides of nitrogen, sulfur dioxide, and suspended particulates would be realized in the Los Angeles region with the New LPA. Table 8 presents the added benefit of the New LPA over and above the Null Alternative.

TABLE 8

DIRECT REGIONAL AIR QUALITY BENEFITS - NEW LPA
YEAR 2000
(TONS/DAY REDUCTION OF POLLUTANT BURDEN FROM NULL ALTERNATIVE)

Pollutant	New LPA
Carbon Monoxide	5.44
Reactive Hydrocarbons	0.34
Oxides of Nitrogen	0.69
Sulfur Dioxide	0.06
Suspended Particulates	0.20
TOTAL	6.73

Source: General Planning Consultant.

- To the extent that Metro Rail reduces automobile Vehicle Miles Traveled, trip generation, and/or congestion by diverting trips to transit, it is consistent with the long-range strategies of the AQMP and, therefore, the Clean Air Act. The Metro Rail Project is in conformance with the AQMP, because it fulfills the three basic requirements (identified in Section IX.7 of the AQMP) to be addressed in any review for conformity:
  - The AQMP/SIP is being implemented in the area where the project is proposed.
  - The Southern California Association of Governments (SCAG) has found that the project is consistent with the adopted SCAG 82 growth forecast.
  - The Metro Rail project has been part of the SCAG Regional Transportation Plan (and listed on the applicable transportation project list) for a sufficient number of years.
- The proposed action is also consistent with, and a part of, the Regional Transportation Plan for Southern California.

NOISE IMPACTS

- After the recommended noise and vibration mitigation measures, the all-subway Phase II is predicted to affect no structures in terms of noise and vibration.

CULTURAL IMPACTS

- The New LPA is not predicted to have any long-term adverse effects on cultural/historical properties.

ALIGNMENT AND STATION SELECTION

- Vermont Avenue is the second most heavily patronized route in the SCRTD bus system. Several major institutions and traffic generators would be served by an alignment on Vermont Avenue, including Los Angeles City College, the Braille Institute, and the Kaiser, Hollywood Presbyterian, and Children's Hospitals. All public comment favored a Vermont Avenue alignment. There was no support expressed from the community for a Western Avenue alternative.

- There is considerable concern by the Sunset Boulevard broadcast and recording industry regarding environmental impacts (especially, noise, vibration, and electromagnetic interference) resulting from either aerial or subway alignments.

- The Hollywood/Highland Station is justified on the basis of its transportation benefits and conformance with the land use and growth management objectives for Hollywood. It will be located in an area of high population and employment density which is planned to receive additional, high quality development in future years.

DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION

- The SCRTD has adopted a policy which affords meaningful and appropriate participation by Disadvantaged Business Enterprises (DBE's) and other minority-owned enterprises in all contract and joint development opportunities.

  In the construction phase, contract-specific goals are averaging 22 percent for DBE participation. Overall annual goals for construction contracts are set at twenty percent for DBE's.

ATTACHMENT 5

NOTICE OF DETERMINATION

NOTICE OF DETERMINATION

TO: _X_ Secretary for Resources
1416 Ninth Street, Room 1311
Sacramento, California 95814

or

___ County Clerk
County of _____

FROM:(Public Agency) Southern California Rapid Transit District (SCRTD)

SUBJECT: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

Los Angeles Rail Rapid Transit Project – Metro Rail
Project Title

	Carmen Clark (UMTA)	(415) 454-7317
86112608	Nadeem Tahir (SCRTD)	(213) 972-3858
State Clearinghouse Number (If submitted to Clearinghouse)	Contact Person	Telephone Number

Los Angeles, California, in an area defined as the Regional Core or central part of the urbanized area.
Project Location

A 17.3 mile subway with 16 stations using conventional high capacity high speed rail technology. First 4.4 miles and five station segment is under construction.
Project Description

This is to advise that the Southern California Rapid Transit District Board of Directors, on August 3, 1989 (Lead Agency or Responsible Agency) has approved the above described project and has made the following determinations regarding the above described project:

1. The project _X_ will, ___ will not, have a significant effect on the environment.

2. _X_ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.

   ___ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.

   The EIR or Negative Declaration and record of project approval may be examined at:

   SCRTD Library/Information Center, 5th Floor, 425 S.Main St., Los Angeles, 90013.

   City of Los Angeles Municipal Reference Library, City Hall East, Room 530, 200 N. Main St., Los Angeles, Ca. 90013.

3. Mitigation measures _X_ were, ___ were not, made a condition of the approval of the project.

4. A statement of Overriding Considerations _X_ was, ___ was not, adopted for this project.

Date Received for Filing _____

_____
Signature

_____
Title

NOTICE OF DETERMINATION

TO: ___ Secretary for Resources
1416 Ninth Street, Room 1311
Sacramento, California 95814

or

_X_ County Clerk
County of Los Angeles

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Date Received for Filing _____

_____
Signature

_____
Title

NOTICE OF DETERMINATION

TO: ___ Secretary for Resources
1416 Ninth Street, Room 1311
Sacramento, California 95814

FROM:(Public Agency) Southern California Rapid Transit District (SCRTD)

or

_X_ County Clerk
County of Los Angeles

SUBJECT: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

Los Angeles Rail Rapid Transit Project -- Metro Rail
Project Title

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Project Location

A 17.3 mile subway with 16 stations using conventional high capacity high speed rail technology. First 4.4 miles and five station segment is under construction.
Project Description

This is to advise that the Southern California Rapid Transit District Board of Directors, on August 3, 1989 has approved the above described project and has made the following determinations regarding the above described project:
(Lead Agency or Responsible Agency)

1. The project _X_ will, ___ will not, have a significant effect on the environment.

2. _X_ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.

   ___ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.

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   City of Los Angeles Municipal Reference Library, City Hall East, Room 530, 200 N. Main St., Los Angeles, Ca. 90013.

3. Mitigation measures _X_ were, ___ were not, made a condition of the approval of the project.

4. A statement of Overriding Considerations _X_ was, ___ was not, adopted for this project.

Date Received for Filing _____

Helen M. Boden
Signature

District Secretary
Title

NOTICE OF DETERMINATION

TO: X Secretary for Resources
1416 Ninth Street, Room 1311
Sacramento, California 95814

or

___ County Clerk
County of _____

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Project Description

This is to advise that the Southern California Rapid Transit District Board of Directors, on August 3, 1989 has approved the above described project and has made the following determinations regarding the above described project:
(Lead Agency or Responsible Agency)

1. The project X will, ___ will not, have a significant effect on the environment.

2. X An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.

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   City of Los Angeles Municipal Reference Library, City Hall East, Room 530, 200 N. Main St., Los Angeles, Ca. 90013.

3. Mitigation measures X were, ___ were not, made a condition of the approval of the project.

4. A statement of Overriding Considerations X was, ___ was not, adopted for this project.

Date Received for Filing _____

Helen M Bolen
Signature

District Secretary
Title

RTD

Alan F. Pegg
General Manager

July 28, 1989

TO: Board of Directors

FROM: Alan F. Pegg

SUBJECT: COMPLETION OF REQUIRED ENVIRONMENTAL ACTIONS FOR THE METRO RED LINE NEW LOCALLY PREFERRED ALTERNATIVE

RECOMMENDATION

It is recommended that the Board:

1. Review the "Final Supplemental Environmental Impact Statement/Subsequent Environmental Impact Report, Los Angeles Rail Rapid Transit Project -- Metro Rail" (FSEIS/SEIR), dated July 1989 (Attachment 1);

2. Adopt the Certification of the FSEIS/SEIR (Attachment 2). Such adoption encompasses the following actions:

   A. Certifies that the FSEIS/SEIR complies with the requirements of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA);

   B. Approves the New Locally Preferred Alternative (Figure 1);

   C. Approves and adopts the "Statement of Findings" regarding the FSEIS/SEIR (Attachment 3);

   D. Approves and adopts the companion "Statement of Overriding Considerations" (Attachment 4); and,

   E. Approves the Notice of Determination (Attachment 5) and directs the District Secretary to file this notice with the Los Angeles County Clerk and the California State Secretary for Resources.

ALTERNATIVES CONSIDERED

No alternatives are addressed. The recommendations are fully consistent with prior actions of the Board, the requirements of NEPA and CEQA, and the results of the CORE Study. To deviate from these recommendations would require recycling back through portions of the CORE Study and environmental efforts.

IMPACT ON BUDGET AND DISTRICT OBJECTIVES

The recommended actions are consistent with the District objectives to complete the federally mandated CORE Study FSEIS/SEIR and to complete negotiations with the Urban Mass Transportation Administration for Metro Red Line (Metro Rail) Phase 2 funding.

This project will be funded through the District's Capital Budget and will have no effect on the District's FY 1990 Operating Budget. Negotiations are underway with local, state, and federal agencies on a funding agreement to begin construction of the Phase 2 Project.

BACKGROUND

The District initiated the CORE Study in January 1986 due to a Congressional prohibition on tunneling along a portion of the Wilshire Corridor. The Metro Red Line Project adopted in December 1983 would have tunneled through the specified section, so the CORE Study was designed to realign the project and avoid tunneling in this area.

Following extensive public outreach efforts and the technical review of over 30 alternative alignments, the District and UMTA published and distributed a Draft Supplemental Environmental Impact Statement/Subsequent Environmental Impact Report (DSEIS/SEIR) in November 1987. This DSEIS/SEIR evaluated five candidate alignments and a null alternative. A sixth candidate alignment was reviewed in a May 1988 Addendum to the DSEIS/SEIR. Public hearings were held for these documents on December 18, 1987, and June 21, 1988, respectively.

On July 14, 1988, the Board of Directors adopted Candidate Alignment 1, with modifications to the number and location of stations, as the New LPA. The Board directed District staff to work with UMTA to develop a Final SEIS/SEIR (Attachment 1) for this alignment.

The New LPA is an all-subway, 17.3-mile, heavy rail transit system with sixteen stations (Figure 1). Consistent with the requirements of NEPA and CEQA, the FSEIS/SEIR describes the impacts and mitigation measures associated with the New LPA. The "Statement of Findings" (Attachment 3) summarizes the adverse, unavoidable impacts and corresponding mitigation measures.

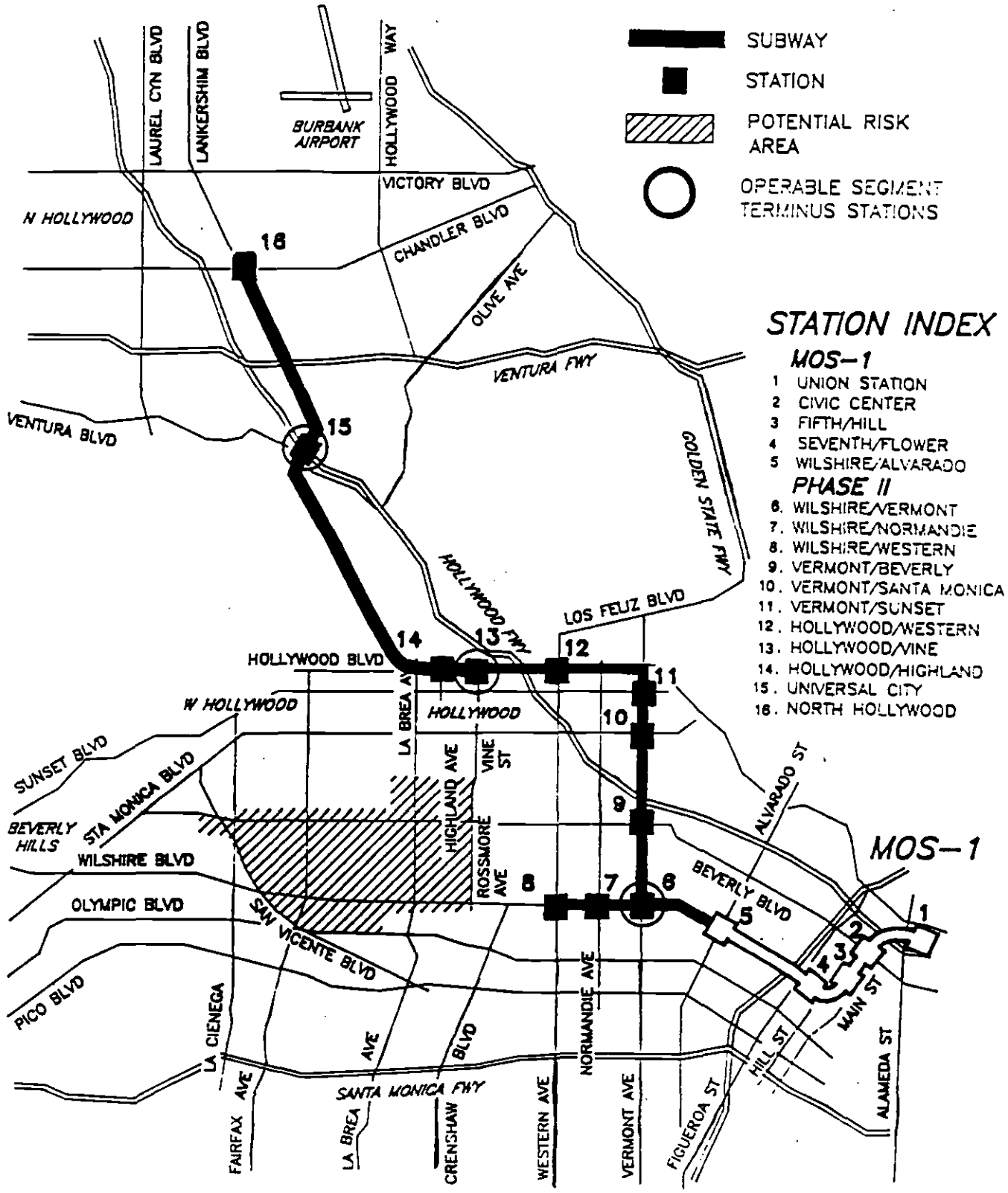
FIGURE 1

SCRTD METRO RAIL

LOCALLY PREFERRED ALTERNATIVE

WILSHIRE/VERMONT/HOLLYWOOD BLVD. SUBWAY

LPA ADOPTED BY SCRTD BOARD OF DIRECTORS JULY 14, 1988



Pursuant to the Statement of Findings, the Board of Directors is required by State law (Section 15093 of the CEQA Guidelines) to balance the benefits of a proposed project against its unavoidable environmental risks in determining whether to approve the project. Where the benefits of the project outweigh the unavoidable environmental risks, these adverse effects may be considered "acceptable" and the project may be approved. The Statement of Overriding Considerations (Attachment 4) states in part, that:

> "The Board of Directors has reviewed the potential adverse effects identified and the findings made in the preceding Statement of Findings. The Board also has reviewed the Subsequent Environmental Impact Report (SEIR) and its identification of both potential positive and negative impacts. The Board holds the following as being among the benefits of the "New Locally Preferred Alternative" that outweigh the identified unavoidable adverse impacts as identified in the SEIR."

The "Statement of Overriding Considerations" identifies many of the benefits associated with implementation of the New LPA.

NEXT STEPS

Following completion of the Board actions listed above, UMTA will issue a Record of Decision which will be published in the Federal Register 30 days following the distribution of the FSEIS/SEIR. The Notice of Determination (Attachment 5) will be sent to the Los Angeles County Clerk and the California State Secretary for Resources upon action by this Board of Directors.

Upon completion of funding negotiations, construction activities can be initiated for Phase 2 of the New LPA.

Respectfully,

Alan F. Pegg

Albert H. Perdon
Assistant General Manager
Planning and Public Affairs

Gary S. Spivack
Director of Planning

Attachments

ATTACHMENT 1

Final Supplemental Environmental Impact Statement/
Subsequent Environmental Impact Report:
Los Angeles Rail Rapid Transit Project -- Metro Rail

(enclosed as separate document)

ATTACHMENT 2

CERTIFICATION
OF

Final Supplemental Environmental Impact Statement/
Subsequent Environmental Impact Report:
Los Angeles Rail Rapid Transit Project -- Metro Rail

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Los Angeles Rail Rapid Transit Project -- Metro Rail

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RESOLVED FURTHER that, based on information contained in the Final SEIS/SEIR regarding the technical, social, economic, environmental, community and public hearing factors, the 17.3 mile Rail Rapid Transit alternative described in the report as the "New Locally Preferred Alternative" be, and the same hereby is, approved and adopted as the project for implementation; and

RESOLVED FURTHER that the attached Statement of Findings and Statement of Overriding Considerations related to the implementation of this project were considered prior to project selection and are hereby approved and adopted; and

RESOLVED FURTHER that the attached Notice of Determination is hereby approved and the District Secretary is directed to file same with the County Clerk of Los Angeles County and with the Secretary for Resources of the State of California.

CERTIFICATION

The undersigned, duly qualified and acting as District Secretary of the Southern California Rapid Transit District, certifies that the foregoing is a true and correct copy of a Resolution adopted at a legally convened meeting of the Board of Directors of the Southern California Rapid Transit District held on August 3, 1989.

_____
District Secretary

DATED: _____, 1989

(SEAL)

ATTACHMENT 3

STATEMENT OF FINDINGS

STATEMENT OF FINDINGS

STATEMENT OF FINDINGS

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STATEMENT OF FINDINGS

Section 21081 of the California Public Resources Code and Section 15091 of the California Environmental Quality Act (CEQA) Guidelines require a public agency, prior to approving a project, to identify significant impacts of the project and make one or more written findings for each of the significant impacts. These findings incorporate the facts and discussions of environmental impacts that are found in the Final Supplemental Environmental Impact Statement/Subsequent Environmental Impact Report (FSEIS/SEIR) for the Los Angeles Rail Rapid Transit Project ("Metro Rail")as fully set forth therein. For each of the significant impacts associated with Phase II of the Metro Rail Project, this Statement of Findings includes the following sections:

- o Impact - A specific description of the environmental impact identified in the FSEIS/SEIR.
- o Finding - The findings made are those allowed by Section 21081 of CEQA and Section 15091 of the CEQA Guidelines. They include the selected mitigation measures to be undertaken to reduce or eliminate the environmental impact.
- o Reference - A notation on the specific section in the FSEIS/SEIR which includes the evidence and discussion of the identified impact.
- o Rationale - A summary of the reasons for the decision.

SHORT-TERM CONSTRUCTION IMPACTS

Most physical impacts from construction will occur within one block of the construction site and include modified pedestrian and vehicular access, temporary disturbances from noise and dust, reduced visibility for storefronts and signs and reduced on-street parking. The greatest impacts will be caused by cut-and-cover line and station construction. Tunneling will create no significant impacts except at tunnel access shafts where debris must be removed and where materials and equipment are introduced.

Construction impacts cannot be completely offset. Some residual, unmitigable impacts will occur such as the disruption of daily routines with regard to circulation and commercial access, temporary increases in dust and noise associated with construction, increases in vehicular congestion and some reduction of on-street parking in and around construction sites. Impacts include temporary disruption of normal community activities and access to local facilities. The cut-and-cover construction method for stations would have greater impact, in general, than would the tunnel construction of the guideway elements. Most impacts will be short-term and occur during the construction period.

The specific impacts of the construction process are explained below with the findings, references and rationale associated with each.

Traffic Impacts (Construction)

Impact: Because Metro Rail will be routed through urban areas, motorists and pedestrians will, at times, be delayed and inconvenienced during the construction period. These impacts will be felt most acutely in areas of cut-and-cover construction in city streets. The degree of traffic disruption around areas of cut-and-cover construction would vary, depending on whether a station is built on or off-street. Off-street stations generally would have less impact on traffic circulation.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen the effect. These changes or alterations include the following mitigation measures.

- o Cut-and cover construction has been minimized and used only at stations and other special structure locations.

- o Wooden plank decking, constructed to close tolerances, will be used for temporary travel surfaces in areas of cut-and-cover construction as a means of maintaining traffic flow.

- o Before the start of construction, possibly during final design, Worksite Traffic Control Plans (WTCPs), including identification of detour requirements, will be formulated in cooperation with the City of Los Angeles and other affected jurisdictions (County, State). WTCPs will be based on lane requirements and other special requirements defined by the Los Angeles City Department of Transportation (LADOT) for construction within the city and from other appropriate agencies for construction in those jurisdictions. The excavation and decking of arterial streets crossing the rail alignment will be phased so that the capacity of these streets is not reduced unnecessarily.

- o Contractors will be required to follow, during construction, the WTCP for each site.

- o Barring unforeseen circumstances, no designated major or secondary highway will be closed to vehicular or pedestrian traffic except at nights or on weekends. No collector or local street or alley will be completely closed, allowing local vehicular or pedestrian access to residences, businesses, or other establishments.

- o Comprehensive bus rerouting and detour plans will be adopted prior to construction activities.

- o LADOT traffic control officers will be utilized as part of the WTCP at intersections affected by cut-and-cover construction.

- o A coordinated schedule of construction activities along Hollywood Boulevard will be developed to minimize the disruption to the area. Subject to the authorization of capital funds, construction beyond the Hollywood and Vine Street Station and pocket track complex may not occur in the same sequence but at a later time.

- o A relocation may occur of the cut-and-cover pocket track which is currently proposed to be west of the Hollywood/Vine Station. A possible relocation of the pocket track to east of this station would mitigate the disruption of the intersection and area west of Vine Street.

Reference: For a full discussion of Traffic Impacts (Construction) see the following sections in the July, 1989 FSEIS/SEIR: Chapter 3, Section 15.2, pages 3-15-1 to 3-15-2; Chapter 5, Section 3.1.1, page 5-3-1 and Section 3.1.2, pages 5-3-20 through 5-3-21.

Rationale: The measures described above will serve to restore and maintain vehicular and pedestrian circulation that would be disrupted by the construction. Implementation of these measures will substantially lessen the impact of construction.

<u>Noise and Vibration Impacts (Construction)</u>

Impact: Construction will involve the use of machines and procedures which, in the past, have resulted in intense noise levels and, occasionally, high vibration levels in and around the construction site. Construction activities include demolition, clearing, grading, excavating, pile driving, drilling, materials handling and placement, erection and finish work, including the use of the various machines and procedures associated with these activities.

Because of the nature of some construction activities, high amplitudes of ground-borne vibration may result in some impact in neighboring community areas. Blasting and impact pile-driving are two activities traditionally associated with high levels of ground-borne vibration. Some types of heavy vehicles and excavation activities can generate sufficient ground-borne vibration levels to be perceptible or noticeable in nearby buildings. Drilling and excavation procedures for cut-and-cover subways can result in ground-borne vibration levels which are perceptible or noticeable in adjacent areas.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen the effect. These changes or alterations include the following mitigation measures.

In general, the ground-borne vibration from vehicle operations on streets, even very rough streets, is not sufficient to create a noticeable widespread impact on adjacent community areas. For the Metro Rail Project, blasting

will not be used except for limited special cases (e.g., starter tunnels, cross passages, and shafts) in the Santa Monica mountains. For these special cases, application of tight specifications will mitigate the effects of blasting by controlling vibration, noise, and air pressure.

Instead of using traditional drill and blast methods of tunneling, Metro Rail will use Tunnel Boring Machines (TBM). Noise and vibration impacts from TBM operations are not significantly greater than those associated with heavy trucks traveling on city streets and only affect occupants inside buildings adjacent to the subway alignment. Outside of a building, there is little potential of noise or vibration impacts from TBM operation. TBM is used in the general context of any tunnel excavation machine, such as a rock boring machine, a roadheader, or any number of tunnel shields [e.g., digger, slurry face, earth balance]. The amplitudes of vibration from such activities are limited for safety reasons by procedural techniques.

Use of a TBM will create vibration levels which are generally imperceptible at distances greater than 75 to 100 feet from the operating TBM. Even at a distance of fifty feet, the operation of the TBM will create vibration levels which are just perceptible. Ground-borne noise and vibration from the TBM is of very short duration. Since the machine passes by an area in a few days at most, there would be no significant impact.

For each design section, the construction contracts will include a section on permissible noise limits. The limits are based upon type of nearby land use, type of construction activity and time of day. Additional mitigation measures may be implemented as necessary to comply with Los Angeles City noise ordinances as specified below:

The contractor shall:

- Prevent noise intrusion from stationary sources, and/or mobile sources which produce repetitive or long-term noise lasting more than two hours from exceeding the limits shown on Table 1.

- Prevent noises from nonstationary mobile equipment operated by a driver, or from a source of nonscheduled, intermittent, nonrepetitive, short-term noises not lasting more than two hours from exceeding the limits shown on Table 2.

TABLE 1

ALLOWABLE SOUND LEVELS OF STATIONARY CONSTRUCTION EQUIPMENT

Affected Structure or Area	Maximum Allowable Continuous Noise Level dB(A)	
	Daytime 7:00 am to 8:00 pm	Nighttime*
Residential		
o Single-family residence	60	50
o Along an arterial or in multi-family residential areas, including hospitals	65	55
o In semi-residential/commercial areas, including hotels	70	60
Commercial	24 Hours	
o In semi-residential/commercial areas, including schools	70	
o In commercial areas with no nighttime residency	75	
Industrial		
o All locations	80	

* All other periods including all day Sunday and legal holidays.

Source: SCRTD

TABLE 2

ALLOWABLE SOUND LEVELS OF MOBILE CONSTRUCTION EQUIPMENT

Affected Structure or Area	Maximum Allowable Continuous Noise Level dB(A)	
	Daytime 7:00 am to 8:00 pm	Nighttime*
Residential		
o Single-family residence	75	60
o Along an arterial or in multi-family residential areas, including hospitals	80	65
o In semi-residential/commercial areas, including hotels	80	70
Commercial	24 Hours	
o In semi-residential/commercial areas, including schools	85	
o In commercial areas with no nighttime residency	85	
Industrial		
o All locations	90	

* All other periods including all day Sunday and legal holidays.

Source: SCRTD

- o Conduct regular, periodic measurements of sound levels at nearby structures and maintain records of the measurements for inspection by the SCRTD or its designee. Measurements as required in Tables 1 and 2 shall be taken three to six feet in front of the building face to minimize the effect of reflective sound waves.

- o In zones designated by the local agency having jurisdiction as a Special Zone or Special Premise or Special Facilities (such as hospital zones), contractor shall follow the more restrictive of the allowable levels given above or as established by the local agency. These zones and work hour restrictions shall be obtained by the Contractor from the local agency.

The contractor should use only equipment meeting the noise emission limits listed in Table 3.

The contractor should maintain a file of certificates that equipment meets the criteria. These certificates will be inspected by the SCRTD or its consultants.

TABLE 3

EMISSION LIMITS ON CONSTRUCTION NOISE

Type of Equipment	Maximum Noise Limit Date Equipment Manufactured Before January 1, 1983	Maximum Noise Limit On or After January 1, 1983
Equipment other than highway trucks; including hand tools and heavy equipment.	90 dB(A)	85 dB(A)
Highway trucks in any operating mode or location.	83 dB(A)	80 dB(A)

Note: California Motor Vehicle Law has been relaxed. Highway trucks manufactured on or after January 1, 1986 must meet 80 dB(A) maximum noise level. For vehicles of less than 10,000 pounds Gross Vehicle Weight, manufactured before January 1, 1983, refer to the California Vehicle Code for allowed noise levels.

In no case shall the contractor expose the public to construction noise levels exceeding 90 dB(A) (slow) or to impulsive noise levels with a peak sound-pressure level exceeding 140 dB as measured on an impulse sound-level meter or 125 dB(C) maximum transient level as measured on a general-purpose sound-level meter on "fast" meter responses. Where more than one noise limit is applicable, the more restrictive requirement for determining compliance will be used.

Inside Construction Limits

Alternative procedures of construction are to be used and the proper combination of techniques are to be selected that would generate the least overall noise and vibration.

- o Use of drilled piles or vibratory pile drivers instead of impact pile drivers.

- o Use of new or nearly new construction equipment with exhaust muffling to reduce noise to acceptable levels.

- o Enclosing, screening or deflecting of construction area or tunnel shaft area noise.

- o Proper placement, securing, and protection of temporary steel plates in the street and decking timbers in cut-and-cover areas.

- o Use of only small construction equipment hand tools which are new or nearly new and that meet current allowable noise and/or vibration standards, such as:

    - Use of electric instead of diesel-powered equipment.
    - Use of hydraulic tools instead of pneumatic impact tools.
    - Use of electric instead of air- or gasoline-driven saws.
    - Use of effective intake and exhaust mufflers on internal combustion engines and compressors.

Physical separation should be maximized, to the extent feasible, between noise generators and noise receptors. Such separation includes, but is not limited to:

- o Provision of enclosures for stationary items of equipment and barriers around particularly noisy areas on the site or around the entire site.

- o Use of shields, impervious fences or other physical sound barriers to inhibit noise transmission.

- o Location of stationary equipment to minimize noise and vibration impact on the community, subject to approval of the SCRTD or its designee.

Noise-intrusive impacts should be minimized during the most noise sensitive hours.

- o Noisier operations shall be planned for times of highest ambient levels.
- o Noise levels shall be kept at relatively uniform levels, and the peaks and impulse noises shall be avoided.
- o Equipment not in use shall be turned off.

Outside Construction Limits

- o Truck routes for muck disposal shall be selected so that the noise from heavy-duty trucks will have minimal impact on sensitive land uses.
- o Construction equipment and vehicles carrying soil, concrete or other materials shall be routed over streets that will cause the least disturbance to residents or businesses in the vicinity of the work.
- o Truck loading, unloading and hauling operations shall be conducted so that noise and vibration are kept to a minimum.

The Metro Rail Project noise criteria set general and specific noise limits which may rule out the use of impact pile drivers unless additional steps are taken to isolate or muffle the sounds from pile driving. Impact pile drivers may be used only if the noise levels can be met and if there are compelling reasons to use them.

Reference: For a full discussion of Noise and Vibration Impacts (Construction) see the following sections in the July, 1989 FSEIS/SEIR: Chapter 3, Section 15.6, pages 3-15-14 to 3-15-20; Chapter 5, Section 3.1.2, pages 5-3-1 to 5-3-4.

Rationale: The use of specific project construction noise limits and suggested mitigation measures in construction contract specifications will insure that noise levels stay within levels that are considered acceptable for the adjacent land uses. At these specified levels, noise impacts will be less than significant. The intent of the mitigation measures applied to the construction of the Metro Rail Project is to ensure that noise levels do not exceed the criteria set by the project. The SCRTD commits to the requirement that its contractors will follow City of Los Angeles Noise Ordinances, and apply the more restrictive noise limit when one or more noise limits are applicable so that project generated noise levels will remain within the project criteria.

Removal of Muck (Construction Impacts)

Impact: Substantial volumes of subsoil, known as "muck" in construction terminology, will be excavated during construction of the New LPA. The principal soil types expected to be encountered are:

- o Alluvial deposits composed of silt, sand, gravel and boulders.
- o Young alluvium consisting of similar loose deposits of sands and gravel.
- o Old alluvium containing more fine-grained and cohesive material (clay, silt, sand, and gravel).
- o Puente Formation composed of claystone, siltstone, sandstone with some local hard sandstone beds.

At some locations, soil boring samples show the presence of Group 1 materials. Soils containing Group 1 materials or other manufactured chemicals that may leach into the sub-soil from industrial plants or underground storage tanks are usually classified as hazardous materials.

There are liquid and gaseous hydrocarbons in relatively shallow sediments in portions of the Los Angeles Central Business District and Wilshire Corridor segments (Converse Consultants, 1981). The Phase II alignment will pass through the west limb of the old Los Angeles Oil Field and will encounter heavy hydrocarbons, possibly almost tar-like in consistency with a small light fraction. This will create two problems: (1) control of explosive gases and flammable oils, and (2) ground control problems reflecting on difficulties in excavation, shoring and bearing capacity. The light fractions of gas released during vapor pressure and temperature fluctuations resulting from excavation disturbances of the rock profile are of concern. This is reflected in geotechnical studies (Converse Consultants, 1981) and will call for a classification of Gassy for that part of the alignment intersecting sedimentary rocks.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen the effect. These changes or alterations include the following mitigation measures.

Based on geotechnical and sub-soil investigations and on the types of soils indicated above, most sub-soil for the New LPA is expected to be classified Group 3, which basically is "inert earth." It is considered non-hazardous soil and is suitable as fill material for use in parks and recreation areas, land reclamation, and in highway construction. This material has commercial value, and the construction contractor may dispose of or sell this type of soil to interested buyers. If the construction contractor is unable to sell or otherwise dispose of Group 3 construction wastes, they could be hauled to Class III disposal sites.

Phase II of Metro Rail will produce approximately 4 million tons of material for disposal or other disposition over the five year construction period, for an overall average of less than 1 million tons per year. It is anticipated that only a small portion will constitute Class I material. Disposal of muck and any associated material that may be hazardous must be in strict conformance to state and federal laws and regulations and specifications of SCRTD. The Group 1 soil will be disposed of in Class I landfills. Much of the Class III material may be sold or disposed other than in landfills and sufficient capacity at area Class II and III landfills appears to exist for the remaining materials. It is expected that Metro Rail disposal would utilize no more than seven percent of the remaining landfill capacity.

Subsection 3-5 of Section 01566, "District Specifications for the Metro Rail Project," outlines the procedures and requirements relating to hazardous material that may be encountered during excavation of the New LPA.

Additional soil borings will be made in critical areas to define precisely the vertical and horizontal extent of Group 1 materials. Laboratory testing of Group 1 material samples from the borings will be conducted to provide information on their strength and deformation characteristics at different temperatures, confining pressures, strain rates, and levels. Based on data derived from the above tests, specific excavation, shoring, and foundation design criteria will be formulated to ensure short- and long-term stability of Project facilities in Group 1 material areas. Conversely, once the location of shallow Group 1 materials is precisely known, further design accommodations may be made. Final design and construction will be coordinated with the California State Division of Safety and Health, which has responsibility for safety of subsurface tunneling through hazardous material.

SCRTD will actively monitor the wastes produced during construction and follow applicable regulations in the disposal of these wastes.

Reference: For a full discussion of Removal of Muck (Construction Impacts) see the following sections in the July, 1989 FSEIS/SEIR: Chapter 3, Section 15.9, pages 3-15-21 to 3-15-31; and Chapter 5, Section 3.2.3, page 5-3-21.

Rationale: The FSEIS/SEIR indicates that a mixture of soils classified from Group 1 (hazardous) to Group 3 (inert) will be encountered during construction. A review of the quantities expected to be generated and the capacities of the appropriate disposal facilities shows that there is adequate capacity to dispose of all the waste material that will be generated. For material classified as hazardous, the SCRTD is committed to disposal in compliance with all applicable laws and regulations. The SCRTD has prepared construction contract specifications to accomplish this goal. These actions reduce the impact on the environment below the significant level.

Air Pollution (Construction Impacts)

Impact: Dust from construction projects, commonly termed fugitive dust and caused by wind and construction machinery, is the primary air quality impact of construction. Activities generating fugitive dust during Project construction include cut-and-cover and open-cut excavations; spoil loading, hauling, and disposal; construction of surface facilities such as stations; and building demolitions. Station construction sites involving excavation from the surface and tunnel waste disposal have a high potential for fugitive dust emissions.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen the effect. These changes or alterations include the following mitigation measures.

Regulations of the South Coast Air Quality Management District (SCAQMD) would be enforced by SCRTD. These regulations include site watering and street sweeping to suppress dust.

Reference: For a full discussion of Air Pollution (Construction Impacts) see the following sections in the July, 1989 FSEIS/SEIR: Chapter 3, Section 15.7, pages 3-15-20; and Chapter 5, Section 3.1.4, pages 5-3-4.

Rationale: The SCRTD is committed to compliance with the regulations of the SCAQMD and the mitigation measures included in the FSEIS/SEIR. These regulations and measures have been proven effective in construction of MOS-1 and will result in air quality impacts that are less than significant.

Utilities (Construction Impacts)

Impact: Metro Rail construction will impact utilities.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen the effect. These changes or alterations include the following mitigation measures.

Page 3-178 of the December 1983 Final EIS commits the SCRTD for careful design analysis of utility protection, temporary utility rerouting and permanent relocation. Prior to commencement of MOS-1 construction, the SCRTD executed agreements with each of the affected private utilities and public agencies. These included CALTRANS, City and County of Los Angeles, City Department of Water and Power-Water System and Power System, Chevron Oil, Pacific Bell, Santa Fe Railway, Southern California Gas, Western Union Telegraph, and CommuniCom. The terms of the agreements include the responsibility for defining and undertaking utility rearrangements or for other necessary work, and the method of reimbursement and credits. Similar agreements will be executed for Phase II of Metro Rail.

Reference: For a full discussion of Utilities (Construction Impacts) see the following sections in the July, 1989 FSEIS/SEIR: Chapter 3, Section 15.5, pages 3-15-13; and Chapter 5, Section 3.2.4, pages 5-3-22.

Rationale: The procedure for relocating utilities out of the zones where construction will occur insures that utility customers and subscribers will not suffer a loss of service. The utility agreements and design analysis of utility impacts greatly reduce the possibility of unforeseen service interruption and lower the level of the impact to less than significant.

Energy (Construction Impacts)

Impact: Construction of the Project will involve the use of energy.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen the effect. These changes or alterations include the following mitigation measures.

The choice of construction energy mitigation measures will, in many cases, depend on detailed design decisions. However, the SCRTD has identified a number of energy conservation measures that will be used in building the Project. These measures have been separated into two broad categories: those related to construction and those related to street restoration at cut-and-cover construction sites.

Construction Measures. SCRTD will include energy conservation standards in construction contracts and will monitor compliance. Material deliveries will be consolidated where feasible in order to insure efficient vehicle utilization. Deliveries to construction sites will be scheduled for non-rush hours both to minimize traffic disruptions and to maximize delivery vehicle fuel efficiency. A routine maintenance program for gasoline and diesel equipment will be required of all contractors (pumps and injectors must be calibrated for optimal fuel consumption). Wherever feasible, material will be directly hauled to construction sites as needed, avoiding stockpiling and double handling.

Street Restoration Measures. Several techniques will be utilized to minimize the energy consumed in restoring streets following the cut-and-cover construction of stations and crossover tracks. Emulsified asphalts will be used instead of cut-back asphalts wherever possible. To the extent possible, slip form construction will be used for curbs and gutters, traffic separators, barrier walls and concrete pavement, reducing the need for wood and steel forms. Petroleum product delivery, disbursement and accounting will be monitored to document that usage is efficient and justified.

Reference: For a full discussion of Energy (Construction Impacts) see the following section in the July, 1989 FSEIS/SEIR: Chapter 5, Section 3.1.5, pages 5-3-4 to 5-3-5.

Rationale: The use of energy mitigation measures in the construction contract specifications for both subway construction and street restoration will insure the most efficient and practicable use of energy by the project.

Spills (Construction Impacts)

Impact: Spills of materials may occur during Metro Rail construction. Spills of material can contaminate soil, water supplies and air. Some spills are inevitable in a major construction project such as Metro Rail.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen the effect. These changes or alterations include the following mitigation measures.

Construction contractors will be required to clean up immediately any accidentally spilled materials, including sediment, vehicle fuels and lubricant fluids. Nominal operational spills will be removed during periodic cleaning of streets and sidewalks in the construction areas.

Reference: For a full discussion of Spills (Construction Impacts) see the following section in the July, 1989 FSEIS/SEIR: Chapter 5, Section 3.1.6, page 5-3-5.

Rationale: The mitigation measure requiring construction contractors to clean up their spills will ensure minimum level of impact on the environment. Prescribed mitigation, coupled with generally impervious surfaces in the material haul areas, lower the level of this impact to a less than significant level.

Groundwater (Construction Impacts)

Impact: Information on groundwater was obtained from the drilling program. Water was found in virtually all of the holes drilled. The groundwater depth ranged from twenty to forty feet on the North Segment of the New LPA. Indications are that this is usually perched water and not aquifers with the potential for substantial flows. The Universal Station area requires excavation below the water table, however, and will require a dewatering system.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen the effect. These changes or alterations include the following mitigation measures.

Normal, limited dewatering is anticipated. Wastewater discharge from excavation water removal will contain suspended solids and, in some areas, hydrocarbons. Related water quality impacts will be avoided by removing the

suspended solids in siltation basins and, where necessary, removing hydrocarbons in oil/water separators. The monitoring of treated discharge water and periodic filing of water quality monitoring reports will probably be a requirement of the NPDES permit necessary for dewatering activities. This will help ensure the continued effectiveness of wastewater treatment procedures and equipment.

Avoiding groundwater impacts is not possible without creating other major impacts. For example, the system could be constructed in an aerial configuration to avoid or minimize dealing with groundwater but such a configuration would have much higher traffic, visual, noise and other economic, land use and physical impacts. The depth of groundwater indicated in the results of the soils boring investigation does not make it possible to keep tunnelling above the water table.

Reference: For a full discussion of Groundwater (Construction Impacts) see the following sections in the July, 1989 FSEIS/SEIR: Chapter 3, Section 15.9, pages 3-15-21 to 3-15-31; and Chapter 5, Section 3.2.5, page 5-3-22.

Rationale: De-watering and treatment of groundwater is the most prudent action as is contained in the findings section and will lower the level of impact to a less than significant level.

<u>MacArthur Park (Construction Impacts)</u>

Impact: In compliance with Section 4(f) requirements, a study was undertaken to examine construction alternatives and impacts on MacArthur Park. During construction of the Project, it will be necessary to install a pocket track for storage of trains west of the Wilshire/Alvarado Station. It is also necessary to drain MacArthur Park Lake and prepare the Lake bottom to construct a tunnel across the Park. The Park's boating concession will be idle during the time period that the Lake is drained. Presently, approximately 250 people use the boats on peak summer holidays and weekends, while 50 people use the boats on weekdays and during the winter months.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen the effect. These changes or alterations include the following mitigation measures.

The alternatives to the temporary use of MacArthur Park during Metro Rail construction are: (1) not to build the next phase of the Metro Rail Project, or (2) to move the route alignment to miss the Park. It is not prudent to forego building the next phase of the Project. The 1983 FEIS and the Draft FSEIS/SEIR show that there would be more impacts on the environment if the next phase were not built.

It is not feasible to move the tunnel to avoid traversing MacArthur Park. The end of MOS-1 is on the east side of Alvarado Street, about 100 feet from the east edge of MacArthur Park. The absolute minimum horizontal curve allowed for the project is a 750 foot radius, which would require encroachment on MacArthur Park and the Lake regardless of any realignment. The absolute maximum vertical slope allowed is four per cent for sustained grades and six per cent for short segments. In order to pass under the soft muck and weathered siltstone that would have to be removed from the bottom of the Lake to reach competent rock that would support a tunnel, the alignment would have to drop at 6.1 per cent for 390 feet. This distance is considered a sustained grade; therefore the required slope exceeds the maximum slope allowed for either a sustained grade or for a short segment of track. Thus, under any feasible and prudent alternative, the Lake must be drained and the Lake bottom prepared for construction.

It is not feasible or prudent to delete the pocket track, which is required to remove stalled or unsafe trains from mainline service during operating hours. The pocket track must be strategically located so that trains can be quickly removed from the mainline to reduce the potential for hazardous operating conditions. The preferred location of the pocket track is on the trunk line before the branch, in this case between the Wilshire/Alvarado and Wilshire/ Vermont stations.

It is not feasible or prudent to move the pocket track. If the pocket track is not placed on the trunk line, it must be placed on one of the branch lines. On a branch line, a pocket track will be unable to quickly and safely accept trains that fail on the other branch, leading to disruptive and potentially dangerous train delays. Pocket tracks could be placed on both of the branch lines, but at double the cost. If the pocket track is placed on the trunk line, it must be placed either under Wilshire Boulevard adjacent to the Wilshire/ Vermont Station or in MacArthur Park. On Wilshire Boulevard, the required cut-and-cover construction would disrupt traffic for 20 to 26 months, causing delays for tens of thousands of motorists daily and disrupting retail and commercial businesses along Wilshire.

Since MacArthur Lake must be drained for tunneling or for cut-and-cover construction, the required pocket track can be constructed under MacArthur Lake at the same time. Information from the Department of Recreation and Parks indicated a relatively small numbers of people use the concessions, including the boats.

Based upon the analysis of the construction options and time frames, one cut-and-cover alternative offers the best construction approach and greater long-term benefits to the City, the Westlake Community, the commuting public, and SCRTD. For this preferred option, the Lake will be drained and fenced off, muck removed, the cut-and-cover excavation completed, the pocket track structure placed, the Lake bottom sealed and restored, and all effected Park

facilities replaced or restored. This option was chosen for the following reasons:

- o At $23.6 million, it is less expensive than any of the tunneling options or the other cut-and-cover options.

- o As a cut-and-cover option, it avoids the traffic disruptions that would be associated with tunnel in the Park and pocket track in Wilshire Boulevard, and

- o The 24 month construction period is the shortest of the cut-and-cover options and shorter than all but one of the tunneling options.

The community will be able to continue use at least 90 per cent of the Park. Additionally, boating activities are available at Echo Park Lake which is a four-tenths of a mile walk or a 12-minute bus ride (Line 200-Alvarado Street) from MacArthur Park. Other recreational parks are short bus trips from MacArthur Park.

The Lake has been drained in the past. It was drained in 1978, for 15 months, partly drained in 1983 for four months, and drained in 1984 for two months. Under the cut-and-cover options, the improvement of the Lake bottom is a reimbursable Project expense. This provides the added benefit of removing bad material.

The member of the Los Angeles City Council for the MacArthur Park area and the Department of Recreation and Parks have been consulted throughout the CORE Study and Preliminary Engineering. They will review the final design for the construction and will participate in negotiations for the leases and easements needed for construction and operations.

In a letter to UMTA dated June 15, 1988, the Office of Environmental Project Review, U.S. Department of Interior stated that:

> "The Department of Interior has no preference with regard to the various construction options for the project's involvement with MacArthur Park. Our major concern here is that the park be restored to pre-project condition after construction and that any incidental damages (for adverse impacts such as the temporary restriction of park access) are paid to the satisfaction of the Los Angeles Department of Recreation and Parks."

SCRTD has begun negotiations with the Los Angeles Department of Recreation and Parks to develop an agreement. This agreement will specify the method of payment and use of the Park during construction, in accordance with the agreed construction method and mitigation measures.

Mitigation measures are as follows:

- Overall mitigation measures will include community involvement and awareness as an integral part of the construction activities to minimize construction impacts.

- The current hotline number used for MOS-1 construction will be retained for construction of Phase II of the New LPA and will be prominently posted and disseminated in a number of locations at or near the construction staging area.

- Public information activities begun under MOS-1 will be continued and will include meetings with the MacArthur Park Community Council, local merchants, community residents, organizations and Los Angeles City Council Members. Dissemination of publications such as "Metrogram" will be made by mail or personal deliveries.

- SCRTD will refine its construction program to minimize the period of time that the Wilshire/Alvarado Station serves as an interim terminal. SCRTD is committed to advancing the opening of the Wilshire/ Vermont Station to lessen the short-term impact on MacArthur Park and to improve system access to bus patrons.

- The Lake bottom will be entirely cleaned, regraded, restored with a permanent lining and bottomed with a sand or an asphalt cover. The Lake will be filled with fresh water.

- Access to and use of the entire Park area north of Wilshire Boulevard will be maintained, and construction activities on the south side of Wilshire will be restricted to the smallest practicable area.

- Park visitors will be allowed to continue using the area surrounding the Lake with the exception of the narrow access areas over the tunnel segments on the east side of the Lake.

- An estimated $1.2 million will be provided for a temporary construction easement through the Park and Lake.

- Construction contracts will require actions to ensure the aesthetics, cleanliness, and security of the construction site.

- The Lake's aeration and filtration system will be refurbished or replaced.

- If practicable, a shorter construction schedule will be required so that only one peak summer period would be impacted by the drained Lake, at an additional cost of up to $1.8 million.

Reference: For a full discussion of MacArthur Park (Construction Impacts) see the following sections in the July, 1989 FSEIS/SEIR: Chapter 3, Section 15.3.1, pages 3-15-3 to 3-15-11; Chapter 3, Section 16.6.2.1, pages 3-16-23 to 3-16-25; and Chapter 5, Section 3.1.7, pages 5-3-5 to 5-3-6.

Rationale: Considerable study of alternatives and possible ways to either avoid or minimize impacts and modifications by the New LPA were examined during the preparation of the Draft and Final SEIS/SEIR to minimize the impacts to MacArthur Park. Because of the location of the terminal station at Wilshire/Alvarado of the MOS-1 segment of Metro Rail, it is not physically possible to avoid passing through the Park to connect the Phase II segment. However, several other alternative methods of construction and modifications to the project design were feasible to minimize impacts and were examined in detail. The cut-and-cover method of construction with associated mitigation measures was determined to be the most cost-effective and had the least overall negative impacts to the park. The SCRTD is committed to restoring the park to full use by the public as soon as practicable and has committed further to providing improvement to the park and the lake which will provide further long term benefits to the public.

Archaeological Resources (Construction Impacts)

Impact: Archaeological resources exist in the general area of the New LPA. An area known as "Two Springs" was located near the southeast corner of Santa Monica and Vermont in 1873. Immediately to the south, on the west side of Vermont, the house of M. Sullivan was located. While these locations appear to be outside of the direct station impact area, it is not possible to correlate the locations accurately with the present road alignment, and outbuildings or facilities of an isolated homestead of this early date could occur for some distance away from the house.

There is further potential for prehistoric remains originating from Indian use of the springs. Any intact resources have potential significance for the study of Indian sites in an area which was never surveyed prior to development, and for the historical archaeology of travel and settlement in an outlying area remote at the time from central Los Angeles. Only a few isolated wood frame houses existed on either side of Vermont as late as 1919, and only a brick market and bakery, without basement, had been added by 1942.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen the effect. These changes or alterations include the following mitigation measures.

In preparation for the construction of MOS-1, the SCRTD published a "Treatment Plan for Potential Cultural Resources Within Proposed Metro Rail Subway Station Locations in Metropolitan Los Angeles, California,

November, 1985." This Plan established general procedures to be followed in protecting cultural resources encountered during construction, specific procedures for the protection of resources anticipated at individual station areas, and procedures for handling the discovery of unanticipated resources.

Although SCRTD does not anticipate finding any archaeological resources during construction of the New LPA, it will follow the provisions of the Treatment Plan for handling unanticipated discovery of cultural resources. It cannot be determined without field testing whether prehistoric or Nineteenth Century resources may be present. During construction, mitigation will follow the Treatment Plan. A Project Archaeologist will be contracted and will monitor construction near Vermont Avenue and Santa Monica Boulevard as determined appropriate during final design and similar to the procedure followed for MOS-1.

Reference: For a full discussion of Archaeological Resources (Construction Impacts) see the following sections in the July, 1989 FSEIS/SEIR: Chapter 3, Section 16.3, pages 3-16-13 to 3-16-17; and Chapter 5, Section 3.1.8, pages 5-3-6 to 5-3-7.

Rationale: It is culturally important and required by law to protect archaeological resources. The SCRTD will follow procedures set up in a "Treatment Plan for Potential Cultural Resources" which includes monitoring construction for evidence of archaeological resources. If unanticipated resources are discovered these procedures will afford the required protection, thus reducing project impacts to less than significant levels.

<u>Paleontological Resources (Construction Impacts)</u>

Impact: Paleontological resources may be potentially affected by the Metro Rail Project. A moderate potential exists in the segment between the Wilshire/Alvarado and Wilshire/Western Stations for disturbing a diversity of fossils in the Puente and Fernando Formations and the older alluvium. A moderate potential exists for disturbing a diversity of fossils from the Puente Formation and older alluvium in the segment between Wilshire and Hollywood boulevards. For the segment between Vermont and Highland avenues, there exists a moderate potential for disturbing a diversity of fossils from the Puente Formation in the area just west of Vermont Avenue. A low potential exists for disturbing fossils in the alluvial fan deposits and younger alluvium. Excavation of sedimentary pack within the Topanga Group may have the potential for disturbing a diversity of fossils in the Cahuenga Pass to Lankershim/Chandler segment. Excavation of older alluvium may have a moderate potential for disturbing vertebrate fossils in this segment.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen the effect. These changes or alterations include the following mitigation measures.

There are no known highly significant and sensitive paleontological resources along the New LPA alignment. However, potentially fossiliferous rock would be disturbed in all segments considered. During tunneling activities, any fossils encountered would be so disturbed that no useful information could be obtained. Monitoring will not be done during tunneling.

SCRTD will contract with a Project Archaeologist, who will provide paleontological monitoring of the excavation of stations at Vermont, Normandie, and Western Avenues. Monitoring of the excavation for stations at Beverly Boulevard, Santa Monica Boulevard, and Sunset Boulevard will be on a part-time or as-needed basis. Excavation at the Hollywood/Western and Hollywood/Vine Stations will be spot checked. Deeper excavation of the Universal City and North Hollywood Stations will be monitored on a part-time or as-needed basis if sedimentary rock or older alluvium, respectively, is encountered.

Reference: For a full discussion of Paleontological Resources (Construction Impacts) see the following sections in the July, 1989 FSEIS/SEIR: Chapter 3, Section 16.4, pages 3-16-17 to 3-16-21; and Chapter 5, Section 3.1.9, page 5-3-7.

Rationale: It is important to protect paleontological resources such as the fossils from the Puente and Fernando Formations and from the older alluvium soils of the Topanga Group. For the Metro Rail Project, the SCRTD is committed to a program of monitoring and spot checking the excavation of Metro Rail stations. If any significant paleontological resources are found, they will be properly treated according to appropriate laws and regulations. This program will reduce the impacts of the project on paleontological resources to a less than significant level.

<u>Biological Resources (Construction Impacts)</u>

Impact: All station entrances for the New LPA are located in urban areas. Wildlife and vegetative resources in urban areas consist of species introduced by man, as well as native species that have adapted. Accordingly, the Metro Rail Project would not adversely affect unique or endangered biological resources over much of its route.

The New LPA passes through the Santa Monica Mountains in a subway configuration and, generally, would not affect natural biological communities. Only two required air vent shafts, several hundred feet in depth, would result in any disturbance in this area. These air vents would disturb less than one acre of native vegetation, if situated within designated natural zones.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen the effect. These changes or alterations include the following mitigation measures.

There are two species of plants and one lizard that may live in the vicinity of the two vent structure locations. None are officially listed as endangered or threatened by the California Department of Fish and Game or the U.S. Fish and Wildlife Service. Construction of vents for the New LPA may result in short-term impacts associated with noise and human presence. Because affected areas would be small and the disturbances of short duration, no significant impacts on wildlife habitats are anticipated.

Sensitive resources and habitats would be disturbed as little as practically possible, with surface disturbance limited to more urbanized areas. Construction of new roads will be avoided except in the Santa Monica mountains where limited new road construction or extension may be necessary to reach isolated sites. A biological review of detailed plans will be undertaken and site-specific surveys conducted, as necessary, to confirm that there are no plants or animals listed as rare or endangered. If any such plant or animal is found to be affected, appropriate consideration will be given during final design to mitigate potential adverse impact.

Reference: For a full discussion on Biological Resources (Construction Impacts) see the following sections in the July, 1989 FSEIS/SEIR: Chapter 3, Section 13, pages 3-13-1 to 3-13-3; and Chapter 5, Section 3.2.7, pages 5-3-22 to 5-3-23.

Rationale: Some Metro Rail construction will take place in natural areas of the Santa Monica mountains and have the capability to disturb two sensitive species of plants and one lizard. When the exact location of the construction sites are known, detailed plans based on site-specific surveys will ensure that any such sensitive species will be protected. This should reduce the potential impact of the project to less than significant levels.

Construction Impacts on Electroliers (Wilshire Boulevard) and Walk of Fame (Hollywood Boulevard)

Impact: Construction will impact the electroliers along Wilshire Boulevard which have historical, ornamental bases and the Walk of Fame along Hollywood Boulevard, both of which have cultural value.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen the effect. These changes or alterations include the following mitigation measures.

There will be close coordination with the Bureau of Street Lighting to determine the procedures for the removal, handling, and storage as well as

the replacement after construction of the electroliers that interfere with construction.

In addition, the sections of the Walk of Fame sidewalk that are affected by cut-and-cover construction will be protected or lifted, safely stored, and replaced during the restoration of the street.

Reference: For a full discussion on Construction Impacts on Electroliers (Wilshire Boulevard) and Walk of Fame (Hollywood Boulevard) see the following section in the July, 1989 FSEIS/SEIR: Chapter 5, Section 3.1.10, page 5-3-7.

Rationale: The SCRTD is committed to proper and safe removal, handling, storage and replacement of any historic electroliers along Wilshire Boulevard and sections of the Hollywood Walk of Fame. Such treatment will reduce the impacts of the project on the electroliers and Walk of Fame to a less than significant level. See also Traffic Impacts discussion above, page 2, which details further mitigations.

Construction Impacts on Businesses

Impact: Short-term economic impacts resulting from the construction of Phase II of Metro Rail are expected to be most intense in the retail core area of Hollywood, where the density of businesses (particularly ground-floor retail establishments) is high. These businesses rely heavily on pedestrian accessibility.

Businesses most affected by the physical impacts of construction will be generally marginal businesses that rely heavily upon impulse buying and foot traffic. These could include tourist-related businesses along Hollywood Boulevard. Less severely affected will be establishments that primarily serve other businesses, provide unusual services, or sell unique or expensive merchandise. Other types of specialized businesses that might suffer some disruption are theaters, motels and hotels, and retail businesses sensitive to noise impacts (for example, stores selling stereo equipment).

Commercial frontage of approximately 9,000 feet will be affected for Phase II of the New LPA. This includes businesses adjacent to stations built in rights-of-way of the Wilshire Boulevard, Vermont Avenue, and Hollywood Boulevard corridors and at Universal City and Lankershim Boulevard in North Hollywood.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen the effect. These changes or alterations include the following mitigation measures.

Measures to be taken include restricting to non-peak commute hours certain construction activities such as the replacement of soldier piles and street beams and decking. Where residential or commercial access is impacted, a plan will be developed at the time of construction to minimize the construction interference at each parcel. Pedestrian access to commercial establishments, pedestrian movement and direction will be maintained throughout the cut-and-cover construction areas. A logical program of pedestrian traffic movement and sidewalk restoration will be established. Construction contracts will specify the traffic maintenance plan for the construction area and the means of implementation.

Reference: For a full discussion on Construction Impacts on Business see the following sections in the July, 1989 FSEIS/SEIR: Chapter 3, Section 15.4, pages 3-15-11 to 3-15-13; and Chapter 5, Section 3.1.11, page 5-3-7.

Rationale: The only alternative to the proposed mitigation measures would entail physical relocation of impacted businesses together with compensation for loss of goodwill and loss of identity associated with reestablishment of business in new locations. Furthermore, once construction is completed, additional costs would be incurred in repopulating establishments vacated through the initial relocation. This alternative would be significantly more costly then the proposed mitigation measures which seek to minimize the impacts on pedestrian and vehicle flows associated with the existing location of businesses likely to be impacted by project construction. These measures will lessen the effects of construction.

LONG-TERM CONSTRUCTION IMPACTS

Displacements

Impact: Construction of Metro Rail would require SCRTD to acquire real estate to accommodate stations, vent shafts, and other ancillary structures. Acquisitions will result in direct displacements of residents, businesses, and nonprofit organizations, currently expected to include 87 commercial enterprises, 150 residential units, and 2 nonprofit enterprises. Service and retail businesses account for the majority of displaced commercial establishments. Most of those displaced are small- to medium-sized businesses. An estimated 834 employees will be affected. Some businesses and residents may not be relocated within the same station area.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen the effect. These changes or alterations include the following mitigation measures.

During final design, the alignment and specific design of stations will determine the exact number and location of displacements. Current displacement information, therefore, is subject to change. Parcels impacted

could change based upon final engineering solutions and exact locations of station boxes, entrances, ancillary facilities, etc.

In all cases, the acquisition of property and the relocation of residents and businesses by SCRTD will be in accordance with the Federal Uniform Relocation and Real Property Acquisition Policies Act of 1970 (Uniform Relocation Act) and the procedures adopted under this law.

The Surface Transportation and Uniform Relocation Assistance Act of 1987 (Public Law 91-646) mandates that certain relocation services and payments by SCRTD be made available to eligible residents, business concerns, and nonprofit organizations displaced by the construction and operation of Metro Rail. The Act provides for uniform and equitable treatment of persons displaced from their homes, business, or farms by federal and federally assisted programs and establishes uniform and equitable acquisition policies.

In the acquisition of real property by a public agency, both the federal and state acts seek: (1) to ensure consistent and fair treatment for owners of real property; (2) to encourage and expedite acquisition by agreement to avoid litigation and relieve congestion in the courts; and (3) to promote confidence in public land acquisition. One of the fundamental requirements of the legislation is that no person be required to move from his or her home unless affordable, decent, safe, and sanitary replacement housing is available that is not generally less desirable with regard to public utilities and public and commercial facilities than the home from which the individual is displaced.

In addition to the legislation discussed above, owners of private property have federal and state constitutional guarantees that their property will not be taken or damaged for public use unless they first receive just compensation, which is measured by the "fair market value" of the property taken.

As part of the SCRTD Relocation Advisory Program, public information meetings will be held to describe the Program and to identify impacted parcels. These meetings will be held as frequently as necessary in the Project station areas and at times that are convenient for potentially affected persons to attend. Individual letters announcing the public meetings will be mailed to the affected owners and occupants. Dates for public meetings will be advertised in local newspapers. Written information which explains the relocation benefits, the related eligibility requirements, and the procedures for obtaining assistance will be distributed. Each residential and commercial occupant will be assigned an SCRTD Real Estate Specialist for assistance throughout the relocation process.

Each person or business required to relocate will be given ninety days notice and may be eligible for certain relocation services and payment. No residential occupant will be required to move until other available housing that is decent, safe, sanitary, and within the financial means of the displaced

person has been offered. In some cases, a business may not be able to relocate without substantial loss of its existing patronage. If so, the business may choose to receive a fixed payment in lieu of actual moving and related expenses in order to mitigate negative impacts and business losses.

Reference: For a full discussion of Displacements see the following sections in the July, 1989 FSEIS/SEIR: Chapter 3, Section 4, pages 3-4-1 to 3-4-3; and Chapter 5, Section 3.1.12, pages 5-3-8 to 5-3-9.

Rationale: Construction of the New LPA will require land acquisition. This is necessary, for example, for the placement of station entrances and station access facilities. It is possible to minimize the land acquisition requirements by placing as much of the rail system facilities such as the line tunnels and the station boxes within and under streets, so that the least displacement is caused to commercial, non-profit and residential property and its occupants. This objective has been followed in determining the land acquisition needs. The displacement mitigations that are in the findings section follow strict guidelines to minimize, to the extent possible, impacts caused by displacement.

Loss of Housing Stock

Impact: Land acquisition and displacements associated with the Project will reduce the housing stock.

Finding: The SCRTD finds that it lacks the authority to make changes that would mitigate the impact but that the City of Los Angeles Community Redevelopment Agency, Community Development Department, and the Department of Planning, and the County Department of Regional Planning do have such authority.

In cooperation with local public and nonprofit agencies concerned with housing, SCRTD will seek to have housing development incorporated into station area development where its site costs can be effectively "carried" by commercial development. This additional housing supply should, in turn, reduce pressures on housing costs in station areas and mitigate the impact of the loss of housing stock.

Reference: For a full discussion of Loss of Housing Stock see the following section in the July, 1989 FSEIS/SEIR: Chapter 5, Section 3.3.1, page 5-3-25.

Rationale: There are several agencies and departments within the City and County of Los Angeles that have jurisdiction over land use and development.

The SCRTD will work with the LADOP to develop station areas specific plans which provide for mixed-use development and bonuses that provide incentives for provision of housing within station areas.

Station areas within the Hollywood Redevelopment Project Area and the North Hollywood Redevelopment Project Area are under the jurisdiction of the Community Redevelopment Agency of the City of Los Angeles. The SCRTD will work with the CRA to ensure that Redevelopment Project Area Plans incorporate provisions for having replacement within the redevelopment project areas and incentives for housing components in new developments.

Portions of the Universal City station area are under the jurisdiction of the Los Angeles County Department of Regional Planning. The SCRTD will work with the LADRP to ensure that appropriate zoning and land use mechanisms are provided to allow for mixed-use development and provide incentives for new developments. Provisions for mixed use developments and incentives for the provision of housing in the station environs will reduce the upsets associated with a loss of housing stock.

Tax Revenues

Impact: Acquisition of parcels for Metro Rail would remove some land from the property tax base, reducing public revenues. Land acquisition also will displace some existing businesses, thus affecting sales tax revenues.

Finding: The SCRTD finds that it lacks the authority to make changes that would mitigate the impact but that the County and City of Los Angeles does have such authority.

The loss of property tax revenues from parcels acquired by SCRTD for the Project will be negligible relative to increases in property tax revenues from new development. Tax revenues could increase even more with joint development of SCRTD property around stations.

SCRTD will seek to identify feasible and desirable additional development potential of the property and, in coordination with appropriate local authorities, will actively seek to promote use of the property through the negotiation of joint development agreements with private developers designed to return acquired property to the tax rolls. Additional property tax revenues and sales tax revenues would accrue to the City of Los Angeles as a result of new development occurring in conjunction with the Project. The increase in property valuation resulting from the Metro Rail-induced concentration of growth in the Regional Core should more than offset reductions in the tax base due to property acquisition. Because SCRTD is obliged to help businesses in relocation, loss of sales tax revenues would only be temporary. Moreover, the Project is expected to stimulate new development and/or redevelopment in the vicinity of many proposed stations, with associated sales tax revenues.

Reference: For a full discussion of Tax Revenues see the following section in the July, 1989 FSEIS/SEIR: Chapter 5, Section 3.3.2, page 5-3-26.

Rationale: The SCRTD lacks the authority to permit higher intensity development within station areas. In cooperation with the City of Los Angeles Department of Planning, the Community Redevelopment Agency of the City of Los Angeles, and the Los Angeles County Department of Regional Planning, the SCRTD will seek changes in existing zoning and land use plans, and the development of specific plans, that will provide for a greater development intensity within station areas as compensation for the loss of some developable parcels through the land acquisition process. It is expected that the proximity of Metro Rail stations will support a higher development intensity as a result of the improved accessibility afforded by the Metro Rail project and thereby lessen the impact.

Capital Cost

Impact: Rail capital costs in December 1985 dollars are $3,024 million for the New LPA ($1,151 million for MOS-1 and $1,873 million for Phase II).

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the Project to avoid or substantially lessen the impact of the Project's capital cost. These actions have been conducted in cooperation with the other funding partners in this undertaking.

Funding for the MOS-1 segment of Metro Rail is in place, and this segment is currently under construction. A Financial Operating Plan has been prepared for the Phase II portion as shown in Table 4. Negotiations are currently underway between the federal government, the Urban Mass Transportation Administration, the California Transportation Commission, the City of Los Angeles and the Los Angeles County Transportation Commission to enter into a contract for the initial funding of a portion of Phase 2 with possible interim terminal stations at Wilshire/Western and Hollywood/Vine, called Case 1. The remaining funds required to complete Phase 2 construction will be secured following authorization by the U.S. Congress of additional transit funding systems. Cost analyses point to a highly favorable total "annual cost per passenger" for rail, taking into account both capital costs and operating costs.

Reference: For a full discussion of Capital Cost see the following sections in the July, 1989 FSEIS/SEIR: Chapter 4, Section 1, pages 4-1-1 to 4-1-4; Section 2, pages 4-2-1 to 4-2-3; and Section 3, pages 4-3-1 to 4-3-2.

Rationale: The capital cost will be covered by funds dedicated to the Phase 2 Project secured from the local, state, federal, and private funding partners and sources contributing to this Project. The favorable total (capital plus operating) cost for rail reduces the impact associated with this large capital expenditure to below a significant level.

TABLE 4

PROPOSED METRO RAIL FINANCING PLANS
FUNDING LEVELS BY SOURCE
(in millions)

SOURCE	1986 FFC MOS-1	NEW LPA PHASE 2 RECOMMENDED FUNDING LEVELS CASE 1 W/W & H/V	CASE 2 W/W & UC	CASE 3 W/V & UC	PHASE II W/W & NH	FULL LPA
State Guideway Fund	$213.1	$185.0	$259.0	$233.0	$301.0	$514.1
LACTC	176.8	440.0	539.0	504.5	595.0	771.8
City of Los Angeles	34.0	96.0	168.0	142.0	208.0	242.0
Benefit Assessment	130.3	56.0	69.0	65.0	75.0	205.3
UMTA-Sect 9	90.6	0.0	0.0	0.0	0.0	90.6
UMTA-Sect 3 - 1987 STURAA	605.3	667.0	667.0	667.0	667.0	1,272.3
Funding source unidentified at this time	N/A	N/A	441.0	281.0	687.0	687.0
Total	$1,249.9	$1,446.0	$2,143.0	$1,892.0	$2,533.0	$3,782.9

W/W = Wilshire/Western Station
H/V = Hollywood/Vine Station
UC = Universal City Station
W/V = Wilshire/Vermont Station
NH = North Hollywood

Source: SCRTD: General Planning Consultant

Benefit Assessment Districts

Impact: SCRTD will pursue establishment of benefit assessment districts in the vicinity of any stations added to Metro Rail system. Characteristics of the assessment districts (including boundary designations, properties to be assessed, assessment rates and other issues, as appropriate) will depend upon the characteristics of individual station areas.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the Project to avoid or substantially lessen the impact of the Project's capital cost. These actions have been conducted in cooperation with the other funding partners in this undertaking.

In the establishment of benefit assessment districts for each Metro Rail station, SCRTD will work closely with affected property owners. Formal task forces or committees will be established to ensure that district boundaries, assessment formulas, assessment rates, and other key issues are addressed and resolved in an equitable manner so as not to create excessive financial hardships on property owners.

Reference: For a full discussion on Benefit Assessment Districts see the following section in the July, 1989 FSEIS/SEIR: Chapter 5, Section 3.1.13, page 5-3-9.

Rationale: Benefit Assessment is based on the concept that special benefits accrue to property located near transit stations and that a portion of these benefits can be captured to fund Metro Rail construction. Benefits are in the form of improved access to property, increased land values, increased retail sales, increased lease and occupancy rates, and other factors. A special study conducted for the SCRTD indicates that property owners will not be adversely impacted by the projected assessment rates. This study analyzed prototypical cases of commercial properties and indicated that there would be no significant impact on buildings whose annual gross lease rates exceeded $7.11 per square foot. A survey of lease rates along the alignment indicated that lease rates exceed this figure and properties would not be adversely affected.

CONSTRUCTION AND OPERATION IMPACTS

Safety

Impact: Operating safety is a key concern regarding the Project. Construction safety issues are addressed throughout these Findings under sections such as: subsurface gas; traffic; removal of muck; and others.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the Project to avoid or substantially lessen the impact of the Project's capital cost. These actions have been conducted in cooperation with the other funding partners in this undertaking.

SCRTD is committed to a number of features that will enhance the safety of the Metro Rail system, including:

- open and well lighted station interiors with clear sight lines, clear comprehensible signs, and without low ceilings, excessive numbers of columns, darkened areas or areas that are out of public view,
- attention to station cleanliness with vandal- and graffiti-resistant materials in both stations and vehicles,
- direct visual surveillance by closed-circuit television cameras that scan train platforms and station entry points, with particular attention to any long passages,
- emergency telephones located in station areas so that patrons can report problems or incidents directly to the supervisor,
- public address systems to allow supervisors to broadcast to patrons,

- o direct radio communication with transit police to enable transit personnel to quickly detect undesirable behavior and take necessary steps to apprehend any suspects,

- o intercoms in each car allowing patrons to report disturbances to the train operator. The train operator will alert transit security people to board and/or otherwise intercept any suspects at the next station. Transit police will also be assigned to routine patrols on board trains,

- o adequate emergency exits, stand-by electrical power supplies, appropriate alarm systems, emergency communications systems, extensive fire sprinklers and standpipe installations, smoke and gas detectors, adequate emergency exits,

- o tunnel ventilation equipment to keep smoke and toxic fumes to safe levels until patron evacuation is completed, and

- o periodic and extensive training drills to assure rapid and effective emergency response,

The State legislature has given SCRTD's transit police the power to make arrests, write tickets and enforce laws as sworn peace officers. Officers covering Metro Rail facilities will be professionally trained in the use of firearms in confined spaces and bodily defense techniques. Additions will be made to the transit police force so that Metro Rail security can receive priority attention. SCRTD Transit Police will work cooperatively with the Los Angeles Police Department and the Los Angeles County Sheriff's Department.

Reference: For a full discussion of Safety see the following section in the July, 1989 FSEIS/SEIR: Chapter 5, Section 3.1.14, pages 5-3-9 to 5-3-10.

Rationale: Station design, station surveillance, transit patron communications, emergency exiting, ventilation, and public protection commitments are so extensive as to support the finding that safety related impacts will be eliminated or reduced below a significant level.

<u>Subsurface Gas</u>

Impact: The New LPA would not completely avoid the possibility of encountering subsurface gas. The major potential source of gas that may be encountered

during construction is the existing inventory of hydrocarbons below the Los Angeles area. Natural hydrocarbon accumulations (oil and gas fields) are reservoirs of liquid or gaseous hydrocarbons under pressure. The amount of pressure increases with the depth of the field. Hydrocarbon reservoirs tend to be of two types: (1) liquid hydrocarbon reservoirs (principally crude oil mixed with water) and, (2) gas hydrocarbon reservoirs (principally gases). Most reservoirs have a mixture of these two types. Oil reservoirs have a "gas cap," and gas reservoirs have some liquids that would condense out if the reservoir were at atmospheric pressure.

Oil or gas reservoirs are layers of sandstone or other permeable geologic structures that permit the accumulation of a liquid or gaseous substance within the pore spaces of the formation. There must be a barrier associated with the formation so that the oil or gas accumulates underground rather than dispersing to the surface or to other formations. It is not until the barrier is compromised, either through deliberate penetration in the creation of an oil or gas well or as the result of geologic movement, that the oil or gas can escape.

There is another natural, gas-producing process: the decomposition of plant or animal matter in the absence of oxygen. This process results in the generation of methane gas such as occurs at landfills. Where the decaying organic matter is overlain by a physical barrier, a zone of gas-impregnated soil or rock may develop. A disturbance to the confining barrier could result in the escape of gas.

To estimate the likelihood of gas occurring in the area in which underground Metro Rail construction would take place (approximately the first 100 ft. below the surface), the ways in which gas can travel to the near surface from a possible source must be considered. Two situations can be envisioned. In the first and most common situation, the gases diffuse through porous soil materials. The rate of movement of the gas depends on the pressure of the gas at the source and the transmissibility of the soil.

The second possible situation is one in which gas trapped at high pressure in one location is permitted to move to another. This is done intentionally when a well is drilled into a deep, pressurized reservoir to obtain the oil or gas for use; but this situation may also occur inadvertently or naturally. Movement of gaseous hydrocarbons also can occur via improperly sealed, abandoned oil wells.

There are eight known oil fields in various stages of production and/or abandonment in the Regional Core (the area to be served by Metro Rail):

- Los Angeles City Oil Field
- Western Avenue Oil Field
- La Cienega Oil Field (encompassing the Murphy, Fourth Avenue, Good Shepherd, and Pacific Electric Areas)
- Beverly Hills Oil Field
- South Salt Lake Oil Field
- Salt Lake Oil Field
- San Vicente Oil Field
- Sherman Oil Field

The location of a number of dry wells or boreholes was determined. While such wells do not necessarily indicate the presence of a deeper hydrocarbon reservoir, they may serve as potential channels for gas movement. The New LPA crosses the Los Angeles City Oil Field in the area of Wilshire Boulevard and up Vermont Avenue nearly to Beverly Boulevard. There is a high occurrence of abandoned oil wells in the vicinity of Vermont Avenue. Early abandonment methods were not as thorough as those used today. Old wells were filled with bricks, wood, and refuse to bridge the hole, and then packed with soil and clay. This abandonment procedure left the well in a condition to be a potential conduit for gas movement from one zone to another. Recent abandonment procedures require that wells be sealed completely, and there is little likelihood of gas escaping through a properly sealed well.
Water well information was obtained from the State of California Department of Water Resources (DWR) and the County Flood Control District. Well locations were obtained from well logs, well reports, and visual inspection. There are many wells identified on the DWR maps that do not have corresponding logs or other data in DWR files. Water wells have been drilled in the area at least since the 1880's. Recording of water well data was haphazard until the late 1940's.

The possible role of faults in the transmission or movement of gas is difficult to define due to the complex mechanisms involved and the lack of knowledge about the structure and behavior of specific faults. Shifting of the earth along a fault plane may create a passage that would allow relatively free movement of subsurface gas. On the other hand, continued small movements along a fault may grind materials at the points of movement into a fine powder ("gouge") that seals the passage and prevents easy movement of gas along the fault.

Eleven faults, one syncline and one anticline have been identified in the study area:

- Santa Monica Fault,
- Sixth Street Fault,
- San Vicente Fault,
- Los Cienega Fault,
- Third Street Fault,
- MacArthur Park Fault,
- Hollywood Fault,
- four unnamed faults,
- Hollywood Syncline, and
- Los Angeles Anticline.

Intersections of faults with the New LPA are likely. The segment along Wilshire Boulevard between Alvarado Street and Vermont Avenue intersects the MacArthur Park Fault and another unnamed fault. The Vermont segment intersects the Los Angles Anticline near Beverly Boulevard. The Hollywood Boulevard segment intersects the Santa Monica Fault just west of Normandie Avenue. The New LPA crosses the Hollywood Fault and the Hollywood Syncline as it heads north to the San Fernando Valley.

An extensive investigation of subsurface conditions was conducted to determine the potential for encountering subsurface gas (including methane) along the proposed Metro Rail route. The Study evaluated the potential for encountering subsurface gas by identifying gas migration pathways and analyzing data on underground oil and gas reservoirs, abandoned oil, gas and water wells, and geologic and seismic characteristics. An analysis of recent and past combustible gas monitoring data also was undertaken.

The central question with respect to subsurface conditions is the likelihood of encountering gas in the vicinity of the subway tunnel. The observed presence of gas in an area over a period of time is, of course, a convincing indicator. However, the absence of observed gas in an area at this time cannot be taken as evidence that gas might not be present in the future. The New LPA alignment was divided into segments for this analysis:

- Wilshire-1 ——— Wilshire Boulevard from Alvarado to Vermont.
- Wilshire-2 ——— Wilshire Boulevard from Vermont to Western.
- Vermont ——— Vermont Ave.from Wilshire to Hollywood Blvd.
- Hollywood-1 ——— Hollywood Boulevard from Vermont to Cahuenga.
- Hollywood-2 ——— Hollywood Boulevard from Cahuenga to Highland.

Summary of the data for each segment is shown in Table 5. These data show that, from the standpoint of the likelihood of encountering subsurface gas, the analysis segments can be ranked on a continuum, as shown in Table 6.

TABLE 5

DATA SUMMARY FOR THE NEW LPA ALIGNMENT SEGMENTS

CRITERION	WILSHIRE - 1 Soil Types Puente(a) Formation	WILSHIRE - 2 Puente(a) Formation	VERMONT Puente Formation north	HOLLYWOOD - 1,2,(c) Alluvium
Groundwater levels with respect to tunnel	Mostly above tunnel	Mostly above tunnel	Mostly above tunnel	Mostly above tunnel
Number of faults	2	0	1	1
Length of alignments over or near known oil fields	1,000 ft.	0 ft.	1,500 ft.	0 ft.
Oil field depth	375 ft.	Not Applicable	375 ft.	Not Available
Number of oil wells within 500 feet	0	0	104	0
Number of water wells within 500 feet	1	0	2	0
Number of probes with observed gas/total number of probes	8/8(b)	5/8(b)	7/14	1/3
Maximum measured gas (% by volume)	4.0%	2.0%(b)	5.0%	0.1%
Maximum measured pressure (psi)	0.16(b)	0(b)	0.22	0

(a) Probable classification of Foundation Engineering, Inc. data.
(b) Includes 1983 gas probe data.
(c) Hollywood Boulevard segment assumed to be similar to Sunset Boulevard, although no probes were placed along Hollywood Boulevard. See Draft SEIS/SEIR for information on Sunset Boulevard.

Source: Adapted from CORE Study Subsurface Condition Report, May 1986.

TABLE 6

LIKELIHOOD OF ENCOUNTERING SUBSURFACE GAS FOR NEW LPA

Most Likely----------Least Likely

Group 1	Group 2	Group 3	Group 4
None	Vermont Wilshire-1 Hollywood-1 (East Section) Hollywood-2	Hollywood-1 (West Section)	Wilshire-2

Source: CORE Study Subsurface Condition Report, May 1986

There is a significant difference between the northern and southern portions of the New LPA. Gas is more likely to be found in the area around Vermont Avenue than the affected section of Wilshire Boulevard. Final classifications of the tunnels will be made by California OSHA.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen the effect. These changes or alterations include the following mitigation measures.

The SCRTD finds that changes or alterations have been required in or incorporated into the Project to avoid or substantially lessen the impact of the Project's capital cost. These actions have been conducted in cooperation with the other funding partners in this undertaking.

Construction safety requirements will comply with the regulations of the California State Division of Safety and Health. The applicable controlling provisions of the California Administrative Code (Title 8, "Industrial Relations," Chapter 4: "Division of Occupational Safety and Health," and Subchapter 20: "Tunnel Safety Orders") are among the most stringent tunnel safety orders in the country. These procedures have been adopted and are being applied to MOS-1 construction. It is SCRTD's intention to construct all subsurface facilities classified as "gassy" or "potentially gassy" using precautions and gas mitigation measures developed for MOS-1.

In areas known to contain gas, SCRTD will utilize a barrier in the form of a high-density polyethylene (HDPE) membrane to line the tunnels. This one-tenth of an inch thick membrane was chosen to prevent the entry of hydrocarbons (including methane gas) into the tunnel and stations. The HDPE membrane has a 99 percent calculated effectiveness for preventing the migration of subsurface gases into Metro Rail facilities. In addition, SCRTD has established procedures for sealing potential leaks in the membrane by the use of collars, clamps, and gaskets.

Subsurface mitigation measures are divided into categories for construction and operation of the system.

<u>Construction</u>

- SCRTD has developed a method of locating uncharted oil and gas wells before such wells are encountered and ruptured by a tunnel excavator. A magnetometer will be used in holes bored into the tunnel heading to detect any ferrous metals in the path of the excavator. In coordination with the California Division of Oil and Gas, the SCRTD has established procedures to safely plug and abandon any oil or gas well encountered. Use of the magnetometer and the well abandonment procedures will be included in the

construction contracts. No magnetometer will be used outbound of the Hollywood/Highland Station.

- SCRTD will provide all of its available methane gas documentation and interpretations by qualified experts to those bidding on the construction contracts involving tunneling or station construction.

- SCRTD will include in bid documents for tunneling or station construction the requirement that, prior to commencing underground work, the contractor will provide all employees involved in underground construction work with at least eight hours of training in dealing with hazards created by methane gas, safety precautions and emergency procedures to be followed when working underground. Periodic emergency drills and simulated rescues will be staged to reinforce the training.

- In tunnels classified "gassy" or "potentially gassy," the SCRTD will require that all equipment at the face of the tunnel meet CAL OSHA requirements for permissible or Class I Division II equipment. The tunneling machines will have gas sensors that will automatically stop operations at present levels and all workers in the tunnels will have, at all times, self-contained self rescuers.

- To detect unknown geologic faults, ground water, or methane gas pockets, SCRTD will assign a trained and qualified geologic technician under the direction of a certified engineering-geologist to monitor the working faces of the tunnel. The engineering-geologist will inspect and log the tunnel geology to obtain accurate information about, and timely interpretation of, geologic conditions encountered during construction. SCRTD will use this information to map the location of ground water, gassy ground, and geologic faults and can modify the tunnel design to accommodate these factors.

- If faults are discovered during tunnel construction, SCRTD will determine if the fault is potentially active or inactive, using criteria established in a contingency plan. Where a potentially active fault is encountered, the standard concrete tunnel liner will be replaced by a specially reinforced cast-in-place concrete tunnel liner or a welded steel lining, as appropriate.

- SCRTD will better define the groundwater environment for the next phase of the Metro Rail Project by making additional geologic borings and preparing a detailed profile along the tunnel alignments, illustrating the position of the water levels.

- Plans for evacuation of personnel during construction will be prepared by the contractor in cooperation with SCRTD. During operation,

evacuation will be in accordance with procedures to be established by the SCRTD Fire-Life Safety Committee.

- Based on the results of the geologic evaluation of tunnels, SCRTD will review its plans for incorporating adequate backup power supplies and utilize fixed or mobile generators to supply emergency power for the ventilation and dewatering pumps in critical areas.

- SCRTD has specified use of membrane clamps and seals on grout holes and grout pipes to insure that the membrane surrounding the tunnel lining is properly sealed and closed off after grouting. Conduit seals and collars will be installed on any penetrations. SCRTD has included detailed procedures for installing the membrane in contract specifications.

- SCRTD will comply with Title 8, Subchapter 5, Groups 1 and 2 of the Electrical Safety Orders, CAC, and other special orders, as may be issued by the California Division of Occupational Safety and Health.

- SCRTD will coordinate final design and construction of the next phase of the Project with the California State Division of Occupational Safety and Health, which has responsibility for compliance with state orders on safety of subsurface tunneling through hazardous material.

- SCRTD will continue to ensure ongoing coordination with local fire departments and invite key personnel underground during construction to familiarize them with the tunnel.

- The SCRTD will locate all gas probes and abandon them in a safe manner. SCRTD has established procedures for backfilling the borings after there is no further need to monitor the probes.

- A separate group, responsible to the Construction Manager, will collect, reduce, and interpret gas data.

- The SCRTD will monitor measurements taken by existing gas probes and the ventilation air in the tunnel before and during construction.

- Automatic and manual gas monitoring equipment shall be provided for the heading and return air of tunnels wherein mechanical excavators are being used. The monitor equipment shall shut down the mechanical excavators under specific defined conditions.

- Audible and visual warning devices will be installed on tunnel excavating machines and in the tunnels to alert employees when detectors have identified the presence and levels of methane gas.

- Records of gas tests and air flow measurements shall be available at the surface and to the California Division of Industrial Safety/Mining and Tunneling Unit.

- Contractors shall submit to SCRTD and implement a detailed ventilation plan similar to that required by the federal Mine Safety Health Administration.

- An emergency ventilation system of fans and controls will be provided by SCRTD that can bring in fresh air and exhaust gases when required. The system shall have explosion relief mechanisms and shall be fireproof with a reversible main ventilation flow.

- Fresh air shall be delivered in adequate quantities to all underground work areas. The supply shall be sufficient to prevent hazardous or harmful accumulations of dust, fumes, vapors, or gases and shall not be less than 200 cubic feet per man per minute at a velocity of sixty linear feet per minute.

- Smoking and other sources of ignition will be prohibited.

- Welding, cutting, and other spark-producing operations shall be done only in atmospheres containing less than twenty percent of the lower explosive limit and under the direct supervision of qualified persons.

- Where needed, collection wells will be sunk ahead of the tunnel excavation machines so gas can be pumped out.

- Refuge chambers or alternate escape routes shall be provided in accordance with requirements of the California Division of Industrial Safety. Workers shall be provided with emergency rescue equipment and trained in its use.

- In all tunnels classified "gassy" or potentially gassy", equipment, procedures, and schedules for air testing will be utilized in accordance with established tunnel safety orders of California OSHA.

Operations

- SCRTD will provide natural ventilation, ventilation created by train movements, and under-platform exhaust systems that will operate continuously during revenue service.

- SCRTD has designed an automatic system for the control room so that, if the alarm should warn of increasing levels of methane gas and the appropriate actions required of a human operator do not occur within 30 seconds, a computerized sequence of events will be initiated

to activate the required fans, blowers, and vents of the regular ventilation system, etc.

- o SCRTD will continue to institute a system for collecting and testing of air samples from underground areas of Metro Rail to monitor flammable and toxic gases before harmful or explosive concentrations can accumulate.

- o SCRTD has incorporated sufficient planning to accommodate the special needs of the handicapped patron to use emergency egresses with as little assistance from employees or other patrons as possible.

Reference: For a full discussion on Subsurface Gas see the following sections in the July, 1989 FSEIS/SEIR: Chapter 3, Section 11.1, pages 3-11-1 to 3-11-22; and Chapter 5, Section 3.1.15, pages 5-3-10 to 5-3-14.

Rationale: The SCRTD is committed to implementing all recommended safety measures to mitigate the potential adverse impacts of subsurface gas in conformance with California OSHA requirements and in cooperation with the California Division of Industrial Safety/Mining and Tunneling Unit. Potential adverse impacts resulting from the possibility of encountering subsurface gas during construction are greatly reduced or totally eliminated by the construction methods to be employed by the SCRTD. Similarly, the adverse impacts from subsurface gas during operations are greatly reduced by measures and procedures to monitor levels of methane gas and to implement sufficient safety actions should concentrations approach hazardous levels. The measures and precautions to be employed by the SCRTD during Phase 2 construction and operation have proven successful to date in the construction of MOS-1. These measures will enable the project to be built and operated with a minimum of potentially adverse impacts.

<u>Faults</u>

Impact: Eleven faults, one syncline and one anticline have been identified in the study area as identified on page 25 of this Statement of Findings. The Hollywood Fault and the Santa Monica Fault, are considered potentially active. "Active" faults are those that are believed to have moved within the last 10,000 years. Potentially active faults are those that have not moved within the last 10,000 years, but have moved within the last 2 million years.

Intersections of faults with the New LPA are likely. The segment along Wilshire Boulevard between Alvarado Street and Vermont Avenue intersects the MacArthur Park Fault and another unnamed fault. The Vermont segment intersects the Los Angles Anticline near Beverly Boulevard. The Hollywood Boulevard segment intersects the Santa Monica Fault just west of Normandie Avenue. The New LPA crosses the Hollywood Fault and the Hollywood Syncline as it heads north to the San Fernando Valley.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen the effect. These changes or alterations include the following mitigation measures.

Geologists estimate that the probability of a Richter magnitude seven earthquake associated with these faults in the next 100 years is five percent or less. Metro Rail has been designed to a peak horizontal acceleration of 0.60g from a maximum credible earthquake of magnitude 7.0 on the Richter Scale.

Reference: For a full discussion on Faults see the following sections in the July, 1989 FSEIS/SEIR: Chapter 3, Section 11.1.1.2, page 3-11-5; and Chapter 5, Section 3.1.16, page 5-3-14.

Rationale: The regional core of Los Angeles lies with a seismic zone and is in proximity of faults identified in the referenced section of the SEIS. It is not possible to avoid construction of the New LPA in a seismic zone in the Regional Core, or probably any other area of Los Angeles. Alternatives were examined that would provide the maximum protection from faults. Aerial alignments were considered but these structures, particularly aerial stations, are less desirable than subways which receive significant protection from the surrounding soils. The seismic design and rationale for the mitigation impacts due to geological faults have been discussed in the referenced section of the FSEIS/SEIR.

Flood Hazards

Impact: The Los Angeles River, Tujunga Wash, and Ballona Creek provide drainage in areas affected by the Metro Rail project. Each of these drainage systems has been channelized for flood control. The natural capacity to accommodate runoff in the project area has been increased considerably, and flood hazards to nearby land uses have been minimized.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen the effect. These changes or alterations include the following mitigation measures.

The construction of Metro Rail would not have a significant impact on the ability of present flood control facilities. The all-subway New LPA would not significantly add to current runoff enough to affect the carrying capacity of existing storm drain systems. It is not expected that Metro Rail operations would be significantly affected by a 100-year flood in the Regional Core.

Reference: For a full discussion on Flood Hazards see the following section in the July, 1989 FSEIS/SEIR: Chapter 3, Section 12, pages 3-12-1 to 3-12-2.

Rationale: The design of the Metro Rail Project and its placement, away from flood prone areas, is such that it will not create significant additional storm water runoff, nor will it be affected by a 100-year flood. The choice of locations and the subsurface nature of the project in an urban setting insures that the project will significantly reduce the impact on potentials for flooding.

Aesthetics

Impact: The all-subway New LPA would present no major visual impacts other than at station entrances, and at some stations, bus and parking facilities. Changes will result from placement of station entrances and fan vent shafts and construction of park-and-ride, kiss-and-ride and bus loading and layover facilities. Displacement of buildings and joint development will also affect the visual setting of some stations areas. Indirect impacts may occur as a result of development induced in station areas.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen the impact. These changes or alterations include the mitigation measures described below.

The New LPA is all-subway and generally would not directly create significant long-term effects on the aesthetics or visual quality of the streetscape. Direct visual impacts would be short-term and associated with construction, especially at station areas. For the most part, station entrances have been located where impacts to major existing structures are minimized or can be integrated into existing structures or planned future development. Where existing structures are taken, they are, for the most part, low rise. This is advantageous not only from the standpoint of cost and potential redevelopment, but also from the standpoint of aesthetics, as the change to the street scale is minimized.

At Wilshire/Vermont, kiss-and-ride and bus boarding and layover bays will be located mid-block with bus and auto access and egress from Vermont and Shatto. At Wilshire/Normandie, there would be a bus turnout southbound on Irolo Street where it meets Normandie south of Wilshire. At Wilshire/ Western, there would be a turnout on the east side of Western north of Wilshire, with bus layover bays mid-block north of Wilshire on the east side of Western. At Hollywood/Vine, kiss-and-ride spaces would be on the east side of Argyle (one block east of Vine) north of Hollywood, again in a mid-block location. Placement of the kiss-and-ride facilities and bus bays at the above stations in mid-block locations helps screen these vehicle-related functions.

Reference: For a full discussion on Aesthetics see the following sections in the July, 1989 FSEIS/SEIR: Chapter 3, Section 7, pages 3-7-1 to 3-7-2; and Chapter 5, Section 3.1.17, page 5-3-14.

Rationale: The selection of the all-subway New LPA eliminates the long-term impacts of the Metro Rail guideway and stations on the visual aesthetics. The Metro Rail station facilities will be built to generally the same scale as the existing development that it is replacing. The vehicular and bus access to these facilities will generally be placed at mid-block locations. Thus reducing the visual impact of the system.

Cultural Resources

Impact: Cultural resource impacts of the Project were reviewed for numerous properties, with particular attention given to seven properties:

- o Korean Philadelphia Presbyterian Church, 407 South New Hampshire Ave.
- o Parklane Apartments, 3333 West Fourth Street.
- o Barnsdall Park and the Arts and Crafts Building, 4800 Hollywood Boulevard.
- o The Hollyhock House, 4808 Hollywood Boulevard.
- o Atkinson/Farnum/Swain Residence, 2003 La Brea Terrace.
- o Durfee Residence, 2003 1/2 La Brea Terrace.
- o Runyan Canyon Park.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen the effect. These changes or alterations include the following mitigation measures.

The impacts on Cultural Resources of MOS-1 are discussed in the 1983 FEIS and the Environmental Assessment (EA) for the MOS-1 published in 1984. These documents include mitigation measures for adverse impacts on Cultural Resources. They also contain the Memorandum of Agreement (MOA) which is now being implemented between the SCRTD, the Urban Mass Transportation Administration (UMTA), the State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation (ACHP). This agreement outlines specific mitigation measures to be implemented on Metro Rail. These measures, such as archeological and paleontological monitoring of excavation work, have been implemented for MOS-1 construction and will be carried forward into the monitoring of future construction activities for the New LPA.

In accordance with the MOA, the SHPO will continue to participate actively in the environmental review process and will review the New LPA station plans and final designs that involve cultural resources prior to construction.

Section 106 of the NEPA affords the Advisory Council on Historic Preservation (ACHP) the opportunity to review and comment on federal undertakings that affect properties included in or eligible for inclusion in the

National Register of Historic Places. The ACHP has established guidelines to assist agencies in determining whether a historic property will be affected by a project and whether this effect is adverse. Based on the Criteria of Effect, the SCRTD found that there would be "No Effect" on the seven subject properties. By letter dated November 16, 1988, the SHPO agreed with this determination of "No Effect" for the Korean Philadelphia Presbyterian Church, Parklane Apartments, Barnsdall Park, Hollyhock House, Atkinson/Farnum/Swain Residence and Durfee Residence.

Reference: For a full discussion on Cultural Resources see the following sections in the July, 1989 FSEIS/SEIR: Chapter 3, Section 16.2, pages 3-16-1 to 3-16-13; and Chapter 5, Section 3.1.18, page 5-3-14.

Rationale: The SCRTD conducted extensive studies to identify historic and cultural resources that could be affected by the project. In the course of these studies, the listed properties were determined to be not affected by the project because of the depth of the tunnel or its horizontal distance from the resource. In the case of these properties, the location of the alignment mitigated the potential impacts of the project to a less than significant level.

Other Properties in the Area of Potential Effect

Impact: Impacts were reviewed specifically for the following additional cultural resources:

- o United Church of Religious Science, 3251 6th Street,
- o Nicholas Priester Building, 1101 North Vermont Avenue,
- o Hollywood Boulevard Historic District, 6223-7501 Hollywood Boulevard, and
- o El Cadiz Apartments, 1725 North Sycamore Avenue.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen the effect. These changes or alterations include the following mitigation measures.

The New LPA will tunnel under the remaining United Church of Religious Science building at a depth of 35 to 40 feet, potentially introducing an element of noise. The projected noise level in the church from trains operating at 45 miles per hour is 43 to 48 dB(A), which is above the established criterion of 35 dB(A) for a church. With the use of a floating slab trackbed, the noise level would be reduced to 26 to 31 dB(A), which meets the Project criteria.

An optional station entrance is planned approximately 300 feet south of the Nicholas Priester building and in its view. The design of the station entrance will be in character with and compatible with surrounding urban environment.

The New LPA would tunnel under Hollywood Boulevard through the Hollywood Boulevard Historic District with stations constructed by cut-and-cover at Hollywood/Vine and at Hollywood/Highland. The entrances of these stations will be visible from historic buildings that contribute to the Historic District, introducing the potential for aesthetic elements that will be out of character with the property or alter its setting.

- At the Hollywood/Vine Station, the visual environment of the Taft Building at 6264 Hollywood Boulevard on the south side of Hollywood Boulevard, will be affected by planned station entrances on the south side of Hollywood Boulevard just east of Gilbert's Books and on the north side of Hollywood Boulevard between Argyle and Vista del Mar Avenues. The Pantages Theatre at 6233 Hollywood Boulevard will be affected by the planned station entrance on the south side of Hollywood Boulevard just east of Gilbert's Books.

- At the Hollywood/Highland Station, the entrance will be on the north side of Hollywood Boulevard, east of Mann's Chinese Theatre and separated by an intervening building. The entrance will not be visible from the Chinese Theatre's facade, but will be visible from the El Capitan/Paramount Theatre at 6834 Hollywood Boulevard and from the Masonic Temple at 6840 Hollywood Boulevard on the south side of Hollywood Boulevard.

- At both stations, the design of the entrances will be compatible with the existing urban environment. The alignment would not introduce visual, audible, or aesthetic elements that are out of character with or that would cause the neglect, transfer, or sale of the Hollywood Boulevard Historic District. As requested by the SHPO and in accordance with Section IV.A and IV.B of the MOA, SCRTD will develop design guidelines to ensure compatibility, develop the plans for the station entrances in consultation with SHPO, and will provide copies of correspondence and the agreed-on plans to interested local agencies.

The New LPA will tunnel directly under the El Cadiz Apartments at a depth of approximately 60 feet. The projected noise levels will be from 37 to 42 dB(A), slightly over the project criteria of 40 dB(A) for multifamily dwellings. With the application of soft fasteners the levels will be reduced to 30 or 35 dB(A), within the project criteria. A subsurface easement will be acquired. The alignment will not introduce any other elements that are out of character with or that would cause the neglect, transfer, or sale of the resource.

The Advisory Council on Historic Preservation (ACHP) has developed criteria to determine whether a proposed project will have an adverse effect on a property included in, eligible for, or potentially eligible for the National Register. The SCRTD has applied the Criteria of Adverse Effect to the

subject properties, and has determined that there will be no adverse effect on these properties, or on any historic properties within the Area of Potential Effect (APE) for the New LPA. In a letter dated November 16, 1988, SHPO concurred with this finding.

The ACHP, by December 30, 1988 endorsement of an UMTA letter dated December 16, 1988, subject: "Section 106 Process, Los Angeles Metro Rail, Phase 2", concurred with the efforts to document the eligibility of properties involved, and the effects of the project on historic and cultural resources along the New LPA alignment. The letter notes that the MOA between the SCRTD and the Advisory Council remains in effect for Phase II and a revised or new MOA is not needed. In a letter dated November 16, 1988, the SHPO concurred with SCRTD that no revisions to the MOA would be needed.

Reference: For a full discussion on Other Properties in the Area of Potential Effect see the following section in the July, 1989 FSEIS/SEIR: Chapter 5, Section 3.1.19, page 5-3-15.

Rationale: The SCRTD applied mitigation measures for ground borne noise and aesthetic compatibility to the design of the project and reduced the impacts of the project on the cultural resources to a less than significant level. The ground-borne noise levels at the cultural resources would be within project criteria and the design of Metro Rail elements in view of cultural resources would be compatible with the cultural resources.

<u>Barnsdall Park Impacts</u>

Impact: The New LPA will be in tunnel under the northeast corner of Barnsdall Park, 50 feet away from and 90 feet below the nearest of the historic buildings. Noise and vibration levels would be below the Project criteria. Acquisition of subsurface easement is necessary.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen the effect. These changes or alterations include the following mitigation measures.

Because the Project will be completely underground in the vicinity of Barnsdall Park, and the level of ground-borne noise generated in buildings of the park by the operation of trains will be within the Project criteria, SCRTD finds that there is no "use" of the property as contemplated by Section 4(f) of the Department of Transportation Act of 1966 (49 USC 1653(f)). This finding is supported by the finding of the SHPO in consideration of the effects the Project would have on the properties under the provisions of Section 106 of the National Historic Preservation Act. In a letter to SCRTD dated November 16, 1988, the SHPO concurred with SCRTD that there would be "No Effect" on Barnsdall Park from the Project.

The New LPA will not affect the park, so no mitigation measures are necessary.

The New LPA was chosen in part to avoid adverse impacts associated with other alternatives that had aerial rail structures crossing the northeast corner of Barnsdall Park. These alternatives would have introduced visual and audible elements into the park's setting which could have detracted from its character.

Reference: For a full discussion of Barnsdall Park Impacts see the following section in the July, 1989 FSEIS/SEIR: Chapter 3, Section 16.6.2.2, pages 3-16-25 to 3-16-28.

Rationale: A careful study of the project design as it crosses under Barnsdall Park revealed that the initial placement of the tunnel would avoid any noise or other impacts on the park structures or operations. Thus, there is no significant impact on Barnsdall Park by the project.

Runyan Canyon Park Impacts

Impact: Runyan Canyon Park is a 133 acre wilderness park in the Santa Monica Mountains above the Hollywood District of Los Angeles. While surrounded by one of the most densely populated areas of Los Angeles, its native ecology remains largely intact.

The Park was discussed in the Draft SEIS/SEIR and the 1983 FEIS as part of the Santa Monica Mountains National Recreation Area. This discussion is found in Chapter 3, Section 12 of the November 1987 Draft SEIS/SEIR and in Table 4-2 and Figure 4-11 of the 1983 FEIS.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen the effect. These changes or alterations include the following mitigation measures.

In 1983, it was determined by the U.S. Department of Interior that no impact was apparent from the "La Brea Bend" alignment, one of the alignments then under review (See "Technical Report on Biological Resources," Westec Services, Inc, January 1983 incorporated herein by reference). This alignment corresponds almost exactly with the New LPA as it passes through the Runyan Canyon Park. The Park was acquired by the City of Los Angeles in 1984. This area became parkland following publication of the 1983 FEIS.

The New LPA alignment will be in deep tunnel under the Runyan Canyon Park. The depth of tunnels range from approximately 100 feet near Fuller and Franklin Avenues at the southern boundary of the Park to approximately 800 feet at the northern end near Mulholland Drive. A vent shaft that may be required in the segment of the tunnel through the Santa Monica

Mountains will be placed near Solar Avenue and is in the segment of line outside the park boundary.

The New LPA represents a minor change in alignment through the Park. There are no impacts expected other than those in the 1983 FEIS. Although the status of the parkland changed, the impacts from the revised alignment are the same. Therefore, the finding of no Section 4(f) effect in the 1983 document and concurred in by the Department of Interior is still valid. The New LPA will not affect the Park, so mitigation measures are not necessary.

Reference: For a full discussion on Runyan Canyon Park Impacts see the following section in the July, 1989 FSEIS/SEIR: Chapter 3, Section 16.6.2.3, pages 3-16-28 to 3-16-30.

Rationale: The alignment of the Metro Rail Project under Runyan Canyon Park is deep enough that there will be no noise impacts on the park or park structures or operations. A vent shaft proposed for the vicinity will be outside the boundary of the park. Thus, the project will have no significant impacts on the park.

OPERATIONAL IMPACTS

Noise and Vibration (Project Operation)

Impact: Noise will be generated by operation of the Metro Rail system. Since the New LPA is all-subway, there will be no direct air-borne noise from train operations. The sources of air-borne noise will be traffic increases near the stations, and any above ground ancillary equipment such as ventilation machinery and openings.

Operations of rail rapid transit systems can result in the transmission of ground-borne vibration and noise to adjacent buildings. The level of ground-borne noise and vibration reaching nearby buildings is dependent on the source level (i.e., subway operations), the intervening medium between the subway tunnel and building foundation, and the response of the building to the ground-borne vibration. To an individual inside a nearby building, the passage of a train may be perceived by the actual physical motion of the floor or objects (ground-borne vibration) or by a low frequency rumble radiating from the floor and/or walls (ground-borne noise).

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen the effect. These changes or alterations include the following mitigation measures.

Review of the sound level data obtained during the spot check or ten-minute measurements indicates that the residual background noise levels are typical of areas with considerable street and freeway traffic at all times of day. For

all of the locations, the data for L_{10} and L_1 show typical levels for a high volume of vehicular traffic on city streets. These readings are considered high noise levels for commercial and residential developed areas. At several of the measurement locations, there was only a slight decrease in the L_1 and L_{10} noise levels during the evening and nighttime hours, indicating a significant volume of nearby vehicular traffic at night. At most locations, the noise levels do show a significant decrease during the evening and nighttime hours when compared with those measured during the daytime and rush hour.

The largest projected traffic volume increase for the intersections reviewed is 51 percent at one intersection by the year 2000 near Metro Rail stations. Traffic volumes must double to cause a significant increase of 3 dB(A) in the neighborhood noise levels, so traffic increases from the Project are not expected to cause significant increases in noise.

SCRTD has set noise criteria for the maximum sound levels from related and ancillary equipment and facilities. Because the noise from ancillary equipment only affects a localized area around the equipment, these criteria are set in terms of the maximum sound levels or L_{max}. The criteria are generally more severe than those placed on typical residential air conditioning systems and other mechanical equipment found in residential and semi-residential/commercial areas. Criteria are shown in Table 7.

TABLE 7

DESIGN CRITERIA FOR NOISE FROM TRANSIT SYSTEM FAN AND VENT SHAFTS

	Community Area Category	Maximum Noise Level, dB(A) Vent Shaft	Fan Shaft
I	Low-Density Residential	50	40
II	Average Residential	55	45
III	High-Density Residential	60	50
IV	Commercial	65	55
V	Industrial/Highway	75	65

Note: The criteria shall be applied at a distance of 50 feet from the shaft outlet or shall be applied at the setback line of the nearest building or occupied area, whichever is closer.

Source: Wilson, Ihrig & Associates, Inc. (1982).

The impacts of air-borne noise from ancillary facilities and ventilation equipment will be predicted during final design, when the exact locations are known. Sensitivity of the surrounding land uses to noise will be an important consideration in the selection of locations for this equipment.

Fan and vent shaft facilities will be designed to minimize noise intrusion by including the following mitigation measures:

- o Cellular glass and mineral fiber applied to the wall and ceiling surfaces of the shafts to maximize absorption;
- o Standard duct attenuators;
- o Contract specifications requiring certified maximum sound power levels for the fans.

Ancillary facilities, including power substations and emergency power generation equipment, will be designed using the following mitigation measures:

- o Below-ground location of power transformers;
- o Total enclosure of noise source;
- o Absorption material embedded within the facility;
- o Barrier walls surrounding the source;
- o Sound attenuators on fans and ducts;
- o Special mufflers.

In general, those locations with the highest noise levels also have the highest vibration levels and vice versa; since, in most cases, trucks and buses which produce high noise levels also have the highest vibration levels and vice versa. Review of the data obtained shows that the vibration velocity L_{eq} ranges from 36 to 57 dB. The higher levels are typical of areas near moderately to heavily traveled streets and highways in commercial and residential areas.

The noise and vibration consultant predicted the ground-borne noise levels at the sensitive receptors, compared the predicted noise levels with the criteria, and determined necessary mitigation measures. Criteria have been established based on the human response to vibration, which varies with the frequency of the vibration. Studies indicate that weighted vibration velocity levels below about 69 dB are generally imperceptible as vibration to the average person under normal conditions.

It should be noted that the predicted vibration is of such a low level that there is virtually no possibility for structural damage due to the ground-borne vibration transmitted to buildings near subways.

Standard design features for the New LPA in subway alignment include many provisions which result in much lower noise and vibration levels than are traditionally expected for a rail system. These features include such items as

continuous welded rail, direct fixation rail fasteners, the use of wheel and rail grinding or truing machines to maintain the smoothness of the wheels and rail, use of vehicles with lightweight trucks to provide minimum unsprung weight, and the setting of noise and vibration limits in the specifications and contract documents.

Preliminary engineering results indicate that, with the proposed general and specific mitigation measures, all noise and vibration impacts in excess of Project criteria will be eliminated. During final design, the noise and vibration consultant will review the predicted ground-borne noise levels in all buildings to determine the actual uses of space, construction details, and the ambient levels and will select the appropriate mitigation measures to reduce the ground-borne noise levels to Project criteria.

Any one or a combination of the specific and extraordinary mitigation measures will be implemented as needed at the location where noise and vibration levels exceed criteria adopted for the Project.

General mitigation measures

- Use of continuous welded rail instead of jointed rail to reduce noise on the steel wheel/rail interface.

- Use of rail vehicles with lightweight trucks rather than heavyweight trucks in order to provide minimum unsprung weight.

- Use of special grinding (truing) equipment to ensure the smoothness of wheel/rail interaction. This standard maintenance feature will be done based on specified vehicle miles of service.

- Use of Direct Fixation Fasteners as a track fixation method.

Specific mitigation measures

Where the general mitigation measures listed above are not adequate to reduce noise and vibration to criteria levels, additional measures specific to the problem area will be applied:

- Use of resilient (soft) direct fixation fasteners.

- Use of resiliently supported ties. This feature lowers ground-borne noise by approximately 6 to 10 dB below baseline and ground-borne vibration by lesser amounts.

- Use of floating slab trackbed, where resilient (soft) direct fixation fasteners are inadequate to satisfy applicable noise standards and criteria. Floating slab trackbed lowers ground-borne noise by as much

as 15 to 20 dB below baseline. It also lowers ground-borne vibration by approximately 5 to 10 dB, which is generally sufficient.

Soft fasteners will be used near:

- An office building at Sixth Street and Vermont Avenue,
- Five office buildings at Sixth Street from Vermont Avenue to Berendo Street,
- Two office buildings north of Sixth Street between Berendo and Catalina Streets,
- One office building on the northwest corner of Sixth Street and Vermont Avenue,
- Six apartments on New Hampshire Avenue north of First Street,
- Eleven apartments north of Hollywood Boulevard between Sycamore and La Brea Avenues,
- Saint Charles Borromeo Church at Lankershim Boulevard and Moorpark Street,
- Recording studio at Lankershim Boulevard and Landale Street, and
- Guild Theatre on Lankershim Boulevard north of Hartsook Street.

Floating slab trackbed would be used to reduce noise and vibration levels to within criteria at:

- Pocket track at Hollywood and Vine,
- Hollywood Presbyterian hospital at Vermont and DeLongpre Avenues near a cross-over,
- Ten residences southwest of Lankershim and Ventura Boulevards,
- Ten residences along Willowcrest Avenue north of Valley Heart Drive,
- Three recording studios on Lankershim Boulevard near Huston, Hesby, and McCormick Streets, and
- El Portal Theatre on Lankershim Boulevard at Weddington Street near a cross-over.

Resiliently supported ties will be used at the Wilshire/Western Station cross-over.

For Phase II, the approximate length of adopted mitigation measures for both tunnels is 10,000 feet of resilient (soft) direct fixation fasteners, 1,000 feet of resiliently supported ties and 7,000 feet of floating slab trackbed.

Extraordinary mitigation measures

During final design, SCRTD may discover situations where the general and specific mitigation measures discussed above are not adequate to meet Project noise and vibration criteria. In these cases, the SCRTD will consider the following extraordinary measures to supplement the general and specific measures:

- o Non-standard floating slab design;

- o Vibration isolation by blocking direct transmission of vibration where the subway structure is unusually close to buildings and their foundations. This can be accomplished by using elastomer pads in intervening soil as special resilient elements;

- o Crossover relocation;

- o Rail system structure modification;

- o Minor shifts in horizontal or vertical alignment;

SCRTD will include technical feasibility and economic reasonableness in its consideration of extraordinary mitigation measures. In some situations, a particular extraordinary measure listed above may not be feasible from an engineering standpoint. In such a case, the infeasible extraordinary measure will not be further considered.

SCRTD will also take into account costs and benefits when considering an extraordinary mitigation measure. Where SCRTD can show that a minor reduction in project noise of 3 dBA or less (or, if vibration is the offending impact, a minor reduction in project-generated vibration of 2 dB or less) can be achieved through application of a particular extraordinary mitigation measure, and this benefit would accrue only to a relatively small number of people in comparison with its cost, SCRTD may forego further consideration of that particular extraordinary mitigation measure.

In the case of an exceedance of a ground-borne noise criterion, SCRTD may forego consideration of extraordinary mitigation measures under the following condition: If the project-generated noise expressed as one-hour Leq's will not exceed the noise generated by activities in the building during each hour of the day or night that the building is occupied.

If SCRTD should discover during final design an exceedance of the noise or vibration criteria that will not be mitigated, SCRTD will:

- o inform the property owner and affected residents and tenants of the property,

- o afford the people so informed a reasonable opportunity to comment on the proposed design and its impacts either in writing or at a hearing,

- o include the comments received with the proposed design when it goes to the Board for approval.

Reference: For a full discussion on Noise and Vibration (Project Operation) see the following section in the July, 1989 FSEIS/SEIR: Chapter 3, Section 8, pages 3-8-1 to 3-8-19; and Chapter 5, Section 3.1.20, pages 5-3-15 to 5-3-19.

Rationale: The SCRTD has carried out a careful, detailed and complex analysis of the noise levels appropriate for various facilities and areas along the alignment, the noise levels generated by Metro Rail operations the mitigation measured that could reduce levels of ground borne noise and which mitigation measures should be applied to the alignment at various locations to bring received noise levels to within project criteria. The SCRTD has committed to successive levels of analysis as design progresses to insure that a combination of standard design features, general and specific mitigation measures, and extraordinary mitigation measures will be applied to the project. This will ensure that noise levels at all locations will be within project noise criteria and noise impacts will be less than significant.

Electromagnetic Emissions (Project Operation)

Impact: Electromagnetic emissions will be produced by system operation.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen the effect. These changes or alterations include the following mitigation measures.

The vehicle proposed by the SCRTD is very similar to vehicles operating on transit systems throughout the nation. RF signals generated by a modern rail transit subway vehicle will be absorbed by the intervening soil and tunnel structures so that they will be nearly undetectable on the surface and unable to interfere with other users of the electromagnetic spectrum. Since the New LPA is in subway and any RF signals generated by the rail transit system will be contained within the tunnel and absorbed by the intervening soil, there is no need for mitigation measures.

Reference: For a full discussion on Electromagnetic Emissions (Project Operation) see the following section in the July, 1989 FSEIS/SEIR: Chapter 3, Section 14, pages 3-14-1 to 3-14-3.

Rationale: The New LPA was chosen largely for its mitigating effects on noise and electromagnetic emission impacts compared to previous alternatives. The project as modified would have no measurable electromagnetic effect on the environment.

Energy

Impact: Metro Rail operations will utilize energy.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen its impact. Still, some impacts cannot be fully mitigates due to the nature of the project as a transportation project. Some of the specific mitigation measures that the SCRTD will employ include:

- o Metro Rail will utilize "chopper" (semiconductor) traction motor speed controls instead of conventional "cam" (mechanical) speed controls. Although somewhat heavier and bulkier, the new "chopper" technology is considered to offer, on balance, significant energy benefits.

- o SCRTD will recapture some of the energy used to stop trains through regenerative electrical braking. This energy would otherwise be dissipated into the subway as heat, requiring additional ventilation and cooling.

- o A special aluminum-clad steel "third rail" which is a more efficient conductor than the conventional steel rail will be used. An automatic control system for train speed which promotes coasting has been implemented. Rail vehicles are designed and operated so that they are switched off whenever not in service.

- o During final design, every aspect of station design will be reviewed in order to minimize lighting, heating, ventilating, and air conditioning loads. Air conditioning requirements will be minimized by designing the stations to facilitate warm air exchange by utilizing the piston effect of the trains. Passenger areas within stations will be designed so that lights can be turned off during off-service hours. In the maintenance yard, cold water will be utilized for vehicle washing.

- o The track layout will be designed to minimize non-revenue vehicle movements.

- o All major Metro Rail facilities (the yard, administrative buildings, individual stations, sections of the traction rail, etc.), except the car wash facility, will have separate electric meters to facilitate energy consumption monitoring and conservation.

Reference: For a full discussion on Energy see the following sections in the July, 1989 FSEIS/SEIR: Chapter 3, Section 10.3, pages 3-10-3 to 3-10-4; and Chapter 5, Section 3.1.21, page 5-3-19.

Rationale: The operation of the Metro Rail runs on electrical energy, however, the SCRTD is obligated to be as economical in energy use as possible. Mitigation measures chosen offer considerable savings from the base condition. When considered with the overall energy savings obtained from diverting automobile drivers and passengers to rail, the energy savings is significant.

Local Station Traffic

Impact: Auto trips will be associated with travel to and from Metro Rail stations. Thus, there will be localized traffic increases in the area of stations, especially those with parking facilities offering high levels of access for park-and-ride and kiss-and-ride patrons. Station access traffic impacts on critical volumes were rated as major for six intersections, moderate for five intersections, and minor for 20 intersections. Major impacts were predicted for the following intersections:

- Wilshire/Western,
- Wilshire/Vermont,
- Sunset/Vine,
- Lankershim/Cahuenga,
- Lankershim/Ventura/Cahuenga, and
- Lankershim/Burbank.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen its impact. In some cases, the SCRTD lacks the authority to make changes that would fully mitigate the impacts, but the Los Angeles Department of Transportation (LADOT) does have such authority. Still, some impacts cannot be fully mitigated due to the nature of the project as a transportation facility. However, the traffic mitigation measures that have been identified for implementation by either the SCRTD or LADOT include:

- Restricting parking to increase intersection approach capacities.
- Restriping intersection approaches to provide additional through and/or turn lanes.
- Instituting left-turn restrictions/prohibitions.
- Adding or revising signal phases.
- Widening intersection approaches.
- Providing reversible lanes, if peak period traffic is highly directional.
- Constructing bus turnout lanes and loading/unloading areas.
- Consulting with local school officials in the formulation of traffic management plans for stations with schools nearby, per agreement with the Los Angeles Unified School District.

Measures not applicable in the immediate vicinity of stations would probably not qualify for project funding. Final roadway design related to the project

will be developed in consultation with the Los Angeles Department of Transportation (LADOT). LADOT has identified desired post-construction roadway widths for Wilshire Boulevard, Vermont Avenue, and Hollywood Boulevard (all city-designated Major Highways). These general requirements are 10 foot sidewalks and 80 foot roadways. SCRTD will restore roadways torn up for Metro Rail construction to LADOT specifications where feasible.

For the Wilshire/Vermont Station, a kiss-and-ride lot is planned on the west side of Shatto Place, south of Sixth Street. A two-way bus roadway will be designed for loading and unloading. At least ten permanent bus stop locations (five on each side) along the north and the south curbs of the two-way bus only roadway will be required. An exclusive bus lane along the east side of Vermont Avenue north of Wilshire Boulevard will extend to Sixth Street, to avoid potential bus/auto weaving conflicts. These mitigation measures will positively impact the traffic problems identified for the Wilshire/Vermont intersection.

Layover space for 12 buses is required for the Wilshire/Western Station. A bus layover area is located on the north side of Wilshire Boulevard between Western and Oxford. This mitigation measure will positively impact the traffic problems for the Wilshire/Western intersection.

Because of the volume of buses requiring layover (up to eight at a time) at the Hollywood/Vine Station, an area north of Hollywood Boulevard has been designated for kiss-and-ride parking for bus layovers. An additional area programmed for acquisition on the south side of Hollywood Boulevard could be used for kiss-and-ride activities. This mitigation measure may positively impact the traffic problems identified for the Sunset/Vine intersection.

Several road improvement are programmed for the Universal City Station area as part of the Project, including:

- o Removal of the existing Riverton Avenue off-ramp.
- o Six-lane (in lieu of two-lane) station access road.
- o Six-lane (in lieu of two-lane) freeway overpass.
- o Six-lane (in lieu of two-lane) station area road.
- o Reconfigurration of Bluffside Drive Road into a two-lane frontage road.
- o Widening of certain streets and intersections.
- o A dual lane extension of Universal Place Road.

These mitigation measures will positively impact the traffic problems identified for the Lankershim/Ventura/Cahuenga intersection and for the Lankershim/Cahuenga intersection. The LADOT could consider construction of an additional through lane southeastbound on Lankershim, which would require widening a bridge over the Los Angeles River but no right-of-way acquisition.

For the Burbank/Lankershim/Tujunga intersection, an eastbound right-turn only lane and optional right-turn lane and associated parking restriction eastbound on Burbank could be considered by the LADOT.

Reference: For a full discussion on Local Station Traffic see the following sections in the July, 1989 FSEIS/SEIR: Chapter 3, Section 1.2, pages 3-1-2 to 3-1-16; and Chapter 5, Section 3.1.22, pages 5-3-19 to 5-3-20.

Rationale: Measures which qualify for project funding to mitigate local station traffic impacts will be undertaken by the SCRTD. Additional measures will be developed in consultation with LADOT to alleviate impacts outside the immediate vicinity of the stations. While the Metro Rail Project will lead to localized impacts in the station areas, it will provide positive traffic impacts throughout its area of influence through reductions in vehicular travel.

Localized Air Pollution

Impact: Localized increases in carbon monoxide (CO) concentrations could occur at critical intersections in station areas. The New LPA would affect 11 intersections including:

- Wilshire/Crenshaw,
- Wilshire/Western,
- Wilshire/Vermont,
- Normandie/Olympic,
- Sunset/Cahuenga,
- Sunset/Vine,
- Vermont/Olympic,
- Lankershim/Cahuenga,
- Lankershim/Chandler,
- Lankershim/Ventura, and
- Lankershim/Burbank.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen the effect. These changes or alterations include the following mitigation measures. However, because the stations are built in areas of high traffic levels and they attract additional automobile traffic, it is generally infeasible to make a reduction in local air pollution levels.

Based on current traffic projections, most of the identified intersections would operate at a level of service F in the year 2000, even before station-related traffic is considered. Level of service F in the context of this analysis implies that the theoretical capacity of the intersections would be exceeded.

CO standards will be exceeded at these locations even without the Project. Metro Rail does not of itself create unhealthful air quality. The traffic mitigation measures discussed the transportation impacts are proposed in order to improve the level of service at these locations, which in turn will minimize air quality problems.

Reference: For a full discussion of Localized Air Pollution see the following section in the July, 1989 FSEIS/SEIR: Chapter 3, Section 9, pages 3-9-1 to 3-9-6.

Rationale: One of the features of a heavy rail subway such as Metro Rail is that it concentrates passengers at station locations along its route. When these passengers arrive at the station by automobile there is a local concentration of exhaust gases from the cars at the station. Where the station environs are congested, the concentration of exhaust gases is increased. The Metro Rail project applies traffic control mitigation measures to speed up traffic at the congested areas and thereby reduce the local air pollution. In most cases the stations are sited at locations that have large volumes of development and potential riders. Traffic volumes and air pollution are high with or without Metro Rail. Overall local air pollution increases are more than balanced by reductions in regional pollution related to a reduction in overall automobile miles travelled in the region.

Parking

Impact: Rail Patrons driving to and parking at a Metro Rail station will demand increased parking in the immediate vicinity of a station. Patrons looking for parking may intrude into adjacent residential areas or use parking normally available for customers or employees of businesses near Metro Rail stations.

Identified parking impacts are based on a condition of maximum parking demand at stations. This condition assumes no constraints on park-and-ride demand relative to available parking supply. This "worst case" scenario depicts projected parking conditions that would exist in a station area if all rail patrons who desired to park at the station could do so. In reality however, the actual park-and-ride usage at a station would be constrained by the supply of parking available. If a park-and-ride patron could not locate a space, they would simply drive to the ultimate trip destination or to another station.

With the New LPA, parking demand would increase over the Null Alternative (almost 3,500), resulting in a parking deficiency of nearly 1,800 spaces in the Wilshire/Alvarado Station area, 600 spaces in the Wilshire/Vermont Station area, and 400 spaces in the Wilshire/Western Station area. Parking deficiencies would occur at Universal City and North Hollywood if park-and-ride spaces were not provided. Worst case parking deficiencies are estimated at 5,174 spaces for the New LPA with the provision of 1,840 surface-only Project parking spaces. Provision of an ultimate 2,500 park-and-ride spaces

at each location will result in projected surpluses in peak demand periods of about 400 at the Universal City Station and 700 spaces at the North Hollywood Station.

Parking demand at temporary terminal stations by kiss-and-ride and park-and-ride patrons would be greater than the number of spaces projected to be available in the station area, because of the larger travel sheds these stations would temporarily serve, and because no additional parking facilities are proposed to accommodate this short-range parking demand.

Finding: The SCRTD finds that changes or alterations have been required in or incorporated into the project to avoid or substantially lessen its impact. In some cases, the SCRTD lacks the authority to make changes that would fully mitigate the impacts, but the Los Angeles Department of Transportation (LADOT) and other agencies do have such authority. Still, some impacts cannot be fully mitigated due to the nature of the project as a transportation facility. However, the parking mitigation measures that have been identified for implementation by either the SCRTD, the LADOT, or other agencies include:

- o Encouraging or requiring employer-sponsored rideshare or transit incentive programs to reduce potential parking usage. As of January 1, 1988, the City of Los Angeles requires employers that subsidize parking and that have more than 200 employees to subsidize employees' transit costs up to $15/month.
- o Promoting joint development at stations.
- o Establishing preferential parking districts within residential neighborhoods adjacent to station areas.
- o Operating an extensive network of feeder bus lines serving the stations
- o Providing more metered curb spaces in commercial areas, effectively reserving these spaces for short-term use by customers of commercial establishments.
- o Providing bicycle parking at Metro Rail stations outside the Central Business District, and at Union Station.
- o Evaluating preferential parking for carpools and vanpools.

Reference: For a full discussion on Parking see the following section in the July, 1989 FSEIS/SEIR: Chapter 3, Section 1.3, pages 3-1-17 to 3-1-23.

Rationale: Measures which qualify for project funding to mitigate parking impacts will be undertaken by the SCRTD. Additional measures will be developed in

consultation with LADOT and other agencies to alleviate impacts outside the immediate vicinity of the stations. While the Metro Rail Project will lead to localized parking impacts in the station areas, it will provide positive parking impacts throughout its area of influence through reductions in vehicular travel.

Land Use

Impact: The Metro Rail Project would likely induce additional growth in the Regional Core. The Vermont/Beverly station area has the least amount of commercial property susceptible to redevelopment. The Hollywood commercial core station areas (Hollywood/Vine and Hollywood/Highland) have the largest amount and highest concentrations of commercial properties susceptible to redevelopment. The Vermont/Santa Monica Station area has the highest amount and proportion of property susceptible to residential redevelopment. The Universal City station area has the least amount of property susceptible to residential development.

Finding: The SCRTD finds that it lacks the authority to make changes that would mitigate the impact. The City and County of Los Angeles have such authority.

Enabling legislation was passed in 1984 giving the SCRTD the capability to work with adjacent property owners to develop projects on combined parcels which would support or otherwise enhance the Metro Rail system. The SCRTD, as part of the project cost, will fund preparation of station plans for those stations where available land owned by the SCRTD is most susceptible to development. The SCRTD will conform to the adopted land use goals set forth in adopted City Specific Plans, Community Plans, and Redevelopment Agency Plans for the Hollywood and North Hollywood station areas.

In areas identified for residential investment, the SCRTD will require, on land it owns, mixed use developments which will provide for the provision of new housing stock, or where appropriate, the rehabilitation of existing housing stock. In areas identified for commercial investment, the SCRTD will seek City approval for the transfer of development rights between station areas as a means of targeting growth and protecting those areas where community and City goals seek protection or reduced development pressure.

Reference: For a full discussion on Land Use see the following sections in the July, 1989 FSEIS/SEIR: Chapter 3, Section 2.2, pages 3-2-7 to 3-2-26; and Chapter 5, Section 3.1.23, page 5-3-20.

Rationale: The SCRTD lacks the authority to modify land use policy within the area of the New LPA. The implementation of this finding, requires actions by the authorities charged with this responsibility. The agencies include: the City of Los Angeles through its Department of Planning and the formation of

Station Area Specific Plans; the County of Los Angeles and the Department of Regional Planning for the unincorporated portion of the Universal City Station Area; and the City of Los Angeles Community Redevelopment Agency through the Hollywood and North Hollywood Redevelopment Project Area Plans, the Hollywood Urban Design Plan and the North Hollywood Station Area Plan. Through participation in the formation of these plans, and funding the preparation of the station plans referred to above, the SCRTD can seek to ensure they will provide the proper land use controls that will allow for the approval of the specific mitigation measures proposed. The SCRTD will work with the CRA to assure the inclusion of mixed-use development opportunities within the Hollywood Urban Design Plan to help assure the continuance of a variety of commercial and housing opportunities within the Hollywood commercial core station areas. The SCRTD will seek to be instrumental in assuring the proper controls and incentives for the timely and appropriate residential development in the Vermont/Beverly station area through the formation of a Vermont/Beverly Station Area Specific Plan.

Accommodation of Projected Residential Growth and Pressure to Increase Residential Density in Stable Single-Family Areas

Impact: For station areas where projected residential growth would require 75 percent or more of the residentially-zoned land susceptible to reinvestment, the impact of growth was assessed to be potentially adverse. These station areas include: Wilshire/Vermont, Wilshire/Normandie, Vermont/Beverly, Hollywood/Highland, and Hollywood/Vine.

The New LPA has one station area -- Universal City -- that would potentially have adverse impacts resulting from residential development pressure which could lead to rezoning or development of single-family neighborhoods.

Finding: The SCRTD finds that it lacks the authority to make changes that would mitigate the impact but that the City or County of Los Angeles have such authority. The mitigation measures listed below have been proposed to agencies that control land use and development in Los Angeles.

It is anticipated that the potentially adverse impacts could be mitigated in all cases. Mitigation measures include:

- Development of residential projects on commercially-zoned land.
- Increases in the density of new residential development in existing multi-family residential zones.
- Diversion of potential residential growth to other station areas where multi-family residential development would be more appropriate.

Reference: For a full discussion of Accommodation of Projected Residential Growth and Pressure to Increase Residential Density in Stable Single-Family Areas see the following sections in the July, 1989 FSEIS/SEIR: Chapter 3, Section 2.3.1, page 3-2-26; and Chapter 5, Section 3.3.6, page 5-3-27.

Rationale: The SCRTD lacks the direct authority to provide for the mitigation of this impact. Through participation in the formation of the aforementioned land use policies under the jurisdiction of the various responsible authorities, the SCRTD can establish the necessary protective mitigations to preserve single family enclaves and cause to be provided the necessary incentives to guide and control reinvestment to areas where it is deemed appropriate and desirable. Of particular concern in accomplishing the mitigations is the transfer of development rights between station areas along the alignment to ensure that growth occurs within the area most appropriate.

<u>Accommodation of Projected Commercial Growth and Pressure to Re-zone Residential Areas for Commercial Use</u>

Impact: For station areas where projected commercial growth could require 75 percent or more of the commercially-zoned land susceptible to reinvestment, the impact of this growth was assessed to be potentially adverse. Adverse impacts also would be expected at station areas where projected commercial growth has been assessed to have a potentially adverse impact (i.e., pressure to rezone is evident) and the predominant land use is residential. For the year 2000 Maximum Impact Condition, these impacts could occur in the Vermont/Beverly and Universal City station areas.

Finding: The SCRTD finds that it lacks the authority to make changes that would mitigate the impact but that the County and City of Los Angeles have such authority.

It is expected that potential adverse impacts could be mitigated in all station areas. Mitigation measures include:

- o Redirecting commercial development to other station areas by creating incentives to develop elsewhere.
- o Expanding the "station area" by directing commercial development to sites adjacent to the currently defined station area boundaries through the Specific Plan and master planning process.

Reference: For a full discussion on Accommodation of Projected Commercial Growth and Pressure to Re-zone Residential Areas for Commercial Use see the following sections in the July, 1989 FSEIS/SEIR: Chapter 3, Section 2.3.2, pages 3-2-26 to 3-2-27; and Chapter 5, Section 3.3.7, page 5-3-28.

Rationale: The SCRTD must defer to the City of Los Angeles Department of Planning and the County of Los Angeles Department of Regional Planning as well as the Community Redevelopment Agency of Los Angeles for the authority to implement the suggested mitigations. All three agencies have jurisdiction over land use policy and regulation along the New LPA and are able to implement policy to mitigate the potential impact on projected commercial growth.

The various land use policy documents that are the responsibilities of these organizations will need to contain appropriate residential protection provisions to assure commercial growth does not intrude into these in areas but is allowed to flourish in other areas where it is deemed desirable. As indicated above, the SCRTD will work with the above named agencies to seek to ensure that the proper land use controls are implemented so as to effectuate the mitigations listed.

Maintenance of Stable Land Values

Impact: Metro Rail may result in upward pressures on land values in station areas. In general, it is expected that land values would increase to some extent at all station areas where development occurs.

Finding: The SCRTD lacks the jurisdiction to implement effective land use control mechanisms in locations that will experience strong development pressures (some of which may be negative) because of increased accessibility due to Metro Rail; other agencies (e.g., the Los Angeles Department of Planning may more effectively deal with expected development opportunities (as well as problems). Additionally, specific land economic considerations may make infeasible the implementation of fully effective mitigation measures.

The greatest pressure is expected to occur where land susceptible to reinvestment (regardless of commercial or residential classification) is exceeded by the combination of projected commercial and residential growth, as in the Vermont/Beverly and Universal City station areas. The greatest impact would be in the Universal City station area where the predominant land use is single-family residential.

Reference: For a full discussion of Maintenance of Stable Land Values see the following section in the July, 1989 FSEIS/SEIR: Chapter 3, Section 2.2.3, pages 3-2-12 to 3-2-28.

Rationale: The potential for the upward trend of land values in the station areas is determined by market forces which are effectively beyond the control of the SCRTD. These trends may at times be non-responsive to the incentives and to the land use mechanisms available to the jurisdictions charged with the formation of land use policy.

Preservation of Historic and Cultural Resources

Impact: Potentially adverse impacts could occur in station areas containing historic or cultural resources, where inadequate land supply exists to accommodate projected commercial or residential growth. This condition exists in the Hollywood/Highland and Hollywood/Vine station areas.

Finding: The SCRTD finds that it lacks the authority to make changes that would mitigate the impact but that the Community Redevelopment Agency of the City of Los Angeles does have such authority.

In these station areas, mitigation measures would be established to promote the restoration/renovation of historic structures rather than displacement under the pressure of commercial or residential development. Mitigation measures include:

- o Promotion of the use of existing tax incentives and rehabilitation loans.
- o Downzoning and creation of a mechanism to transfer unused development potential.

SCRTD will work with the Los Angeles Community Redevelopment Agency (CRA) to minimize disruption to Hollywood Boulevard during construction and to define station entrance locations that have minimal impacts on cultural and historic resources.

Reference: For a full discussion of Preservation of Historic and Cultural Resources see the following sections in the July, 1989 FSEIS/SEIR: Chapter 3, Section 2.3.3, page 3-2-27; and Chapter 5, Section 3.3.8, page 5-3-28.

Rationale: One of the measures that is applied to the preservation of historic and cultural resources is the specific plans that now govern or will be developed for the station areas. These plans are developed by the CRA in the course of their activities and are generally in sequence with the Metro Rail construction schedule.

Maintenance of Compatibility with Existing Land Uses and Community Character

Impact: Potentially adverse impacts could occur if projected growth is inconsistent with surrounding uses. This is primarily true for a station area where the predominant land use is residential and where high levels of commercial growth (50 percent or greater) are forecast. This condition exists for the Vermont/Beverly Station.

Finding: The SCRTD finds that it lacks the authority to make changes that would mitigate the impact but that agencies of the City and County of Los Angeles have such authority.

Special mitigation measures could be employed at this station area to preserve the community character through provisions of development incentives in appropriate locations, promotion of mixed use developments, and creation of residential developments on commercial zoned land.

Reference: For a full discussion on Maintenance of Compatibility with Existing Land Uses and Community Character see the following sections in the July, 1989 FSEIS/SEIR: Chapter 3, Section 2.3.4, page 3-2-27; and Chapter 5, Section 3.3.9, page 5-3-28.

Rationale: Authority for the control of this impact is beyond the purview of the SCRTD. The SCRTD will seek to implement appropriate mitigation measures through coordination with the City of Los Angeles Department of Planning and the development of a Vermont/Beverly Station Area Specific Plan. As the potential for the project to adversely impact the maintenance of compatibility with existing land uses and community character arises within other areas along the New LPA, the SCRTD will seek to implement mitigations through coordination with other responsible agencies which control land use policy.

<u>Demand for Public Services</u>

Impact: Transit-induced growth is expected to generate both tax revenues and demand for public services. The Project could create some increased demand for Los Angeles Police or Fire protection.

Finding: To the extent that Metro Rail supports the concentration of new development in the Regional Core, increases in the cost of providing public services would be minimized and increases in revenues would be maximized compared to the effects of more dispersed growth which would be expected to occur in the absence of Metro Rail.

SCRTD's Police will be responsible for system security. As a result, Metro Rail is not expected to increase demand for Los Angeles City police services. Similarly, the Los Angeles City Fire Department has indicated that existing fire protection services in the Regional Core, combined with SCRTD system-wide fire safety measures, would adequately serve Metro Rail.

Reference: For a full discussion of Demand for Public Service see the following section in the July, 1989 FSEIS/SEIR: Chapter 3, Section 3, pages 3-3-1 to 3-3-6.

Rationale: Project specific police and fire protection services will be adequately addressed through the augmentation of SCRTD Police manpower, and the fire safety measures incorporated in the project's design. Secondary requirements for such services may result for transit-induced growth. Responsibility for meeting such additional demands lies with the jurisdictions within which additional growth occurs. These requirements can be adequately

served by the combination of additional tax revenues generated by new developments, and existing land use controls which provide for developer contributions in the event that the demand for additional public services created by a proposed development appears to exceed capacity.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Impact: The Metro Rail Project would require the irreversible and irretrievable commitment of land, manpower, energy, construction materials and money. Long-term funding support would be required.

Finding: The attached "Statement of Overriding Considerations" identifies favorable aspects to the Project that override this irreversible and irretrievable commitment of resources.

Reference: For a full discussion on Irreversible and Irretrievable Commitment of Resources see the following section in the July, 1989 FSEIS/SEIR: Chapter 5, Section 4, page 5-4-1.

Rationale: Although the Metro Rail Project will commit the expenditure of irreversible and irretrievable resources, it will encourage the more efficient future use of resources for transportation purposes in conformance with regional mobility and air quality goals. The long-term benefits from the Project will far outweigh any remaining adverse commitment of resources.

UNAVOIDABLE ADVERSE IMPACTS

Impact: The Metro Rail Project would result in some adverse impacts which could not be completely avoided or mitigated. Long-term unavoidable adverse impacts are identified below.

- Additional traffic is projected on local arterial and collector streets near Metro Rail stations. Metro Rail patrons looking for parking may "spillover" into adjacent residential areas or use parking normally available for customers or employees of businesses near stations.

- Displacements would occur in some station areas. SCRTD is committed to the relocation of all businesses and residents displaced by the Metro Rail Project. It is possible that some businesses and residents would not be relocated within the same station area, and some businesses may elect to terminate operations altogether.

- There is a small possibility that ground-borne noise from subway train operations could not be mitigated at some locations for economic or technical reasons.

- o In the vicinity of the Vermont/Santa Monica Station, the archaeological remains of "Two Springs" and an early homestead may be affected by construction. To ensure protection of these potential resources, a qualified archaeologist will monitor construction activities and will implement data recovery programs, as necessary, according to the provisions of the Treatment Plan.

- o The New LPA would require energy to construct and operate.

- o The New LPA may promote additional growth in the Regional Core. Much of this growth is consistent with local land use objectives and plans (e.g. City Centers Concept) and adverse impacts associated with this growth can be mitigated. Two related long-term impacts that can not be mitigated are:

  - the inability to maintain stable land values in station areas, particularly for station areas where an inadequate land supply exists to accommodate projected growth, and

  - Regional Core City Centers growth is not served by Metro Rail.

Finding: The attached "Statement of Overriding Considerations" identifies favorable aspects to the Project that override these long-term unavoidable adverse impacts which can not be completely avoided or mitigated. Most long-term impacts associated with the Project can be mitigated.

Reference: For a full discussion of Unavoidable Adverse Impacts see the following section in the July, 1989 FSEIS/SEIR: Chapter 5, Section 1, page 5-1-1.

Rationale: The Metro Rail Project will result in some unavoidable adverse impacts. However, it will encourage more efficient future travel behavior generating many positive transportation impacts that conform to regional mobility/air quality goals and whose benefits far outweigh the remaining long-term adverse impacts.

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

Impact: Construction of the New LPA would require the use and commitment of resources which must be weighed against the long-term benefits of building the system. Uses of resources would include the following:

- o Acquisition of commercial, industrial, and residential land for Metro Rail right-of-way;
- o Displacement of residents and businesses;
- o Potentially adverse effect on archaeological sites;
- o Increased use of electricity.

Finding: The attached "Statement of Overriding Considerations" identifies favorable aspects to the Project that override this use and commitment of resources.

Reference: For a full discussion of Relationship Between Local Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity see the following section in the July, 1989 FSEIS/SEIR: Chapter 5, Section 2, page 5-2-1.

Rationale: The various impacts that include both the consumption of man-made economic resources through the acquisition and relocation of businesses and the disruption of man's cultural environment through the removal of residential units is an unavoidable impact not subject to any known mitigation within the scope and authority of the SCRTD other than the no project alternative. The impacts associated with the potential adverse impacts on archaeological sites and the consumption of natural resources for the system construction is also non-avoidable if the system is to be constructed.

CUMULATIVE IMPACTS

Impact: Environmental effects of the Project that would contribute to cumulative adverse impacts include localized traffic congestion, parking spillover impacts at certain station locations, displacements, influences on the location of new growth, and increases in localized air pollutant emissions and noise levels.

Segments of the community have expressed a desire to provide a connection between Metro Rail and the Hollywood Bowl. The New LPA does not provide direct service to the Hollywood Bowl, so the potential for providing a transit link between the Hollywood/Highland Station and the Hollywood Bowl has been investigated.

Finding: The SCRTD finds that it lacks the authority to make changes that would mitigate the impact, but agencies of the City and County of Los Angeles do have such authority. The mitigation measures listed below have been proposed to the above named entities.

- o Although localized increases in traffic are expected with the operation of Metro Rail, a decrease in overall traffic volumes would be expected in the Regional Core due to Metro Rail.

- o Localized parking impacts will occur, although overall parking demand in the Regional Core should increase at a reduced rate with the Metro Rail project.

- The impacts of the Metro Rail project in the displacement category are significant only as part of the total of condemnation actions by government agencies.

- Development pressures could extend to the cultural properties within and around station areas, leading to alteration or destruction of a property or, more likely, changing the character of its environment. This effect likely would occur more often on smaller or isolated structures which tend to be less economically viable in their original form. Larger properties would be more adaptable to higher-intensity development or redevelopment.

- The effects of construction and traffic, as well as increased access to certain areas, may have a cumulative impact leading to the deterioration of cultural resources. Repetitions of minor construction impacts (of the actual physically hitting-the-building variety) can cause irreversible effects on a structure, and properties can be damaged directly by other construction activities.

- The cumulative effects of the project on air quality will be a measurable but relatively insignificant reduction when viewed as a percentage of the regional air quality problem.

- The overall impact of Metro Rail on the Regional Core noise levels is negligible when compared to overall existing ambient levels. As growth occurs in the Regional Core, ambient levels are expected to increase slightly. These increases would be generated, in part, by an increase in traffic, which is the primary component of urban noise. Because it takes a 100 percent increase in traffic volume to make a noticeable increase in noise, the anticipated increase in noise level from this growth probably would not be noticeable. In fact, the change in traffic volumes at intersections affected by local traffic access to Metro Rail stations is approximately eleven percent. This localized increase is more than offset by a projected 1.6 percent decrease in auto trips throughout the Regional Core as a whole. These changes are not enough to have a noticeable impact on noise levels.

- Several conclusions can be drawn from the initial analysis in the November 1987 Draft SEIS/SEIR of a direct transit connector between the Metro Rail Hollywood/Highland Station and the Hollywood Bowl. The physical presence of an aerial Connector would cause visual and aesthetic impacts. It would take a lane from one of the busiest arterials in Los Angeles and either introduce undesirable operating conditions on Highland Avenue in the form of contraflow operations, or prevent the preferred directional usage of Highland Avenue during peak periods. It would also require consultation with the State Historic Preservation Officer and compliance with Section

106 of the National Historic Preservation Act of 1966, as amended, and Section 4(f) of the National Transportation Act of 1966, as amended. A subsurface alignment also would require compliance with these acts for the Hollywood Bowl. (These acts essentially require a finding that no prudent and feasible alternative exists to use of a National Register property and that all possible planning is done to minimize harm.) If an aerial guideway were constructed, it would probably be necessary to prohibit left turns to and from mid-block locations. An elevated guideway would require property acquisition at the south end of the Connector to allow transition from the elevated guideway to the mezzanine level of the Hollywood/Highland Metro Rail Station. An elevated guideway also would introduce a major new visual element to the streetscape. Subsurface Connector options present fewer environmental impacts, but are more costly to construct.

These impacts for the Connector are in addition to the impacts associated with the New LPA. Inasmuch as connector operations would most likely occur during Metro Rail off-peak periods, the patronage impacts should not require any resizing of the Hollywood/Highland Metro Rail Station.

Reference: For a full discussion on Cumulative Impacts see the following sections in the July, 1989 FSEIS/SEIR: Chapter 5, Section 5, page 5-5-1 to 5-5-4; and Section 6, page 5-6-1.

Rationale: As has been documented in the original Final Environmental Impact Statement published in December 1983 and the Final Environmental Impact report published in November 1983, the Los Angeles region has become one of the fastest growing population and employment centers in the country. The Southern California Association of Governments (SCAG) in its recently published Regional Mobility Plan (1989) reinforces the predictions and assumptions used in this environmental analysis effort. The SCAG study indicates that population growth in this area exceeded projections. By the year 2010, this region will be home to an additional 5 million persons which in turn is expected to produce an increase of nearly 17 million daily person trips over the 40.2 million person trips that occur today. The Regional Mobility Plan further warns that should the region not take steps to prepare for the transportation needs of the future, "...these additional trips may bring traffic to a near halt for much of the day." Finally, without action, the SCAG region will increase its daily hours of delay from 10% of the daily total to a projected 52%.

Traffic studies completed for the Metro Rail in 1983 and as reviewed under this environmental effort have concluded that sufficient capacity does not exist within the existing street network to provide space to accommodate the added traffic demand for the region's growth and development. Lastly, the Los Angeles basin remains an air quality non-attainment area. As such, the

South Coast Air Quality Management District has adopted stringent new rules to curb automobile travel and in concert with the Regional Mobility Plan has specified a program of increased, mandatory reliance on ridesharing and transit. In response to the devastating predictions contained in the Regional Mobility Plan and the requirements set forth in the SCAQMD's regulations, the region has adopted a program which proposes major expansions in transit services, including the development of a network of regional commuter rail, light rail, and heavy rail transit systems, the cornerstone of which is the Metro Rail project. Metro Rail will have a positive impact on air quality and will provide a substantial improvement in accessibility to jobs, housing, and cultural resources. Because of the improvements in accessibility to traffic constrained areas brought about by the Metro Rail project, the region will be able to accommodate added growth and maintain an expanding economy.

The goal of the RMP, the SCAQMD, and the agencies responsible for providing public transportation facilities is to achieve an increase in the work trip modal share from 6.6% today to 19.3% in the future. The Metro Rail project will provide the requisite capacity which cannot otherwise be provided and fulfill one element of the region's Regional Mobility Plan. The adverse impacts of the project are far outweighed by the positive benefits created.

With the growth in the region's population, the demand for the use of unique cultural facilities, such as the Hollywood Bowl, will increase significantly. The Hollywood area is already traffic constrained. Hence, there is a need to examine a means to directly connect the Bowl to the New LPA at the Hollywood/Highland Station to reduce dependence on the automobile and surface transportation modes attempting to converge at the Hollywood Bowl site.

As indicated in the Statement of Overriding Considerations, the overall benefits of the project outweigh the adverse impacts. However, the cumulative impacts have been considered to minimize the overall impacts in a cumulative manner. Other alternatives were also considered during the preparation of the FSEIS/SEIR but the New LPA has been selected. The rationale for its selection is contained in Section 2 of Chapter 1. The rationale for the measures to minimize the cumulative impacts of the New LPA are contained in the referenced section of the FSEIS/SEIR.

ATTACHMENT 4

STATEMENT OF OVERRIDING CONSIDERATIONS

7/21/89

STATEMENT OF OVERRIDING CONSIDERATIONS