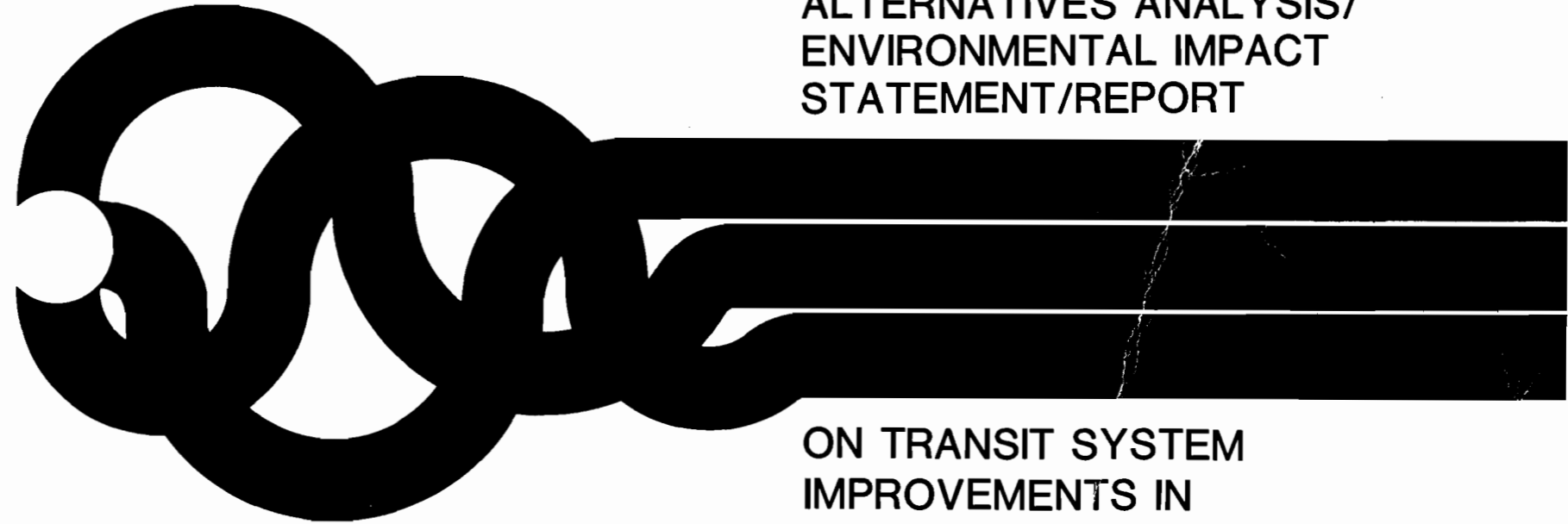


FINAL  
ALTERNATIVES ANALYSIS/  
ENVIRONMENTAL IMPACT  
STATEMENT/REPORT



ON TRANSIT SYSTEM  
IMPROVEMENTS IN  
THE LOS ANGELES  
REGIONAL CORE

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ELEMENT IV OF THE REGIONAL TRANSIT DEVELOPMENT PROGRAM

U.S. DEPARTMENT OF TRANSPORTATION  
URBAN MASS TRANSPORTATION ADMINISTRATION  
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

406

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FINAL  
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U.S. DEPARTMENT OF TRANSPORTATION  
URBAN MASS TRANSPORTATION ADMINISTRATION

in cooperation with

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

Final Environmental Impact Statement/Environmental Impact Report  
pursuant to Section 102(2)(C), Public Law 91-190, 49USC1610 and  
California Environmental Quality Act, State Public Resources Code,  
Div. 13, Sec. 21,000 et. seq.

Date: April 8, 1980

For UMTA

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# **PREFACE**



## PREFACE

Following distribution of the Draft Alternatives Analysis/Environmental Impact Statement/Environmental Impact Report (AA/EIS/EIR) dated May 18, 1979, formal public hearings on its findings were held on July 7, 8 and 9, 1979.

Based on the public hearing testimony and the technical findings the SCRTD Board has selected Alternative II (with some modifications) as its "Locally Preferred Alternative". The rationale for the selection of this Alternative is discussed in Chapter II, Section D.

The SCRTD Board has asked UMTA to financially support a Preliminary Engineering investigation of its Preferred Alternative, and UMTA proposes to do so, subject to the provisions of Federal law governing these matters. No decision on project implementation will be made by UMTA until Preliminary Engineering has been completed.

All substantive written and oral comments based upon the distribution of the document and the hearings, as well as the replies thereto, have been incorporated into this Final AA/EIS/EIR. The written comments consist of formal letters and are included verbatim in this Final Report; while the voluminous transcripts resulting from the oral testimony are on file with the SCRTD Secretary, and are available for public inspection.

This document is intended to assist in the evaluation of alternative transit systems in the Regional Core. The level of detail required to select among alternatives is not as precise as required for final design and cost estimation. Detailed analysis will be required to determine the final cost and impact of different construction techniques, operating characteristics, and exact station and alignment locations, etc. Continuing environmental studies and documentation in conjunction with engineering to address these and other issues, will be conducted as necessary. UMTA will be directly involved in developing appropriate construction techniques, operating conditions for station and

alignment locations; and in defining the most effective means of achieving required results with the least cost and with acceptable environmental impacts.

A supplemental or tiered environmental impact statement will be prepared as a part of the decision making process on determination of the construction method to be employed, station locations, and any other design elements likely to have significant environmental impacts. The concept of sequencing environmental assessments so that assessments are tailored to the decisions being made is fully consistent with the Council on Environmental Quality Environmental Regulations, which refer to this concept as "tiering".

The construction cost numbers provided are for the analysis purposes only, and represent an effort to compare the cost effectiveness and impacts of alternative modes, not to provide final construction cost for a rapid rail system in Los Angeles.

During Preliminary Engineering, should project costs be found to be significantly higher than estimated in the Alternatives Analysis, or should significant new and unavoidable adverse environmental impacts be identified, it may be necessary to reassess project feasibility.

**LOCALLY PREFERRED ALTERNATIVE  
AND BOARD RESOLUTION**



## THE LOCALLY PREFERRED ALTERNATIVE

The Board of Directors ("Board") of the Southern California Rapid Transit District (SCRTD) has reviewed the AA/EIS/EIR, examined the public hearing transcripts, studied the issues, considered the staff responses and has designated its preferred alternative from the eleven evaluated, as being (with some minor modifications) Alternative II. The rationale for this selection is included in Chapter II, Section D.

Generally, this alternative, shown in Figure PA.1, commences at Union Station in the Central Business District (CBD); continues west along Wilshire Boulevard; turns north on Fairfax; passes through Hollywood, the Cahuenga Pass, and Universal City; and finally terminates at Lankershim and Chandler in the San Fernando Valley. Such an alignment covers 18.6 linear miles, and will be constructed as a "bored" tunnel subway to operate at a depth ranging from 40 to 200 feet underground. This particular alternative is projected to cost approximately 1.12 billion dollars in 1977 dollars.

The modifications to this Alternative II, made by the SCRTD Board, consist of: (1) eliminating the Wilshire and Hauser Station; (2) adding a station at Wilshire and Crenshaw; and (3) relocating the Hollywood and Las Palmas Station to Hollywood and Cahuenga.

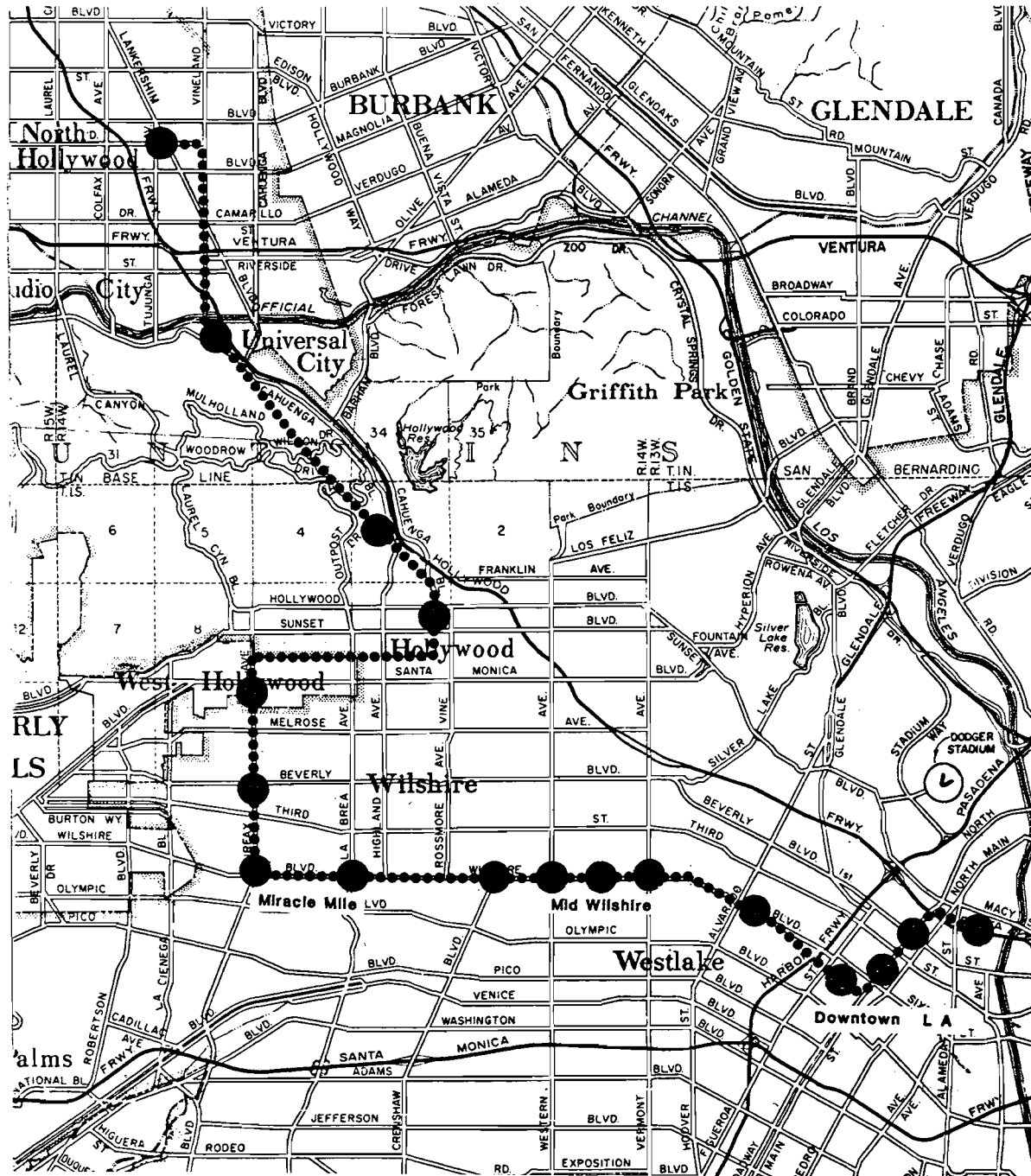
The first two changes would have negligible impact over the alternative selected. The final change will result in an increased, although negligible capital cost and no impact on operating costs or environmental factors.

The official SCRTD Board Resolution stating the Board's preference and modifications to Alternative II follows:

FIGURE PA.1

SCRTD BOARD PREFERRED ALTERNATIVE  
MODIFIED ALTERNATIVE II

RESOLUTION NO. R-79-410



WHEREAS, in 1977 the Southern California Rapid Transit District, in cooperation with the Urban Mass Transportation Administration, began a combined Alternatives Analysis and Environmental Impact Study (AA/EIS/EIR), for Rapid Transit Improvements in the Los Angeles Regional Core, as part of the Four Element Regional Transportation Program; and

WHEREAS, the results of this work, presented in the Draft AA/EIS/EIR, dated May 18, 1979, have been carefully reviewed by the Board of Directors of the SCRTD; and

WHEREAS, in addition to the District's extensive continuous public participation program, the Board held six sessions of well advertised official public hearings on the afternoons and evenings of July 9, 10 and 11, 1979 in various locations in the Regional Core for the purpose of soliciting comments from individuals, community groups and agencies and further provided an additional period of 30 days thereafter for the receipt of written comments; and

WHEREAS, the SCRTD Board has reviewed the transcripts of the public testimony, and has considered all the major issues and substantive comments made during this process by individuals and agencies and community groups, and has considered the responses to these issues and comments; and

WHEREAS, even though a station at the Hollywood Bowl would be comparatively lightly used, the Board concluded that a "special purpose" station should be provided at this location during the times of the events held at this facility, which is so important to the cultural life of the entire Los Angeles area, subject to the environmental, construction and system operation requirements, and further subject to the evaluation of alternate funding means for the operation and maintenance costs; and

WHEREAS, the Board concludes that a station at Wilshire and Hauser would be too close to the La Brea Station and further would likely have too much of an adverse environmental impact from the archeological standpoint; and



WHEREAS, the Board has determined that in response to requests, the transportation needs of the community bordering Crenshaw Boulevard southerly of Wilshire warrant a station at Wilshire and Crenshaw; and

WHEREAS, a station at Wilshire and Witmer is not feasible due to track layout and train speed considerations; and

WHEREAS, the results of the Draft AA/EIS/EIR show that Alternative II serves the largest number of people and designated "centers" in the Los Angeles Adopted City Plan, results in the largest reductions in net operating deficits, provides the most environmental advantages, and is the most cost-effective; and

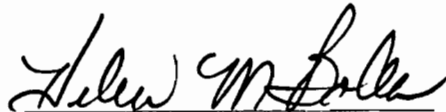
WHEREAS, the results of the public hearing process indicate that Alternative II has the support of the greatest number of persons and agencies;

THEREFORE BE IT RESOLVED, that the Board of Directors of the Southern California Rapid Transit District hereby select as its Preferred Alternative, Alternative II, as described in the Draft AA/EIS/EIR, with the following modifications:

1. Locate the Hollywood Station on Cahuenga Boulevard at Hollywood Boulevard instead of Las Palmas.
2. Eliminate the station on Wilshire Boulevard at Hauser.
3. Add a station at Wilshire Boulevard and Crenshaw.

#### 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 Resolution No. R-79-410 adopted at a legally convened meeting of the Board of Directors of the Southern California Rapid Transit District held on September 20, 1979.



Dated: September 27, 1979

(SEAL)

The SCRTD Board has asked UMTA to financially support a Preliminary Engineering investigation of its Preferred Alternative, and UMTA proposes to do so, subject to the provisions of Federal law governing these matters. No decision on project implementation will be made by UMTA until Preliminary Engineering has been completed.



## **SUMMARY**



## SUMMARY

### A. INTRODUCTION

This chapter briefly describes the transit alternatives considered; and presents the key technical, environmental, social, and public hearing findings. In the process of analyzing such findings, strict conformance to required Federal and State procedures and guidelines were maintained. In conformance with these guidelines, the Southern California Rapid Transit District Board of Directors selected Alternative II (with minor modifications) as its "Locally Preferred Alternative" for project implementation. A synopsis of the rationale for this selection is also contained herein, and all data applicable to Alternative II, the Locally Preferred Alternative, is highlighted (by a "box") on all tables throughout this entire report.

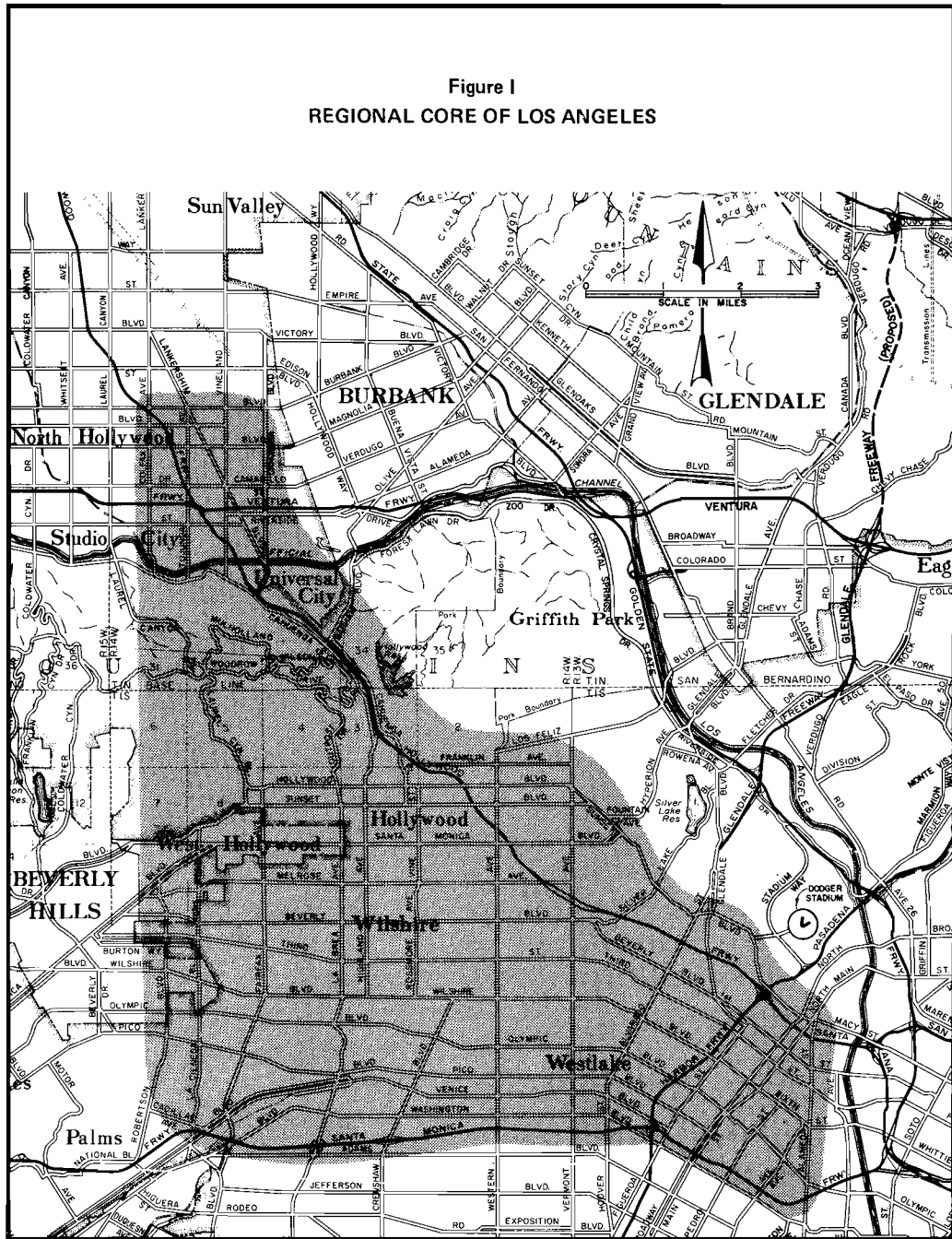
The next step is Preliminary Engineering (PE). SCRTRD has asked UMTA to financially support PE, and UMTA proposes to do so. No decision on project implementation will be made by UMTA until the PE effort has been completed.

### B. BACKGROUND

In September, 1976 representatives of the City of Los Angeles, CalTrans, Southern California Association of Governments; the County of Los Angeles and the Southern California Rapid Transit District, decided that the District should submit an application to the Urban Mass Transportation Administration (UMTA) for financing to proceed with a four-point Regional Transportation Development Program to address the increasing transportation problems in the Los Angeles Metropolitan area. Element IV of the program, which involves evaluation of alternative transit solutions for the Regional Core Area, is the subject of this report.

The Regional Core Area is an approximately fifty-five square mile triangular portion of the metropolitan center of Los Angeles. The local bus system is operating at maximum capacity in congested traffic and experiences increasingly acute overcrowding conditions.

Figure I  
REGIONAL CORE OF LOS ANGELES



The other elements of the program, which are the subject of separate report by others are: The SCRTD's Transportation Systems Management Program (TSM: low cost regional bus service improvements), CalTrans' proposed Freeway Transit Project (new Bus/High Occupancy Vehicle-ways along, or built over, selected freeways coupled with improvements to provide "free flow" conditions on all other freeways) and the City of Los Angeles' proposed Downtown People Mover Project.

C. EVALUATION PROCESS

This analysis closely follows the latest Federal and State guidelines for conducting an Alternatives Analysis/Environmental Impact Assessment. The guidelines incorporate the social and environmental considerations, and the public hearings required by the National Environmental Policy Act (NEPA) and follow the California Environmental Quality Act (CEQA) requirements. Since the requirements and suggested formats of the Federal and State agencies differ, a special effort has been made to meet the requirements of both.

Several sensitivity analyses were made during the preparation of this report. None of these analyses indicate there is any justification for any change in the comparative ranking of the alternatives with respect to the factors tested. The results of the most significant of these sensitivity analyses appear in the appropriate chapters of this report.

D. DESCRIPTION OF ALTERNATIVES

The alternatives described herein are conceptual in nature and the location of lines and stations for whichever alternative is ultimately selected for implementation will be subject to refinement during preliminary engineering and final design. The public will have the opportunity to review these refinement efforts and comment, since a supplemental or "tiered" environmental impact statement will be prepared during the course of the engineering effort.

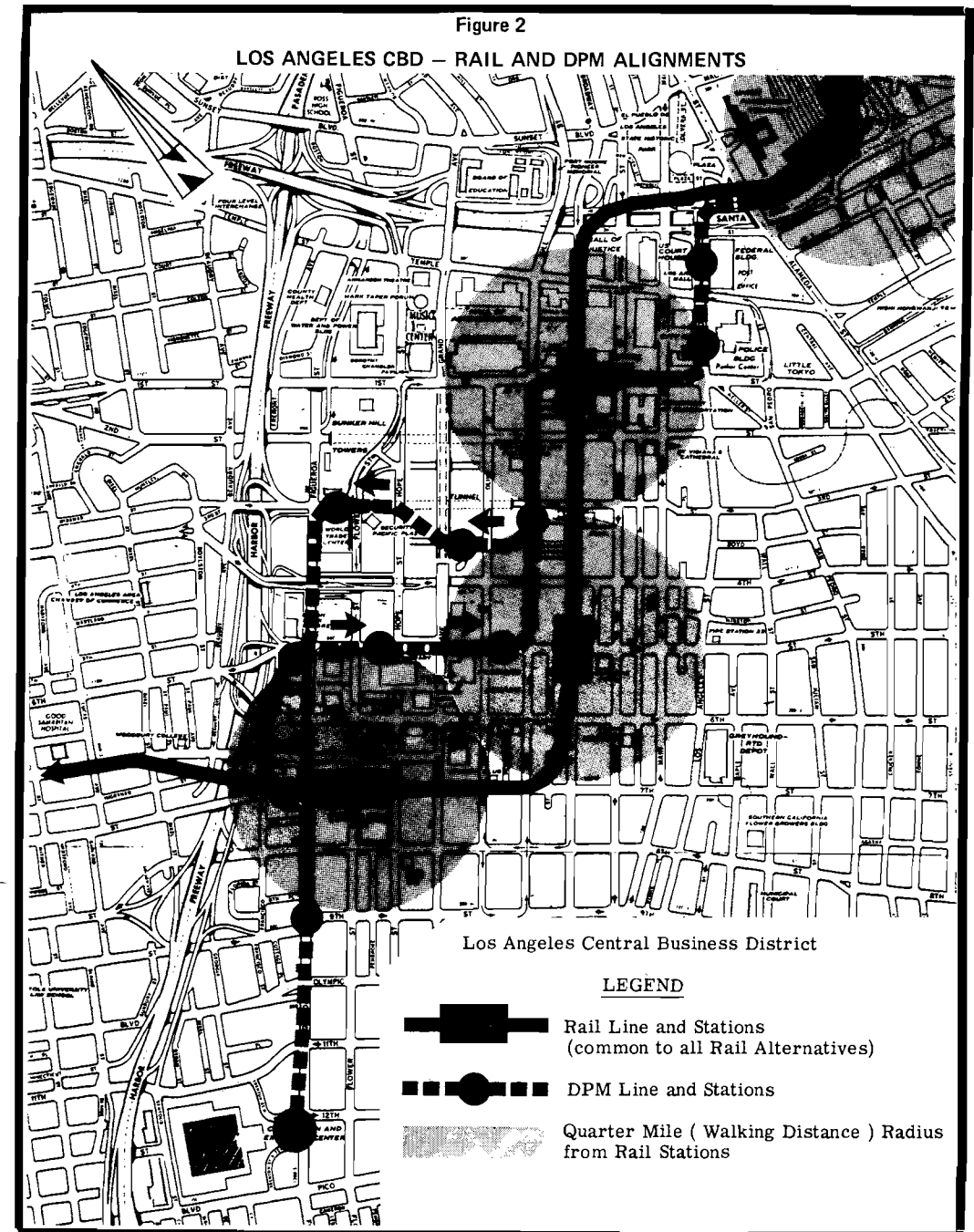
The selection of the alternative public transit systems evaluated was guided by two main considerations: First, in view of the results of earlier studies which evaluated all potential modes, and corridors, this evaluation was limited to rail rapid transit and bus modes in

the Regional Core area as stipulated in the December 22, 1976 letter from the Secretary of the United States Department of Transportation. And secondly, in accordance with the UMTA guidelines for Alternatives Analyses, the Alternatives had to represent a wide range of investment and service levels in the corridor.

Eleven alternatives have been evaluated. Five of these, called "Rail Rapid Transit/Bus" alternatives are made up of a line-haul rail rapid transit facility supplemented by a network of feeder buses. Five others called "All-Bus" alternatives, are made up of line haul and feeder buses operating under conditions ranging from an exclusive, grade-separated aerial busway to the reservation of existing surface lanes for express buses to simply incremental improvements to the service level of the present bus system operating in mixed traffic on public streets and freeways. The eleventh or "Null" or "No Build" alternative represents no improvement to the present transit system, and is used herein as a base for comparative evaluations. As mentioned previously in this report, Alternative II (with minor modifications) was selected by the SCRTD Board as the Locally Preferred Alternative. Planning and cost estimating for all of the Alternatives took into consideration the existing system of bus routes in the Regional Core, herein after called the "background bus system". Each of these alternatives, including the Locally Preferred Alternative, is briefly described below.

### 1. Rail Rapid Transit/Bus Alternatives

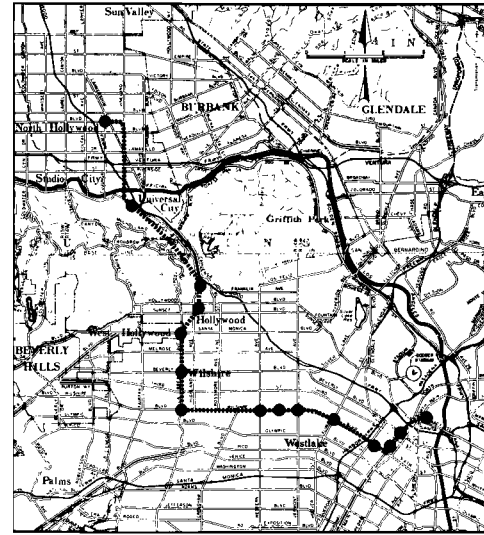
All Rail/Bus Alternatives have the same alignment and stations in the Los Angeles Central Business District (LACBD), see Figure 2.



ALTERNATIVE I. LACBD-WILSHIRE-LA BREA-HOLLYWOOD-NORTH HOLLYWOOD

This alternative would provide a high level of service between the major centers of the Regional Core, and would improve travel between those centers and the large districts of West Los Angeles and the San Fernando Valley.

16-Mile CBD-Wilshire-La Brea-Hollywood to North Hollywood Rail Rapid Transit/Bus System.



THE LOCALLY PREFERRED ALTERNATIVE

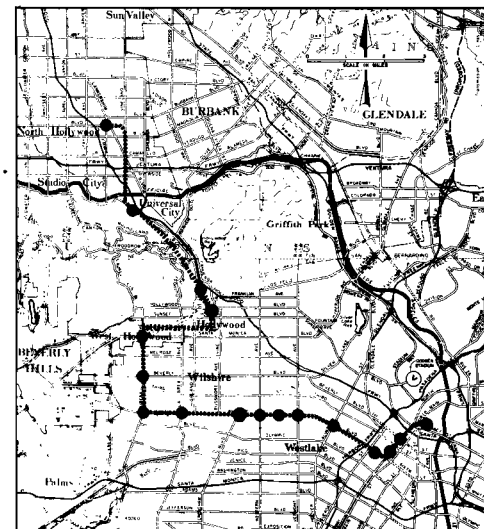
ALTERNATIVE II. LACBD-WILSHIRE-FAIRFAX-HOLLYWOOD-NORTH HOLLYWOOD

This Alternative has been selected by the SCRTD Board as its Preferred Alternative

This is a variation of Alternative I, with the north-south segment farther west along Fairfax Avenue, and minor modification by the SCRTD Board consisting of:

1. Eliminating the Hauser Station.
2. Adding a Station at Wilshire/Crenshaw.
3. Moving the Las Palmas/Selma Station to Hollywood/Cahuenga.

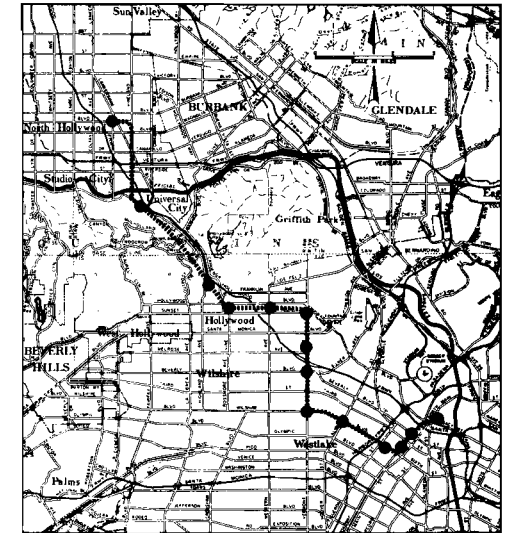
18.6 mile CBD-Wilshire-Fairfax-Hollywood to North Hollywood Rail Rapid Transit/Bus System



ALTERNATIVE III. LACBD-WILSHIRE-VERMONT-HOLLYWOOD-NORTH HOLLYWOOD.

This alternative provides more direct service to the eastern part of the Regional Core and Hollywood. It would not provide direct service to the western portion of the Wilshire District.

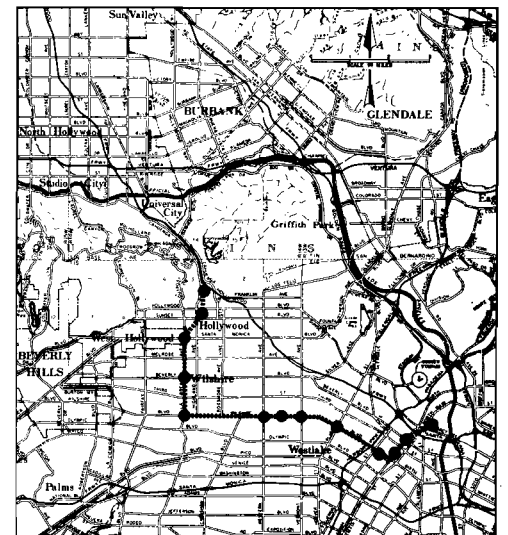
15 mile CBD-Wilshire-Vermont-Hollywood to North Hollywood Rail Rapid Transit/Bus System



ALTERNATIVE IV. LACBD-WILSHIRE-LA BREA (OR FAIRFAX)-HOLLYWOOD.

This alternative is a truncated version of alternatives I and II, with service terminating in Hollywood. The map and the data presented below are for the La Brea routing. The Fairfax routing would also be possible.

11 mile CBD-Wilshire-La Brea (or Fairfax) to Hollywood Bowl Rail Rapid Transit/Bus System

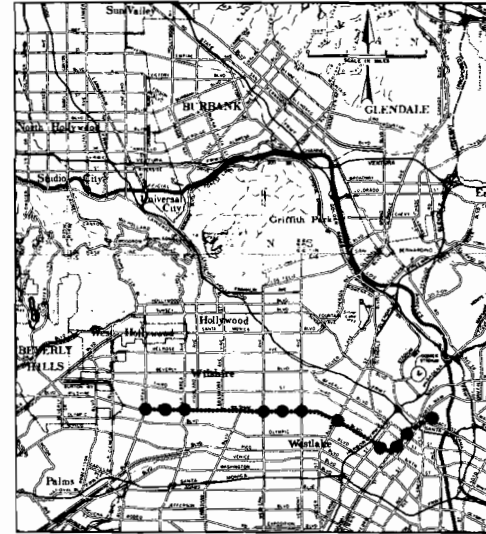




ALTERNATIVE V. LACBD-WILSHIRE-FAIRFAX.

This alternative would serve the Wilshire Corridor only.

8 mile CBD-Wilshire to Fairfax Rail Rapid Transit/Bus System



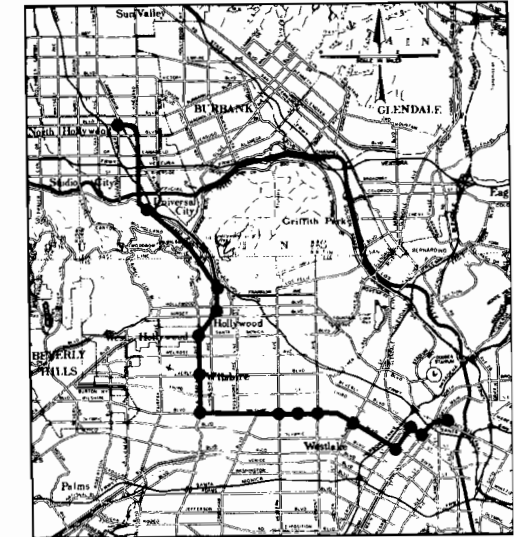
2. All-Bus Alternatives

Five All-Bus Alternatives were designed to meet the transit needs of the Regional Core at high, medium and low service and investment levels. Within each level, buses would be operated to the maximum practicable capacity. Other than the use of articulated buses (recently placed in service in Los Angeles), all technology proposed for bus alternatives is conventional.

ALTERNATIVE VI. AERIAL BUSWAY, LACBD-WILSHIRE-HOLLYWOOD-NORTH HOLLYWOOD.

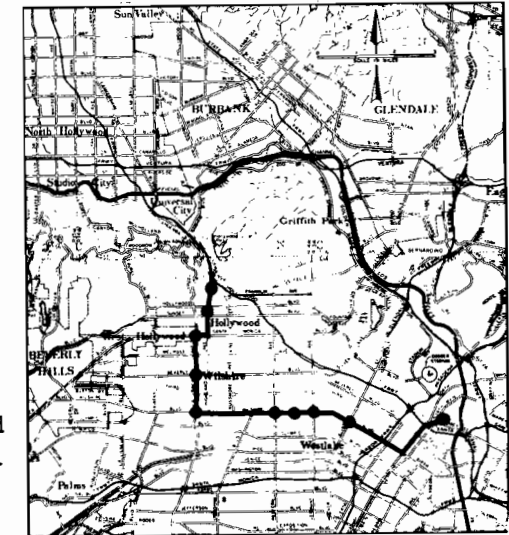
Alternative VI most closely approximates rail rapid transit in terms of investment and service level. Buses would run on an exclusive facility with the route and stations of Alternative I. Platoon bus operation and off-vehicle fare collection similar to a rail system would be required to maintain high capacities and speeds.

16 mile CBD-Wilshire-La Brea-Hollywood to North Hollywood Aerial Busway/Bus System (same route as Alternative I)



ALTERNATIVE VII. EXCLUSIVE MEDIAN BUS LANES ON WILSHIRE AND LA BREA.

This alternative is a medium level transit system, representing the highest service level possible in the Regional Core Corridor without high investment in facilities. The two median lanes on Wilshire and La Brea would have to be given over to exclusive bus use. Portions of these streets would be used for passenger boarding islands, and some cross streets would have to be closed. Buses would operate in mixed traffic in the CBD. Express bus service would be provided in the median lanes. Local buses and auto traffic would use the remaining lanes.

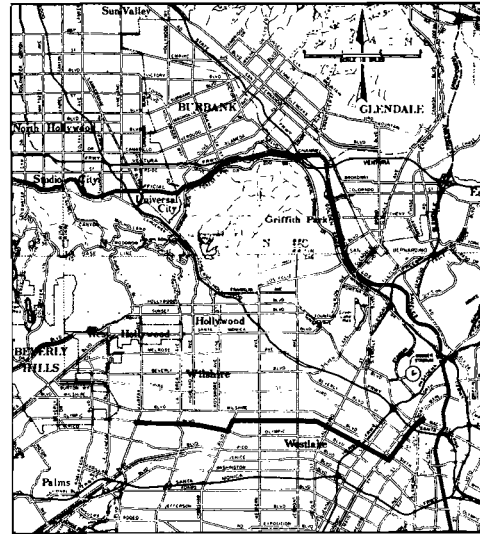


11 mile CBD-Wilshire-La Brea to Hollywood Bowl Exclusive Median Bus Lanes/Bus System

ALTERNATIVE VIII. REVERSIBLE MEDIAN, PEAK PERIOD EXPRESS BUS LANES ON 8TH AND OLYMPIC.

In this low level alternative, express buses would operate between specific sections of the Wilshire Corridor and the Los Angeles CBD, using the reversible median lanes in 8th Street and Olympic Boulevard. Hollywood and North Hollywood service would use the Hollywood Freeway.

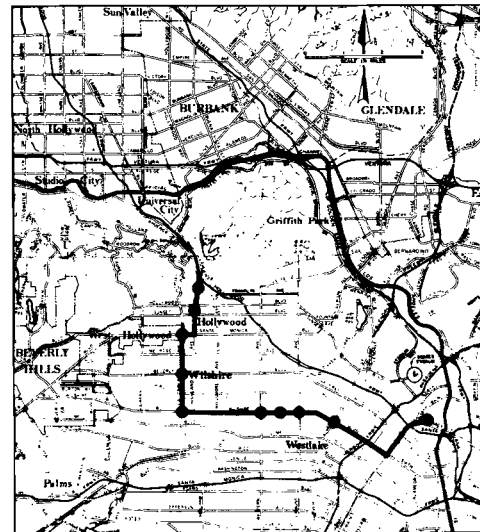
8 mile CBD-Eighth-Olympic to Fairfax Reversible Exclusive Median Bus Lane/Bus System



ALTERNATIVE IX. EXCLUSIVE CURB BUS LANES ON WILSHIRE AND LA BREA.

This low level alternative would improve transit service levels on Wilshire Boulevard and La Brea Avenue with exclusive curb lanes for both local and express transit service.

11-mile CBD-Wilshire-La Brea to Hollywood Bowl Exclusive Curb Lane Bus System.



ALTERNATIVE X. TRANSPORTATION SYSTEMS MANAGEMENT (TSM) BUS IMPROVEMENT.

Improvements in this alternative would consist of adding high capacity buses and providing service increases on existing bus routes in the Regional Core.

ALTERNATIVE XI. "NULL" OR NO CHANGE FROM EXISTING SERVICE LEVELS.

A continuation of the existing Regional Core bus service which consists of approximately 850 buses operating on 40 bus routes within and through this area.

E. COMPARATIVE EVALUATION OF IMPACTS OF THE ALTERNATIVES

A technical and environmental analysis has been conducted to examine all possible impacts resulting from each of the eleven alternatives. These impacts, which are discussed in much greater detail in the various chapters of this report, have, in this chapter, been grouped into four broad categories; transportation, environmental, social and economic. Significant findings are presented in this section. Where feasible, the results are shown in a comparative format to facilitate evaluation. It should be noted that all figures in this and other chapters of the report highlight (by a "box") the Board Preferred Alternative II.

1. Transportation

Patronage results for the eleven alternatives are shown in Figure 3. This shows the boardings on the express systems and the total passenger trips on all local and express service in the Regional Core.

The total Regional Core patronage indicates that the All-Bus Alternatives would attract over 500,000 daily riders. The Rail/Bus Alternatives would carry from 574,000 to 642,000 daily riders. The existing daily ridership is 403,000.

FIGURE 3  
DAILY PATRONAGE IN THE REGIONAL CORE

(THOUSANDS OF PASSENGERS)  
(on average weekday in 1990)

	REGIONAL CORE TRANSIT ALTERNATIVES										
	Rail Rapid Transit/Bus					All Bus					
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI (Null)
Rail Rapid Transit Boardings	260	275	230	220	180						
Express Bus Boardings			12		1	260	56	19	37	13	10
Total Person Trips, Including Background Bus System	625	642	618	585	574	625	515	507	511	505	403

The average speeds in the Regional Core today range between 15 and 25 mph for automobiles and 10-15 mph for buses. The special treatments proposed on select streets for the express buses in the All-Bus Alternatives might improve the bus speed to as much as 18-20 mph. The rail service, operating on a separated right of way would operate at an average speed of between 35 and 40 mph. The operating characteristics of the rail mode are:

1. Hours of Operation 24 hours
2. Headways - Peak 3.5 - 4.5 minutes
3. Vehicle Size (R.T.cars) 75' X 10.5'
4. Maximum Speed 70 mph
5. Average Speed  
(higher for longer alternatives and lower for shorter alternatives) 35 - 40 mph

The operating characteristics of the bus mode are:

1. Hours of Operation 24 hours
2. Headways (Peak)  
For standard buses 2 - 3 mins.  
For High Capacity buses 1.5 mins.
3. Vehicle Size  
Standard Bus 40 X 8.5 ft.  
Articulated 60 X 8.5 ft.
4. Maximum Speed 55 mph
5. Average Speed  
Aerial Busway(with station stops) 30 mph  
Exclusive Lanes 18-20 mph  
Mixed Traffic 12-15 mph

Operating characteristics are provided for analysis purposes only, and represent an effort to compare the cost effectiveness and impacts of alternative modes only.

Travel times for six typical trips within the Regional Core were estimated for each alternative and are detailed in Chapter III.B.2. In most cases the Rail/Bus Alternatives permit significant reductions in transit travel times. Some examples which include access and transfer times, are:

- a. For the trip from North Hollywood to Downtown Los Angeles, the Rail/Bus Alternatives I, II and III would reduce the current bus travel time of 60 minutes to about 35 minutes.

- b. For the trip between North Hollywood and the Miracle Mile, Alternatives I and II would reduce the current travel time of 62 minutes to approximately 25 minutes, while Alternative VII would reduce it to 35 minutes.
- c. For the trip from the Miracle Mile to Downtown, the estimated travel time of 20 minutes for Alternatives I, II, IV and V, would be 10 to 13 minutes faster than the All-Bus Alternatives VII to XI.

The number of total auto vehicle trips and vehicle miles traveled in the Regional Core Traffic Impact Area are shown in Figure 4. This figure compares the total trips and total VMT which are to be expected with each of the eleven alternatives to the 1977 existing traffic conditions.

FIGURE 4  
ESTIMATED CHANGE IN TOTAL DAILY AUTO TRIPS  
& VMT IN THE REGIONAL CORE  
1977 - 1990

Alternative	1990 Total Daily Auto Trips (1,000s)	1990 Total Daily Vehicle Miles Travelled (VMT) (1,000s)	% Increase 1977 - 90
1977	(2,462)	(17,477)	
I	2,765	19,629	12
II	2,753	19,548	12
III	2,770	19,664	13
IV	2,791	19,815	13
V	2,798	19,868	14
VI	2,765	19,629	12
VII	2,842	20,178	15
VIII	2,845	20,196	15
IX	2,844	20,194	16
X	2,845	20,197	16
XI	2,853	20,258	16

Source: Los Angeles City Traffic Department

It can be seen that if no project is implemented the auto vehicle trips and VMT will both increase by 16%. If the most extensive

alternative (II, the 18-mile rail line) under consideration is implemented there could be expected to be only a 12% increase in both, a reduction of 4%, which would mean about 100,000 less daily auto trips and 710,000 less VMT each day.

## 2. Environmental

Environmental impacts of the rail alternatives were evaluated for bored subway, aerial, and cut and cover subway configurations, as well as for various exclusive lane treatments.

The preliminary geologic analysis indicates that subsurface conditions along the route are generally favorable for machine bore tunneling and are conducive to high rates of advance. Insofar as earthquakes are concerned, deep tunnels are considered safer than structures at or above the ground surface.

Aerial guideway construction (Alternatives I-VI) should not present any unusual construction problems, assuming such construction would be in conformance with City Building and Safety Codes.

The bus alternatives do not impact geologic conditions.

With regard to subsidence in the Regional Core, subsurface systems could have an adverse impact at some locations, but these can be mitigated to an acceptable level.

There are potential visual and aesthetic impacts from the construction of any of the alternatives (I through VI) if constructed in aerial configuration.

Long term air quality impacts from a transit improvement project (Alternatives I through X) would result in some improved air quality relative to the Null Alternative XI) due to a reduction in vehicular travel. Alternatives I through V would result in the most improvement.

The analysis indicated that the noise impact produced by transit trains should be relatively insignificant except on aerial structure.

There would be no noise impact directly attributable to subway operations, but vibration impacts would be possible due to ventilation shafts and ground transmission which can be mitigated. The deeper a subsurface alternative, the less the potential impact.

There are potential adverse impacts to archeological, historical and paleontological resources from construction activity and from emplacement of new structures. All subsurface rail alternatives, if constructed without adequate planning and qualified supervision, could result in the loss of valuable artifacts at some locations. Aerial guideways could also impact buried artifacts at the support columns and could, in addition, cause visual and noise impacts to cultural and historical structures and sites. (see Figure 5.).

The surface bus alternatives (VII-XI) do not present any potential adverse noise or visual impacts since they would use existing facilities and the characteristics of these facilities are such that the additional buses would not noticeably alter ambient noise and visual qualities.

Alternatives VII, VIII and IX would have severe adverse traffic congestion impacts, due to reserving traffic lanes for exclusive bus use, closure of minor cross-streets and restricting left-turn movements. Alternative VII would have greater adverse impacts than Alternatives VIII or IX, since it would require more street area than the other alternatives.

FIGURE 5

Cultural-Historic, Archeological and Paleontological  
Number of Sites Potentially Affected

IMPACT	ALTERNATIVE										
	I		II		III		IV		V		VI
	A	S	A	S	A	S	A	S	A	S	
Cultural-Historic											
Physical	19	0	21	0	19	0	19	0	19	0	19
Noise/Vibration	30	1	33	1	23	0	33	1	28	1	30
Visual	59	2	71	3	51	0	59	2	65	1	60
Arch & Paleont.	2	2	3	3	1	1	1	1	2	2	3
TOTALS	110	5	128	7	94	1	112	4	114	4	112

Notes: A - Aerial  
S - Subway  
No impact from Alternatives VII - XI.

Potential adverse impacts for subsurface alignments could be mitigated by retention of a qualified professionals to examine the route and advise on excavation through sensitive areas. The deeper a subsurface alternative, the less its potential impact.

Visual impacts could be caused to cultural-historic sites and structures if stations, station access points, ventilation shafts and other surface structures are disruptively located. However, proper planning and siting should be able to mitigate adverse impacts.

Construction impacts are short term in nature. The All-Bus Alternatives (VII through XI) will have no appreciable construction impacts. Alternatives I through VI, if constructed in aerial configuration, will cause appreciable surface traffic interference and some noise and

dust problems due to construction of footings and columns along the entire length of the line. Alternative I through V, constructed by the bored tunnel method would cause adverse traffic, noise and dust impacts only at those locations where it was necessary to construct stations by the cut and cover method. Alternatives I through V, if constructed by the cut and cover method would cause the most severe adverse construction impacts along the entire length of the line. The pros and cons of alternate means of construction will be more thoroughly examined in Preliminary Engineering, after which conclusive decisions will be made. This will be documented in the supplemental or tiered EIS.

### 3. Social

The population and employment densities in the Regional Core Corridor compare most favorably with similar corridors in other cities which either have rail rapid transit systems or are in the process of construction. While the Regional Core population density is less than that in Philadelphia, it is comparable to Washington D.C. and San Francisco and considerably higher than Buffalo, Miami, Baltimore and Atlanta. A comparison of employment densities shows the Los Angeles Regional Core is among the highest, ranging between 21,000 and 28,000 employees per square mile.

The land-use goals of the State, County and City call for the development of regional, multi-purpose, high intensity centers linked together by rail rapid transit. By virtue of their high level of transit service (speed and capacity) and the potential for high intensity economic development around rapid transit stations, the rail rapid transit alternatives are supportive of this "centers concept." The All-Bus Alternatives, also, improve transit service among the centers but they do not encourage concentrated growth.

With regard to relocation, bored subway construction would require relocations only at stations where parking is provided, and possibly some minor relocations at station access points. The cut and cover and aerial configurations would cause considerable displacement of residences and commercial building, (from 78 for Alternative V to 723 for Alternative II). Land required for cut - and - cover can be reclaimed after project construction.

Rail rapid transit stations for Alternatives I - VI would be designed with well lit open space and unobstructed views to provide a pleasant environment and assure better passenger security. Closed circuit television monitors would be used and stations would be manned during operating hours by station attendants. In addition, a transit police force would have to be employed to patrol trains, stations and parking lots. All-Bus Alternatives VII - XI do not anticipate the need for a significant increase in security effort.

While the rail alternatives would require approximately a 1% increase in regional electrical generating power, the Los Angeles Department of Water and Power has determined that the electrical energy required to operate any of the rail alternatives would be an inconsiderable part of their total load. There is not expected to be any major impact on any other public utility service.

"The construction cost numbers provided are for the analysis purposes only, and represent an effort to compare the cost effectiveness and impacts of alternative modes, not to provide final construction cost for a rapid rail system in Los Angeles."

### 4. Economic and Financial

This section of the analysis compares all alternatives from the standpoint of capital and operating costs, transit efficiency, urban economy and financial feasibility.

Figure 6 contains a summary of the capital costs for the eleven alternatives (i.e. assuming bored tunnel construction), and Figure 7 presents a summary of the annual operating costs for all of the alternatives. It must be noted that both the capital and operating costs are based on conceptual designs and are subject to change in further project development. Substantial changes in alternative costs, and particularly in relative differences, may result in project re-evaluation.

FIGURE 6

ESTIMATED ORDER-OF-MAGNITUDE CAPITAL COST SUMMARY  
(In Millions of 1977 Dollars)<sup>1</sup>

ITEMS	REGIONAL CORE ALTERNATIVES											
	I	II	III	IV	V	VI*	VII	VIII	IX	X	XI	
Rapid Transit Costs												(Null)
<u>Facilities</u>												
Guideways	330	352	284	245	193	453						
Stations	198	219	175	184	163	108						
Station Parking (including ROW)	28	29	24	32	7	25						
Trackwork (includes track, sound and vibration control)	28	30	28	19	15							
Power Collection and Distribution	33	36	32	23	18							
Control and Communication	42	46	41	31	25							
Freeway Transition & Street Construction -	-	-	-	10	-	12	1	1				
Rail Maintenance/Storage Facility (includes ROW)	30	30	30	25	25							
Sub-Total	689	742	614	569	446	598	1	1				
Engineering and Management @ 15%	103	111	92	85	67	90						
Contingency @ 20%	158	170	141	131	102	138						
Sub-Total Facilities	950	1,023	847	785	615	826						
Sub-Total Vehicles	85	97	76	64	44	-						
TOTAL RAPID TRANSIT SYSTEM (Subsurface): (For bored subway) <sup>3</sup>	1,035	1,120	923	849	659	-						
(Aerial) <sup>3</sup> :	848	927	843	650	476							

This figure continued on next page.

FIGURE 6 Continued

Bus Transit Costs											
Facilities (Bus Divisions)	8	8	16	8	16	24	17	17	16	16	8
Buses <sup>2</sup>	396	400	416	385	418	600	457	444	474	460	361
TOTAL BUS SYSTEM	404	408	432	393	434	1,450	474	461	490	476	369
TOTAL SYSTEM (Subsurface)	1,439	1,528	1,355	1,242	1,093	1,450	474	461	490	476	369
TOTAL COST OF ALTERNATIVES (NET OF NULL) (Subsurface)	1,070	1,159	986	873	724	1,081	105	92	121	107	0

\*Aerial Busway

1. All figures have been rounded to the nearest million
2. Bus Facilities and vehicle costs include Engineering, Management and Contingencies. Also Bus vehicle costs include 2 complete bus replacements to allow direct comparison with rail cars which last for at least 36 years
3. For breakdown of Aerial costs, see Figure IV.4 in Cost Chapter. Cut and cover costs will be available at the Public Hearing and will be included in the Final Report.



FIGURE 7

SUMMARY OF 1990 BUS AND RAIL OPERATING COSTS FOR ALL ALTERNATIVES  
 (Including Background Buses and Feeder Buses for Alternatives I thru V  
 in Millions of 1977 Dollars)

ITEM	ALTERNATIVES										
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI (Null)
Annual Bus Operating Costs (Millions)	77.2	76.8	80.6	76.9	84.3	110.5	102.7	99.9	100.7	97.7	79.1
Annual Rail Operating Costs (Millions)	21.5	23.0	19.5	14.5	12.0	-	-	-	-	-	-
Total Operating Cost (Millions)	98.7	99.8	100.1	91.4	96.3	110.5	102.7	99.9	100.7	97.7	79.1

FIGURE 8

TOTAL ANNUALIZED SYSTEM COSTS AND  
TOTAL COST TRANSIT EFFICIENCY MEASURES\*  
 (1977 Dollars Including Capital Construction and Operating Costs)

	TRANSIT ALTERNATIVES FOR THE REGIONAL CORE										
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI
Total Annualized Systems Costs (Millions of 1977 Dollars)											
4%	151.8	156.4	149.3	136.5	134.7	159.6	117.0	113.8	115.4	112.0	90.2
7%	165.9	171.7	161.9	148.1	143.7	171.5	117.8	114.6	116.2	112.8	90.7
10%	177.3	184.1	172.1	157.4	150.8	180.7	118.4	115.2	116.9	113.4	91.1
Total Cost Transit Efficiency Measures (Dollars/passenger trip)											
Per Passenger at Discount Rates of:											
4%	.78	.79	.78	.75	.76	.82	.73	.72	.73	.73	.72
7%	.86	.86	.85	.82	.81	.88	.74	.73	.73	.72	.73
10%	.91	.93	.90	.87	.85	.93	.74	.73	.74	.73	.73
Per Passenger Mile at Discount Rates of:											
4%	.16	.16	.17	.16	.16	.17	.18	.18	.18	.17	.18
7%	.18	.18	.18	.17	.18	.18	.18	.18	.18	.18	.18
10%	.19	.19	.19	.19	.18	.19	.18	.18	.18	.18	.18

\*The 10% discount rate is suggested for Federal projects by O.M.B. Circular No. A-94.

NOTE: Assumed construction technique is bored subway.

As shown in Figure 8, when the total system annualized costs (annualized capital cost + annual operating cost) are measured against productivity on a cost per passenger basis at the 7% discount rate, the All-Bus Alternatives (except for Alternative VI), are approximately 15 percent more efficient than the Rail/Bus Alternatives. But, when measured on a cost per passenger-mile basis at the 7% discount rate, the Rail/Bus Alternatives are equal in efficiency to the All-Bus Alternatives.

The transit efficiency in terms of only operating cost per passenger carried, shows that the Rail/Bus Alternatives are, on the average, about 20% more efficient than the All-Bus Alternatives and are about 50% more efficient on a cost per passenger mile basis. (See Figure 9.). This translates into considerable operational cost savings, when applied to total passengers carried.

The rail alternatives require a major construction effort and are estimated to generate between 3000 and 5000 jobs per year during the construction period. In addition to construction, the multiplier effect will cause more jobs to be created in the material, manufacturing and service industries. Experience elsewhere indicates that the "multiplier" effect on the local economy may be as much as three dollars for every capital dollar invested.

Permanent employment for the rail alternatives would range from 400 to 500 positions in the areas of system operation, equipment and way maintenance, security, electronics and communications and system management.

The All-Bus Alternatives (VI through X) would require over 600 additional employees, principally for bus operators and mechanics and maintenance personnel.

FIGURE 9

TRANSIT EFFICIENCY IN 1990

	REGIONAL CORE TRANSIT ALTERNATIVES										
	Rail Rapid Transit/Bus					All Bus					
	I	II	III	IV	V	VI	VII	VIII	IX	X	(Null) XI
Annual Operating Costs (in millions of 1977 dollars)	99	100	100	91	96	110	103	100	101	98	79
Annual Passengers (millions)	194	199	191	181	178	194*	160	157	159	156	125
Cost Per Passenger (in 1977 dollars)	51¢	50¢	52¢	50¢	54¢	57¢	64¢	64¢	63¢	63¢	63¢
Cost per Passenger Mile	12¢	10¢	11¢	11¢	12¢	12¢	16¢	15¢	15¢	15¢	15¢

\*Patronage for Alternative VI assumed equal to that for Alternative I.

Preliminary joint development analysis indicates that there would be the potential for attracting new commercial activity around rail transit stations, which would result in some monetary return to help offset capital costs thorough value capture arrangements.

Figure 10 shows the projected implementation cost of each alternative, including the total cost of one set of buses needed, together with the projected funding sources. It should be noted that since buses last 12 years, two more sets of buses will be needed to provide service for 36 years, the life of Rail Rapid Transit cars.

It is the policy of the United States Department of Transportation to furnish 80% of the capital funding required for approved rapid transit projects. A county-wide vote in June 1974 (Proposition 5) authorized for fixed guideway transit capital expenditures the use of up to 25% of the gasoline tax revenues accruing to the State for expenditure in Los Angeles County, and to the county and to the cities in the county. The law also authorized the State Director of Transportation to exceed that amount if necessary to maximize the federal contribution. These funds can provide a significant portion of the 20% local share of the cost.

Other means of raising funds to meet the local share are being explored, such as the use of various joint development/ value capture methods and the possible use of the 1913 Act Assessment District procedures and the use of Equipment Trust Certificates. Further, after a Rail/Bus Alternative is in operation, it would be possible to use, for capital purposes, some of the funds which would be freed as a result of the reduction in required bus operating subsidy in the Regional Core area. None of the All-Bus Alternatives qualify for State Proposition 5 funding which is reserved for fixed guideway mass transit.

Figure 11 shows the projected 1990 operating costs for each alternative together with the projected revenues from fares and the resulting deficits. Revenue has been projected at an average 1977 fare of \$.50 per passenger trip in 1990. The current average bus fare revenue per passenger trip is 40 cents. This 25% increase will result from either charging a premium fare on the Rail Line in the Rail/Bus Alternatives, or assuming a fare increase for all trips in the Regional Core.

FIGURE 10

SUMMARY OF IMPLEMENTATION FUNDING ANALYSIS  
(in Millions of 1977 Dollars Inflated at 8% to mid-point of Construction)

TRANSIT ALTERNATIVES FOR THE REGIONAL CORE

	RAIL RAPID TRANSIT/BUS					ALL BUS					
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI
	Wilshire La Brea to North Hollywood Rail Line	Wilshire Fairfax to North Hollywood Rail Line	Wilshire Vermont Hollywood to North Hollywood Rail Line	Wilshire La Brea to Hollywood Rail Line	Wilshire to Fairfax Rail Line	Aerial Busway (Alt.1)	Exclusive Center Lanes	Reversible Center Lane	Exclusive Curb Bus Lanes	TSM Modest Bus Improvem'ts	NULL Existing Bus Service in 1990
	79-86	79-86	79-86	79-86	79-86	79-86	79-83	79-83	79-83	79-83	79-83
Total Rail Costs	1618	1749	1442	1326	1029	---	---	---	---	---	---
Total Bus Costs	270	272	299	262	299	1714	259	253	266	259	196
Total System Costs*	1888	2021	1741	1588	1328	1714	259	253	266	259	196
80% Federal Share	1510	1617	1393	1270	1062	1371	207	202	213	207	157
20% Local Share**	378	404	348	318	266	343	52	51	53	52	39

\* Detailed costs for each alternative in 1977 dollars are shown in Table VI.2

\*\* State Prop. 5 funds cannot be used for bus capital costs.

FIGURE 11

1990 OPERATING COST ANALYSIS  
(Costs in millions of dollars)

	REGIONAL CORE TRANSIT ALTERNATIVES										
	Rail Rapid Transit/Bus					All Bus					
	I	II	III	IV	V	VI	VII	VIII	IX	X	(Null) XI
Annual Operating Cost (1977 dollars)	98.7	99.8	100.1	9.4	96.3	110.5	102.7	99.9	100.7	97.7	79.1
Annual Farebox Revenue (1977 dollars)	97	99.5	95.5	90.5	89	97	80	78.5	79.5	78	62.5
Annual Subsidy Comparison (1977 dollars)	1.7	0.3	4.6	0.9	7.3	13.5	22.7	21.4	21.2	19.7	16.6
Annual Subsidy Required in 1990 Dollars*	4.6	0.8	12.4	2.4	19.9	36.7	61.7	58.2	57.7	53.6	45.1

\* Assumed annual inflation rate of 8%.

Excluding Alternative VI (the aerial busway), by 1990, the All-Bus Alternatives (VII through XI) in the Regional Core Area, would require operating subsidies of from 45 to 62 million dollars per year. Therefore, if any of the All-Bus Alternatives are selected, these subsidy requirements would severely compound the existing all-bus transit subsidy problem.

In comparison, Rail/Bus Alternatives I, II or IV would reduce the District's operating deficit in the Regional Core by a net of about 50 -60 million dollars per year; Rail/Bus Alternatives III and V would reduce this subsidy by about 33-40 million dollars per year.

F. RATIONALE FOR THE LOCALLY PREFERRED ALTERNATIVE

The technical and environmental analysis which was performed on the eleven alternatives generated significant findings. Such findings, which resulted from transportation, environmental, social and economic impact assessments, as well as community input, provided the basis for selection of Alternative II as the Locally Preferred Alternative. The rationale behind selection of Alternative II, in terms of these findings, is summarized in the following discussion.

In terms of transportation impact, 1990 estimates show that Alternative II will result in the highest overall transit ridership in the Regional Core (642,000 daily passengers, or an increase of 59% over the present Regional Core transit ridership of 400,000); the lowest operating cost (\$0.50 per passenger); and the greatest reduction in traffic volumes (4% decrease). In addition, it is projected to have the largest overall savings in transit travel time (up to 50% reduction) when compared to an all-bus system; and it is the most feasible as a "basic building block" or "starter line" from which to expand gradually into a regional rail rapid transit network.

In terms of environmental impact, 1990 estimates show that, although small, Alternative II will provide the most reduction in air pollution (1.5% decrease); and as with the other rail alternatives, among the most savings in energy (36,900 equivalent barrels of oil annually).

In terms of social impact, 1990 forecasts show that Alternative II will provide accessibility to the most activity centers (e.g., County Museum, Universal Studios); and will be consistent with other public agencies' land use goals and objectives (e.g., City of Los Angeles "Centers" Concept Plan). In

addition, results of the public hearings show that this alternative has the strongest support from the general public, numerous officials, private organizations, and government agencies (e.g., Sierra Club, Mayor Bradley).

Finally, in terms of economic impact, 1990 estimates reveal that Alternative II will provide the greatest short and long-term economic benefits (e.g, 20,000 - 30,000 man-years of construction employment).

Thus, all these key findings show that Alternative II is the most cost-effective and environmentally sound choice, as well as having the strongest public support.

#### G. COMMUNITY PARTICIPATION

Starting in September, 1977, four series of community and organization meetings, totalling over 174 meetings, were conducted prior to the holding of the official public hearings, to explain the program and the results at each stage of the effort. In addition, close liaison has been maintained with the Los Angeles City Council's Transportation Committee and the Citizens Advisory Committee of the Los Angeles County Transportation Committee. Briefings have also been given to numerous newspapers and radio and television stations.

#### H. PUBLIC HEARINGS

On July 9, 10, and 11, 1979, the SCRTD Board of Directors conducted six sessions of public hearings to receive comments on the SCRTD/UMTA Draft Alternative Analysis and Environmental Impact Statement/Environmental Impact Report on Transit System Improvements in the Los Angeles Regional Core.

The public hearings were extensively publicized and included:  
(1) coverage by the "printed" and telecommunications media;  
(2) "take one" hand-outs on the buses; (3) notifications by

mail; and (4) follow-up phone calls to groups and individuals.

The hearings ran a cumulative total of thirteen hours. Each session was opened using the same format of giving the purpose of the hearings; a summary of the work completed; and a report on the publication of the "Notice of Intent" to hold the hearings. All sessions ran continuously, averaging about one speaker every five minutes. In all, 145 persons gave oral testimony. Several of these 145 persons submitted written comments as well.

The total attendance of 404 people at the hearings reflected both community interest in rapid transit development in Los Angeles and the constructive communication that has taken place between the SCRTD and the community relative to such development. The cross-section of the Los Angeles community represented at the hearings was comprehensive. Political, labor, business, community, and educational leaders, as well as environmental groups and citizens in general, all appeared at the hearings. For a full discussion of this public hearing process, see Chapter XIII.

I. LIST OF AGENCIES

The following agencies and organizations received copies of the Draft Alternatives Analysis/Environmental Impact Report/Statement, and were invited to express their comments thereon. These and other agencies, persons, groups and organizations who expressed their comments on the Draft Report, are receiving copies of this Final Report. Others interested in obtaining copies of this Final Report should contact the Rapid Transit Department of the Southern California Rapid Transit District.

<u>Federal Agencies</u>	<u>Copies of Final Report Furnished</u>
1. Economic Development Administration	1
2. U.S. Environmental Protection Agency (EPA)	5
3. Federal Highway Administration (FHWA)	1
4. U. S. Department of Energy	1
5. U.S. Department of the Interior	9
6. U.S. Department of Commerce	1
7. U.S. Department of Housing and Urban Development (HUD)	1
8. U.S. Department of Health, Education and Welfare	1
9. U.S. Army, Corps of Engineers	1
10. U.S. Soil Conservation Service	1



Federal Agencies (cont'd)Copies of Final  
Report Furnished

11. Bureau of Outdoor Recreation	1
12. U.S. Forest Service	1
13. General Services Administration	1
14. Office of Management and Budget	1
15. U.S. Department of Agriculture	1
16. Advisory Council on Historic Preservation	1
17. Federal Railroad Administration	1
18. Interstate Commerce Commission	2
19. Regional Administration, EPA	3
20. Regional Administrator, HUD	3
21. Division Administrator, FHWA	1

State Agencies

1. Office of the Governor	5
2. California Transportation Commission	5
3. State Department of Transportation	5
4. State Air Resources Board	2
5. State Resources Agency	2
6. State Department of Water Resources	1
7. State Office of Planning and Research	1
8. State Energy Resources and Development Commission	1
9. State Department of Rehabilitation	1
10. State Legislative Audit Committee	1
11. Office of Facilities Planning and Development	1
12. Public Utilities Commission	1
13. State Lands Commission	1
14. State Department of Housing and Community Development	1
15. State Department of Parks and Recreation	1
16. State Department of Conservation	1

Copies of Final  
Report Furnished

17. Regional Water Quality Control Board	1
18. State Department of Education	1
19. State Department of Public Health	1
20. Vehicle Emission Control Program	1
21. State Department of General Services	1
22. State Department of Fish and Game	1
23. University of California	1

Regional and Local Agencies

1. Southern California Association of Governments (A-95)	5
2. South Coast Air Quality Management District	2
3. Los Angeles County Transportation Commission	5
4. Los Angeles County (Board of Supervisors & CAO)	6
5. Regional Planning Commission	2
6. Road Department	2
7. Flood Control District	1
8. Sanitation District	1
9. Commission on Human Relations	1
10. Sheriff's Department	1
11. Los Angeles City (Mayor and Council & CAO)	18
12. Transportation Department	3
13. Planning Department	3
14. Public Works Department	1
15. Bureau of Engineering	2
16. Bureau of Street Maintenance	1
17. Recreation and Parks Department	1
18. Public Utilities and Transportation Department	1
19. Police Department	2
20. Fire Department	2
21. Library Department (Copies to Branches)(See Section "H" below)	

J. AVAILABILITY TO THE PUBLIC

In addition to the distribution listed above, copies of this Final Report will be available for examination at the locations set down below. Copies of the Draft Report and its Appendices were previously made available at these locations.

Libraries

1. Central Library  
630 West 5th Street  
Los Angeles, CA 90071
2. North Hollywood  
5211 Tujunga Avenue  
North Hollywood, CA 91601
3. Studio City  
4400 Babcock Avenue  
North Hollywood, CA 91604
4. West Los Angeles  
11360 Santa Monica Blvd.  
Los Angeles, CA 90025
5. Cahuenga Library  
4591 Santa Monica Blvd.  
Los Angeles, CA 90029
6. Fairfax Library  
161 S. Gardner St.  
Los Angeles, CA 90036
7. Felipe de Neve Library  
2820 West 6th St.  
Los Angeles, CA 90057
8. Hollywood Library  
1623 Ivar Avenue  
Hollywood, CA 90028
9. John C. Fremont Library  
6121 Melrose Avenue  
Los Angeles, CA 90038
10. West Hollywood Library  
1403 N. Gardner St.  
Los Angeles, CA 90004

Copies of Final  
Report Furnished

- |     |  |   |
|-----|--|---|
| 22. | Community Redevelopment Agency               | 1 |
| 23. | Housing Authority                            | 1 |
| 24. | Housing and Community Development Department | 1 |
| 25. | Building and Safety Department               | 1 |
| 26. | Los Angeles Community College District       | 2 |
| 27. | Los Angeles Unified School District          | 2 |
| 28. | City of Beverly Hills                        | 1 |
| 29. | City of Santa Monica                         | 1 |
| 30. | City of Burbank                              | 1 |
| 31. | City of Glendale                             | 1 |
- Business, Professional and Community Organizations
- |     |  |   |
|-----|--|---|
| 1.  | Beverly Fairfax Neighborhood Council                                       | 1 |
| 2.  | Citizen's Advisory Committee, Los Angeles County Transportation Commission | 2 |
| 3.  | Sierra Club  | 1 |
| 4.  | Wilshire Chamber of Commerce   | 1 |
| 5.  | American Institute of Architects   | 1 |
| 6.  | North Hollywood Chamber of Commerce  | 1 |
| 7.  | National Association for the Advancement of Colored People                 | 1 |
| 8.  | American Society of Mechanical Engineers                                   | 1 |
| 9.  | West Hollywood Citizens Advisory Committee                                 | 1 |
| 10. | Central City Association   | 1 |
| 11. | North Hollywood Project Area Committee                                     | 1 |
| 13. | Hollywood Chamber of Commerce  | 2 |
| 14. | Los Angeles Area Chamber of Commerce                                       | 3 |
| 15. | Los Angeles County Federation of Labor                                     | 1 |
| 16. | League of Women Voters   | 1 |
| 17. | American Society of Civil Engineers  | 1 |
| 18. | Urban League   | 1 |
| 19. | Los Angeles County Grand Jury  | 1 |

Additional copies of the report will be made available to other interested agencies, groups or individuals as appropriate.

11. Wilshire Library  
149 N. St. Andrews Pl.  
Los Angeles, CA 90004

Schools

12. University of Southern Calif.  
Architecture & Fine Arts Library  
Watt Hall, University Park  
Los Angeles, CA 90007
13. California State University, Los Angeles  
John F. Kennedy Memorial Library  
5151 State College Dr.  
Los Angeles, CA 90032
14. University of California Los Angeles  
Public Affairs Service/  
Local, University Research Library  
Los Angeles, CA 90024
15. California State University  
Northridge Library  
18111 Nordhoff St.  
Northridge, CA 91324
16. Hollywood High School Library  
Sunset Boulevard and Highland Avenue  
Hollywood, CA 90028
17. Los Angeles Valley College  
Attn: Library  
5800 Fulton Avenue  
Van Nuys, CA 91401
18. Los Angeles City College  
Reference Library  
855 N. Vermont Avenue  
Los Angeles, CA 90029

K. REPORT APPENDICES

The following is a list of the four volumes contained in the appendix. A very brief description of each volume is included. The appendices are available on request.

Appendix I. TECHNICAL ANALYSIS

The following six sections comprise a body of technical information which has been developed in order to prepare various chapters of the AA/EIS/EIR. This material is considered too detailed to appear in the report, yet will be available to the public should any person or organization express a desire to study it.

- A. Evaluation Framework
- B. Patronage Projections
- C. Background Bus System
- D. Plan and Profile
- E. Station Access Mode Split Analysis
- F. Technology Suitability

Appendix II. ENVIRONMENTAL IMPACT ANALYSIS

The following twelve sections comprise a body of technical information developed in order to prepare the environmental impact chapters of the AA/EIS/EIR. This type of information is required by both NEPA and CEQA. It is too detailed to present in the report. Of course, the information presented is at a fairly general level to accompany the Alternatives Analysis. As necessary, more detailed environmental impact documents may be available in later stages of project development.

A. Natural Environment - Geologic Aspects

- Part 1. Feasibility of Tunneling - Four Consultants  
Joint Report
- Part 2. Soil and Geology - Woodward Clyde Consultants
- Part 3. Earthquake Hazard - Lindvall, Richter and  
Associates

- B. Vegetation and Wildlife
- C. Land Use
- D. Traffic Data
- E. Benefit-Cost Analysis
- F. Noise and Vibrations
  - Part 1. Noise Levels - Wilson Ihrig and Associates
  - Part 2. Ambient Noise Levels
- G. Utility Systems
- H. Energy
- I. Public Services
  - Part 1. Police and Security
  - Part 2. Fire Safety
- J. Archaeological, Cultural-Historic and Paleontological
  - Part 1. Text
  - Part 2. Cultural Resources - Archaeological Resources Management Corp.
  - Part 3. Paleontological Resources - Archaeological Resources Management Corp.
  - Part 4. Inventory of Cultural-Historic Facilities
  - Part 5. Potentially impacted Cultural-Historic Resources - Type of Impact
  - Part 6. Potentially impacted Cultural-Historic Resources - Jurisdiction
  - Part 7. Historic-Cultural Names - Original and Subsequent Names
  - Part 8. Aerial Photos and Maps
  - Part 9. Exerpts from Federal Register
- K. Demographics
  - Part 1. Comparison of L.A. to Other Areas
  - Part 2. Zoning Capacity
  - Part 3. Demographic Tables 1 through 39
- L. References Consulted

#### Appendix III. URBAN DESIGN/JOINT DEVELOPMENT/VALUE CAPTURE ANALYSIS

The following volume of the appendix is comprised of four consultant reports which were prepared during this conceptual level alternative analysis study. They do not indicate precise urban design schemes. They are intended to be illustrative of what possibilities may exist in the near future. These types of designs will be determined during later stages of project development.

- A. Joint Development and Value Capture Analysis - Urban Development Group
- B. Urban Design Aspects of Station Locations (Consultant Reports)
  - (1) Downtown Los Angeles - Wallace, McHarg, Roberts and Todd
  - (2) Wilshire Corridor - Kennard, Delahousie and Gault
  - (3) North of Wilshire/Hollywood/N. Hollywood - Skidmore, Owings and Merrill

#### Appendix IV. ORGANIZATIONS/COMMUNITY PARTICIPATION

The following sections contain the mailing lists which have been developed during the study. Also the record/minutes of each meeting in the community are also included.

- A. Mailing Lists
  - Part 1. General Mailing List
  - Part 2. Community Groups
  - Part 3. Business Firms
  - Part 4. Professional, Education Groups and Unions
  - Part 5. Chambers of Commerce
  - Part 6. Government
  - Part 7. Schools
  - Part 8. Churches, Temples
  - Part 9. Media
- B. Community Participation
  - Part 1. Calendar of Presentations Made
  - Part 2. Issues

# **I. SETTING AND NEED FOR ACTION**



## I. SETTING AND NEED FOR ACTION

This chapter identifies the conditions in the Los Angeles region which have necessitated increasingly frequent and thorough rapid transit planning efforts leading to the present Regional Core Transit Alternatives Analysis. First is an overview of environmental characteristics of the entire region, followed by a more detailed discussion of those characteristics in the Regional Core. Then there is a specific discussion of the Regional Core transportation system, with the emphasis on those deficiencies which may compel major improvements to that transportation system.

### A. GENERALIZED ENVIRONMENTAL SETTING

#### 1. Regional Setting

The Los Angeles region is the largest metropolitan area in California and, with respect to population, the second largest area in the United States. Within the 38,000 square miles comprised by the Southern California Association of Governments (SCAG) are six contiguous counties: Ventura, Los Angeles, Orange, San Bernardino, Riverside and Imperial (See Figure I.1).

Over 10 million people live in the SCAG region, 8.5 million of them in Los Angeles and Orange Counties. Figures I.2 and I.3 show historic and projected population levels in the region and its constituents. Los Angeles County grew by 49, 46 and 28 percent in the 1940-50, 1950-60 and 1960-70 decades respectively. Growth rates are expected to taper off.

#### 2. Historical Growth Patterns

Although the area is large geographically, mountains and deserts make up its largest portions. Most urban development is confined to the Los Angeles Basin between the San Gabriel Mountains and the Pacific Ocean, roughly the southern half of the county. The basin itself is

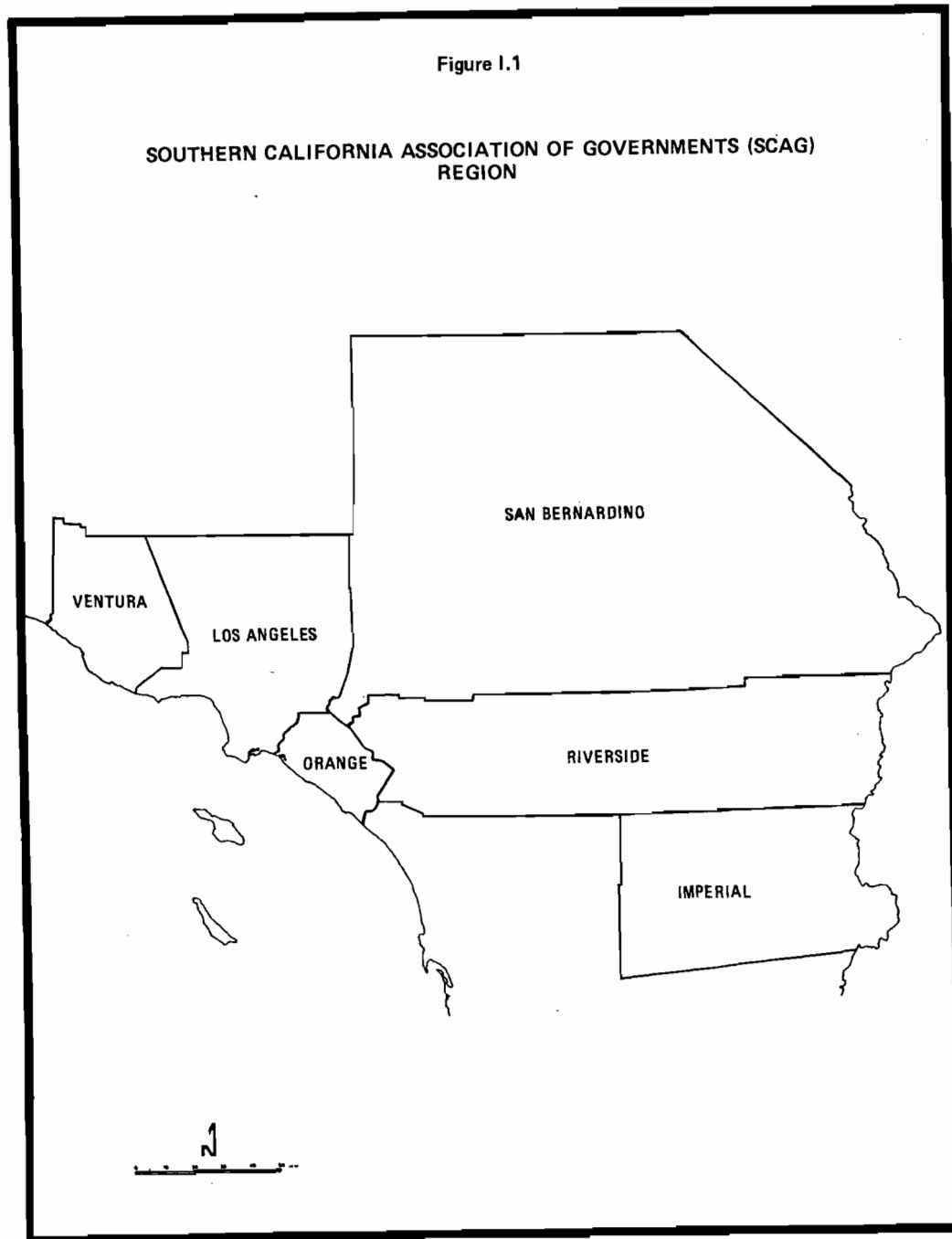


FIGURE I.2  
POPULATION TRENDS IN THE SCAG REGION  
1910-1970

COUNTY	1940	1950	1960	1970
Imperial	50,740	62,975	72,105	74,492
Los Angeles	2,785,643	4,151,687	6,040,805	7,038,764
Orange	130,760	216,224	703,925	1,420,386
Riverside	105,542	170,046	306,191	459,074
San Bernardino	161,108	281,642	503,591	628,233
Ventura	<u>69,685</u>	<u>114,647</u>	<u>199,138</u>	<u>378,497</u>
REGIONAL TOTAL	3,330,478	4,997,221	7,825,755	10,053,446

Source: U.S. Bureau of Census Figures

FIGURE I.3  
POPULATION PROJECTIONS FOR THE SCAG REGION  
1975-2000

COUNTY	1975	1980	1990	2000
Imperial	83,250	90,000	102,000	116,000
Los Angeles	7,020,772	7,716,900	7,557,000	7,905,000
Orange	1,684,500	1,962,000	2,369,000	2,656,000
Riverside	531,679	601,100	728,000	866,000
San Bernardino	696,064	753,200	867,000	960,000
Ventura	<u>432,407</u>	<u>503,000</u>	<u>632,000</u>	<u>792,000</u>
REGIONAL TOTAL	10,448,672	11,086,200	12,255,000	13,295,000

Source: SCAG-76 Growth Forecast Policy (January, 1976)



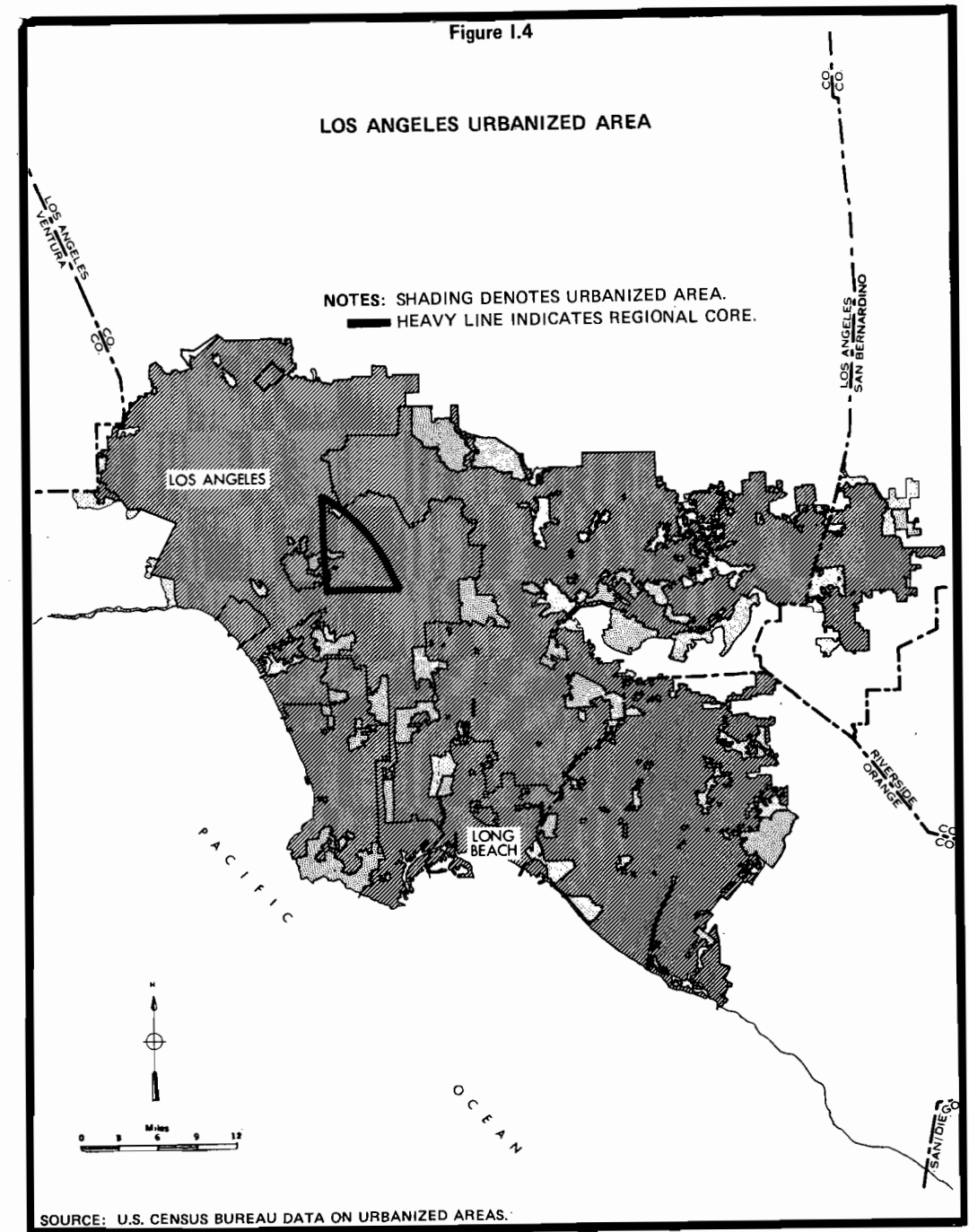
divided into three main components by mountains: The Coastal Plain and the San Fernando and San Gabriel valleys.

Earlier in this century development in the Coastal Plain and the two valleys consisted of the City of Los Angeles and numerous smaller cities and communities separated by farmland and open spaces. During much of this period, Los Angeles was a leading agricultural county, with development clustered around the cities and towns. These centers were connected by interurban electric trains.

The character of the region was once low-density housing, small towns and groves. Because of heavy migration throughout the century, almost all farmland and open spaces in the plain and the valleys have evolved into urban structure. Neighboring communities have now grown together, distinguishable from one another only by "city limit" signs on their boundaries. As long as developable land was accessible to the city center, housing costs remained low. Construction of the interurban electric lines, and later arterials and freeways, steadily expanded this accessible area up to the limits of the basin. However, as accessible agricultural land became scarce, housing costs rose dramatically. In response, developers started increasing the number of housing units per acre, and now increasing numbers of families are choosing condominiums or apartments because they cannot afford single-family housing. Although the County's population growth has moderated since 1960, the number of households has continued to increase. This increase has been greatest in childless households, for whom apartments are more attractive than single family housing.

As population grows (See Figures I.2 and I.3) density of land use will increase, both for residential and commercial purposes. This transformation is already evident throughout the region. Tall buildings are pervading Downtown Los Angeles, and clusters of them appear in the dispersed regional "Centers". Between these foci of high structures, much of the development will turn into a high density medium skyline character, made up of apartments, condominiums and commercial buildings.

The Los Angeles Urbanized Area (See Figure I.4) is much smaller than the SCAG region, having only 1,572 square miles. Most of its inhabitants live in the southern half of Los Angeles County and in Orange



County. As shown in FIGURE I.5, this region ranks third in density among urbanized areas in the United States:

FIGURE I.5  
URBANIZED AREAS RANKED BY POPULATION DENSITY

<u>Urbanized Area</u>	<u>Residents/Square Mile</u>
New York	6683
Philadelphia	5349
Los Angeles	5313
Chicago	5247
Baltimore	5163
Buffalo	5085
Washington, D.C./Md.	5018
Miami	4715
Boston	3992
Pittsburgh	3095
Cleveland	3033
Atlanta	2696

Source: 1970 Census Tract Data

FIGURE I.6 shows the population density patterns in the Los Angeles region, and sets forth clearly the high concentrations of population, which increase toward the center.

The highest concentrations in the urbanized area with respect both to population and geographic size are in the City of Los Angeles.

### 3. The Regional Core

The part of Los Angeles hereinafter referred to as the "Regional Core" is the densest part of the urbanized area. As shown on Figure I.7, the Regional Core is a 55 square mile triangular area located centrally in the Los Angeles urbanized region. Its approximate boundaries are Robertson Boulevard (and the line thereof) on the west; Burbank Boulevard on the north;

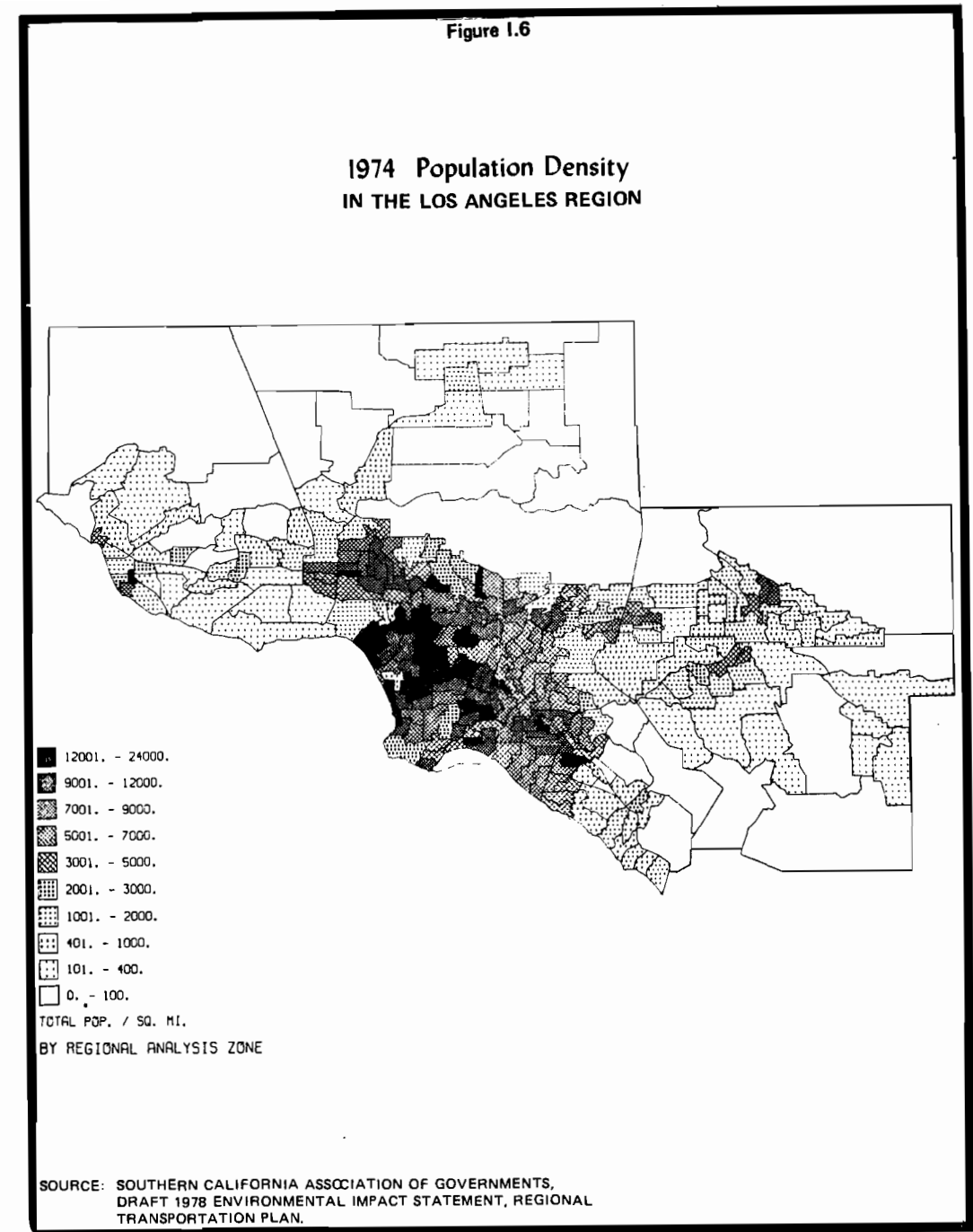
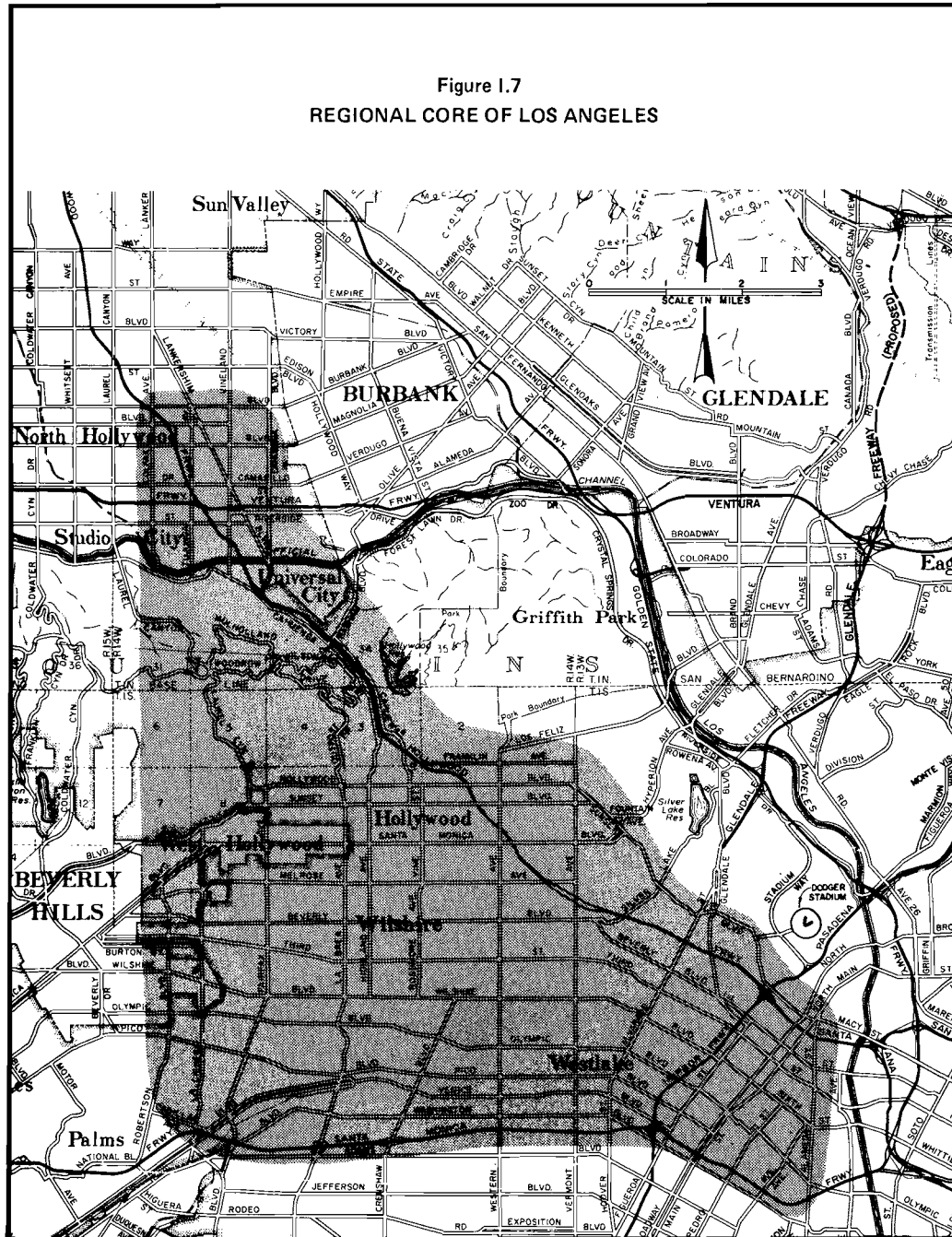


Figure I.7  
REGIONAL CORE OF LOS ANGELES



the Hollywood Freeway, Sunset Boulevard and Alameda Street on the east; and the Santa Monica Freeway on the south. Within these boundaries are 600,000 residents, 21 percent of the City of Los Angeles total, and 542,000 jobs, 43 percent of the City of Los Angeles total.

In addition to its preeminence in population and employment, the Regional Core has Southern California's largest concentration of specific urban resources, to include:

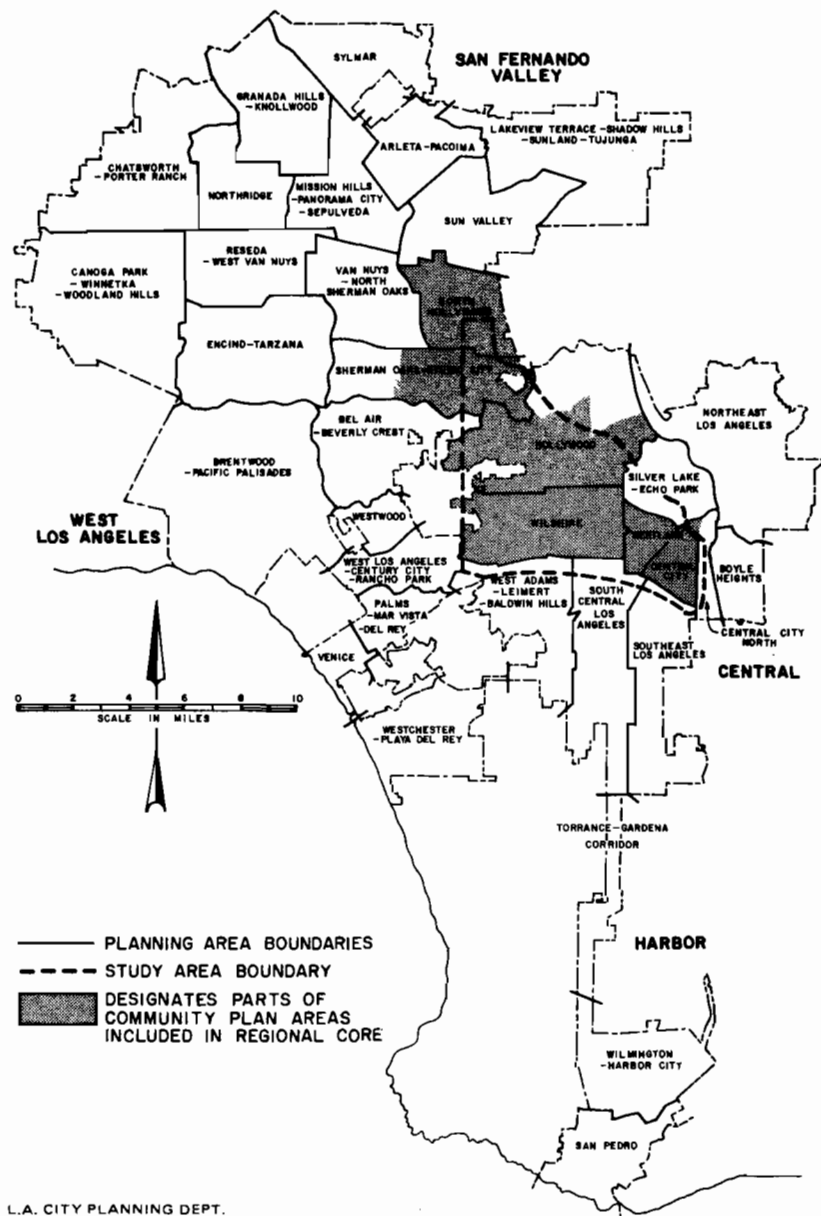
- Federal, state and local government offices and foreign consulates.
- Banks, insurance companies, brokerage houses and corporation headquarters.
- Department stores.
- Historical sites, and architectural landmarks.
- Cultural resources, such as the Music Center and Hollywood Bowl.
- Major ethnic communities such as Chinatown and Little Tokyo.
- The cinema, broadcasting and recording industry.
- Hotels, restaurants and convention facilities.

Although this AA/EIS/EIR deals with the Regional Core as a whole, the level of detail required in the study effort necessitates individual consideration of six community plan areas designated by the City of Los Angeles. As shown on FIGURE I.8, these areas lie generally within the Regional Core Study Area, although some parts of them fall outside. The Sherman Oaks part of the Sherman Oaks-Studio City plan area, and the Griffith Park section of the Hollywood plan area have been taken out of consideration, in order that the plan areas and the study areas be more nearly coincident. Important features of each plan area are discussed below.

a. Central City

Central City is the "hub" of Southern California, being the principal location of businesses. The neighborhood character therein varies from badly depressed on the east side (Skid Row), to very healthy on

Figure I.8  
35 PLANNING AREAS OF CITY OF LOS ANGELES



SOURCE: L.A. CITY PLANNING DEPT.

the west side (new financial district). Various redevelopment projects, underway or in planning stages, will improve the vitality of the area in coming years.

b. Westlake

Situated between Central City and Wilshire, Westlake is an older very dense, predominantly low income community. Although threatened by blight for several years, housing rehabilitation promises to stabilize the area.

c. Wilshire

The Wilshire district extends from Westlake, westward out to Beverly Hills. It is made up of three sub-communities: Mid-Wilshire, Park Mile and Miracle Mile. Park Mile is made up mostly of large, high priced residences. Mid-Wilshire and Miracle Mile have strong business concentrations, surrounded by high-density residential structures.

d. Hollywood

An economic base built around the entertainment industry has been and remains the stabilizing influence in Hollywood. However, its once glamorous image has been tarnished by blight in its commercial center, a condition which, it is hoped, will change with planned redevelopment. Housing types vary from high-density apartment towers to hillside mansions.

e. Sherman Oaks-Studio City

Sherman Oaks-Studio City includes the Cahuenga Pass (the gateway to the San Fernando Valley), the Santa Monica Mountains and the San Fernando Valley. Single family housing predominates. To the east is Universal City, an unincorporated "County Island" which is the site of the Universal Studios - a major employment center.

f. North Hollywood

One of the older communities in the San Fernando Valley, North Hollywood has traditionally been a place of single-family residences, although today multiple-family dwellings are spreading. Its business district along Lankershim Boulevard has been declining in the face of competition from shopping centers, and is presently the subject of a City-sponsored revitalization study. An industrial area exists along the railroad which passes through the northern part of the area.

Land use within the Regional Core varies significantly between plan areas. Figure I.9 summarizes the land uses in all of the plan areas.

Figure I.10 sets forth population and employment figures for each of the community plan areas. It is evident that there is considerable variation in densities between areas, and a high average density for the entire Regional Core.

B. NEED FOR ACTION

The previous section dealt with general environmental conditions in the region and in the Regional Core. This section discusses the existing freeway and arterial street system and the public transportation system in the Regional Core, and then the need for a major transit improvement in this area.

1. Freeway System

The study area is served on the northeast by the Hollywood Freeway, but this Freeway is heavily congested in the peak traffic hours, and improvements planned for it are not expected to alleviate this congestion. The Hollywood Freeway presently carries about 174,000 vehicles per day at Highland Avenue and 195,000 vehicles per day west of the Harbor Freeway. By 1990, the Hollywood Freeway is expected to carry approximately 200,000 vehicles per day at Highland Avenue and 240,000 vehicles per day west of the Harbor Freeway. This added load would further worsen the existing congestion.

FIGURE I.9

BREAKDOWN OF LAND USE BY COMMUNITY PLAN AREA IN REGIONAL CORE

LAND USE*	Central City		Westlake		Wilshire		Hollywood		Sherman Oaks Studio City <sup>(3)</sup>		North Hollywood		TOTAL	
	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%
Single Family on low to low-medium density <sup>(1)</sup> (1-24 units per acre)	0	0	173	8.5	2,779	31.2	7,209	41.2	6,672	75.2	3,119	46.6	19,952	43.3
Multiple Family or high-medium to high density <sup>(1)</sup> (25 + units per acre)	25	1.1	761	37.4	3,607	40.5	3,070	17.6	748	8.4	1,705	25.5	9,916	21.5
Sub-Total, Residential	25	1.1	934	45.9	6,386	71.7	10,279	58.8	7,420	83.6	4,824	72.1	29,868	64.8
Commercial (Includes Parking)	352	16.3	798	39.2	1,536	17.2	1,043	6.0	646	7.3	483	7.2	4,858	10.5
Industrial (Includes Parking)	808	37.4	122	6.0	51	0.6	576	3.3	44	0.5	480	7.2	2,081	4.5
Public, Service, Institutional and Open Land	432	20.0	181	8.9	748	8.4	5,572 <sup>(2)</sup>	31.9	762	8.6	902	13.5	8,597	18.6
Not Specifically Determined (Alternate Uses Possible)	544	25.2	0	0	190	2.1	0	0	0	0	0	0	734	1.6
TOTAL	2,161	100.0	2,035	100.0	8,911	100.0	17,470	100.0	8,872	100.0	6,689	100.0	46,138	100.0

NOTES: (1) Smaller categories making up these major classifications are generally uniform between plan areas. In Westlake, some medium density housing is grouped into the low density category; the slight error resulting does not compromise the overall validity of the figures for comparative purposes.

(2) Mostly in Griffith Park, which is not included in the Regional Core Study Area.

(3) Includes Sherman Oaks, which is not in the Regional Core Study Area.

SOURCE: City of Los Angeles, Planning Department Community Plans.

\* Acreage is shown in Gross Acres which generally include 25%-30% of the land in streets and highways.

FIGURE I.10

REGIONAL CORE POPULATION AND EMPLOYMENT STATISTICS

<u>COMMUNITY PLAN AREA</u>	<u>AREA IN SQUARE MILES</u>	<u>1975 RESIDENT POPULATION</u>	<u>1975 POPULATION PER SQUARE MILE</u>	<u>1970 EMPLOYMENT</u>	<u>1970 EMPLOYMENT PER SQUARE MILE</u>
Central City	3.44	18,100	5,261	200,000	58,140
Westlake	3.24	69,200	21,358	75,554	23.319
Wilshire	13.91	203,800	14,651	126,802	9,116
Hollywood	15.69*	163,000	10,388	87,860	5,600
Sherman Oaks- Studio City	9.14**	52,596	5,754	23,307	2,550
North Hollywood	10.15	92,100	9,073	28,063	2,765
Regional Core Study Area					
TOTAL	<u>55.57</u>	<u>598,796</u>	<u>10,775</u>	<u>541,586</u>	<u>9,746</u>

\* Excludes two census tracts largely Griffith Park.

\*\* Includes only Studio City portion.

Source: 1970 Employment Data, Los Angeles City  
Planning Department, June, 1977.

To the north of the study area, westbound traffic is served by the Ventura Freeway which presently carries around 180,000 vehicles per day west of the Hollywood Freeway. By 1990, this freeway is expected to carry approximately 218,000 vehicles per day. Other freeways close to the study area include the San Diego Freeway on the west, the Santa Monica Freeway on the south and the Golden State Freeway on the east. All of these freeways are projected to carry in excess of 200,000 vehicles per day by 1990. The Harbor Freeway separates the Los Angeles CBD from the Hollywood and Wilshire communities. Present traffic volumes on the Harbor Freeway are expected to increase from 215,000 vehicles per day to approximately 250,000 vehicles per day by 1990. While the Hollywood Freeway provides a valuable connection between the San Fernando Valley, Hollywood and the Los Angeles CBD, there is no freeway which directly serves the Wilshire Corridor or travels across the Santa Monica Mountains between the San Fernando Valley and Wilshire community. The Beverly Hills and Laurel Canyon Freeways were proposed to serve these heavily traveled corridors, but both freeways have since been deleted from California's Plan of Highways and Freeways by public demand (See Figure I.11).

Within the last few years several measures have been taken to reduce congestion on the freeway system. These include additional lanes (where space is available) and ramp metering. As shown on Figure I.12, congestion is still severe in significant parts of the freeway system, and is expected to become more severe by 1990, as shown in Figure I-13.

## 2. Present Arterial Street System

The principal access to the study area is by automobile and bus over a grid of arterial streets. The study area is directly served by the Hollywood Freeway, with major surface street interchanges at Highland Avenue, Hollywood Boulevard, Sunset Boulevard, Western Avenue, Vermont Avenue and Alvarado Street. The study area is also linked to the Santa Monica Freeway on the south by major north-south arterials such as La Cienega Boulevard, La Brea Avenue, Crenshaw Boulevard, Western Avenue, Vermont Avenue and Hoover Street.

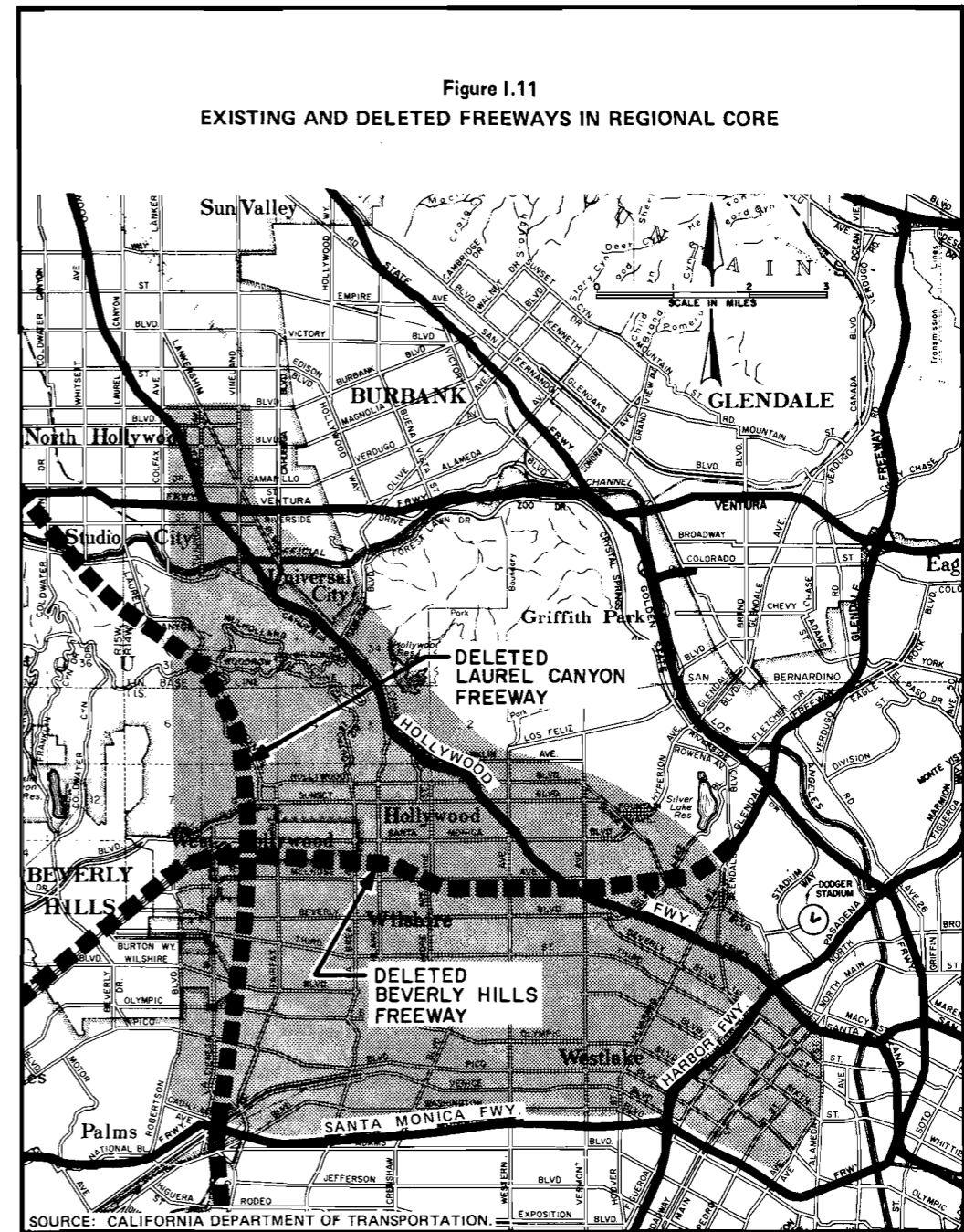
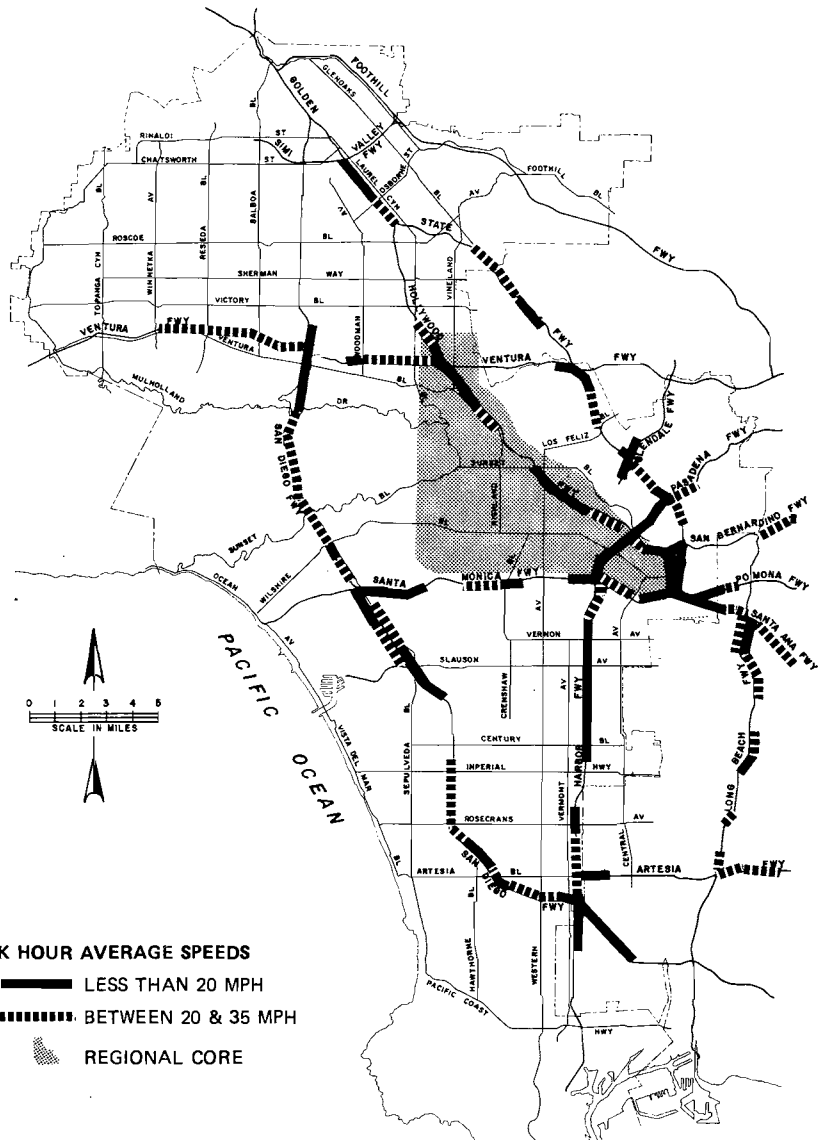


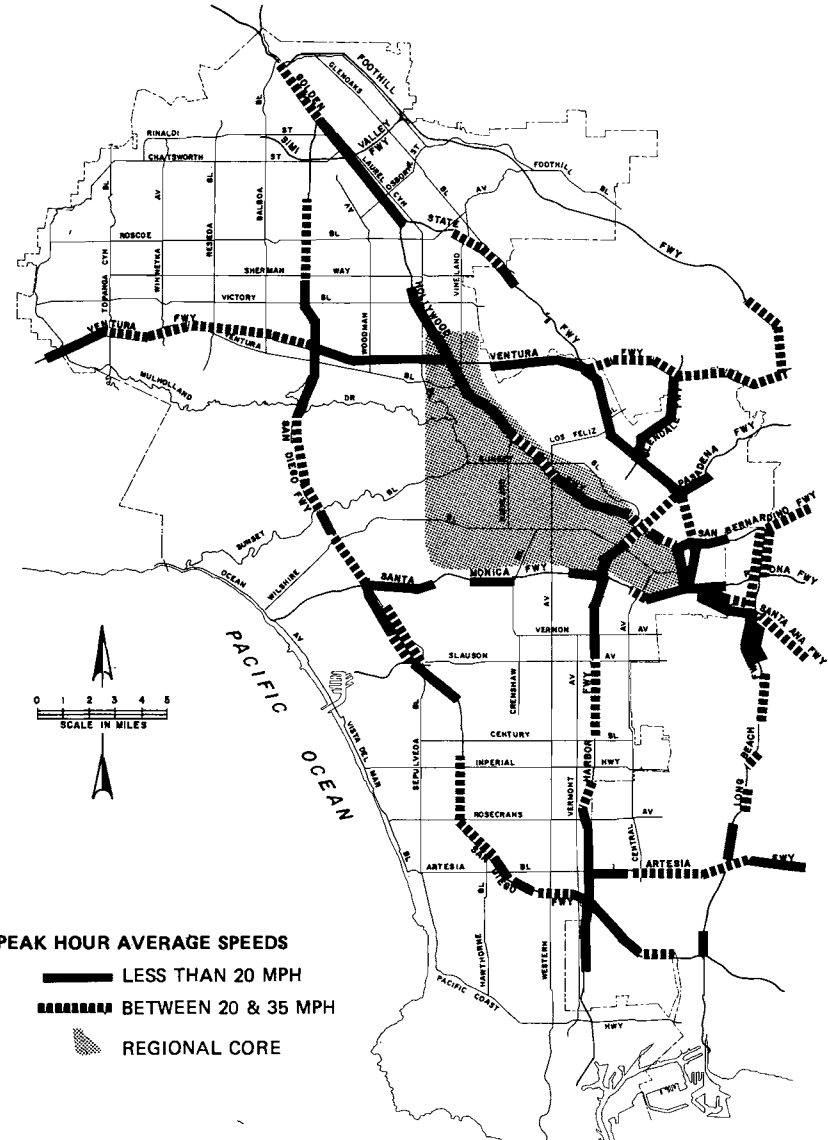


Figure I.12  
 FREEWAY CONGESTION – 1977



SOURCE: CALIFORNIA DEPT. OF TRANSPORTATION

Figure I.13  
 ESTIMATED FREEWAY CONGESTION – 1990



SOURCE: CALIFORNIA DEPT. OF TRANSPORTATION

It should be noted that, despite the grid pattern of the street system, there are only four through streets on an east-west axis in the entire corridor namely, Third, Sixth, Wilshire and Olympic. Fourth Street and Fifth Street are discontinuous at the Harbor Freeway and in the middle of the corridor. Sixth Street, while continuous, turns into a quiet residential street west of Western Avenue. Wilshire while continuous throughout the corridor dead-ends on the west side of the CBD, necessitating major bus turning movements in the CBD.

Seventh, Eighth, and Ninth Streets are discontinuous in the Mid-Wilshire area. Several north-south streets in the study area are also discontinuous. These also include Rossmore Avenue/Crenshaw Boulevard, Wilton Place/Arlington Avenue, Normandie Avenue/Irlo Street and Virgil Avenue/Hoover Street. The discontinuous streets and the deleted freeways mentioned previously, result in concentrating the vehicular movement on only a few arterial streets, which are already at capacity, thus compounding the congestion problem. Figure I.14 shows the discontinuities, including jogs and street mergers, which are an impediment to the normal flow of traffic. Congestion on Cahuenga/Highland in the vicinity of the access ramps to the Hollywood Freeway is also very severe, in spite of special traffic measures, such as using one lane as a reversible lane for peak direction travel. This congestion could make it very difficult to have a terminal rail station in this area, as proposed under Alternative IV.

A major constraint to travel in the study corridor is the Santa Monica Mountains. There are more than 600,000 vehicles which cross the Santa Monica Mountains on arterial streets and freeways on a daily basis. Of that amount, 369,000 vehicles, or more than 61 percent of all trips crossing the Santa Monica Mountains, are destined for the Hollywood, Wilshire and Central (Downtown) communities (see Figure I.15).

Figures I.16, 17 and 18 show A.M. and P.M. Traffic congestion on the arterial street system today and in 1990.

### 3. Existing Traffic Controls

The majority of arterial streets in the study area are posted with peak-hour stopping prohibitions to facilitate the movement of traffic

Figure I.14  
DISCONTINUITIES IN ARTERIAL STREET SYSTEM  
IN REGIONAL CORE

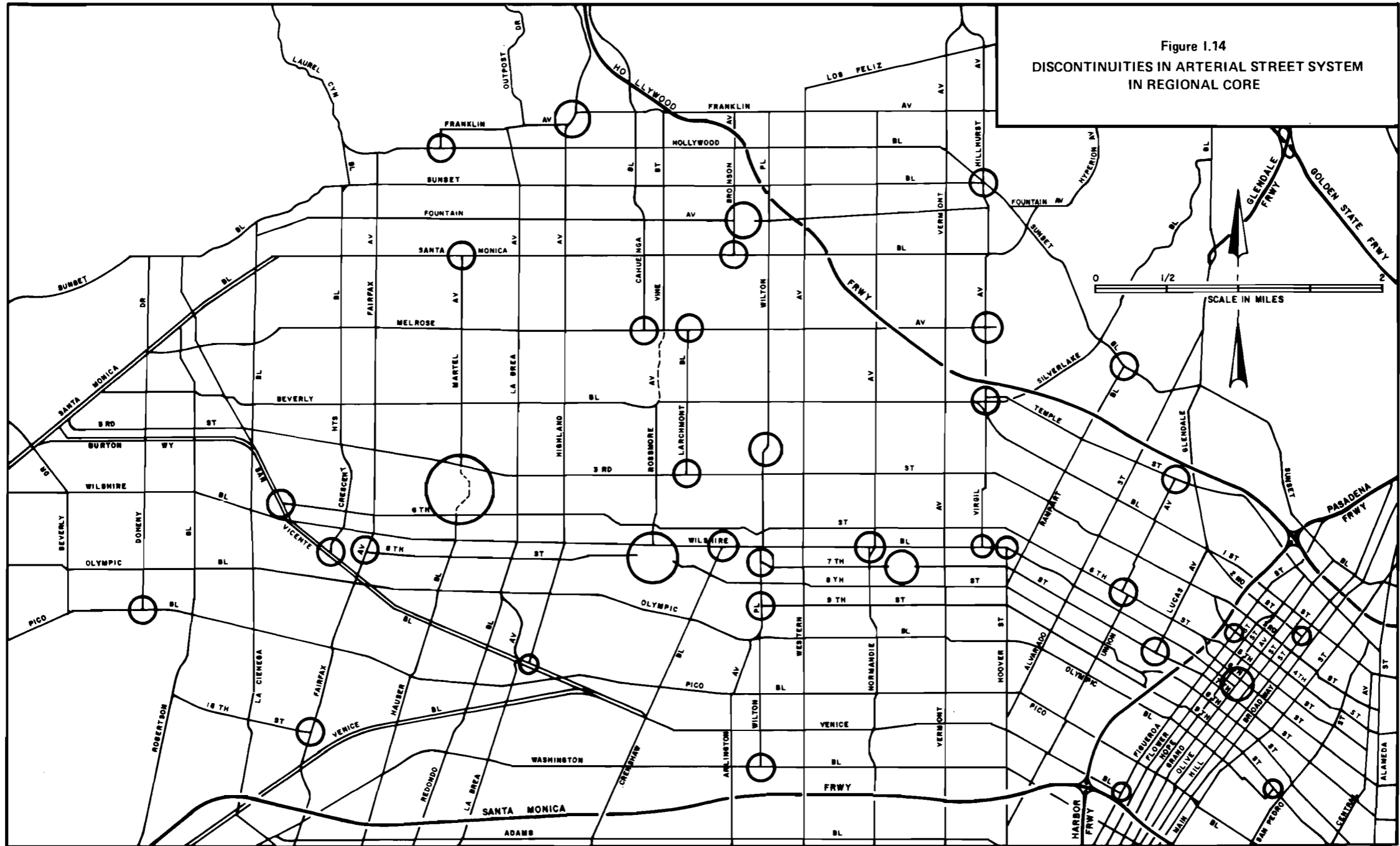
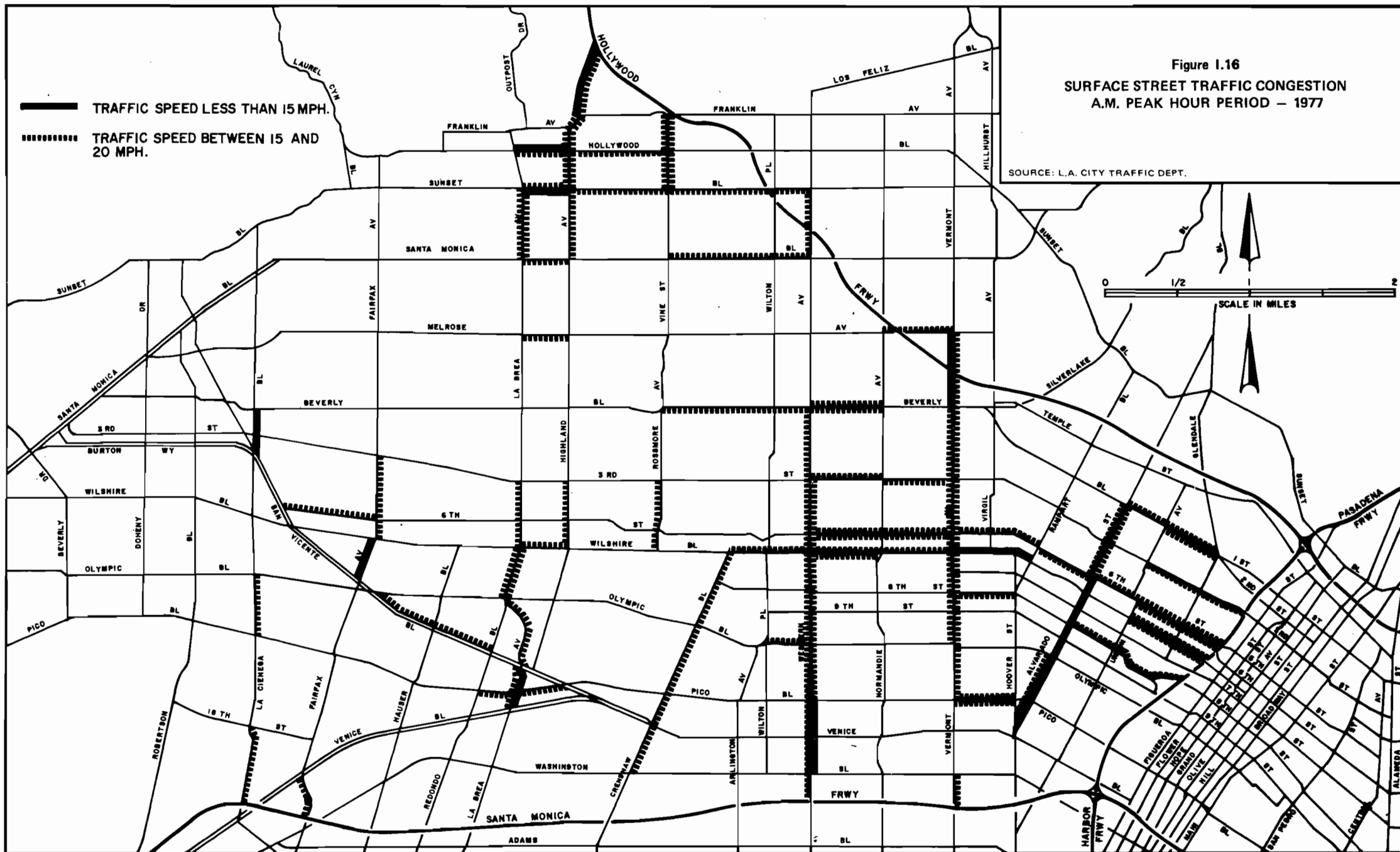


FIGURE I.15

Trip Desires Between the San Fernando Valley  
and Areas South of Mulholland Drive

AREA	CHATSWORTH NORTHRIDGE	SYLMAR SEPULVEDA	CANOGA TARZANA	VAN NUYS STUDIO CITY	SUNLAND VERDUGO	BURBANK PASADENA	TOTAL	PERCENTAGE OF TOTAL TRIPS
Palisades Brentwood Santa Monica	3,100	7,300	14,400	14,100	600	3,300	42,800	7.2
Venice Palms Mar Vista Westchester	3,100	7,300	13,100	11,100	600	2,500	37,700	6.3
Bel-Air Westwood Beverly Hills Rancho Park	4,800	12,400	23,200	27,600	1,200	6,900	76,100	12.7
Baldwin Hills Culver City Inglewood	2,600	7,300	10,500	11,700	700	4,900	37,700	6.3
Hollywood Wilshire	6,700	32,300	24,500	84,400	5,000	55,000	207,800	34.8
South Central Southeast L.A.	1,900	7,100	6,100	10,300	900	7,000	33,300	5.6
Central East L.A.	<u>7,500</u>	<u>31,400</u>	<u>23,700</u>	<u>45,500</u>	<u>4,900</u>	<u>48,600</u>	<u>161,600</u>	27.1
Totals	29,700	105,000	115,500	204,700	13,900	128,200	597,000	
% of Total Trips	5.0	17.6	19.3	34.3	2.3	21.5		
					Intrazonal Trips		<u>8,000</u>	
					Total Trips		<u>605,000</u>	

Source: "Trip Desires Between San Fernando Valley Area and Areas South of a Mulholland Drive Screenline,"  
City of Los Angeles Traffic Department Report.



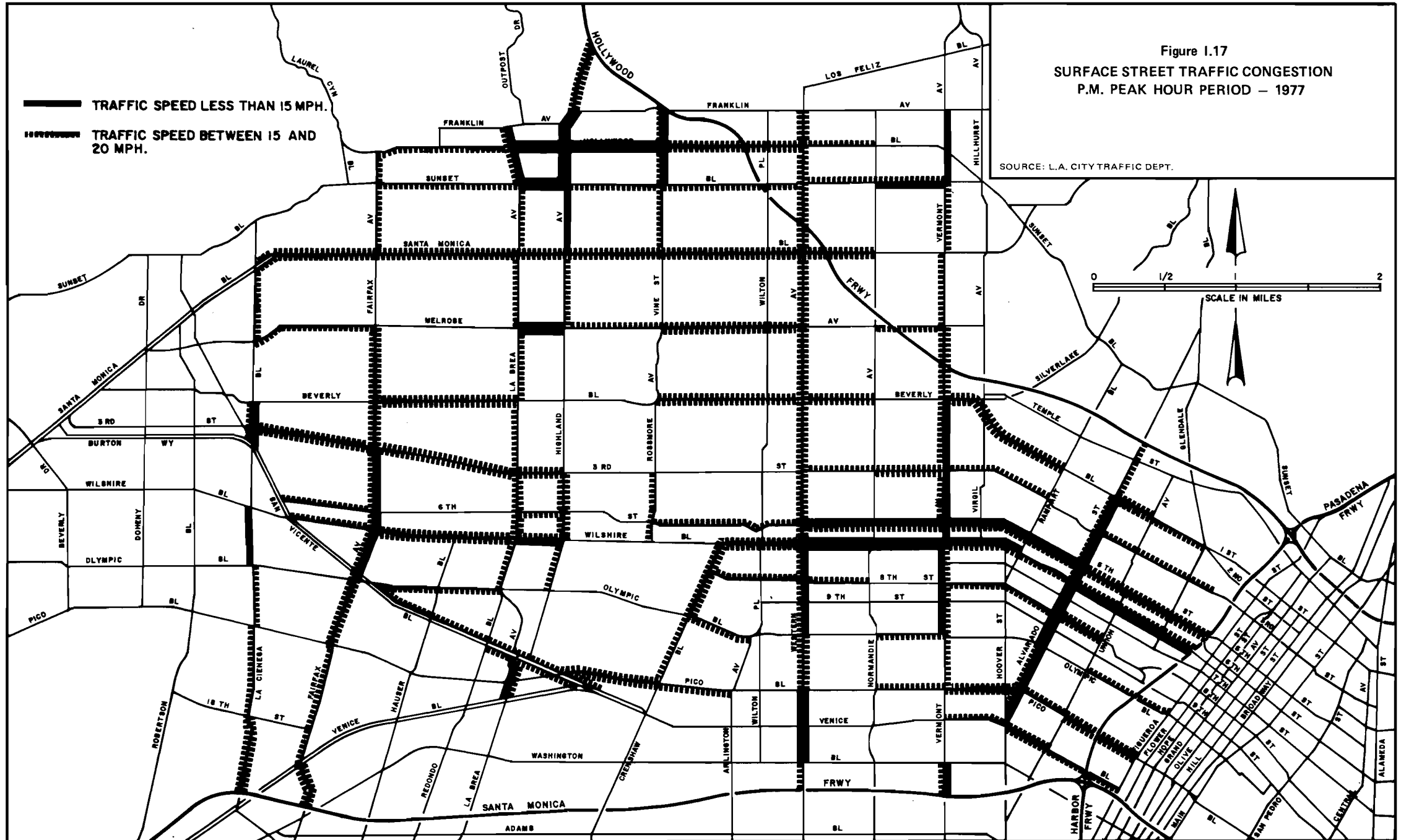


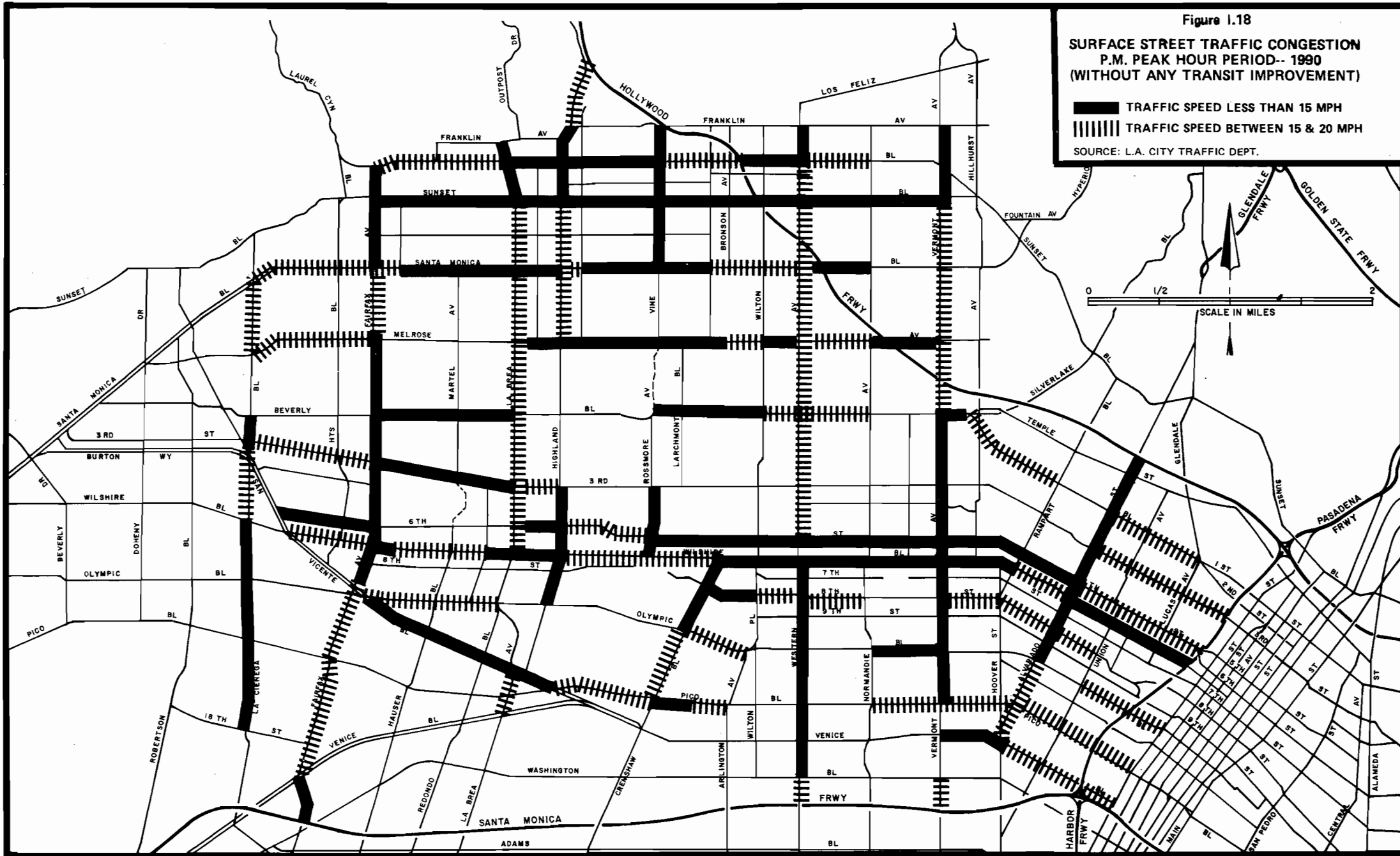


Figure I.18  
**SURFACE STREET TRAFFIC CONGESTION**  
**P.M. PEAK HOUR PERIOD-- 1990**  
**(WITHOUT ANY TRANSIT IMPROVEMENT)**

 TRAFFIC SPEED LESS THAN 15 MPH  
 TRAFFIC SPEED BETWEEN 15 & 20 MPH

SOURCE: L.A. CITY TRAFFIC DEPT.



during the morning and evening peak traffic hours. In the Los Angeles CBD and Civic Center areas, midday restrictions also prohibit parking, except for commercial and passenger loading, between 9 A.M. and 4 P.M.

Outside of these areas and along streets with heavy commercial development, such as Sunset and Wilshire Boulevards, one-hour or two-hour time-limit parking has been installed to accommodate the parking needs of businesses in the area. Parking meters have also been installed in many of these areas to facilitate enforcement of the time-limit parking restrictions.

Traffic signals have been installed extensively throughout the study area. The traffic signal density is especially high in the Los Angeles CBD, and along Sixth Street and Wilshire Boulevard in the Wilshire Center and Miracle Mile Section. Nearly all traffic signals in the study area are interconnected and operate in either the Hollywood South, Wilshire or Downtown traffic signal systems. Most locations operate on a 60-second cycle during the day, with partial preferential offsets provided at restrictive timing points to favor the heavier directions of traffic flow. In the Downtown traffic signal system, three different cycle lengths are used during different times of the day to regulate traffic flow in the Downtown area. The Police Department also assigns traffic control officers to direct and handle vehicular traffic and pedestrians at selected intersections in the Los Angeles CBD and Civic Center area.

Other traffic control measures existing in the Downtown area include the conversion of several street segments to one-way operation, such as Fifth Street, Sixth Street, Eleventh Street and Twelfth Street, Spring Street and Main Street, and the installation of portable traffic signs to prohibit turning movements or permit turns from more than one lane. Both of these measures are considered necessary for functioning of the street system in the Regional Core and the Downtown area. Another measure which has also been used with some degree of success in the Downtown area is the contraflow bus lane on Spring Street. Portable traffic signs are used to restrict turning movements on Wilshire Boulevard and several major cross streets along Wilshire.

#### 4. Existing Traffic Volumes

Existing peak and 24-hour traffic volumes were compared for 4 screenlines surrounding the study area. These screenlines were located north of Mulholland Drive, east of Fairfax Avenue, east of Alvarado Street and south of Olympic Boulevard. Existing two-way 24-hour and directional peak-hour traffic volumes crossing these screenlines are shown in Figure I.19.

#### 5. Future Traffic Volumes

The 1977 and 1990 24-hour traffic volumes were compared for major streets and freeways crossing 8 screenlines at selected locations in the study area. The 1977 volumes were obtained from recent volume counts in the area, while 1990 volumes were developed for the "Null" condition assuming no change in the existing level of transit service for the study area. The results are summarized in Figure I.18, and show that increases are in the range of 18 - 26 percent, with the greatest increases in the Hollywood area south of Sunset Boulevard and along the Wilshire Corridor east of Fairfax Avenue.

#### 6. Planned Street Improvement Projects

The City of Los Angeles Five Year Capital Improvement Program, 1977-78 through 1981-82, provides for 16 street improvement projects in the Hollywood-Wilshire area. Of the 16 street improvement projects, most are located in the Hollywood community and consist of spot or short length improvements.

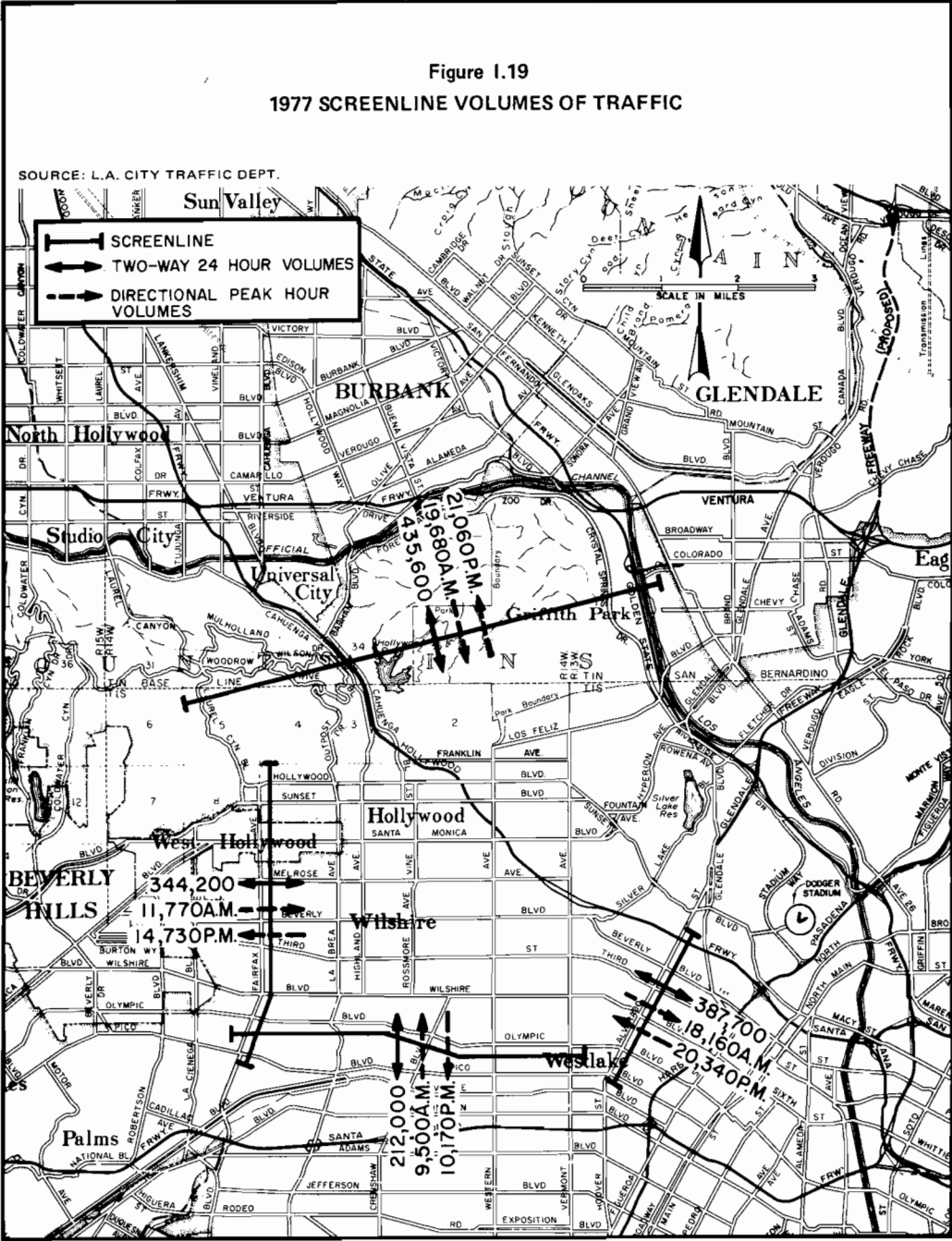
#### 7. Other Proposed Traffic Control Improvements

The Traffic Department of the City of Los Angeles, has an ongoing program to modernize and interconnect almost all traffic signals in the City. This Department continually investigates the need for peak-hour parking restrictions, left-turn channelization and left-turn prohibitions where such traffic control measures would be beneficial in reducing delay and congestion on City streets. Finally, the



FIGURE I.20

Comparison of 1977 and 1990 24-Hour Volumes Crossing Selected Screenlines in the Regional Core



Screenline	1977	1990(null)	Percent Growth 1977-1990
Screenline south of Mulholland Dr. between Laurel Canyon Blvd. & Cahuenga Blvd. E.	238,600	286,300	20
Screenline south of Sunset Boulevard between Fairfax Avenue & Highland Avenue	101,900	128,400	26
Screenline south of Beverly Boulevard between Fairfax Avenue & Highland Avenue	98,200	122,000	24
Screenline east of Western Avenue between Hollywood Boulevard & Santa Monica Boulevard	240,500	298,000	24
Screenline south of Beverly Boulevard between Western Avenue & Vermont Avenue	98,100	115,600	18
Screenline east of Fairfax Avenue between 3rd Street & Olympic Boulevard	134,200	165,700	23
Screenline east of Western Avenue between 3rd Street & Olympic Boulevard	128,600	154,500	20
Screenline west of Figueroa Street between 3rd Street & Olympic Boulevard	209,300	259,400	24
<b>TOTAL SCREENLINE CROSSINGS</b>	<b>1,249,400</b>	<b>1,529,900</b>	<b>22</b>

tion of a computer based traffic surveillance and control system for the Los Angeles CBD.

### 8. Transit Service

The existing network of bus routes is well utilized (See Figure I.19). Figure I.20 lists the 20 most patronized bus routes in the SCRTD system, and shows that 15 of these, including the top 7, serve the Regional Core.

Presently, 200 to 250 thousand vehicles travel east and west on a daily basis in the Wilshire Corridor between Melrose Avenue and Venice Boulevard. Of this total, buses on Lines 3, 4, 26, 44, 75 and 83 represent about 1.2 percent of the total daily traffic. The daily passenger boardings on these buses are in excess of 221,000. The buses carry approximately 37,000 passengers per day in both directions, across La Brea Avenue (the west-Wilshire Screen Line) and 60,000 across Vermont Avenue (the east-Wilshire Screen Line). Although the bus trips represent just 1.2 percent of the total daily traffic, they carry approximately 11 percent of all person trips crossing the westerly screen line and 19 percent of those crossing the easterly screen line.

Similarly, 200 to 250 thousand vehicles travel north and south on a daily basis in that portion of the Wilshire community bounded by Fairfax Avenue and Vermont Avenue. Bus trips in this corridor on Lines 84, 85, 95 and 96 represent only 0.5 percent of the daily traffic. Transit passengers daily total between 27,000 and 32,000 crossing the north and south boundaries of the Wilshire community, respectively. The total daily line volume of the north south travel on the northerly boundary is between 10 and 11 percent.

The largest ridership on SCRTD bus lines serving the Hollywood-Wilshire area occurs on Wilshire Boulevard where Line 83 carries about 17,000 persons per day at Wilton Place. The largest volume of buses in the Wilshire District also travels on Wilshire Boulevard. Daily patronage on Line 83 is in excess of 56,000.

In addition, many other bus lines besides Line 83 travel on portions of Wilshire Boulevard. The highest directional peak-hour volume of

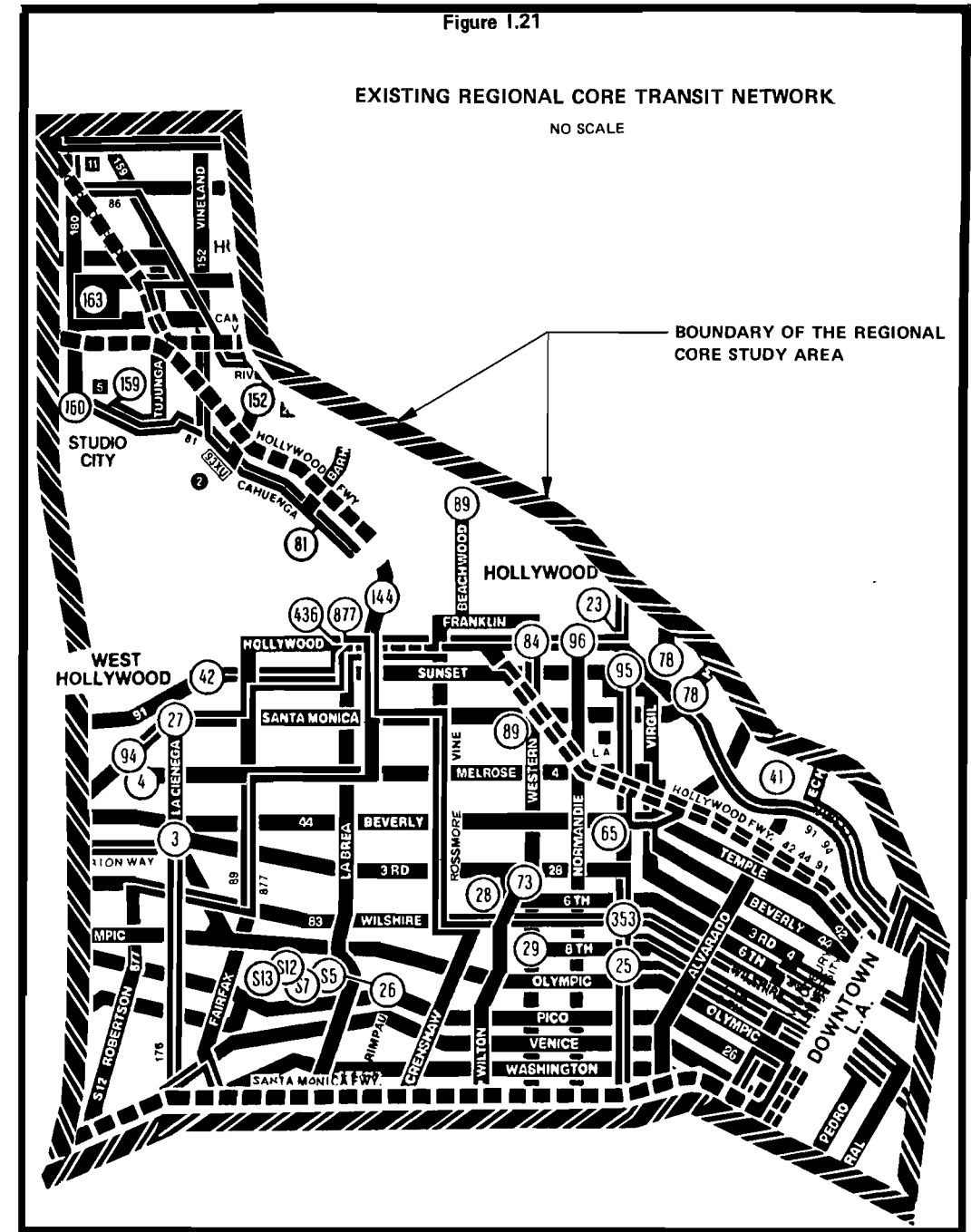


FIGURE I.22

Highest Patronized SCRTD Bus Lines  
1976 - 1977

<u>Rank</u>	<u>Bus Line</u>	<u>Street or Destination</u>	<u>Serves Hollywood- Wilshire Area</u>	<u>Daily Patronage</u>
1	83	Wilshire Bl.	Yes	56,780
2	4	Melrose Ave.-Olympic Bl.	Yes	45,570
3	26	W. Pico Bl.-1st St.	Yes	45,420
4	91	Hollywood Bl.	Yes	31,940
5	44	Beverly Bl.-W. Adams Bl.	Yes	31,340
6	28	7th St.-Whittier Bl.	Yes	28,960
7	3	6th St.-Central Ave.	Yes	28,610
8	6	Highland Park-South Central L.A.	No	26,250
9	85	La Brea Ave.-Crenshaw Bl.	Yes	25,970
10	9	Jefferson Bl.-South Gate	No	24,160
11	95	Vermont Ave.	Yes	23,900
12	5	South Bay-Union Station	No	21,790
13	50	Florence Ave.-Soto St.	No	19,000
14	89	Fairfax Ave.	Yes	18,810
15	29	W. 7th St.-San Pedro St.	Yes	18,680
16	42	Sunset Bl.	Yes	18,530
17	94	Santa Monica Bl.	Yes	18,170
18	93	W. San Fernando Valley-LA CBD	Yes	17,690
19	75	Venice Bl.	Yes	17,360
20	7	Eagle Rock-South Broadway	No	17,130

SOURCE: SCRTD, Service Analysis Group, On-Line, On-Board Survey

all bus lines on Wilshire Boulevard is around 37 westbound buses at Vermont Avenue. At this location, although bus volumes represent only 1.7 percent of the total traffic on Wilshire Boulevard, bus passengers are estimated to represent about one-third of all person trips.

In the Los Angeles CBD, local and express bus service has increased with the help of local, State and Federal subsidies. Some of the highest directional peak-hour bus volumes have been observed on northbound Hill Street at Fifth Street with approximately 156 buses per hour and in the northbound contra-flow bus lane of Spring Street for one block at First Street with over 160 buses per hour.

The San Bernardino Freeway Express Busway, which serves Downtown Los Angeles and Wilshire Boulevard to Western Avenue, has enjoyed a steady increase in bus ridership with up to 18,000 passengers per day in May, 1977. Also, the minibus system which also serves Downtown Los Angeles has carried, in the past, as many as 11,000 passengers per day when the fare was 10 cents. Current ridership on the minibus system is approximately 6,000 passengers per day with a 15 cent fare.

Although transit patronage is heavy there are several problems with meeting the demand with standard buses. The principal problems are speed, and capacity. Each of these problems is discussed below:

#### a. Bus Speeds

Buses operating on surface streets are inherently slower than automobiles. This is because the buses are subject to the same delays as automobiles (traffic signals, speed limits, congested streets, etc.) and, in addition, must make stops to permit passenger entry and exit. Furthermore, the delays due to passenger operations increase with increases in bus loadings. This is because more stops will be made and each stop is long due to the difficulty of passenger movement through, onto or off of a bus crowded with standing passengers.

#### b. Bus Capacity

Several bus lines, such as the number 83, 3 and 4 described above, are capacity limited and could develop more patronage if the frequency of buses could be increased without inefficient "bunching" of buses.

The Southern California Rapid Transit District understands the problems of their overloaded routes and shares the concerns of their customers relative to the quality and quantity of service on these routes. Unfortunately there is no easy solution to the problems. The buses are currently operating as frequently as every three minutes on such routes. Due to problems of traffic congestion and variable loading patterns it is not possible to keep all of the vehicles evenly separated on a route. When two vehicles get too close together, the first vehicle will collect all of the passengers and become heavily overloaded (usually such a vehicle is running late and hence collects more than a normal load). The second vehicle will then be very lightly loaded and hence under-utilized. Such bunching or platooning of buses is likely whenever the interval between buses is less than two cycles of the traffic signal system. Because of the problem of bus bunching, adding more buses would not effectively solve the capacity problem (more buses will bunch, resulting in more lightly loaded buses, and many passengers will still be on overcrowded buses).

The basic problem on such routes is that the passenger capacity of standard buses is not adequate to meet the travel demands of their service areas. Furthermore, the design of the buses is such that comfort and speed decrease significantly under heavy loads. Bus speeds are reduced as loads increase, irrespective of traffic congestion. Each additional passenger boarding through the front door past the fare box increases dwell time at bus stops by two or three seconds.

Moreover, as loadings approach "crush" capacity, dwell time increases rapidly because of on-vehicle congestion in aisle areas<sup>(2)</sup>. The faster a vehicle moves (within safety limits) the more quickly it can serve its passengers and the more passengers it can serve in an hour.

<sup>(2)</sup>"Bus Capacity Analysis", Transportation Research Board 546, 1975, W.F. Hoey and H.S. Levinson

Hence, the overloading of buses reduces the productivity of the vehicles and their drivers. As the average bus speed decreases, more buses are needed to provide the same frequency of service (i.e., line-haul capacity). Increased field supervision of bus operations, crowd control at the heaviest bus stops, use of new technology Automatic Vehicle Monitoring (AVM) systems, and use of all doors for boarding at the heaviest bus stops might alleviate the problem to some extent. (The District, with UMTA's cooperation and funding, is currently pursuing the testing and use of AVM for the study areas.) However, even if these measures reduce the bunching problem, they will not be able to fully meet the problems of capacity limitations, speed reductions and high driver costs.

#### 9. Planned Improvements in Transit Service

The SCRTD has acquired thirty (30) 3-door, 60-foot articulated buses for service on the Hollywood and Wilshire Boulevard lines. These vehicles have approximately 50 percent more capacity than a standard bus.

The increase in capacity in these corridors will help to provide some relief in meeting the future transit needs of this area.

#### 10. Justification for Major Transit Improvements

From the foregoing pages, the following conclusions about the existing transportation system in the Regional Core can be drawn:

- Two freeways planned for the Regional Core were deleted by public demand.
- No new freeways will be built in the Regional Core, which is the most congested region of Los Angeles not directly served by freeways.

- The arterial street system is congested and inadequate to meet current and future traffic demands in spite of widespread traffic control measures.
- The bus transportation system is carrying large numbers of people in congested streets at average speeds of about 10-12 mph, and is close to its practical capacity. It cannot meet potential demand.

To best meet the present and future transportation needs of the Regional Core requires the implementation of a higher capacity, higher speed and thus more efficient transit system.

In this report eleven alternative transit systems (including the Board Preferred Alternative II) are analyzed to determine which project best meets the transportation needs of the Regional Core, while satisfying other social, economic and environmental goals and objectives.



## **II. DEVELOPMENT OF ALTERNATIVES**





## II. DEVELOPMENT OF ALTERNATIVES

The Regional Core Transit Alternatives Analysis is the latest of a series of rapid transit planning efforts in the Los Angeles region, which have progressively narrowed down the options to focus upon the areas of greatest need. This chapter presents the planning history of rapid transit in Los Angeles, the general regional goals for which transportation is especially important, and specific guidelines which led to the transit system alternatives evaluated. Following the planning history, goals and guidelines, the eleven alternatives studied (including the Board Preferred Alternative II) are presented with respect to service area, route, stations and type of facilities required. And finally, the rationale for the Locally Preferred Alternative is presented.

### A. BACKGROUND OF RAPID TRANSIT PLANNING EFFORT

Publicly-sponsored planning for rapid transit in Southern California began in 1925 with a consultant report to the City and County of Los Angeles on a comprehensive rapid transit system. In 1951, the California State Legislature created the Los Angeles Metropolitan Transit Authority (LAMTA) to study the area's rapid transit needs. LAMTA acquired the two major privately owned Los Angeles regional bus systems in 1958, and between that year and 1963 prepared studies of a four-corridor rapid transit system and an initial "Backbone Route". Because of funding problems, LAMTA was unable to carry out any of its rapid transit proposals, although it did expand the bus system.

#### 1. 89 Mile-Regional Rail Transit System Proposal in 1968

The Southern California Rapid Transit District (SCRTD) succeeded LAMTA in 1964, with a legislative mandate to construct and operate a rapid transit system in its service area. SCRTD proposed an 89-mile, 5-corridor system to the voters in 1968, which did not win approval. Planning for rapid transit continued, however, and received encouragement in 1971 with passage of the Transit Development Act (SB 325) under which the State Legislature earmarked part of the general sales tax revenues for local transit subsidies.

The study effort which has led into the present AA/EIS/EIR began in 1972, with the approval by UMTA of a technical studies grant for comprehensive transit planning. This was directed by SCRTD, with the assistance initially of a Technical Advisory Committee (TAC), composed of members from the SCRTD, the City and County of Los Angeles, the Orange County Transit District (OCTD), SCAG and the League of California Cities. The TAC issued a report in 1973 on Phase I (Initial Planning) recommending eight primary regional transportation corridors for initial consideration. These corridors were selected, based upon analyses of travel patterns performed by the Los Angeles Regional Transportation Study (LARTS) branch of CalTrans.

A key element in the Phase I activities was obtaining public input, feedback and consensus on transportation needs. This was carried out by means of formal meetings with community groups, presentation to special interest groups and public hearings. SCAG conducted an attitudinal survey on a representative sample of the region's population and obtained thereby much valuable information on the public's perception of transportation needs and problems.

Phase I moved into Phase II (Plan Refinement) and then into Phase III (Alternatives Analysis), with the evaluation by SCAG of seven systems ranging from "No Build" (Null) to a regionwide fixed guideway system.

## 2. 240-Mile Regional Rail Transit System Proposal in 1974

In 1974, the SCRTD proposed an ultimate 240-mile fixed guideway system, and the SCRTD Board of Directors adopted an initial 145-mile system. This system would have been financed by a 1¢ addition to the sales tax in Los Angeles County. In the referendum the proposal was defeated by a 47% to 53% margin. However, the majority of the voters in the cities of Los Angeles (which contains the Regional Core), Beverly Hills, Santa Monica and Compton voted in its favor.

## 3. Regional Alternatives Analysis Study, 1975-1976

In 1975, the District Board established a Rapid Transit Advisory Committee (RTAC), to guide the continuing transit planning effort.

This committee had a broader constituency than the TAC and included members from other cities in Los Angeles County.

The RTAC planning effort identified eleven corridors, of which three were given more thorough evaluation. The three were combined into a Rapid Transit Starter Line Corridor (See Figure II.1). Within and around this corridor, fifteen alternatives were developed, based upon three modes (bus, light rail and heavy rail) and low and high levels of investment. These alternatives were classified as follows:

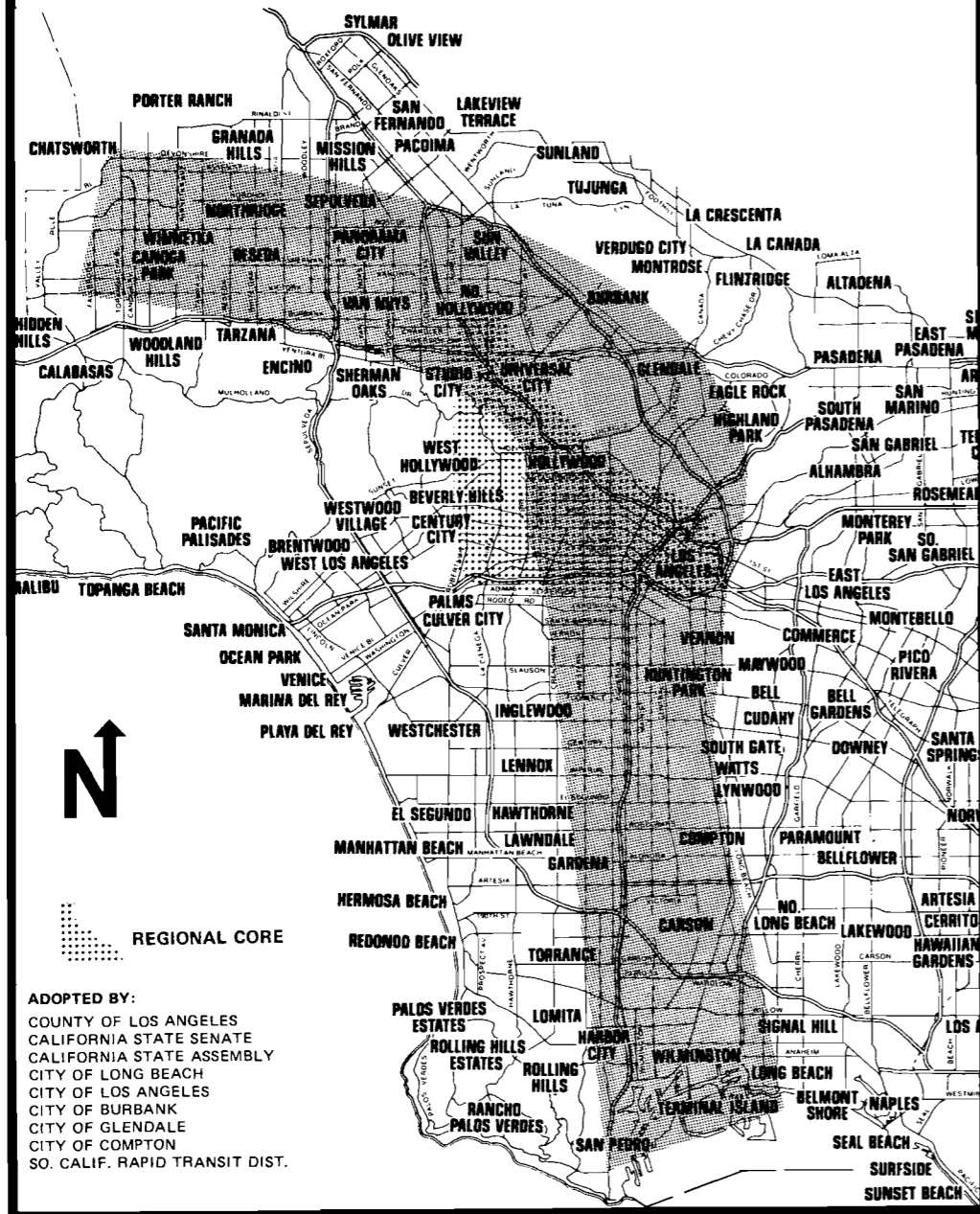
- Eight Corridor Alternatives representing combinations of all-bus and rail/bus transit on different alignments and types of facilities within the Starter Line Corridor.
- Two Regional Alternatives using buses on freeway alignments throughout the region.
- Five Initial Increment Alternatives using heavy rail transit on different segments within the Starter Line Corridor.

The results of the study effort were published by SCRTD in the following four volumes:

- (1) "System Level Evaluations", Final Report 'A' of Technical Analysis of Rapid Transit Alternatives for Los Angeles, April, 1976.
- (2) "Cost-Effectiveness Analysis of Alternatives", Final Report 'C' of Technical Analysis of Rapid Transit Alternatives for Los Angeles, June, 1976 (revised September, 1976).
- (3) "Corridor-Level Environmental Impact Report", Final Report B of Technical Analysis of Rapid Transit Alternatives for Los Angeles, August 25, 1976.
- (4) "Technical Analysis of Rapid Transit Alternatives for Los Angeles", July, 1976 (revised September 30, 1976).

Figure II.1

ADOPTED RAPID TRANSIT STARTER LINE CORRIDOR



4. Four Element Regional Transit Development Program

Based upon the results of the study completed in September 1976, key officials of the directly involved state and local jurisdictions concurred in a Regional Transit Development Program (RTDP) composed of the following four elements:

- Element I Transportation Systems Management (TSM), low cost improvements to the existing regional bus systems.
- Element II Freeway Transit, consisting of new busways on, and free-flow improvements to freeways, and a high-occupancy vehicle (HOV) program.
- Element III Downtown People Mover, a downtown Los Angeles circulation system, including a "People Mover".
- Element IV Regional Core Rapid Transit System, an initial segment of rail rapid transit in the Los Angeles Regional Core.

These elements address the various modal components of the proposed Los Angeles public transportation system and are designed to facilitate the movement of people throughout the region. The RTDP aims to develop an integrated transportation system with planning and programming activities administered on local, county, regional and national levels.

The following outlines the major features and functions of the RTDP's first three elements and their relationship to the fourth, the Regional Core Rapid Transit Element.

a. Element I - Transportation Systems Management

The Transportation Systems Management (TSM) Element will study how transportation needs can be satisfied through more efficient utilization of existing facilities and with minor capital improvements.

This Element proposes to supplement the current regional bus system with additional local buses, freeway flyers, and parking lots. Implementation of this short range program (approximately 5 years) will have a relatively low capital outlay.

The TSM plan incorporates a multifaceted approach. The components for immediate action are:

(1) Transit service and facilities improvement program by RTD and municipal operators to:

- Update and expand fleet through bus acquisition.
- Provide more frequent service and better loading standards in areas affected by service economies.
- Reinstate night and weekend services in the most promising areas.
- Improve operating efficiency.
- Promote increased transit usage.
- Improve community-level transit services.
- Improve maintenance facilities.

(2) Preferential Treatment Program on streets and freeways by RTD, municipal operators, CalTrans, County of Los Angeles, and various cities to:

- Expand bus service on freeways.
- Develop joint agency projects for preferential treatment.

- Expand arterial, limited and express bus service.
- Expand park-ride facilities.

b. Element II - Freeway Transit/HOV

The transit part of the Freeway Transit/High Occupancy Vehicle (HOV) Element of the Regional Transit Development Program consists of a regional express transit service provided by buses operating on the freeway system and stopping at freeway transit stations where users can transfer to and from local buses or automobiles. Four types of stations are proposed: (1) transit centers which provide access to local bus lines serving a community; (2) on-line stations which provide access to local highways and local bus lines; (3) freeway to freeway transfer stations, and; (4) intermodal stations which provide access to the Downtown People Mover and/or the Regional Core Rapid Transit System.

Freeway transit buses would operate in mixed traffic, where free flow conditions prevailed, and on special lanes or rights-of-way in congested areas. High-occupancy vehicles (such as carpools and vanpools) would be allowed to share such reserved facilities with the buses.

c. Element III - Downtown People Mover

The Community Redevelopment Agency's (CRA) proposed Downtown People Mover is envisioned as an automated guideway transit system for the Los Angeles CBD. It would provide linkage between major transit origin - destination points such as Union Station, the Civic Center governmental complex, the Bunker Hill area, the Flower Street financial center, major hotels and the Convention Center. The People Mover would link with the Rapid Transit System at at least two downtown destination points.

d. Element IV - Regional Core Rapid Transit System

Element IV, the subject of this report, is a rail rapid transit system serving the heavily developed areas of the Los Angeles CBD, the Wilshire Corridor, Hollywood and North Hollywood. The rail alternatives (including the Board Preferred Alternative II) studied for this element are based upon Initial Increment Alternative E (See Figure II.2) of the 1976 regionwide Alternatives Analysis. The system would be integrated with the other three elements of the RTDP through common transfer points. More detailed discussions of the interrelationship of Element IV and the other RTDP elements are found in the following sections: Description of Alternatives (Chapter II); Patronage (Chapter III); and Financial Feasibility (Chapter VI).

e. Action on the 4-Element Program

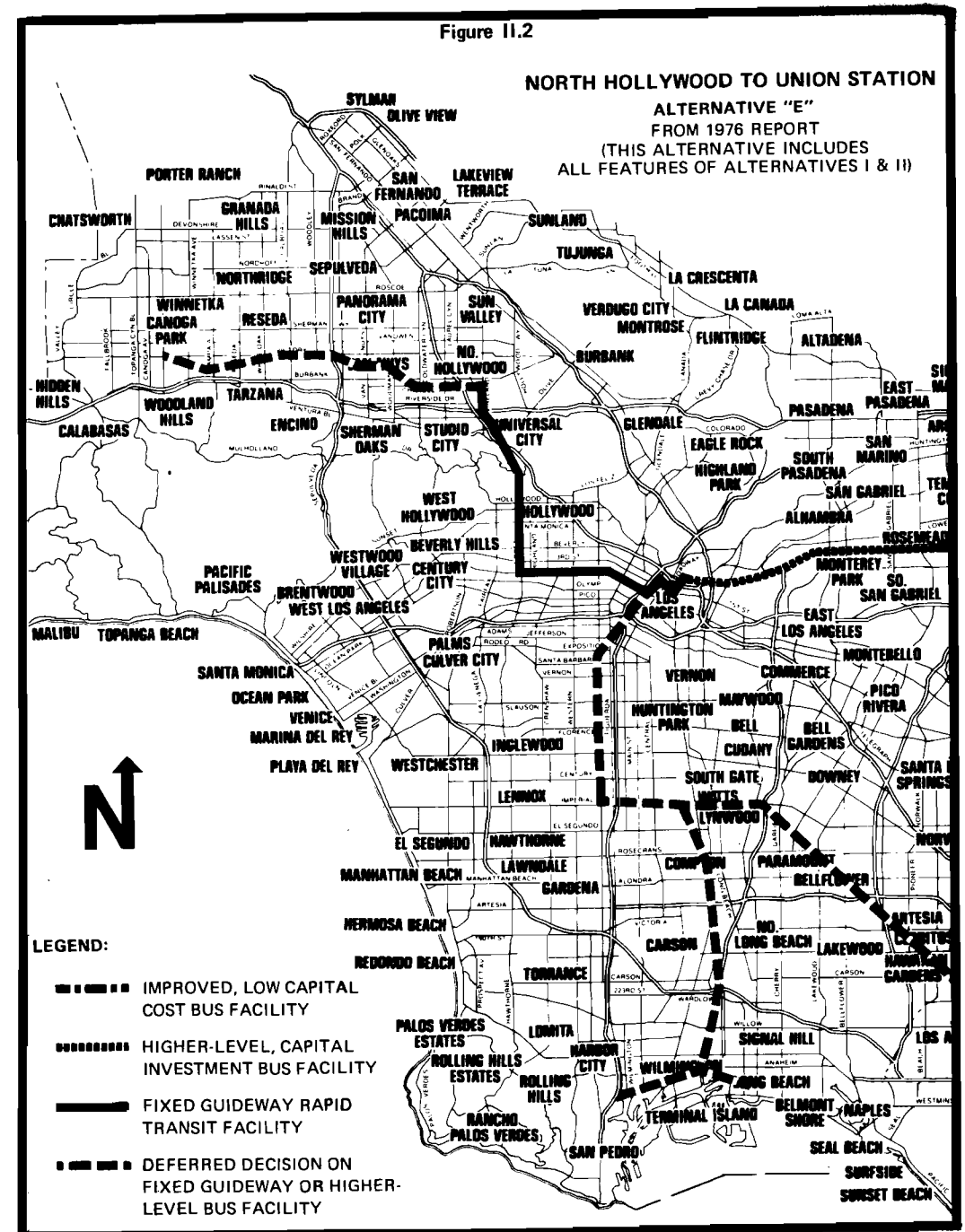
In December 1976 by letter addressed to the SCRDT and the Mayor of the City of Los Angeles, the U.S. Secretary of Transportation approved proceeding with preliminary engineering on Elements I, II and III, subject to the proviso that they complete the environmental impact process. Regarding Element IV, however, it was stipulated that the SCRDT should do "initial" engineering only on both rail rapid transit and all-bus alternatives within the Wilshire -La Brea corridor and develop an accompanying environmental impact statement. This is in accord with UMTA policies which favor the "incremental approach" in the development of rail rapid transit systems.

f. Present Status of the Four-Element RTDP

The present status of the Four-Elements of the RTDP is as follows:

- Element I, TSM, is a continuing program of the SCRDT and other agencies, the results of which will be realized over several years.
- Element II, Freeway Transit, is advancing with respect to the following items:

Figure II.2



- U. S. Department of Transportation approval and funding has been given for preliminary engineering and environmental impact analysis of HOV/bus lanes on the Santa Ana Freeway between Union Station and Beach Boulevard in Buena Park, a total of 17.5 miles.
  - The U. S. Department of Transportation has re-designated the Harbor Freeway as an interstate highway, thereby making eligible for Federal funding assistance an 8-mile HOV/bus facility between Adams Boulevard and I-105 and PE/EIS work has been authorized.
  - I-105 (Century Freeway) has been approved by the U. S. Department of Transportation for construction. This 17-mile facility will have a transitway in its median.
- Element III, DPM: Preliminary engineering and the EIR have been completed. The EIS is now being prepared.
  - Element IV, Regional Core: Completed alternatives analysis and environmental impact assessment, Draft Report public hearings and selection of Preferred Alternative. Results are subject of this Final Report.

## B. STUDY OBJECTIVES

This section includes a review of the present day goals and objectives as set forth by the various responsible agencies, and the guidelines used for developing the alternatives evaluated in this analysis.

### 1. Present Day Goals and Objectives

These goals and objectives are the stated and adopted policy statements by responsible agencies and relate to the long range preservation and improvement of this region's physical environment and its urban and social structure. The evaluation of alternatives in this

study is an effort to determine which course of action enables progressing most satisfactorily towards the achievement of these stated goals and objectives.

In the area served by the proposed Los Angeles Regional Core Rapid Transit System, goals and objectives are developed by the following six governmental entities: (1) the City of Los Angeles; (2) the Los Angeles County Transportation Commission; (3) the County of Los Angeles; (4) the Southern California Association of Governments; (5) the State of California; and (6) the United States Government. The formal plan and policy statements underlying the material presented in this chapter are as follows:

City of Los Angeles, Concept Los Angeles  
April 3, 1974, (Cited as "Concept")

County of Los Angeles, Department of Regional  
Planning, Preliminary General Plan, Summary,  
January, 1978. (Cited as "County")

President Carter's 1978 Urban Policy Initiatives,  
as reported in Journal of Housing,  
May, 1978. (Cited as "President")

Southern California Association of Governments,  
Draft 1978 Regional Transportation Plan  
1978. (Cited as "SCAG")

State of California, Office of Planning and  
Research, An Urban Strategy For California,  
February, 1978. (Cited as "State")

United States Department of Transportation,  
Urban Mass Transportation Administration,  
"Policy Toward Rail Transit", Federal Register,  
Vol. 43, No. 45, Tuesday, March 7, 1978.  
(Cited as "UMTA")

The goals and objectives presented in such statements are very broad and diverse and range from a statement of ideals and principles, to plans having the force of law.

The goals and objectives related to transportation are set forth below in five categories. All have been extracted from, and referred to, the documents previously listed.

a. Conservation of Natural and Cultural Resources

Reduce air pollution and petroleum consumption; preserve open space and retard urbanization of agricultural land.

- (1) Reduce emissions attributable to the transportation system equivalent to a reduction of vehicle miles traveled of 5% in each five-year period from 1980 to 1995. (SCAG, p. 4)
- (2) Reduce fuel consumption by the transportation system equivalent to a reduction of vehicle miles traveled of 5% in each five-year period from 1980 to 1995. (SCAG, p. 4)
- (3) Promote the development of a transportation system that will make a positive contribution to air quality. (County, p. 1-12)
- (4) Preserve open space (Concept, p. 2)
- (5) Protect agricultural lands from premature or needless conversion to urban uses. (State, p. 18)

b. Land Use and Urban Form

Guide regional urban development into a more structured form, with evenly-spaced, high-density centers linked by high-intensity transportation corridors.

- (1) Preserve the low density residential character of Los Angeles, except where higher density centers are encouraged. (Concept, p. 1)
- (2) Maintain and reinforce the decentralized pattern of regional centers and corridors. (County, p. I-10)
- (3) Promote a more concentrated pattern of urban development. (County, p. I-10)
- (4) Encourage the development of regional multipurpose centers. (County, p. I-10)
- (5) Minimize the need for long distance travel by guiding development of the region into self-sufficient metros. (SCAG, p. 3)
- (6) Develop centers which function as focal points for adjacent suburbs and nodes. (Concept, p. 3)
- (7) Locate medium and high density housing close to centers. (Concept, p. 1; County, p. I-11)
- (8) Do not develop land to such intensities that traffic will exceed the capacity of the circulation system. (Concept, p. 6)

c. Conservation of the Urban Environment

Revitalize and develop, as much as possible, existing urban areas rather than urbanize new land.

- (1) Curb wasteful urban sprawl and direct new development to existing cities and suburbs. (State, p. 9)
- (2) Revitalize central cities and neighborhoods and eliminate urban blight. (State, p. 9)

- (3) Promote reversal of the trend toward population loss in older urban areas. (County, p. I-9)

d. Social

Improve mobility of people and enhance access to employment and urban services.

- (1) Provide employment opportunities and commercial services at locations convenient to residents (Concept, p. 1)
- (2) Balance population growth with available facilities. (Concept, p. 2)
- (3) Encourage the location of employment opportunities in regional centers, corridors and the Regional Core District. (County, p. I-11)

e. Transportation

Create a multimodal transportation system integrated with planned land use and furnishing a high level of mobility for all people. Particular emphasis shall be given to public transportation.

- (1) A mass transportation system shall be developed that will (1) provide a viable alternative to the automobile (2) satisfy the transportation needs of commuters, the economically disadvantaged, the young and the handicapped and (3) provide service at reasonable and equitable cost to both users and the general community (County, p. V-3)
- (2) Optimize the speed and convenience of transportation modes (Concept, p. 1)
- (3) Increase transit ridership currently 3.36%, to 6% of all person trips in the region by 1990. (SCAG, p. 4)

- (4) Create a rapid transit system as an essential part of the City of Los Angeles General Plan. (Concept p. 5)
- (5) Support development of an initial portion of a guideway transit system, as well as other types of systems which can be justified. (SCAG, p. 5-1)
- (6) Support development of a mass rapid transit fixed guideway or exclusive bus lane facility, when sufficient patronage and public support is assured. (County, p. V-4)
- (7) Implement intermodal transit programs to complement urban economic development purposes and revitalize communities. (President, p. 224)
- (8) Give preference to initial rail segments serving densely populated central portions of metropolitan areas. (UMTA, p. 9429)
- (9) Implement a program of local supportive policies and actions designed to enhance the proposed (rail) system's cost-effectiveness, patronage and prospect for economic viability.

2. Guidelines For Developing Alternatives

Based on the above general Goals and Objectives, specific guidelines were prepared to assist in determining and developing the alternatives (including the Board Preferred Alternative II) to be evaluated. These guidelines are as follows:

a. System Objectives

- (1) Mobility



- Provide a very necessary improvement in the level of mobility in the Los Angeles CBD-Wilshire-Hollywood-North Hollywood Regional Core Area.
- Integrate the corridor transit system with the other three elements of the RTDP, so that convenient regional access is provided for all corridor residents.
- Maintain and improve transportation system safety and dependability for both users and non-users.

(2) Cost-Effectiveness

- Maximize system capital and operation cost-effectiveness in the Regional Core in terms of passengers and passenger-miles, over a foreseeable range of passenger volumes.

(3) Land Development

- To be complementary and compatible with regional and local transportation and urban land development goals.
- To support City and County plans for land development along Wilshire Boulevard and for the revitalization of Downtown Hollywood and North Hollywood.

(4) Environment

- To complement and support regional energy conservation and air quality goals.
- To minimize displacement, disruption, disturbance, and noise exposure to residential and employment areas in the Regional Core.

- To reduce vehicle miles travelled on Regional Core surface streets to the extent that this can be accomplished without arbitrary restraints and delays.
- To make the most efficient use of existing transportation energy resources and to improve the ability of the transportation system to use alternative energy sources in the future.

b. System Planning Policies

Within the goals framework, the various bus and rail transit alternatives are intended to perform the following functions:

- (1) Reducing line-haul transit travel times for such principal commuter groups as:
  - San Fernando Valley - L.A. Central Area
  - West Los Angeles-Wilshire-LACBD
  - Hollywood - Wilshire Activity Centers
- (2) Distributing transit passengers between north-south lines and the activity centers along Wilshire Boulevard.

c. Station Location Policies

Station locations for both rail and bus alternatives are governed by the following policies.

- (1) Station spacing shall be sufficient for trains and buses to achieve average speeds competitive with those of private autos.
- (2) Specific station sites should be located to encourage joint development and to maximize "value capture" possibilities.

- (3) Station spacing within major activity centers (e.g., LACBD) shall be such that a comfortable maximum walking distance is maintained (say one-quarter mile or 1320 feet).
- (4) At other activity centers, station spacing shall be such that walking distance between stations does not exceed the maximum walking distance (usually 0.5 mile).
- (5) The environmental impacts of stations, and particularly of the local bus and auto traffic which they generate, shall be considered in selecting specific sites for stations of various types.
- (6) Stations shall be located so that the routes serving them can be reasonably direct and can follow existing streets and easements.
- (7) Park-and-ride stations shall have easy access from free-flowing arterials and freeways, upstream from normal A.M. peak congestion and queueing.
- (8) Bus transfer stations shall be located so that diversion of local routes from direct paths will be minimized.
- (9) Specific station sites must be feasible to develop in terms of land cost, construction cost, access and egress capacity, local circulation impacts, and community acceptance.

d. Parking Location Policies

Parking location policies for corridor transit should be similar to those for freeway transit, (Element II of the RTDP):

- (1) Parking should be convenient to the station site. The maximum desirable walking distance to the station platform shall not exceed 0.25 mile (1320 feet).
- (2) Parking access and egress should be direct.
- (3) Parking sites should desirably use land already dedicated to transportation, such as freeway interchanges, power line easements, or airport approach areas.
- (4) The environmental impacts of user auto traffic shall be considered in locating and sizing parking facilities, and facilities (including their access and egress) shall be designed so as to minimize adverse environmental impacts.
- (5) Where feasible, park-and-ride stations should use existing parking (e.g., drive-in theaters, bowling alleys, or shopping centers with a Saturday peak demand) for joint use.
- (6) Parking lot and structure sizes shall be based on the projected patronage.
- (7) Parking policies within regional activity centers should be designed to improve public transportation system growth and development.
- (8) The locations of parking facilities shall be acceptable to the local jurisdiction (i.e., City or County governing body) in which they are located.

e. System Interface Policies

It is assumed that SCRTD will revise its routes and schedules to feed the express rapid transit rail or bus alternatives.

- (1) Wherever feasible, surface transit routes will be revised to feed passengers to the high capacity, express rail rapid transit or bus lines. As previously noted, stations will be so located and designed to facilitate access and transfer from all existing and planned travel modes serving the surrounding area.
- (2) Existing municipal and local operators will be encouraged to extend their routes (on a closed-door basis) to serve express rail rapid transit stations (e.g., Santa Monica Line S-5 might be re-routed from Pico via La Brea to a connection with the Wilshire line).

f. System Loading Policy

Rail service will be designed to maintain schedules with a load factor (passengers per seat) of 2.2 at the maximum load point of the system. Standard and articulated buses will be designed to provide local and express service with a load factor of 1.4 through the maximum load point. These load factors will allow the same floor space per passenger (approximately 5 square feet) for all three vehicle types.

C. DESCRIPTION OF ALTERNATIVES

1. Introduction

Based on the General Goals and Objectives for the Los Angeles Metropolitan area and the Guidelines for Developing Alternatives in the Regional Core Corridor, eleven rail/bus and all-bus alternatives (including the Board Preferred Alternative II) were developed for detailed review.

These eleven alternatives, designed to meet the transportation needs of the Regional Core Corridor, range from low to high level improvements and consist of five rail/bus, five all-bus and one "no build" all-bus alternative.

The design of the alternatives is conceptual in nature, and is subject to changes during further project development. The objective of the AA/EIS/EIR is to analyze alternatives, based upon limited engineering data, for the purpose of selecting a preferred mode and general alignment. Specific design features have been assumed (again, based upon conceptual design) for the purpose of environmental impact assessments.

Further refinement of the Preferred Alternative will have to await Preliminary Engineering. It is conceivable that, as a result of the more exacting assessments undertaken during Preliminary Engineering, certain design modifications will be desired. There will be an opportunity for public review and comment on this supplemental work, since it will be documented as a supplemental or "tiered" EIS.

Each alternative is designed to represent a typical example of different levels of investment, levels of auto traffic restraint, and levels of service to transit users.

The five Rail/Bus Alternatives vary by alignment and length ranging from a maximum of 18.6 miles to a minimum of 8 miles. They could be either subsurface or aerial guideway. Cost estimates and environmental impacts have been developed for both subsurface and aerial guideway configurations, but fiscal analysis has been based on subsurface construction. If funds are made available for subsurface construction, which is more expensive than the aerial configuration, it follows that funding for the latter would also be possible.

The five All-Bus Alternatives range from an exclusive aerial busway, which represents the highest level bus improvement, through several medium level exclusive lane treatments on surface streets, to low level Transportation Systems Management (TSM) type improvements consisting of additional service on existing bus lines. A sixth "No Build" or "Existing Service Only" represents no improvements, but provides a base point or "control case" for evaluation of the other alternatives. All of these alternatives were designed to work in conjunction with the existing bus network which provides service within and through the Regional Core Corridor. This bus network, termed the "background" bus system, presently consists of approximately 40 bus lines totalling 720 miles of "routes" and serviced by a fleet of about 775 standard

buses. These lines carry a ridership of about 400,000 daily passenger trips into, within and from the Regional Core at an annual operation cost of approximately \$73 million.

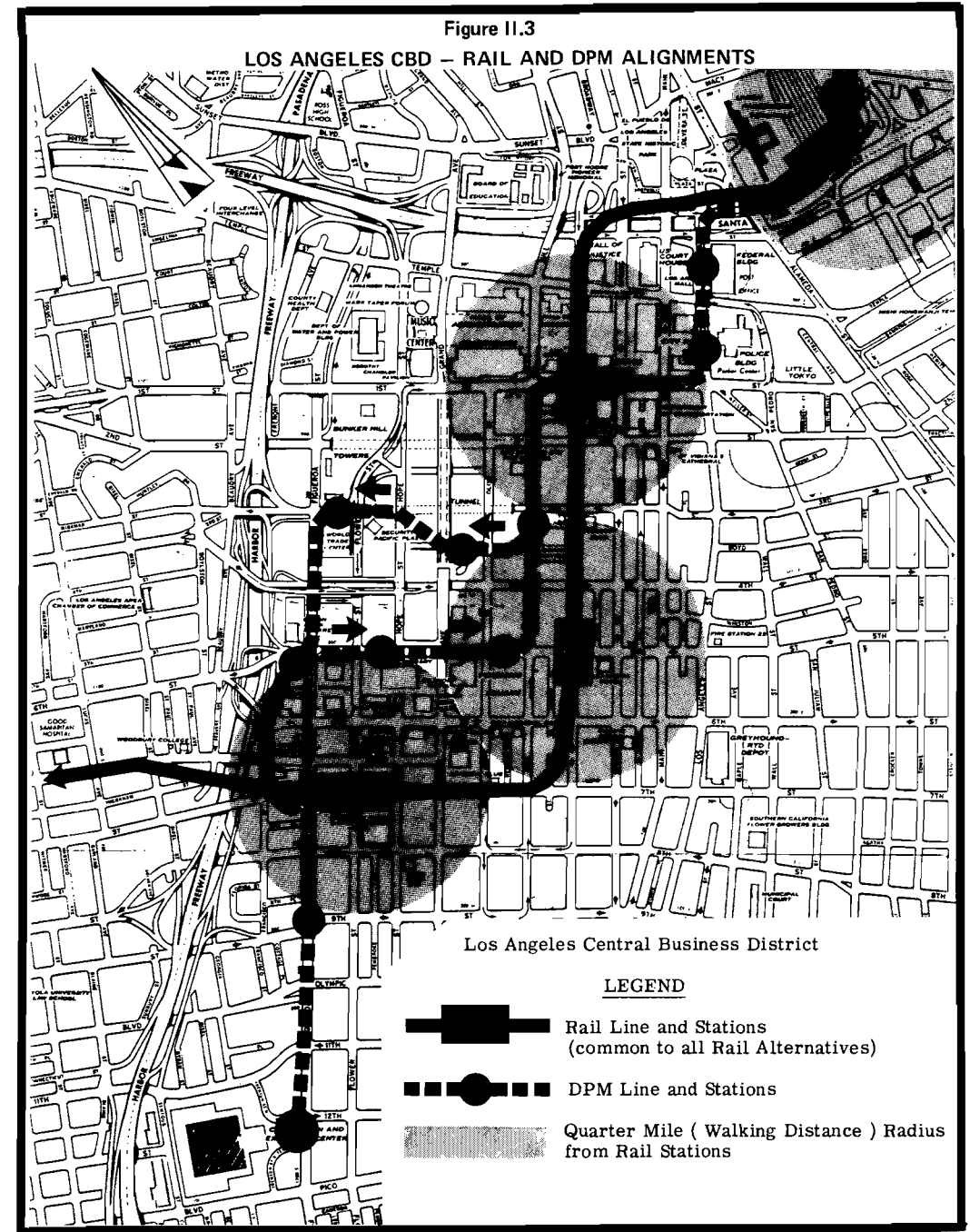
In addition to service improvements, such as exclusive lanes on Wilshire, or a rail line on Wilshire in specific alternatives, each alternative included service improvements on all bus lines in the background bus system. Under the rail alternatives, these improvements included the provision of additional buses for feeder service to rail stations, and at the same time, reductions in existing bus service which would duplicate a rail line.

Interface with the DPM

Several assumptions regarding other elements of the Regional Transportation Development Program have been used in this analysis. Foremost among these is the existence of the Downtown People Mover (DPM), a grade separated, collection-distribution system proposed for the Los Angeles CBD. Preliminary Engineering work is currently underway on this project which is being administered by the Community Redevelopment Agency.

Figure II.3 shows the DPM and Rail Line alignments in the CBD and the geographic inter-relationship between them. The DPM is approximately 3.2 miles in length. Its northern terminal is located at Union Station where it will interface with both the eastern terminal of the rail line and the El Monte Busway. Its southern terminal is located at the Los Angeles Convention Center and eleven stations are planned between the terminals.

Aside from the Union Station intercept, the rail line intersects the DPM at the Civic Center and in the vicinity of 7th & Flower, the heart of the financial district. These are the two major employment centers in downtown Los Angeles. There is a semi-direct interface between the two facilities in the mid Los Angeles area; a rail rapid transit



station is planned at 5th & Broadway, and a DPM station is planned at 5th and Hill, just one block or 400 ft. away. All but four DPM stations lie within walking distance (1/4 mile) of the rail stations.

In terms of service, the DPM will serve the circulation and distribution trips in the CBD. Circulation trips begin and end in the downtown. Distribution trips are trips which have only one trip-end in the downtown.

The DPM is being designed, according to the EIR published by the Community Redevelopment Agency, to accommodate trains that will carry up to 3500 passengers per hour in the peak direction. Trains are expected to operate in headways ranging 1.5 minutes in the peaks to 5.0 minutes during the non-peaks. The average speed of the DPM trains will be about 13 mph.

The rail alternatives and the CBD stations and alignments are discussed further on in this section. The patronage impacts between the DPM and the various Regional Core Rail/Bus and All-Bus Alternatives is discussed in the Patronage Section of this report.

#### Interface with the Hollywood Freeway

The only part of the Freeway Transit element of the RTDP which could have significant impact in the Regional Core is a facility on the Hollywood Freeway. CalTrans proposes to build an aerial structure along this freeway for exclusive bus and carpool use. The patronage impact of this facility on the eleven alternatives has been evaluated in this report. This is addressed in detail in the Patronage Section of the Transportation Chapter (III.A.).

Descriptions of each of the alternatives are given below:

## 2. Rail Alternatives

### a. General Operating Characteristics

The first five alternatives are rail rapid transit/bus alternatives and include rail starter lines ranging in length from 8 to 18.6 miles. A summary of the operating characteristics of such a system is presented in Figure II.4. All of the rail alternatives serve the Los Angeles Central Business District (LACBD) and Union Station (interfacing with the Downtown People Mover and El Monte Busway). The five alternatives differ in location west of Wilshire and Vermont. As noted previously, Alternative II is the Board Preferred Alternative.

### b. General Description of Stations

The rail systems have between 11 and 17 rapid transit stations with an average station spacing beyond the CBD of between one and one half miles. In the CBD the stations are spaced at approximately a half mile. A matrix showing the proposed station locations for each alternative alignment is shown in Figure II.5.

While station design criteria are conceptual at this stage, a general philosophy of construction has been worked out. The rapid transit stations will be aesthetically pleasing and, at the same time, simple and functional, and accessible to the handicapped, especially those using wheelchairs. The goal is to provide attractive, convenient and efficient access and egress to and from the trains to all patrons, while minimizing station construction, maintenance and operating costs.

FIGURE II.4

SUMMARY OF OPERATING CHARACTERISTICS  
REGIONAL CORE RAIL RAPID TRANSIT SYSTEMS

<u>Hours of Operation</u>	<u>24 hrs./day - 7 days/week</u>
Headways	3.5-4.5 minutes during peak periods
Control	Semi-Automatic Operation
Car Size	75 x 10.5 feet
Seats Per Vehicle	75
Practical Capacity	165
Floor Area per Passenger	4.8 sq. ft.
Maximum Cars per Train	6
Maximum Practical Train Capacity	990
Doors per Vehicle (per side)	3(48" wide)
Speed - Maximum	70 mph.
Average(including station stops)	35-40 mph.
Normal Acceleration/Deceleration	3.0 ft./sec/sec

Operating characteristics are provided for analysis purposes only, and represent an effort to compare the cost effectiveness and impacts of alternative modes only.

FIGURE II.5

STATION LOCATION MATRIX  
FOR THE FIVE RAIL RAPID TRANSIT ALTERNATIVES

STATIONS	I	II	III	IV	V
Union Station	X	X	X	X	X
Civic Center	X	X	X	X	X
Broadway & Fifth	X	X	X	X	X
Seventh & Flower	X	X	X	X	X
Wilshire & Alvarado	X	X	X	X	X
Wilshire & Vermont	X	X	X	X	X
Wilshire & Normandie	X	X		X	X
Vermont & Beverly			X		
Wilshire & Crenshaw		X			
Wilshire & Western	X	X		X	X
Los Angeles City College			X		
Wilshire & La Brea	X	X		X	X
Vermont & Sunset			X		
Wilshire & Hauser					X
Wilshire & Fairfax		X			X
La Brea & Beverly	X			X	
Fairfax & Beverly		X			
Carlton & Western			X		
La Brea & Santa Monica	X			X	
Fairfax & Santa Monica		X			
Hollywood & Cahuenga	X	X		X	
Selma & Vine			X		
Hollywood Bowl	X	X	X	X	
Universal City	X	X	X		
North Hollywood	X	X	X		
TOTAL	15	17	14	13	11

The size of a station is directly related to the size of the loading platform. The economies associated with using center platform stations favor their use wherever practicable. To accommodate 6-car trains (75 ft/car), a standard platform length between 450 and 500 ft. is required. The width of the platform would be dependent on projected station volumes.

The mezzanine area will be designed to facilitate passenger movement. Excessive and isolated space will be avoided to minimize construction and maintenance costs and, also, to reduce security risks.

A modular approach will be used in the design of the subsystem elements of the stations. The uniformity of such items as elevators, escalators, security systems, fare collection equipment, lighting fixtures and any other elements common to all stations not only will reduce initial costs, but also, will minimize maintenance support and allow for easier station identification. Figures II.6 through II.11 show preliminary conceptual rapid transit station plans at three representative sites. The 5th and Broadway Station is representative of a downtown station. The Wilshire and Western plan is typical for stations along Wilshire Boulevard, and the North Hollywood Station is representative of a station where a major parking facility is needed. Conceptual plans for all of the proposed stations can be found in Appendix III.

These plans are conceptual in nature, and are subject to changes in further project development. The objective of the AA/EIS/EIR is to analyze alternatives, based on limited engineering data, for the purpose of selecting mode and general alignment. Specific design features have been assumed (again, based upon conceptual design) for the purpose of environmental assessment.

It is important to note that there are a number of issues to be resolved in later development stages that could have significant localized impacts. There has been a concerted effort to identify

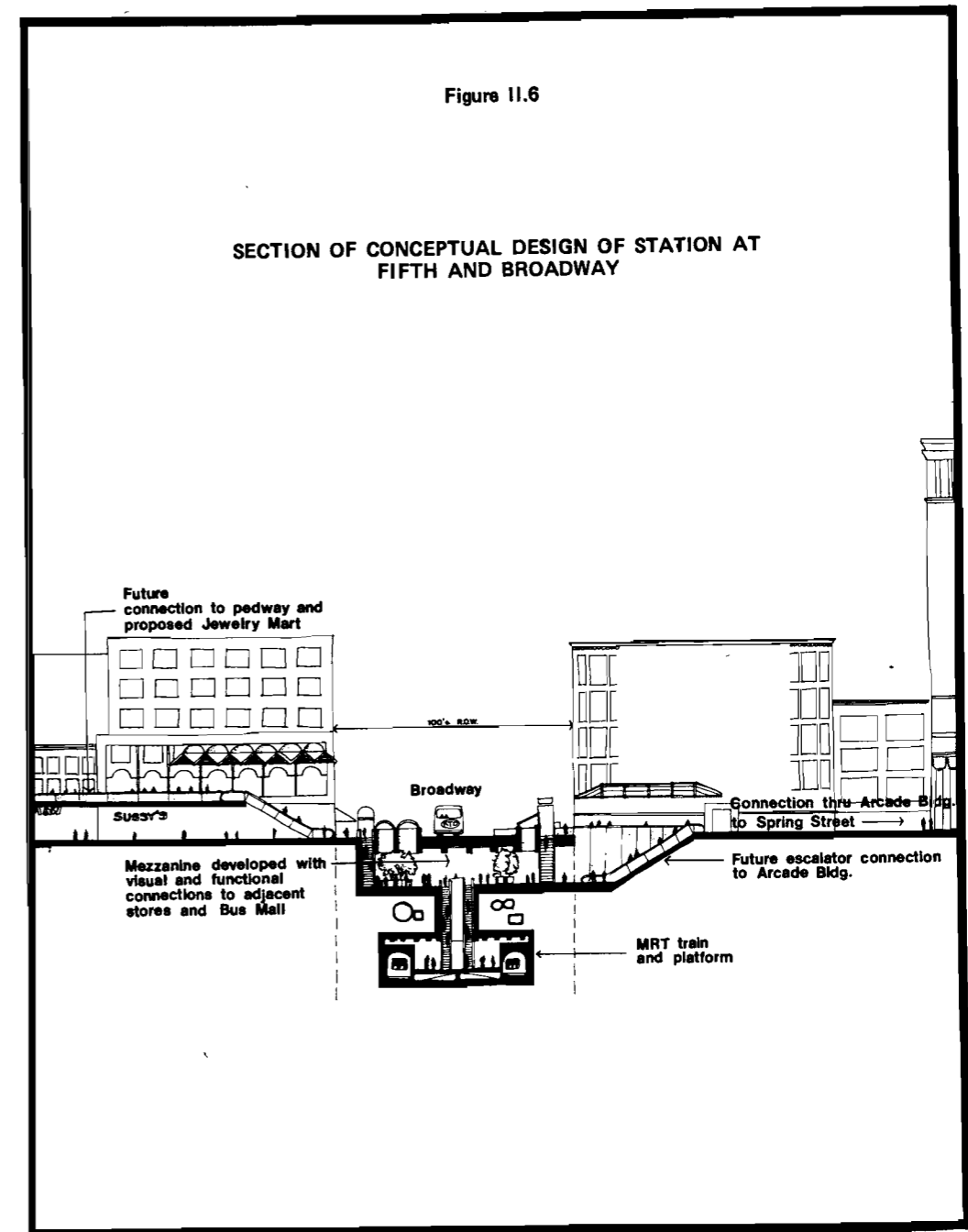


Figure II.7

PLAN OF CONCEPTUAL DESIGN OF STATION AT FIFTH AND BROADWAY

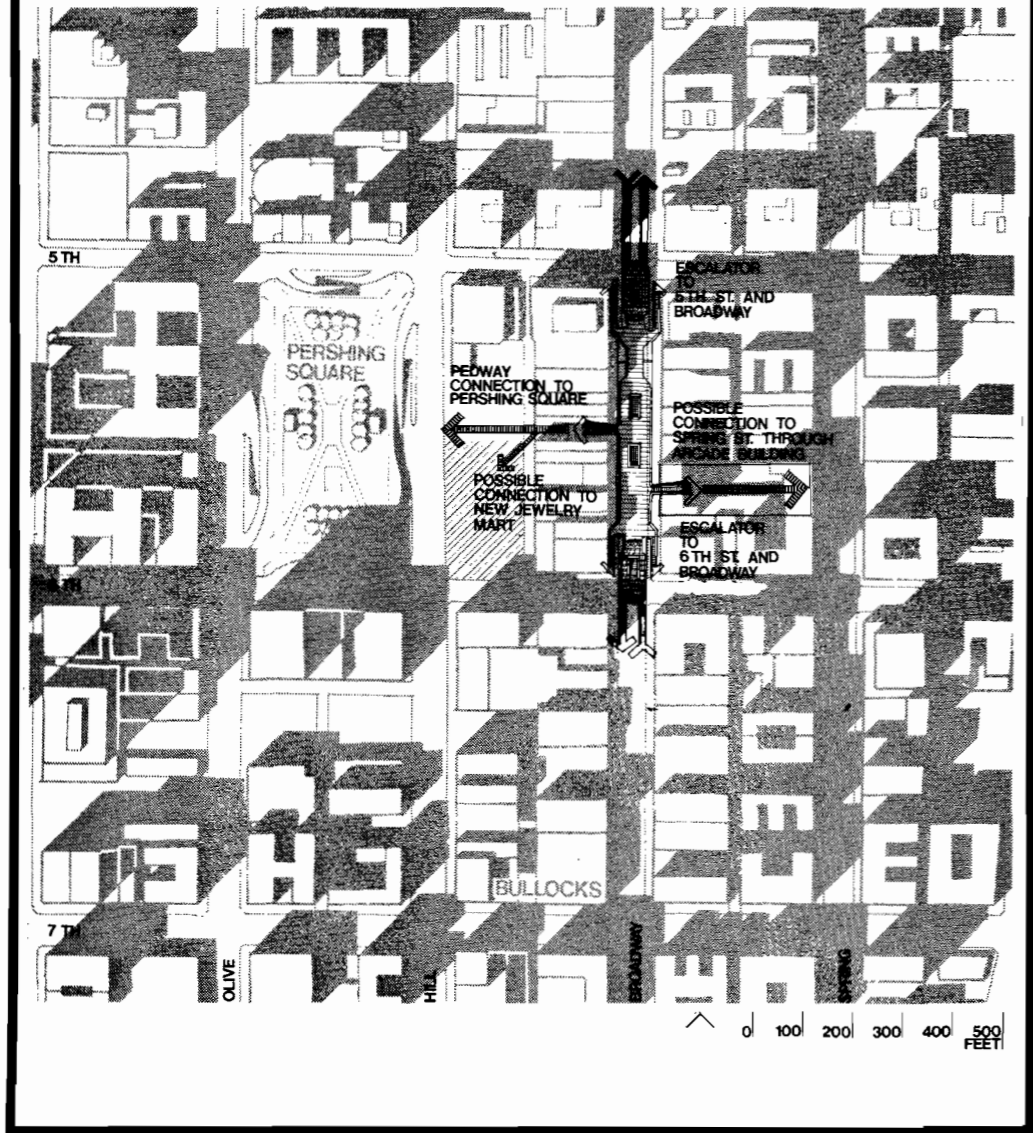




Figure II.8

STREET LEVEL CONCEPTUAL PLAN OF  
STATION AT WILSHIRE AND WESTERN

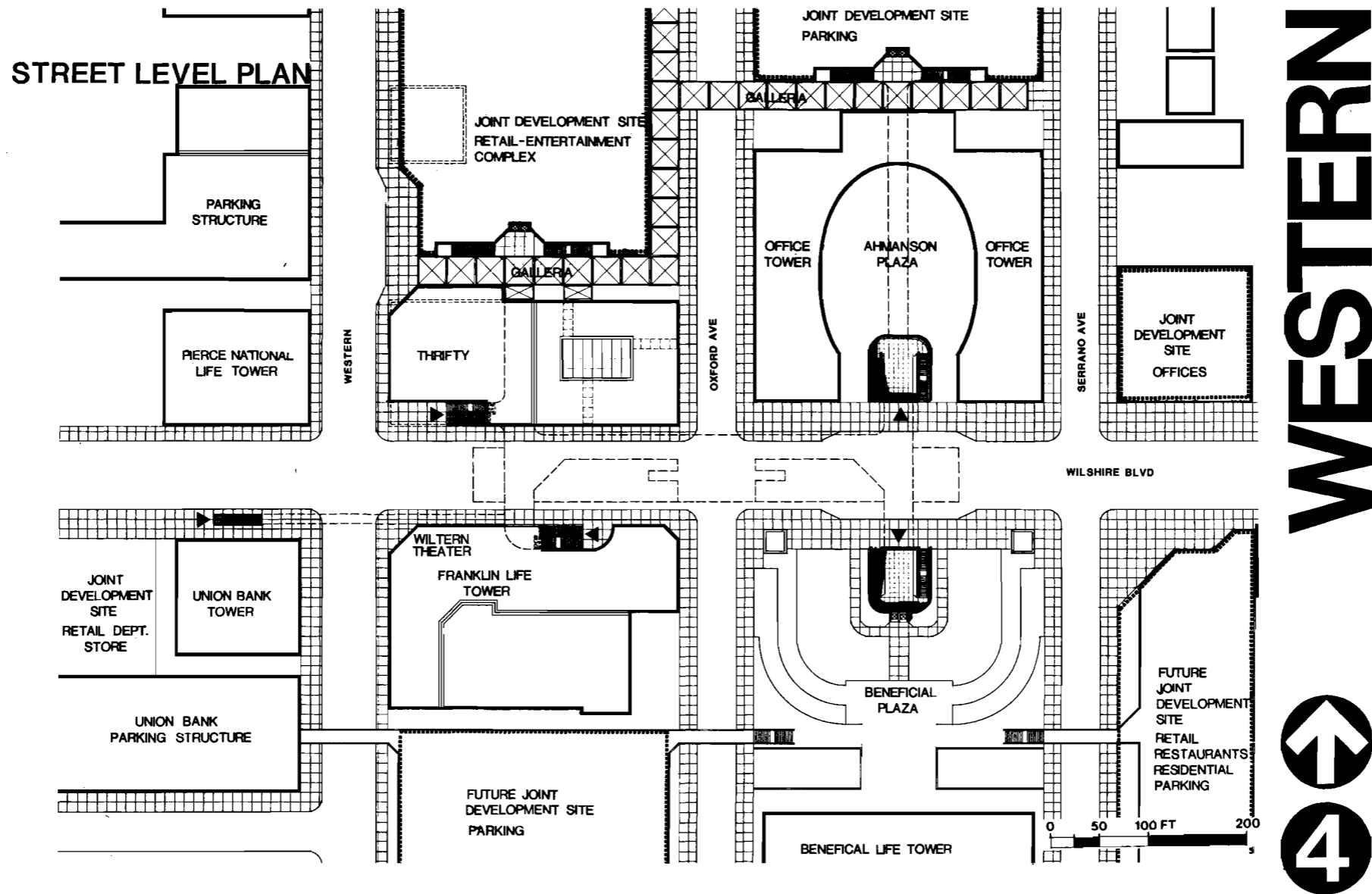
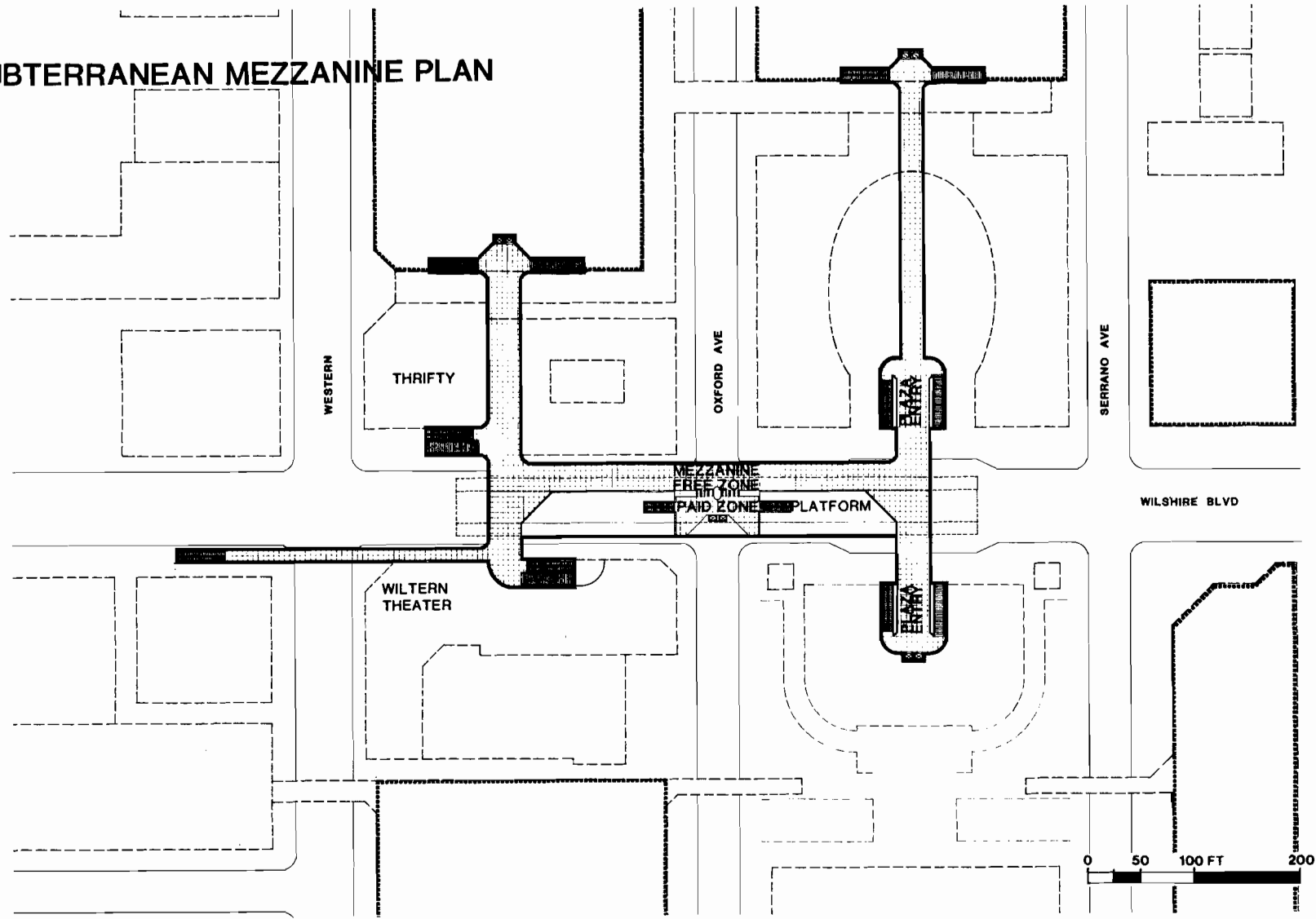


Figure II.9

MEZZANINE LEVEL CONCEPTUAL PLAN OF  
STATION AT WESTERN AND WILSHIRE

SUBTERRANEAN MEZZANINE PLAN



**WESTERN**



Figure II.10

STREET LEVEL CONCEPTUAL PLAN OF  
TERMINAL STATION AT LANKERSHIM AND CHANDLER

Illustrative Joint Development Plan

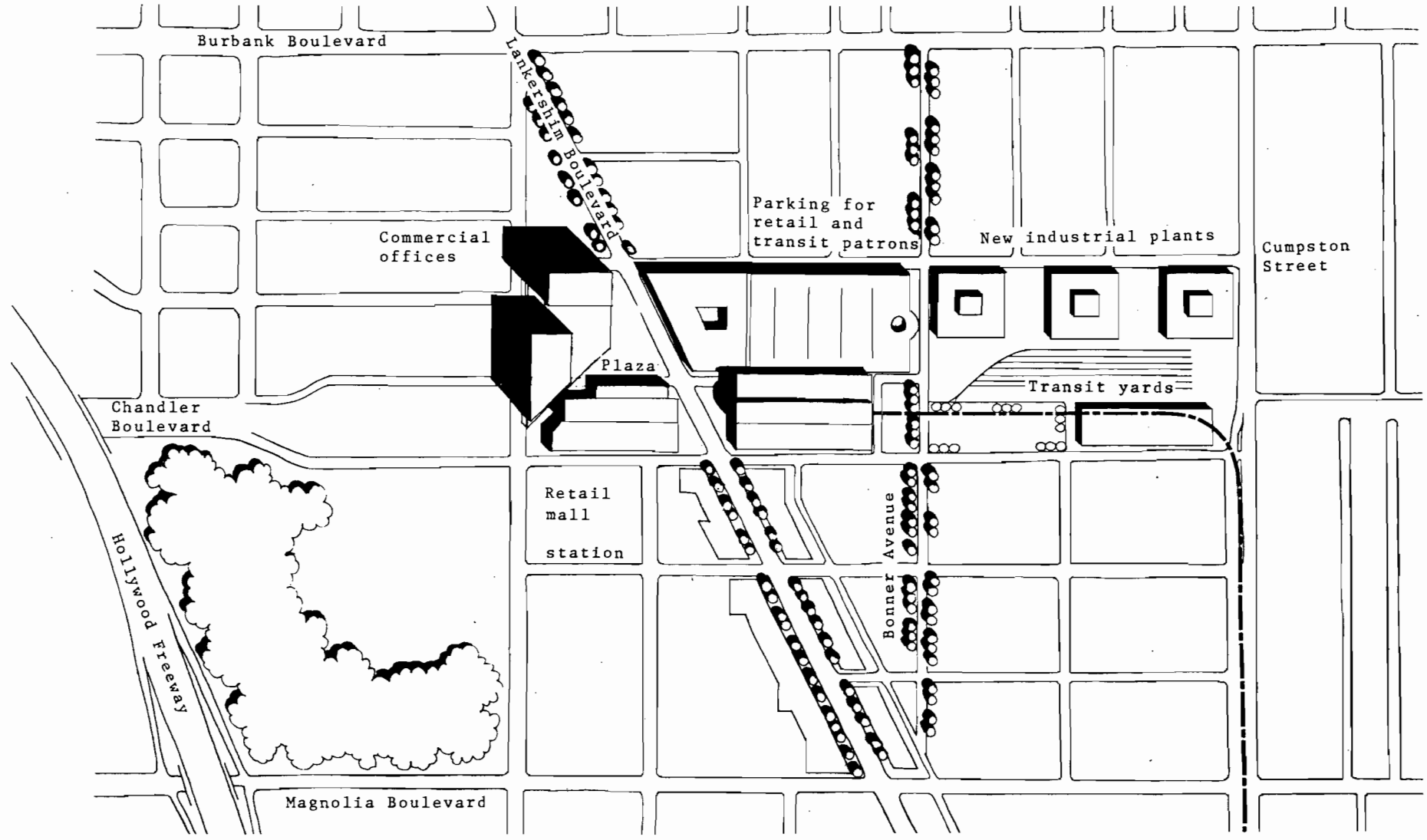
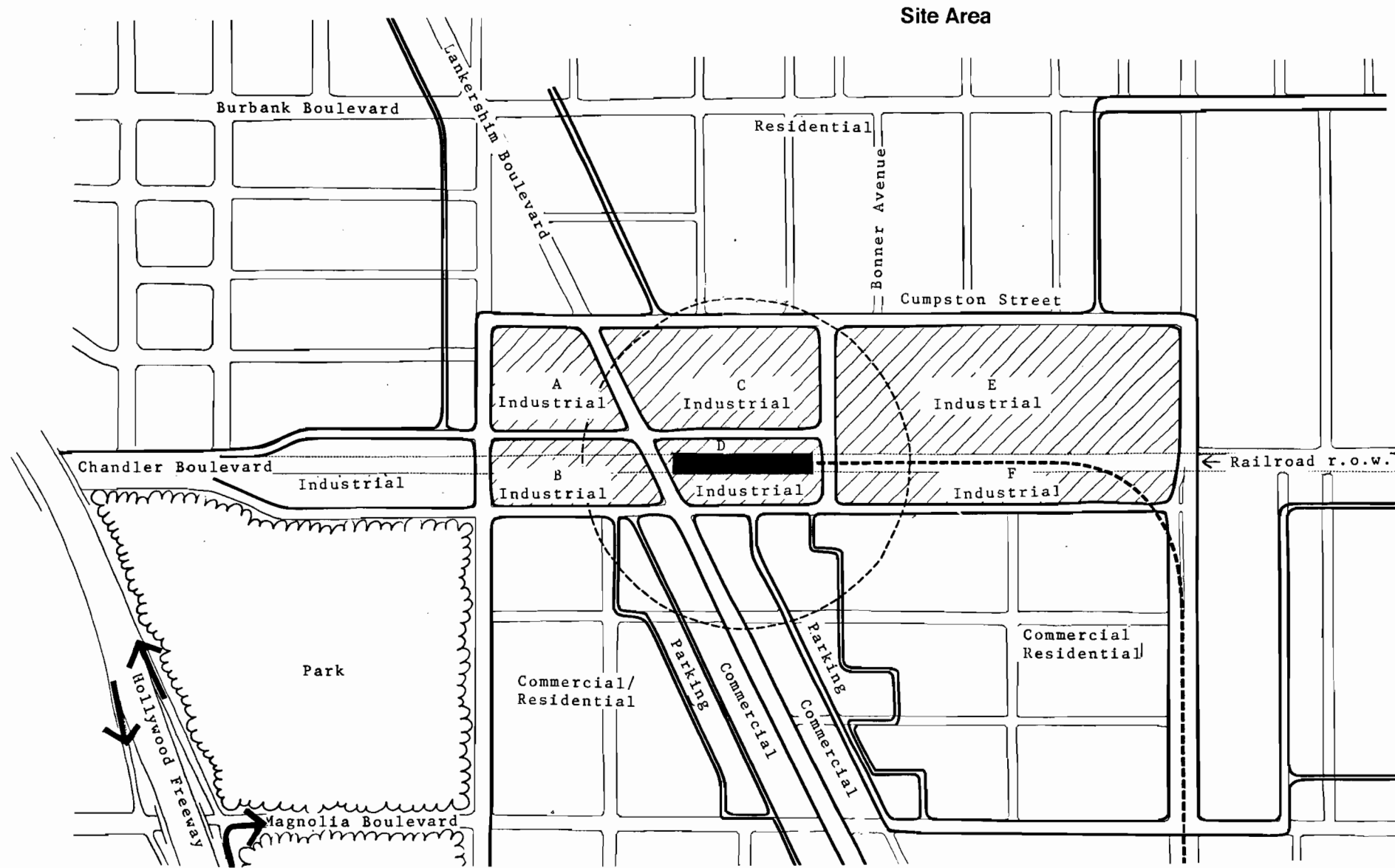


Figure II.11

EXISTING LAYOUT AT LANKERSHIM AND CHANDLER



these issues through the development of a conceptual design which best represents the costs and impacts of a particular alternative. The design is based on available information on the area, typical design, construction, and operational aspects of existing facilities both within the Los Angeles area and throughout the country, and a number of preliminary investigations of site specific concerns. This information has then been used in obtaining the conceptual design upon which this environmental assessment is based.

The cost and impact analysis are considered to be reasonable in light of the decision to be made - i.e. mode and general alignment. There will however be a continued assessment of impacts throughout project development as further information becomes available. This forthcoming continued assessment of impacts will be documented for public review and comment in a supplemental or tiered EIS.

Overall station design would be "site-specific", so as to take advantage of the opportunities which each particular site and locale has to offer.

While a functional and simple approach is to be emphasized, provision for future growth and joint development opportunities will be given full consideration. A feeling of austerity can be avoided by such things as the imaginative arrangement of light, color and texture to enhance an otherwise simple design.

#### c. Yard and Shop Facilities

The yard and shop facilities will serve the following operational and maintenance functions of the transit system:

- Storage for revenue vehicles, maintenance equipment and material stockpile.
- Routine inspection, maintenance and service of vehicles.
- Overhaul and major repair of vehicles.
- Miscellaneous support services.

The facilities shall be designed to minimize the amount of time required to perform these functions.

Routine inspection, maintenance and daily service of vehicles will be performed at storage locations in North Hollywood and in the CBD (Macy Yard). Overhaul and major repair work will be performed at the major repair shop at Macy Yard. Miscellaneous support services will be performed at both the North Hollywood storage yard and the major repair shop. The Macy Yard shall be designed to accommodate the various shop functions.

One major repair facility will be adequate to support the entire system. Both locations are shown on Figure II.12 and Figure II.13.

#### d. CBD Route and Station Locations (See Figure II.3)

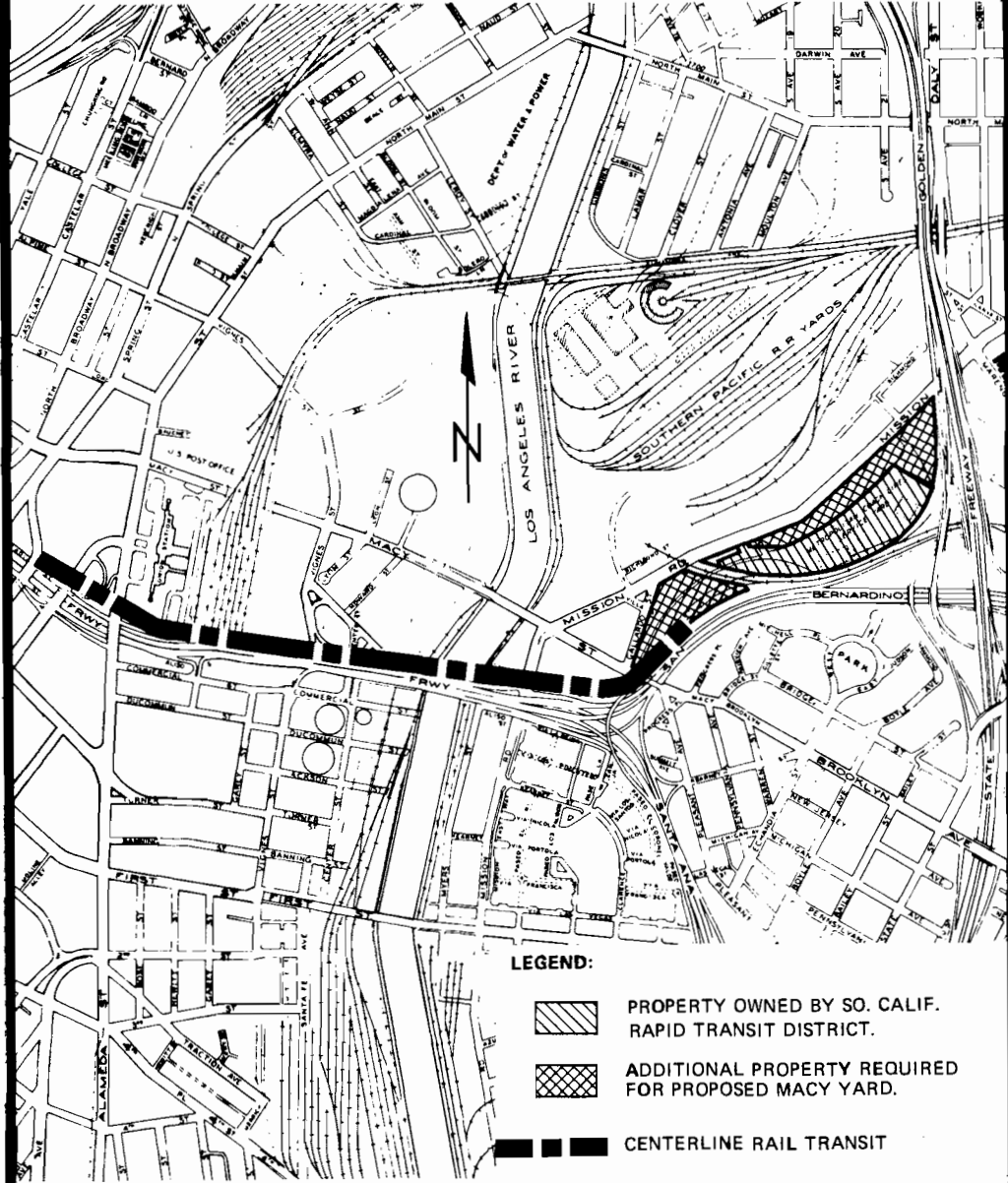
The CBD routing is the same for all of the five rail alternatives. It would start from Union Station and curve over to and proceed south under Broadway to 7th Street; and therein westerly to the Harbor Freeway. There would be four stations in the CBD; three of these stations, Union Station, Civic Center (1st/Broadway) and 7th and Flower would interface with the Downtown People Mover (DPM). The fourth station would be at 5th and Broadway.




The rail line is proposed to follow an easterly alignment which would provide greater coverage in the CBD. The DPM system could serve rapid transit passengers to and from the Bunker Hill area.

#### e. Alignment and Station Locations of the Alternatives

While general route alignments and station locations have been identified, they are conceptual at this stage and are subject to modification upon refined analysis. A supplemental or tiered EIS will be prepared to document this refined analysis and any modifications which may result. It should be remembered that the following descriptions of the five rail alternatives are supplemented by a "background" base and feeder bus system.

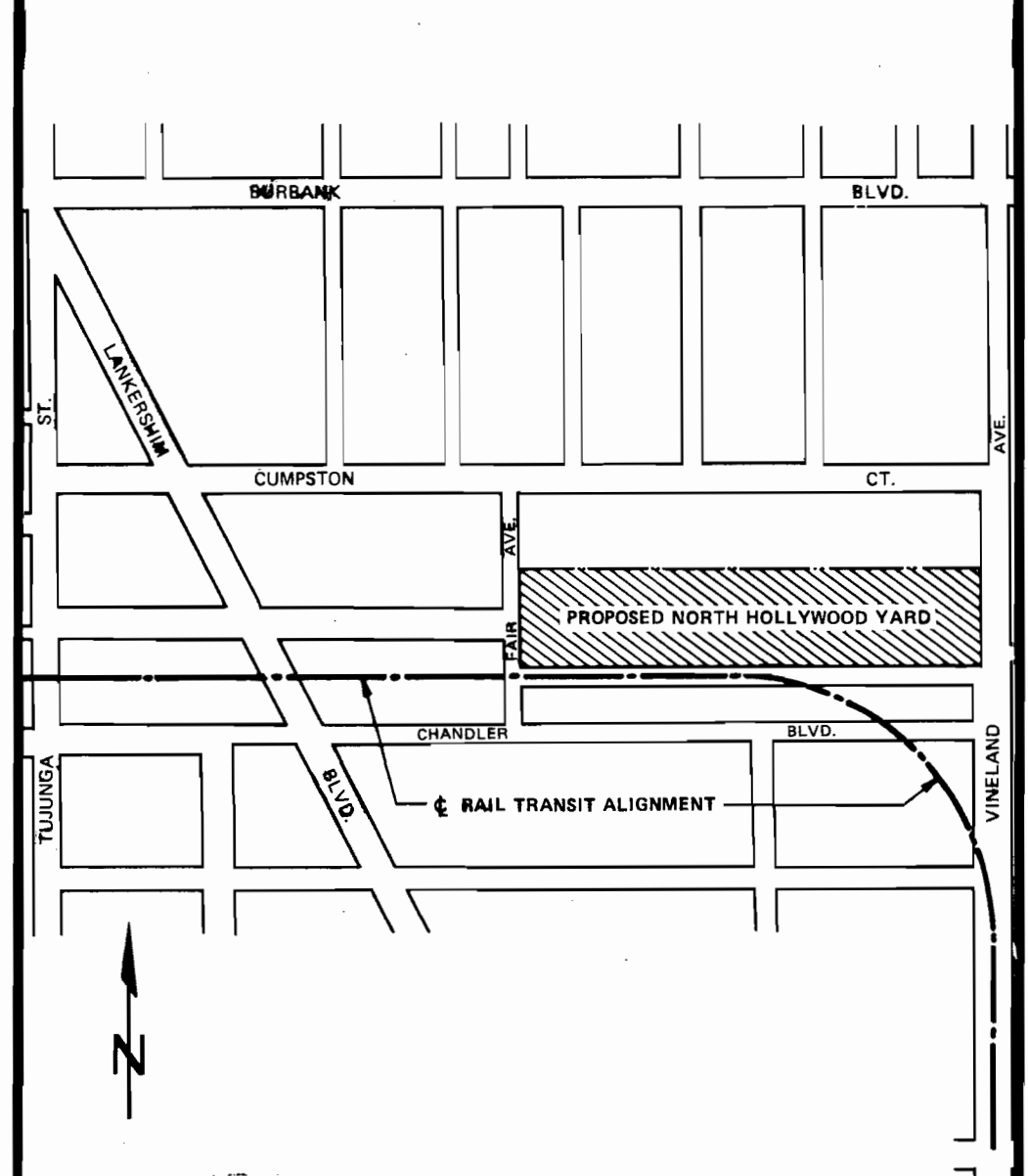
Figure II.12



- LEGEND:**
-  PROPERTY OWNED BY SO. CALIF. RAPID TRANSIT DISTRICT.
  -  ADDITIONAL PROPERTY REQUIRED FOR PROPOSED MACY YARD.
  -  CENTERLINE RAIL TRANSIT

PROPOSED MACY YARD - STORAGE, REPAIR & MAINTENANCE FACILITY

Figure II.13



PROPOSED NORTH HOLLYWOOD YARD STORAGE FACILITY

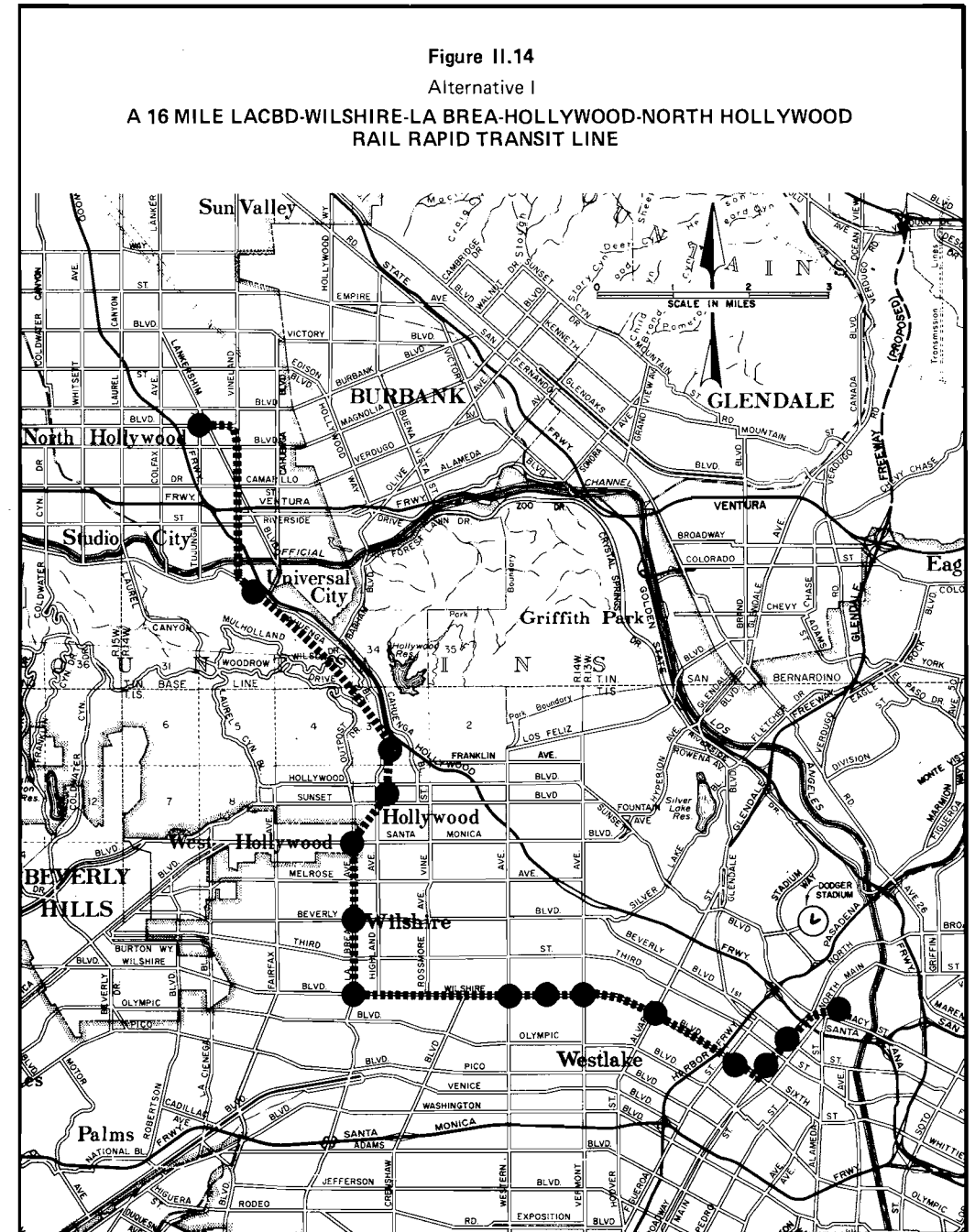
ALTERNATIVE I

A 16 MILE LACBD-WILSHIRE-LA BREA-HOLLYWOOD-NORTH HOLLYWOOD RAIL RAPID TRANSIT LINE (FIGURE II.14)

This alternative would provide (a) service along Wilshire from the Los Angeles Central Business District (CBD) out to the easterly edge of the Miracle Mile, (b) a connection from Mid-Wilshire to North Hollywood via Hollywood, and (c) service between the San Fernando Valley and the Los Angeles CBD.

Route and Stations

Following the common CBD alignment up to Seventh and the Harbor Freeway, the line would proceed westerly out Seventh to Wilshire to La Brea, with stations in the vicinity of Wilshire/Alvarado, Wilshire/Vermont, Wilshire/Normandie, Wilshire/Western and Wilshire/La Brea. Turning north on La Brea, it would continue up to Santa Monica Boulevard with stations in the vicinity of La Brea/Beverly and La Brea/Santa Monica. From there it would turn eastward to a station at Las Palmas and Selma, and then proceed through the Cahuenga Pass, with a possible station at Hollywood Bowl, to a station at Universal City. Then it would proceed northerly along Vineland to Chandler with a Terminal Station at Chandler and Lankershim in North Hollywood.



ALTERNATIVE II - SCRTP BOARD'S LOCALLY PREFERRED ALTERNATIVE

AN 18.6 MILE LACBD-WILSHIRE-FAIRFAX-HOLLYWOOD-NORTH HOLLYWOOD RAIL RAPID TRANSIT LINE (FIGURE II.15)

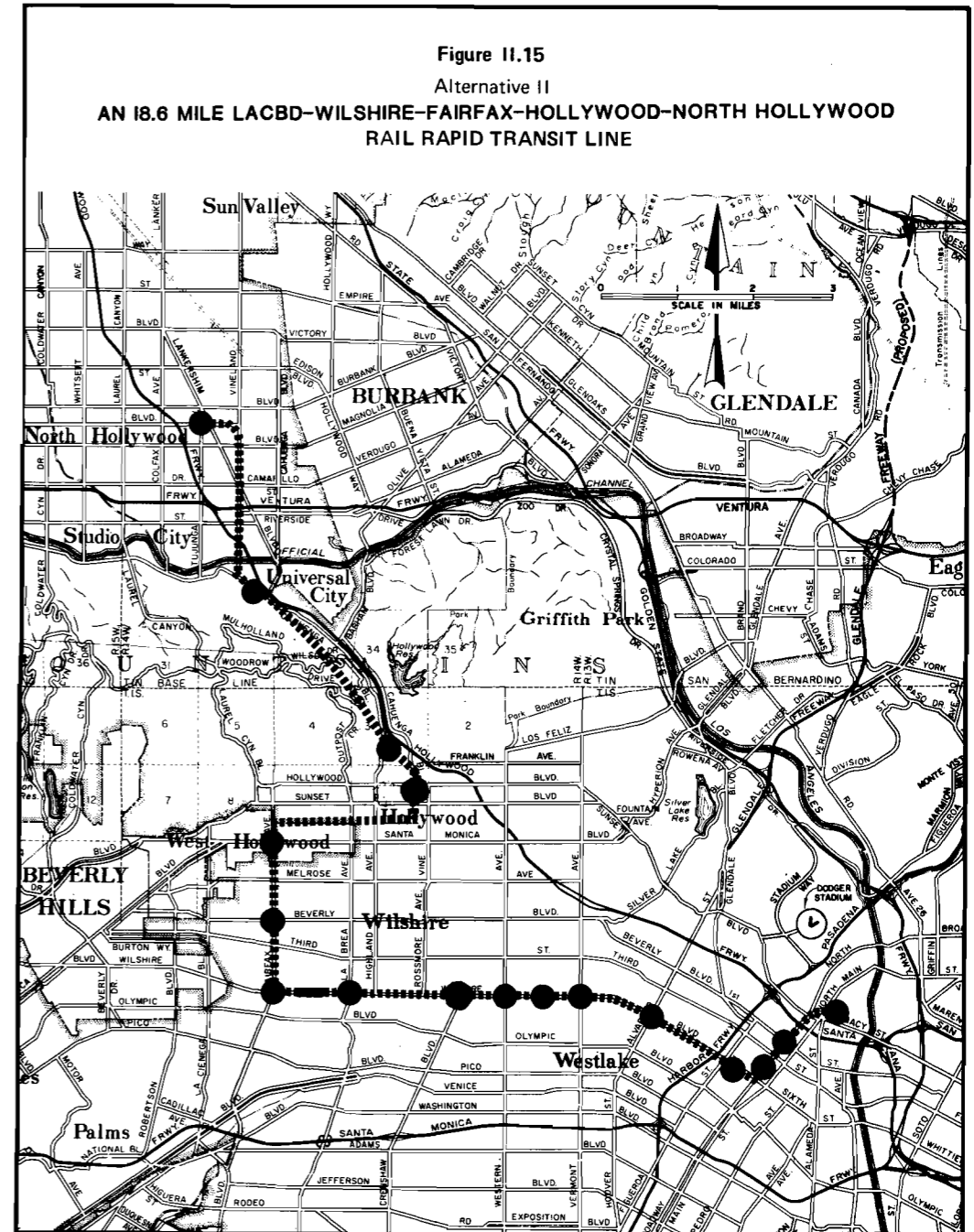
Route

This alternative is a variation of Alternative I, the differences being that the north-south segment of the route through Hollywood would be along Fairfax Avenue instead of La Brea. And, at Santa Monica Boulevard the line would turn easterly to the station at Hollywood/Cahuenga in Hollywood.

Stations

Stations for this alignment would be the same as Alternative I, except for additional stations near Wilshire/Crenshaw and Wilshire/Fairfax, and replacement of La Brea/Beverly and La Brea/Santa Monica stations with ones at Fairfax/Beverly and Fairfax/Santa Monica respectively.

As a consequence of the public hearing process, the SCRTP Board made minor modifications to this alternative, which involved: (1) eliminating the Wilshire and Hauser Station; (2) adding a station at Wilshire and Crenshaw; and (3) relocating the Hollywood and Las Palmas station to Hollywood and Cahuenga. (Refer to Section "D" of this Chapter for details).





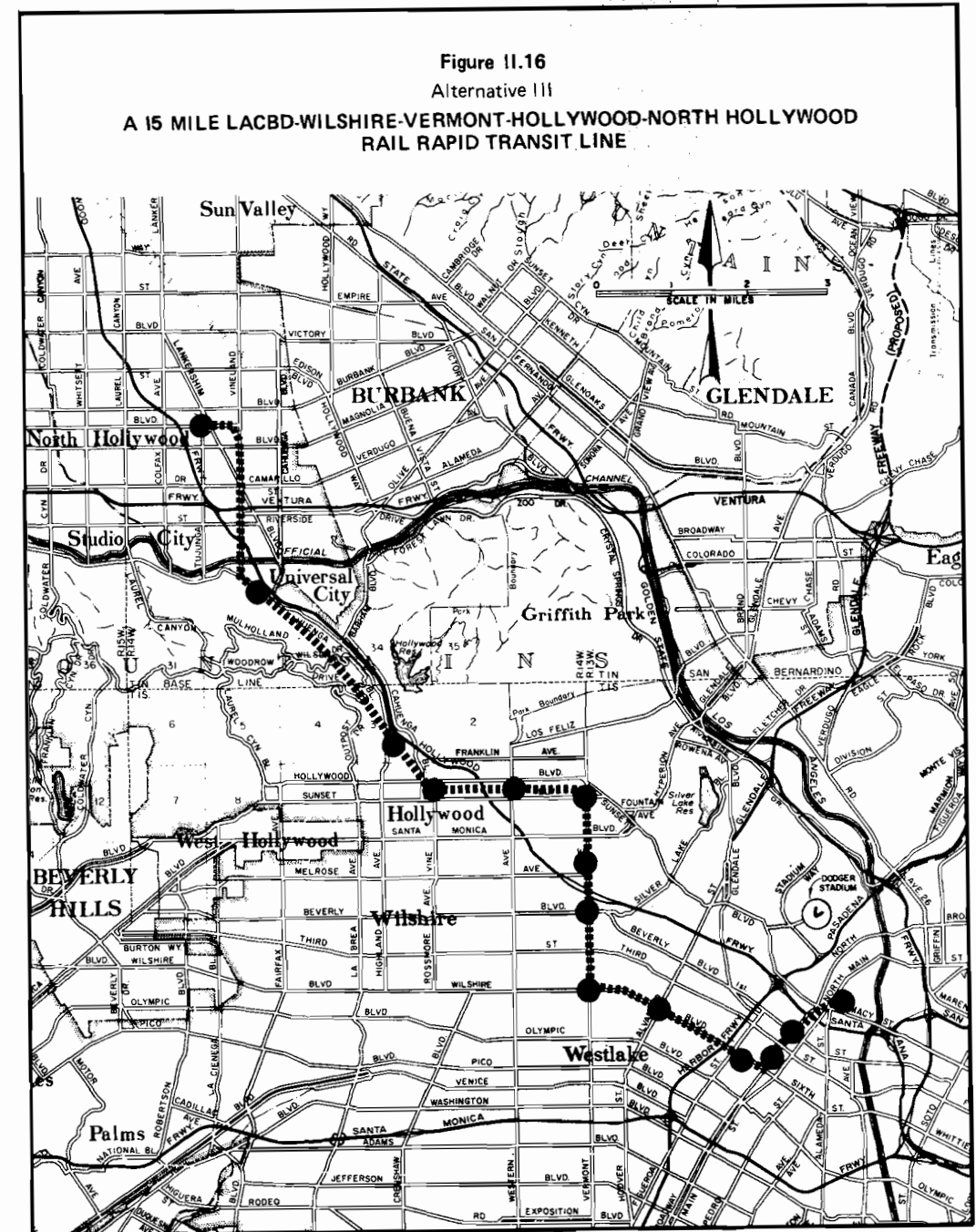
ALTERNATIVE III

A 15 MILE LACBD-WILSHIRE-VERMONT-HOLLYWOOD-NORTH HOLLYWOOD RAIL RAPID TRANSIT LINE (FIGURE II.16)

This alternative passes through the northeastern edge of the Regional Core and is intended to provide maximum service to the Hollywood District of Los Angeles. It would generally lie within the corridor of the Hollywood Freeway, and would serve only a small portion of the Wilshire Corridor.

Route and Stations

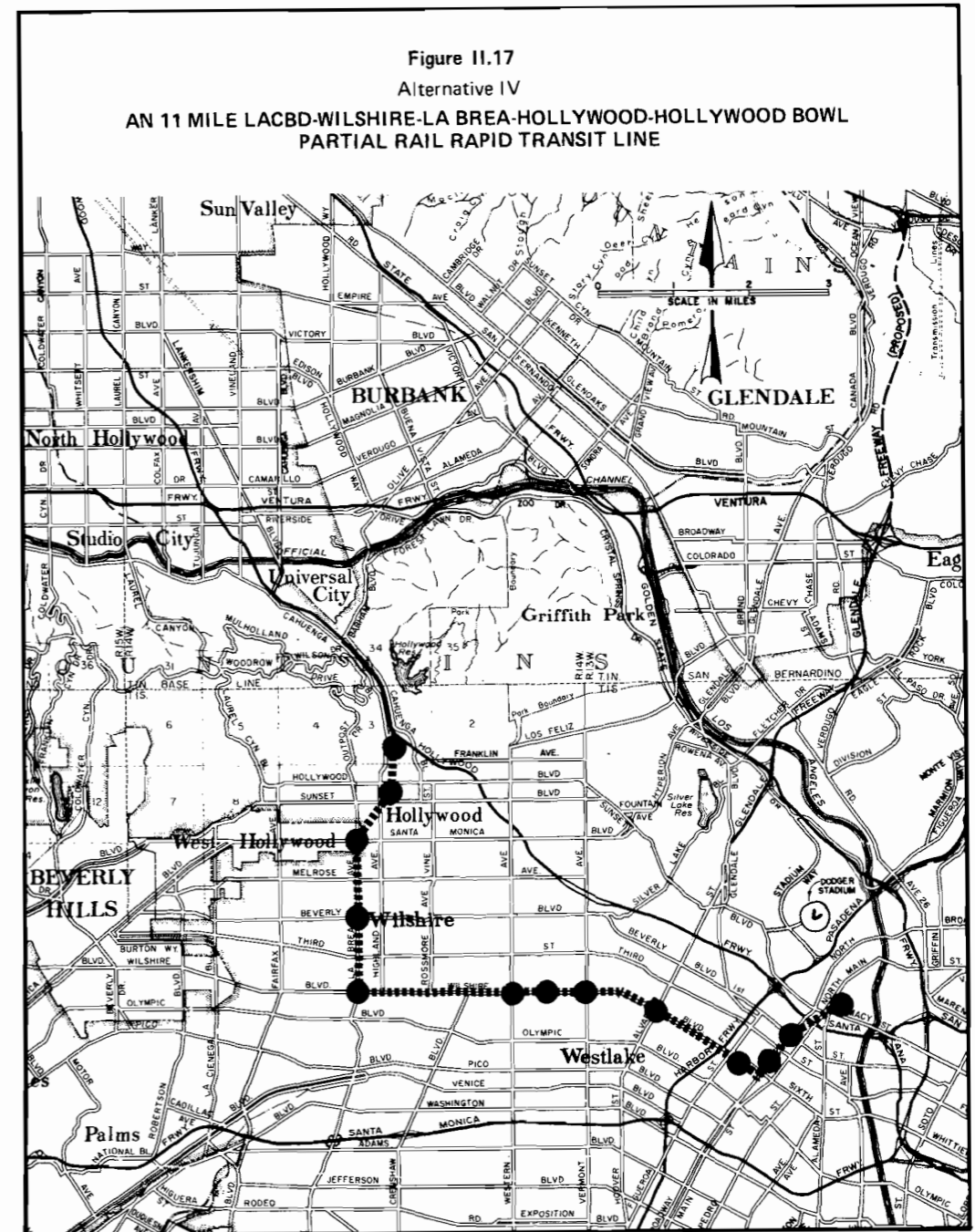
From the CBD out to Vermont and Wilshire this alternative follows the same route and stations as Alternatives I and II. At Vermont the line would turn north, following Vermont to Selma (mid-way between Sunset and Hollywood Boulevards) and turn west, running along the line of Selma Avenue to Vine Street, with stations in the vicinities of Vermont/Beverly, Los Angeles City College (Vermont/Santa Monica), Vermont/Sunset, Carlton/Western, Selma/Vine. From Selma and Vine the line would run northerly through Cahuenga Pass with stations and route similar to Alternative I.



ALTERNATIVE IV

AN 11 MILE LACBD-WILSHIRE-LA BREA OR FAIRFAX-HOLLYWOOD-HOLLYWOOD BOWL RAIL RAPID TRANSIT LINE (FIGURE II.17)

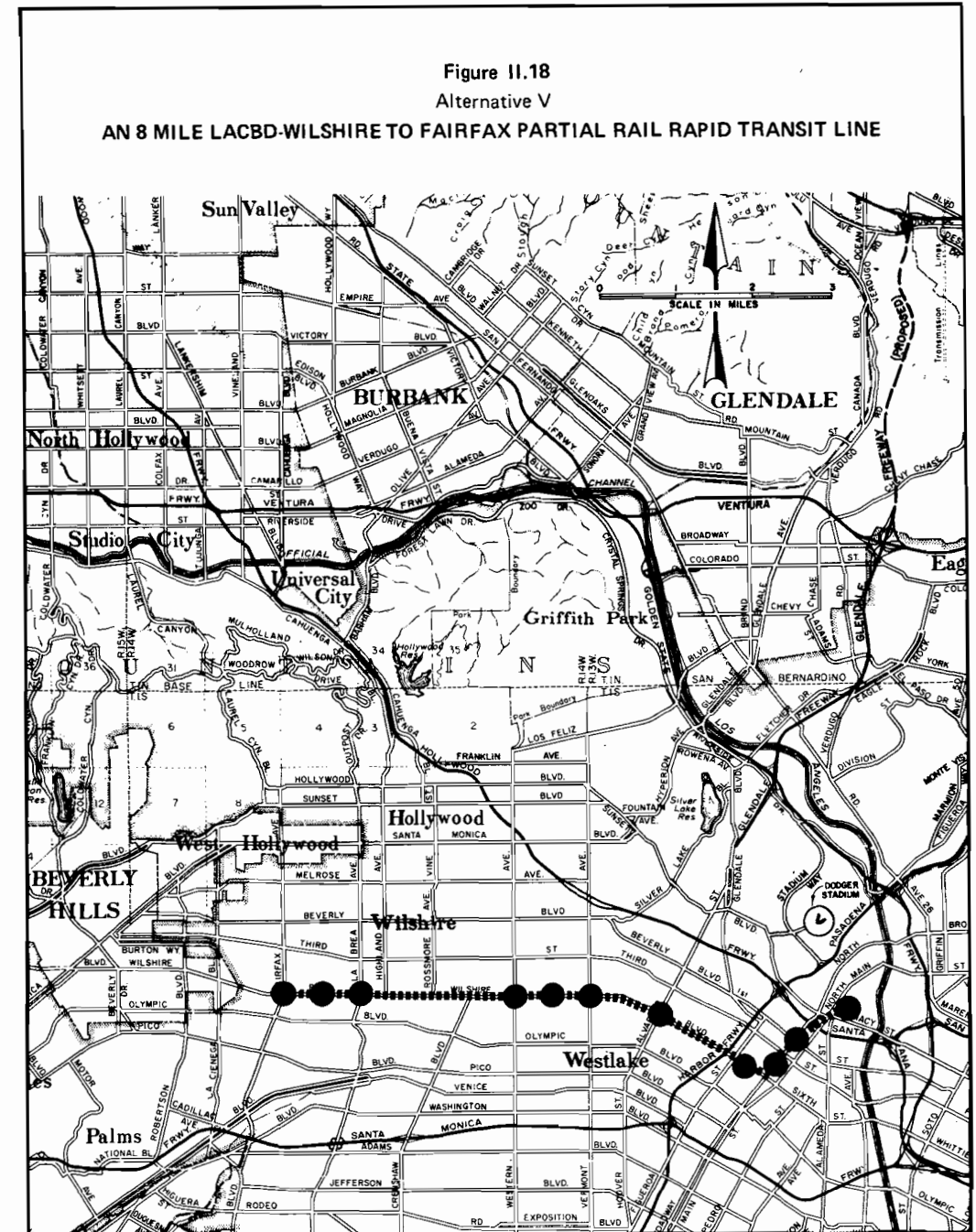
This alternative is a truncated version of Alternative I in that it would stop at the Hollywood Bowl station near the juncture of Highland Avenue and the Hollywood Freeway, and would not provide direct rail service into the San Fernando Valley.



ALTERNATIVE V

AN 8 MILE LACBD-WILSHIRE TO FAIRFAX RAIL RAPID TRANSIT LINE (FIGURE II.18)

This alternative provides rail service along Wilshire Boulevard only. Station and route of this line would be the same as the portion of Alternative II from the CBD out to and including Wilshire/Fairfax.



3. All-Bus Alternatives

In the All-Bus Alternatives (except for Alternative VI), the LACBD-San Fernando Valley travel demand is served primarily by bus lines operating over the Hollywood Freeway south of Universal City. Wilshire Corridor and Wilshire-Hollywood-North Hollywood travel demands would be served by a variety of bus routes. On all of the All-Bus Alternatives except XI, articulated buses would be used for all heavily patronized "express" runs on surface streets, and on the Aerial Busway in Alternative VI.

a. General Operation Characteristics

The All-Bus Alternatives generally provide special treatments such as exclusive bus lanes for bus operations on existing streets. In addition, high capacity buses are used for this type of service. A summary listing the operation characteristics of this type of bus and a standard bus are given in Figure II.19.

b. Description of the Bus Alternatives

The All-Bus Alternatives range in levels from an aerial busway, to special treatments on existing streets, to a null or "status quo" alternative. The following descriptions identify the express systems proposed in lieu of a rail rapid transit line. They, too, are supplemented by a "background" bus system.

FIGURE II.19

SUMMARY OF OPERATING CHARACTERISTICS  
HIGH CAPACITY AND STANDARD BUS

	<u>High Capacity Bus</u>	<u>Standard Bus</u>
Vehicle Size	60 X 8.5 ft.	40 X 8.5 ft.
Seats per Vehicle	70	47-53
Practical Capacity	100	70
Floor Area per Passenger	5.1 sq. ft.	4.8 sq. ft.
Speed - Maximum	55 mph	55 mph
- Average		
	Aerial Busway*	30 mph
	Exclusive Lanes	18-20 mph
	Mixed Traffic	12-15 mph
Normal Acceleration	1.5-3.0 ft./sec. <sup>2</sup>	1.5-3.0 ft./sec. <sup>2</sup>
Normal Deceleration	3.5 ft./sec. <sup>2</sup>	3.5 ft./sec. <sup>2</sup>
Doors per Vehicle	3 (48 inch)	2 (24 inch)

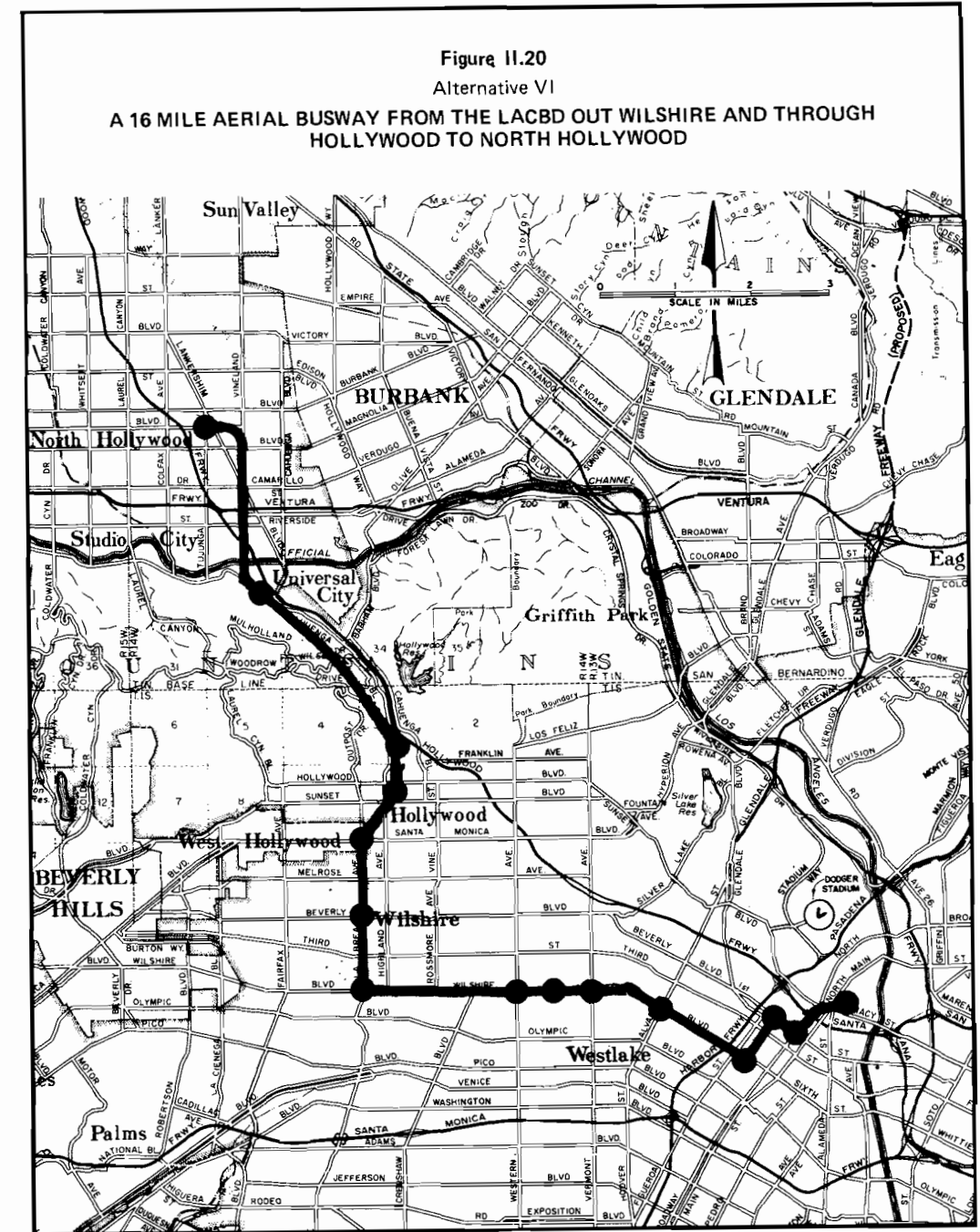
\*Assumes average station spacing of one mile.

ALTERNATIVE VI

A 16 MILE AERIAL BUSWAY FROM THE LACBD OUT WILSHIRE AND THROUGH HOLLYWOOD TO NORTH HOLLYWOOD (FIGURE II.20)

This bus alternative approximates as closely as possible the alignment, station locations and service characteristics of Rail Rapid Transit Alternative I. It would:

- (a) Consist of an exclusive, grade-separated, aerial busway with the route and station locations of Alternative I;
- (b) Involve the use of articulated buses with 70 seats and 30 standees and three sets of double doors to assure adequate loading/unloading and to minimize dwell time;
- (c) Require high horsepower diesel engines on the buses to maintain high schedule speeds;
- (d) Require fare collection at stations (not by driver), and
- (e) Require operation of buses along the aerial busway in platoons of up to three buses every two minutes during rush hours.



ALTERNATIVE VII

11 MILES OF EXCLUSIVE MEDIAN LANES FOR EXPRESS BUSES ON WILSHIRE AND LA BREA (FIGURE II.21 and FIGURE II.22)

This alternative is intended to represent the maximum service which can be provided on Wilshire and La Brea without any form of grade-separated facility. The aim in this case would be to operate in exclusive bus lanes at higher speeds than local buses and only stopping at the same locations as for the rail alternatives. This alternative, which follows the same route and station location as Alternative I, up to its junction with the Hollywood Freeway, would provide for:

- (a) Two exclusive median bus lanes on Wilshire and La Brea for articulated express buses, with staggered mid-street loading platforms at all proposed rail station locations;
- (b) Use of buses in mixed traffic on the Hollywood Freeway, from its junction with Highland Avenue, out to the Chandler Terminal in North Hollywood, and special ramps for buses at the Highland Avenue Junction;
- (c) Use of buses in mixed traffic in downtown Los Angeles on Broadway and 7th Street for CBD distribution;
- (d) Local service along Wilshire and La Brea in the curb lanes, mixed with auto traffic, with no on-street parking or goods discharging, and
- (e) Closure of minor cross streets, and no left turns for auto traffic all along Wilshire, La Brea, 7th and Broadway.

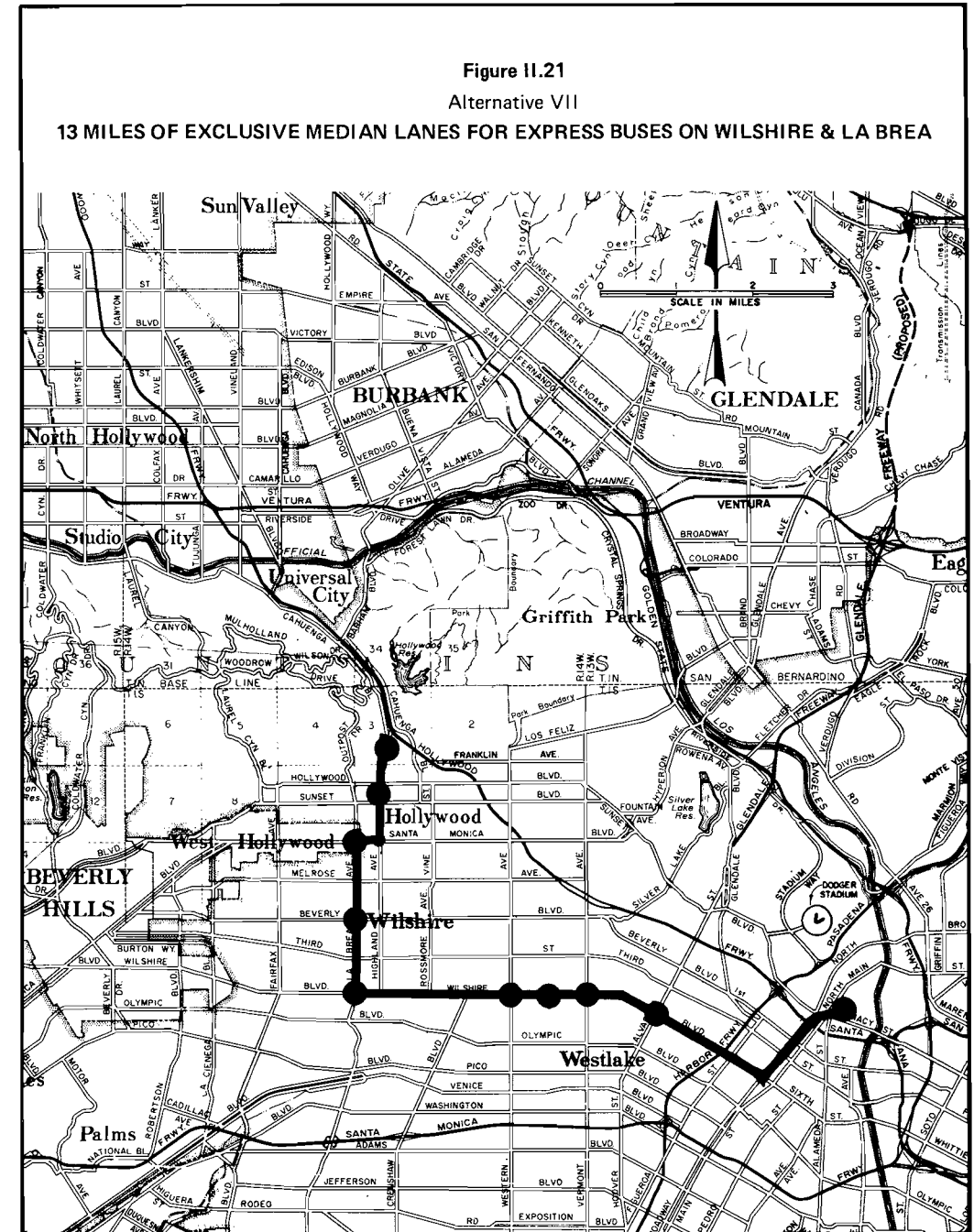
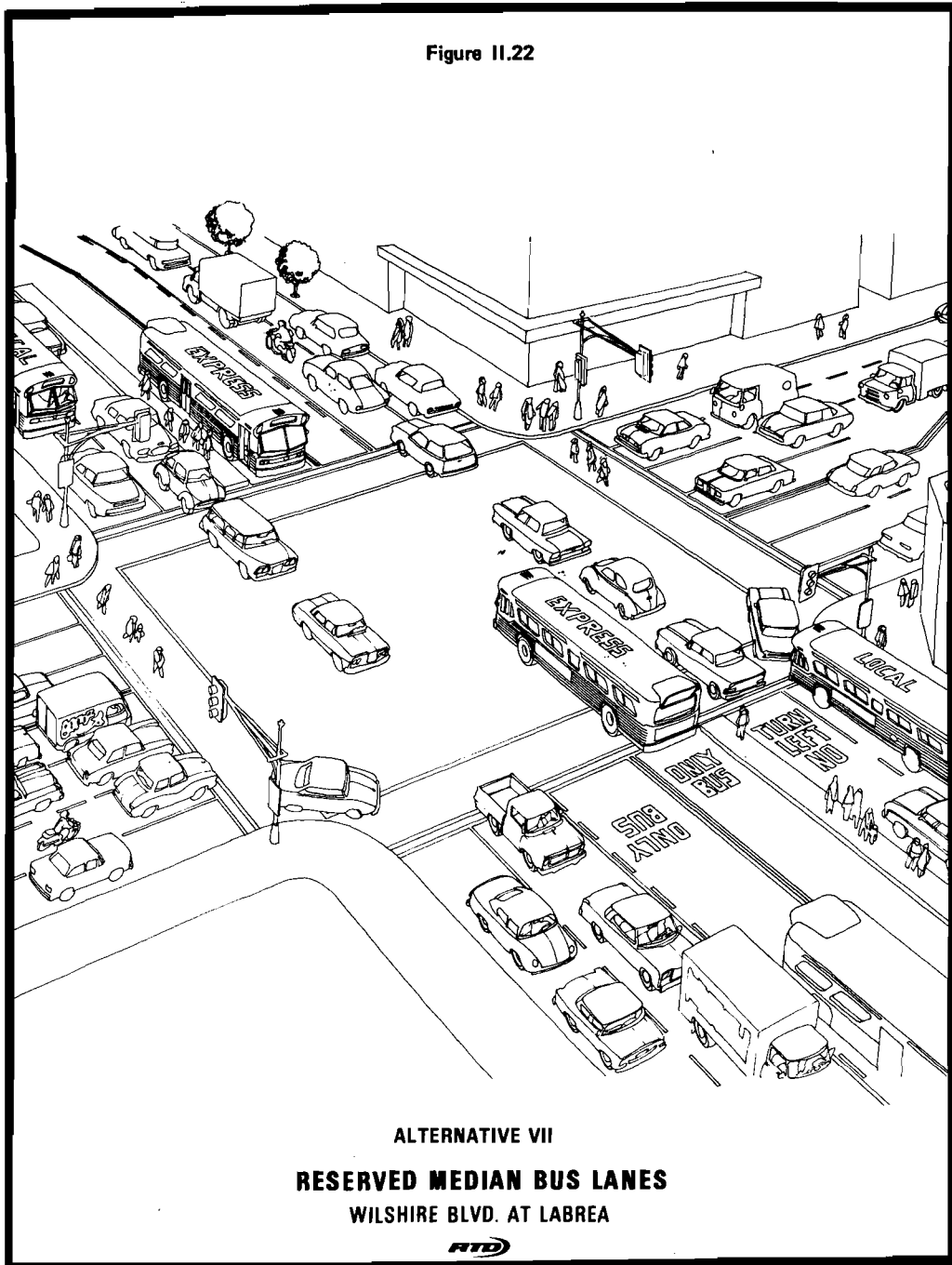


Figure II.22



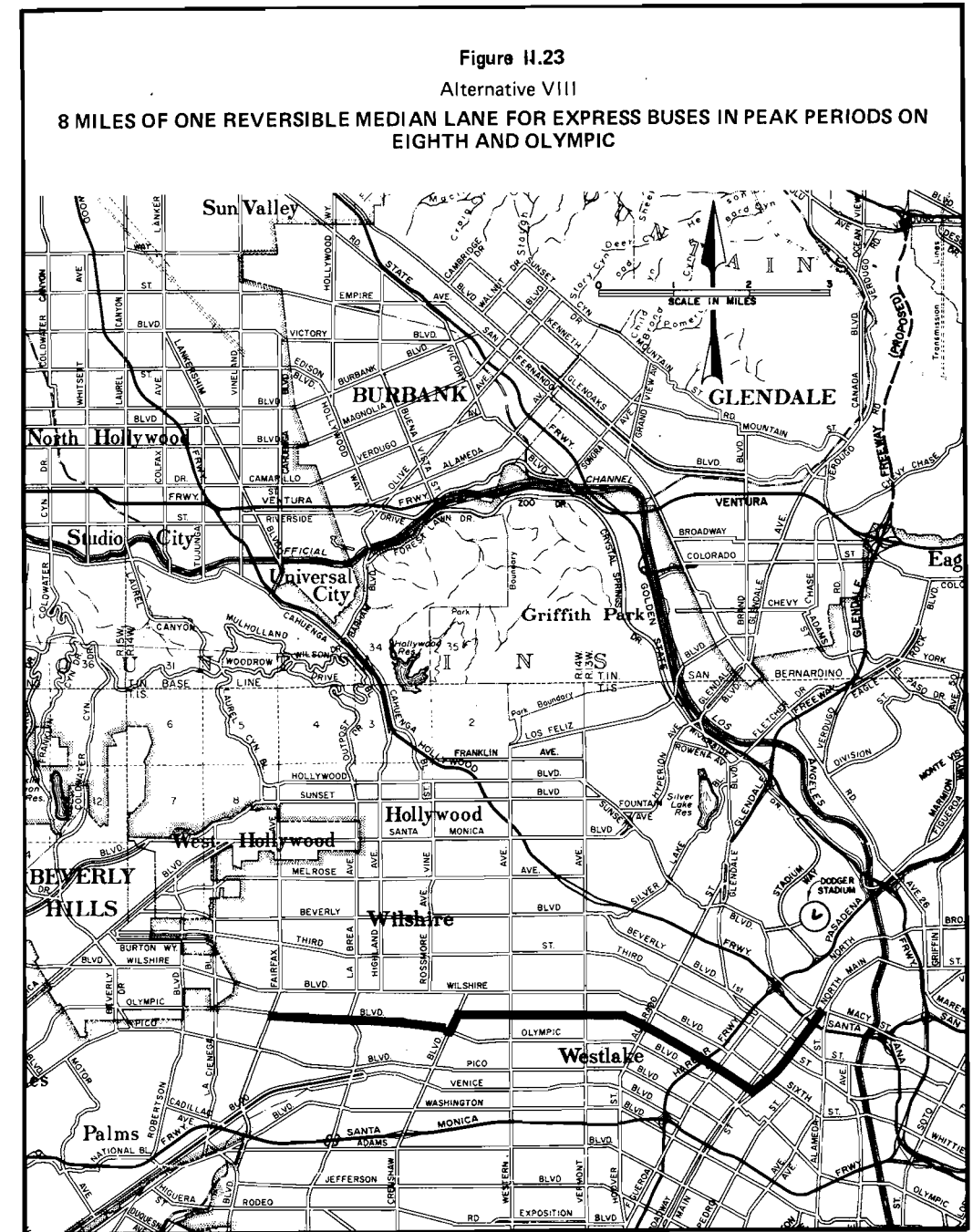
ALTERNATIVE VIII

8 MILES OF ONE REVERSIBLE MEDIAN LANE FOR EXPRESS BUSES IN PEAK PERIODS ON EIGHTH AND OLYMPIC (FIGURE II.23)

This alternative is intended to provide peak-hour commuter bus speeds higher than local buses in the Wilshire Corridor (without taking traffic lanes and without restricting parking on Wilshire Boulevard itself). High line-haul speeds would be achieved by a series of non-stop express buses operating in a reversible median lane between the CBD and specific activity centers of Mid-Wilshire, Miracle Mile and Century City.

It would involve:

- (a) Approximately seven miles of reversible median lanes exclusively for express bus use during peak hours on Eighth Street (Flower to Crenshaw) and Olympic Boulevard (Crenshaw to San Vicente);
- (b) Use of buses in mixed traffic on the Hollywood Freeway from Union Station to Chandler Boulevard in North Hollywood with special ramps at the Highland Avenue interchange as in Alternative VII, and at Vermont and Western Avenues;
- (c) Use of buses in mixed traffic in downtown Los Angeles on Broadway and 7th Street for CBD distribution;
- (d) No stopping and no left turns (except for express buses) on Eighth (east of Crenshaw) and Olympic (Crenshaw to San Vicente) in peak hours.





Several express routes would be operated in the exclusive lane on Eighth and Olympic. Buses would remain in the exclusive lane, from Garland (just west of Harbor Freeway) and Fairfax, and would omit the major street stops now made by the Olympic Limited (i.e., Vermont, Normandie, Western, Crenshaw, Alvarado and Union).

Because the reversible lane on Eighth would leave only one traffic lane in the contra-peak direction, the "return flow" of buses would operate in mixed traffic on Olympic Boulevard all the way from San Vicente to Flower. Several other express routes would connect Wilshire Corridor activity centers (Century City, Beverly Hills, Miracle Mile, Mid-Wilshire) with the San Fernando Valley via the Vine (or Cahuenga) bus lanes and the Hollywood Freeway.

ALTERNATIVE IX

11 MILES OF EXCLUSIVE CURB BUS LANES ON WILSHIRE AND LA BREA  
FIGURE II.24 and FIGURE II. 25

This alternative consists of operating express buses in exclusive curb bus lanes, rather than median lanes. It follows the same route and station locations, and would require the use of buses in mixed traffic on the Hollywood Freeway and in addition would require:

- (a) Prohibition of right turns at intersections with heavy pedestrian traffic on Wilshire and La Brea (elsewhere right turns could use the bus lane), and
- (b) Express buses weaving into mixed-traffic lanes to overtake locals.

A total of five express bus routes would be operated in peak hours only, to serve the regional core corridor.

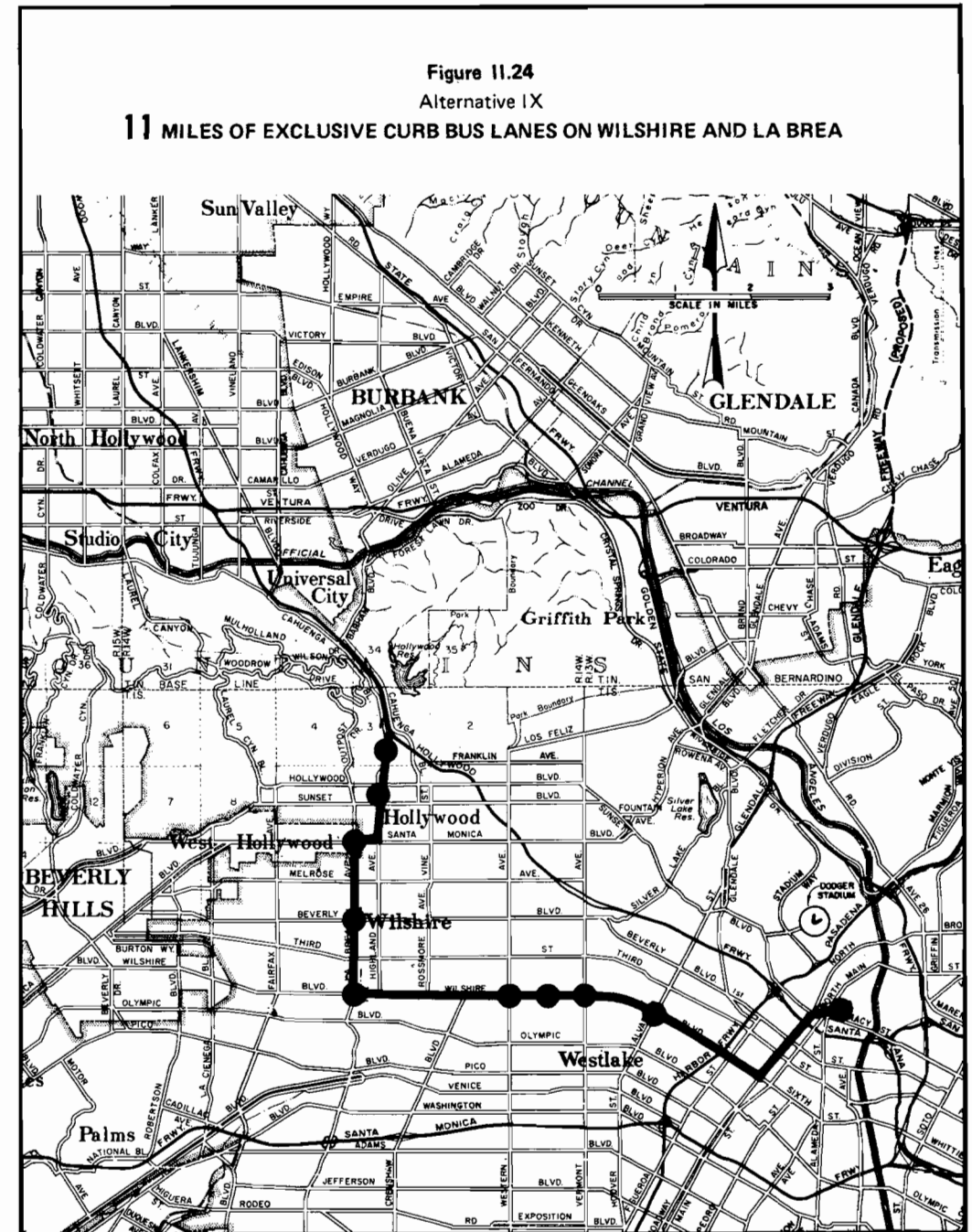
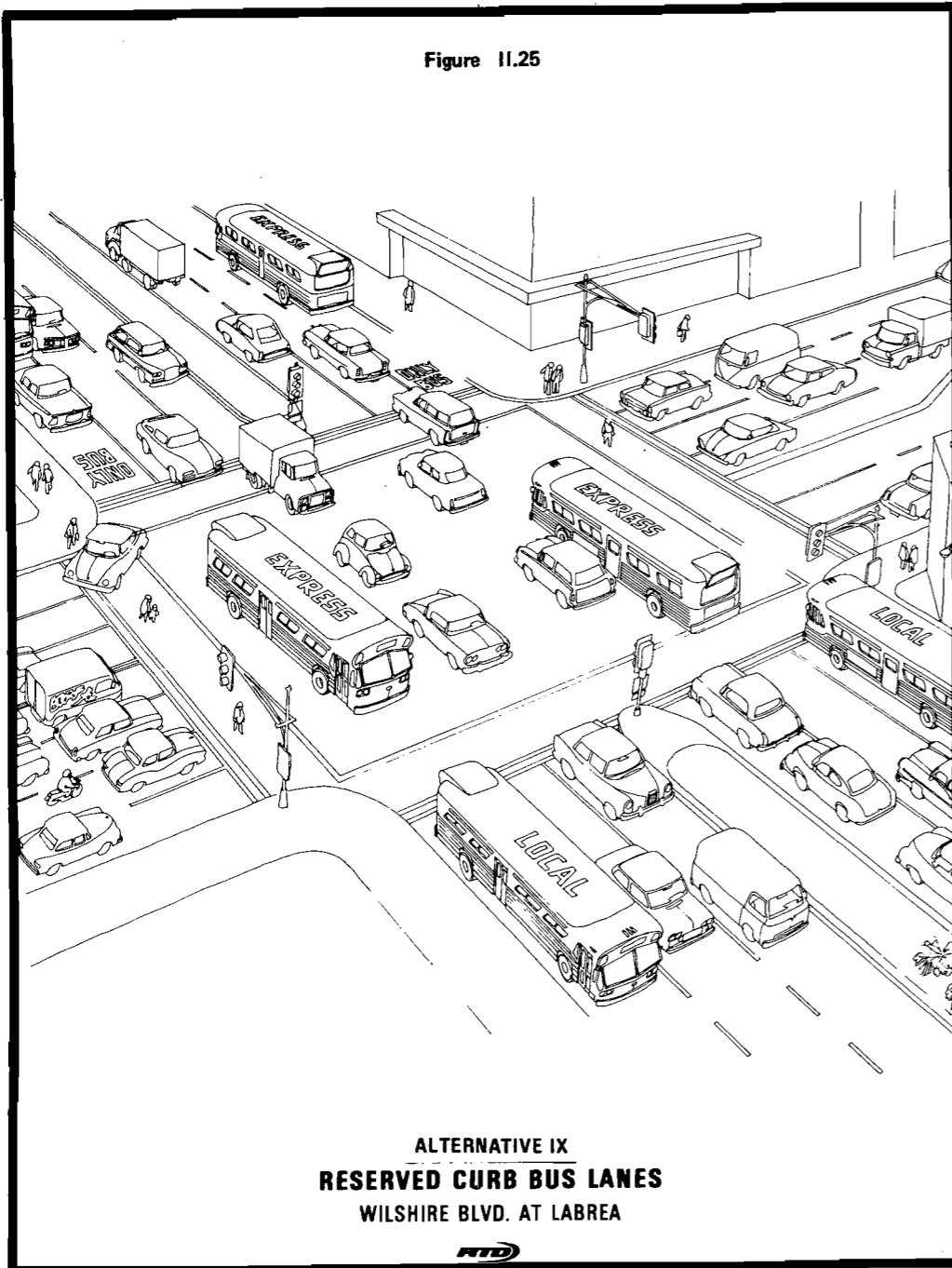


Figure II.25



**ALTERNATIVE IX**  
**RESERVED CURB BUS LANES**  
**WILSHIRE BLVD. AT LABREA**



ALTERNATIVE X

TSM BUS IMPROVEMENTS

This alternative provides for rerouting and service improvements on bus lines operating in the Regional Core. Improvements would include better service on the Wilshire Limited (83L) and West Valley Flyer (144).

These improvements are described in detail in Appendix I.C., and are common to Alternatives I through X inclusive.

ALTERNATIVE XI

"NULL OR NO CHANGE FROM EXISTING SERVICE"

The "Null" Alternative represents a "no change" situation and involves continuation of existing Regional Core bus services on present schedules and headways. Standard buses would be used throughout.

The existing Wilshire Limited (83L) and West Valley Flyer (144) bus lines would be retained on present schedules, originating at Maple Avenue as in Alternative X. The Wilshire Limiteds would operate in peak hours to Santa Monica as at present -- mainly via Wilshire, with a few buses serving Brentwood via San Vicente. The West Valley buses would pick up north/westbound and discharge south/eastbound at any local stop along Wilshire, Rossmore, and Highland, and would not pick up local passengers south of Victory Boulevard (i.e., "closed door" operation). Existing Freeway Expresses (35, 42, 44, 93, 121, and the 600 series) would be continued, as would "closed door" operation of El Monte buses to Western Avenue and Wilton Place along Wilshire Boulevard. For more details on the Existing Bus Service, see Appendix I.C.

D. SELECTION OF THE LOCALLY PREFERRED ALTERNATIVE

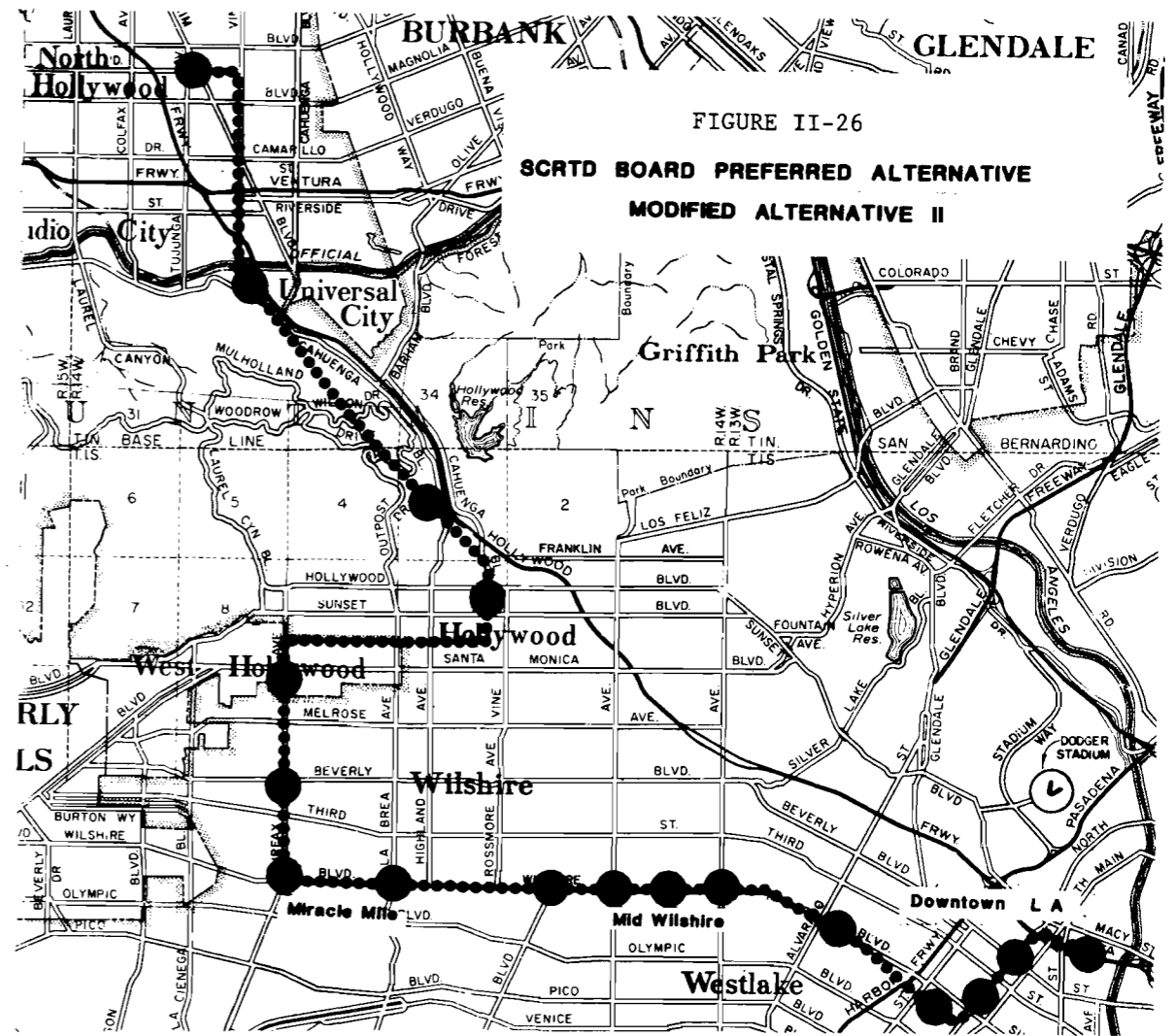
1. Description of the Preferred Alternative

The Board of Directors ("Board") of the Southern California Rapid Transit District (SCRTD) reviewed the Draft AA/EIS/EIR; examined the public hearing transcripts; studied the public comments and issues; considered the staff responses; and has designated its preferred alternative from the eleven evaluated as being (with some minor modifications) Alternative II.

The Preferred Alternative described in the report, refers to the "Locally Preferred Alternative" as selected by the SCRTD, City of Los Angeles, the Southern California Association of Governments, the Los Angeles County Transportation Commission and the California Department of Transportation.

The SCRTD Board has asked UMTA to financially support a Preliminary Engineering investigation of its Preferred Alternative, and UMTA proposes to do so, subject to the provisions of Federal law governing these matters. No decision on project implementation will be made by UMTA until Preliminary Engineering has been completed.

Generally this locally preferred alternative, shown in Figure II.26, commences at Union Station in the Central Business District (CBD); continues west along Wilshire Boulevard; turns north on Fairfax; passes through Hollywood, the Cahuenga Pass, and Universal City; and finally terminates at Lankershim and Chandler in the San Fernando Valley. Such an alignment covers 18.6 linear miles, and is proposed to be constructed as a "bored" tunnel subway to operate at a depth ranging from 40 to 200 feet underground. The intention is to use a "dipped" profile between stations to save propulsion energy and minimize braking heat (geologic, construction, and operational conditions permitting). Yards and shops for the subway system will be located on the District's presently owned "Macy Yard" (a former bus yard and shop), with some additional adjacent right of way now used for auto wrecking yards.



The design of the alternative is conceptual in nature, and is subject to changes during further project development. The objective of the AA/EIS/EIR is to analyze alternatives, based upon limited engineering data, for the purpose of selecting mode and general alignment. Specific design features have been assumed (again, based upon conceptual design) for the purposes of environmental impact assessment. Design features may be subject to change based on the more exacting assessments during Preliminary Engineering. These assessments and any modifications which may result will be documented for public review and comment in a supplemental or tiered EIS, which will be prepared during Preliminary Engineering.

There will be 17 stations, with the first station located at Union Station, and the last station located at Lankershim and Chandler. These locations are summarized as follows:

Union Station  
Civic Center  
5th/Broadway  
7th/Flower  
Wilshire/Alvarado  
Wilshire/Vermont  
Wilshire/Normandie  
Wilshire/Western  
Wilshire/Crenshaw  
Wilshire/La Brea  
Wilshire/Fairfax  
Fairfax/Beverly  
Fairfax/Santa Monica  
Hollywood/Cahuenga  
Hollywood Bowl  
Universal City  
Lankershim/Chandler

This particular alternative is projected to cost approximately 2.0 billion in inflated dollars over the entire 8-10 year period covered by preliminary engineering (3 years) and construction (5-7 years). The \$2.0 billion does not include the bus expansion costs. The construction cost numbers provided are for analysis purposes only, and represent an effort to compare the cost effectiveness and impacts of alternative modes, not to provide final construction cost for a rapid rail system in Los Angeles.

The modifications to Alternative II, made by the SCRTD Board, consist of: (1) eliminating the Wilshire and Hauser Station; (2) adding a station at Wilshire and Crenshaw; and (3) re'locating the Hollywood and Las Palmas Station to Hollywood and Cahuenga.

The first two changes would have negligible impact over the alternative selected. The final change will result in an increased, although negligible capital cost, and no impact on operating costs or environmental factors.

## 2. Rationale for Selection

Alternative II was selected by the SCRTD Board because the results of the Draft AA/EIS/EIR show that it is the most cost-effective and the most environmentally superior alternative. Also, the results of the public hearings show that it has the strongest support of the general public, elected officials, community groups, and private as well as government organizations.

On the following pages, the advantages of Alternative II are compared with the other alternatives -- not only in terms of a comparison between the Rail/Bus and the All-Bus, but also in terms of Alternative II's advantages over the other Rail/Bus alternatives. Figure II-27 provides a summary comparison of the technical and environmental factors among all of the eleven alternatives studied.

The LACTC recently conducted a detailed evaluation, comparing Alternative II with Alternatives I and III. Their conclusion was that Alternative II was better than the other alternatives, and therefore supported its implementation. Copies of their report, entitled "Regional Core Rapid Transit Route Selection Report", dated November 14, 1979, may be obtained from the LACTC offices for review.

FIGURE II-27

Summary Results of the Draft AA/EIS/EIR

Alternatives	I	II	III	IV	V	VI	VII	VIII	IX	X	XI
1. Patronage											
1990 Daily Boardings on Rail or Express Bus (1,000's)	260	275	230	220	180	260	56	19	37	13	10
1990 Total Person Trips, including Background Bus System (1000's)	625	642	618	585	574	625	515	507	511	505	403
2. Capital Costs											
Rail only in subway in Millions of '77\$	1,035	1,120	923	849	659	-	-	-	-	-	-
Bus only in Millions of '77\$	404	408	432	393	434	1,450	474	461	490	476	369
3. Operating Costs (Millions of 1977 dollars)											
Rail Only	21.5	23.0	19.5	14.5	12.0	-	-	-	-	-	-
Total (Rail & Bus)	98.7	99.8	100.1	91.4	96.3	110.5	102.7	99.9	100.7	97.7	79.1
4. Operating Costs (in cents)											
Per Passenger	51	50	52	50	54	57	64	64	63	63	63
Per Passenger Mile	12	10	11	11	12	12	16	15	15	15	15
5. Total (Cap. + Oper.) in cents System Annualized Costs per pass. mile discounted at 7%	18	18	18	17	18	18	18	18	18	18	18
6. Operating Subsidy in 1990 Dollars	4.6	0.8	12.4	2.4	19.9	36.7	61.7	58.2	57.7	53.6	45.1
7. Reductions in Auto Trips (1,000's)	88.6	100.0	83.7	62.4	54.9	88.6	11.2	8.7	9.0	8.5	-

FIGURE II-27 (Cont.)

Alternatives	I	II	III	IV	V	VI	VII	VIII	IX	X	XI
8. Reduction in Auto UMT (1,000's)	629	710	594	443	390	629	80	62	64	61	-
9. Air Quality Reductions (tons/day) in 1990 compared to Null											
Pollutants (RHC)	.35	.40	.33	.25	.22	.35	.04	.03	.04	.03	-
(NOx)	.53	.60	.50	.37	.33	.53	.07	.05	.05	.05	-
(CO)	3.01	3.40	2.85	2.12	1.87	3.01	0.38	0.30	0.31	0.29	-
10. Annual Energy Requirements in 1990 compared to Null in EBO <sup>S</sup>	-28,520	-36,890	-30,380	-44,640	-38,440	-1,550	+32,550	+35,650	+37,820	+27,590	-
11. Estimated Joint Development Potential in Millions of Dollars	478	579	400	400	462	-	-	-	-	-	-
12. Total Daily Travel Time Saving in 1990, in minutes, compared to Null (1000's)	1,882	2,072	1,742	1,351	1,152	1,882	92	141	46	180	-
13. Percent Increase in Traffic flow 1970 to 1990 in Regional Core	12	12	13	13	14	12	15	15	16	16	16

The discussion of rationale is as follows:

a. Patronage

Alternative II represents the highest increase in ridership of any of the alternatives. In 1990 it is projected that the rail line will carry 275,000 daily boarding passengers. The rail line combined with the bus system in the regional core is estimated to carry 642,000 daily linked passengers (linked passengers exclude trips made for transferring). This is a 59% increase over the present daily linked trips volume of 403,000 in the regional core.

The All-Bus improvements Alternatives VII - X (except Alternative VI, the theoretical alternative assumed to carry the same ridership as the Rail/Bus Alternative I) would increase ridership over the Null alternative by approximately 25% to about 500,000 daily linked trips. Alternative VII, with the exclusive medium lanes on Wilshire, would provide the highest express bus boardings of 56,000.

Among the rail alternatives, Number I and III come closest to Number II, attracting an estimated 625,000 and 618,000 daily linked trips respectively.

These patronage projections do not include any considerations for unusual increases in ridership such as those seen recently due to the gas crisis. However, it is pointed out that the rail line, under such circumstances, has the capacity to handle many more passengers by simply adding more trains and shortening headways.

b. Operating Efficiency

Alternative II has the lowest operating cost per passenger. Its estimated cost of 50¢ per passenger is 20% lower than the present cost/passenger for bus service in the regional core. Since Alternative II also carries the largest number of people, it also generates the highest revenue. This maximum revenue, combined with the highest operating efficiency, results in the lowest operating subsidy requirement.

All of the Rail/Bus Alternatives are more operationally efficient than the All-Bus Alternatives, reflecting the labor savings involved in moving large volumes of people, possible with rail transit. Alternative IV has the same efficiency as Alternative II, with Alternative I the next most efficient, followed by Alternative III. Except for Alternative VI (with the theoretically assumed ridership equal to Alternative I) the All-Bus alternatives range between 63 and 64 cents per passenger (approximately 20% less than the Rail/Bus Alternatives). Their overall efficiency being in the same general range as the present bus operation. This indicates that even with increased ridership, the additional labor requirements of the bus alternatives negate the additional revenue advantage.

It is estimated that in 1990, Alternative II would require \$44 million less in operating subsidies than would the "Null" alternative. Savings in operating subsidies over the TSM-all-bus alternative would be over \$52 million per year.

c. Reduction of Vehicular Traffic and Auto Dependency

Alternative II would realize the greatest reduction in daily auto trips and in daily vehicular traffic movement. If no improvements are made in the regional core (Alt. XI), there will be a 16% increase in traffic by 1990. Construction of Alternative II would mean only a 12% increase. This 4% savings results from the diversion of auto trips to transit, and means a savings of 100,000 auto trips and 710,000 daily vehicle miles travelled, which also means the most reduction in traffic congestion.

The reductions in auto trips resulting from the other Rail/Bus alternatives, though less than Alternative II, are also quite significant, ranging from 88,600 trips for Alternative I to 54,900 trips for Alternative V. This auto trip savings is primarily a function of the speed advantage (70 mph top speed, 35-40 mph average speed) of rail over bus service. (10-12 mph average on Regional Core streets, up to 18 mph in express median lanes in Alternative VII on Wilshire).



Since the bus alternatives must use the city streets and contend with the accompanying traffic signals and congestion (resulting in low average speeds), the auto trip reductions for the bus alternatives are very small, averaging about 10% of the savings expected by the Rail/Bus alternatives.

It is also noted here that in terms of auto travel, those who forego their cars in favor of transit would find commuting quicker, safer, more comfortable, more reliable and cheaper. In addition to gas, oil, maintenance, and insurance costs, they would save increasingly high parking fees.

#### d. Travel Time Savings

The rail rapid transit line in Alternative II and the other Rail/Bus Alternatives would operate safe, comfortable and fast service every 3.5 minutes at a top speed of 70 mph, and an average speed (including station stops) of 35 - 40 mph. Currently, buses operating in the regional core average 10 - 12 mph. Even All Bus Alternative VII, with express service on two exclusive median lanes, could only be expected to operate with average speeds up to 18 - 20 mph.

For example, for a trip from Lankershim and Chandler in North Hollywood to Fifth and Broadway in the LA CBD, Alternative II saves approximately 20 minutes over the present transit travel time.

The other Rail Line Alternatives, in some instances, provide better travel time savings for certain trip destinations. For example, for a trip from Hollywood and Cahuenga to the LA CBD, Alternative III is faster than Alternative II, but Alternative II is faster for trips between North Hollywood to Wilshire, and Wilshire to the LA CBD, and provides the best overall travel time advantage for the most trip destinations.

Also, by shifting transit traffic from the surface streets to the subway the Rail/Bus Alternatives will result in improved traffic flow and travel time for other vehicles using these streets.

#### e. Economic Benefits

During its construction period Alternative II is expected to generate over 20,000 to 30,000 man years of employment. In addition, the multiplier effect would create still more jobs in the manufacturing and service industries. This can be expected to reduce unemployment payments and at the same time generate more sales tax and income tax revenues.

Revenues can also be generated by joint development. By becoming focal points for the flow of large volumes of people and by providing easy accessibility, transit stations can generate commercial activity. Areas around some stations will, therefore, have considerable joint development potential. Such joint development benefits are not expected to be generated by the All-Bus Alternatives.

The preliminary economic analysis has shown that among the Rail/Bus Alternatives, station areas around Alternative II have the potential to generate the most revenue (\$579 million) in joint development investment. By comparison, Alternative I is next with \$478 million, followed by Alternative V (\$462 million) and then by Alternative III with \$400 million. The main reason Alternative III is less is that it does not serve the Wilshire Miracle Mile, which has high potential.

Revenues from these joint developments could be used to offset the operating deficits of the system, or to provide part of the local share for further rail extensions.

Economic benefits are also derived by the tendency of rapid transit to re-vitalize community areas. Alternatives I, II and III would help to re-vitalize three specific areas officially designated Redevelopment Areas by the City of Los Angeles. These are the Downtown Los Angeles, the Hollywood, and the North Hollywood Redevelopment Districts.

Since Alternative II provides the most economic benefits and the highest reduction in net operating subsidy, it is the best project in which to invest capital.

Although Alternative II is the most capital intensive, its benefits in the long run will outweigh the initial expenditure, and it is therefore the most cost-effective alternative. See Figure II-27 for a comparison of these benefits with the other alternatives.

f. Support of LA City's Land Use Goals and Objectives

The City of Los Angeles Centers Concept Plan officially adopted in April, 1974, calls for high urban activity "centers" connected by mass rapid transit. Alternative II would best support this plan and would connect the most centers (ten) within the regional core. Alternative II also supports other SCAG, LA County and State land use goals and objectives. Among these are the goals of preserving open spaces, the containment of urban sprawl and maximizing the use of existing land resources.

The other Rail/Bus Alternatives, also support but to a lesser degree, the City's land use goals and objectives. For example, Alternative I serves 9 centers, Alternative III serves 8 centers, and both Alternative IV and V serve seven centers each. For a more detailed discussion of the centers served or excluded by Alternatives I, II or III, see the discussion in Comment Response No. 1, in Chapter XIII of this report.

g. Feasibility as a Starter Line

Alternative II is the essential "basic building block" from which to gradually expand into a regional rail rapid transit network.

In the future, the Lankershim/Chandler to Fairfax/Wilshire leg of Alternative II can, if extended to the south, provide a rail connection to Los Angeles International Airport (LAX) from the San Fernando Valley.

An over-under grade separated "cross" station and track arrangement could extend the Wilshire Line from Wilshire/Fairfax west to the UCLA/Westwood area. This could then provide two separate lines, running on separate tracks, thereby insuring maximum capacity on each line.

Alternative III on the other hand, if combined with Alternative V, will result in a "Y" connection at Vermont, which can cause serious operational and capacity problems. Also, an extension south from Vermont in Alternative III, would result in massive transferring of South-Central passengers, destined to the LA CBD. Such a South-Central line should be routed through, not bypass the CBD. For a more detailed comparison of Alternatives II and III and the operational problems involved in a combination of Alternatives III and V, see Response Comment No. 62 and 64, in Chapter XIII.

h. Accessibility

Of all the five Rail/Bus Alternatives, Alternative II provides accessibility to the most activity centers in the regional core. It would serve downtown destinations of Union Station, the LA Civic Center, the businesses along Broadway and the west side Financial District. Moving west, the rail alignment would serve Mid-Wilshire and the Wilshire Miracle Mile with their numerous businesses. It would also serve special activity centers such as the LA County Museum, the Page Museum, Farmers Market, CBS Television City and the high density elderly transit dependent population along Fairfax.

With the shifting of the station in Hollywood to Hollywood and Cahuenga, Alternative II would provide service to the tourist and entertainment industry activity centers in Hollywood just as well as Alternative III, and also serve the Universal City areas. The North Hollywood portion of the line would provide an essential link between the San Fernando Valley and the rest of the city.

Alternative III, on the other hand, would directly serve the activity centers on Vermont, including the Medical Complex at Sunset Boulevard, the LA City College and the Braille Institute. It would, however, not directly serve the activity centers on Wilshire and Fairfax Boulevards mentioned above. A more detailed comparison between Alternatives I, II and III on this issue can be found in Response Comment No. 1, Chapter XIII.

Alternative II also provides the most accessibility to numerous other activity centers within the regional core, such as schools, churches and hospitals.

i. Air Quality Improvements

Of all the Alternatives, Alternative II provides the maximum improvement in air quality in the regional core. Although an 18.6 mile rail line cannot be expected to solve the considerable air quality problems in the Los Angeles Basin, the maximum reductions in auto trips by Alternative II provide a 1.5% reduction in total pollutants. Even though this is a small reduction on the regional scale, it can be considered a significant improvement in air quality in the Regional Core. For a comparison with the other alternatives, see Figure II-27.

j. Energy Savings

The Rail/Bus Alternatives provide the most reduction in energy savings. Although small, this savings does contribute toward energy conservation goals.

While Alternative II would save 36,900 annual EBO's over the Null Alternative, the Bus Alternatives would result in an increase in energy use.

k. Public Support

As detailed in Chapter XIII, Alternative II has the strongest support of the general public and local and government officials.

Alternative II is strongly supported by the Los Angeles Mayor and by unanimous resolution by the Los Angeles City Council. It is supported by the Southern California Association of Governments, the Los Angeles County Transportation Commission and the California Department of Transportation.

Alternative II is also a part of the officially adopted Regional Transportation Plan of LA County.

This Alternative also has the strong support of the NAACP, the League of Women Voters and the Sierra Club. The attached list shows all the individuals, community groups, corporations and government agencies that support Alternative II.

Although its level of support is much lower than Alternative II, Alternative III nevertheless received strong support from the Hollywood Chamber of Commerce, the Hollywood Arts Council and the Hollywood Revitalization Committee. This support is a consequence of the fact that Alternative III may enhance the new development prospects of the Hollywood community to a greater extent than does Alternative II, although the extent of this difference has not been fully assessed. The extent of new development in the Hollywood community will hinge on a number of factors, one of which is transit access. Recognizing the importance of transit access to Hollywood, the SCRTD Board has seen fit to relocate the rapid transit station of Preferred Alternative II from Hollywood-Las Palmas to Hollywood-Cahuenga in response to the sentiment expressed by the Hollywood community during the comment period of the draft environmental impact statement. The SCRTD Board believes the proposed new location for this station will maximize the beneficial development impacts of Alternative II on the Hollywood community.

For a complete listing of support by all those testifying at the Public Hearings, see Chapter XIII.

Oral Testimony at the Public Hearings Supporting Alternative II

1. Mayor Tom Bradley
2. Citizens for Rail California - George Falcon - 400 members
3. Coalition for Rapid Transit - Abe Falick
4. Attorney Byron Cook
5. Congressman Barry Goldwater, Jr.
6. Los Angeles Urban League - John Mack
7. Dr. Alice Thurston - President of Los Angeles Valley College
8. MCA/Universal - Larry Spungin
9. North Hollywood Chamber - Richard Luehrs
10. Councilwoman Joy Picus
11. Councilwoman Pat Russell - L. A. City Council
12. Valley Wide Streets, Highway & Transportation Committee - Roger Stanard
13. West L.A. County Resource Conservation District - Glenn Bailey
14. James B. McKenna - AM-CAL Realty, Inc.
15. Kurt Colicchio - Student
16. Patrick Moser - L. A. County Democratic Central Committee
17. Dorothy Dowling
18. David Dowling - L. A. City & County Area Agency on Aging Committee
19. Richard Cowsill - L. A. Valley College Student Body President - 26,000 students
20. Bill Steward - Mayor's San Fernando Valley Advisory Committee
21. Guy McCreary
22. Phyllis Roberts - President, North Hollywood Chamber of Commerce
23. North Hollywood Project Area Committee - Bruce Miller
24. United Chambers of San Fernando Valley - Frank Pine - Representing 24 Chambers of Commerce
25. Sheldon Walter
26. Dwight Winegar - Student
27. Winnetka Chamber of Commerce - Gordon Cling
28. Barry Ader
29. Lazear Israel
30. L. A. County Museum of Arts - Mrs. Daniel Frost - 100,000 people
31. L. A. County Transportation Commission Chairman - Edmund Russ
32. Bo Young - Representing L. A. City Councilwoman - Peggy Stevenson
33. American Institute of Architects - Richard Thompson
34. American Association of University Women - Evelyn Ghormley
35. California Federal Savings & Loan - Jim Butler
36. Carthay Circle Homeowners Association - Louis Korn
37. Century City Chamber of Commerce - Warren Martin
38. Ecology Center of Southern California - Nancy Pearlman
39. Future of Los Angeles - John Touchet
40. Bob Geoghegan - Representing Supervisor Edmund Edelman
41. Jewish Legal Services - Sandra Spitzer
42. May Company Department Stores - Phil Schmidt
43. National Council of Jewish Women - Karen Labinger - 4000
44. Al Nyberg - UCLA
45. West Hollywood Advisory Council - Elliot Harmer
46. West Hollywood Citizens Advisory Committee - Bud Siegal
47. West Hollywood Citizens Advisory Sub-Committee - Girard Spencer
48. Air Resources Board - Lawrence S. Caretto
49. Bullock's Department Stores - Frank Rice
50. Don Muchmore - California Federal Savings & Loan
51. Carpenter's Union - Tom Benson - 3000
52. Countywide Citizen's Planning Council, Transportation Committee - Meda Rosado
53. Coast Federal Savings - David Blaney
54. Computer Learning Center - Lloyd DesMarais
55. Craft & Folk Art Museum - Patrick Ela
56. East Los Angeles Area Aging Advisory Council - Joe Vazquez
57. East Los Angeles Interagency Coalition - Tomas Pompa
58. Los Angeles Area Chamber of Commerce - Jim Gordon - 2800 member firms
59. L. A. County Federation of Labor, AFL/CIO - Bill Robertson
60. Los Angeles Grand Jury - Marvey Chapman
61. L. A. County Medical Association - Dr. Stanley Rokaw
62. Park La Brea Associates - Glen Bennett - 14,000 people
63. SCAG - Councilman Robert Farrell
64. Fred Terrell - Representing L. A. City Council President - John Ferraro
65. Whittier Boulevard Merchants' Association - David Gonzales
66. Wilshire Chamber of Commerce - John McKay
67. Wilshire Temple - Rabbi Wolf - 7000 members
68. Richard Workman
69. American Lung Association - Honora Wilson
70. American Planning Association - Ken Gregory - 900 members
71. American Society of Civil Engineers - Jack Hallen
72. California Department of Transportation - Robert Datel
73. L. A. City Planning Department - Arch D. Crouch
74. L. A. County Planning Department - Norm Murdoch
75. Los Angeles NAACP - Dave Waters
76. Jim McDermott, Representing Assemblyman Michael Roos
77. Sierra Club - Stan Hart
78. Sutro Company - Evelyn Kieffer
79. Rex Link - Wilshire Chamber of Commerce
80. Los Angeles County League of Women Voters - Gloria Schmidt

### **III. TRANSPORTATION IMPACTS**



### III. TRANSPORTATION IMPACTS

#### A. PATRONAGE

Patronage estimates for the eleven proposed alternatives (including Alternative II, the SCRTD Board Preferred Alternative) were developed from projections by the LARTS branch of CalTrans, which used the UMTA planning package of computer forecasting models (UTPS). The estimates were made for the year 1990. Socio-economic and land use projections (SCAG '76) were input to the models by the Southern California Association of Governments (SCAG). CalTrans provided information about the highway system. The various local transit operators input information regarding the transit network. The SCRTD provided the input on transit system data describing the alternatives, which included routings, station locations, speeds and frequencies. The SCRTD line speed data were in turn modified by LARTS staff to be consistent with CalTrans predicted road network speeds.

The patronage forecasts produced by LARTS (ULOAD Report 5) were carefully reviewed and modified so that projected patronage was consistent with the planned level of service capacity for each alternative.

These patronage projections are summarized in Figure III.1. It should be noted that this and all other Figures in this report highlight (by a "box") the information for Alternative II, the Preferred Alternative.

Patronage is indicated for two types of lines: (1) Alternative-specific (i.e., the rail lines or substituted express bus service); and (2) Regional Core lines including the background bus system of local and feeder lines. Linked trips are distinguished from passenger boardings, and are obtained by deducting the boardings made from transferring (from one vehicle to another) to complete a journey.

##### 1. Alternative-Specific Patronage

Alternative-specific patronage forecasts for the eleven alternatives are listed in the first column of Figure III.1 and detailed in Figure III.2. These estimates represent the average weekday rail passenger boardings for Alternatives I through V, and the substituted Wilshire Corridor express bus service for the remaining All-Bus Alternatives. Express bus services operating on the Hollywood Freeway are included

FIGURE III.1

ESTIMATED WEEKDAY PATRONAGE  
(expressed in Boardings and Linked Trips)\*

Alter- native	Rail Line or Substitute Express Bus Boardings	Other (Background) Regional Core Bus Lines Boardings	Total Boardings on Regional Core Lines	Average Weekday Linked Trips
I	260,000	739,690	999,690	624,800
II	275,000	751,990	1,026,990	641,900
III	242,000 <sup>(1)</sup>	745,990	987,990	617,500
IV	220,000	716,690	936,690	585,400
V	181,000 <sup>(2)</sup>	737,670	918,670	574,200
VI	260,000 <sup>(3)</sup>	739,690	999,690	624,800
VII	55,540	665,900	721,440	515,300
VIII	18,920	691,270	710,190	507,300
IX	37,440	678,370	715,810	511,300
X	13,100	693,470	706,570	504,700
XI	9,780 <sup>(4)</sup>	554,080	563,860	402,800

(Null=1977)

(1) Includes Wilshire Limited, as rail line does not effectively penetrate Wilshire Corridor in this alternative.

(2) Includes Wilshire-Valley Flyer (144), as rail line does not serve San Fernando Valley in this alternative.

(3) Patronage for Alternative VI is assumed equal to patronage for Alternative I to compare the operation and efficiency of a bus guideway with a rail system. It is not certain that this volume could be accommodated at a satisfactory level of service.

(4) Line 144, Wilshire-Valley Flyer; and Line 83, Wilshire Limited.

\* Linked Trips are distinguished by passenger boardings (the latter include transfers).

FIGURE III.2

ESTIMATED WEEKDAY BOARDINGS  
on  
RAIL RAPID TRANSIT & EXPRESS BUS SERVICE ONLY  
for  
REGIONAL CORE TRANSIT ALTERNATIVES

Alter- natives	Rail Rapid Transit Boardings	Express Bus Boardings	Notes on Bus Boardings
I	260,000	--	
II	275,000	--	
III	230,000	12,000	On Wilshire Express (Line 83)
IV	220,000	--	
V	180,000	1,000	On Wilshire-Valley Express (Line 144)
VI	260,000	--	Assumed equal to rail boardings in Alt.I
VII	--	56,000	On Exclusive Wilshire-La Brea Median Lanes
VIII	--	19,000	On Exclusive 8th & Olympic Reversible Median Lane
IX	--	37,000	On Exclusive Wilshire-La Brea Curb Lanes
X	--	13,000	On Wilshire Express and Wilshire Valley Express
XI	--	10,000	On existing Wilshire Express and Wilshire-Valley Express



in the background bus system since these routes are included in all of the alternatives. Alternative-specific patronage varies widely from 10,000 to 275,000 weekday boarding passengers, depending on the speed, capacity, and extent of the corridor rail or express bus service. The surface bus alternative boardings range from 10,000 (Alternative XI) to 56,000 (Alternative VII). Rail line boardings range from 180,000 on Alternative V to 275,000 on Alternative II. Boardings for the Aerial Busway (Alternative VI) were assumed to be the same as for Alternative I.

## 2. Regional Core Patronage

Improved line haul transportation services have a variety of impacts when they are introduced into a transit network. Fast, reliable service has the potential for attracting patronage from private autos. Some bus lines which intersect the new rail or express bus service will become feeders for the new facilities. Other lines, primarily those line-haul routes which run parallel to the new service, will lose patronage to the new facility. Still others will be unaffected. It was necessary to consider the entire Regional Core transit system in order to measure the full impact of the alternatives on patronage and costs.

The Regional Core bus lines were selected for investigation on the basis of proximity to or intersection with the proposed alternative rail lines. The Regional Core itself constitutes the area of direct influence of the rail alternatives. The key 1977 characteristics of the Regional Core lines are summarized in Figure III.3. The predominance of the local bus services over the alternative specific bus lines is evident.

If only a portion of a line operated in the Regional Core (e.g., SCRTD Line 3), the patronage data for the whole line were included in the Regional Core sums under the assumption that any variation in patronage resulted directly from a change in the alternative being considered. The patronage data for the Regional Core is, therefore, somewhat inflated; but the relative comparison is valid. The second column in

FIGURE III. 3  
SUMMARY OF PERTINENT FEATURES  
REGIONAL CORE BUS LINES  
(SEPTEMBER 1977 DATA)

Features	Type of Line			Total
	Alternative Specific <sup>(1)</sup>	Corridor Express and Major Line Haul and Feeder <sup>(2)</sup>	Other Lines <sup>(3)</sup>	
Number of Lines	2	14	24	40
Route Miles	42.0	283.9	412.5	738.4
Average Weekday Boarding Passengers <sup>(4)</sup>	9,780	220,700	333,380	563,860
Peak Bus Needs <sup>(5)</sup>	45	309	420	774
Weekday Bus Miles	3,174	43,493	62,283	108,950
Weekday Bus Hours	216	3,535	5,127	8,878

Source: SCRTD Service Analysis Section, September, 1977 data.

- (1) Express or limited buses running on approximate alignment of proposed rail corridor.
- (2) Lines whose patronage and services are likely to be affected by construction of the rail alternative.
- (3) Balance of local services in Regional Core.
- (4) Including transfers.
- (5) Not including spares.

Figure III.1 lists the total number of boarding passengers projected to use the "Background" bus system on an average weekday in 1990 for each alternative and the third column lists average weekday patronage on the Regional Core lines as a whole for each alternative. The total Regional Core patronage varies over a much narrower range than the alternative-specific patronage. Total Regional Core line weekday boarding volumes range from 564,000 (Alternative XI) to 1,027,000 (Alternative II).

### 3. Weekday Linked Trips

The linked trips represent the total number of transit trips made within the Regional Core and may therefore be considered a better measure of transit use or effectiveness. With the implementation of a rail system, the bus system would serve the primary purpose of collection and distribution of transit passengers, while the rail system would provide "line haul" or express service, between major service areas. With an All-Bus system, a number of buses would serve all three purposes (collection, line-haul, distribution), thus reducing the transferring required.

To account for the larger proportion of transfers by the Rail/Bus Alternatives, it was estimated that there would be 1.6 transfers per person trip, whereas for the All-Bus Alternatives, there would only be 1.4 transfers per person. The average weekday linked trips listed in the last column of Figure III.1 were obtained by dividing the total boarding passengers by 1.6 for Alternatives I through VI, and by 1.4 for Alternatives VII through XI. The weekday linked trip volumes range from 403,000 up to 642,000.

### 4. Alternative Patronage Evaluation

Alternative II, which has the highest patronage, features an 18-mile rail transit line which penetrates five major activity centers (North Hollywood, Hollywood, Miracle Mile, Mid-Wilshire, and Downtown Los Angeles). Of 642,000 linked trips, 275,000 (42.8 percent) are projected as using the rail facility for all or a part of their journey.

Alternatives I and III include rail, and VI includes a busway about 15-16 miles in length extending from Union Station, Los Angeles to North Hollywood. Alternatives I with 625,000 trips (260,000 on the rail line) follows the Wilshire-La Brea corridor, and Alternative III with 618,000 follows Wilshire, Vermont and Selma. The projected alternative-specific volume for Alternative III (242,000) includes 12,000 trips on the 83 Limited bus line on Wilshire Boulevard because that alternative has no direct contact with the Miracle Mile. Alternative VI substitutes an elevated busway for the rail line of Alternative I. This busway is assumed to have the same patronage as Alternative I, although the capacity of a busway to handle these volumes in practical operations has never been established.

Alternatives IV and V have less patronage than the other three rail alternatives because neither provides a rail connection to the San Fernando Valley. Alternative IV, which terminates at the Hollywood Bowl Station, is projected to have 585,000 weekday linked trips, of which 220,000 (37.6 percent) would use the rail facility for all or a portion of their trip. Alternative V, which extends west on Wilshire to Fairfax, is projected to have 574,000 linked trips, of which 180,000 (31.4 percent) would use the rail facility and about 1,000 more would be on the substitute Wilshire-Valley Flyer bus line.

In regard to total weekday linked trips, the improved surface bus alternatives (VII, VIII, IX, and X) are closely grouped, in a range from 505,000 (Alternative X) to 515,000 (Alternative VII). The alternative-specific patronage for express bus routes ranges from 13,000 in Alternative X (present Line 83 Limited with articulated buses and Line 144 with more frequent service) up to 56,000 for the median lane express bus lines in Alternative VII. In the latter case, the corridor expresses would be used by 10.9 percent of the linked trips, while in Alternative X, only 2.6 percent of the trips use the two corridor express lines.

The alternative-specific patronage in the surface bus alternatives depends mainly on the time of operation of the corridor expresses. Alternatives VII and IX, which have the express lines in operation all

day, have 56,000 and 37,000 weekday boardings respectively on those lines. In Alternatives VIII and X, the express lines operate only in the peak periods, and only 19,000 and 13,000 boardings are projected respectively.

The further differences between VII and IX and between VIII and X result from speed improvements from the median express bus lanes. The alternative-specific lines in Alternative VII carry 48 percent more passengers than those in Alternative IX, and in a similar way the peak-only alternative-specific lines of Alternative VIII carry 44 percent more passengers than the slower services of Alternative X.

The 25 percent increase in patronage between Alternative XI and the improved surface bus alternatives is highly significant. The TSM Alternative (X) includes implementation of SCRTD's current 1330-bus replacement plans as well as West Los Angeles bus route/headway recommendations now under consideration by SCRTD's Bus Planning Section. Bus frequencies would be increased on most lines. Active peak buses on Regional Core lines as a whole would increase from 774 to 960, of which about 36 would be high capacity articulated buses. These improvements would facilitate a substantial increase in patronage, to 13,100 average weekday boardings on the alternative-specific lines (34 percent) and to 706,510 on the Regional Core lines. The improved routes and headways of local services in Alternative X (TSM) are also retained as a common "Background Bus System" for all other Alternatives (I-IV). The Downtown Peoplemover (Element II of the RTDP) is also included in Alternatives I-X and its patronage impact on the alternatives is discussed further on in this chapter.

Since bus speeds will be practically the same in Alternative X and XI, the increase in patronage derives from improved service frequency (less wait time), provision of capacity to cope with a 15 percent growth in LACBD employment from 1975 to 1990, route restructuring to provide more direct service along major streets (e.g. Third and Santa Monica) --hence fewer transfers -- and development of latent trips now discouraged by lack of transit capacity on a few heavy ridership lines.

The Null Alternative (XI) represents continuation of present routes and headways unchanged. Patronage would also remain at 1977 level because of peak hour capacity constraints and competition from private transportation. The estimate of alternative-specific patronage for Alternative XI represents the number of bus riders using express services on Wilshire Boulevard today (Line 83 Limited and 144) -- 9,780 boarding passengers. The Regional Core lines are also projected to retain present weekday patronage of 402,800 linked trips.

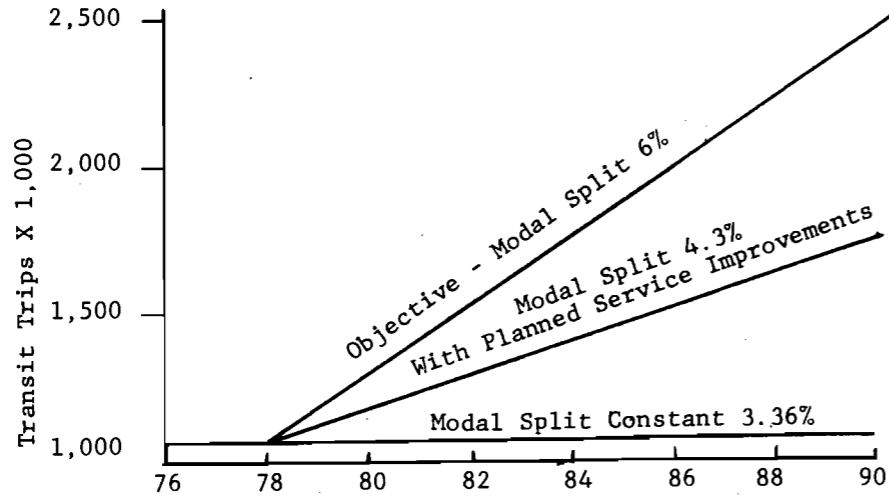
#### 5. Mode Split and Patronage Projection in the SCAG Region

Transit ridership in the Regional Core is among the highest in Southern California as evidenced by its current mode split of 12%. (See Figure III.5) That compares with a 3.4% transit mode split for the entire SCAG Region. Figure III.4 shows the SCAG transit mode split strategy through the year 1990.

Figure III.4

MODE SPLIT AND PATRONAGE PROJECTIONS IN THE SCAG REGION

	1976	1990
Daily Person Trips	37,865,200	41,961,954
Transit Trips	1,272,300	1,811,546
% Transit Trips	3.36%	4.3%
T.T. to reach 6%		2,517,645



Transit ridership objectives in the SCAG region. The lower line reflects the increase in transit ridership due solely to population increase, assuming no transit system improvements over 1976 through 1990. The middle line reflects the projected increase in ridership resulting from the RTDP. The top line reflects the transit ridership objective of 6%.

Source: SCAG Integrated Report, Dec. 1976, Figure 4.1

As the graph shows, the SCAG has adopted a 6% mode split target for transit in 1990 in the Regional Transportation Plan. Projections show that even with implementation of the full RTDP (i.e., TSM measures, the Downtown People Mover, Freeway Transit, and the Regional Core Starter Line (Alt. II), a modal split of just 4.3% could be expected. While this result would fall short of the objective, it is important to note that a 4.3% mode split means a 42% increase in daily transit trips from 1,272,300 to 1,811,546, or approximately 542,000 new daily trips. If Alternative X were selected in lieu of Alternative II, the total regional mode split would drop from 4.3% to 4.0%, which would mean about 120,000 fewer transit trips in the SCAG Region. The limit to the growth in transit patronage through 1990 is the financial resources required to provide transit service. Total auto and transit person trips in the SCAG region are projected to go up from 37.8 million to 41.9 million daily trips, an increase of 11%.

6. Effect of Improvements on Mode Split in the Regional Core

The projected impacts of transit improvements on Mode Split are indicated in Figure III.5. The percentage of Regional Core person trips by transit is projected to increase from 10.5 percent for Alternative XI to 16.3 percent for Alternative II. Conversely, average weekday auto person trips are projected to decrease from 3.42 million per day (about 2.85 million auto vehicle trips) for Alternative XI to 3.30 million per day for Alternative II - a 3.5 percent reduction.

Figure III.5

1990 Regional Core Mode-Split Data

Alternative	Daily Transit Person-Trips	Daily Auto Person-Trips	Daily Total Person-Trips	Mode-Split <sup>(1)</sup>
I	624,800	3,317,500	3,942,300	15.8%
II	641,900	3,303,800	3,945,700	16.3%
III	617,500	3,323,400	3,940,900	15.7%
IV	585,400	3,349,000	3,934,400	14.9%
V	574,200	3,358,000	3,932,200	14.6%
VI <sup>(2)</sup>	624,800	3,317,500	3,942,300	15.8%
VII	515,300	3,410,400	3,925,700	13.1%
VIII	507,300	3,413,400	3,920,700	12.9%
IX	511,300	3,413,000	3,924,300	13.0%
X	504,700	3,413,600	3,918,300	12.9%
XI	402,800	3,423,800	3,826,600	10.5%
Today (1977)	402,800	2,953,900	3,356,700	12.0% <sup>(4)</sup>

- (1) Mode-split ratio = transit person trips ÷ total person trips
- (2) Patronage for Alternative VI was assumed to equal the patronage for Alternative I to compare the operation and efficiency of a bus guideway with a rail system.
- (3) The annual person-trip growth rate was assumed to be 1% based on available information. Therefore, total person-trips increase from 3,356,700 in 1977 to 3,826,600 in 1990 due to the natural growth in travel.
- (4) The existing mode-split in the Regional Core today is estimated to be 12%. This estimate was based on: (a) Ps & As for LARTS run 30A - Alt. 10-C; (b) screenline counts on major streets in the Regional Core; (c) the Central Area Study, and (d) City Traffic Department Estimates.

7. Patronage Impact of the Hollywood Freeway Busway

The projected rail patronage for Alternative I without a Busway on the Hollywood Freeway is 260,000 daily riders. Assuming the existence of the Busway, this estimate from LARTS computer outputs drops only two percent to 255,000 daily riders. Patronage estimates for the rail rapid transit lines in alternatives I through V are not materially affected by an aerial HOV lane above the Hollywood Freeway.

The SCRTD carries approximately 14,600 daily riders through the Cahuenga Pass on the Hollywood Freeway today. (Note: Because the Hollywood Freeway service has limited access and egress, the link volumes at the Cahuenga Pass are assumed approximately equal to the total patronage using the freeway, i.e. turnover is considered to be negligible.) The transit projections for the Hollywood Freeway in 1990 under each alternative, evaluated with and without an aerial HOV lane on the Hollywood Freeway are shown in Figure III.6.

FIGURE III.6

1990 Cahuenga Pass Transit Passenger Estimates

Alt.	Without Busway		With Busway	
	On Hollywood Fwy	In Reg. Core	On Hollywood Fwy	In Reg. Core
I	3,000	624,800	5,000	626,800
II	3,000	641,900	5,000	643,900
III	3,000	617,500	5,000	619,500
IV	3,000	585,400	5,000	587,400
V	20,000	574,200	25,400	579,600
VI	3,000	624,800	5,000	626,800
VII	20,000	515,300	25,400	520,700
VIII	20,000	507,300	25,400	512,700
IX	20,000	511,300	25,400	516,700
X	20,000	504,700	25,400	510,100
XI	14,600	402,800	-	-

This Figure shows that patronage on the existing Hollywood Freeway in 1990 increases 37% over the Null Alternative to 20,000 daily riders for the All-Bus Alternatives and Alternative V which do not provide

rail service to the San Fernando valley. For rail Alternatives I through IV and Alternative VI, the Aerial Busway on Wilshire and La Brea Boulevards, this figure drops significantly to 3,000 daily riders due to the faster travel time provided by the rail and aerial bus service and the re-routing of the San Fernando Valley bus lines to provide direct interface with the North Hollywood rail stations. These estimates of bus ridership on the Hollywood Freeway, made for all alternatives, are included in the total patronage estimates for the Regional Core.

When the Hollywood Freeway busway is assumed, the Hollywood Freeway daily patronage is 25,400 for the All-Bus Alternatives and Alternative V. This estimate is based on a CBD employment growth of 15%, the auto capacity limitations on the Hollywood Freeway, and the experience of the San Bernardino Freeway HOV lanes. Assuming a total person-trip estimate of 256,900 daily persons on the Hollywood Freeway in 1990, the transit estimate yields a 9.9% transit mode-split which compares to a current 8.3% transit mode-split on the San Bernardino Freeway.

When a quick and direct link is provided between the San Fernando Valley and the Wilshire-CBD areas via the rail lines or Aerial Busway (Alts. I, II, III, IV, VI) the patronage on the Hollywood Freeway Busway drops to 5,000 daily riders.

Since the patronage figures on the Busway are small compared to overall Regional Core patronage, the existence or nonexistence of the Hollywood Freeway Busway has little impact on the transit trips in the Regional Core.

Within the Regional Core, the Hollywood Freeway Busway would primarily serve transit trips between North Hollywood and the Central Business District. As a measure of the service effectiveness of the Busway, the relative trip movements between North Hollywood and the major sub-areas of the Regional Core were examined. In particular, the transit trip movements between North Hollywood and either Hollywood, Wilshire, or the CBD were measured. The 1990 LARTS transit trip matrix

was used as a source. It revealed that 31% of the trip movements were made between North Hollywood and the Hollywood area; trips between North Hollywood and the Wilshire area accounted for 33% of the total trip movements, and 36% of the trip movements were made between North Hollywood and the CBD. These results show that transit trips with trip ends in North Hollywood are spread fairly evenly throughout the Regional Core. Consequently, the Hollywood Freeway Busway would provide only a portion of the service to the total trip desires from the North Hollywood area of the Regional Core.

#### 8. Patronage Impact of the Downtown People Mover

Patronage estimates for the DPM were made by the Community Redevelopment Agency (CRA). For modeling purposes, the interface between the DPM and the downtown L.A. bus system was coordinated by the CRA and the SCRTD Bus Planning Department. Two major concerns were addressed: First, downtown bus routing was oriented to provide the maximum opportunity for transfers with the DPM. Second, bus service was generally routed through the Central Business District so that transfers would not be forced, and trip makers could exercise their modal preference. Generally, the through routing was designed to enlarge CBD coverage. A bus support plan report, which details the coordination of the two systems, was issued by SCRTD in May 1978.

Relevant to the interface between the DPM and the Regional Transit Alternatives, the CRA made one computer run under a TSM condition and one which assumed the 16 mile La Brea Rail Line (Alternative I). The DPM patronage for the TSM condition was approximately 72,400 boardings on an average weekday in 1990. With the rail rapid transit line, the average weekday patronage was projected to be 72,500. The total DPM patronage, therefore, was projected to be insensitive to the rail alternative.

Figure III.7 gives a detailed listing of the interface data between the DPM and the Regional Core Alternatives. Data for Alternatives II through IX were extrapolated from the two CRA computer runs. The first

Figure III.7

PATRONAGE INTERFACE BETWEEN THE DPM AND THE  
REGIONAL CORE TRANSIT ALTERNATIVES

Average Weekday in 1990					
Alt.	1. DPM Patronage	2. Transfers w/ Regional Transit	3. Intercept Station Transfers	4. Transfers at 7th & Figueroa	5. Transfers at All Other DPM Stations
I	72,500	35,315	25,860	7,225	2,230
II	72,515	35,480	26,165	7,240	2,075
III	72,495	35,250	25,745	7,215	2,290
IV	72,465	34,935	25,170	7,175	2,590
V	72,460	34,825	24,980	4,470	5,375
VI	72,500	35,315	25,860	7,225	2,230
VII	72,410	34,260	23,950	3,870	6,440
VIII	72,400	34,185	23,815	3,785	6,585
IX	72,405	34,220	23,880	3,825	6,515
X	72,400	34,160	23,770	3,765	6,625
XI	-				

NOTE: CRA data show that the difference of about 37,000 trips between Column 1 and 2 represents approximately 17,000 DPM trips to and from autos parked at the terminals and approximately 20,000 local circulation trips made on the DPM during the day.

column shows the average weekday boardings on the DPM. The second column lists the transfers between the DPM and Regional Transit. The latter represents bus or rail trips used to enter or depart from the CBD, using the DPM for the portion of the trip within the CBD. Within a four percent range these transfers, also, seem insensitive to the Regional Core Alternatives.

Columns three, four and five subdivide the Regional Transit Transfers by DPM stations. The Intercept Station Transfers represent those regional transit transfers which take place at the DPM terminal stations - either at Union Station or the Convention Center. As can be seen, these two stations would accommodate the majority of the regional transit transfers - roughly 70%. Again, these figures appear to be insensitive to the different alternatives.

The transfers between the DPM and the regional transit transfers (bus or rail) at the 7th & Figueroa Station were isolated in column four as this was the primary interface station between the DPM and the alternative-specific rail or express bus improvements in each alternative. Here a distinction is noted. For Rail Alternatives I through IV and Alternative VI, the aerial busway, the transfers between the DPM and Regional Transit are above 7,000. For Rail Alternative V, the corresponding number is approximately 4,500; and for the remaining All-Bus Alternatives these transfers number less than 4,000.

The transfers between the DPM and Regional Transit trips at the ten other DPM stations are listed in the last column. These figures exhibit an inverse relationship with the transfers at 7th & Figueroa. This occurs because the Rail Alternatives and the Aerial Busway, which serve Hollywood and North Hollywood, attract trips which would otherwise use the Hollywood Freeway and interface with the DPM at its Third and Hill Station.

The Downtown People Mover was coded into the LARTS model and is included in the Regional Core patronage estimates for each alternative. As the alternative-specific rail or express bus improvements distribute their

own regional trips along Seventh Street and Broadway through the CBD, the DPM would primarily serve a collection-distribution function for those regional trips with a trip end in the Convention Center or Bunker Hill areas.

There would not be a significant impact on the Regional Core rail transit patronage if the DPM was not built. The collection-distribution function between the alternative-specific improvements and the Convention Center or Bunker Hill areas would likely be made by existing minibuss service.

#### 9. Rapid Transit Station Volumes and Mode of Access

For each of the five rail rapid transit lines, total boardings were broken down into station entering and exiting volumes. These figures are presented in Figure III.8. Then a sub-mode split was made on the entering station volumes to show the diversion by mode of access between park and ride trips, kiss and ride trips, feeder bus trips and walk trips. These estimates, totaled for each alternative, are listed in Figure III.9. Breakdowns by station and peak hour volumes were also made and can be found in Appendix I.E, Station Access Mode Split Analysis. The results of this analysis were used in preliminary station sizing, development of station costs, design of feeder bus services, and the estimation of both traffic and environmental impacts to the areas surrounding the station.

The methodology used to arrive at the estimates conforms to that presented, in detail, in the "Rapid Transit Stations Mode Split Analysis" report issued by SCR TD in June of 1977.

#### B. LEVELS OF TRANSIT SERVICE

The eleven alternatives (including the Board Preferred Alternative II) were compared in regard to four principal aspects of the level of transit service: speed; frequency; capacity, and reliability.

##### 1. Speeds

All of the alternatives except the Null (XI), improve the quality of transit service to some extent.

FIGURE III. 8

24 HOUR ENTERING AND EXITING RAPID TRANSIT STATION VOLUMES

STATIONS*	RAIL ALTERNATIVES				
	I Wilshire LaBrea- Hollywood to North Hollywood	II Wilshire Fairfax- Hollywood to North Hollywood	III Wilshire- Vermont- Hollywood to North Hollywood	IV Wilshire LaBrea to Hollywood	V Wilshire to Fairfax
Union Station	37,000	38,000	35,000	45,000	54,000
Civic Center	43,000	44,000	41,000	39,000	36,000
Spring & Fifth	29,000	30,000	29,000	32,000	33,000
Seventh & Flower	66,000	68,000	65,000	59,000	55,000
Seventh & Alvarado	51,000	51,000	39,000	48,000	43,000
Wilshire & Vermont	32,000	34,000	69,000	28,000	23,000
Wilshire & Normandie	27,000	28,000	--	24,000	19,000
Vermont & Beverly	--	--	25,000	--	--
Wilshire & Western	29,000	30,000	--	25,000	33,000
Los Angeles City College	--	--	7,000	--	--
Wilshire & La Brea	44,000	18,000	--	42,000	26,000
Vermont & Sunset	--	--	9,000	--	--
Wilshire & Fairfax	--	41,000	--	--	37,000
La Brea & Beverly	21,000	--	--	18,000	--
Fairfax & Beverly	--	22,000	--	--	--
Carlton & Western	--	--	8,000	--	--
La Brea & Santa Monica	22,000	--	--	17,000	--
Fairfax & Santa Monica	--	14,000	--	--	--
Hollywood & Cahuenga	32,000	42,000	--	22,000	--
Selma & Vine	--	--	48,000	--	--
Hollywood Bowl	5,000	4,000	5,000	41,000	--
Universal City	47,000	49,000	44,000	--	--
North Hollywood	36,000	37,000	35,000	--	--

\* Blank spaces indicate stations not served under that alternative.



FIGURE III. 9

STATION VOLUMES FOR THE BUS/RAIL ALTERNATIVES  
24 HOUR ENTERING AND EXITING RAPID TRANSIT  
TRIPS BY STATION ACCESS MODE

Rail Alternatives	A c c e s s		M o d e		
	P & R	K & R	Bus	Walk	Total
I	21,100	27,300	133,900	77,700	260,000
II	21,200	28,700	142,700	82,400	275,000
III	18,100	23,500	118,500	69,900	230,000
IV	17,700	19,200	111,300	71,800	220,000
V	8,100	13,500	88,900	69,500	180,000

By virtue of the fact that the rail alternatives would operate on a grade separated facility with maximum speed of 75 miles per hour, they would offer significantly higher average running speeds than are presently experienced by transit users in this region. Restricted primarily by station spacing and safety requirements, the trains would operate at an average speed, including stops, ranging from 35 mph for the shorter rail alternatives to 40 mph for the longer rail alternatives. Faster average speeds are due primarily to longer station spacings.

Since new freeway construction will not occur in the densely populated Regional Core, neither public transit riders nor automobile drivers could achieve comparable speeds in the Wilshire-La Brea/Fairfax-Hollywood corridor. System-wide average speeds for buses on the Regional Core arterial streets (not including the buses in the exclusive lanes) range from 10 to 15 mph (including stops). Average auto speeds range from 15 to 25 mph.

Alternative VI, an all-bus option, would operate on a grade separated facility and would likewise provide speed advantages over surface arterials. Based on the limits of bus operational technology, station spacing, and current highway restrictions (55 m.p.h. speed limit), it is estimated that buses would be able to maintain an average speed of approximately 30 m.p.h. including stops, during off-peak periods on the exclusive guideway. (Peak hour speeds would likely be somewhat slower as a result of loading delays at major transfer stations.)

Three of the six All-Bus Alternatives (VII, VIII, and IX) would utilize exclusive lanes for buses on existing arterial streets to improve bus speeds.

In Alternative VII, speeds for buses using two exclusive median lanes on Wilshire and La Brea would be considerably higher than the system-wide average of 10-15 mph. The L.A. City Traffic Department has estimated an average operational speed for the express buses in this alternative to be about 20 mph. Although this speed could be achieved reliably

off-peak, loading delays for projected passenger volumes would reduce Wilshire Boulevard bus lane speed to about 18 miles per hour west of Alvarado during peak hours.

East of Alvarado Street, for about 1/2 to 3/4 mile, the average speed would be about 13 mph, due to the heavy on-off volumes and traffic stops. At this location, Wilshire narrows to only 4 lanes, which will leave one lane in each direction to be shared by autos and buses. Within Downtown Los Angeles, where streets are shared by local Wilshire buses and other bus lines and with stops on every block, speeds are estimated to be about 8 miles per hour.

Alternative VIII provides non-stop, express bus, line-haul service in a reversible median lane on Eighth Street and Olympic Boulevard in the peak periods only. Over these portions of the bus routes it is believed the buses will be able to maintain the same approximate speed as Alternative VII -- 18-20 m.p.h. If neighborhood acceptance can be secured for this alternative, the 18-20 mile-per-hour speeds can be maintained reliably in the peaks, since there would be no loading or unloading in the bus lane. Off-peak, TSM-level bus speeds would prevail because the exclusive lane would not be available. In collection and distribution segments of the express routes (i.e. local service), speeds would remain at or near present levels on Wilshire (12 miles per hour depending on traffic and patronage).

Alternative IX, which offers express bus service over the same route as Alternative VII but in exclusive curb lanes which are shared by buses providing service, should operate at an average speed approaching 15 mph on the express routes on Wilshire and La Brea, and 8 mph within Downtown Los Angeles. A small speed reduction would be likely in peak hours.

Alternative X, the TSM strategy, affects routing improvements and better frequencies but no appreciable increase in speeds over the system-wide average of 10-15 mph is expected.

The Null alternative describes the existing system where the average speed for express buses on Wilshire Boulevard is equal to 13 m.p.h. With no bus priorities, this average would likely decrease to 12 miles per hour in the peaks. Local buses presently average 12 mph on Wilshire.

## 2. Travel Times

Improvements to line-haul speeds will be reflected in total travel time calculations, but issues of access, routing and frequency are equally important. Transit travel times between selected points in and near the Regional Core have been calculated as another measure of comparison of the alternatives.

Figure III.10 lists the travel times which could be expected under each alternative for six typical trips. The trips chosen were selected because they link major activity centers and reflect known travel patterns.

Many assumptions entered into the estimation of these travel times. Estimates were made assuming A.M. peak conditions in the inbound direction. Total travel time was set equal to the sum of access, walk, change in level, transfer and in-vehicle running times. Access time was assigned to all trips and arbitrarily set at three minutes, which represents an 800 ft. walk at an average speed of three miles per hour. Other walk times were also calculated at a 3 mph speed. Time was assigned for entry and exit at rapid transit stations to account for changes in level, i.e., from subway or aerial stations to the surface. This time was set at three minutes for both access and egress. Wait and transfer times were set equal to one-half the headway of the vehicle to be boarded. In-vehicle running times consisted of both bus and rail travel. Bus speeds were based on actual operating speeds. Rail speeds were projected based on station spacing, acceleration and deceleration rates, and dwell times. The routing of the trip was made according to the transit network used for patronage projections.

Figure III.10

TRANSIT TRAVEL TIME COMPARISON  
(minutes)

Alternative	ORIGIN-DESTINATIONS					
	North Hollywood to Downtown L.A.	North Hollywood to Wilshire Miracle Mile	Wilshire Miracle Mile to Downtown L.A.	Hollywood to Downtown L.A.	Mid-San Fernando Valley to Downtown L.A.	Beverly Hills to Downtown L.A.
	SPECIFIC TRIP ENDS					
	Lankershim & Chandler to Fifth & Broadway	Lankershim & Chandler to Wilshire & La Brea	Wilshire & La Brea to Fifth & Broadway	Hollywood & Vine to Fifth & Broadway	Reseda & Sherman Way to Fifth & Broadway	Wilshire & Santa Monica to Sixth & Flower
I	32	23	20	31	70	42
II	36	26	20	34	74	39
III	31	41	31	23	69	52
IV	49	41	20	31	78	42
V	54	62	20	31	88	39
VI	42	29	22	35	80	44
VII	54	43	28	31	88	44
VIII	54	62	32	31	88	43
IX	54	47	32	31	88	48
X	54	62	34	31	88	54
XI	54	62	34	31	90	54

FIGURE III.11

PROPOSED SERVICE FREQUENCIES FOR THE  
SPECIFIC RAIL OR EXPRESS BUS ALTERNATIVES

<u>Alternative</u>	<u>Peak Hour Frequency</u>	<u>Peak Hour Average Headway</u>
I-V	13-18 trains/hr.	3.5-4.5 min./4-6 car trains
VI	188 articulated buses/hr.	0.3 min. (or 20 sec.)/bus <sup>(1)</sup>
VII	40 articulated buses/hr.	1.5 min./bus
VIII	22 articulated buses/hr. <sup>(2)</sup>	2.7 min./bus <sup>(2)</sup>
IX	44 articulated buses/hr. <sup>(3)</sup>	1.4 min./bus
X	19 articulated buses/hr.	3.2 min./bus
XI	16 articulated buses/hr.	3.8 min./bus

An analysis of Figure III.10 indicates that, for most trips, the rail alternatives will provide significant reductions to existing travel times, sometimes as much as 40 percent. For trips from North Hollywood to the CBD, Rail/Bus Alternatives I, II and III show a saving of about 20 minutes over all of the All-Bus Alternatives. For trips in the east-west direction Alternatives I, II, IV, V and VI show the most improvement. For a trip from Hollywood to Downtown L.A., Alternative III shows the most savings. Alternatives I, II and VI would provide the shortest travel times from North Hollywood to the Wilshire Miracle Mile and save about 35 minutes over the existing travel time of about 60 minutes.

3. Frequency of Service

Alternative-specific lines provide favorable service frequencies in all alternatives. Responding to a high level of passenger demand in the Regional Core, each alternative is scheduled to operate with average headways of less than five minutes during the peak hours. For example, in Alternative VII the headway is 1.5 minutes. Average peak hour headways for all alternative specific lines are listed in Figure III. 11.

The maximum frequency of any alternative would be the 188 buses per hour projected for Alternative VI. However, the perceived headway on this line would likely exceed one minute because the buses would have to operate in platoons of 2 to 5 vehicles.

Peak headways for the Regional Core as a whole are listed in Figure III. 12 and range from two minutes for line 26 (Pico Boulevard-East First) in all alternatives to 20 minutes on several San Fernando Valley local lines (30 minutes in Alternative XI).

4. Comfort and Convenience

Consistent comfort standards were assumed in defining the capacity requirements and costs of all eleven alternatives.

- 
- (1) Due to platooning, perceived headway would be about a minute.
  - (2) In 8th St. bus lane nonstop. Average headway applies to 8th-Flower stop only.
  - (3) Excludes local Wilshire buses and El Monte buses (15-20 per hour) in bus lanes.

FIGURE III.12

PROJECTED PEAK HOUR SERVICE FREQUENCIES  
FOR THE ALTERNATIVES IN THE REGIONAL CORE BY LINE - 1990

		Average Peak Hour Headway By Line in 1990											
Line No.	General Description	Existing 1977	Alternatives										
			I	II	III	IV	V	VI	VII	VIII	IX	X	XI
-	Rail Line	-	3.5	3.5	4.0	4.5	3.5	-	-	-	-	-	-
-	Busway Line	-	-	-	-	-	-	0.4	-	-	-	-	-
83 Ltd.		6	-	-	6*	-	-	-	-	6	6*	6*	6
144		9	-	-	-	-	6*	-	6*	6*	6*	6	9
83XC	Century City Exp.	-	-	-	-	-	-	-	4*	8	-	-	-
83XW	Westwood Express	-	-	-	-	-	-	-	4*	8	10	-	-
610	W. Hollywood Exp.	-	-	-	-	-	-	-	-	10	-	-	-
888	Encino-Wilshire Exp.	-	-	-	-	-	-	-	-	15	15	-	-
4	Melrose-W. Olympic	4	4	4	4	4	4	4	4	3	3	3	4
35	W. Valley Express	6	10	10	10	10	5	10	5	5	6	5	6
42X	Sunset Express	30	-	-	-	-	20	-	20	20	20	20	30
73	VanNess-Arlington	20	15	15	20	15	15	15	15	15	15	15	20
81	Woodland Hills-Hwyd.	20	15	30	30	30	15	30	15	15	15	15	20
83 Local	Wilshire	6	9	9	5	9	9	9	6*	6*	6*	6*	6
84	Western	6	4	4	4	4	4	4	4	4	4	4	6
85	Crenshaw-Vine-LaBrea	8	9	5	5	9	5	9	5	5	5	5	8
89	Fairfax-Hwyd-Western	8	5	9	5	5	5	5	5	5	5	5	8
91 Local	Hollywood	5	5*	5*	5*	5*	6*	5*	6*	6*	6*	6*	5
91X	Hollywood Express	9	-	-	-	-	20	-	9*	9*	9*	9*	9
93	Los Angeles/Van Nuys	4	10	10	10	10	3	10	3	3	3	3	4
95	Vernon-Vermont	4	4*	4*	5*	4*	4*	4*	3	3	3	3	4
121	S.F. Valley-Roscoe-Ex.	20	-	-	-	-	15	-	15	15	15	15	20
122	LA-N. Hollywood Exp.	20	20	20	20	20	15	20	15	15	15	15	20

FIGURE III.12 (cont.)

PROJECTED PEAK HOUR SERVICE FREQUENCIES  
FOR THE ALTERNATIVES IN THE REGIONAL CORE BY LINE - 1990

		Average Peak Hour Headway By Line												
Line No.	General Description	Existing 1977	Alternatives											
			I	II	III	IV	V	VI	VII	VIII	IX	X	XI	
3	W. Sixth-Central	8	6	6	6	6	6	6	6	6	6	6	6	8
24	L.A.-San Fernando	15	12	12	12	12	12	12	12	12	12	12	12	15
25	W. 9th-N. Figueroa	12	10	10	10	10	10	10	10	10	10	10	10	12
26	Pico-1st	3	2	2	2	2	2	2	2	2	2	2	2	3
27	LaCienega-Sta. Barbara	12	10	10	10	10	10	10	10	10	10	10	10	12
28	Whittier-W. 3rd	5	4	4	4	4	4	4	4	4	4	4	4	5
29	Compton-W. 7th	7	5	5	5	5	5	5	5	5	5	5	5	7
41	Alvarado	10	8	8	8	8	8	8	8	8	8	8	8	10
42 Local	Sunset-Temple	5	4	4	4	4	4	4	4	4	4	4	4	5
44	Beverly-W.Adams	4	4	4	4	4	4	4	4	4	4	4	4	4
65	Silverlake-Riverside	15	12	12	12	12	12	12	12	12	12	12	12	15
75	Venice	8	6	6	6	6	6	6	6	6	6	6	6	8
76	Bev.Hills-Pac.Palis.	30	20	20	20	20	20	20	20	20	20	20	20	30
86	LA-Burbank-N.Hywd	8	6	6	6	6	6	6	6	6	6	6	6	8
94	Santa Monica	9	8	8	8	8	8	8	8	8	8	8	8	9
96	Normandie	15	12	12	12	12	12	12	12	12	12	12	12	15
152	Roscoe-Vineland	20	15	15	15	15	15	15	15	15	15	15	15	20
154	Ventura-Burbank	30	20	20	20	20	20	20	20	20	20	20	20	30
159	Lankershim-Tujunga	30	20	20	20	20	20	20	20	20	20	20	20	30
162	Riverside-Olive	30	20	20	20	20	20	20	20	20	20	20	20	30
353	Vermont	20	15	15	15	15	15	15	15	15	15	15	15	20
436	Hollywood-Pasadena	15	12	12	12	12	12	12	12	12	12	12	12	15
877	Hollywood-LAX	30	20	20	20	20	20	20	20	20	20	20	20	30

\*Articulated buses assigned to this service.

All of the alternatives except XI would be similar in regard to availability and closeness of transit stops. Alternative XI would be less convenient than any others because it retains obsolete routing patterns which are confusing to potential passengers and which force transfers for continuity of travel (e.g. from Line 3 to Line 28 for travel along West Third Street).

Alternatives I, II, III, IV and VI would require present riders on Lines 35, 93, 144 and certain Busway routes from El Monte to transfer to rail or busway vehicles at North Hollywood, Universal City, Hollywood Bowl, or the Civic Center, in order to complete their journey to LACBD or the Wilshire Corridor. In view of likely seat availability and the shorter travel time provided, this inconvenience is considered minor. Alternative II provides direct rail access to all of the centers in the corridor. Alternative IV requires more transfers than any other. Bus alternatives require fewer transfers than the rail alternatives.

#### 5. Reliability

Public transit reliability as seen by the consumer is as important a feature as travel time or cost in determining transit acceptance and favorable mode split.

Apart from equipment design and maintenance, reliability of operation depends on managerial effectiveness in supervising operations and, in the case of buses, on interference with operation of vehicles from other traffic.

Equipment reliability would be similar for all rail alternatives. Any Los Angeles rail system would utilize conventional technology which would limit any start-up problems to random failure of individual components, likely to be of a minor nature. Renewal of the bus fleet is assumed for all alternatives. Managerial effectiveness is also common to all alternatives, enhanced by radio-equipped buses and future automatic vehicle monitoring systems.

The traffic interference and congestion aspect of reliability is therefore a critical feature in distinguishing alternatives. Alternative X and XI would offer no improvement in this regard. If LACBD employment growth results in heavier auto traffic, Regional Core bus reliability will decrease from present levels.

Alternatives VII, VIII, and IX provide exclusive bus lanes, thereby improving the reliability of bus lines which would use them. The Eighth-Olympic bus lanes in Alternative VIII would require traffic enforcement measures to avoid automobile encroachment because they would be used by only 22 buses per hour. The Wilshire Boulevard bus lanes in Alternatives VII and IX could be enforced and would provide day-to-day reliability on bus lines using those lanes. Local lines not using Wilshire Boulevard (such as 4, 25, 28 and 29) would be delayed more than in Alternatives VIII, X and XI. The bus lanes on La Brea in Alternatives VII and IX would also require traffic enforcement measures to keep auto traffic out of these lanes.

The busway in Alternative VI would be fully grade separated and therefore free of traffic interference. The busway would also not interfere with surface street traffic and therefore would have no negative impact on reliability of parallel local bus lines. However, the busway would be operating so close to its theoretical capacity (see below) that its day-to-day reliability could not be assured. Any minor delay would be amplified by passenger accumulation in the stations during the peak hours, resulting in longer dwell times, longer platoons, overcrowding, inefficient utilization, and reduction in peak-hour average speeds.

The rail lines in Alternatives I-V would be free of traffic interference and would be within their practical capacity at projected volumes. They would reduce traffic congestion in the Wilshire Corridor by attracting auto users to transit, thereby reducing traffic interference with local lines. They would be practically immune to weather conditions. Adequate test procedures to prove system and vehicle design would be essential. The net result would be highly reliable

service for rail users and would attract more passengers than a bus system. However, selection of one of the Rail/Bus Alternatives would result in more transfers.

C. TRANSIT CAPACITY

For each specific alternative (including the Board Preferred Alternative II) and alternative system, service was designed to accommodate the capacities available and required by the patronage forecasts. Levels of service were developed to provide for peak service demands, base period conditions, and evening service requirements.

1. Peak Hour Capacity

Peak service was designed to meet peak hour patronage estimates. These estimates were derived from the 24-hour patronage forecasts and link volumes generated by the LARTS assignment model. The maximum link volume (maximum load point) was identified and then factored down to a directional peak hour volume. The peak hour volumes determine the peak-period maximum service levels and equipment needs. For the bus lines, a directional peak hour factor of .0912 (9.12% of the daily trips at the maximum load point made in the peak hour) was used, and for rail lines the factor was .0985. These factors were determined by observing the loading characteristics of current bus operations in the Regional Core and making modifications for rail service based on the experience of rail operations in other cities. A summary of peak hour information for the specific rail and express bus alternatives is presented in Figure III. 13.

FIGURE III. 13  
MAXIMUM LINK AND DIRECTIONAL PEAK HOUR  
VOLUMES FOR SPECIFIC RAIL OR  
EXPRESS BUS ALTERNATIVES

<u>Alternative</u>	<u>24 Hour Maximum Link Volume (1)</u>	<u>Peak Hour One-Way Volume</u>
I	146,000	14,500
II	160,000	15,500
III	139,000	13,500
IV	124,000	12,500
V	99,000	10,000
VI	146,000	14,500(2)
VII	32,400	3,500
VIII	3,200	1,100
IX	17,000	1,500
X	6,000	1,100
XI	4,500	800

(1) Source: LARTS - ULOAD Report 3.

(2) May not be feasible at acceptable level of service.



## 2. Peak Hour Load Factors and Service Frequencies

Once the directional peak hour volume had been identified, the capacity assumptions in Figure III. 14 were used to develop peak hour service frequencies. These capacity assumptions provided approximately the same amount of floor space per passenger (5.0 sq.ft.) for each vehicle type.

FIGURE III.14

<u>CAPACITY ASSUMPTIONS</u>			
	<u>Seated Capacity</u>	<u>Peak-Hr. Load Factor</u>	<u>Seated &amp; Standing Capacity/ Vehicle</u>
Rail Cars	75	2.2	165
Articulated Bus (Local & Express Service)	70	1.4	100
Articulated Bus (Bus Guideways)	70	1.0	70
Standard Bus (Local & Express Service)	50	1.4	70

The rail cars were assumed to run in 6-car trains and articulated buses were used on alternative-specific express services and other lines whenever passenger demand warranted their use and they could be provided. Except for buses operating on freeways in mixed traffic (i.e., where hard braking could be required by maneuvers of other drivers) a load factor of 1.4 was used for the peak hour to maximize bus operating efficiency. High capacity buses and a maximum load factor were used in this analysis to show the bus alternatives under the most favorable conditions possible. A load factor of 1.0 was used on freeway buses mixed with carpools such as the Hollywood Freeway, to conform with CalTrans/CHP safety requirements which are reflected in current SCRTD operating policy.

The rail alternatives assume an average peak headway ranging from 3.5 to 4.5 minutes, which permits an average weekday peak loading of up to 17,820 passengers per hour in the dominant direction. For the bus alternatives except Alternative VI, service frequency was determined by fitting the maximum articulated bus or rail vehicle capacity to the peak hour requirements for each line. Thus patronage and capacity are consistent except in Alternative VI.

Rail/Bus Alternative Capacities - The line capacities of the rail alternatives studied for the corridor (I-V) are set by equipment fleet in relation to demand. Average capacity provided ranges from 17,820 persons per hour (18 trains of 6 cars each) for a demand of 15,500 in Alternative II to 11,220 persons per hour for a demand of 10,000 in Alternative V (17 trains of 4 cars each).

The rail transit trains would have ample capacity to board passengers at stations. At least 50 percent of train capacity (83 people per car) could be loaded in a 20-30 second stop. The maximum projected station volume is 7,400 passengers per hour at Seventh and Flower Streets. Of these, 5,600 would be westbound in the PM peak hour (370 per train). Even with allowance for imperfect distribution of these passengers over the 18 double doors of the train (3 double doors per car), all passengers should be able to load within 20-30 seconds.

## 3. Rail Operating Schedule

The proposed operating schedules for weekday, Saturday and Sunday rail service, which include capacity measures, are shown in Figures III. 15, 16 and 17. These include the schedule for peak, base, evening and night service. This service was input data for estimating the operating cost of each rail alternative. Detailed schedules for each alternative are included in the Patronage Appendix.

FIGURE III.15

WEEKDAY RAIL OPERATING SCHEDULE FOR ALTERNATIVES I-V

Alts.	Headway in Minutes				Rush Period Equipment Needs		Capacity Per AM-PM Rush Hour (Pass)	Demand Per AM-PM Rush Hour	One-Way End-to-End Trip Time in Minutes
	AM-PM Rush	Mid-day	Even.	Night	Trains/ Hour	Units/ Train			
	7-9am 4-7pm	9am-4pm	7pm-1am	1am-5am					
I	3.5	7	15	30	17	6	16,830	14,500	24.2
II	3.5	7	15	30	18	6	17,820	15,500	27.4
III	4.0	8	15	30	15	6	14,850	13,500	22.8
IV	4.5	9	15	30	13	6	12,870	12,500	18.3
V	3.5	7	15	30	17	4	11,220	10,000	14.3

- Note:
1. Load Factor 2.2 (75 seats per car x 2.2 = 165 passengers per car).
  2. Train capacity = 990 passengers per 6 car train  
= 660 passengers per 4 car train
  3. Detailed schedule for each alternative is shown in the Patronage Appendix.

FIGURE III.16

SATURDAY RAIL OPERATING SCHEDULE FOR ALTERNATIVES I-V

Alts.	Headway in Minutes				Rush Period Equipment Needs		Capacity Per AM-PM Rush Hour (Pass)	One-Way End-to-End Trip Time in Minutes
	AM-PM Rush	Mid-day	Even.	Night	Trains/ Hour	Units/ Train		
	7-9am 4-7pm	9am-4pm	7pm-1am	1am-5am				
I	6	7.5	15	30	10	6	9,900	24.2
II	6	7.5	15	30	10	6	9,900	27.4
III	6.5	10	15	30	9	6	8,900	22.8
IV	7.5	10	15	30	8	6	7,920	18.3
V	7.5	8.5	15	30	8	6	7,920	14.3

- Note:
1. Load Factor 2.2 (75 seats per car x 2.2 = 165 passengers per car).
  2. Train capacity = 990 passengers per 6 car train  
= 660 passengers per 4 car train
  3. Detailed schedule for each alternative is shown in the Patronage Appendix.

FIGURE III.17

SUNDAY RAIL OPERATING SCHEDULE FOR ALTERNATIVES I-V

Alts.	Headway in Minutes				Rush Period Equipment Needs		Capacity Per AM-PM Rush Hour (Pass)	One-Way End-to End Trip Time in Minutes
	AM-PM Rush 7-9am 4-7pm	Mid- day 9am- 4pm	Even. 7pm- 1am	Night 1am- 5am	Trains/ Hour	Units/ Train		
I	8.6	8.6	15	30	7	6	6,930	24.2
II	8.6	8.6	15	30	7	6	6,930	27.4
III	10	15	15	30	6	6	5,940	22.8
IV	12	15	15	30	5	6	4,950	18.3
V	8.6	12	15	30	7	4	4,620	14.3

- Note:
1. Load Factor 2.2 (75 seats per car x 2.2 = 165 passengers per car).
  2. Train capacity = 990 passengers per 6 car train  
= 660 passengers per 4 car train
  3. Detailed schedule for each alternative is shown in the Patronage Appendix.

4. Bus Operating Schedule

Peak bus headways are given in Figures III.11 and 12. Base bus headways were calculated as the lower of (1) three times the peak headway; (b) current base service headways on the same line; or (c) 15 minutes in the Regional Core and 30 minutes in the San Fernando Valley.

In addition to the peak and base periods, principal line haul bus service would typically run on 20-30 minute evening headways and 60 minute all night (late evening and early morning) headways. These would be policy headways independent of demand unless unanticipated crowding conditions occurred. Other bus service would have the same evening and night frequency as they had in September, 1977.

Service would be operated on Saturdays and Sundays but at lesser frequency. Generally Saturday service is equivalent to 70 percent of weekdays and Sunday service to 40 percent. Annual totals are equivalent to 310 average weekdays.

5. Aerial Busway Capacity

Alternative VI presented a problem because no comparable facility has ever been operated. A theoretical analysis was therefore undertaken to determine whether the proposed busway could provide sufficient capacity to cope with projected patronage.

Previous analyses had established that the capacity of a busway would be governed by the boarding time requirements at the heaviest stop, and suggested a limit of 10,500 passengers per hour at a load factor of 1.0, where the maximum station accounted for 50 percent of the passengers. (1)

- a. A load factor of 1.4 was assumed for exclusive busway operations. (CalTrans and SCRTD currently limit freeway buses and those on the El Monte Busway to a load factor of 1.0.)

- b. A seating capacity of 70 and a total capacity of 100 passengers per articulated bus were derived from articulated bus specifications.
- c. All three double-width doors were assumed to be available for passenger boardings at busway stations. (Insurance liability considerations now prevent use of rear door for boarding.)
- d. Only one route was assumed to use the busway, with forced transfer to feeders at all stations. This would nullify one of the El Monte Busway's advantages, through service to many areas; however it would be necessary to encourage uniform loading of all buses in the peak, irrespective of passenger destination.
- e. Ground conductors or "ushers" were assumed to be provided at LACBD stations and at Wilshire-La Brea to control crowds and prevent passengers from overloading the leading buses of bus platoons. This feature would be necessary to approach uniform loading of buses and efficient use of berth space.

Peak load volumes of 15,000 persons per hour for bus operations imply 150 buses per hour, but practical experience indicates that a utilization factor of 80 percent is the maximum feasible. Since no line-haul bus system has demonstrated its capability to handle 15,000 passengers in peak hours, 188 buses per hour should be scheduled to avoid breakdown and handle surges within the peak hours.

LARTS assignment of station on-off volumes for rail Alternative I indicates that 7,400 passengers will be boarding at Seventh and Flower Station in the peak hour; 5,600 of these in the peak direction.

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(1) Hoey, W.F. and Levinson, H.S., "Bus Capacity Analysis," in Transportation Research Record 548, National Academy of Sciences, Washington, D.C., 1975.

This represents 33% of the maximum load point volume. With prepayment of fares, an articulated bus with three double doors can board about 2.0 passengers per second, and the scheduled 188 buses per hour would board an average of 30 passengers per bus -- a typical dwell time of 15-20 seconds each. The minimum headway, including time between successive buses at the same berth (estimated to be at least 10 seconds for a 60-foot bus) would be 25 to 30 seconds. Since the minimum headway at each berth will exceed the average headway of the stations, buses will have to operate in platoons (bunches) of two to four vehicles. All the buses in a platoon would enter a station and load at approximately the same time, and station platforms would have to be designed accordingly. The bunching-up or platooning would continue through the whole length of the busway, with an effective headway of 30 to 60 seconds between platoons.

If all five assumptions prove to be valid, two of them exposing SCRTD to substantial insurance and peak manpower cost increases, then the busway could carry projected loads. However, as discussed in a subsequent section, operating speeds would likely deteriorate in peak hours. Moreover the busway would have no reserve capacity for any unforeseen overload conditions, such as recurrence of the 1973-74 energy crisis. This alternative would therefore be recommended only if all other considerations favored its selection.

#### D. OPERATING CHARACTERISTICS

The five rail alternatives have similar operational and system characteristics. The express bus alternatives would vary widely depending on the degree of bus roadway priority. The background bus system of feeders and local routes would have practically the same operating characteristics as at present, though specific lines will vary in extent and cost. The operating characteristics of vehicles (rail cars, high capacity buses, and standard buses) are summarized in Figure III. 18.

FIGURE III. 18

SUMMARY OF EQUIPMENT OPERATING CHARACTERISTICS  
REGIONAL CORE ALTERNATIVES

<u>Item</u>	<u>Rail Cars</u>	<u>High Capacity Bus</u>	<u>Standard Bus</u>
Maximum Speed	70 mph	55 mph	55 mph
Normal Acceleration	3.5 ft/sec. <sup>2</sup>	1.5-3.0 ft/sec. <sup>2</sup>	1.5-3.0 ft/sec. <sup>2</sup>
Normal Deceleration	3.5 ft/sec. <sup>2</sup>	3.5 ft/sec. <sup>2</sup>	3.5 ft/sec. <sup>2</sup>
Vehicle Length	75 ft.	60 ft.	40 ft.
Vehicle Width	10.5 ft.	8.5 ft	8.5 ft.
Floor Area	788 sq. ft.	510 sq. ft.	340 sq. ft.
Seats per Vehicle	75	70	47-53
Practical Capacity	165	100	70
Floor Area per passenger	4.8 sq. ft	5.1 sq. ft.	4.8 sq. ft.
Average Speed with a mile between stops on exclusive Right-of-Way	40 mph	30 mph	30 mph
Doors per vehicle	3 double	3 double	2 single
Time to board 50 percent of capacity	30 sec.	50 sec.	60 to 105 sec.
Propulsion power energy in person miles per gallon in peak hours (capacity load)	360 pmpg	350 pmpg	320 pmpg
Vehicles per schedule unit	6	1	1

1. Rail Alternatives

All rail alternatives would operate trains of 75-foot cars with a comfortable capacity of 165 persons (about five square feet per person) at the maximum load point and a seating capacity of 75. The system is planned so that the peak capacity would be utilized at Wilshire and Alvarado, and seating capacity would be utilized through the Hollywood Hills. Cars would conform to UMTA standardization requirements and would be capable of shared orders with such systems as Baltimore, Miami, or the planned Philadelphia-New Jersey (PATCO) extensions.

Performance - The maximum speed, acceleration, deceleration, and power consumption given in Figure III. 18 are all based on the PATCO equipment because its reliability and economy are demonstrated.

2. Bus Alternatives

As indicated in Figure III. 18, two types of buses would be used, a standard bus with 47 to 53 seats and a high-capacity bus (articulated type) with 70 seats.

a. Bus Performance

Bus system performance will depend on engine capacity, which is determined by tradeoff between vehicle space encroachment and fuel economy. Generally acceleration is limited by passenger comfort to 3.5 feet per second up to about 30 miles per hour, when horsepower becomes the limiting factor. Maximum bus speeds will be limited by State law to 55 miles per hour on guideways and to about 35 on city arterials. For the same distance between stops, average express bus speeds will range from about 12 miles per hour in Alternatives X and XI to about 30 miles per hour (off peak) in Alternative VI.

Bus braking and cornering abilities will be reduced in wet weather, and schedule speeds must be based on these contingencies. These problems are independent of traffic congestion.

Fuel consumption for standard buses averages about 4.6 miles per gallon on the SCRTD system. SCRTD fuel consumption experience with articulated buses is insufficient at present, but is expected to approximate 3.5 miles per gallon in typical high-volume local and limited-stop service. Traffic congestion would likely have an adverse effect on bus fuel consumption in Alternatives VII-XI, but the impact would be insignificant for the Regional Core as a whole.

#### b. Route Variety and Identification

A significant public relations problem with present limited and surface-street express services arises from passenger confusion. People board limited or express buses by mistake and are then carried past their intended stops. Others become frustrated when they are waiting at local bus stops, and are bypassed by express buses. The problem could be reduced by redesigning the bus identification concept, but it is an inherent disadvantage whenever similar vehicles operate in different types of service.

Alternative VI would practically eliminate the route identification problem for line-haul services. Alternative VII would have continuing identification problems where expresses and locals would use the same stops in the LACBD and Beverly Hills, but the separate platforms along Wilshire and La Brea would provide a clear identity in the corridor. Alternative VIII would have similar identification problems to VII, plus some frustration to local passengers on Eighth Street, because the express would be running much more frequently than locals. Alternative IX would be worse than present conditions because of the larger number and variety of expresses, while Alternative X and XI would continue the present problem unchanged.

### 3. System Operating Statistics for Rail/Bus and All-Bus Alternatives

Figure III. 19 summarizes the principal system operating statistics of each alternative for corridor (rail and bus) express and background elements. The miles of the alternative-specific lines are over-shadowed by the background bus system in all but Alternative VI, which has 35 percent of its weekday vehicle miles on the guideway route.

Alternatives X and XI have 3,200 to 3,400 bus miles on corridor expresses, which is increased to 8,200 in Alternative VIII. Alternatives VII and IX have about 10,000 bus miles on their express bus routes and Alternative V has 11,500 weekday rail car-miles. Alternatives I, II and III each have 31,000 to 37,000 weekday vehicle miles on corridor express lines.

All of the alternatives except XI represent an increase in the route miles of the background and feeder bus system from 697 to 708. Background system bus-miles vary from about 102,400 per day in Alternative XI to a range of 113,900 (Alternative VI) to 128,000 (Alternative X).

### 4. Vehicle Requirements

Figure III. 20 indicates rail and bus vehicle requirements, based on the peak hour headways established for the Regional Core lines, including the "background" bus system and feeder lines as well as line haul routes. The vehicle needs for alternative-specific lines and feeder lines were calculated by dividing the peak hour cycle time (round trip running time plus recovery) by the average peak hour headway or by assuming a schedule. For the rail alternatives this figure was multiplied by the average train length (cars per train). An allowance of 10 percent for spares was added to the number in calculating fleet requirements.

The Figure shows that Alternative VI will require the greatest number of buses, 847 standard and 339 articulated models, a total of 1,186. Alternative IV requires the least number of vehicles with 910 buses. Other than Alternative XI, the rail alternatives generally require

FIGURE III. 19

SUMMARY OF SYSTEM OPERATING CHARACTERISTICS  
REGIONAL CORE ALTERNATIVES

Alternative	Corridor	ROUTE MILES		WEEKDAY VEHICLE MILES		
		Background	Total	Corridor	Background	Total
I	16	683	699	32,860	113,890	146,750
II	18	683	701	36,900	113,400	150,300
III	32 <sup>a</sup>	683	715	30,900 <sup>a</sup>	116,670	147,570
IV	11	683	694	17,430	113,070	130,500
V	33 <sup>b</sup>	683	716	12,390 <sup>b</sup>	121,880	134,270
VI	16	683	699	62,620	113,890	176,510
VII	53	708	761	10,340	124,350	134,690
VIII	93	708	801	8,230	127,720	135,950
IX	75	708	783	10,370	126,170	136,540
X	42	708	750	3,420	128,000	131,420
XI	42	697	739	3,170	102,430	105,600

<sup>a</sup>Includes the rail line as well as the Wilshire Limited (83): 17 mi.; 2550 VMT.

<sup>b</sup>Includes the rail line as well as the Wilshire-Valley Flyer (144): 25 mi.; 870 VMT.

FIGURE III. 20

NUMBER OF RAIL VEHICLES AND BUSES REQUIRED  
TO SERVE THE ENTIRE REGIONAL CORE AREA IN 1990

ALTERNATIVE Bus/Rail Rapid Transit Service	Vehicle Fleet <sup>(1)</sup> (in units, by type)			
	Rail Cars	Standard Buses	Artic. Buses	TOTAL Buses
I -Wilshire & LaBrea to N.H. (16mi.)	106	846	88	934
II -Wilshire & Fairfax to N.H. (18 mi.)	120	858	87	945
III -Wilshire & Vermont to N.H. (15 mi.)	94	891	91	982
IV -Wilshire&LaBrea to Hollywood(11 mi.)	80	826	84	910
V -Wilshire to Fairfax (8 mi.)	54	895	91	986
<u>All Bus Alternatives</u>				
VI -Aerial Busway Along Route of Alternative 1	--	847	339	1,186
VII -Use 2 Center Lanes on Wilshire & LaBrea on Route of Alernate 1	--	1,080	52	1,132
VIII -Use Reversible Center Lanes on 8th & Olympic out to Fairfax	--	1,041	55	1,096
IX -Use Curb Lanes on Wilshire & LaBrea on Route of Alternate 1	--	1,103	62	1,165
X -Add More Buses to Present Operation	--	1,114	40	1,154
XI -No Change From Existing Service	--	939	---	939

(1) Includes spares at 10% of peak requirements

fewer buses (910 to 986) because the increase in fleet requirements needed to operate feeder service is offset by reductions in service made possible by the diversion of passengers to rapid transit. Moreover, in Alternatives I-V, many buses entering the CBD from the El Monte busway would be cut back to interface with the rail facility at the Union Station. The buses are also more productive under the rail alternatives, since they avoid operating at the 6-8 mph speeds in the LACBD.

#### 5. Bus Divisions Requirements

Generally one bus division (i.e., yard) is needed for 200-300 buses. One additional SCRTD division would likely be sufficient for Alternatives I, II, and XI. Two bus divisions would be required for the others, except VI. Alternative VI would require three new divisions and at least one division would have to be located as near as possible to the North Hollywood (Lankershim-Chandler) terminal of the busway.

## E. TRAFFIC

### 1. Congestion

Traffic congestion evaluation provides a means of comparing alternatives (including the Board Preferred Alternative II) in terms of transportation service and may be useful in assessing area-wide or localized impacts. To simulate conditions under 1990 projected traffic demands, LARTS vehicular triptables for the several transit alternatives were used. Trip data was based on the SCAG 1976 forecast data for 1990. Figure III.21 summarizes the various auto trip forecasts obtained for each alternative from the LARTS information.

#### a. Methodology

The forecasting methodology used by the City of Los Angeles Traffic Department involved taking LARTS vehicle trip interchanges for the different alternatives and assigning them to a detailed highway network using Urban Transportation Planning System (UTPS) programs developed by the Federal Highway (FHWA) and Urban Mass Transportation Administration (UMTA) programs. Required adjustments were made to the program inputs and outputs using vehicle occupancy, speed, and trip length statistics. Auto passenger occupancy is estimated at 1.2 persons per vehicle; the average daily speed in the study area is estimated at 20 miles per hour; and the average trip length in the area is approximately 7.1 miles. In addition, congestion analyses were conducted along critical roadways on which significant lane losses would occur. Localized congestion and speeds were analyzed through examination of the program outputs with manual adjustments where required. All traffic impact measures were developed not only to compare the alternatives in terms of effects on congestion, but also to aid in the environmental analyses. Additional details on this work are contained in Appendix II.D.



FIGURE III.21

Auto Trip Forecasts in the Regional Core

Alternatives	Daily Auto Vehicle Trips (thousands)	Daily Savings in Auto Vehicle Trips (net of XI) (thousands)	Daily Auto Vehicle Miles Traveled (thousands)	Reductions in Auto Vehicle Miles Traveled (net of XI) (thousands)	Daily Reductions In Auto Vehicle Minutes (net of XI) (thousands)
I	2,764.6	88.6	19,629	629	1,882
II	2,753.2	100.0	19,548	710	2,072
III	2,769.5	83.7	19,664	594	1,742
IV	2,790.8	62.4	19,815	443	1,306
V	2,798.3	54.9	19,868	390	1,152
VI	2,764.6	88.6	19,629	629	1,882
VII	2,842.0	11.2	20,178	80	93
VIII	2,844.5	8.7	20,196	62	141
IX	2,844.2	9.0	20,194	64	46
X	2,844.7	8.5	20,197	61	180
XI	2,853.2	--	20,258	--	--
1977	2,461.6	--	17,477	--	--

SOURCE: Los Angeles City Traffic Department.

b. Reduction in 1990 Highway Travel

The impact of alternatives on reducing future highway travel in the Regional Core Traffic Impact Area was analyzed by comparing the reduction in the year 1990 24-hour auto trips, vehicle miles traveled and vehicle minutes traveled for different Regional Core alternatives versus Alternative XI (Null). The results show that Alternatives I and II provide the greatest reductions in auto trips, vehicle miles traveled and vehicle minutes traveled, while Alternatives VIII and X provide the smallest reductions relative to the null case, Alternative XI.

c. Vehicle Trips and Vehicle Miles Traveled (VMT)

The number of vehicle trips and vehicle miles traveled in the Regional Core Traffic Impact Area were shown in Figure III.21. It is important to put these savings in perspective and compare the total trips and total VMT which is to be expected with each of the eleven alternatives to the 1977 existing traffic conditions. Figure III.22 makes such a comparison.

FIGURE III.22  
Auto Vehicle Trips and VMT in Regional Core

		No. of Vehicle Trips (000)'s	No. of VMT (000)'s	% Inc. 1977-90
Exist.	1977	2,462	17,477	--
Alt	XI	2,853	20,258	16%
Alt	I	2,765	19,629	12%
Alt	II	2,753	19,548	12%
Alt	III	2,770	19,664	13%
Alt	IV	2,791	19,815	13%
Alt	V	2,798	19,868	14%
Alt	VI	2,765	19,629	12%
Alt	VII	2,842	20,178	15%
Alt	VIII	2,845	20,196	16%
Alt	IX	2,844	20,194	16%
Alt	X	2,845	20,258	16%

SOURCE: Los Angeles City Traffic Department

Thus, it can be seen that if no project is implemented, the auto vehicle trips and VMT will both increase by 16%. If the most extensive

alternative (II, the 18-Mile Rail Line) under consideration is implemented there is expected to be a 12% increase in both, a savings of 4%. This 4% saving would mean up to 100,000 daily auto trips saved and 710,000 VMT saved each day.

d. Bus Facility Impacts on Traffic and Access

Although the bus priority facilities in Alternatives VI - IX would reduce vehicle trips and vehicle miles in the Regional Core, they would have significant negative impacts on local access and circulation. Alternative VII would substantially reduce the capacity of both Wilshire Boulevard and La Brea Avenue and prohibit left turns. Alternatives VI (aerial busway) and VIII (reversible lane) would not directly reduce through traffic capacity, but they would eliminate many left turn pockets, forcing indirect movements and causing delays to that portion of the traffic. Alternative IX would have a similar impact on right turns from Wilshire and La Brea. Alternatives VII and IX would eliminate curb parking and loading on Wilshire and La Brea, even at off-peak times of the day, causing inconvenience to businesses along these streets. Alternative VIII would involve extension of existing parking restrictions on Eighth Street, but only during the peak hours. A full discussion of bus facility traffic impacts is presented in Appendix II.D.3.

e. Summary of Congestion Impacts

In 1977, approximately 2,461,600 vehicle trips were made in the Regional Core. By 1990, the total number of vehicle trips in the Regional Core is expected to increase to 2,853,200 for Alternative XI (Null). For the Rail/Bus Alternatives (I thru V), the total number of vehicle trips is expected to reach between 2,764,000 and 2,798,300 and for the All-Bus Alternatives (VI thru XI), between 2,764,600 and 2,844,700. Alternatives I and II provide the greatest savings in vehicle trips, vehicle miles traveled and vehicle minutes traveled while Alternatives VIII and XI the smallest.

2. Parking Impacts

a. Mode of Travel for Arriving at Rapid Transit Stations

The percentage of travelers projected to arrive at stations by the modes of park-and-ride and kiss-and-ride auto trips, feeder bus and walk trips is referred to as the submode split. The submode split percentages for the rail alternatives were derived from the Station Access Mode Split Analysis described in the Appendix I.E. and summarized in Figure III.23.

FIGURE III.23

Station Access Mode Split Percentages of Rail Alternatives

Alt.	Park & Ride		Kiss & Ride		Feeder Bus		Walk		Total
I	21,100	8%	27,300	10%	133,900	52%	77,700	30%	260,000
II	21,200	8%	28,700	10%	142,700	52%	82,400	30%	275,000
III	18,100	8%	23,500	10%	118,500	52%	69,900	30%	230,000
IV	17,700	8%	19,200	9%	111,300	50%	71,800	33%	220,000
V	8,100	4%	13,500	7%	88,900	50%	69,500	39%	180,000

From these tables, it can be seen that, for the rail alternatives, approximately 52 percent of the rail transit patrons arrive by feeder bus, 30 percent by walking and 18 percent by automobile (8 percent by park and ride and 10 percent by kiss and ride).

On a station basis, Union Station, Civic Center and Los Angeles CBD Stations have approximately 50 percent of the rail transit patrons arriving by walking, 43 percent by feeder bus and only 7 percent by automobile. By comparison, the Vermont Avenue and Wilshire Boulevard stations have approximately 60-65 percent arriving by feeder bus, 20-25 percent by walking and 15 percent by automobile. The Hollywood

Bowl, North Hollywood and Universal City stations show the highest percentages arriving by automobile with approximately 80, 45 and 40 percent, respectively. The Fairfax Avenue and La Brea Avenue stations showed approximately 30 percent arriving by automobile.

b. Relation of Parking Supply to Parking Space Demand Around Transit Stations

Parking space demands and parking supply around stations for the rail alternatives are contained in Figure III.24 to show which alternatives provide the lowest deficiency of park-and-ride or kiss-and-ride spaces for all stations along the alternatives. Station by station breakdown of these numbers are shown in Appendix I.E.

FIGURE III.24

Relationship of Parking Space Demand to Parking Supply for Rail Alternatives

Alt.	Park & Ride			Kiss & Ride		
	24-Hour Parking Space Demand	Total On-Site Spaces Provided	Off-Site Spaces Required	Peak-Hour Parking Space Demand	Total Close-In Spaces Provided	Overflow Spaces Required
I	15,300	7,500	7,800	1,180	630	550
II	15,400	7,200	8,200	1,240	680	560
III	13,200	6,000	7,200	1,030	600	430
IV	12,800	6,300	7,000	800	510	290
V	5,700	1,000	4,700	550	350	200

Much of the parking deficiencies indicated in the above table result because no on-site parking for park-and-ride auto trips is identified for Union Station, Civic Center, Los Angeles CBD and Wilshire Boulevard stations. During preliminary engineering specific sites including private, off-site parking facilities will be examined to accommodate much of the long term parking demands of park-and-ride auto trips

at these stations. Parking is generally at a premium in the areas surrounding the stations, and it is extremely doubtful that sufficient surplus parking spaces exist to completely satisfy the off-site parking needs of all stations. The development of additional parking lots or structures may be required.

c. Parking Space Reductions in the Los Angeles CBD and Net Effect on Regional Core Parking

Figure III.25 shows the net effect of parking needs in the Regional Core by comparing the parking reductions in the CBD to the additional parking space demand at stations in the Rail/Bus Alternatives. As shown in the Figure, a significant portion of rail station parking needs are offset by the reductions in the LA CBD parking needs and represents a significant shift of parking away from the CBD, the most congested area of the Regional Core.

Reductions in LA CBD parking spaces were determined by comparing the daily savings in parking spaces for each alternative against Alternative XI (Null), for the CBD bound home-to-work trips, and are shown in column one. Parking needs at rail stations were determined by the station access mode split analysis and are shown in column two. Column three shows the net effect of LA CBD parking reductions on the Regional Core parking needs.

d. Station Access Traffic Impacts of Alternatives

Three forces are at work when access to a proposed rapid transit station is evaluated. Given the known and existing levels of traffic surrounding the proposed station site locations, new traffic projections must be made to reflect future natural growth (or decline). Then, reductions in traffic owing to auto diversion to the particular rail rapid transit/bus system are entered into the formula. And, finally, the increase in traffic generated by auto access (park-and-ride and kiss-and-ride trips) to the rapid transit system is, also, added to the sum.

Once the total change in traffic is determined, it is measured against available street capacity to identify potential problem areas. This procedure was followed in an analysis of specific station access impacts at the proposed station locations for the five rail rapid transit alternatives, and volume to capacity (V/C) ratios were developed.

Figure III.25

Parking Reductions in the CBD and Impact On Regional Core Parking Needs

Alts.	Daily Saving in CBD Parking Spaces Over Alt. XI (Null)	Impact on Regional Core Parking Needs	
		Parking Demand At Stations	Net Increase/ (Decrease) in Parking
I	12,000	15,300	3,300
II	13,500	15,400	1,900
III	11,300	13,200	1,900
IV	8,400	12,800	4,800
V	7,400	5,700	(1,700)
VI	12,000	15,300	3,300
VII	1,500	---	(1,500)
VIII	1,200	---	(1,200)
IX	1,200	---	(1,200)
X	1,100	---	(1,100)
XI	---	---	

A V/C ratio is the standard traffic measure used to identify street utilization. It compares traffic volumes with the available street capacity. Low ratios (.25 - .75) indicate low traffic density. V/C ratios ranging from .75 to 1.0 indicate the facility is operating closely within the limit of its designed capacity. V/C ratios above 1.0 indicate that traffic exceeds the designed capacity for the facility, and, therefore, produces excessive delays, energy losses and adverse air quality conditions for all motorists.

Figure III.26 lists the various peak hour volume to capacity ratios at each station site. Generally, the auto access trips attracted to each station are greater than the localized reduction in trips associated with auto diversion. Hence, the V/C ratios around stations are higher for the rail alternatives when they are compared with the null condition in 1990.

Several patterns can be identified. The western terminal of each rail alternative has a V/C ratio greater than 1.0. The three rail alternatives, which extend into North Hollywood, show a significant growth in travel at the North Hollywood and Universal City stations where all the trips originating in the San Fernando Valley will be fed into the rail line. Alternative IV with a terminal station at the Hollywood Bowl would have a severe problem. The 1990 V/C ratio is greater than one in the null case and in Alternative IV the ratio swells to 1.8.

Congestion is also apparent at the rail stations on that leg of the line which intercepts east-west travel (e.g. La Brea-Alternatives I and IV, Fairfax-Alternative II). As most of the V/C ratios which exceed one are, also, less than 1.10, it is felt that, in the preliminary engineering design phase, detailed station access design and traffic measures can be developed to mitigate the anticipated congestion.

e. Impacts to On-Street Parking Around Proposed Stations

Existing parking restrictions on most streets in the vicinity of proposed stations generally preclude the use of these streets for all day commuter parking. Morning and evening peak-hour parking prohibi-

FIGURE III. 26

Peak Hour Volume-Capacity Ratios at Rapid Transit Station Intersections

Station Intersection	1977	1990 (Null)	1996				
			I	II	III	IV	V
Union Station	.41	.50	.49	.49	.48	.49	.51
1st & Spring	.64	.76	.79	.79	.77	.78	.78
5th & Spring	.49	.59	.62	.62	.62	.64	.62
7th & Flower	.55	.65	.71	.71	.71	.70	.70
7th & Alvarado	.52	.62	.68	.68	.65	.69	.67
Wilshire & Vermont	.71	.84	.84	.84	.97	.84	.84
Wilshire & Normandie	.62	.77	.79	.79	-	.79	.78
Wilshire & Western	.69	.95	.98	.98	-	.97	1.00
Wilshire & La Brea	.67	.83	.91	.82	-	.90	.86
Beverly & La Brea	.78	.99	1.05	-	-	1.05	-
Santa Monica & La Brea	.77	.98	1.06	-	-	1.03	-
Hollywood & Las Palmas	.74	.92	.91	.93	-	.88	-
Hollywood Bowl	.96	1.09	1.13	1.10	1.14	1.80	-
Universal City	.42	.75	1.09	1.10	1.06	-	-
North Hollywood	.40	.54	.95	1.02	.94	-	-
Wilshire & Fairfax	.68	.86	-	.94	-	-	1.03
Beverly & Fairfax	.88	1.09	-	1.18	-	-	-
Santa Monica & Fairfax	.79	.99	-	1.02	-	-	-
Beverly & Vermont	.76	.87	-	-	.79	-	-
L.A. City College	.62	.83	-	-	.82	-	-
Sunset & Vermont	.74	.89	-	-	.89	-	-
Carlton & Western	.68	.81	-	-	.78	-	-
Selma & Vine	.70	.88	-	-	1.00	-	-

tions would prevent anybody from parking on these streets before 9 AM or after 4 PM. Also, midday time-limit parking would prevent anybody from parking longer than one or two hours during the day.

The existing peak-hour parking restrictions on most streets in the corridor are needed to increase the capacity of heavily traveled streets in the peaks and reduce friction caused by stopped or parked vehicles in the curb lane. The one or two-hour time-limit parking is needed to accommodate the short-time parking needs of commercial businesses in the area. The removal of existing peak-hour and time-limit parking restrictions would not be feasible in view of heavy travel demands in the corridor and need to provide reasonable parking controls for businesses in the area.

In addition, all kiss-and-ride or passenger loading and unloading operations should preferably be conducted away from major arterial highways, either on minor access roads or within the on-site parking facility. This is particularly critical in the PM peak where the average waiting time may be several minutes for pick-up of kiss-and-ride patrons. In general, close-in parking spaces will be provided at all stations for kiss-and-ride trips but may not be large enough to satisfy those stations with extremely high kiss-and-ride demands.

#### f. Impact of All-Bus Alternatives on On-Street Parking

The All-Bus Alternatives, including Alternative XI (Null), were analyzed for their impact on on-street parking. From a traffic standpoint, Alternatives X (TSM) and XI would have the least detrimental impact on parking while Alternative VII (High Level Bus on Wilshire and La Brea) would have the worst impact on parking. Alternative VIII (Medium Level Bus on 8th and Olympic) would have the second worst impact on parking followed by Alternative VI (Super High Level Bus on Wilshire and La Brea) and Alternative IX (Medium Level Bus on Wilshire and La Brea). The results of this analysis are described below for each of the All-Bus Alternatives.

#### Alternative VI

The impact of Alternative VI on parking will vary depending on the location of the grade separated busway facility within the existing right-of-way (in center of street, along curb in parking lane, over sidewalk area) and width of the street. Location of an elevated structure in the center of a 70-foot-wide street such as Wilshire Boulevard between La Brea Avenue and Park View Street or La Brea Avenue between Sunset Boulevard and Wilshire Boulevard, while eliminating left turn lanes on these streets, would probably not result in any major change in existing parking restrictions.

Peak-hour parking is presently restricted on most streets in the corridor and on-street parking on a 70-foot-wide street during nonpeak hours could be permitted since two full time lanes in each direction could be provided with parking. However, on sections of roadway less than 60 feet wide, such as Wilshire Boulevard east of Park View Street and most downtown Street sections, four traffic lanes, two in each direction, could not be provided with parking. An elevated structure constructed on streets less than 60 feet wide would definitely require the total prohibition of parking. While parking is prohibited on most downtown streets from 6 AM to 6 PM, mid-day loading operations between 9 AM and 4 PM are permitted and businesses in the area would be adversely effected by the loss of such loading operations.

#### Alternative VII

Alternative VII will have a substantial impact on parking since all curb parking is proposed to be eliminated on Wilshire Boulevard and La Brea Avenue to accommodate exclusive bus lanes in the middle of the street including loading platforms. This would leave just one or two lanes along the curb for other traffic and local buses. On a 70-foot-wide section of the street, only two lanes in each direction would be provided for other traffic and local buses. On sections of Wilshire less than 60 feet wide, only one lane in each would be available for other traffic and local buses. In either case, on-street parking could not be permitted with so few traveled lanes.

#### Alternative VIII

Alternative VIII will have a moderate impact on parking in the area. This alternative proposes to run express buses on 8th Street and Olympic Boulevard in a non-stop reversible median lane. This would not require any changes in the existing parking restrictions on Olympic Boulevard.

However, on 8th Street between Crenshaw Boulevard and downtown Los Angeles, it would not be feasible to restripe 8th Street for left-turn channelization to provide a non-stop reversible median lane operation as on Olympic Boulevard. Eighth Street is only 56 feet wide compared to the 74-foot width of Olympic Boulevard. An existing reverse lane operation for westbound traffic on 8th Street between the Harbor Freeway and Hoover Street during PM peak could be expanded to include the distance between Hoover Street and Crenshaw Boulevard as well as include a similar reverse lane operation for eastbound traffic during AM peak. Extending the reverse lane operation to Crenshaw Boulevard would require the installation of peak-hour parking restrictions on 8th Street between Hoover and Crenshaw Boulevard.

#### Alternative IX

Alternative IX will have a heavy impact on parking since all curb parking will be eliminated on Wilshire Boulevard and La Brea Avenue in order to provide exclusive curb lanes for express and local buses. However, express buses may leap frog into regular traffic to pass local buses. Although commercial loading will still be permitted, the demand for on-street parking is extremely heavy along portions of Wilshire Boulevard and La Brea Avenue and its elimination would have adverse effects on businesses having no access to off-street parking facilities.

#### Alternative X

Alternative X will have a negligible impact on parking since most of the streets proposed for increased bus service already have peak-hour

parking restrictions. More restrictive prohibitions would not be considered unless substantial increases in bus volumes occur.

Alternative XI will have a negligible impact on parking since most arterial highways in the area already have existing peak-hour parking restrictions.





## **IV. ENVIRONMENT IMPACTS**



#### IV. ENVIRONMENTAL IMPACTS

##### A. GEOLOGIC

##### 1. Major Land Forms

###### a. Introduction

The Regional Core Area forms the northern portion of the Los Angeles Basin. The present day Los Angeles Basin appears as an alluviated, lowland coastal plain. The basin is underlain by a deep structural depression extending down 30,000 feet below sea level. In geologic time, while this depression was subsiding, marine sediments formed intermittently, thus giving rise to the existing bedrock formations such as shales, siltstones, sandstones, etc. so characteristic of the region.

Surface alluvial deposits vary in depth, with deeper deposits usually being farther removed from the upthrusting mountains.

The Santa Monica mountains are an east-west trending upthrusting formation consisting of basement rock as well as sedimentary rock and igneous rocks of late geologic time.

The San Fernando Valley, a part of the Los Angeles Basin prior to formation of the Santa Monica Mountains is now a relatively small valley between the Santa Monica and Verdugo Mountains. Alluvial deposits exist to a depth well below any anticipated construction.

###### b. Impacts

###### (1) Existing Geologic Conditions

The subsurface conditions over much of the proposed route are reasonably well known. Geologic maps of the area are in existence, and tunnels for other purposes have been excavated nearby in the same or

similar geologic formations. In addition, ten exploratory borings were drilled specifically for this study, some to a depth of 200 feet. The logs of these borings are in the Appendix.

In the Regional Core Area an abundance of subsurface information exists for depths up to 60 feet.\* The deeper holes were drilled to secure information with respect to underlying formations. The borings revealed two important new facts: (1) the Old Alluvium in the Hollywood area under Fairfax Avenue is dry to a depth of 200 feet and is fairly well consolidated and (2) boulders were not encountered in the Old Alluvium. Please refer to Figure IV.1 and the Geologic Profile, Figure IV. 2.

Most of the length of each alternative traverses competent soil and soft rock suitable for excavation by tunnel boring machines. Some hard rock may be encountered through the Santa Monica mountains which can be excavated by conventional drilling and blasting methods or by tunnel boring machines. Nearby water and sewer tunnels have been drilled through these rock formations with no significant problem.

The geology in the section through the CBD, along Broadway and 7th Street, is variable. In general, it can be described as the Fernando formation overlain by recent alluvial deposits of varying depth. Near City Hall the old marine sedimentary deposits have very little cover, whereas near 7th and Olive, about half a mile to the south, siltstone was found in drill hole #1 at a depth of about 190 feet. At this point the water table was found at a depth of 128 feet. The recent age alluvium overlaying the siltstone consists generally of fine grained flood plain deposits of sandy silt and clay with beds and lenses of silty sand and sand and gravel as encountered in the test boring. Large stones or boulders were not encountered.

In the event a rail facility is deep bore tunneled through the CBD, the tunneling should be done at as much depth as the water table permits in order to get into the firmer material. At cut

\* Yerkes, R.F., J.C. Tinsley, and K.M. Williams, "Geological Aspects of Tunneling in the Los Angeles area", U.S. Geologic Survey Map MF-866, 1977.

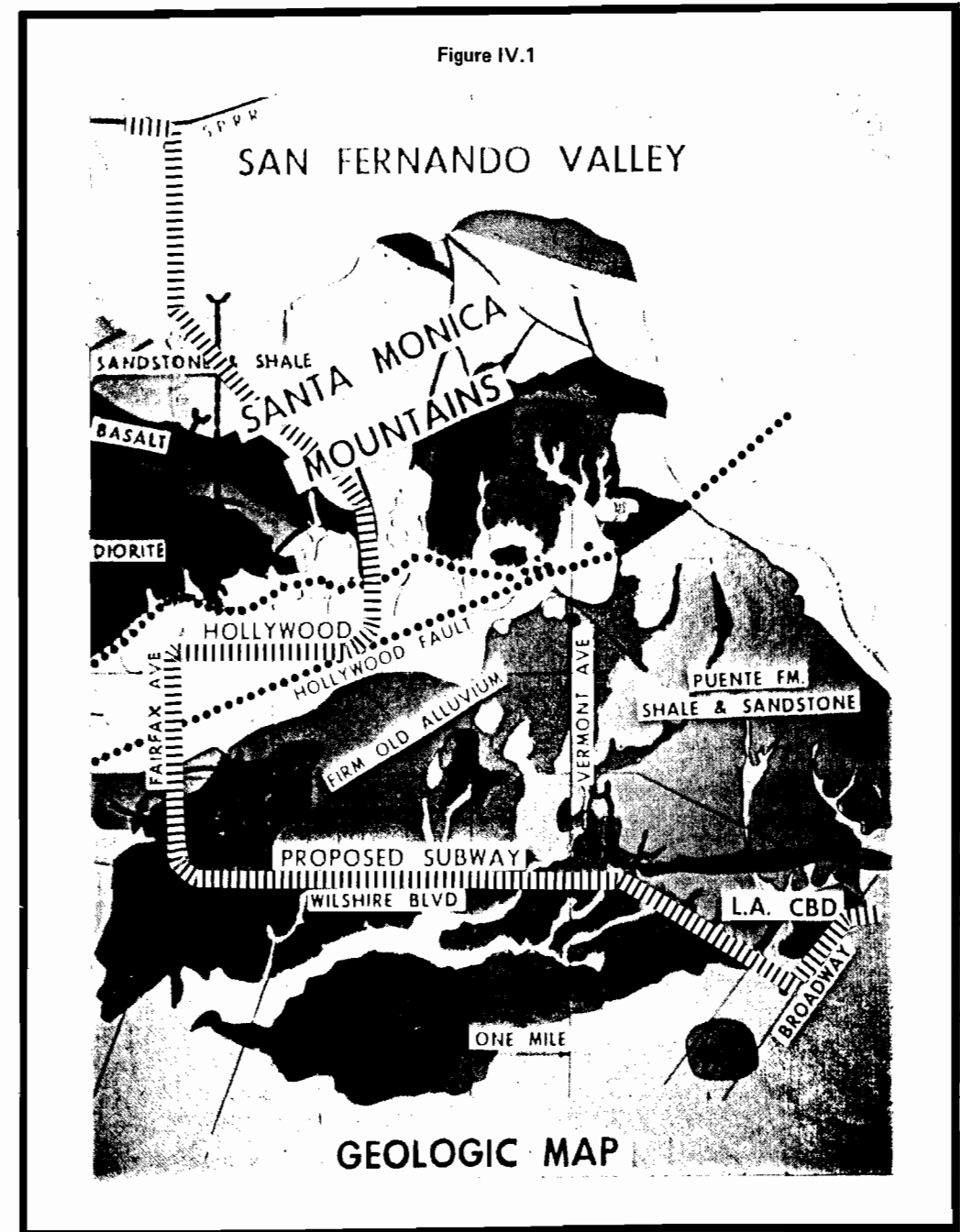
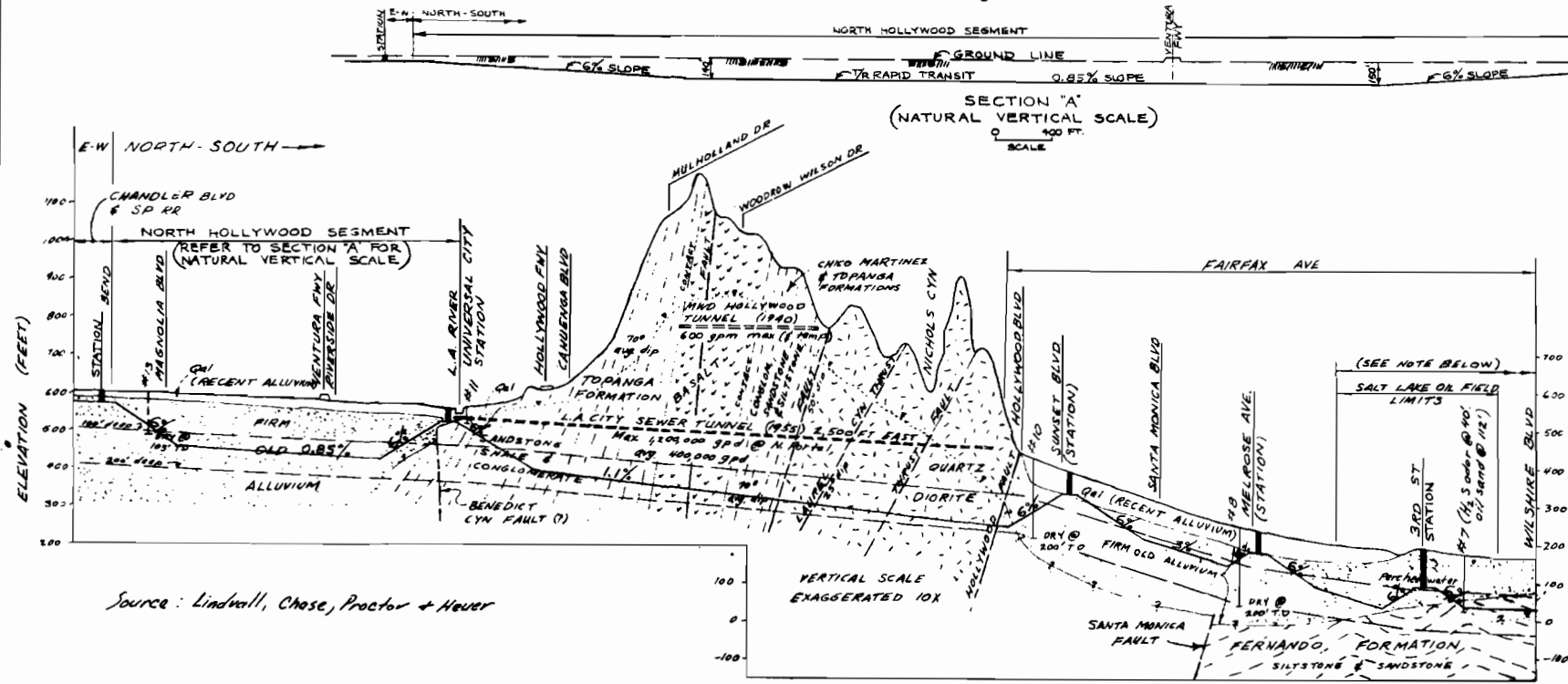


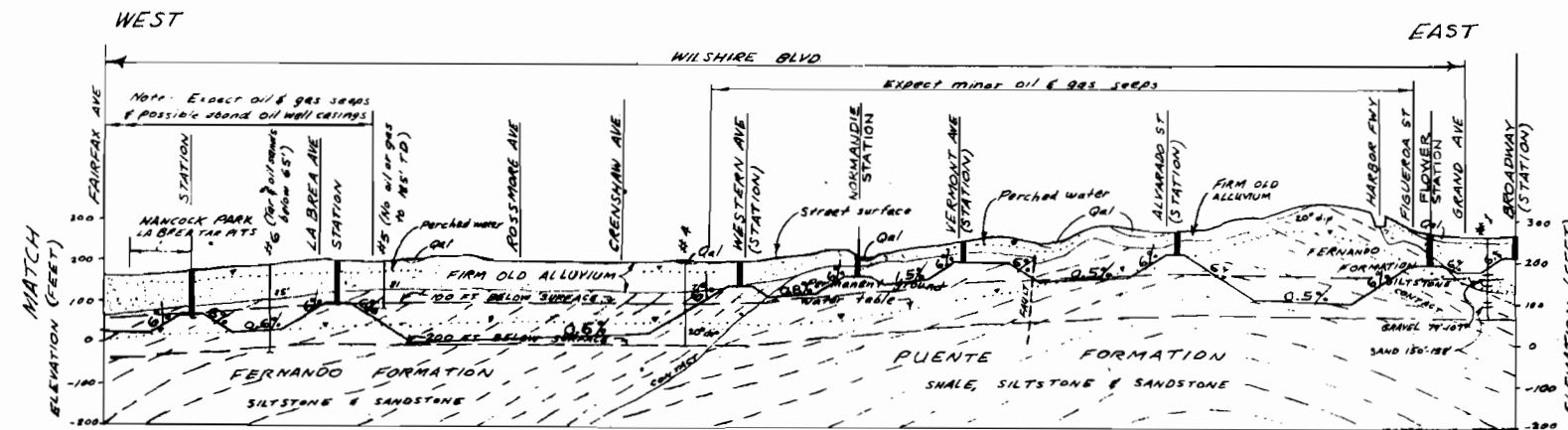
Figure IV.2



NORTH HOLLYWOOD TO WILSHIRE BOULEVARD  
(EXAGGERATED VERTICAL SCALE)

NOTE: THERE IS NO EVIDENCE OF ANY SEISMIC ACTIVITY ALONG ANY OF THE FAULTS THROUGH THE SANTA MONICA MOUNTAINS NOR ALONG THE SMALL UNNAMED FAULT CROSSED BY THE LINE EAST OF VERMONT AVENUE.

PROFILE GRADES INDICATED ARE SUGGESTIVE AND APPROXIMATE.



WILSHIRE BOULEVARD - FAIRFAX TO BROADWAY  
(EXAGGERATED VERTICAL SCALE)

**GEOLOGIC PROFILE**  
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT  
'STARTER LINE' SUBWAY

0 2000 FT.  
SCALE

VERTICAL SCALE IS 10x HORIZONTAL

FEASIBILITY OF TUNNELING FOR  
PROPOSED REGIONAL CORE RAPID TRANSIT LINE  
LOS ANGELES, CALIFORNIA

PREPARED FOR  
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT  
MARCH 1978

and cover stations it may be necessary to use slurry wall construction and/or chemical grouting.

## (2) Local Tunneling Experience

There have been many tunnels constructed in the Los Angeles area. Seven of these have been constructed in recent years, through the same or similar formations, by tunnel boring machines; see Figure IV.3. The San Fernando, Castaic 1 and 2, and Newhall Tunnels are of diameter comparable to subway tunnels and used precast concrete linings as initial supports.

The two existing nearby tunnels, Los Angeles City Sewer Tunnel and the Metropolitan Water District's Hollywood Water Tunnel, provide information on tunneling conditions in the Santa Monica Mountains. These tunnels are shown on Figure IV. 2. In the Metropolitan Water District's Hollywood Water Tunnel, which is located approximately 400 feet above the proposed subway tunnel, the Basalt formation was described as good blasting rock. However, water seeps were common, and a temporary inflow of approximately 600 gpm was recorded on one occasion.

For a deep bore subway line the SCRTD would use properly designed segmented precast concrete linings that will be capable of supporting all ground loads which can be expected to develop. This segmented lining would constitute both the initial and final lining of these tunnels. Similiar segmented precast concrete linings have already been used with success in many other locations in North America, Europe and Japan.

## (3) Tunneling for a New Subway

Tunnel driving conditions for Alternative I-V in the soft sedimentary rock of Fernando, Puente, and Topanga formations are expected to be favorable. The tunnel face in most of these formations will range from firm to stable. However, some of the weakest sand and silt beds

Tunnels in Los Angeles Area Excavated by Tunnel Boring Machines

Figure IV. 3

<u>Owner and Tunnel Name</u>	<u>Location</u>	<u>Length</u>	<u>Bore Diameter</u>	<u>Material Geologic Unit</u>	<u>Year Begun, Method, Comments</u>
Los Angeles County Flood Control Dist. Store Drain #1102 (2 short segments: Hoover St., Sacatella)	Los Angeles (downtown)	0.6 mi	17 ft	Sandstone, shale, Puente Formation	1975. "Digmor" in a shield. Prior dewatering required by spec. <u>Gas and seeping oil</u> encountered in Los Angeles City oil field, but controlled by strong ventilation.
Metropolitan Water Dist. Tunnels 1 and 2	Near Yorba Linda, Orange Co.	3.4 mi	11 ft	Sandstone and Shale, Puente Formation	1972. Mainly rotary-head mole. Delay in Tunnel No. 1 due to hard sandstone, but rate in longer Tunnel No. 2 avg. 60 ft/day; several days of over 100 ft/day. Methane monitored.
Metropolitan Water Dist. San Fernando	Sylmar area	5.5 mi	22 ft	Sandstone, siltstone, boulders; Saugus Formation alluvium	1969. Digger-type mole. Dry old alluvium stood well; wet old alluvium caved, required dewatering from within tunnel. Progress up to 277 ft/day (world record), including precast segment supports. Mole handled boulders in old alluvium and Saugus. <u>Methane and heptane gas</u> encountered.
Pacific Telephone Co., Olive Street	Los Angeles (downtown)	.75 mi	7 ft	Siltstone, Puente Formation	1969. Rotary-head mole. Siltstone damp; no problems encountered.
Metropolitan Water Dist. Balboa Outlet	Sylmar	0.7 mi	16 ft	Sandstone, Siltstone; Saugus Formation, Sunshine Ranch Formation	1968. Rotary-head mole; conditions mostly dry to dripping; rates up to 111 ft/day, but avg. 30 ft/day, due in part to short tunnel length and adjustments to new mole.

Tunnels in Los Angeles Area Excavated by Tunnel Boring Machine (CONT.)

Figure IV. 3

<u>Owner and Tunnel Name</u>	<u>Location</u>	<u>Length</u>	<u>Bore Diameter</u>	<u>Material Geologic Unit</u>	<u>Year Begun, Method, Comments</u>
Metropolitan Water Dist. Castaic 1 and 2	Castaic Saugus	3.5 mi	26 ft	Siltstone, sandstone, boulders, Castaic Formation, Saugus Formation	1967. Digger-type mole handled large boulders in Saugus Formation with no significant problems. Average rate in Castaic No.2 was 112 ft/day best rate 202 ft/day (4,100 cu. yds. excavated muck in 24 hrs.) Precast concrete segment supports used.
Metropolitan Water Dist. Newhall	Newhall- Sylmar	3.3 mi	26 ft	Sandstone, siltstone, mudstone; Saugus Formation, Pico Formation Towsley-Formation	1966. Rotary-head mole from south portal, oscillating "windshield-wiper" mole from north portal. Long segment in wet sandstone with boulders of Saugus was dewatered with surface wells; <u>gas and seeping oil</u> handled with strong ventilation.



in the newer alluvium deposits in the CBD may tend to be fast raveling. Groundwater inflow during excavation in these formations is expected to be of a minor nature. Tunneling in both the Topanga and Puente formations will be below the perched water table, but water inflow is not expected to be large nor of long duration. In the City Sewer Tunnel, inflows of 100 gallons per minute were noted along with occasional heavy ground pressures. No heavy ground occurred in the Hollywood Water Tunnel, where minor water seeps were common.

The tunnel length in the Puente formation, between Figueroa Street and Western Avenue, can be expected to encounter local oil and gas seeps. The nearby Sacatella Flood Control Tunnel was excavated under Hoover Street, north of Wilshire Boulevard, in the Puente Formation during 1977. The contractor used a backhoe-type excavator in the 17-ft. diameter shield. Some oil seeped down the sides of the supports, was skimmed off the discharge water at the portal, and hauled away by tank truck. Proper ventilation prevented excess concentrations of explosive gas and was responsible for safe completion of the work. This condition, and its remedy, was similar to that experienced in driving the Newhall Water Tunnel during the late 1960's. No oil or gas was noted in the Topanga formation in either the sewer or water tunnel.

Cores from exploratory borings in the Fernando formation indicates these materials are generally firm. Water inflows should not materially affect the stability of this formation. However, there may exist unknown buried alluvial channels at tunnel grade in the Fernando Formation. If these are saturated, proper control of groundwater will be necessary to avoid tunnel driving difficulties. Tar, Oil, and gas seeps will be common for about 2.5 miles between Highland Avenue and Beverly Boulevard in the vicinity of the La Brea Tar Pits. Hydrogen sulphide odors were reported in boring No. 7. Hydrogen sulphide and methane gases can be expected to seep locally. The consultants state that subway routes extending north from Wilshire Boulevard will probably encounter the same oil and gas seepage conditions.

The old Alluvium formation which comprises most of the Hollywood-Wilshire area, consists of dense to very dense granular material containing

considerable silt and clay binder. These materials will tend to be slow raveling in the tunnel face which depends on the cohesion of the fine-grained binder material. Some portions of the Old Alluvium consists of relatively clean sand to non-plastic silt with little cohesive strength. Throughout most of the proposed alignment in the Old Alluvium, the tunnel is above the groundwater table. Near the Los Angeles River Channel the tunnel may be below the groundwater table for several hundred feet in the Old Alluvium. However, the volume of water inflow is expected to be small. The depth of the Recent Alluvium where it overlies the Old Alluvium is not a well-defined contact. Where shown on the system profile, the contact between Recent Alluvium and Old Alluvium has been determined on the basis of blow counts during the recent drilling program. Generally, where the alluvium is described as "dense" and where there were more than 40 blows per foot of penetration, Old Alluvium was deemed to be present. Overlying alluvium is shown as Recent Alluvium. The maximum depth of Recent Alluvium occurs in the Hollywood area, where it appears to be approximately 70 feet.

#### (4) Subway Construction by cut and cover.

The construction of a subway by the cut and cover method would mean practically all the excavation work being done in the recent alluvium which would require continuous support (piling and sheeting) or slurry wall and possibly chemical grouting. At two locations there could be problems due to "shallow perched" water tables.

Since the soil material over the subway would be returned and compacted, there would be no significant adverse impact on major landforms.

#### (5) Aerial Guideway

The construction of an aerial guideway has not been considered as completely from the geologic standpoint as the subway since no significant adverse impact are envisioned on major landforms. High-rise buildings have been built all over the Los Angeles basin without serious difficulties. An aerial guideway system would require little

grading and would conform to or exceed the requirements of the Los Angeles City Building and Safety Code.

## 2. Seismic

### a. Existing Seismic Conditions

The City of Los Angeles is located at the junction of two major geomorphic units, the Peninsular Ranges and the Transverse Ranges. The geologic structure of the Peninsular Ranges, which include all of Los Angeles south of the Santa Monica Mountains is predominantly northwest-trending and includes several major faults, including the Newport-Inglewood Fault. The northwest-trending structure is abruptly truncated by the Transverse Ranges, of which portions of the Santa Monica, Santa Susana and San Gabriel Mountains lie in the City of Los Angeles area. The southerly margin of the Santa Monica Mountains is bounded by a major fault that may extend from westerly of Point Dume to Cucamonga on the east. The lateral extent and name of this fault is in dispute, but it certainly extends northeasterly from offshore of Santa Monica to the Los Angeles River and is called the Santa Monica-Hollywood Fault in this report. Alternatives I-IV (including the Board Preferred Alternative II) cross this Fault. There is no evidence of this Fault at the surface nor within 200 feet of the surface. There is no evidence of activity on this Fault within the past 11,000 years.

The Los Angeles area may be subjected to moderate to major earthquakes resulting from movement on any of the faults listed in Figure IV.4 and shown on Figure IV.5. The San Andreas and Newport Inglewood Faults are the ones of most concern. The San Andreas, Newport-Inglewood and San Fernando Faults are active; that is, significant earthquakes have occurred in historic times, and there is a high probability that earthquakes will occur in the future. None of these alternatives actually crosses these faults.

The recent discovery of datable, offset peat beds across the San Andreas Fault near Palmdale, by Dr. Kerry Sieh of Caltech, provides a

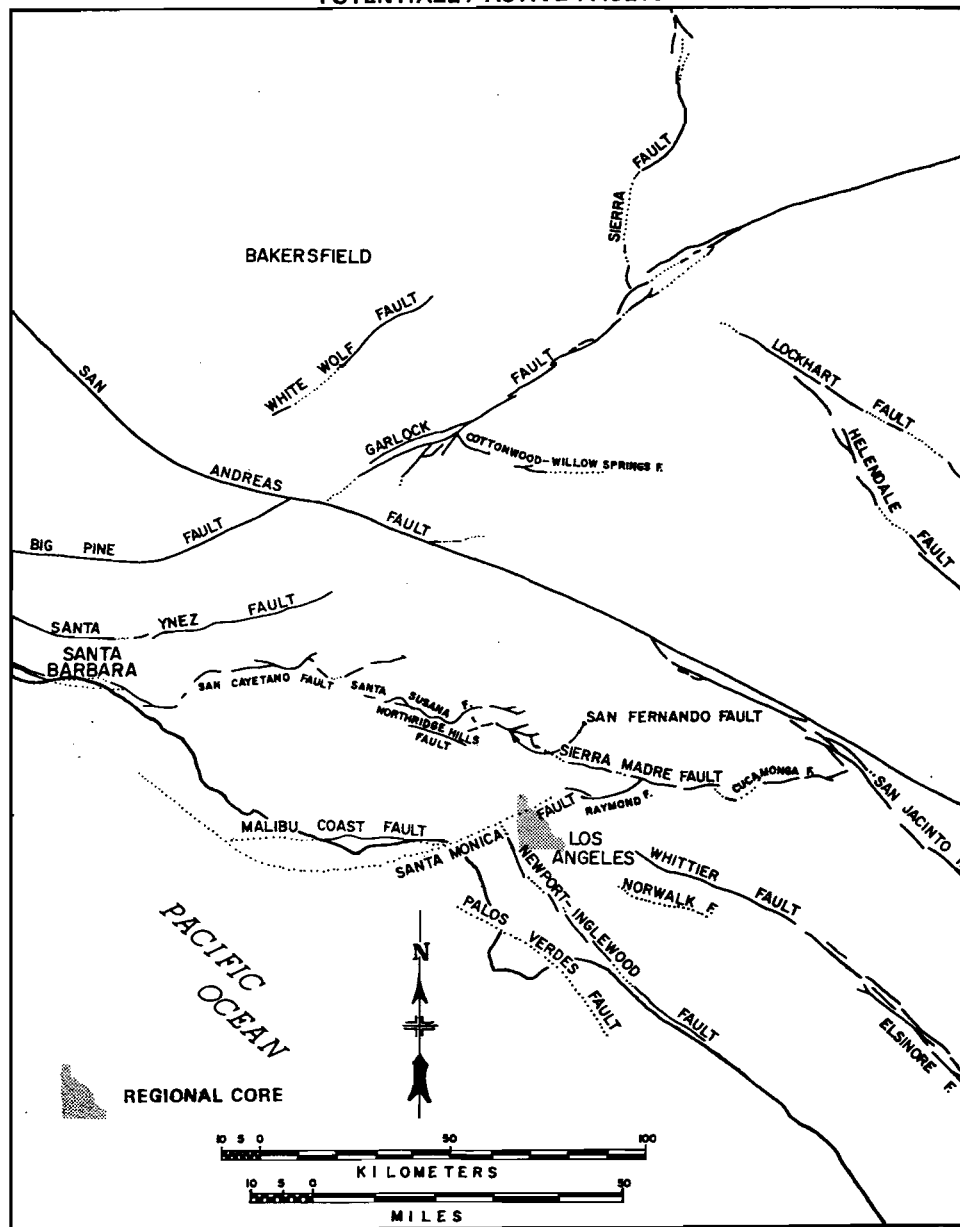
FIGURE IV. 4

### Active and Potentially Active Faults

<u>Fault</u>	<u>Total Length (Miles)</u>	<u>Closest Distance to Proposed Starter Line (Miles)</u>	<u>Maximum Magnitude of Historic Earthquakes</u>	<u>Maximum Credible* Earthquake Richter Magnitude (Greensfelder, 1974)</u>
<u>Active</u>				
San Andreas	700	35	8.3 1857	8.3
Newport-Inglewood	40	2	6.3 1933	7.5
Santa Susana-San Fernando-Sierra Madre System	80	7	6.4 1971	6.5
<u>Potentially Active</u>				
Malibu-Santa Monica Hollywood-Raymond				
Northridge	12	10	--- ---	6.5
Whittier-Elsinore	25	12	4.1 1967	7.5
Palos Verdes	25	16	5.4 1941	7.0

\* The maximum expectable earthquake intensity is about 0.5 magnitude less than the maximum credible event.

Figure IV.5  
POTENTIALLY ACTIVE FAULTS



Location map showing seismically active faults and faults that break alluvial deposits in greater Los Angeles area.

useful method of estimating the probable recurrence of large earthquakes in that area. Dr. Sieh has Carbon-14 age-dated nine major earthquakes extending back to the fourth century. The average earthquake recurrence interval for these nine events is 160 years. However, successive earthquakes have been separated by as few as 55 years and as much as 300 years. Considering it has been 121 years since the last major earthquake on the San Andreas Fault in Southern California, it is highly probable that the next major quake will occur within the next 100 years. It has lately become almost customary to consider the maximum credible earthquake on the San Andreas Fault as an event of Magnitude 8.5. This value represents the outermost limit of credibility and would involve nearly the entire 700-mile length of the fault. The two historical great events on the San Andreas, in 1857 and 1906, were of somewhat lower magnitude, certainly not over 8.3.

The Newport-Inglewood Fault is in reality a zone of an echelon, discrete faults and folds that extend 40 miles from Beverly Hills to Newport Beach. This zone lies only two miles west of the proposed Starter Line, but any extensions of that line westward along Wilshire Boulevard or southward from downtown Los Angeles would cross this zone. The maximum credible earthquake assigned to the Newport-Inglewood zone must be based on empirical correlations between fault lengths, fault pattern and historic quakes. Such correlations indicate that a Magnitude 7.0 is reasonable for the maximum credible event. The 1933 Long Beach earthquake Magnitude 6.3 can be considered as typical for expectable earthquakes.

b. Types of Earthquake Damage

An earthquake could damage a Rapid Transit system by four types of geologic phenomena: (1) severe ground shaking, (2) liquefaction of soils, (3) fault offsets, and (4) landslides. The first phenomena and the latter could result from a strong earthquake on any of the faults listed in Figure IV. 4. Fault offsets would only result from an earthquake on the Santa Monica-Hollywood Fault.

Strong ground shaking is, by far, the most common cause of damage to buildings and other structures in any earthquake. The severity of

earthquake shaking depends on several factors including earthquake magnitude, distance to the epicenter, and local geologic conditions.

The most severe ground shaking that would be felt in the starter line area would be generated by a Magnitude 7.5 earthquake occurring on the Newport-Inglewood Fault, giving Modified Mercalli Intensities of VII to IX (NOAA, 1973). Intensities of V to VIII are estimated for a Magnitude 8.3 earthquake on the San Andreas Fault (NOAA, 1973). This range of intensities is due to the effects of local geology with the lower intensities in the hard rock portions of the Santa Monica Mountains, and the highest intensities are in soft alluvial materials that underlie the flatter-lying area.

Subway - The strong ground shaking effects experienced by surface and elevated structures are minimal in effect in deep tunnels, with damage to a subway most likely to occur at the contact of different geologic formations, such as a granite/sandstone contact. This is due to contrasting wave velocities and elastic properties. At such contacts, it is possible that minor spalling of the subway tunnel lining could occur, but a collapse is extremely unlikely. This impact could occur primarily in the Santa Monica Mountain part of the route.

Aerial - A strong ground shaking may effect an aerial system in two ways. It may damage the supporting piers and decking, and it might cause the derailment of trains.

In addition, there are 22,000 pre-1933 substandard buildings in the Los Angeles area. Most of these are made of brick, and many might collapse in a major earthquake. The falling brick or collapsed buildings could significantly damage an aerial system and a passing rail car, thereby increasing significantly the number of injuries and fatalities.

Liquefaction, a phenomenon observed in some strong earthquakes, is the sudden and temporary loss of support by certain soils as they turn into a semiliquid state. Buildings and other structures founded on a site that liquefies may be damaged. For a soil to liquefy requires a

special set of conditions including low soil density, critical grain size, high water table (no deeper than 50 feet below the surface), and sufficiently strong earthquake shaking. Because of these special conditions, only a few limited areas of Los Angeles are likely to liquefy.

A portion of the route may traverse an area that has been tentatively designated as a liquefaction potential area. However, this designation is based on limited data of shallow perched water tables.

Subway - Liquefaction of soil is not anticipated to be a problem for deep subway tunnels, as the tunnels will be located below the zone where liquefaction occurs. However, for stations some design for liquefaction may be required. Stations, particularly in the La Brea/Wilshire area may not be below the zone of potential liquefaction. Water pressure and moving sand grains can cause liquefaction.

A fault offset is possible where the line would cross the potential active Santa Monica-Hollywood Fault. A potential exists for a moderate to major earthquake with attendant fault displacement on this fault. This potential is quite low relative to the San Andreas or Newport-Inglewood Fault, but there is a slight possibility that an earthquake of Magnitude 7.5 could occur within the life of the project (100 years) and cause a few feet of offset at the most.

Subway - Fault offsets could damage and disrupt tunnels by offsetting one side of the tunnel relative to the other at the fault trace.

Aerial - Fault displacement could damage and disrupt an elevated system by severing the supporting towers and the roadway.

Landslides in hilly terrain are often initiated as a result of earthquake shaking and have the potential for damage for man-made structure.

Subway - Landslides are not anticipated to be a problem in deep tunnels. Minor rockfalls may be encountered in tunneling and would be stabilized by various methods during the tunnel construction.

Aerial - Landslides could damage or destroy the supporting towers of an aerial system if it were in the path of a landslide.

### 3. Subsidence

The Fernando, Puente and Topanga formations have potential problems from surface subsidence due to perched water tables in those formations. To avoid surface subsidence problems, the profile of a rail tunnel should be in the underlying rock of those formations. The use of appropriate tunneling equipment and workmanship should result in insignificant surface subsidence.

Tunneling in the more clayey and dense portions of the Old Alluvium should not cause a surface settlement problem. However, the cleaner, sandier portions of the Old Alluvium will be more susceptible to surface subsidence. Where tunneling is at shallow depth in this material, appropriate construction procedures and good workmanship will be necessary to minimize surface subsidence. The simplest solution to this potential problem will be to avoid shallow tunneling and to establish a deep-level tunnel profile.

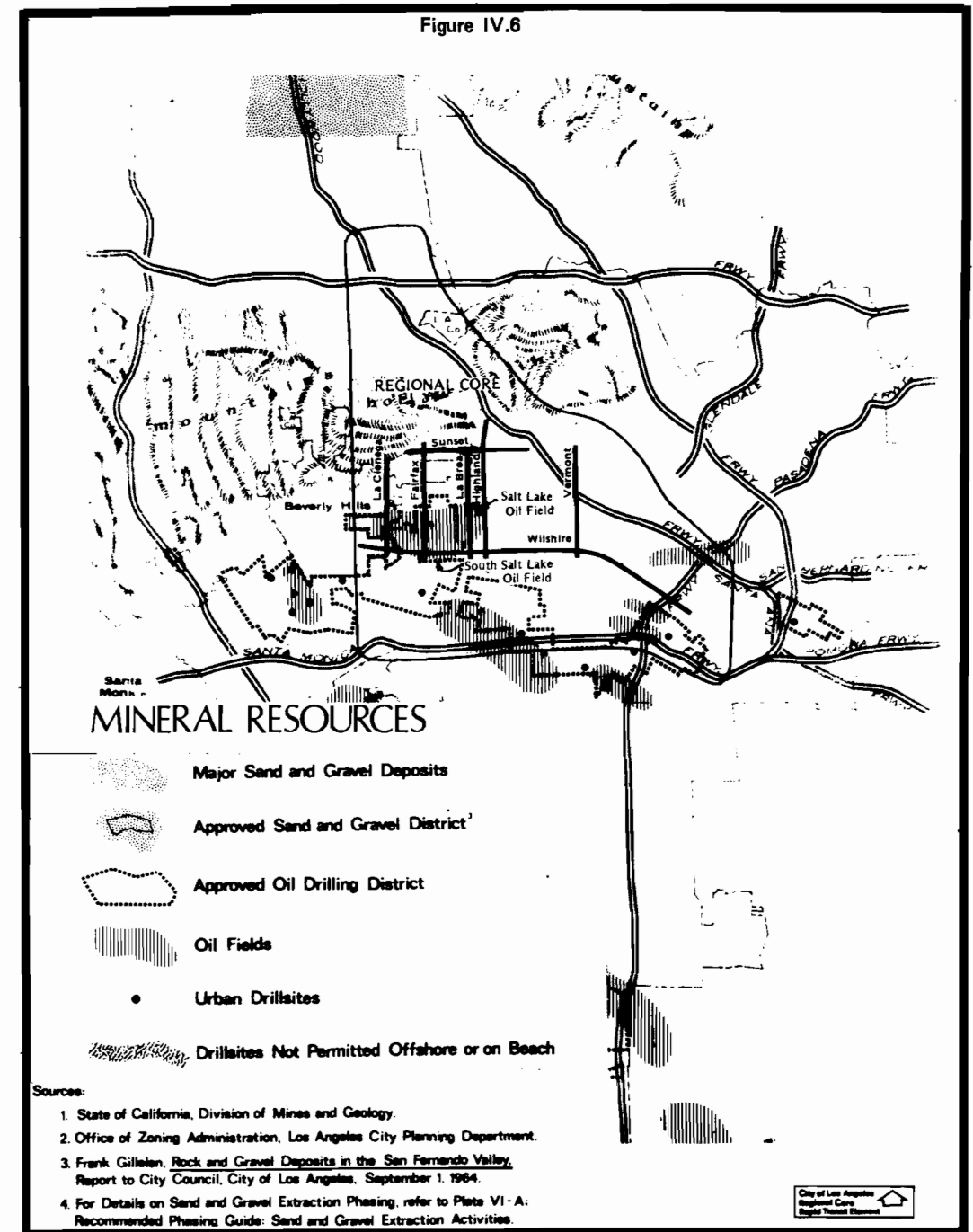
An aerial system should not result in any significant subsidence problems with properly designed foundations.

### 4. Mineral and Other Resources

From Figure IV. 6 it can be seen that oil is probably the only significant mineral resource located within the Regional Core Corridor. However, gas deposits are generally found in oil fields. Several urban drill sites, approved oil drilling districts, and oil fields extend west and north from the Central City through the Miracle Mile and Wilshire District.\* The closest fields are the Salt Lake Oil Field and the South Salt Lake Oil Field.\*\*

\*Oil well locations are on file with the City's Oil Administrator and the Zoning Administration Office, City of Los Angeles.

\*\*Conversation with Jeffrey Druyun, Acting Oil Administrator, City of Los Angeles, November, 1977.



The Salt Lake Oil Field extends between Third Street and Beverly Boulevards, from Highland Avenue west to La Cienega Boulevard. According to Volume II of California Oil and Gas Fields, compiled by the California Division of Oil and Gas, The Salt Lake field extends downward from 600 feet to -1100 to -1200 feet at La Brea and -2600 to -2700 feet at Fairfax. The South Salt Lake Oil Field lies beneath Wilshire to a depth of approximately 1500 feet.

Of the various alternatives, only the alternatives following Wilshire Boulevard and/or Fairfax Avenue (which include the Board Preferred Alternative II) would be in the proximity of existing oil extraction activities. Oil drilling generally involves the boring of a vertical shaft to a depth of approximately 1500 feet below the surface. Often the boring is then angled as it continues downward (slant drilling).

Of the aerial, surface or subterranean configurations, the subway would have the greatest potential for impact. A subway system would run between 50 and 200 feet beneath the surface. Therefore, as oil extraction occurs far below the deepest level, no significant impact on the oil fields is anticipated.

## B. ECOLOGICAL

### 1. Meteorology

#### a. Wind Effects:

The meteorology analysis was focused on possible effects of the rapid transit structures on the surrounding microclimate.

No adverse wind effects would be expected from rapid transit. Aerial Rapid Transit structures should be only 20 - 25 feet or so in height

which would not be sufficient to channel wind from above down to street level. The wind caused by passing vehicles on elevated guideway would be 50 feet or so from adjacent properties and pedestrian areas and too far away to be perceived.

#### b. Heat Buildup

Heat buildup in paved parking and plaza areas and beside building surfaces can be mitigated with landscaping, choice of building materials and colors, and building setback from adjacent property.

#### c. Heat Release

Heat release from power generation would be primarily in coastal locations in Los Angeles and Orange Counties (location of existing power plants) and of a fairly small magnitude (approximately one percent -- see Energy Section IV. F) compared with existing heat released.

## 2. Vegetation and Wildlife

### a. Introduction

The principal area of vegetation and wildlife concern is over the Santa Monica Mountains. All other portions of alignments would be on city streets, where vegetation is no problem. In no case would a transit line result in any disruption to existing vegetation and wild life, because in every instance, it would be necessary to tunnel through the Santa Monica Mountains. The California Native Plant Society's rare and endangered plant list (Powell, 1974) and U.S. Fish and Wildlife Services' rare and endangered animal species list were consulted for species located in the Regional Core area. The Los Angeles Conservation Plan, December, 1973, was consulted for classification of habitat areas. Alignments and station locations were then reviewed for potential vegetation and wildlife impacts.

## C. WATER QUALITY

### 1. Impacts

The analysis in the section on Major Land Forms indicated the following potential water resource impacts and mitigation:

#### a. Groundwater Inflow

Substantial groundwater inflow (as much as 600 gallons per minute) could be encountered beneath the Santa Monica Mountains (Alternatives I, II and III) where tunneling crosses fissures in rock. During construction, seepage water would be pumped out of the tunnel and allowed to enter the surface drainage system. The completed tunnels do not have to be made completely water-tight. Minor seepage is expected, and can be handled without undue difficulty.

#### b. Oil and Tar Seeps

During construction, minor local oil and tar seeps can be expected along the subway alignment in Wilshire Boulevard between Figueroa Street and Western Avenue. This problem is normally handled by skimming the oil from the surface of water discharged from the tunnel and hauling it away by tank truck to a suitable land fill disposal site. Sealants would be used to prevent oil seepage between segments of the concrete tunnel liner.

During construction, water pumped from subway tunnels, station excavations and holes for aerial guideway footings would be disposed of in the storm drainage system. Most oil would be skimmed from the water and sediment would be removed by use of a settling basin before discharge to the drainage system. The discharge would increase, but not overburden the storm drainage system during construction. The chemical and bacterial quality of the discharge should be equal to or better than the quality experienced today in low flow periods.

#### c. Perched Water Table Beneath Wilshire Boulevard

The high (shallow) perched water table beneath Wilshire Boulevard (Alternatives I, II, IV, V) indicates that tunneling below 60 feet in depth would suffice to avoid serious water inflow problems and the lowering of the Wilshire area water table.

#### d. Surface Water Runoff

Relative to the null case (Alternative XI), implementation of one of the other alternatives is projected to result in a reduction of vehicle volume due to increased transit use, and will have an associated positive effect on surface water runoff due to a reduction (compared to Alternative XI) in fuel and tire pollutants entering the storm drainage system (asbestos, lead, etc.). These effects will be areawide and it is doubtful that site-specific impacts could be measured.

#### e. Water Supply

Since Los Angeles imports so much of its water from Owens Valley, the Colorado River and Northern California, no effect on that supply will result from the implementation of any of the alternatives proposed.

## D. AIR QUALITY

### 1. Introduction

Los Angeles (South Coast Air Basin + Ventura County), is widely recognized as having the worst air quality of any area in the United States. For example, the federal oxidant (smog) standard was exceeded 252 days in 1976. All other state and federal standards are also frequently exceeded as well, as indicated in Figure IV. 7.

The Federal Clean Air Act Amendments of 1977 require that national air quality standards must be attained by 1982, with possible extension until 1987 for oxidant and carbon monoxide. If these standards are not met, then certain federal funds may be withheld from the region.

FIGURE IV. 7

VIOLATIONS OF FEDERAL OR STATE AIR QUALITY STANDARDS  
IN THE SOUTH COAST AIR BASIN-1976

<u>POLLUTANT</u>	<u>AVERAGING TIME</u>	<u>DAYS EXCEEDING STANDARD</u>	<u>MAXIMUM CONCENTRATION</u>	<u>Percent MAXIMUM CONCENTRATION EXCEEDING STANDARD</u>	<u>POPULATION EXPOSURE</u>
<u>Oxidant</u>					
Federal (.12 ppm)	1 hour	252	0.38 ppm	375	68 %
State (.10 ppm)	1 hour	238	same	280	
<u>Carbon Monoxide</u>					
Federal (9 ppm)	8 hours	118	26.0 ppm	189	77 %
State (10 ppm)	12 hours	119	25.0 ppm	150	
<u>Nitrogen Dioxide</u>					
State (.25 ppm)	1 hour	50	0.53 ppm	100	82 %
<u>Sulfur Dioxide</u>					
Federal (0.5 ppm)**	1 hour	0	.25 ppm	---	0.5 %
State (.05 ppm)***	24 hours	45	.138 ppm	180	
<u>Sulfates</u>					
State (25 ug/m <sup>3</sup> )	24 hours	62	48 ug/m <sup>3</sup>	170	57 %
<u>Particulate</u>					
State (60 ug/m <sup>3</sup> )	Annual average	Annual average	166 ug/m <sup>3</sup> )		95 %*
<u>Lead</u>					
State (1.5 ug/m <sup>3</sup> )	Monthly mean	12 Months	10.04 ug/m <sup>3</sup> )	660	Not calculated

\*Population exposure is calculated only for the most stringent standard for each contaminant.

\*\*The California Air Resources Board has determined that only the Los Angeles County portion of the SCAB is projected to violate the SO<sub>2</sub> standard more than one per year.

\*\*\*This standard is only considered violated when either the State 24 hour particulate matter and/or the one hour oxidant standard is violated.

SOURCE: SCAG-AQMP Working Paper I March, 1978

It should be emphasized that for many contaminants, the standard set by the State of California is more stringent than that set by the Federal Government. Please refer to Figure IV.8 for comparison of these standards. The Southern California Association of Governments (SCAG) is coordinating a region-wide effort to develop an Air Quality Management District (AQMD) plan. This SCAG-AQMD plan, for the South Coast Air Basin (SCAB) plus Ventura County, will then become part of the California State Implementation Plan (SIP) to improve air quality. Improving public transit in a variety of ways is an important program in the Draft AQMD, dated October 1978. There are over 130 programs suggested for the entire region. Costs are identified as well as relative impact of each program.

Through programs already implemented during the past ten years, there has been improvement in air quality. Furthermore, as shown most clearly on Figure IV. 9, there should continue to be improvement through 1987 through the implementation of rules which have been adopted as of July 1978. However, although air quality will improve under these rules, there will still be a wide margin between projected levels and Federal or State standards. Analysis indicates that none of these transit alternatives would be particularly significant at the regional level in attempting to reach the Federal and State standards. However on a localized level, such as in the LACBD and in the Regional Core, there could be significant improvements.

It should be noted that if one of the Rail/Bus alternatives is constructed, its passenger carrying capacity could be increased greatly beyond present projections by reducing headways and hence increasing the number of trains. This would have a beneficial effect on air quality by further reducing auto trips. Capacity of All-Bus Alternatives could also be increased by adding buses, but not to the same extent because of street congestion limitations.

2. Impacts

- a. Pollutants to be measured

Air pollution in the SCAB plus Ventura County area is caused by both mobile and stationary sources. Figures IV. 10 & 11, indicate the



FIGURE IV.8

AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards Concentration	State Compliance Date	National Primary Standards	National Secondary Standards	Federal Compliance Date	AQMP Legal Minimum
Oxidant (Ozone)	1 hour	0.10 ppm (200 ug/m <sup>3</sup> )	12/31/87	240 ug/m <sup>3</sup> * (0.12 ppm)	Same as Primary Standards	12/31/87***	12/31/87
Carbon Monoxide	12 hour	10 ppm (11 mg/m <sup>3</sup> )	Earliest Date Achievable (EDA)				Earliest Date Achievable (EDA)
	8 hour	-		10 mg/m <sup>3</sup> (9 ppm)	Same as Primary Standards	12/31/87***	12/31/87
	1 hour	40 ppm (46 mg/m <sup>3</sup> )	12/31/87	40 mg/m <sup>3</sup> (35 ppm)		12/31/87***	12/31/87
Nitrogen Dioxide	Annual Average	-		100 ug/m <sup>3</sup> (0.05 ppm)	Same as Primary Standards	12/31/82	12/31/87
	1 hour	0.25 ppm (470) ug/m <sup>3</sup>	EDA	-	Same as Primary Standards		EDA
Sulfur Dioxide	Annual Average	-		80 ug/m <sup>3</sup> (0.03 ppm)			12/31/82
	24 hour	0.05 ppm**	EDA	365 ug/m <sup>3</sup> (0.14 ppm)			'82 (Fed.) EDA (Calif.)
	3 hour	0.5 ppm (1310 ug/m <sup>3</sup> )	EDA	-			

FIGURE IV.8 (continued)

Pollutant	Averaging Time	California Standards Concentration	State Compliance Date	National Primary Standards	National Secondary Standards	Federal Compliance Date	AQMP Legal Minimum
Suspended Particulate Matter	Annual Geometric Mean	60 ug/m <sup>3</sup>	EDA	75 ug/m <sup>3</sup>	60 ug/m <sup>3</sup>		12/31/82
	24 hour	100 ug/m <sup>3</sup>	EDA	260 ug/m <sup>3</sup>	150 ug/m <sup>3</sup>		'82 (Fed.) EDA (Calif.)
Sulfates	24 hour	25 ug/m <sup>3</sup>	EDA	-			EDA
Lead	30 Day Av.	1.5 ug/m <sup>3</sup>	EDA	-			EDA
Hydrogen Sulfide	1 hour	0.03 ppm (42 ug/m <sup>3</sup> )	EDA	-			EDA
Hydrocarbons (Corrected for Methane)	3 hour (6-9 a.m.)	-		160 ug/m <sup>3</sup> (0.24 ppm)	Same as Primary Standards		'82
Ethylene	8 hour	0.1 ppm	EDA	-			EDA
	1 hour	0.5 ppm	EDA	-			EDA
Visibility Reducing Particles	1 observation	In sufficient amount to reduce the prevailing visibility to less than 10 miles when the relative humidity is less than 70%	EDA	-			EDA

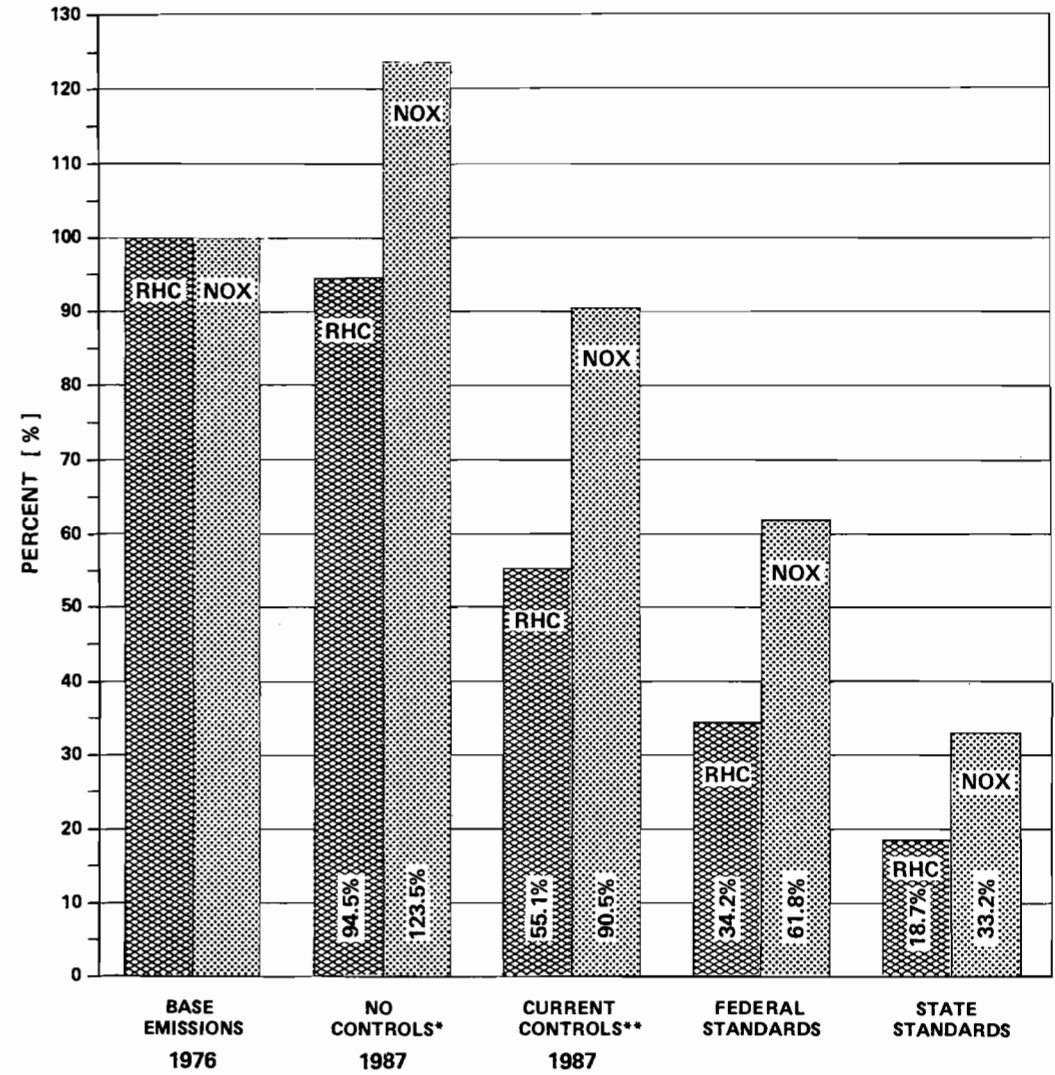
\* EPA has proposed changing this standard to 200ug/m<sup>3</sup> (.10 ppm)

\*\* This standard is only considered violated when either the State 24 hour particulate matter and/or the one hour oxidant standard is violated.

\*\*\* This assumes that non-attainment by 1982 can be adequately demonstrated, pursuant to section 172(a) of the Clean Air Act Amendments of 1977.

Figure IV.9

SUMMARY OF EMISSION PROJECTIONS



\* INCLUDES ONLY EFFECT OF RULES ALREADY IMPLEMENTED IN 1976.

\*\* INCLUDES EFFECT OF RULES ADOPTED THROUGH JULY 1978 TO BE IMPLEMENTED BY 1987.

**FIGURE IV.10**  
**BASE YEAR EMISSIONS - 1975-76**  
**BY MAJOR SOURCE CATEGORY (TONS/DAY)**  
**AVERAGE SUMMER WEEKDAY**  
**SCAB**

SOURCE	THC			RHC			CO		NO <sub>x</sub>		SO <sub>2</sub> ***		PART	
	TONS/DAY	% of Man-Made	% of TOTAL	TONS/DAY	% of Man-Made	% of TOTAL	TONS/DAY	% of TOTAL	TONS/DAY	% of TOTAL	TONS/DAY	% of TOTAL	TONS/DAY	% of TOTAL
STATIONARY (Area + Point)	676	38.9	23.5	510	34.5	30.0	215	2.6	464	36.2	316	79.0	184	64.6
On-Road Mobile	969	55.8	33.8	884	59.8	52.2	7699	91.2	964	54.1	46	11.5	70	24.6
Off-Road Mobile	92	5.3	3.2	84	5.7	5.0	527	6.2	125	9.7	38	9.5	31	10.0
Subtotal (Man-Made)	1737	100.0	--	1478	100.0	--	8441	100.0	1283	100.0	400	100.0	285	100.0
Natural Sources*	1132	--	39.5	215	--	12.7	--	--	--	--	--	--	--	--
<b>TOTAL</b>	<b>2869</b>	<b>--</b>	<b>100.0</b>	<b>1693</b>	<b>--</b>	<b>100.0</b>	<b>8441</b>	<b>100.0</b>	<b>1283</b>	<b>100.0</b>	<b>400</b>	<b>100.0</b>	<b>285</b>	<b>100.0</b>

\* Includes vegetative, landfills and animal waste.

SOURCE: SCAG - AQMP, October 78

FIGURE IV.11  
 PROJECTED EMISSIONS\* - 1987  
 BY MAJOR CATEGORY (TONS/DAY)  
 AVERAGE SUMMER WEEKDAY  
 SCAB

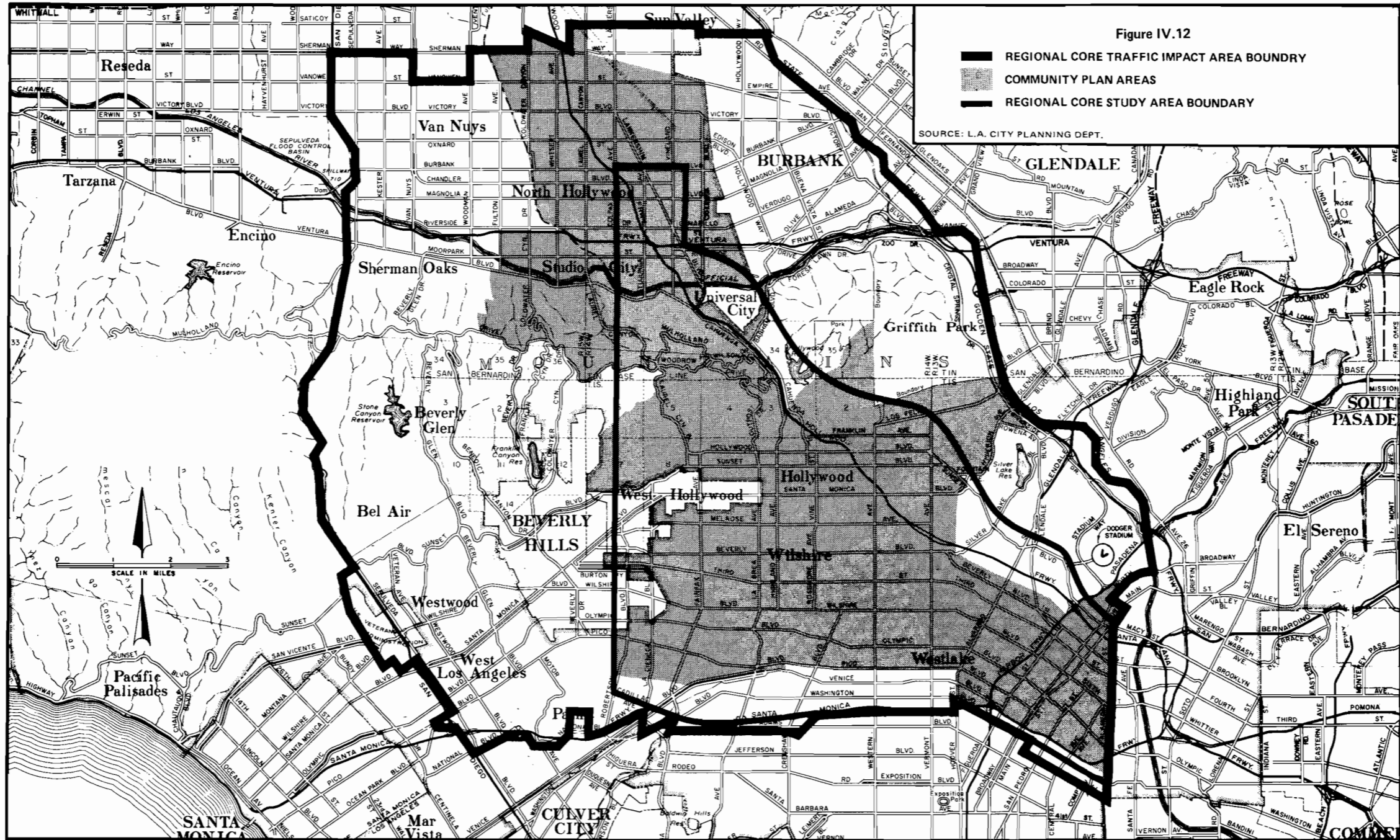
SOURCE	THC			RHC			CO		NO <sub>x</sub>		SO <sub>2</sub>		PART	
	TONS/DAY	% of Man-Made	% of TOTAL	TONS/DAY	% of Man-Made	% of TOTAL	TONS/DAY	% of TOTAL	TONS/DAY	% of TOTAL	TONS/DAY	% of TOTAL	TONS/DAY	% of TOTAL
STATIONARY (Area + Point)	531	51.0	24.4	360	44.2	34.9	252	6.1	543	46.8	313	81.9	150	56.2
On-Road Mobile	399	38.3	18.4	354	43.4	34.4	3176	77.5	474	40.8	37	9.7	94	35.6
Off-Road Mobile	111	10.7	5.1	101	12.4	9.8	674	16.4	144	12.4	32	8.4	23	8.6
Subtotal (Man-Made)	1041	100.0	--	815	100.0	--	4102	100.0	1161	100.0	382	100.0	267	100.0
Natural Sources**	1132	--	52.1	215	--	20.9	--	--	--	--	--	--	--	--
<b>TOTAL</b>	<b>2173</b>	<b>--</b>	<b>100.0</b>	<b>1030</b>	<b>--</b>	<b>100.0</b>	<b>4102</b>	<b>100.0</b>	<b>1161</b>	<b>100.0</b>	<b>382</b>	<b>100.0</b>	<b>267</b>	<b>100.0</b>

\* Assumes currently mandated rules and regulations.

\*\* Includes vegetative, landfills and animal waste.

\*\*\* These projects assume the non-viability of significant amounts of natural gas for use in power plants. A more generous Assumption on natural gas availability was used in the District's Sulfur Dioxide/Sulfate Control Study; this would result in lower projections of sulfur dioxide emissions.

SOURCE: SCAG - AQMP, October 78



projected change in sources of emissions in 1976 and 1987. For example, 52% of Reactive Hydrocarbons (RHC) in 1976 were caused by on-road mobile sources. In 1987 this percentage will decrease to 34%.

An area somewhat larger than the 55 square mile regional core was selected for analysis of traffic impacts. It is reasonable to expect that significant improvement in public transit in the regional core would have some effect on surrounding communities. This 135 square mile area is titled The Regional Core Traffic Impact Area and within its borders (see map in Figure IV.12) approximately 10% of the region's daily auto trips and VMT occur. For air quality purposes, it is generally assumed that since 10% of the region's VMT occur in the Traffic Impact Area, 10% of the SCAG region's on-road mobile emissions are created in this area.

b. Mobile Source Emissions in the Total SCAB,  
Ventura Region

Since none of the Regional Core Rapid Transit Alternatives will impact stationary sources, all attention will be focused on mobile source emissions. As indicated in the Traffic Chapter of the report, a 16% increase in (light duty) vehicle miles traveled (VMT) can be expected between 1976 and 1990 if no improvements are made in public transit in the Regional Core Traffic Impact Area (i.e., Null Alternative XI). If Alternative II is selected and built (18-mile rail line), there will be a 12% increase in auto trips VMT which is a reduction of 4% from the null. Therefore, if Alternative II is selected, 100,000 auto trips and 710,000 VMT will be saved compared to the null.

According to the SCAG Draft Air Quality Management Plan, October, 1978, implementation of an 18-mile rapid transit system, Program H-86, will result in the regional emission improvement shown in Figure IV.13. It was with the assistance of the California Department of Transportation using the Direct Travel Impact Model (DTIM) that these results were developed. The most

recent emission factors were used as prepared by the U.S. Environmental Protection Agency and the California Air Resources Board.

FIGURE IV. 13

Program H-86

1986-Emission Reduction in SCAB & Ventura Co. Region

	<u>RHC</u>	<u>NOx</u>	<u>CO</u>
1987 Tons/Day	0.4	0.6	3.4
1987 Tons/Year	146	219	1,241

Source: SCAG Draft AQMD, p. IX-224

The above three pollutants, Reactive Hydrocarbons (RHC), Oxides of Nitrogen (NOx) and Carbon Monoxide (CO) are the three most important to measure, and are indicative of overall air quality. To provide some perspective in the regional impact of this emission reduction which would result from the implementation of a rail rapid transit system (Alternative II), the information in Figure IV. 14 is provided:

FIGURE IV. 14

Program H-86

	<u>1976</u>	<u>1982</u>	<u>1987</u>
RHC Inventory/Forecast (Tons/Day)	907.8	498.8	358.0
Percent Reduction of 0.4 (Tons/Day)	--	--	0.1%
NOx Inventory/Forecast (Tons/Day)	628.2	443.6	405.5
Percent Reduction of 0.6 (Tons/Day)	--	--	0.1%
CO Inventory/Forecast (Tons/Day)	7961.0	4336.0	3278.2
Percent Reduction of 3.4 (Tons/Day)	--	--	0.1%

Source: SCAG Draft AQMD, p. IX-225

Using a proportional methodology the reduction in these three pollutants for each of the other nine improvement alternatives was calculated and presented in Figure IV. 15. Thus, it can be seen that the maximum savings achievable of 0.4 RHC, 0.6 NOx and 3.4 CO tons per day in 1987 for Alternative II will be only one-tenth of one per cent improvement of the regional level. This is not a significant amount of savings on a regional scale. The differences between alternatives are very small and are therefore virtually meaningless.

FIGURE IV.15  
AIR QUALITY IMPACTS OF ALTERNATIVES

Alternative	VMT Saved	Pollutants in Tons/Day Reduced Compared to Null (Atl. XI)		
		RHC	NOx	CO
I	629,000	0.35	0.53	3.01
II	710,000	0.40	0.60	3.40
III	594,200	0.33	0.50	2.85
IV	443,000	0.25	0.37	2.12
V	389,800	0.22	0.33	1.87
VI	629,000	0.35	0.53	3.01
VII	79,500	0.04	0.07	0.38
VIII	61,700	0.03	0.05	0.30
IX	63,900	0.04	0.05	0.31
X	60,300	0.03	0.05	0.29
(NULL) XI	0	0	0	0
Base Tons/Day Emitted in 1977 in SCAB Region		385.0	405.5	3278.2

c. Localized Air Quality Impacts in the Regional Core

The California Department of Transportation (CalTrans) has developed a daily emissions inventory for the Los Angeles region on a five kilometer square grid basis. Mobile, on road emissions for both 1976 as the base year and 1990 were calculated for each individual square. Nine of these 5 kilometer squares (equal to 86.5 square miles) roughly correspond to the 55 square mile Regional Core.

Three pollutants were examined, total hydrocarbons (THC), oxides of nitrogen (NOx) and carbon monoxide (CO). The daily emissions which would be reduced by virtue of implementing Alternative II (the Board Preferred Alternative) are compared in the following Figure IV.16 to the total emissions expected in 1990 in the nine grid squares.

FIGURE IV.16  
Comparison of Pollutant Emissions Nine Square  
Grids of Regional Core - Average Week Day 1990

	1990 Daily Tons of Emissions Expected (No Build Alt.)	1987 Tons of Reduced Emissions Alt. II.	Emissions Reduced As a Percent of Total Expected in 1990 (No Build Alt.)
THC	29.6	0.43*	1.5%
NOx	35.4	0.60	1.7%
CO	247.2	3.40	1.4%

\*RHC Converted to THC



The Regional Core is the most polluted area of the region. For example, the single 5 kilometer grid which covers downtown Los Angeles has the highest levels of total hydrocarbons and carbon monoxide of any square in the entire region. This grid square has the second highest level of NOx in the region. The savings of pollutants would be realized almost entirely within these 9 grid squares. The savings achieved as a result of implementing Alternative II, combined with other programs, are very positive steps that can be taken to improve air quality.

It must be emphasized that very conservative estimates of auto trip and vehicle miles traveled savings were made and the passenger carrying capacity of a rail system could easily be doubled by reducing the headways should the need arise. Hence many more auto trips and VMT could be saved thereby resulting in even greater air quality improvements. This potential should be strongly emphasized.

d. Air Quality in the Vicinity of Stations

The subject of auto congestion and air quality in the vicinity of stations is also very complex. In the Traffic Impact Chapter, it can be seen that at all stations there will be an increase in traffic due to persons driving to the stations. This type of stop and start traffic, coupled with parking facilities, both public and private, will combine to cause increased concentrations of carbon monoxide and other emissions in the vicinity of these stations.

The most important pollutant to be concerned with in an analysis of the vicinity of a station and parking garage is Carbon Monoxide (CO). It is a relatively stable pollutant in the air and the slower the speed of traffic the more CO is created. As a reasonable worst case sample the North Hollywood station area corner near Lankershim and Chandler Boulevards was selected for analysis. It was assumed that a major parking garage would be on the northeast corner of this intersection with the wind at 2 miles per hour and parallel to Lankershim Boulevard, with level D stability. CALINE 2, computer model, as revised in November 1976, was used to estimate the concentration. CO emissions experienced at 50, 100 and 150 feet from the garage at a height of five feet above ground during the peak one hour and the peak

eight hour periods were calculated, See Figure IV.17. A temperature of 75° F was assumed as well as 57% cold starts. The emission factor used was developed by EPA in Mobile Source Emission Factors, March 1978 (EMFAC 5). It is 43.5 grams per mile for an average vehicle speed of 10 mph during the PM peak hour. The width of each street in 1986 was assumed to be 90 feet. The City Traffic Department provided the one hour and eight hour traffic volumes. The results are shown in Figure IV. 17.

FIGURE IV.17

CO at Lankershim and Chandler Blvds.			
<u>One-Hour PPM Concentration</u>			
<u>Vehicles/Hr.</u> <u>Both Direc.</u>	<u>Distance</u> <u>50'</u>	<u>Distance</u> <u>100'</u>	<u>Distance</u> <u>150'</u>
Lankershim 2300	5.9	5.0	3.8
Chandler 3180	2.3	2.0	1.8

<u>Eight-Hour PPM Concentration</u>			
	<u>50'</u>	<u>100'</u>	<u>150'</u>
Lankershim	4.8	4.0	3.1
Chandler	2.1	1.8	1.6

Using the results from this CALINE model we must add the results from Lankershim to the Chandler CO concentration and then add that to the ambient air quality concentrations expected in North Hollywood. The ambient for North Hollywood was projected by using information secured at the Burbank Air Control Monitoring Station about 3 miles to the northeast. The total of these three must be compared with the State and Federal standards.

(1) One Hour - 50 Feet - 1986

Lankershim	5.9 ppm
Chandler	2.3 ppm
Ambient	<u>14.0 ppm</u>
Total	22.2 ppm

The standard CO for the State is not to exceed 40 ppm, and it is clear that no violations of this standard are expected, as well as for the Federal Government standard, which is 35 ppm.

(2)	<u>Eight Hour - 50 Feet - 1986</u>	
	Lankershim	4.8 ppm
	Chandler	2.1 ppm
	Ambient	<u>8.5 ppm</u>
	Total	15.4

The standard for the Federal Government is 9 ppm for 8 hours and the 9.9 reasonable worst case sample may exceed this standard on occasion. The State standard is 10 ppm over a 12 hour period.

The design of the parking structure, the placement of entrances and exits, the bus drop off points, the kiss and ride zones will all play a key role in determining air quality conditions in the future and the mitigating impacts. The facility would be carefully designed to maximize dispersion and minimize congestion. Also, enclosed parking structures with air collection filters to control pollutants would be considered. Particularly in the PM peak hour with virtually 100% cold starts, the air quality impacts could be most adverse.

## E. NOISE AND VIBRATION

### 1. Introduction

Most of the proposed transitway routes and all of the stations are located along arterial streets where large traffic volumes and correspondingly high noise levels exceed APTA Noise & Vibration Guidelines and City of Los Angeles Ordinances setting forth noise standards.

In a few locations, the transit guideway alternatives would pass through residential areas with small traffic volumes and relatively low noise levels. Noise data is based on actual field measurement on existing transit properties with direct application of results to the problems in Southern California. Initially, maximum passby noise in A-weighted decibels and weighted noise levels  $L_{dn}$  was determined for each transit mode (rail, busway, buslane) based upon measurements of wayside noise levels in other communities. Variation in noise levels due to vehicle speed, acceleration/engine rpm, number and length of trains, elevation of guideway above ground level and distance from the transitway were identified. The effectiveness of acoustical barriers was also determined based upon experience, principally with San Francisco (BART), Washington, D.C. (WMATA), Atlanta (MARTA), and Toronto (TTC) systems. (See Appendix II F for consultant's report.)

Ground-borne noise and vibration levels were projected for subway train operations. Aerial and at-grade configurations were determined to have no significant ground-borne noise and vibration effects.

Noise levels were projected by the consultant in transit station areas due to bus and auto access volumes on the basis of past experience and measurement.

Once noise levels had been projected for each transit mode by itself, ambient or background 1977 and 1990  $L_{dn}$  was determined in relation to actual field measurements beside streets surrounding designated transit stations. This permitted comparison of transit-related noise levels with background noise levels and summation of the two sources so that increased noise could be identified.

2. Impacts

Results of the noise and vibration analysis were:

a. Noise on Aerial Structure and Arterial Streets

In general, the noise impact produced by transit trains is less than or comparable to that produced by buses, even with faster train speeds and passbys of longer duration (See Figure IV. 18).

If no noise mitigation was developed for aerial transitway along major arterial streets (Alternative I-VI), wayside  $L_{dn}$ \* would be increased as much as 3dBA - up to 78 dBA, compared to the no project alternative (72-75dBA). This increase would not be perceptible. The buslane alternatives (VII-X) would increase  $L_{dn}$  on arterial streets by 1-2 dBA, a barely discernible increase.

Although structural design can mitigate noise from aerial structures (Alternatives I-VI), no such technique is applicable to in-street operations (Alternatives VII-X). Addition of continuous sound barrier walls (3-4 feet high for rail and 6-10 feet for busway with an acoustically dampening surface) to aerial guideway would be sufficient to bring transitway noise substantially within the background noise along arterial streets.  $L_{dn}$  then would be 60-64 dBA for the aerial rail guideway (observer at ground level 50 feet from guideway; maximum 70 MPH and 6 car trains; 128 trains per day) and 58-62 dBA for the busway (Observer at ground level 50 feet from guideway; bus accelerating, 1152 buses per day). This compares with an  $L_{dn}$  along arterial streets of 72-75 dBA for 1990 baseline (Alternative XI and subway alternatives), and 62-70 dBA for bus lanes (Alternatives VII-X).

\* $L_{dn}$  is a day-night weighted sound level which reflects greater human sensitivity to nighttime noise. The A-weighted sound pressure level is decibels (dBA) is averaged across daytime hours (7 AM - 10PM) and nighttime hours (10PM - 7AM) and a ten dBA penalty is added to the nighttime average. The averaging takes into account the fact that noise is a logarithmic function (e.g., 80 decibels sound pressure is 10 times as great as 70 decibels); hence, peak noise levels tend to dominate low level or background noises in the averaging.

FIGURE IV. 18

EXTERIOR NOISE LEVELS FOR VARIOUS  
RAPID TRANSIT MODES AND LOCATIONS

(Transit plus Background  $L_{dn}$  in dBA)

	Union Station	Wilshire & La Brea	Hollywood Bowl	Residential
Rail in Subway (Alternatives I-V)	77	76	78	65
Rail on Aerial Structure (Alternatives I-V)				
Without Sound Barriers	77-79	76-78	78-79	69-74
With Sound Barriers*	77	76	78	59-64
Bus on Aerial Structure (Alternative VI)				
Without Sound Barriers	77-78	76-77	78	70-73
With Sound Barriers**	77	76	78	60-63
Bus on Surface Street (Alternatives VII-X)				
	77	76-77	78	65-71
Baseline Bus (Alternative XI)	77	76	78	65

- \* Continuous parapet walls 3-4 feet high on both sides of elevated structures; includes acoustical surface treatment.
- \*\* Continuous parapet walls 6-10 feet high on both sides of elevated structure; includes acoustical surface treatment.

b. Noise and Vibration in Subway

Noise impacts of subway operations (Alternatives I-V) could possibly be expected from ventilation shafts located in residential or pedestrian areas, and there is the potential of vibration-induced noise inside buildings if close to the subway line and if the line were at shallow depth. Careful siting of ventilation shafts can avoid related noise exposure. Experience at other transit properties shows that resilient rail fasteners and floating slab trackbed (resilient material separating subway casing from trackbed) can be used to reduce transmission of vibration and resulting low-frequency noise to structures within 50 feet of the subway. Measures to avoid "ground-borne" noise appear particularly applicable to transit tunnels in the downtown and Wilshire Corridor where sensitive land uses (residential, theaters, etc.) are housed in any buildings which may have basements and piling close to subway walls. Floating slabs can reduce day-night weighted noise levels ( $L_{dn}$ ) by 15-18 dBA.

Since well known techniques do exist for reducing ground-borne noise and vibration, they would be used as necessary to keep transmission of noise and vibration within the limits of Los Angeles City Standards and APTA Guidelines, even though they may add to the cost of the subway structure. Deep tunneling would avoid many of these potential problems.

c. Noise Levels in Residential Areas

In residential areas, noise from aerial guideway (bus or rail-Alternatives I-VI), can be lowered by 10 dBA using sound barrier walls. This mitigation would not be sufficient to avoid increasing residential noise levels. Note that wherever  $L_{dn}$  in residential zones is over 50 dBA daytime/40dBA night, or approximately  $L_{dn} = 55$ dBA, increased noise is prohibited by Los Angeles Noise Ordinance. Meeting the Noise Ordinance requirements could require additional measures, such as physically enclosing the guideway.

d. Noise Levels Around Stations

Changes in automobile traffic resulting from any of the alternatives will not be sufficient to cause significant changes from baseline/background noise levels.

Noise attributable to kiss-and-ride and park-and-ride traffic around stations will be masked by background  $L_{dn}$ , particularly if access to station parking lots is limited to major streets. Noise levels around the terminal transit station at North Hollywood Station (Alternatives I, II (the Board Preferred Alternative) and III, would rise slightly as a result of a significant feeder bus volume, i.e., from a background  $L_{dn}$  of 71 dBA to 72-73 dBA. Noise increases due to feeder bus volumes would be confined to an area within several blocks of the stations, with the possible exception of a slight increase in noise levels along Burbank and Lankershim Boulevards due to a high volume of feeder buses there. Alternative terminal locations (i.e., Hollywood Bowl and Wilshire/Fairfax), would not experience increases due to existing high background levels.

F. ENERGY

1. Introduction

One of the objectives in instituting public transit improvements within an urban area would be to lower per capita energy consumption generally and petroleum use in particular. To identify the magnitude of expected energy savings and the relative energy-efficiency of the various rapid transit alternatives, the following analyses were conducted and are set forth in Appendix II.H.

- a. 1990 weekday transit operation requirements (fuel and electrical power) were estimated in British Thermal Units (BTUs) and equivalent barrels of oil (EBO). The estimate for the Corridor Study area included rapid transit power and feeder/local bus consumption. Energy losses in conversion (e.g., burning oil to generate electricity) and losses in transmission were taken into consideration.

- b. Energy requirements for station and maintenance needs were estimated in BTU/EBO.
- c. 1990 Auto vehicle fuel consumption in the corridor was estimated in BTU/EBO.
- d. Net corridor area transportation energy requirements were computed in EBO's including rail/bus operation and maintenance energy and auto travel.
- e. The existing proportion of corridor transportation energy obtainable from hydroelectric and steam driven power plants has been identified. It should be noted, however, that oil fired steam plants are convertible to coal or nuclear energy. Geothermal and solar power plants are other future potential energy sources.

## 2. Impacts

### a. Comparative Energy Efficiency

Both rail and bus modes are approximately three times more energy-efficient from an operational standpoint than the automobile (See Figure IV. 19).

Although there would be little difference between rail and bus modes from the standpoint of energy-efficiency, rail alternatives (I-V) present the greatest opportunity to reduce petroleum consumption through utilization of non-petroleum power sources, such as coal, hydropower, geothermal and nuclear. They also offer the potential of doubling their carrying capacity with comparatively little capital cost - simply by shortening headways and adding more cars which would further reduce auto trips and therefore conserve energy.

Potential energy savings for rapid transit could be much greater in the event of an energy shortage, since under emergency conditions, rapid transit would provide the area with a means capable of absorbing

FIGURE IV. 19

TRACTION ENERGY REQUIREMENTS OF TRANSPORTATION ALTERNATIVES

Vehicle	Traction Energy Per Vehicle Mile (BTU)	Passengers Per Vehicle	Traction Energy Per Passenger Mile (BTU)	Basis for Calculation
Rail Rapid Transit	70,600	165	428	Lindenwold Line Experience
Standard Bus	31,900	70	456	4.6 mpg; SCRTD
Articulated Bus	50,320	100	503	3.5 mpg; SCRTD
Auto, Gas	7,159	5	1,432	20 mpg in 1990

many more riders in the event of curtailment in auto use. Note that the all-bus alternatives (VII-X) increase energy consumption up to 39,000 EBO per year. However, this should not be interpreted as a net reduction in energy-efficiency in this instance, since the additional energy use would upgrade the level of transit service and result in less auto trips.

From Figure IV. 20, the rail alternatives (I-V) offer substantially greater petroleum savings than the aerial busway (Alternative VI). Further energy conservation can be effected through the use of regenerative braking. According to a Jet Propulsion Laboratory Study, the use of a dipped subway profile between stations offers the potential of saving of 30% or more of the energy required for straight grade running. However, as this is not yet proven in actual operation, these savings were not included in computing the energy costs of rail operations.

#### b. Electric Power Demand

Rail transit system electrical demand for traction and fixed facility power for Alternative II (the Board Preferred Alternative) is estimated at 41.5 megawatts. This amounts to only 1.1 percent of the 1977 regional peak load and is likely to be an even smaller percentage of the 1990 total. The City Department of Water and Power has advised that supplying the rail rapid transit load should not present a problem.

#### c. Energy Required for Construction

Based upon energy estimates for BART construction made by Timothy J. Healy, "Energy Requirements of the BART System", developed for Caltrans 1973, construction of the grade-separated rapid transit alternatives (I-VI) could require as much as 55 percent of the propulsion energy. This is a maximum estimate utilizing input/output analysis to determine construction energy consumed by all components of construction and assumes amortization of the construction energy over the minimum 100 year life cycle for the fixed facilities. However, it should be noted that the Healy results have never been verified nor substantiated, and are purely hypothetical.

FIGURE IV. 20

COMPARISON OF ENERGY USAGE

<u>Alternative</u>	<u>EBO Consumed Per Average Weekday**</u>				<u>Total EBO Consumed Per Avg. Weekday</u>	<u>Total Annual EBO</u>	<u>Annual Difference in EBO Required Compared To Null</u>
	<u>Auto*</u>	<u>Standard Bus</u>	<u>Articulated Bus</u>	<u>Rail</u>			
I	21,292	598	66	526	22,482	6,969,420	-28,520
II	21,204	596	65	590	22,455	6,961,050	-36,890
III	21,329	631	63	453	22,476	6,967,560	-30,380
IV	21,493	595	63	279	22,430	6,953,300	-44,640
V	21,551	645	70	184	22,450	6,959,500	-38,440
VI	21,292	598	679	-	22,569	6,996,390	- 1,550
VII	21,887	687	105	-	22,679	7,030,490	+32,550
VIII	21,907	743	39	-	22,689	7,033,590	+35,650
IX	21,904	729	63	-	22,696	7,035,760	+37,820
X	21,908	723	32	-	22,663	7,025,530	+27,590
XI	21,974	600	-	-	22,574	6,997,940	-

\* Estimate from L. A. City Traffic Department VMT in Regional Core Traffic Impact Area.

\*\* Includes Energy to Operate Related Fixed Facilities.



Obviously, the amount of energy used in construction bears a general relationship to project cost. The exact amount of energy required per construction dollar is influenced by a multitude of factors, hence any attempt to get a "fix" on it requires a multitude of assumptions.

## G. CONSTRUCTION IMPACTS - SHORT TERM

### 1. Introduction

Since there is a wide variety in the scope of the eleven alternatives, there is also a wide variety in the degree of construction impacts that may be expected in the short term.

There is no "construction" required to implement Alternatives VIII through X. These All-Bus Alternatives call for various in-street treatments such as reserved curb lanes and signs, hence there are no short term construction related impacts.

For Alternative VII, there would be the construction of staggered, mid-street loading platforms along the route. These must be considered a minor type construction project since they would be raised-curb platforms with possibly some light, transparent type shelter to protect patrons from the sun and rain, all of which would be installed over weekend periods. Therefore no significant adverse construction impacts would result from implementation of this alternative.

For Alternatives I through VI, depending on the method of construction and type of system selected, the short term construction related impacts will vary greatly. In this evaluation construction of an aerial system, a cut-and-cover subway and a bored tunnel subway have been examined. It is important to note that a great many details regarding construction must be developed during preliminary and final engineering before specific impacts can possibly be described. Impacts which cannot be estimated prior to Preliminary Engineering will be estimated during the course of this engineering phase, and will be documented for public review and comment in a supplemental or tiered EIS.

### 2. Types of Construction Impacts

During the implementation period for Rail/Bus Alternatives I-V and All-Bus Alternatives VI (1980 to 1986 or 1987) the following types

of short term, adverse construction related impacts may be experienced to greater or less degrees, depending upon the length of the alternative implemented, its configuration and the method of construction used. They will be discussed separately below.

- a. Disposal of Material
- b. Traffic Congestion
- c. Additional air pollution
- d. Additional noise
- e. Disruption of utility service
- f. Interference with commercial activities
- g. Displacement of residences and businesses

A detailed order of magnitude estimate of the cost of construction of Alternative II by the cut-and-cover method, as well as further discussion of the resulting construction impacts, will be available by the time of the public hearings and the results will be included in the Final Report.

#### a. Disposal of Material

Either deep bore or cut and cover subway construction will involve the disposal of tunnel muck -- the earth and rock removed in order to provide space for the subway.

Material samples taken in test borings indicate that the excavated material would make high quality fills, capable of being compacted to meet Los Angeles City Building Code construction standards for buildings. Possible uses would include canyon fills to yield building sites and parks; raising the level of low-lying areas such as the vicinity north of Los Angeles Harbor; fill for depleted rock and gravel quarries; or construction of an earth fill dam for a new reservoir. In any event, the excavated materials have some value and every effort would be made to use it to the benefit of the project.

#### (1) Cut and Cover Construction

Cut and cover construction would result in about the same amount of muck to be ultimately disposed of elsewhere, (about 2.5 million cubic

yards) but about 3 times more (7 to 8 million cubic yards) of excavation and hauling activity than for a bored subway. With cut and cover, not only is it necessary to haul material away from the line, but, after the subway box is constructed, it is then necessary to haul as much as two-thirds of the soil back in and compact it up to street level. Cut and cover would also require restricting travel to one lane in each direction on continuous sections of the street for one or more extended periods of time (from 2 to 4 months each); to open up the street, excavate to uncover and suspend utilities and place temporary decking over the street; later it would be necessary to remove the deck and backfill the opening with soil material and repave the street. Problems could be expected because of temporary utility service interruptions. The cut and cover method would result in the temporary displacement of residences and commercial buildings that are on the curved path of the line in tunneling from one street into the other.

#### (2) Bored Tunnels

In the case of bored tunnels, the work would be out of sight except at access points (usually at stations) which would be from one-half to one mile (and in some cases more) apart. At these locations, from 100 to 500 feet in length, materials and supplies would go into tunnel and soil excavated would be taken out.

The cut and cover work at those stations which cannot be "mined" would necessitate restricting traffic to one lane in each direction for from 2 to 4 months on 2 separate occasions -- one to open up and the other to close up. The "mine-out" technique had been successfully used in Europe and the United States.

#### (3) Construction of Aerial Way

If an aerial structure were to be constructed down the middle of Broadway, 7th, Wilshire, etc., precast sections between the columns -- which would have to be constructed at about 100' intervals -- noise and dust control and traffic interruptions would present serious problems. Temporary street closures would be required, but not for as

long a time as for cut and cover construction. Since, support structure foundations are substantial for this approach, there would be significant rework required for utility services located under the street. Of course, with the aerial structure, considerable displacement of residential and commercial structures would be required along curves in the line from one street into another.

#### b. Impact on Traffic Congestion

##### (1) Cut and Cover Construction

Of the three approaches to transit construction (cut and cover, aerial, tunnel) the cut and cover technique appears to have the greatest adverse impact on street traffic. The impact would be greatest where the traffic is the heaviest. For example, Wilshire Boulevard carries more automobile trips per day (ADT) than the other segments examined. It appears that at least three blocks would have to be closed to traffic at any one time, with one area being prepared for traffic as the opposite end was being prepared for excavation. Surface traffic, including buses could be diverted to adjacent streets (6th, 7th and 8th) but severe congestion with long waiting periods would be expected.

Problems in the Central Business District would be approximately the same as Wilshire with fewer vehicles involved but with greater diversion difficulty and less flexibility due to narrower rights-of-way, one-way streets and so forth. The Fairfax segment has somewhat less traffic than Wilshire, with the same right of way and good parallel streets, resulting in a somewhat lessened impact on traffic during construction.

Cut and cover in the Hollywood segment, particularly long Fountain would appear to be impossible without the acquisition of right-of-way in addition to the street.

Cut and cover in this residential area would cut off access, except by foot, to many residential areas for weeks at a time, and it appears that emergency vehicles (police, ambulance and fire) would be severely limited if they could function at all during construction.

The grades are such through Cahuenga Pass (and there is no surface space left) that this portion of the line would have to be bored tunnel. In the San Fernando Valley, the route portion between the Universal City station and Vineland makes an "S" bend through a residential neighborhood. In this area, cut and cover construction would require extensive property acquisition and structure (dwelling) removal. Such underground access adjacent to streets would prevent street closure, but the local streets would still be extensively used for hauling excavated material. Bloomfield, Whipple, Acoma, Satsuma, Denny, and Cartwright Streets could be affected.

Cut and cover construction on Vineland and Chandler would be the least disruptive to traffic of the route segments involved. Traffic is comparatively light and it appears that one or two lanes in each direction could be left during construction since there is a median in each street,

(2) Bored Tunnel

Present techniques make use of boring machines operating at depths below 50 feet. Access points for the machines, and for removal of the excavated material will be spaced, probably no closer than a mile apart. As a result, one can expect tunneled construction to be least disruptive to existing surface traffic and local community activity. In tunneling, there appears to be no significant difference in impact from segment to segment of the proposed route.

(3) Aerial Construction

This technique requires that excavations be prepared and concrete piles placed for the foundation of each pier, generally in the center of the street at intervals of about 100'. After piers are constructed, the balance of work would generally involve the placement of large, pre-cast, reinforced concrete beams between the piers. Large truck cranes and trucks hauling in the beams would interrupt traffic -- unless done at night and in that case the labor cost would increase considerably. This construction would interfere with traffic, particularly along Wilshire Boulevard, in the Central Business District and all through

the Hollywood area. In contrast to cut and cover, aerial supports would constitute a permanent obstacle to traffic.

c. Impact Resulting From Construction Noise, Vibration and Atmospheric Pollution

(1) Cut and Cover Construction

Surface activity is machine intensive, involving such operations as breaking pavement with pneumatic hammers, excavating with chisel drivers, clutches and back-hoes, pile driving and concrete placement. These are among the most noise intense construction activities.

While the city has dust control ordinances, these involve such measures as "wetting down" which is not always practical during pavement breaking and excavating. In addition, construction machinery is not subject to emission control. As a result, local dust and noxious fumes attribute to construction, at least at the annoyance level can be expected.

(2) Bored Tunnels

This technique provides ideal control of dust and fumes. Also, at the 50 foot, or greater depths contemplated, noise and vibration are at imperceptible levels at the surface or above both indoor and out. As a result, no significant impact from tunnel construction is expected in matters of noise, vibration and air quality except at those stations which are done by the cut and cover method.

(3) Aerial Construction

On-site construction activity is of short duration compared to cut and cover. The impacts resulting from noise, vibration and atmospheric pollution should only be moderate, with little if any distinction between the various segments of the rail route.

d. Impacts on Utilities

- (1) Cut and Cover construction would adversely impact utilities throughout the full length of cut and cover work. The additional expense of protecting and sometimes re-routing of utilities can add significantly to the cost of the project. A special consultant report is being prepared on this very subject and will be available for review at the public hearings.

None of the central business district streets can be opened to the full width required for cut and cover construction without extensive work to provide for the uninterrupted functioning of sewers, storm drains and other lines. Practically all intersections would need to be mined underneath existing installations to avoid interruptions. There would also be severe utility conflict problems at many locations along Wilshire, through Hollywood and in the Universal City area as well.

- (2) Bored tunnels would impact utilities only at stations.  
 (3) Aerial Construction would have the least impact on utilities.

e. Impact on Business and Residential Property

(1) Cut and Cover Construction

As a result of limited access and the annoyance of construction to patrons, significant curtailment of business activity can be expected. Many claims can be expected for accidental damage to existing structures. Apartment owners would fare no better, and particularly along Fountain in the Hollywood segment, cut and cover construction could be a definite hardship for residents. As a result, a significant adverse impact is expected in this category. It is not possible to estimate until preliminary engineering is completed.

(2) Bored Tunnels

Due to minimal surface disruption, no significant impact on commercial and residential activities is expected for tunnelled construction, and there is little, if any, distinction between route segments examined in this respect.

(3) Aerial Construction

In the short term, an impact similar to cut and cover could be expected, but not as intense, and for not as long a period.

Access would never be completely cut off. However, a permanent impact would result from impaired view.

As described in further detail in the Social Impacts Chapter, aerial construction would require the removal of a large number of commercial and residential structures on the curves. This would result in significant adverse impacts, both short range and long range, in commercial activity and economics as well as housing.

f. Displacement of Residences and Businesses

There would be no displacement for All-Bus Alternatives VIII-XI. Alternatives VI and VII would displace approximately 80 and 20 structures respectively. The estimated displacements for Alternatives I-V would be as shown in Figure IV.21.

Figure IV.21.  
 Estimated Structures Displaced  
 By Type of Construction

<u>Type of Construction</u>	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>
Cut and Cover	684	720	650	120	80
Bored Tunnel	103	93	60	60	40
Aerial	684	720	650	120	80

g. Summary

The following short-range construction impacts Figure IV.22 summarizes the impacts of construction:

Figure IV.22

Comparative Short Range Construction Impacts  
Alternatives I through VI

<u>Adverse Impacts</u>	<u>Cut &amp; Cover</u>	<u>Bored Tunnels</u>	<u>Aerial Structure</u>
Noise	H	L	M
Dust and engine exhaust	H	L	M
Traffic	H	L	M
Economic	H	L	M
Utilities	H	L	M
Displacements	H	N	H

Impact Legend

H - High  
M - Medium  
L - Low  
N - No effect



## **V. SOCIAL IMPACTS**





## V. SOCIAL IMPACTS

### INTRODUCTION

These impacts are defined as accessibility, land use, relocation, public services, utility systems, aesthetics, and public safety consequences which would be attributable to each alternative. Each of these consequences is discussed in turn. Social impacts also include impacts on communities, such as neighborhood disruption, and disturbance of definable population sub-groups (i.e., ethnic and minority groups). Impacts such as these are more localized and dependent on facility design; so they are more appropriate for assessment during preliminary engineering and documentation by the supplemental or "tiered" EIS. At the outset, the demographic setting in which these consequences would occur is described.

#### A. DEMOGRAPHICS

##### 1. Demographic Setting

###### a. Total Population

The Southern California Association of Governments (SCAG) Region is over 38,600 square miles in area and has a population of over 10.4 million persons. By 1990 there are expected to be nearly 12.5 million persons in this area, an increase of 18.6%. See Figure V.1.

The County of Los Angeles is over 4,000 square miles in area and contains 6,994,724 persons. By 1990 a 6.6% increase is expected in the County which will bring the population total to 7,456,000 persons.

The City of Los Angeles is over 464 square miles in area and had a 1975 population of 2,825,000 persons. The city population is projected to rise to a total of 3,116,000 by 1990, a 10.3% increase. Most of this growth is expected to occur in the suburban parts of the city.

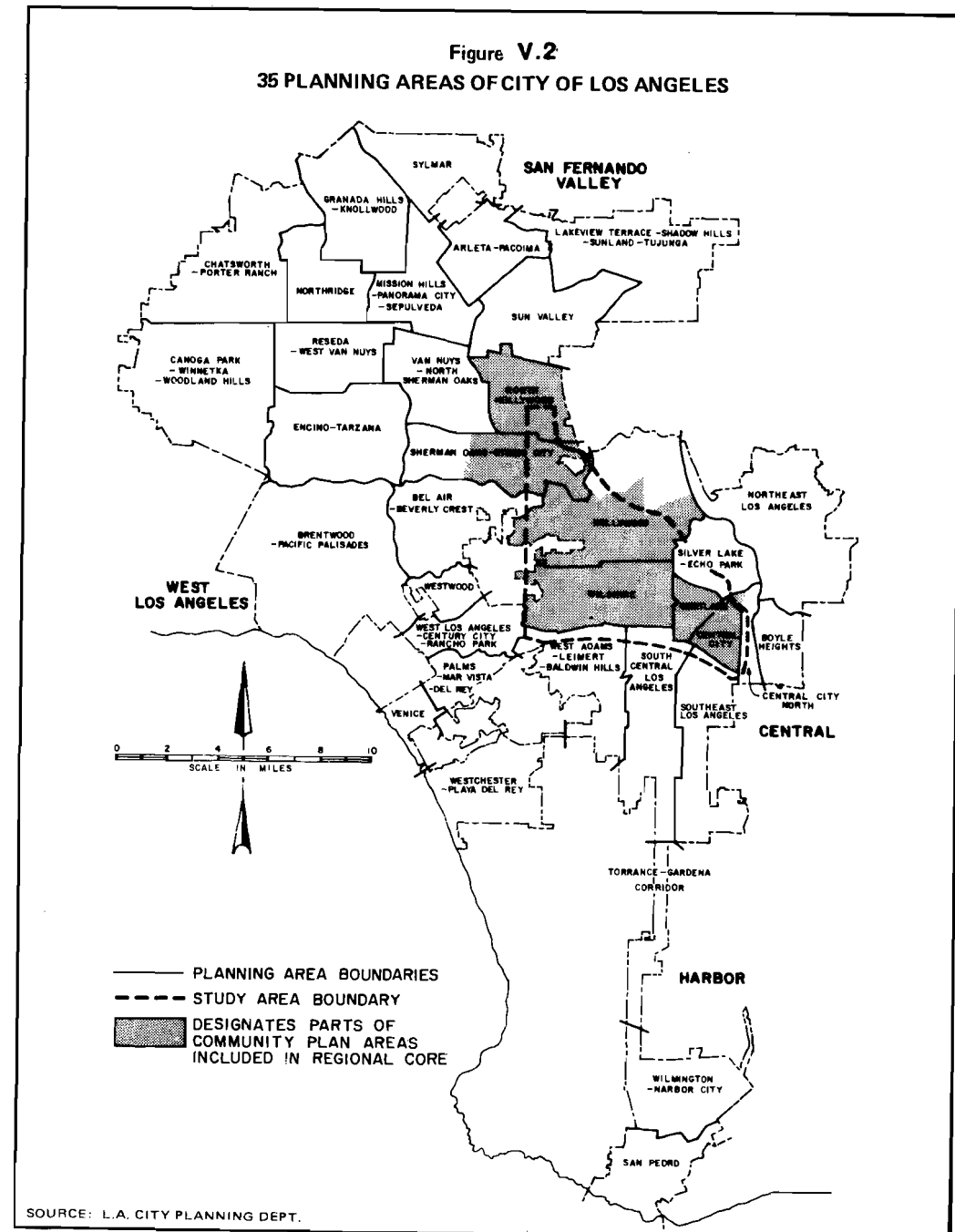
The Regional Core (six community plan areas -- See Figure V.2) totals approximately 55 square miles. In 1975 the City estimated that there were 559,000 persons living in this area. The population is expected to increase by 7.2% by 1990 bringing the total to 642,000. In 1990, having only 11.9% of the land area of the city, over 20% of the city's population will be located within the Regional Core.

FIGURE V.1  
POPULATION

	1975/76	1990	Increase	Increase
SCAG Region 38,000 sq. mi.	10,474,000	12,448,702	1,974,702	18.6%
L.A. County 4080 sq. mi.	6,994,724	7,456,000	461,276	6.6%
L.A. City 464 sq. mi.	2,825,000	3,116,000	291,000	10.3%
Regional Core 55 sq. mi.	559,000	642,000	43,000	7.2%

SOURCE: Draft SCAG 78 Growth Forecast Policy and City of Los Angeles Planning Department

NOTE: The SCAG and Los Angeles County totals are taken from SCAG-78 which assumes "a more balanced transportation system, improved air quality-especially after 1987 - and adequate water supply". Thus the Regional Core Rapid Transit System (18 mile rail starter line) is assumed to be in existence by 1990 for these forecasts. No estimates are available to indicate what the totals will be without the 18-mile rail system. The City and Regional Core totals are taken from City of Los Angeles Planning Department totals which do not include an assumed Rapid Transit System.



b. Population Density

The Los Angeles Urbanized Area is the third most densely populated urbanized area in the United States, according to the U. S. Census Bureau (1970 census). As shown in Figure V.3, only the New York and the Philadelphia urbanized areas have greater densities.

FIGURE V.3  
URBANIZED AREAS RANKED BY POPULATION DENSITY

<u>Urbanized Area</u>	<u>Residents/Square Mile</u>
New York	6683
Philadelphia	5349
Los Angeles	5313
Chicago	5247
Baltimore	5163
Buffalo	5085
Washington, D. C./Md.	5018
Miami	4715
Boston	3992
Pittsburgh	3095
Cleveland	3033
Atlanta	2696

Source: 1970 Census Tract Data

For the purposes of transit analysis, the population density of the area that would be served by the proposed system is much more important than the density of the entire urbanized area. The Regional Core area is approximately the same as (but not congruent with) six Community Plan areas. These six areas altogether have an average residential population density of 10,776 persons per square mile. See Figures V.2 and V.4.

FIGURE V.4

Community Plan Areas Population Densities\*

<u>Community Plan Area</u>	<u>Land Area (Sq. Mile)</u>	<u>Residents (1975)</u>	<u>Residents/Sq. Mile</u>
Central City	3.44	18,100	5,262
Westlake	3.24	69,200	21,358
Wilshire	13.91	203,800	14,651
Hollywood**	15.69	163,000	10,389
Sherman Oaks-			
Studio City	9.14	52,596	5,754
North Hollywood	10.15	92,100	9,074
<hr/>			
Regional Core	55.57	598,796	10,776

\*Source: City Planning Department

\*\*Does not include the two census tracts most of which consist of Griffith Park.

Basic transit corridor demographics were obtained from areas that are currently building or planning to build new rapid transit systems. These demographics are compared to those of the study area in Figure V.5. Each transit corridor in the table includes approximately the area within one mile of the transit guideway alignment. An examination of the figure shows that either in terms of corridor population density or corridor employment density, the study area warrants serious consideration for implementation of a rapid transit system.

FIGURE V.5

COMPARATIVE POPULATION/EMPLOYMENT  
CURRENT CORRIDOR DENSITIES

<u>CITY</u>	<u>LINES</u>	<u>URBANIZED AREA POP. DENSITY (persons/sq.mi.)</u>	<u>CORRIDOR AREA (sq.miles)</u>	<u>CORRIDOR POPULATION DENSITY (persons/sq.mi.)</u>	<u>CORRIDOR EMPLOYMENT DENSITY (emp./sq.mi.)</u>
Philadelphia	Broad Street/ Market-Frankfort	5,349	71.3	17,700	10,300
Atlanta	East	2,696	17.7	6,100	2,700
Buffalo	Main Street	5,085	14.7	4,300	1,600
Miami	Stage 1	4,715	35.8	8,900	6,250
San Francisco	SF-Daly City (BART)	4,387	35.9	13,800	10,200
Washington	Red Blue	5,018	26.7	12,000	13,000
			16.1	8,200	31,100
Los Angeles	Wilshire-Downtown- North Hollywood* (Alternative I)	5,313	22.0	11,500	20,650
	Wilshire-Downtown- Hollywood (Alternative IV))		17.3	12,800	25,500
	Wilshire-Downtown- Fairfax Avenue (Alternative V)		14.7	12,700	27,900

\*Does not include undeveloped area of Santa Monica Mountains.  
Source: SCRTD Staff research

c. Employment

Figure V.6 summarizes the existing and projected magnitudes of employment for the SCAG region, Los Angeles County, Los Angeles City, and the Regional Core.

Figure V.6

	<u>Employment</u>			
	<u>1970</u> <u>Emp.</u>	<u>1990</u> <u>Emp.</u>	<u>Increase</u>	<u>%</u> <u>Increase</u>
SCAG Region	4,159,300	5,390,700	+ 1,231,400	29.6%
L.A. County	3,170,300	3,572,600	+ 402,300	12.7%
L. A. City	1,274,847	1,503,390	+ 228,543	17.9%
Regional Core	541,586	552,540	+ 10,954	2.0%

SOURCE: Los Angeles City Planning Department.

The projection for only a 2.0% gain in jobs in the Regional Core was made without considering the possible effects of a rapid transit system and joint development opportunities. It is likely that a much improved transit system would slow the strong trend toward employment dispersion. Given the structural change occurring in employment in Los Angeles City, i.e., a steady gain in "service industry: jobs which tend to locate in a highly dispersed pattern throughout the region, implementation of a rapid transit system would assist in achieving the 2.0% gain in jobs in the Regional Core. It must be kept in mind that although the Central Business District is projected to increase the number of jobs by 16% by 1990, both Hollywood (-33%) and Wilshire (-15%) are expected to lose jobs. Again, this trend can be slowed or even reversed by provision of a rapid transit system.

The number of persons working in 1976 within the six community plan areas is shown in Figure V.7.

Figure V.7

<u>Total Employment Within the</u> <u>Community Plan Areas*</u>	
	<u>1970</u>
Central City	200,000
Westlake	75,554
Wilshire	126,802
Hollywood**	87,860
Sherman Oaks - Studio City	23,307
North Hollywood	<u>28,063</u>
Total	541,586

\* SOURCE: Los Angeles City Planning Department

\*\* Does not include the two census tracts most of which consist of Griffith Park.

d. Socio-Economic Profile of Community Plan Areas Under Study

● Transit Dependents

There is no uniform, commonly accepted definition of transit-dependent persons. However, in an attempt to provide some information on this general subject, the data in Figure V.8 are shown by community plan area. The three categories used to clarify transit dependency are only suggestive. No claims are made as to the percentage of persons in each category who will regularly use public transit.

FIGURE V.8

REGIONAL CORE COMMUNITY PLAN AREAS  
PERSONS WITH POSSIBLE TRANSIT DEPENDENCY\*

	AGE 65+	AGE UNDER 16	HANDICAPPED	HOUSEHOLDS WITHOUT AUTO'S
Central City	2,887	1,232	176	6,400
Westlake	12,179	11,338	634	19,685
Wilshire	44,028	27,634	1,200	30,074
Hollywood**	29,027	20,398	749	23,072
Studio City-Sherman Oaks	9,498	9,333	191	2,681
North Hollywood	10,298	20,085	450	3,971
TOTAL	<u>107,917</u>	<u>90,020</u>	<u>3,400</u>	<u>85,883</u>

\*Source: 1970 Census data.

\*\*Does not include the two census tracts most of which consist of Griffith Park.

● Racial Composition

In 1977 in the six community plan areas which comprise the Regional Core, 58.3% of the residents are white. Thus four categories of minority persons combine to make up the 41.2% of the minority population. Each of the community's minority composition is reflected in Figure V.9.

FIGURE V.9

Racial Composition Within Community Plan Areas\*

	Spanish	Black	Asian	White	Indian
Central City	33.1%	10.8%	5.8%	49.6%	.7%
Westlake	55.7%	1.9%	16.3%	25.2%	.8%
Wilshire	24.0%	14.6%	14.4%	46.7%	.3%
Hollywood**	15.6%	5.7%	10.9%	66.0%	1.8%
Sherman Oaks-S.C.	3.6%	1.1%	1.5%	93.0%	.7%
No. Hollywood	16.2%	2.9%	4.1%	75.4%	1.4%
Regional Core	22.6%	7.5%	10.7%	58.3%	1.0%
City of L.A.	23.5%	17.7%	6.3%	51.6%	.9%

\*Source: City Planning Department, Estimate of Population by Race - August, 1978

\*\*Does not include the two census tracts most of which consist of Griffith Park.

● Income

Estimated median family income data for 1977 has recently become available and is summarized in Figure V.10. These income data do indicate some areas of good transit patronage potential. The Westlake-Central City (Silverlake-Echo Park) median household income for 1977 was \$9,518 which is 32 percent less than the citywide median household income of \$14,030. The Westlake Central City portion of that area has the greater concentration of low income persons. If an examination is made of individual census tracts in this area, a range between only \$3,727 to \$27,673 is seen, most, of course, at the lower end. Such incomes are generally indicative of higher than average transit dependency and transit ridership. The North Hollywood median family incomes were slightly higher than the citywide average at \$15,470. The Hollywood and Wilshire median family incomes were lower than the citywide figure at \$12,269 and \$12,467 respectively.

It is not possible, at this point, to perform an analysis of alternative routes and determine the median family income of persons living within walking distance of stations. However, the median family income of each individual census tract within walking distance is provided in Appendix II.K.

FIGURE V.10

Median Family Income By Community Areas - 1977*	
North Hollywood, Van Nuys	\$15,470
Hollywood**	\$12,269
Wilshire	\$12,467
Westlake, Central Business District, Silverlake, Echo Park	\$ 9,518
City of Los Angeles	\$14,030

\*Source: Los Angeles City Community Analysis Bureau

\*\*Does not include the two census tracts most of which consist of Griffith Park.

● Dwelling Units

The total number of dwelling units in 1975 within the six community plan areas are shown in Figure V.11.

FIGURE V.11

Housing Units Within The Community Plan Areas\*

	Single Family	Multiple Family	Total Units
Central City	558	8,766	9,324
Westlake	4,324	33,272	37,596
Wilshire	20,369	85,299	105,668
Hollywood**	23,257	66,226	89,483
Sherman Oaks-Studio City	16,961	16,686	33,647
North Hollywood	17,882	22,230	40,112
TOTAL	83,351	232,479	315,830

\*Source: Los Angeles City Planning Department

\*\*Does not include the two census tracts most of which consist of Griffith Park.

By 1990, in the entire Regional Core Area, as shown in Figure V.12, there is projected a 7.4% increase in units with a 7.2% increase in population expected. This projection does not take into account any additional increase which may result from the existence of rail or from joint development opportunities or other unusual residential growth which may occur.

FIGURE V.12

Housing Units Within All Six Regional Core  
Community Plan Areas

1975	315,830
1990	339,176
% Gain	7.4

Source: Los Angeles City Planning Department

## 2. Accessibility

Accessibility can be viewed from a variety of perspectives. One can look at the proximity of transit service to the residences of the overall population or to the residences of specific segments of the population that customarily have a greater reliance on transit (the so called transit dependents). One can also look at the proximity of transit service to employment opportunities. How one defines proximity depends upon the means of access to transit. That is, for people who are obliged to walk to transit, proximity is limited by reasonable walking distance, which transportation professionals generally agree should be no greater than three-eighths of a mile. For people who can access transit by motorized means (e.g. auto), greater distances from transit stations can be regarded as proximate. Thus it is appropriate to assess accessibility in terms of walking distance and in terms of a longer distance which we shall term the "station influence area", which represents the area within which transit is proximate for people with motorized means of access.

Figure V.13 contains a number of useful accessibility measures. These measures facilitate comparison of the alternatives from an accessibility standpoint. The measures are estimates within the distance specified of rapid transit stations. Where possible, estimates for both existing (or recent) and future conditions are provided. In some cases, only existing (or recent) estimates are possible, since it is exceedingly difficult to predict the future residential location patterns of specific socio-economic segments of the population.

It can be seen from these measures that Alternatives I and II are almost universally more accessible than the other alternatives, with Alternative II (the locally "Preferred Alternative") generally more accessible than Alternative I. The only exception to this is that Alternative III has more projected households in 1990 within its station influence areas than Alternatives I or II.



FIGURE V.13  
Measures of Accessibility

Measure/Alternative	I	II	III	IV	V	VI	VII	VIII	IX
<u>Persons under 16 in 1970</u>									
Station influence areas	190,827	192,466	258,307	92,998	89,832	N/A	N/A	N/A	N/A
Walking Distance	14,898	14,424	14,308	13,736	9,116	14,898	14,898	5,815	7,725
<u>Persons over 65 in 1970</u>									
Station influence areas	149,608	151,135	124,142	110,500	105,795	N/A	N/A	N/A	N/A
Walking distance	32,876	40,794	25,462	32,194	29,008	32,876	32,876	14,741	14,449
<u>Total population in 1976</u>									
Station influence areas	981,832	985,841	816,933	581,276	544,388	N/A	N/A	N/A	N/A
Walking distance	151,602	165,401	130,252	145,001	116,002	151,602	151,602	54,648	65,151
<u>Total population in 1990</u>									
Station influence areas	1,017,155	1,034,708	926,317	620,997	603,185	N/A	N/A	N/A	N/A
Walking distance	184,474	220,276	159,064	176,488	145,961	184,474	184,474	68,507	78,187
<u>Handicapped persons in 1970</u>									
Walking distance	880	901	866	880	767	880	880	382	403
<u>Households without an auto</u>									
Station influence areas (1990)	133,866	125,722	134,885	106,212	92,060	N/A	N/A	N/A	N/A
Walking Distance (1970)	37,854	40,863	35,822	37,401	32,366	37,854	37,854	16,521	19,188
<u>Employment</u>									
Station influence areas (1976)	920,640	829,520	709,570	599,310	592,370	N/A	N/A	N/A	N/A
Walking distance (1970)	245,563	318,734	267,527	300,627	281,803	318,734	311,494	182,736	185,697
<u>Employment in 1990</u>									
Station influence areas	867,302	872,864	724,442	640,581	667,182	N/A	N/A	N/A	N/A
Walking distance	324,153	330,906	284,906	311,227	299,350	324,153	324,153	182,736	185,697

B. LAND USE

1. Introduction

The Land Use Policy of the City of Los Angeles, called "Concept Los Angeles" was adopted by the Mayor and Council in 1974. This plan has the following five basic components:

1. "Suburbs" comprised predominately of protected single-family residential areas.
2. "Centers" with a high intensity of varied urban activities: residential, commercial, cultural, recreational, and appropriate industrial uses.
3. Open space of various sizes in both Centers and suburbs, serving recreational functions and enhancing the City's appearance.
4. Industrial areas throughout the City at locations convenient to places of residence, transportation and freight facilities.
5. A comprehensive transportation system including: an improved highway and freeway system; a rapid transit network with feeder lines, peripheral parking and local buses; other appropriate forms of local bus and taxi service; bikeway systems; a region-wide air terminal system and a freight movement and terminal system.

There are nine "Centers" in the Regional Core Area: Civic Center, Downtown, Westlake, Wilshire, Miracle Mile, Hollywood, East Hollywood, Universal City and North Hollywood.

Alternatives I and II (the Board preferred alternative) serve all but the East Hollywood Center. Alternative III serves all but Miracle Mile Center. Alternative IV does not serve East Hollywood, Universal City or North Hollywood. Alternative V serves one center less than Alternative IV, namely Hollywood.

While the All-Bus Alternatives would reach these centers, they would not serve them nearly as efficiently as called for in the Concept Plan.

Continued development and growth of these centers are highly dependent upon the provision of an improved grade separated transit system. The City's several redevelopment programs being implemented in the Regional Core are equally dependent upon such a transit system.

2. Land Use in Community Areas Within the Regional Core

Development of the Regional Core and its nine Centers would be enhanced most by the transit system which would attract the most riders and link these Centers.

There are individual detailed land use plans for the six communities which comprise the Regional Core. Each community plan features a grade-separated rapid transit system, and three of the six plans suggest station locations.

The Central City Community (CBD), with its three ongoing development plans, Little Tokyo, Bunker Hill and Central City, requires substantially improved transit in order to continue to develop to its full potential. A rapid transit system (Alternatives I-V) in subway would provide significant impetus toward meeting the planning goals.

The Westlake Community is characterized by older, deteriorating residential and commercial development. Therefore, its revitalization objectives may best be served by locating a rapid transit station in the community and promoting collateral redevelopment on the city blocks nearest Wilshire in the vicinity of that station.

Existing zoning will permit land use intensification in this area. Redevelopment could overcome the area's declining image, and rapid transit could provide the leverage to attract major new employers.

Reinforcement of the Wilshire District as a major commercial/office center would best be served by subsurface rapid transit with several stations (e.g., one-half to one mile intervals). Subway development in particular would appear to facilitate joint development of office space at station sites. Portions of selected city blocks could be cleared to aid station construction, and later be used to house station accesses, offices and shops, and to enhance the pedestrian environment by the use of malls, plazas and underground accessways between buildings.

A rapid transit route with a station in the Hollywood commercial core would support revitalization efforts there. The intensity of development along the Sunset/Hollywood Boulevard area (Alternative III) is much less than along Wilshire. Furthermore, the density/intensity of development along Vermont Avenue (Alternative III) leading to the Hollywood core is much less than it is along La Brea Avenue (Alternatives I, IV and VI) or along Fairfax Avenue (Alternative II). North of Wilshire, Fairfax Avenue ranks above La Brea in this regard.

Universal City and North Hollywood have both been designated as activity centers by Concept Los Angeles. North Hollywood has also been declared a redevelopment area. Hence transit stations in these areas (Alternatives I, II, III and VI) would strongly support these community plans. For more details, see Appendix II.C.

The location of new development in these areas will depend upon the route configuration, however. The choice of one route configuration rather than another will be most beneficial to the area through which the route passes, and less beneficial to neighboring areas. Thus new development prospects along La Brea, Fairfax, and Vermont would be maximized by Alternatives I, II and III, respectively. An examination of the station locations proposed for each of these alternatives suggests that development prospects for Hollywood are most substantial with Alternative III. Alternative II (with its relocated station at Hollywood-Cahuenga) would also benefit Hollywood -- albeit to a lesser extent -- though this difference can be minimized by carefully conceived development controls designed to enhance new development prospects in the vicinity of Hollywood-Cahuenga (for more details, see Appendix II.C).

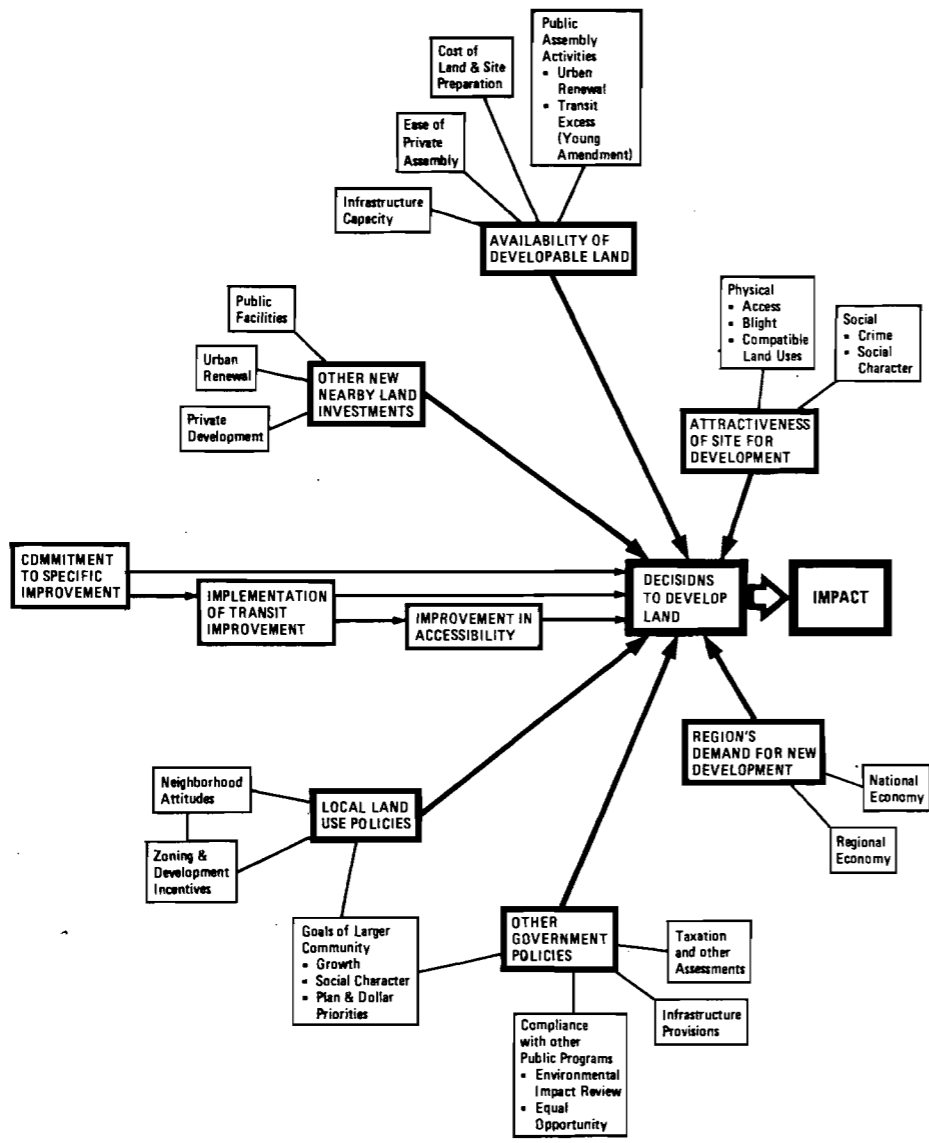
During Preliminary Engineering, the SCRDT and UMTA will evaluate (in cooperation with the Los Angeles City Planning Department) the extent to which Alternative II would divert investment and job opportunities from the Vermont-Hollywood corridor. If these impacts are judged to be potentially significant, a mitigation plan will be developed and presented in the supplemental or tiered EIS.

### 3. Joint Development Potential

The total value of potential joint development is projected to exceed \$200 million, excluding the CBD Peoplemover program, the Union Station and the 1st and Broadway station locations. This assumes deep bore tunnel construction of the rail facility. Specific programs can be proposed for future development at each station site, although some preliminary work has been completed by three urban design firms as part of this analysis (See Appendix III.B). Research indicates that a variety of factors may influence land use impacts (See Figure V.14) and that significant positive land use impacts will very rarely occur in contemporary circumstances without well worked out land development and circulation strategies for each specific impact area. Proper management of station area land use is necessary to avoid haphazard

Figure V.14

FACTORS INFLUENCING LAND USE IMPACT



Source: Knight, R.L. and Trygg, L.L., Land Use Impacts of Rapid Transit, Prepared for the U.S. Department of Transportation, 1977.

circulation and development patterns that could substantially negate transit's potential for improving the physical quality and efficiency of the urban environment.

As part of the analysis carried on for the Alternatives Analysis, an economic consulting firm prepared a report entitled:

"Evaluation of Rapid Transit Joint Development Opportunities and Value Capture Potential" (See Appendix III.A)

This report examines the forms of joint development and techniques of value capture, including a definition of the terms. Urban design consultants had been retained to develop rough conceptual layouts of six individual station locations listed below. The economic consultants used the urban design firms' work as a basis upon which to build their evaluation.

Urban Development Group  
Analysis of Six Individual  
Station Sites

7th and Flower Street  
5th/6th and Broadway  
Normandie and Wilshire  
Hauser and Wilshire  
Hollywood at Las Palmas  
North Hollywood

The economic consultants concluded that there is a high potential for joint development projects at the following areas:

- First and Broadway
- Seventh and Flower
- Wilshire and Alvarado
- Wilshire and Vermont
- Wilshire and Normandie
- Wilshire and Hauser
- Universal City
- North Hollywood

While an effective and well-conceived joint development program would offer potential revenue, the revenue probably would not be developed in time to help finance the local share of an initial project. However, it could be accumulated and used to help defray some of the local share of the cost of future extensions, or further access improvements at stations.

#### C. RELOCATION

##### 1. Introduction

There would be little, or no, relocation necessary if any one of the All-Bus Alternatives VII-XI is selected.

The primary concern of this section is, therefore, the displacement of residential and business structures which would result from the development of All-Bus Alternative VI or any one of the Rail/Bus Alternatives I-V. The selection of a bored subway, cut and cover subway, or an aerial system is of utmost significance in the determination of the relocation impacts of the alternatives.

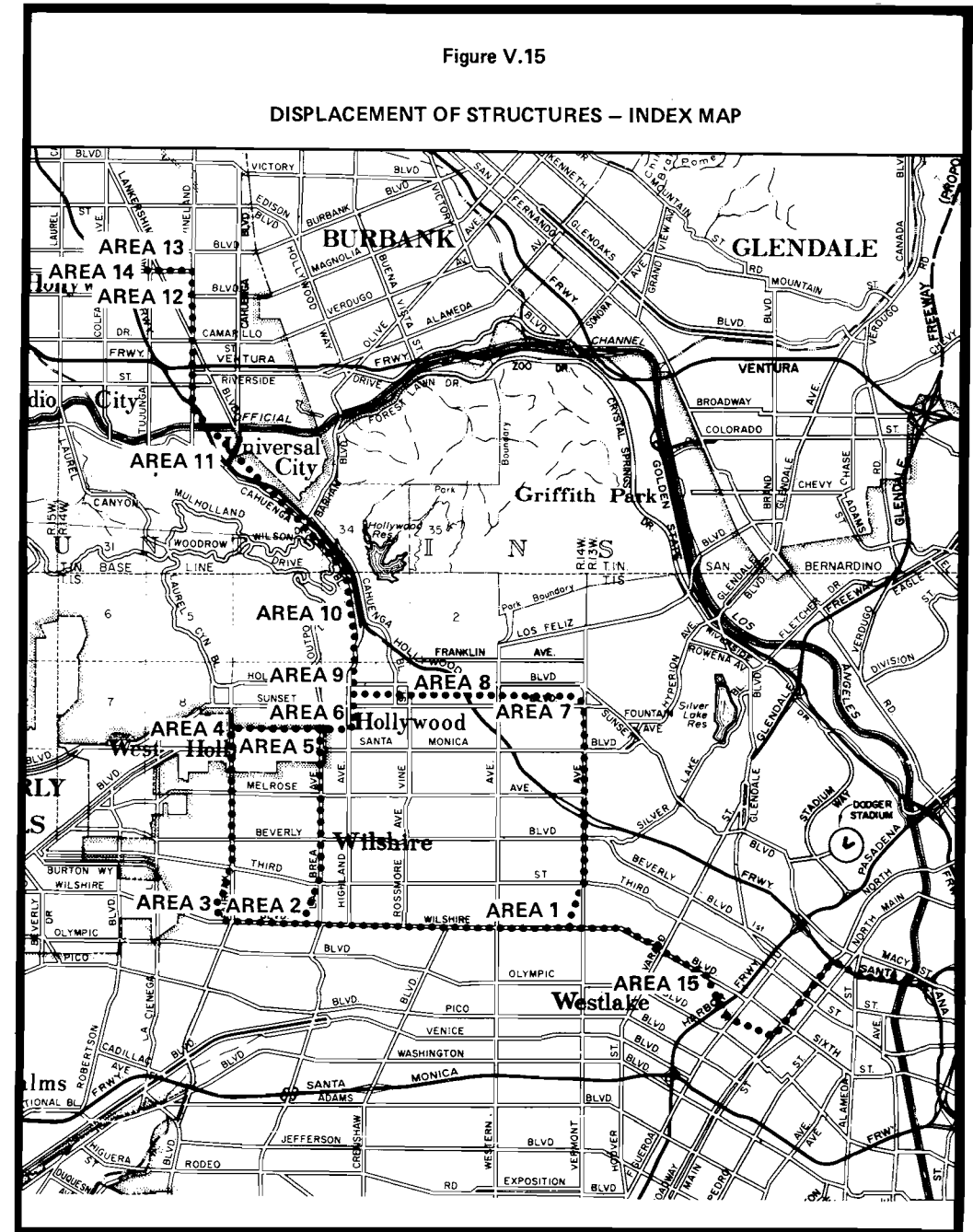
The number of displacements shown is based on conceptual design and is likely to change somewhat during final design.

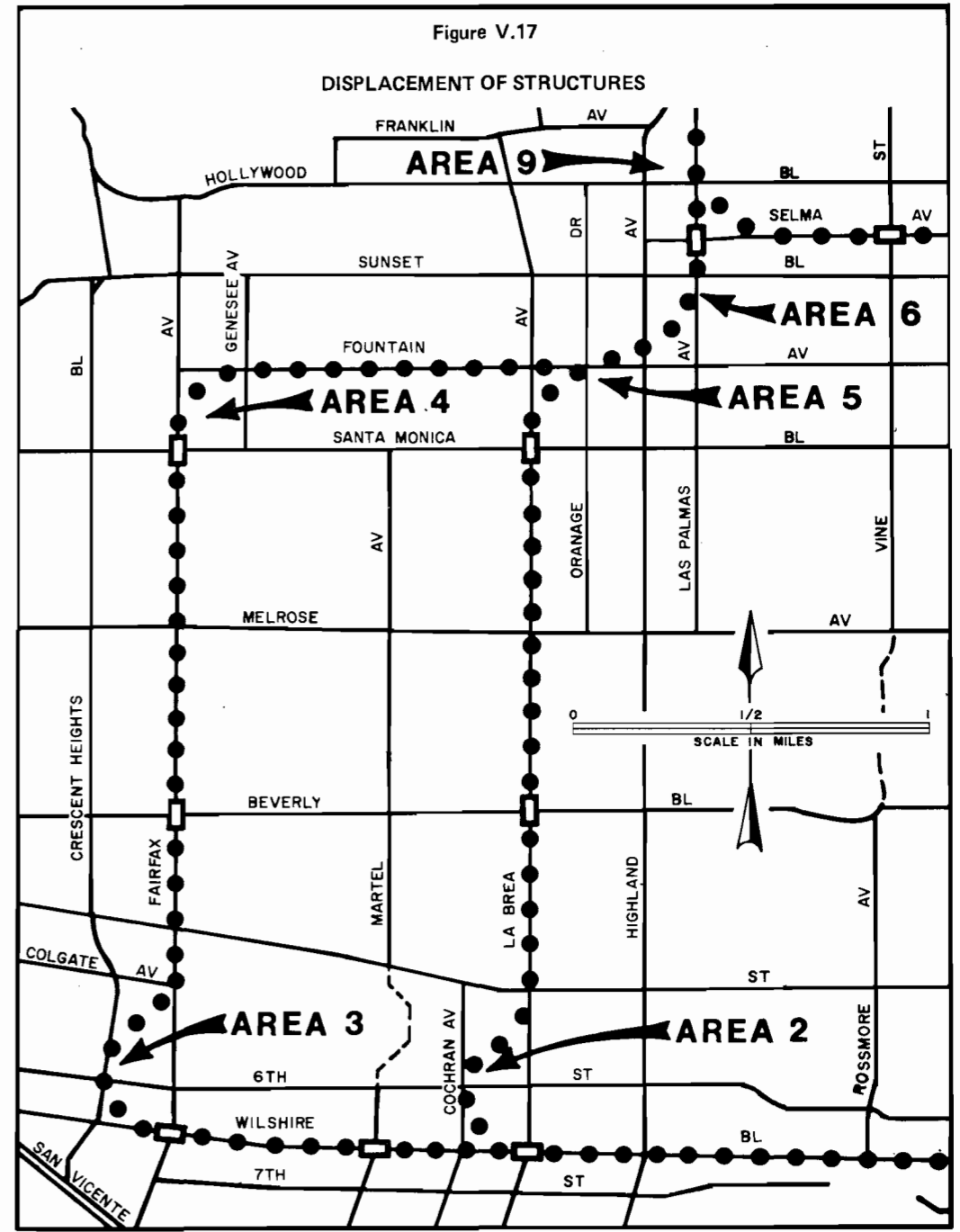
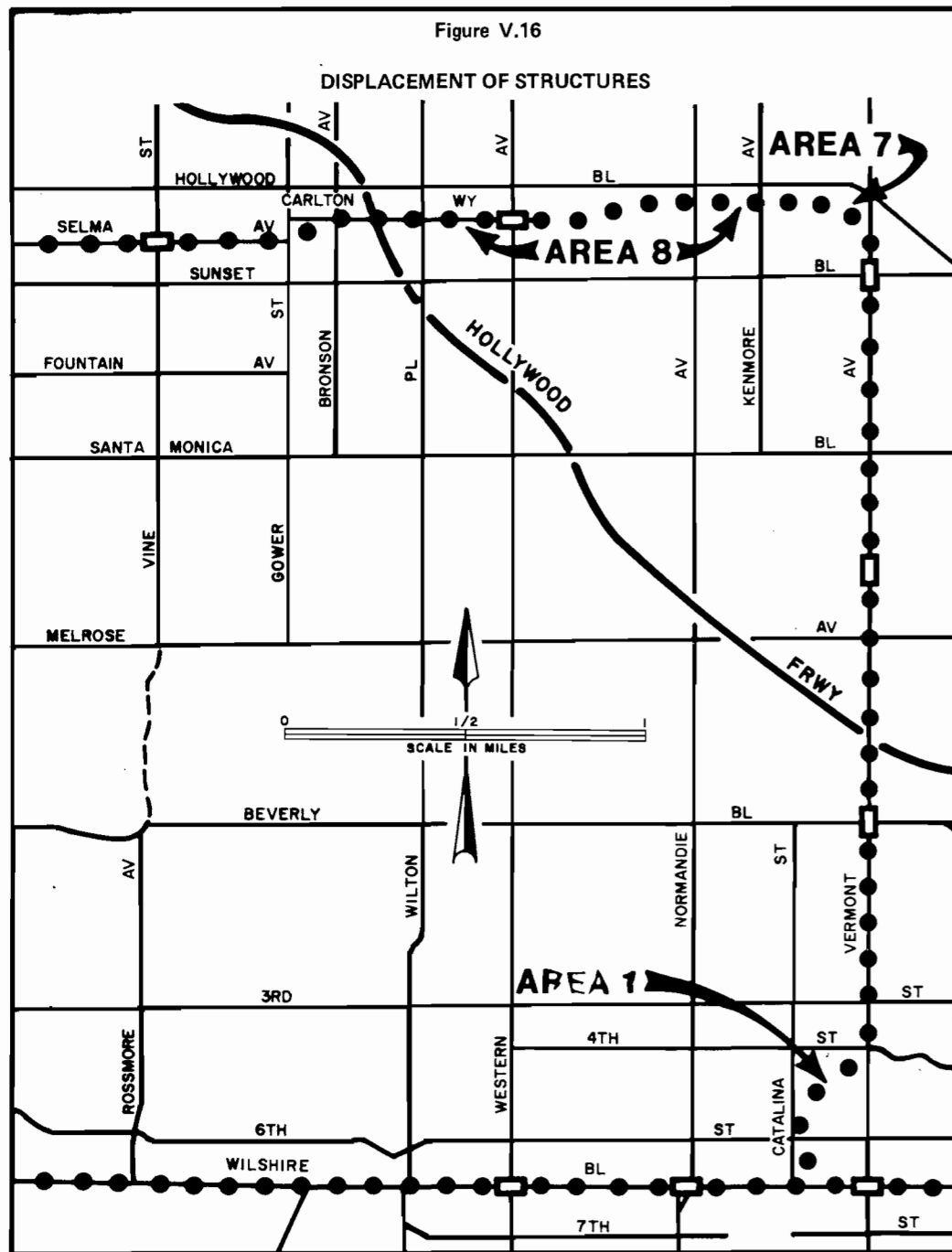
With bored subway, construction would be almost entirely underground, with surface access locations and construction work areas for equipment placed to minimize disruption. These areas may be purchased or leased; such decisions will be made during preliminary and final engineering. After completion, the space used during construction work areas would again be available for building. Only at the Macy and North Hollywood Yards, and at locations at which parking facilities are provided, would there be any need for relocation as a result of Alternatives I-V if constructed by the bored tunnel method.

With a cut and cover subway the relocation impacts would be expected to be almost as significant as the aerial configuration. However, in the case of cut and cover construction, the land could be rebuilt upon. Assuming that identical routes would be followed for each alternative, private properties along these routes, especially where the routes curve to change direction would have to be acquired to enable construction to take place. Even though the cut and cover tunnels would be beneath the surface, they would be near enough to the surface to possibly cause settlement, and the vibration resulting from the work would be noticeable in buildings over or close to the work areas.

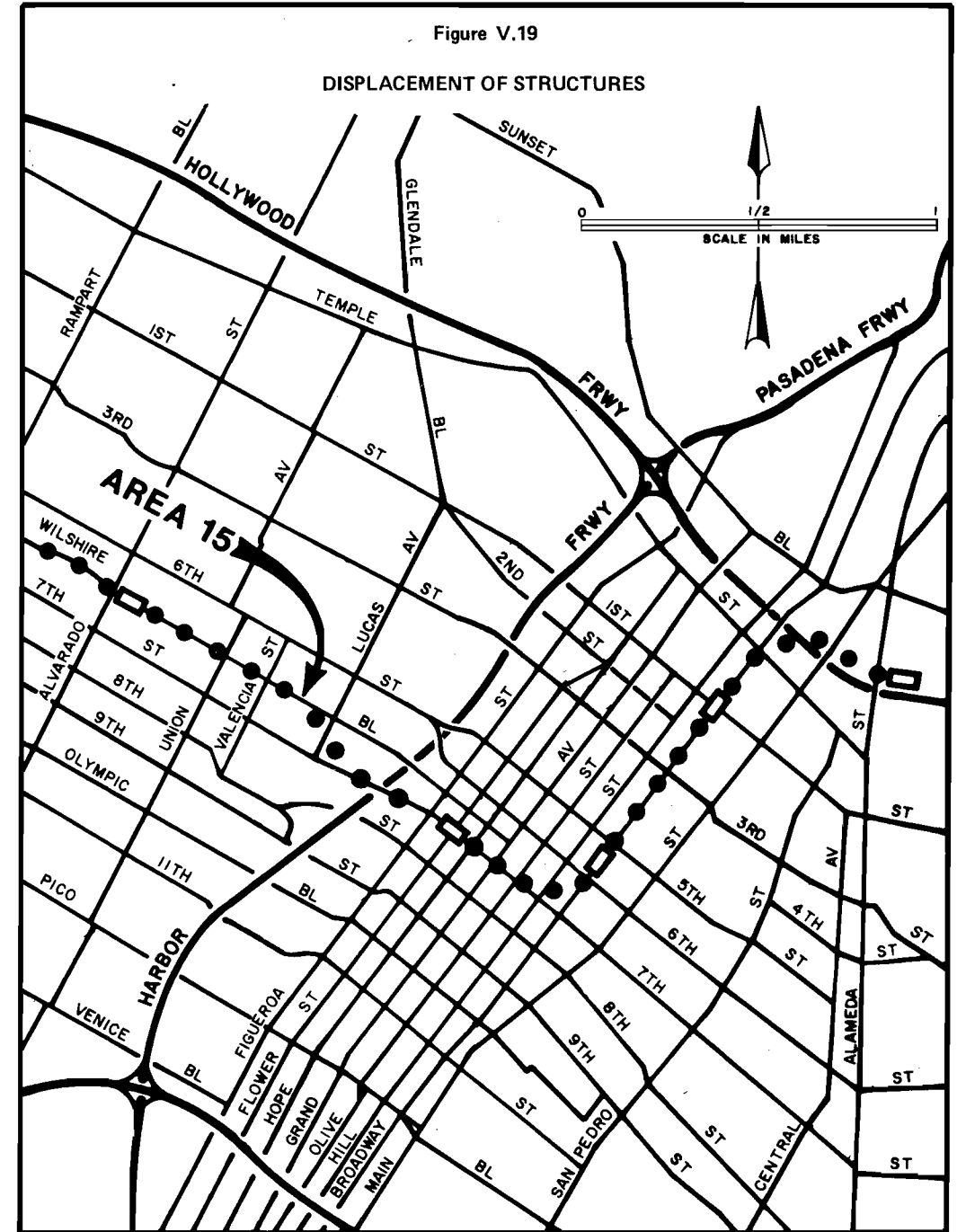
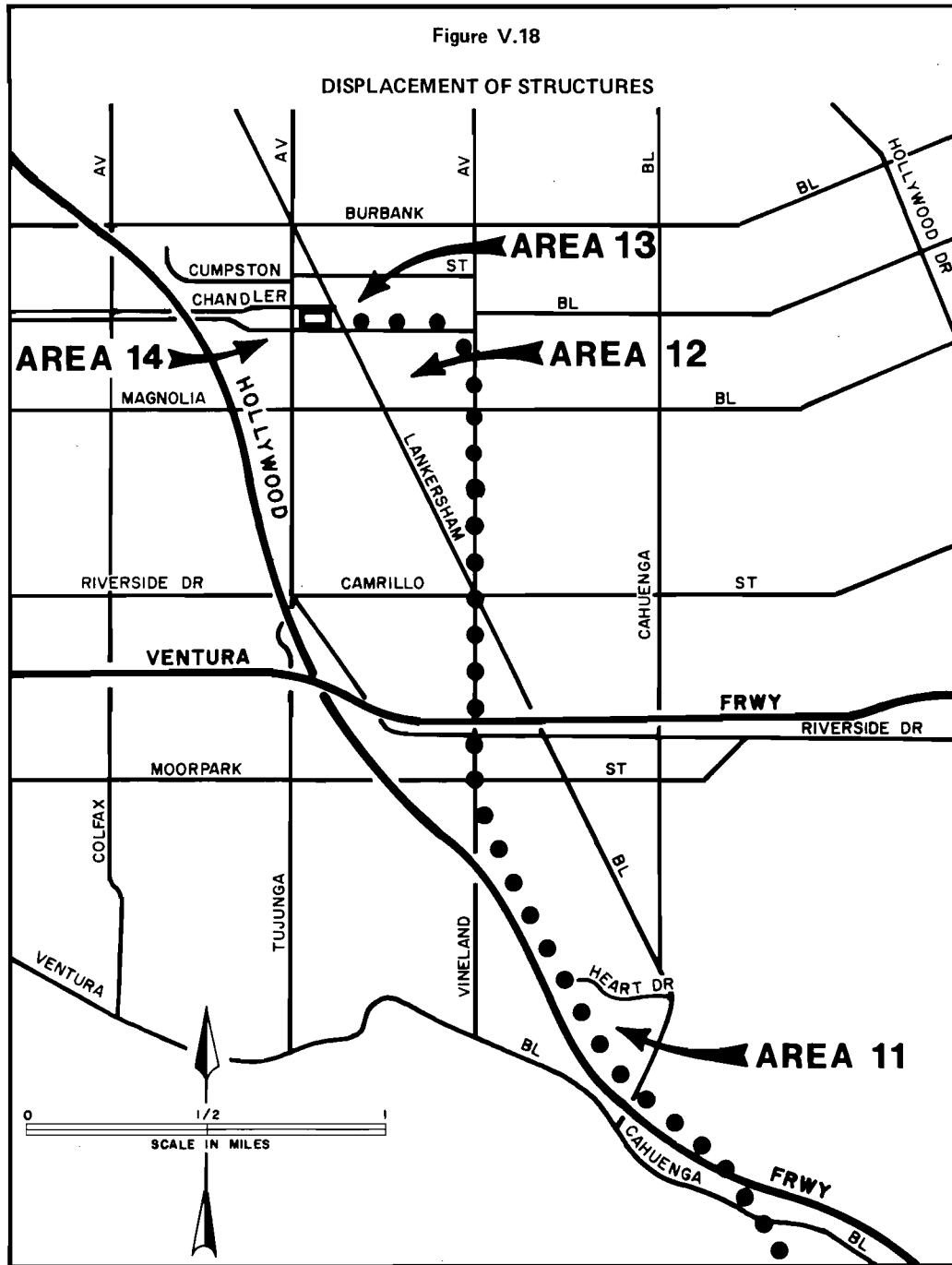
More detailed information will be available on this subject from the special cut and cover construction study, which will be completed by the time of the public hearings on the Draft Report.

An aerial configuration would require a minimum width of surface right-of-way of 50 feet. Construction work areas for equipment and stations would require added width. Through residential areas the minimum width of right-of-way should be 100 feet to provide an adequate "buffer" zone. Even where the aerial right-of-way is planned to coincide with an existing street right-of-way, the required minimum operating curve radius of 1200 feet would sweep through built up areas every place the route changed direction (See Figures V.15 to V.19). After construction, any excess land could be resold and rebuilt upon. Structure displacement, due to the need for building parking facilities and maintenance and storage yards, is included in the estimates.









Locations for parking have not been finalized but it is likely that parking facilities would be provided at the following stations:

Fairfax Avenue (or La Brea Avenue) and Wilshire Boulevard  
(Alternatives I, II, IV & V).

Fairfax Avenue (or La Brea Avenue) and Beverly Boulevard (Alternatives I, II & IV)  
Fairfax Avenue (or La Brea Avenue) and Santa Monica Boulevard (Alternatives I, II & IV.)  
Universal City  
North Hollywood

All other station sites will be examined during Preliminary Engineering to determine the feasibility of providing parking facilities.

## 2. Specific Area Displacements

Alternatives I, II (the Board Preferred Alternative), III, IV and VI, in an aerial or cut-and-cover configuration, would cause major displacement of structures in their alignments. The areas potentially impacted by curves in the various alignments have been numbered on Figures V.15 to V.19. Each area is discussed below.

### Area 1 (Wilshire Boulevard and Vermont Avenue)

The area northwest of the intersection of Wilshire Boulevard and Vermont Avenue, bounded by Wilshire-Vermont-3rd Street and Catalina, would be adversely impacted by the northerly turn of Alternative III (the Vermont to North Hollywood alignment). Area 1 contains approximately 12 square blocks. Although all of the 100+ commercial and residential structures within this 12-square-block area will not be immediately adjacent to the transit line, they would be adversely affected by the development of an aerial system. About half of these structures (more than 50) would have to be removed in order to construct an aerial system.

### Area 2 (Wilshire Boulevard and La Brea Avenue)

Area 2 is a 10-square block area located northeast of the intersection of Wilshire Boulevard and La Brea Avenue. Area 2 would be affected by the northerly turn of Alternative I (the Wilshire-La Brea to North Hollywood Rail Line). Approximately 30 commercial and 130 multiple-residential structures would need to be vacated subsequent to the development of an aerial system. Area 2 is generally bounded by 3rd, La Brea, Wilshire, Dunsmuir, 6th and Alta Vista.

### Area 3 (Wilshire Boulevard and Fairfax Avenue)

Area 3 is formed by the northerly turn of Alternative II (the Wilshire-Fairfax to North Hollywood Rail Line) and involves some 28 commercial and 140 residential structures which would have to be vacated. The Hancock Park Elementary School would be within 100 feet of the route (See Section D for impacts on schools and other public facilities along this and other alignments).

### Area 4 (Santa Monica Boulevard and Fairfax Avenue)

Areas 2 and 5 along the Alternative I route and Areas 3 and 4 along the Alternative II route are also involved in Alternative IV (the Wilshire-La Brea-Hollywood alignment).

Area 4 comprises 15 commercial and 60 multiple-residential structures. The area is northeast of the intersection of Santa Monica Boulevard and Fairfax Avenue and is formed by the easterly turn of Alternative II. An aerial system would displace all of the structures in this area.

### Area 5 (Santa Monica Boulevard and La Brea Avenue)

Area 5 involves an easterly turn in Alternative I and a northerly turn which would be made by either Alternative I or II as the alignments move into and north through the Hollywood area. Area 5 is "S" shaped,

comprising 7 square blocks within the boundary of Sunset, Highland, Santa Monica and La Brea. Approximately 32 structures would have to be removed by the turn (aerial) through Area 5.

#### Area 6 (Hollywood)

Immediately adjacent to Area 5, Area 6 continues the northerly swing of Alternatives I and II as the alignments traverse the Hollywood area. Area 6 is four square blocks. The displaced structures resulting from the development of an aerial system would be approximately 118.

#### Area 7 (Vermont Avenue and Sunset Boulevard)

Eight major medical facilities, a portion of a shopping center, one community recreational facility, one historic monument area and nine residential structures would be adversely affected by the Vermont alignment (Alternative III) as it turns west from Vermont and moves westerly into the Hollywood area. The alignment under study would traverse a one square block area bounded by Hollywood Boulevard, Vermont Avenue, Sunset Boulevard and Edgemont Street. Twenty structures would thus need to be vacated.

#### Area 8 (Selma Avenue)

A particularly critical section along the route of Alternative III, Area 8 is a linear area between Hollywood and Sunset Boulevards which extends from Edgemont Street westerly to Gower Street. Major displacement of commercial and residential structures would result from this alignment. Approximately 16 blocks are involved, and some 230 residential and 25 commercial structures would be displaced if an aerial system were developed. A private school would also be within 100 feet of the route. An alternate route such as Sunset Boulevard should be given further consideration.

#### Area 9 (Selma Avenue and Highland Avenue)

Area 9 is formed by the joining of Alternative III with the northerly extensions of Alternatives I and II in the Hollywood Central Business District. Area 9 is generally bounded by Highland, Selma, Cherokee and Franklin, and involves approximately 85 commercial and 48 residential structures which would be displaced by the development of an aerial structure.

#### Area 10 (Hollywood Bowl)

Area 10 would be adjacent to the Hollywood Bowl Area. Alternatives I, II, III, IV, VI, and VII call for development of a station at the Hollywood Bowl. Only 20 residential structures will be removed by the development of an aerial system.

#### Area 11 (Universal City)

Approximately 8 commercial and 60 residential structures would have to be vacated in Area 11. Area 11 involves the blocks bounded by Ventura Boulevard, Vineland Avenue, and the Hollywood Freeway. The area is the site of the Universal City transit station along the common alignment of Alternatives I, II, III, and VI.

#### Area 12 (Magnolia Boulevard and Vineland Avenue)

Area 12 is formed by the final turn of Alternatives I, II, III and VI from the intersection of Magnolia and Vineland westerly to the North Hollywood Station in the vicinity of Chandler and Lankershim. Approximately 21 commercial, 35 residential and 29 industrial structures would be displaced by the development of an aerial system.

Areas 13 and 14 (Chandler Boulevard and Lankershim Boulevard)

Area 13 is industrial land located northeast of Chandler and Lankershim on which a train storage yard is proposed. Area 14 would use the railroad right-of-way within Chandler Boulevard west of the North Hollywood station. No major structures would be displaced, although Area 13 has 14 light industrial buildings on its site, which would be displaced.

Area 15 (Seventh Street to Wilshire Boulevard)

There is a possibility that an aerial system could be developed as the line proceeds west of the Harbor Freeway. In such a case, Area 15 would be created where the westbound line from downtown changes from Seventh Street to Wilshire Boulevard. The area involves about 6 square blocks and some 40 commercial structures which would be displaced.

Downtown

Displacement in the downtown area would be massive if the aerial configuration were selected, but no estimate of the number of structures affected has been made.

3. Displacement by Yards and Shop

As stated in Chapter II, two maintenance and storage yards are being considered for acquisition and development. There would be displacement of commercial or industrial structures by acquisition at both sites.

a. Macy Yard and Shops

SCRTD currently owns approximately 16 acres of land between Mission Road and the San Bernardino Freeway east of the Los Angeles River. As depicted in Figure II.11, approximately 13.9 additional acres would be added. The land uses in this area are primarily industrial in character, including auto salvage yards and truck terminals. Thus, relocation of these activities and the jobs they include to new locations would be necessary.

b. North Hollywood Yard

Approximately 13.4 acres would be acquired for a storage yard as shown in Figure II.12. The land use in this acreage is primarily industrial in character, including CalTrans maintenance facilities and construction material storage yards. These activities and the jobs they include would have to be relocated.

4. Parking Facilities and Displacement

Major parking facilities would be provided at the locations listed in the introduction to this subject.

a. North Hollywood

Approximately 3,800 parking spaces would be required to meet the projected demand. Assuming a four-level structure, 320,000 square feet of land (approximately 7.3 acres) would be required. There are industrial and commercial uses in the immediate vicinity as well as air rights over the Chandler Boulevard right-of-way which could be used.

b. Universal City

Approximately 4,000 parking spaces would be required to meet the projected demand. Assuming a four-level structure, 360,000 square feet of land, approximately 8.3 acres, would be required. Along Ventura Boulevard to the west of the Freeway is an existing RTD park-and-ride lot and a major tennis court facility. If the approximately 1 commercial and 55 residential structures located to the north of the tennis court are acquired, parking may be provided at ground level without requiring a structure. About 7 commercial and 5 residential structures would need to be relocated to provide a direct right-of-way from the station to Universal City.

c. Fairfax Avenue, or La Brea Avenue, and Wilshire Boulevard (Alt. I or V)  
 Approximately 860 parking spaces would be required to meet the projected demand. If a six-level structure is assumed to be constructed, about 43,000 square feet of land (one acre) would be required. This would require the displacement of several commercial or residential structures. If a rapid transit line is implemented, all or part of the parking structure initially provided here could be converted to office space when and if the transit line is extended to the west.

d. Fairfax Avenue, or La Brea Avenue, and Beverly Boulevard (Alt. II, the Board Preferred Alternative)  
 Approximately 1340 parking spaces would be required to meet the projected need. If a four-level parking structure is assumed to be constructed, about 112,000 square feet of land (approximately 2.6 acres) would be required.

e. Fairfax Avenue, or La Brea Avenue, and Santa Monica Boulevard (Alt. I or IV)  
 Approximately 1145 parking spaces would be required to meet the projected need. If a four-level parking structure were assumed to be constructed, about 96,000 square feet of land (2.2 acres) would be required. Perhaps as many as eight commercial building and 23 residential structures would be displaced by this facility.

Figure V.20

Displacement of Structures by Alternatives

Alternatives	Number of Structures Requiring Relocation				
	Method of Construction		Common to All Methods		
	Subway	Aerial or Cut & Cover Subway*	Surface	Station and Parking Facilities	Yards and Shops
I	-0-	580	580	80	20
II	-0-	630	630	70	20
III	-0-	590	590	40	20
IV	-0-	60	60	40	20
V	-0-	40	40	20	20
VI	-0-	-0-	580	80	-0-
VII	-0-	-0-	20	-0-	-0-
VIII	-0-	-0-	-0-	-0-	-0-
IX	-0-	-0-	-0-	-0-	-0-
X	-0-	-0-	-0-	-0-	-0-
XI	-0-	-0-	-0-	-0-	-0-

\* Most of land area required would be recoverable after completion of construction.

Figure V.20 tabulates the number of structures requiring relocation as discussed in Section 2, 3 and 4.

5. Mitigation Measures:

In terms of structural displacement, the most effective mitigation measure to avoid displacement of structures if any one of Alternatives I-V is chosen, would be to construct it by the bored subway method. By far the greatest displacement would come from the use of the cut and cover method or the aerial configuration for Alternatives I-VI.

Displacement of structures along the east-west section of the Vermont Alignment (Alternative III) could be mitigated by placing the line within the Sunset Boulevard right-of-way to approximately Gower Street rather than using the Selma Avenue alignment. This would also avoid the Barnsdall Park Historic-Cultural Monuments.

6. Unavoidable Adverse Impacts:

If either the aerial configuration or the cut and cover method were used for Alternatives I, II, III, IV, V or VI, significant displacement of commercial and residential structures would occur along portions of the route and displacement for parking at station locations. This impact would be unavoidable. If the bored tunnel method were used for Alternatives I-V, there would be displacement at some stations for parking, which would be unavoidable.

D. PUBLIC SERVICES

The following services which are provided to the public have been analyzed to determine what, if any, impacts would be caused by any of the proposed transportation improvement alternatives.

- a. Police
- b. Fire Protection
- c. Schools
- d. Libraries
- e. Major Medical Facilities

Each of the eleven alternatives have been evaluated with regard to the above services. It is particularly important to consider impacts for Alternatives I through V in aerial system or subway configurations, and Alternative VI which is in aerial only.

The following maps (Figures V.21 and V.22) show the locations of the above six types of public facilities in the Regional Core. Each one of the six types of facilities is discussed in the following sections.

1. Police Services

a. Introduction

The Los Angeles City Police Department was asked to review and comment on the proposed alternatives from the security standpoint, and the security of the transit agency's operations were also reviewed.

b. Impacts

(1) Increased Crime

The City Police Department has concluded that:

- (a) Very little or no adverse impact on crime or traffic violations would result from Alternatives VIII, X and XI.
- (b) For Alternatives VII and IX it is anticipated that diversion of vehicular and pedestrian trips from Wilshire Boulevard to adjoining side streets may cause an increase in crime and traffic problems that could require additional police patrol of these streets.
- (c) For Alternatives I through VI the Los Angeles City Police Department expects a possible 5 to 10% increase in crime and traffic violations. The

Figure V.21

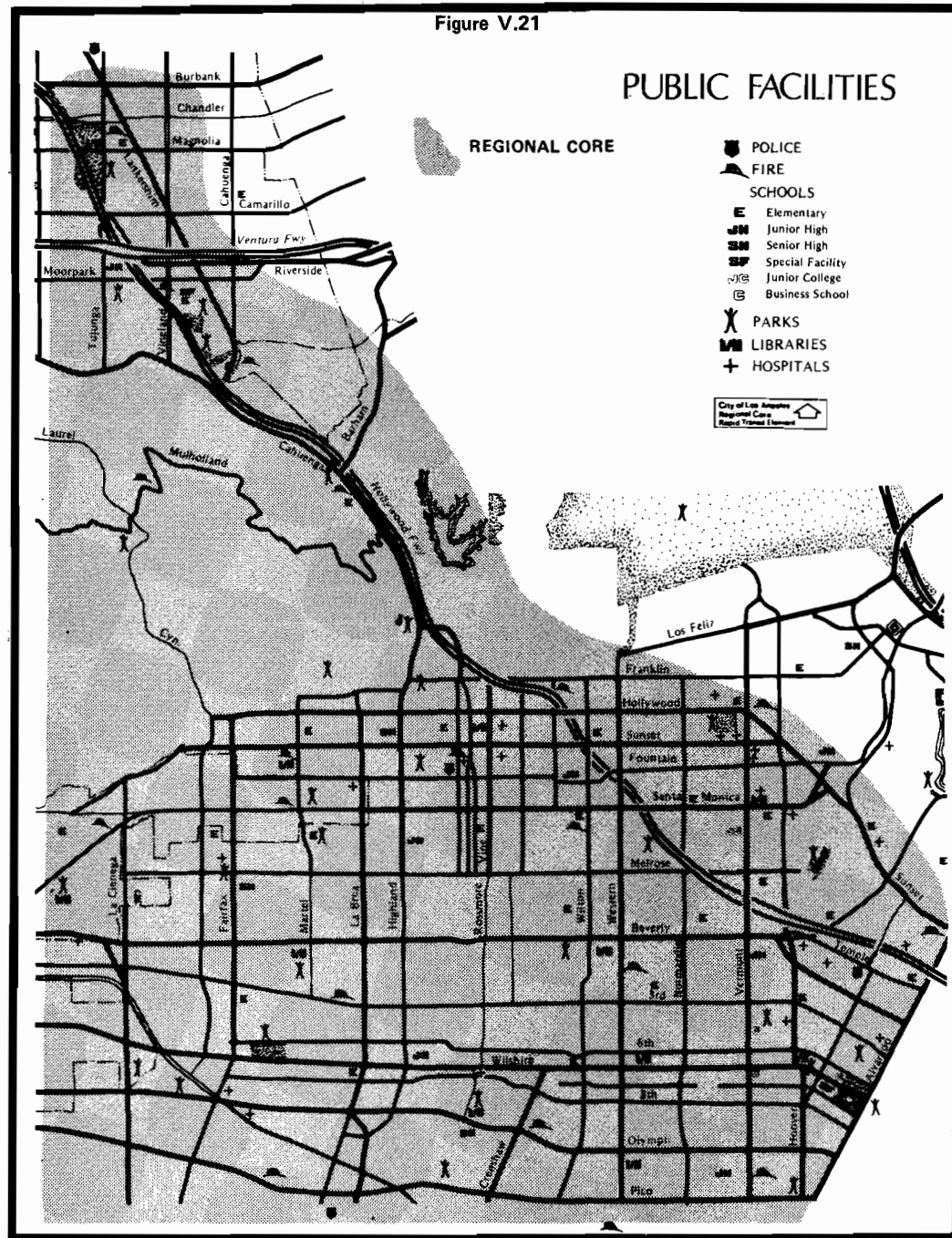
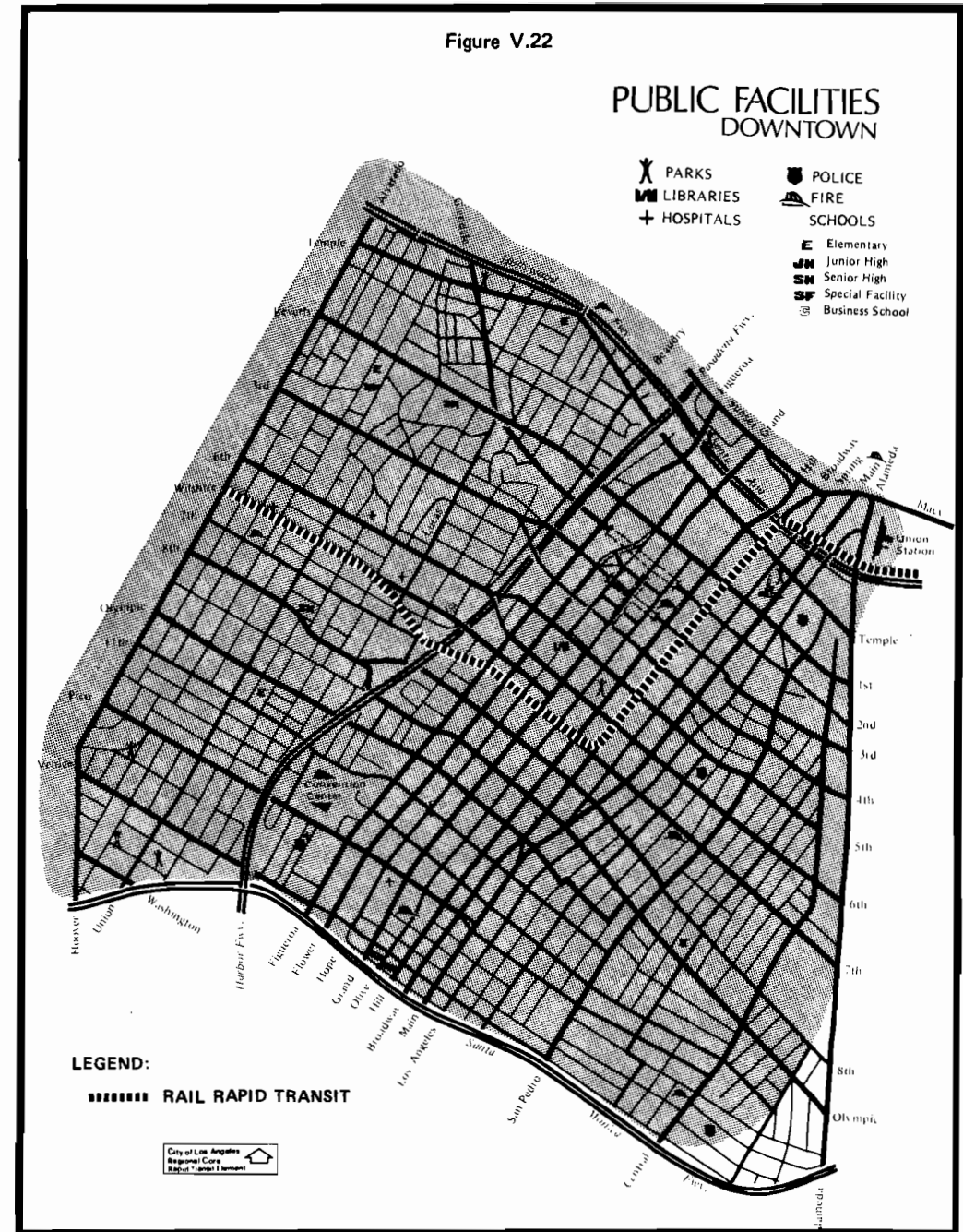


Figure V.22



Police Department analyzed a sample of five proposed station locations for Alternatives I and V and projected the increases in crime shown in Figure V.23.

FIGURE V.23

<u>Stations</u>	<u>Estimated Crime Increase in 1990 over 1977</u>
Spring and Fifth Street	10%
Wilshire and Alvarado	5%
L.A.C.C. (Vermont)	10%
Lankershim and Chandler	5%
Selma and Las Palmas*	10%

\* (plus 15-20% increase in vice crimes - not transit related)

The above are the expected increased calls for police service. They do not include the additional incidental traffic accident and enforcement requirements which may be necessary due to increased vehicular and pedestrian traffic. They also do not include any reduction in incidental traffic accidents and enforcement needs due to the overall decrease in auto traffic or reductions in calls in other locations that may result from the new travel patterns.

(2) Mitigation Measures

(a) For Alternatives VIII, X and XI there are no mitigation measures necessary.

(b) For Alternatives VII and IX, additional Los Angeles Police staff and equipment may be necessary. No specific estimates are possible at this time. However, even the addition of patrol officers could not mitigate the traffic problems to an acceptable level (a street capacity problem). The traffic problems resulting from reserving street lanes for buses are discussed in Traffic Impacts, Chapter III, Section E.

(c) The following mitigation measures should be included to help control the 5 to 10 percent increase in crime estimated for Alternatives I through VI:

- Hardware

A closed circuit television system including a central control to monitor all stations, adequate cameras at each station and video tape recorders should be utilized.

- Design

During design of the system safety and security features should be included in stations, approaches to stations, parking areas, and fare collection systems as well as maintenance yards and shops.

(d) There are two versions of the needs for police and security forces for Alternatives I through VI. These two security force estimates, as well as a survey of other cities, are indicated in Figure V.24.

- SCRTD estimates that a total of 45 sworn peace officers, employed by the Rapid



FIGURE V.24

SUMMARY OF TYPICAL RAIL RAPID TRANSIT SYSTEMS  
SWORN SECURITY OFFICERS<sup>(1)</sup>

SYSTEM	Sworn Officers	Route Miles	Stations	Daily Pass.	-Officers-	
					Per Mile	Per Station
BART	106	75	34	150,000	1.4	3.1
WASH., D.C. <sup>(2)</sup> (1979)	163	37	41	180,000	4.4	4.0
CHICAGO	250	90	142	500,000	2.8	1.8
PATCO	21	14.5	13	48,000	1.4	1.6
SCRTD <sup>(3)</sup>	45*	18	17	265,000	2.5	2.6
LAPD Proposal	195*	18	17	265,000	11.0	11.5

- NOTE:
- (1) The personnel requirements shown above relate solely to transit system security requirements.
  - (2) The Washington system will ultimately consist of 100 miles. While no estimate is available for the police force that will be required at that time, the ratios then will probably be lower than those shown above.
  - (3) On September 26, 1977, passage of Assembly Bill 1569 authorized the District to qualify its transit officers as peace officers.

\*Based on Alternative II

For additional discussion see the Police and Security Section of the Appendix.

Transit District, would be required to adequately patrol and protect the public for a rapid transit system with eighteen miles of guideway and 17 Stations; i.e., Alternative II. This estimate for Alternatives I through VI is based on a survey of transit system needs in other cities. The District's Police would ride the trains as well as patrol the stations. Annual cost in 1978 dollars would approximate \$1,200,000 for the 45 officers. In addition to the transit police on duty, station attendants would be available at each station to assist passengers, which would be an added deterrent to criminal activity. The cost of the transit police officers is included in the operations cost estimates for these alternatives.

- Based on its judgment, the Los Angeles City Police Department estimates that it would require 195 sworn personnel to provide adequate police services for Alternative II. With a less extensive system proportionally fewer personnel would be required. The Los Angeles Police estimate includes policing station and approach areas and parking lots, but not "on-train" protection. So, there is considerable duplication of personnel in the Police Department estimates. The increased crime activity is expected in station approach areas and parking lots, not just on trains and station platforms. Manpower for follow-up investigations of the crimes committed is also included in the City's estimates. Annual cost for these 195 personnel and equipment would be \$4,350,449 in 1978 dollars.

The experience of other rail transit properties does not, however, support the City Police Department's proposal. Chicago is the best example to use. There, the City does the entire job under contract to the transit authority, and they require an average of only 1.8 policemen per station. It would appear, therefore, that SCRTD proposed 2.6 per station, plus a full-time station attendant, would provide adequate public safety, and only this number is used in the cost estimates.

- In conjunction with Preliminary Engineering the City and District would develop a coordinated security plan.

## 2. Fire Protection Services

### a. Introduction

With implementation of several of the transit improvement alternatives there is expected to be some requirement for the provision of additional fire protection and rescue services. However, the Los Angeles City Fire Department states that many more specific details, which would only become available during preliminary engineering, will be necessary before accurate impacts on the City's fire protection services can be determined. They recommend emergency exits every 1000 feet. This cost has not been included in the estimates nor have the environmental implications been addressed. Such a standard would not be reasonable nor practical in all cases, and this matter would be resolved with the Fire Department during Preliminary Engineering.

### b. Impacts

#### (1) Danger of Fire and Accidents

- (a) For Alternatives VIII through XI there would be either no or very slight increases in fire and accidents which require Fire Department response.
- (b) For Alternative VII there would be problems caused by closing of even minor streets as featured.
- (c) For Alternatives I through VI since many technical details will not be available until Preliminary Engineering is accomplished, increases in fires and emergency situations cannot be estimated at this time. It is evident, though, with the provision of any major new public transit facility, i.e., aerial structure or tunnel and stations, that there would be some increased risk.

Some problems of impaired access to commercial frontage could be expected during any construction of Alternatives I-V, and the greater the extent of cut-and-cover construction, the more severe these problems would be. Aerial construction would create some problems, but little in comparison with cut cut and cover work.

(2) Mitigation Measures

- (a) There are no mitigation measures required for Alternatives VIII through XI.
- (b) The mitigation measure suggested by the Fire Department for Alternative VII is that no streets be closed at all. Should this alternative be selected, the question of Fire Department access would need to be studied in greater detail as a part of Preliminary Engineering.
- (c) Although there is no foreseeable need for specialized equipment, the following measures are suggested by the City Fire Department for Alternatives I through VI:
- Provide adequate access for fire and rescue operations to the stations, parking structures and along the route of the subway or aerial guideway. For an aerial configuration, maximize access to buildings along the route for fire fighting and rescue purposes.
  - Provide adequate emergency lighting, communication systems and early warning fire alarm systems.
  - Provide an emergency third rail de-energization system.

During construction, all applicable rules and regulations, as enforced by the Department of Industrial Safety and other appropriate agencies, should be strictly followed.

3. Schools

a. Introduction

There are nineteen educational institutions both public and private in the Regional Core. A list of these is included in Figure V.25.

b. Impacts

(1) Number of Schools Affected

Nineteen educational institutions are located within the influence area of the Regional Core Corridor. Eleven of these facilities could be specifically affected by development of a rapid transit line, as they front directly on one or more of the proposed alignments (See Figure V.19). Figure V.25 lists these facilities, their proximity to stations, and their transit route frontages.

Facilities cited primarily include public and private junior and senior high schools and colleges. Students of that age level and older are more likely to be users of public transit, and many students attending these facilities would be coming from areas over 1/4 to 1/2 mile away. The elementary schools cited lie close to proposed rapid transit alignments.

Public transportation is not formally involved in any Los Angeles Unified School District busing programs, but many students do use public transit to travel to and from school. All of the alternatives would result in improved access to school facilities.

(2) Types of Environmental Effects

Generally environmental impacts on school facilities are of several types. One type of impact would be the taking of land; however it would be the intent, in the case of any project, to avoid taking or using any school property. Another effect might be higher local noise levels. Specific impacts are discussed in subsequent portions of this section.

FIGURE V.25

SCHOOL FACILITIES

School Facilities by Community Plan Area	Route Frontage (Distance to Line)	Radius Distance to Stations (miles)		
		Fairfax	La Brea	Vermont
<u>Westlake</u>				
Woodbury Business College Wilshire @ St. Paul Cambria High school Union @ Eighth	250' Wilshire north (1/8 mile)	3/8 1/2	3/8 1/2	3/8 1/2
Otis Art Institute Wilshire @ Park View	700' Wilshire north	1/4	1/4	1/4
<u>Wilshire</u>				
Southwestern University Wilshire @ Shatto	400' Wilshire south (1/4 mile)	1/8 1/4	1/8 1/4	1/8 1/4
West Coast University Fourth @ Shatto	800' Vermont	DNA	DNA	1/8
Virgil Junior High Vermont @ First	800' Wilshire north	3/8	3/8	DNA
Burroughs Junior High Wilshire @ McCadden	300' Wilshire south	1/4	1/4	DNA
Cathedral Chapel School Wilshire @ Cochran	200' La Brea east	DNA	1/8	DNA
Yeshivath Torath Emeth La Brea @ Clinton	400' Fairfax	3/8	DNA	DNA
Hancock Park Elementary Fairfax @ Colgate	<u>Hollywood</u>			
Los Feliz Elementary Hollywood @ Vermont	300' Hollywood north	DNA	DNA	1/4
Industrial Engineering College Sunset @ Western	200' Sunset north	DNA	DNA	1/8
Grant Elementary School Harold by Wilton	200' Harold north	DNA	DNA	1/4
Los Angeles City College Vermont @ Burns	1200' W/S Vermont 300' E/S Vermont	DNA	DNA	0
Fairfax High Fairfax @ Melrose	900' Fairfax east	3/8	DNA	DNA
Hollywood High Sunset @ Highland	(100)	1/8	1/8	DNA
<u>Studio City</u>				
Valley View Elementary Cahuenga West @ Oakcrest	(1/8 mile)	DNA	DNA	DNA
Rio Vista Elementary Whipple by Vineland	(200')	DNA	DNA	DNA
East Valley Special School E Whipple by Vineland	(100')	DNA	DNA	DNA

DNA - DOES NOT APPLY

Source: L.A. City Planning Department.

(3) Aerial System and Subway System

An aerial guideway would generally traverse the Regional Core along medians of the area's major thoroughfares, as delineated within the respective route descriptions of each alternative. Where the system would not follow existing streets, particular attention would be given to prevent intrusion into school grounds.

Aerial stations would generally be about two stories above the major streets and, in appropriate situations, would be incorporated into adjacent existing or into new structures in joint development. These stations would be approximately 500 feet long, about the distance of an average city block. Entrances into these stations would most likely extend into adjacent commercial buildings or to the streets in the form of stairways and escalators to sidewalk areas below, thereby minimizing impact on school properties.

A subway system as proposed in Alternatives I through V would have both guideways and stations underground, requiring entryway areas proximate to the stations for access. The specific siting of these entryways would be somewhat flexible within the immediate area, and hence impacts on schools could be avoided.

(4) Congestion and Safety

Only one station is located adjacent to a school, Los Angeles City College (Alternative III). Nine are within 1/4 mile and six are within one-half mile. Stations located near schools could require more police effort and attention to adequately protect the safety of students and teachers.

Surface Bus Alternatives VII through XI would not directly impact school property as they utilize existing rights-of-way and are not intended to have the same station impacts.

(5) Impacts of Specific Alternatives

Alternative I - Wilshire-La Brea-North Hollywood Rail Line

Implementation of Alternative I, if in aerial configuration, could adversely impact a varying number of school sites. In the Westlake Community Plan area, both the Wilshire Boulevard or Seventh Street alignments in aerial configuration could affect Otis Art Institute, which has a 400-ft. southerly frontage on Wilshire Boulevard. Woodbury Business College, with a 250-ft. northerly Wilshire Boulevard frontage, could only be impacted by a Wilshire Boulevard aerial alignment. Three Wilshire District schools located on Wilshire could also be affected by an aerial transit configuration; Southwestern University (400 ft. on its south side), Cathedral Chapel School (300 feet on the south side), and Burroughs Junior High School (850 feet on the north side).

No space for guideway or stations would be needed from any educational sites along this alignment. Those students using school grounds and classrooms adjacent to aerial guideways at the facilities listed above would be subject to increased noise levels generated by the rail trains.

Implementation of any subsurface alternative would result in no long-term adverse impacts on educational facilities.

Alternative II (the Board Preferred Alternative)  
Wilshire-Fairfax-North Hollywood Rail Line

Development of an aerial rail rapid transit line following the Alternative II alignment could impact eight learning institutions. Five of these are the same sites discussed under Alternative I, and effects of aerial guideway configuration on them would be the same as previously mentioned. Potential noise impacts would be incrementally similar to those of the first alternative in aerial configuration. A subway would not affect any of these schools adversely.

Alternative III - Vermont-Hollywood-North Hollywood Rail Line

Construction of an aerial rail rapid transit line along this alignment could impact six educational sites. Three of these institutions have already been discussed under Alternative I (Otis Art Institute, Woodbury Business College and Southwestern University), and the following three additional facilities.

In the Wilshire District, Virgil Junior High School is situated on the eastern side of Vermont Avenue and extends for about 1,600 feet along the route.

A station stop is proposed at Los Angeles City College. The college, located in the Hollywood area, straddles both sides of Vermont Avenue (1,500 feet on the west side and 400 feet on the east). The station would be located in the Vermont Avenue right-of-way with possible access directly to the school facilities. In addition, a station at the college would increase the noise, safety and security concerns in the area. A benefit of the school-station proximity would be to increase the accessibility of the school.

Located between Harold and Carlton Ways, in the Hollywood Community, Grant Elementary School would be immediately adjacent to an aerial structure for about 250 feet. A modified alignment could avoid affecting this site.

Alternative IV - Wilshire-La Brea-Hollywood Bowl Rail Lines

This alternative is an abbreviated version of Alternative I (on La Brea Avenue) terminating at the Hollywood Bowl, where bus connections would be provided. Both alignments would have the same respective school site impacts as described in the Alternative I impact sections.

Alternative V - Wilshire-Fairfax Rail Line

The rail transit line would terminate at Fairfax, where there would be bus connections. Sites affected by an aerial system would be the same as discussed Alternatives II.

A subway configuration would have little or no school-related adverse impacts.

Alternative VI - Wilshire-La Brea-North Hollywood Exclusive Bus Guideway

This version busway would create impacts similar to those discussed under Alternative I, but the buses would result in more localized air pollution.

Alternatives VII - XI

There would be no adverse impacts on school property from any of these alternatives.

4. Libraries

There are seven libraries located within the Regional Core Corridor, at service distances of up to one mile from proposed station locations. There are no adverse impacts on any of these libraries. (See Figure V.26)

5. Major Medical Facilities

a. Number of Medical Facilities Affected

Eight major medical facilities are located proximate to proposed transit routes in the Regional Core Corridor. Seven of the eight facilities are located within a three-eighths mile walking distance of proposed station locations. Figure V.27 lists these facilities, their proximity to stations by alignment, and transit route frontages.

Figure V. 26

LIBRARY FACILITIES  
By Community Plan Area

	Distance to Stations			
	Alts. I-IV 5th & Broadway	Alt. II Fairfax	Alts. I&IV LaBrea	Alt. III Vermont
<u>Central City</u>				
Central Library	1/8	DNA	DNA	DNA
Fifth & Flower				
<u>Wilshire</u>				
Felipe de Neve Branch Library	DNA	5/8	5/8	5/8
Sixth & Hoover				
Fairfax Branch Library	DNA	3/4	3/4	DNA
Gardner near Third				
<u>Hollywood</u>				
Cahuenga Branch Library	DNA	DNA	DNA	3/8
Santa Monica by Vermont				
Hollywood Regional Library	DNA	1/2	1/2	1/8
Selma & Ivar				
West Hollywood Library	DNA	1	DNA	DNA
De Longpre & Gardner				
<u>North Hollywood</u>				
North Hollywood Branch Library	DNA	3/4	3/4	3/4
Tujunga & Magnolia				

DNA = DOES NOT APPLY

FIGURE V.27

MEDICAL FACILITIES

Medical Facilities by Community Plan Area	Frontage	Fairfax	Distance to Stations	
			La Brea	Vermont
<u>Westlake</u>				
Good Samaritan Hospital Wilshire @ Lucas	400' Wilshire north	3/8	3/8	3/8
Central Receiving Hospital Sixth @ Loma	--	5/8	5/8	5/8
Larner Medical Group Wilshire @ Burlington	100' Wilshire north	1/4	1/4	1/4
<u>Hollywood</u>				
Beverly Lake Hospital Fairfax @ Waring	200' Fairfax west	3/8	DNA*	DNA
Hollywood Community Hospital De Longpre near Vine	--	DNA	DNA	3/8
Kaiser Hospital Sunset @ Edgemont	600' Sunset north	DNA	DNA	1/8
Childrens Hospital Sunset @ Vermont	500' Vermont east	DNA	DNA	1/8
Hollywood Presbyterian Hospital Vermont @ Fountain	500' Vermont east	DNA	DNA	1/8

\* DNA - DOES NOT APPLY

b. Direct Adverse Impacts

The most direct impacts of an aerial transit system on hospitals would be the generation of noise. Less direct impacts might include increases in local air pollution, traffic congestion, and aesthetic and safety levels. Positive impacts would result from improved access. There would be no long-term adverse impacts from a subsurface configuration.

c. Impacts of Specific Alternatives

Alternative I - Wilshire-La Brea-North Hollywood Rail Line

Adverse impacts of implementation of Alternative I would be either slight or nonexistent. An aerial system would affect only the Good Samaritan Hospital, located in the Westlake Community. The hospital fronts the north side of Wilshire Boulevard for approximately 400 feet. An aerial system would increase the ambient noise level in the vicinity of the hospital. Development of a subway rail line following the same alignment would create no negative impacts on medical facilities in the Regional Core area. Proposed station locations are not near any hospitals along this route.

Alternative II (the Board Preferred Alternative)  
Wilshire-Fairfax-North Hollywood Rail Line

Development of rapid transit in an aerial configuration could adversely impact the Good Samaritan Hospital (in Westlake), as well as the Beverly Lake Hospital, which fronts the west side of Fairfax for approximately 200 feet (in the Hollywood area). Again, local noise levels may be raised by an aerial transit system.

There are no proposed station locations proximate to any hospitals along this route. A subway line would therefore have no significant adverse impacts on medical facilities.

### Alternative III - Vermont-Hollywood-North Hollywood Rail Line

This alternative, if in the air, would adversely impact up to five medical complexes. In addition to the Good Samaritan Hospital, three facilities are located in the Hollywood Community, near the intersection of Sunset Boulevard and Vermont Avenue. On Sunset's northerly side is the Kaiser Hospital, with frontage of 600 feet. Children's Hospital and Hollywood Presbyterian Medical Center extend along Vermont for a distance of 500 feet. Noise generated from an aerial system might produce a significant impact on local noise levels in these sound-sensitive medical centers.

At Vermont-Sunset intersection, some minimal amount of land could be required for its entranceways and associated parking. Of course, the proposed alternative would follow Vermont to a point north of Sunset Boulevard and then turn west and travel through Barnsdall Park. This park is just north of Kaiser Hospital. A more desirable route from the park impact standpoint would be to turn west on Sunset Boulevard and pass in front of the Kaiser Hospital.

Access to these three hospital facilities would be improved by either an aerial system or subway.

### Alternative IV-VI - Wilshire-La Brea-Hollywood Bowl Rail Line

Aerial and subway configurations would have the same respective impacts on the Good Samaritan Hospital facilities in the Regional Core as described in the impact section for Alternative I.

### Alternatives VII-XI

No adverse impacts would result on the eight hospitals and access would be improved.

## E. UTILITY SYSTEMS

### 1. Introduction

The following utility systems are provided to residences and business establishments throughout the Regional Core and the city:

- Telephone Service
- Natural Gas
- Water
- Sanitary Sewers
- Solid Waste Disposal
- Storm Water Control Systems
- Electric Power

Various utilities and the City of Los Angeles Bureau of Engineering were contacted to evaluate the impacts of the alternatives.

### 2. Impacts

#### a. Utilities with no Adverse Impacts

There are no potential long-term adverse impacts on the telephone, natural gas, water, sanitary sewers, solid waste disposal, and storm water control utility systems from implementation of any one of the Alternatives I-XI, provided reasonable care is exercised in planning, relocating and preserving existing systems. Specifically, there are no adverse impacts on either the supply or transmission aspects of these utilities.

#### b. Impact on Electric Utility System

There are no adverse electric utility system impacts expected from All-Bus Alternatives VI through XI. For Rail/Bus Alternatives I through V there may be a slight electrical energy impact caused by



either a subway or aerial rail system, depending on the ability of the power system to expand as planned and continue to supply all of its customers. Electric energy in the City of Los Angeles is primarily supplied by the Los Angeles Department of Water and Power (DWP), which currently relies on oil for generating 64% of its electricity. The DWP states that the present average daily demand for the entire city ranges from approximately 2 million to 2.2 million kilowatts (kw) from present average winter demand to present average summer demand respectively. Annual peak loads are about 3.8 million kilowatts, while total generating capacity is 6.4 million kw. The Los Angeles City Department of Water and Power also states that based on the Southern California Rapid Transit District's (SCRTD) project description, the maximum demand for the rail system will be about 41.5 megawatts (41,500kw).

The SCRTD plans to construct and maintain the necessary traction rectifier stations, passenger stations and shop facilities, including transformers and supplemental equipment. Compared to the present average summer demand for the entire City, the maximum rail line requirement represents about a 1.1% increase over the 1977 peak regional load. The DWP states that the estimated power requirements for this proposed project are an insignificant part of the total load growth forecast for the city, and has been taken into account in the planned growth of the power system.

Electric service will be provided in accordance with the Department's Rules and Regulations. Several factors should be recognized, however, with respect to future planning. While recent efforts to conserve energy and eliminate unnecessary uses of electricity have resulted in reductions in electrical consumption, present forecasts indicate a possible increase in electrical requirements in the future.

The Power System's generating facilities which are existing, contracted for, or under construction, should be adequate to meet current projected electrical requirements into the early 1980's. In recent years, however, organized opposition and governmental restrictions, largely the result of environmental considerations, have blocked or delayed the construction of new generating facilities required to meet projected future needs of the electric utility industry. In the event

the electric utilities are unable to carry out their programs for the development of new generation facilities, the facilities required to meet current projected system-wide requirements beyond this period may be inadequate.

A similar problem could also occur as a result of shortages of fuel needed to operate steam driven power generation facilities. Although availability of fuel supply has improved, a critical shortage similar to that which occurred in late 1973 could occur again. These possible significant impacts may be mitigated to an acceptable level in the implementation of the following measures:

- If a subway system is selected, use profile grading, where feasible.
- Use automatic controls to turn off non-critical systems when not needed.
- Use the most modern energy efficient equipment throughout the system and adjust number of cars per train to closely fit passenger demand throughout the day.

## F. AESTHETICS

### 1. Introduction

Since the aesthetic impact of a subway would be minimal, this analysis consisted of identifying existing land uses in blocks on either side of each transitway alignment from the standpoint of an elevated guideway. Alternative alignments and associated station locations were examined to identify potential visual effects including the following:

- (a) Views of the guideway and stations from the standpoint of residents, employees, pedestrians, and drivers.
- (b) Views of the community from the transit vehicles and from station entrances.

(c) Shadow cast by transit facilities.

(d) Illumination by station/parking facility lighting, transit vehicle headlights, and auto headlights at the stations.

Particular attention was given to opportunities for possible adjustment of alignment or station locations to improve visual compatibility of the transitway with adjacent land use (building mass and character, landscaping), and for possible use of the transit project to upgrade the visual appearance of the area through which it passes.

In Appendix II is a description of the view, illumination, shade/shadow aspects in detail.

## 2. Impacts

Analysis indicated the following potential visual impacts:

- (a) There would be virtually no visual impacts from implementation of a subway system in Alternatives I-V. The only impact may be from associated parking structures that may be constructed. Careful siting of each structure will minimize these impacts, and further study will be made of each station location during Preliminary Engineering.
- (b) An aerial structure is likely to be perceived as visually incompatible with residential and neighborhood commercial areas unless the entire street and immediate environs of the guideway is rebuilt. This would require the clearing of a corridor of low-density development several blocks wide and the construction of high-density development centered around stations. It could also be desirable to replace old, worn-down strip commercial development with a landscaped parkway which would contain the guideway.
- (c) An elevated transitway structure along Wilshire Boulevard would be primarily visible from office buildings and commercial facilities along the street. Since routes

selected for the alternatives are primarily commercial in nature, visual impact on residences would be limited to: (1) housing units between Hollywood and Sunset Boulevards from Vermont to Vine (Alternative III); (2) residences on alignment transitions from Wilshire to Vermont, La Brea or Fairfax (Alternatives I, II, III, IV and VI); (3) homes along the alignment transition from La Brea to Fountain to Highland (Alternatives I, IV, VI); and (4) older structures above stores along Wilshire through Westlake (Alternatives I-VI), and homes along Vineland in Studio City/North Hollywood (Alternatives I, II, III).

- (d) Demolition of structures for stations may expose adjacent residences and yard space to new views and glare from parking lot and auto lights. Walls, shrubbery and landscaped buffer strips can be developed to avoid most adverse visual effects. Proper location or angling of parking lot exits is important to avoid lights from cars shining in residents' windows across the street.
- (e) Locating rapid transit stations within dense activity centers minimizes the intrusive visual effects of any station structures and the traffic attracted thereto.
- (f) Aerial guideway structures and/or stations are likely to cast shadows on adjacent pedestrian areas and buildings. The shadow impacts should be limited to ground floor levels. Impacts would be minimized by locating the guideway and stations in the median of arterials or as far away from structures as possible (See Figures V.28 and V.29). Shadow effects on adjacent open space or yards could not be mitigated.
- (g) It may be possible to eliminate some potential adverse visual impacts and incorporate features that would make rapid transit stations and the guideway an asset to the community through proper design. This would include provisions for landscaping, public open spaces, linear parkways,

Figure V.28



EXAMPLE OF AERIAL RAIL RAPID TRANSIT

Figure V.29



EXAMPLE OF AERIAL RAIL RAPID TRANSIT

sign control and underground wiring. However, successfully weaving aerial guideway and stations into the community would cost a great deal.

## G. PUBLIC SAFETY

### 1. Introduction

All of the factors that contribute to public use and acceptance of a transit system imply that passenger safety is a major consideration in system design and operation. Safety that would be provided by public fire and police organizations has been covered in Section V.D, "Public Services". An even greater assurance of public safety can be provided by the transit system operator's preparations, in system design and operations and the training of transit personnel to handle emergency situations.

The rapid transit industry has an excellent safety record in that transit catastrophes have been rare and exceptional. Compared to all other modes of transportation, rapid transit as a travel mode ranks high in safety. Only on rare occasions must passengers be evacuated from a train or bus.

The planning to deal with emergency situations, even though infrequent, must be complete in sufficient detail so that implementation of emergency procedures can be made on short notice, and so that each employee involved will be familiar with his personal responsibility to follow given procedures. In order to maximize the effectiveness of emergency procedures, design and operational planning must address all conceivable problems.

### 2. Facilities Design

#### a. Materials

The use of proper materials in the design and construction of facilities is one of the major factors to help ensure that stations, vehicles and transitways are designed to reduce potential hazards to a minimum.

Probably the foremost concern with materials is their flammability, particularly in a subway environment. The District would insure that all materials used throughout the system are tested and installed in a manner to provide protection from fire, with particular emphasis on rapid transit car and bus interiors and station areas where heavy passenger loading could occur. The transitways are inherently constructed primarily of non-flammable materials, but care would be taken to insure that a safe environment is maintained.

To support strict use of safe materials within the vehicles, stations, and tunnels, an adequate ventilation system would be designed to properly control air movement in all segments of the system.

Wet fire lines within the system would supplement the use of non-flammable construction materials.

The American Public Transit Association and UMTA have been jointly developing criteria for electrical conductor insulation as applied to rapid transit systems, both on wayside and within vehicles, to minimize smoke and toxicity of burning insulation. The District is, and will continue to be, a participant in this project, so that the ultimate in available apparatus and technology can be applied to insure that safety from fire will be mandated in the vehicle specifications.

#### b. Evacuation

Stations would be designed to facilitate passenger movement to exits with minimum interference, and emergency exits between stations would be provided where appropriate. (See prior discussion on fire protection service.)

### 3. Equipment Design

Passenger vehicles would incorporate means for emergency evacuation and automatic emergency vehicle lighting would be provided. Even in the event of a power shut-off, radio communication would be maintained with central control.

The propulsion power system will be sectionalized so that power may be shut-off in any section where a problem occurs, and provisions would be made for emergency lighting in stations and tunnels. All areas would be served by automatic fire protection systems.

A cleaning train is included in the rapid transit equipment roster that would vacuum dust and paper from the subways and wash down interiors.

#### 4. Emergency Procedures

It is essential that emergency situations be evident immediately in Central Control so that corrective measures can be implemented at once. Communication and alarm systems are planned that will alert supervisory personnel of any emergency situation, whether it be a civil problem or fire. Redundant equipment will insure that communications can be maintained with all necessary agencies during emergencies. The key is to insure that on-duty personnel are trained to exercise their emergency responsibilities in the shortest time. It would be the District's policy to hold emergency drills involving transit personnel and city fire and police on a regularly scheduled basis to assure that emergency apparatus and procedures are effective when needed.

It would be District policy not to carry any revenue passengers until emergency procedures have been formulated, and District operating personnel and personnel of related agencies have been trained, and until it has been successfully demonstrated that procedures can cope with any foreseeable emergency. Formal cooperative agreements would be entered into with involved local fire and police agencies, which would be involved in emergency training.

In summary, the District would establish procedures, provide materials, equipment, and a staff of well trained employees to maximize public safety.



## **VI. ECONOMIC AND FINANCIAL IMPACT**





## VI. ECONOMIC AND FINANCIAL IMPACT

This chapter covers four subjects; 1, Cost Estimates, 2, Transit Efficiency, 3, Urban Economy, and 4, Financial Feasibility. The Cost Estimates Section includes the unit costs, costing procedure and the estimated capital and operating cost for each alternative. At this stage of initial engineering, it is important to note that these cost estimates are "order of magnitude", are based on conceptual design, and would be subject to refinement during further project development. Should further cost refinement show significant differences, a re-evaluation of alternatives may be in order.

Transit Efficiency associates costs with productivity. The transit efficiency measures used to compare alternatives are presented in absolute values and marginal values. The marginal values measure the difference between each alternative and the Null Alternative.

Urban Economy explores the different economic impacts that the transit alternatives would have in the community such as jobs, tax base, etc. Financial Feasibility examines funding strategies and cash flow requirements.

Each section, except Financial Feasibility, compares the alternatives in 1977 dollar values. 1990 patronage projections and related service levels are also costed in 1977 dollars. This not only permits a common base for comparison but, also, eliminates the uncertainty involved in predicting inflation rates and future financial conditions. Moreover, by expressing values in constant 1977 dollars the reader is able to more accurately measure the real value of the items considered.

Because the Financial Feasibility section discusses future cash flow requirements, it is appropriate to include an inflation assumption in the analysis. The inflation rate assumed was a uniform 8% annual rate. This assumption is supported by the Consumer Price Index which increased 7.7 percent during the 1977-78 fiscal year and the UCLA economic forecast of 8.2 percent for the year 1978-79.

Throughout the chapter the opportunity cost of money is valued by making use of present value factors and capital recovery factors. Because the discount rate assumed in the use of these factors is subject to controversy and the assumed rate can be influential on the outcomes, values were calculated using discount rates of four, seven and ten percent. OMB Circular A-94 prescribes that federal projects use a 10% discount rate. While non-federal recipients of federal grants such as (SCRTD) are exempt from this requirement, it is important to recognize that the 10% figure is considered reasonable from a federal perspective. The 7% rate is considered acceptable and the 4% rate is shown only for sensitivity purposes. Discount rates, present value, capital recovery and other factors are explained more fully when they are used in their respective sections.

#### A. COST ESTIMATES

##### 1. Introduction

In order to carry out the cost-effectiveness comparison and financial analysis for the different transit improvement alternatives, it was necessary to prepare estimates of system capital and operating costs only in sufficient detail to permit reasonable comparisons between concepts. Therefore, engineering effort has been directed toward refinement of available cost data to develop realistic cost projections for economic assessment and financial planning.

During the preliminary engineering phase, careful consideration would be given to the tradeoffs that exist between capital and operating cost. Policy decisions will be required based on a thorough understanding of the relative impacts of each option and the resulting service provided to the public.

It is important to note that the level of capital cost estimates are order-of-magnitude and are based upon a conceptual design and limited field investigations and they would be subject to refinement in later project development. Operating cost estimates have been developed

from a detailed analysis of operating patterns using generalized parameters of representative rail transit systems and SCRTD's actual bus operating experience. This approach provides a valid basis for system comparison. More detailed engineering investigations and cost estimates will, of course, be required for the selected alternative; i.e., the preliminary engineering phase. Therefore, for the purposes of the present study, a contingency allowance of 20 percent has been included to cover unexpected or unforeseen situations which may arise during subsequent engineering design work and construction.

##### 2. Capital Cost Estimates

The following section describes the items of capital costs, the unit costs of these items and summary capital costs for each alternative. All costs are presented in last quarter 1977 dollars.

Capital costs are those investments associated with the design and construction of permanent facilities required for the operation and maintenance of a transportation system. The major items of capital are basic construction of guideway/busway and station elements, trackwork, controls and communications, power collection and distribution, maintenance and storage facilities, right-of-way, agency cost for engineering and construction management, contingencies and bus and rail vehicles. These items are defined as follows:

###### a. Guideways and Stations

This item includes the basic heavy construction work pertaining to rapid transit line and station facilities. Items such as parking, bus interface facilities and right-of-way are calculated separately.

The estimated cost for construction of guideways (aerial, at-grade or subway) include all structures necessary to support the transit vehicle. Excluded from the guideway costs, per se, are items which are only required for rail rapid transit such as electrification, trackwork, communications and controls.

b. Trackwork

This item represents the physical facilities required by the vehicles to respond to the command-and-control and to follow the guideway structure. Trackwork facilities include the cost of furnishing and installing ballast, ties, rails and switches as required. Also included is an allowance for acoustical and vibration control as required along the guideway.

Basic trackwork costs were obtained for installed cost of trackwork switches, etc., from American properties with similar installations currently under construction or recently completed.

Trackwork costs can be reduced by the elimination of, or reduction in, the number and type of cross-over and turnback facilities. However, care must be used not to reduce operational efficiency, reliability and flexibility.

c. Power Collection and Distribution

This item includes the cost of furnishing and installing equipment and facilities required to provide power for vehicle propulsion and operation of systems facilities.

Order-of-Magnitude estimates were obtained from three major suppliers, and discussions were held with electrical engineers at several North American rapid transit operation properties. Material quotations were obtained from several suppliers, in addition to electrical characteristics data for loss calculations. Insulator cost data was obtained from suppliers and recent third rail installation and cover board costs were obtained from other transit properties.

Electrification and train control systems can be more or less costly depending on the degree of reliability and sophistication desired and operating policies to insure continuation of service in the event of component failure.

d. Controls and Communications

This item includes the cost of Automatic Train Control (ATC), Automatic Train Operation (ATO) and Automatic Train Protection (ATP) systems as appropriate. The necessary apparatus required for each system, all software, wayside track circuits, route interlocking equipment, data transmission equipment, and central control facilities are included in this category. Also included in this item are communication system cost between central control, auxiliary and supervisory personnel, rapid transit vehicles and stations.

Discussions were held and general cost estimates were obtained from two major American suppliers. This information was compared with other data received from rail transit operating properties.

e. Fare Collection

Fare collection system cost estimates have been based on an evaluation of the experience and costs of other properties (PATCO, PATH, TTC, WMATA and MARTA).

Fare collection policies such as the use of the "stored ride" rather than the "stored fare" will simplify the fare collection system.<sup>(1)</sup> Cost estimates are based on the "stored ride" system.

f. Maintenance and Storage Facilities

Maintenance facilities are required to ensure proper system maintenance and operations. These facilities for both bus and rail concepts provide space and equipment for:

- Vehicle maintenance
- Ways and structures maintenance
- Storage of vehicles and supplies

<sup>(1)</sup>The "stored ride" system deducts a fixed rate for each ride on entry or exit. The "stored fare" system deducts a variable amount based on the distance traveled; information must be recorded on both entry and exit.

The estimate for maintenance and storage facilities includes structures, equipment, facilities and maintenance vehicles necessary for routine and emergency maintenance and repair; cleaning and daily inspection, and major overhaul. In addition, bus facilities provide for refueling and for processing daily farebox revenues.

Discussions were held with personnel at three American properties to determine specific requirements and order-of-magnitude costs.

Maintenance and storage philosophy can have a decided effect on system cost. Policy decisions related to online vehicle storage, frequency of inspection, and contract maintenance can affect capital requirements for maintenance facilities.

g. Right-of-Way

This item includes an allowance for all costs related to obtaining easements or the permanent taking of real property required for the construction and operation of the transit system.

h. Contingencies

This item is an unallocated allowance of 20 percent to cover the cost for scope changes and unforeseen conditions which may arise during detail design and construction. The contingency factor is applied to all capital costs except vehicles.

i. Vehicles

This item includes the cost of transit passenger vehicles required to service the busway or guideway system. All cost associated with the delivery of the vehicle are included. Any onboard command and control or other special equipment was considered in the cost of the vehicle.

j. Agency Cost

This item provides an unallocated allowance of 15 percent of all capital costs, except vehicles, to cover the cost of engineering and architectural design for the entire transportation system and management of construction. Staff support to the District on design matters, cost estimating and cost control, special consultants, and operational planning are included. It also includes construction inspection, contract administration and design support to the construction management forces, general project administration, pre-operating or start up costs and insurance. Estimated order-of-magnitude rail rapid transit unit costs are set forth in Figure VI.1 on the following page.

The range of unit costs used in determining capital costs are also shown in Figure VI.1. The range of costs are due primarily to a possible difference in construction conditions at various locations throughout the study area and to localized requirements for such items as aesthetic treatments and noise attenuation. Actual costs used for estimation purposes are shown in subsequent figures. More refined costs will be developed during further project development.

The construction cost numbers provided are for the analysis purposes only, and represent an effort to compare the cost effectiveness and impacts of alternative modes, not to provide final construction cost for a rapid rail system in Los Angeles.

k. Capital Cost Summary

Capital costs have been estimated for each of the All/Bus and Rail/Bus Alternatives (rail costs are estimated in the bored tunnel configuration) and are shown in Figure VI.2. A review of the estimates will provide an overview of the major cost differences between the eleven alternatives. Costs for rail in aerial configuration are shown in Figure VI.5. More detailed cost estimate breakdowns for the bored tunnel and aerial configurations of the rail alternatives are set forth in Figures VI.3, VI.4, VI.6 and VI.7.

Detailed cost estimates were also developed for Alternative II cut-and-cover type subsurface construction, as set forth in Figure VI-2A. Allowances for such items as controls, yards, propulsion power, and transit vehicles are comparable with those developed for the bored tunnel alternatives. Directly comparing the total capital costs of the different methods of construction, Alternative II, using the bored tunnel method, is indicated at \$1,120 million, compared with a cut-and-cover cost of \$1,350 million. The deep bored tunnel construction method is thus believed on the basis of the analysis undertaken to date to be more economical.

The choice of construction method will be subject to further examination in Preliminary Engineering.

FIGURE VI. 1  
Estimated Rail Rapid Transit  
Order of Magnitude Unit Costs

BASIC CONSTRUCTION	Rapid Transit Cost Range (Millions of '77 Dollars)
<u>Guideways (per mile dual guideway)</u>	
Dual Track Aerial	9.0 - 11.0
Dual Track At-grade	1.5 - 2.0
Dual Track Cut & Cover (urban areas)	25.0 - 30.0
Dual Track Tunnel (Twin Tube) (Including turns & portals, cross-overs, easements, underpinning, ventilation)	18.0 - 21.0
<u>Stations (each)</u>	
Aerial	5.0 - 10.0
Underground Typical	9.0 - 10.0
Underground Major	15.0 - 30.0
At-grade	2.0 - 3.0
Parking (per space)	
At-grade	\$1,500 - 1,700
Structure	\$3,500 - 4,300
<u>Trackwork (per mile dual track)</u>	
Ballasted (At-grade)	0.6 - 0.8
Direct Fixation (inc. track sound & vibration control)	1.8 - 2.0
<u>Power Collection and Distribution</u>	1.8 - 2.0
<u>Control &amp; Communication</u>	1.8 - 2.1
<u>Maintenance and Storage Facilities</u>	
Major Repair & Storage	22.0 - 25.0
Service and Inspection	6.0 - 8.0
Bus Maintenance Division	5.0 - 6.0
<u>Contingency (incl. environmental &amp; institutional factors)</u>	20%
<u>Agency Cost</u>	15%
<u>Vehicles (each)</u>	
Rapid Transit	0.805*
Standard Bus	0.128*
Articulated Bus	0.270*

\* Includes engineering & contingencies

FIGURE VI.2  
ESTIMATED CAPITAL COST SUMMARY  
(In Millions of 1977 Dollars)<sup>1</sup>  
(Rail Costs for Bored Subway)<sup>3</sup>

ITEMS	REGIONAL CORE ALTERNATIVES										
	BUS/RAIL						ALL BUS				
	I	II	III	IV	V	VI*	VII	VIII	IX	X	XI
<b>Rapid Transit Costs (Bored Subway)</b>											
<u>Facilities</u>											
Guideways	330	352	284	245	193	453					
Stations	198	219	175	184	163	108					
Station Parking (including ROW)	28	29	24	32	7	25					
Trackwork (includes track, sound and vibration control)	28	30	28	19	15						
Power Collection and Distribution	33	36	32	23	18						
Control and Communication	42	46	41	31	25						
Freeway Transition & Street Construction	-	-	-	10	-	12	1	1			
Rail Maintenance/Storage Facility (includes ROW)	30	30	30	25	25						
Sub-Total	689	742	614	569	446	598	1	1			
Engineering and Management @ 15%	103	111	92	85	67	90					
Contingency @ 20%	158	170	141	131	102	138					
Sub-Total Facilities	950	1,023	847	785	615	826					
Sub-Total Vehicles	85	97	76	64	44	-					
<b>TOTAL BORED SUBWAY RAPID TRANSIT SYSTEM</b>	<b>1,035</b>	<b>1,120</b>	<b>923</b>	<b>849</b>	<b>659</b>	<b>-</b>					
<b>Bus Transit Costs</b>											
Facilities (Bus Divisions)	8	8	16	8	16	24	17	17	16	16	8
Buses <sup>2</sup>	396	400	416	385	418	600	457	444	474	460	361
<b>TOTAL BUS SYSTEM</b>	<b>404</b>	<b>408</b>	<b>432</b>	<b>393</b>	<b>434</b>	<b>1,450</b>	<b>474</b>	<b>461</b>	<b>490</b>	<b>476</b>	<b>369</b>
<b>TOTAL SYSTEM</b>	<b>1,439</b>	<b>1,528</b>	<b>1,355</b>	<b>1,242</b>	<b>1,093</b>	<b>1,450</b>	<b>474</b>	<b>461</b>	<b>490</b>	<b>476</b>	<b>369</b>
<b>TOTAL COST OF ALTERNATIVES (Net of Null)</b>	<b>1,070</b>	<b>1,159</b>	<b>986</b>	<b>873</b>	<b>724</b>	<b>1,081</b>	<b>105</b>	<b>92</b>	<b>121</b>	<b>107</b>	<b>0</b>

\*Aerial Busway

1 All figures have been rounded to the nearest million

2 Bus Facilities and vehicles costs include Engineering, Management and Contingencies. Also Bus vehicle costs include 2 complete bus replacements to allow direct comparison with rail cars which last for at least 36 years.

3 Aerial costs per rail are shown in Figure VI.5. Cut-and-cover costs will be available at public hearings, and will be included in the Final Report.

FIGURE VI. 2A\*

CUT-AND-COVER ALTERNATIVE - ROUTE II

ORDER OF MAGNITUDE COST ESTIMATE  
(In Millions of 1977 Dollars)

Seg.	Length	Const Costs	Related Costs	Total Const Cost	15% Mgmt & Engr	Sub-Total	20% Contingency	Total Segment Cost
A	12,200'	121.9	49.1	171.0	25.6	196.6	39.3	235.9
B	27,750'	238.8	34.4	273.2	41.0	314.2	62.8	377.0
C	5,600'	50.3	9.5	59.8	9.0	68.8	13.8	82.6
G	18,550'	144.5	28.6	173.1	26.0	199.1	39.8	238.9
E	3,875'	33.8	4.5	38.3	5.8	44.1	8.8	52.9
F	27,235'	117.9	58.9	176.8	26.5	203.3	40.7	244.0
Subtotal		707.2	185.0	892.2	133.9	1,026.1	205.2	1,231.3
Sound & Vibration Control								21.7
Vehicles								97.0
TOTAL ALTERNATE II (Cut-and-Cover)								\$1,350.0

\* Table taken from "Order of Magnitude Cost Estimate, Cut-and-Cover Alternative - Route II, Regional Core Rapid Transit Starter Line, Downtown Los Angeles to North Hollywood" prepared for Southern California Rapid Transit District by Jacobs Associates April 1979 and available for review at SCRTD offices.

FIGURE VI.3

SUMMARY OF ORDER OF MAGNITUDE CAPITAL COST  
ESTIMATES OF REGIONAL CORE RAPID TRANSIT ALTERNATIVES  
(RAIL ONLY IN BORED SUBWAY)

Estimates in Millions of Dollars

Segment	Description	Route Miles	Stations	Cost Estimate Millions	Vehicles	Total Estimate (Millions)
A	CBD + .7 mi. to Yard	2.5	4	\$ 253.3	106*	
B	7th & Flower to Wilshire-La Brea	5.2	5	279.7		
D	Wilshire-La Brea to Selma-Las Palmas	3.0	3	154.0		
F	Selma-Las Palmas to Chandler	5.8	3	244.9		
				18.1		
TOTALS - Alternate #1				16.5	15	\$ 950.0 \$85.0 \$1,035.0 M
A	CBD + .7 mi. to Yard	2.5	4	253.3	120	
B	7th & Flower to Wilshire-La Brea	5.2	5	279.7		
C	Wilshire-La Brea to Wilshire-Fairfax	1.0	2	63.7		
G	Wilshire-Fairfax to Selma-Las Palmas	3.9	3	165.4		
F	Selma-Las Palmas to Chandler	5.8	3	244.9		
				16.0		
TOTALS - Alternate #2				18.4	17	\$1,023.0 \$97.0 \$1,120.0 M
A	CBD + .7 mi. to Yard	2.5	4	\$ 253.3	94	
I	7th & Flower to Selma-Vine via Vermont	6.9	7	327.8		
J	Selma-Vine to Chandler	6.4	3	245.6		
				20.3		
TOTALS - Alternate #3				15.8	14	\$ 847.0 \$76.0 \$ 923.0 M
A	CBD + .7 mi. to Yard	2.5	4	\$ 253.3	80	
B	7th & Flower to Wilshire-La Brea	5.2	5	279.7		
D	Wilshire-La Brea to Selma-Las Palmas	3.0	3	154.0		
E	Selma-Las Palmas to Hollywood Bowl	0.8	1	42.6		
Freeway Transition-Parking						
Sound & Vibration Control				55.4		
TOTALS - Alternate #4				11.5	13	\$ 785.0 \$64.0 \$ 849.0 M
A	CBD + .7 mi. to Yard	2.5	4	\$ 253.3	54	
B	7th & Flower to Wilshire-La Brea	5.2	5	279.7		
C	Wilshire-La Brea to Wilshire-Fairfax	1.0	2	63.7		
H	Wilshire-Fairfax to San Vicente	0.3	0	9.6		
Sound & Vibration Control				8.7		
TOTALS - Alternate #5				9.0	11	\$ 615.0 \$44.0 \$659.0 M

\* \$805,000 per Rapid Transit vehicle, including 5% engineering and 10% contingency.

FIGURE VI.4  
 BREAKDOWN OF ORDER OF MAGNITUDE COST ESTIMATES FOR BORED SUBWAY CONFIGURATION  
 REGIONAL CORE RAPID TRANSIT ALTERNATIVES (RAIL LINE SEGMENTS ONLY)

Estimates in Millions of 1977 Dollars

DESCRIPTION	UNIT COST	SEGMENT COSTS (MILLIONS)									
		A	B	C	D	E	F	G	H	I	J
Segment (see Fig. VI.3.A for details)		A	B	C	D	E	F	G	H	I	J
Length (miles)		2.5	5.2	1.0	3.0	0.8	5.8	3.9	0.3	6.9	6.4
Stations (No.)		4	5	2	3	1	3	3	-	7	3
Underpinning											
Turns C.B.C.	\$ 3.0 M ea	3.0	-	-	9.0	-	9.0	-	-	-	-
Turns Residential	\$ 1.0 M ea	-	-	-	-	-	1.0	-	-	2.0	-
High Rise Buildings	\$10.0/sq. ft.	9.0	14.0	-	-	-	-	-	-	-	-
Specials	L.S.	3.0	-	-	-	-	-	-	-	-	-
Tunnels											
Tunneling	\$14.0 Million/mi	35.0	72.80	14.00	42.0	11.2	81.2	54.6	4.2	96.6	89.6
Easements	\$100/L.F.	6.0	0.3	-	0.6	0.3	1.7	0.5	-	0.5	1.7
Portals	\$ 1.2 M ea	1.2	-	1.2	-	1.2	1.2	-	-	-	1.2
Turns	\$ 1.0 M ea	3.0	1.7	-	3.0	-	1.0	3.0	-	3.0	-
Tar Pit Extra	L.S.	-	-	1.4	-	-	-	-	-	-	-
Cross-overs	\$ 1.2 ea	2.4	4.8	1.2	1.2	2.4	4.8	1.2	1.2	2.4	4.8
Trackwork	\$ 0.8 M/mi	2.0	4.1	0.8	2.4	0.7	4.6	3.1	0.2	5.5	5.1
Propulsion Power	\$ 1.8 M/mi	4.5	9.4	1.8	5.4	1.4	10.4	7.0	0.6	12.4	11.5
Tunnel Lighting	\$ 0.2 M/mi	0.5	1.0	0.2	0.6	0.2	1.2	0.8	0.1	1.4	1.3
Communication	\$ 0.6 M/mi	1.5	3.1	0.6	1.8	0.5	3.5	2.4	0.2	4.2	3.9
Control	\$ 1.8 M/mi	4.5	9.4	1.8	5.4	1.4	10.5	7.0	0.5	12.4	11.5
Fare Collection	\$ 0.2 M/Sta.	0.8	1.0	0.4	0.6	0.2	0.6	0.6	-	1.4	0.6
Ventilation	\$ 1.3 M/Sta.	5.2	6.5	2.6	3.9	1.3	3.9	3.9	-	9.1	3.9
Security	\$ 0.1 M/Sta.	0.4	0.5	0.2	0.3	0.1	0.3	0.3	-	0.7	0.3
Stations @	\$30 M ea	30.0	-	-	-	-	-	-	-	-	-
Stations @	\$20 M ea	20.0	20.0	-	-	-	-	-	-	-	-
Stations @	\$15 M ea	-	30.0	-	-	-	-	-	-	15.0	-
Stations @	\$10 M ea	20.0	20.0	20.0	30.0	10.0	20.0	30.0	-	60.0	20.0
Stations @	\$ 5 M ea	-	-	-	-	-	5.0	-	-	-	5.0
Control Center	\$ 5.3 M ea	3.3									
Yards & Shop & R/W	\$25.0 M ea	25.0									
Storage Yard & R/W	\$ 5.0 M ea	-					5.0				5.0
Parking with R/W	L.S	3.3	4.1	-	5.4	-	12.6	5.4	-	11.0	12.6
Sub-Total		183.6	202.7	46.2	111.6	30.9	177.5	119.8	7.0	237.6	178.0
Management & Engineering 15%		27.5	30.4	6.9	16.7	4.6	26.6	18.0	1.0	35.6	26.7
Sub-Total		211.1	233.1	53.1	128.3	35.5	204.1	137.8	8.0	273.2	204.7
Contingency 20%		42.2	46.6	10.6	25.7	7.1	40.8	27.6	1.6	54.6	40.9
T O T A L	Millions	253.3	279.7	63.7	154.0	42.6	244.9	165.4	9.6	327.8	245.6
(1977 Dollars)											



FIGURE VI.5

ORDER OF MAGNITUDE CAPITAL COST ESTIMATES-  
REGIONAL CORE RAPID TRANSIT ALTERNATIVES  
(RAIL ONLY IN AERIAL CONFIGURATION)

ESTIMATES IN MILLIONS OF 1977 DOLLARS

ALTERNATIVE ALIGNMENTS		I	II	III	IV	V
Tunneled Way-Miles		2.8	2.8	2.8	0.1	0.1
Aerial Way-Miles		13.7	15.6	13.0	11.4	8.9
TOTAL ROUTE MILES		16.5	18.4	15.8	11.5	9.0

DESCRIPTION	UNIT COST	COST IN MILLIONS				
Tunneling	\$14.0 M/mi	39.2	39.2	39.2	1.4	1.4
Portals	\$ 1.2 M/mi	4.8	4.8	4.8	2.4	2.4
Turns	L. S.	2.0	2.0	2.0	-	-
Tunnel Easements	\$100/ft.	1.43	1.43	1.43	-	-
Tunnel Lighting	\$ 0.2 M/mi	0.59	0.59	0.59	0.05	0.05
Tunnel Ventilation	\$ 1.3 M/mi	3.51	3.51	3.51	-	-

Dual Track Aerial	\$10 M/mi	137.0	156.0	130.0	114.0	89.0
Extra @ Turns	+20%	2.1	2.1	2.1	1.6	0.7
Extra @ Tall Piers	+25%	1.67	1.67	1.67	-	-
Extra-Long Spans	\$ 0.5 ea	1.5	1.5	3.0	0.5	0.5
Utility Relocation	\$ 1.6 M/mi	24.2	27.2	21.3	18.24	14.24
Trackwork	\$ 2.0 M/mi	33.0	36.8	31.6	23.0	18.0
Propulsion Power	\$ 1.8 M/mi	29.7	33.1	28.4	20.7	16.2
Communications	\$ 0.6 M/mi	9.9	11.1	9.5	6.9	5.4
Control	\$ 1.8 M/mi	29.7	33.1	28.4	20.7	16.2
Cross-Overs	\$ 0.8 M/ea	3.2	3.2	3.2	2.4	2.4
Fare Collections	\$ 0.2/Sta	3.0	3.4	2.8	2.6	2.2
Security	\$ 0.1/Sta	1.5	1.7	1.4	1.3	1.1
Control Center	L.S.	3.3	3.3	3.3	3.3	3.3
Yards & Shops	L.S.	25.0	25.0	25.0	25.0	25.0
Storage Yard	L.S.	5.0	5.0	5.0	3.3	3.3
<b>TOTAL</b>		<b>361.30</b>	<b>395.70</b>	<b>348.20</b>	<b>247.39</b>	<b>201.39</b>

FIGURE VI.5 (continued)

ORDER OF MAGNITUDE CAPITAL COST ESTIMATES-  
REGIONAL CORE TRANSIT ALTERNATIVES  
(RAIL ONLY IN AERIAL CONFIGURATION)

ESTIMATES IN MILLIONS OF 1977 DOLLARS

ALTERNATIVE ALIGNMENTS	I	II	III	IV	V
Stations	115.00	133.00	107.00	101.00	86.00
Way-Structures	361.30	395.70	348.20	247.39	201.39
Rights of Way Aerial Structures	48.44	43.59	76.49	43.96	18.76
Parking & R/W (same as tunnel)	28.00	29.00	24.00	32.00	7.0
SUBTOTAL	552.74	601.29	555.69	424.35	313.15
Engineering-Management 15%	82.91	90.19	83.35	63.65	46.97
SUBTOTAL	635.65	691.48	639.04	488.00	360.12
Contingency 20%	127.13	138.30	127.81	97.60	72.02
*SUBTOTAL	762.78	829.78	766.85	585.60	432.14
Vehicles	74.2	84.0	65.8	56.0	37.8
Engineering Management 5%	3.7	4.2	3.3	2.8	1.9
SUBTOTAL	77.9	88.2	69.1	58.8	39.7
Contingency 10%	7.8	8.8	6.9	5.9	4.0
*SUBTOTAL	85.7	97.0	76.0	64.7	43.7
<b>MILLIONS-1977 \$ *TOTAL</b>	<b>848.48</b>	<b>926.78</b>	<b>842.85</b>	<b>650.30</b>	<b>475.84</b>

FIGURE VI.6

BREAKDOWN OF ORDER OF MAGNITUDE  
RIGHT-OF-WAY CAPITAL COST ESTIMATES  
FOR AERIAL CONFIGURATION

ALTERNATIVE RAIL ALIGNMENTS	I	II	III	IV	V
LOCATION	COST IN MILLIONS OF 1977 DOLLARS				
North Broadway	-	-	-	-	-
Broadway & 7th	15.0	15.0	15.0	15.0	15.0
7th to Wilshire	3.76	3.76	3.76	3.76	3.76
Wilshire to La Brea	15.03	-	-	15.03	-
La Brea to Selma	10.17	-	-	10.17	-
Vineland to Chandler	1.50	1.50	1.50	-	-
Wilshire to Fairfax	-	10.18	-	-	-
Fairfax to Fountain	-	2.60	-	-	-
Fountain to Selma	-	7.57	-	-	-
Wilshire to Vermont	-	-	19.34	-	-
Barnsdale Park	-	-	-	-	-
Barnsdale Park to Western	-	-	24.02	-	-
Selma to Highland	-	-	9.89	-	-
Vineland to Chandler	2.98	2.98	2.98	-	-
TOTAL	48.44	43.59	76.49	43.96	18.76

FIGURE VI.7

BREAKDOWN OF ORDER OF MAGNITUDE  
STATION CAPITAL COST ESTIMATES  
FOR AERIAL CONFIGURATION

ALTERNATIVE RAIL ALIGNMENTS	I	II	III	IV	V
STATION LOCATIONS	UNIT COST	COST IN MILLIONS OF 1977 DOLLARS			
Union Station	9	9	9	9	9
Spring & 1st	10	10	10	10	10
Spring & 5th	7	7	7	7	7
7th & Flower	8	8	8	8	8
Wilshire-Alvarado	7	7	7	7	7
Wilshire-Vermont	7	7	7	7	7
Wilshire-Normandie	7	7	7	-	7
Wilshire-Western	7	7	7	-	7
Wilshire-La Brea	8	8	8	-	8
Wilshire-Hauser	8	-	8	-	8
Wilshire-Fairfax	8	-	8	-	8
Wilshire-La Cienega	-	-	-	-	-
La Brea-Beverly	7	7	-	-	7
La Brea-Santa Monica	7	7	-	-	7
Las Palmas-Selma	7	7	7	-	7
Hollywood Bowl	10	10	10	10	10
Universal City	7	7	7	7	-
Vineland Chandler	7	7	7	7	-
Fairfax & Beverly	8	-	8	-	-
Fairfax & Santa Monica	8	-	8	-	-
Vermont-Beverly	7	-	-	7	-
Vermont City College	7	-	-	7	-
Vermont & Fountain	7	-	-	7	-
Selma-Western	7	-	-	7	-
Selma-Vine	7	-	-	7	-
TOTAL		115	133	107	101
					86

### 3. Operating and Maintenance Cost Estimates

Operating cost for a transportation system is an important element in establishing economic feasibility and in determining the cost-effectiveness of various alternatives since it indicates the continuing need for financial resources that must be committed to operate and maintain the system. Operating costs are annual recurring costs, that when summed over the lifetime of a system, represent a major cost element. Operating cost estimates for bus and rail alternatives were prepared to support the evaluation process and as input elements to transit efficiency comparisons and the cost-effectiveness evaluations. Operating and maintenance costs were developed in categories which generally conform to the transit industry's accounting practices. These cost categories include maintenance of ways and structures, maintenance of vehicles, operating supplies and power, transportation and general administration.

Operating and maintenance costs for the various alternatives are based, to the extent possible, on previous studies accomplished by SCRTD and updating of 1976 cost data. Bus costs are based on the planning formulae used by SCRTD. Conventional rail costs are based on comparative analyses using both analytical and empirical cost information.

#### a. Rail Operating and Maintenance Costs

Rail operating and maintenance costs have been developed for each of the five rail rapid transit alternatives. Operating and maintenance costs were developed for the following functions which conform to American Transit accounting practices. These categories are defined below:

- Maintenance of Way and Structures: This category includes the expenses of maintaining fixed facilities such as subways, aerial structures, tracks, stations, electrical and

control equipment, power systems, fare collection equipment, escalators, landscaping, fencing and parking lots and the administration of this activity.

- Maintenance of Vehicles: Includes expenses of maintaining, inspecting, repairing and cleaning vehicles and the administration of this activity.
- Power: Includes the expense of providing traction power for propulsion of rail cars, the auxiliary power for illumination of stations, yards and shops and operation of machinery, such as escalators, fans, pumps and other power equipment. Possible energy savings by the use of a "gravity assist profile" have not been included in the estimates of power costs.
- Transportation: Includes the wages of the train attendants, 24-hour manned station attendants, security force of about 45 personnel and other personnel and material directly associated with train operation and the administration of this activity. This includes personnel required to perform such functions as accounting, purchasing, scheduling, personnel, legal, insurance expenses including liability and property damage insurance; employee benefits for rapid transit employees, and other administrative expenses.

For each category defined above, the unit rail operating and maintenance costs have been developed. The operating and maintenance cost estimates herein are based on the 1976 Alternative Analysis and operating and maintenance experience of comparable transit systems. Detailed operating cost information was obtained from PATCO and Toronto, which is shown in Figure VI.8. The resulting unit operating costs used in this analysis are shown in Figure VI.9.

Estimated rail rapid transit operating and maintenance costs for Alternatives I through V are shown in Figures VI.10-14 and summarized in Figure VI.15. Rail and bus operating statistics and costs are combined and shown in Figure VI.16. The operating costs for the rail systems are based on the unit costs shown in Figure VI.9 and the operating schedule for each rail alternative shown in Chapter III, Figures III.15 through III.17.

FIGURE VI.8  
COMPARISON OF OPERATING STATISTICS OF SELECTED RAIL RAPID TRANSIT SYSTEMS  
OPERATING COST PARAMETERS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
SYSTEMS	Miles of Route	Number of Stations	Average Speed (incl. Stations) (mph)	Peak Headway (min.)	Hours of Service	Daily Patronage	Number of R.T. Cars	Number of Operating Personnel	Number of Maintenance Personnel Shop & Way Structure	Total Security Personnel	Total Annual Car miles (millions)
TORONTO	32.0	57	22	2.3	20	700,000+	612*	3,300	Track: 152 Stat: 175 Shops: 602	@	33.8
PATCO	14.2	13	36	2.0	24	40,000	75	118	Way/pwr: 60 Shops: 80	21	4.0
SCRTD-Alt. II	18.6	17	39	3.5	24	275,000	120	208	Shop: 120 Way: 70	45	11.4
SCRTD-Alt. V	8.0	11	34	3.5	24	180,000	54	94	Shop: 60 Way: 20	45	3.6

\* Overstocked with cars.

# Central monitoring staff would not change with length of line and fieldmen rove system.

\*\*Includes subway, streetcars, buses - No individual breakdown - many employees qualify on all nodes and may change day to day.

@ Serviced by Toronto Metropolitan Police, with supervision by TTC - No fixed compliment.

FIGURE VI.8 Continued  
 COMPARISON OF OPERATING STATISTICS OF SELECTED RAIL RAPID TRANSIT SYSTEMS  
 OPERATING COST PARAMETERS

(12) Average Car Miles Per Car (thousands)	(13) Total Annual O & M Costs (millions)	(14) Cost Per Car Mile	(15) Maintenance		(16) Oper. Men Per Car	(17) Security Men Per Mile
			Men/ Vehicle	Way/Struct. Men/Mile		
71.0	45.2	1.34	1.02	10.3	**	@
53.1	8.8	2.38	1.1	4.2	1.57	1.48
95.3	23.0	2.01	1.7	4.1	1.73	2.5 (2)
66.1	12.0	3.36	1.1	3.5	1.70	5.6 (2)

FIGURE VI.9

DERIVATION OF UNIT OPERATING COST

Item	Unit of Measure	Base O&M Cost (1977 Dollars)
<u>Maintenance of Way</u>		
Administration	Lump Sum	\$245,000
Track	VMT	\$ 0.155
Yards & Shops	Vehicle	\$ 5,000
Electrification (1)	VMT	\$ 0.074
Stations	Each	\$ 28,750
Parking	Space	\$ 40
Control & Communication	Track Mile	\$ 6,325
<u>Maintenance of Vehicles</u>		
	VMT	\$ 0.50
<u>Power</u>		
Vehicles (2)	VMT	\$ 0.27
Stations (3)	Each	\$105,120
Yards & Shops (4)	Lump Sum	\$262,800
<u>Transportation</u>		
Vehicle Operations (5)	Each	\$ 30,000
Administration	Lump Sum	\$210,000
Stations	Each	\$125,000
Passenger Service	Lump Sum	\$600,000
Line Supervision (6)	Lump Sum	\$250,000
Planning (7)	Lump Sum	\$175,000
Security	Lump Sum	\$1,200,000
Control Center (8)	Lump Sum	\$500,000

- (1) Based on PATCO type vehicle
- (2) At 3¢/KWHR; 9 KWHRS per mile
- (3) At 400 kva, 24 hrs. 3¢/Kwhr.
- (4) At 1000 kva, 24 hrs. 3¢/Kwhr.
- (5) SCRTD Accounting Department
- (6) At 344 man hours per week; \$13.08 per hour
- (7) At 45 men; \$26,667 per year
- (8) At 688 man hours per week; \$13.08 per hour

FIGURE VI.10

ANNUAL OPERATING COST - DERIVATION

Alternative I  
 Vehicles: 106  
 Annual Vehicle Miles: 10,187,840  
 Annual Miles/Car: 96,112  
 Track Miles: 40  
 Stations: 15

<u>Maintenance of Way</u>			
Administration	L.S.	\$245,000	\$ 245,000
Track	0.155/VMT		1,579,115
Yard & Shop	\$5,000/Veh.		530,000
Electrification	0.074/VMT		753,900
Stations (15)	\$ 28,750 ea.		431,250
Parking 8300 spaces	\$ 40. each		332,000
Control & Communication (at 40 mi.)	\$ 6,325/Track Mi.		253,000
<u>Maintenance of Vehicles</u>	0.50 VMT		5,093,920
<u>Power</u>			
Vehicles @ 3¢ Kw/hr	0.27/VMT		2,750,717
Stations (15)	\$105,120 ea.		1,576,800
Yard & Shops	L.S.	\$262,800	262,800
<u>Transportation</u>			
Vehicle Operators	92 @ \$30,000		2,760,000
Administration	L.S.	\$210,000	210,000
Stations (15)	\$125,000 ea.		1,875,000
Passenger Service	L.S.	\$600,000	600,000
Line Supervision	L.S.	\$250,000	250,000
Planning	L.S.	\$175,000	175,000
Security	L.S.	\$1,200,000	1,200,000
Control	L.S.	\$500,000	500,000
			\$21,378,502
			<u>Say: \$21,500,000</u>

Cost/Car Mile: 2.11

FIGURE VI.11

ANNUAL OPERATING COST - DERIVATION

Alternative II BOARD PREFERRED ALTRNATIVE  
 Vehicles: 120  
 Annual Vehicle Miles: 11,438,690  
 Annual Miles/Car: 95,322  
 Track Miles: 44  
 Stations: 17

Maintenance of Way

Administration	L.S.	\$245,000	\$ 245,000
Track		0.155/VMT	1,772,997
Yard & Shop		\$5,000/Veh.	600,000
Electrification		0.074/VMT	846,463
Stations (17)		\$ 28,750 ea.	488,750
Parking 8300 spaces		\$ 40. each	332,000
Control & Communication (at 44 mi.)		\$ 6,325/Track Mi.	278,300

Maintenance of Vehicles 0.50 VMT 5,719,345

Power

Vehicles @ 3¢ Kwhr)		0.27/VMT	3,088,446
Stations (17)		\$105,120 ea.	1,787,040
Yard & Shops	L.S.	\$262,800	262,800

Transportation

Vehicle Operators		92 @ \$30,000	2,760,000
Administration	L.S.	\$210,000	210,000
Stations (17)		\$125,000 ea.	2,125,000
Passenger Service	L.S.	\$600,000	600,000
Line Supervision	L.S.	\$250,000	250,000
Planning	L.S.	\$175,000	175,000
Security	L.S.	\$1,200,000	1,200,000
Control	L.S.	\$500,000	500,000

\$23,241,141  
 Say: \$23,000,000

Cost/Car Mile: 2.01

FIGURE VI.12

ANNUAL OPERATING COST - DERIVATION

Alternative III  
 Vehicles: 94  
 Annual Vehicle Miles: 8,787,570  
 Annual Miles/Car: 93,485  
 Track Miles: 40  
 Stations: 14

Maintenance of Way

Administration	L.S.	\$245,000	\$ 245,000
Track		0.155/VMT	1,362,073
Yard & Shop		\$5,000/Veh.	470,000
Electrification		0.074/VMT	650,280
Stations (14)		\$ 28,750 ea.	402,500
Parking 10,800 spaces		\$ 40. each	432,000
Control & Communication (at 40 mi.)		\$ 6,325/Track Mi.	253,000

Maintenance of Vehicles 0.50 VMT 4,393,785

Power

Vehicles @ 3¢ Kwhr)		0.27/VMT	2,372,644
Stations (14)		\$105,120 ea.	1,471,680
Yard & Shops	L.S.	\$262,800	262,800

Transportation

Vehicle Operators		81 @ \$30,000	2,430,000
Administration	L.S.	\$210,000	210,000
Stations (14)		\$125,000 ea.	1,750,000
Passenger Service	L.S.	\$600,000	600,000
Line Supervision	L.S.	\$250,000	250,000
Planning	L.S.	\$175,000	175,000
Security	L.S.	\$1,200,000	1,200,000
Control	L.S.	\$500,000	500,000

\$19,430,762  
 Say: \$19,500,000

Cost/Car Mile: 2.22

FIGURE VI.13

ANNUAL OPERATING COST - DERIVATION

Alternative IV

Vehicles: 80  
 Annual Vehicle Miles: 5,402,060  
 Annual Miles/Car: 67,526  
 Track Miles: 26  
 Stations: 13

Maintenance of Way

Administration	L.S.	\$245,000	\$ 245,000
Track		0.155/VMT	837,319
Yard & Shop		\$5,000/Veh.	400,000
Electrification		0.074/VMT	399,752
Stations (13)		\$ 28,750 ea.	373,750
Parking 2800 spaces		\$ 40. each	112,000
Control & Communication (at 28 mi.)		\$ 6,325/Track Mi.	164,450

Maintenance of Vehicles 0.50 VMT 2,701,030

Power

Vehicles @ 3¢ Kwhr)		0.27/VMT	1,458,556
Stations (13)		\$105,120 ea.	1,366,560
Yard & Shops	L.S.	\$262,800	262,800

Transportation

Vehicle Operators		60 @ \$30,000	1,800,000
Administration	L.S.	\$210,000	210,000
Stations (13)		\$125,000 ea.	1,625,000
Passenger Service	L.S.	\$600,000	600,000
Line Supervision	L.S.	\$250,000	250,000
Planning	L.S.	\$175,000	175,000
Security	L.S.	\$1,200,000	1,200,000
Control	L.S.	\$500,000	500,000

\$14,681,217  
 Say: \$14,500,000

Cost/Car Mile: 2.68

FIGURE VI.14

ANNUAL OPERATING COST - DERIVATION

Alternative V

Vehicles: 54  
 Annual Vehicle Miles: 3,571,200  
 Annual Miles/Car: 66,133  
 Track Miles: 22  
 Stations: 11

Maintenance of Way

Administration	L.S.	\$245,000	\$ 245,000
Track		0.155/VMT	553,536
Yard & Shop		\$5,000/Veh.	270,000
Electrification		0.074/VMT	264,269
Stations (11)		\$ 28,750 ea.	316,250
Parking 1500 spaces		\$ 40. each	60,000
Control & Communication (at 22 mi.)		\$ 6,325/Track Mi.	139,150

Maintenance of Vehicles 0.50 VMT 1,785,600

Power

Vehicles @ 3¢ Kwhr)		0.27/VMT	964,224
Stations (11)		\$105,120 ea.	1,156,320
Yard & Shops	L.S.	\$262,800	262,800

Transportation

Vehicle Operators		62 @ \$30,000	1,860,000
Administration	L.S.	\$210,000	210,000
Stations (11)		\$125,000 ea.	1,375,000
Passenger Service	L.S.	\$600,000	600,000
Line Supervision	L.S.	\$250,000	250,000
Planning	L.S.	\$175,000	175,000
Security	L.S.	\$1,200,000	1,200,000
Control	L.S.	\$500,000	500,000

\$12,187,149  
 Say: \$12,000,000

Cost/Car Mile: 3.36



FIGURE VI.15

RAIL OPERATING STATISTICS AND COSTS  
FOR ALTERNATIVES I THRU V

ITEM	A L T E R N A T I V E S				
	I	II	III	IV	V
Number of Vehicles	106	120	94	80	54
Annual Vehicle Miles/ (1,000s)	10,188	11,439	8,788	5,402	3,571
Average Annual Miles/ Vehicles (1,000s)	96	95	93	68	66
Track Miles	40	44	40	26	22
Number of Stations	15	17	14	13	11
Average Speed (MPH)	39	39	40	35	34
Annual Operating Cost (Millions \$)	21.5	23.0	19.5	14.5	12.0
Cost/Car Mile	2.11	2.01	2.22	2.68	3.36

Source: SCRTD Staff Analysis

b. Bus Operating and Maintenance Costs

Bus Operating and maintenance costs were projected for the bus component of the five Rail/Bus Alternatives as well as the six All-Bus Alternatives for the service levels and patronage contained in Chapter III.A. The formula developed by SCRTD for costing bus services on a line by line basis was used in estimating these bus operation and maintenance costs. This formula is as follows:

(1) Parameters for Bus Costing

(a) Bus Hours: Bus hours will be estimated by multiplying line trips per day from schedule by running time and adding layover (15% of running time). Then adding the pull-in and pull-out times (not in service) based on a system average of 9 miles and 27 minutes each. These are added for each pull-in and pull-out bus trip, i.e., 54 minutes for base period buses and 108 minutes for peak-only buses which return to the garage between peaks.

(b) Pay Hours: Estimated pay hours (operators pay and fringes) will be arrived at by multiplying bus hours for each line to be costed by one of the two following expansion factors:

For lines operating only in the peak.

Multiply bus hours by 1.67\*

\*As provided for in Section 4, this factor is applied only to the direct operator pay cost component. The indirect or support costs such as scheduling, marketing, etc. are applied at the lower expansion factor of 1.10.

For all other lines (include local and freeway lines operating both base and peak service)

Multiply bus hours by 1.10

(c) Bus Miles: Bus miles will be estimated by multiplying line trips per day by round trip distance, neglecting turnaround distance. Then add pull-in and pull-out mileage at the system-wide average of 9 miles each. Note that 18 miles will be added for each base period bus and 36 miles for each peak-only bus.

(2) Parameters for Costing Each Bus Line

Line costs will be estimated from SCRTD full cost factors for pay-hours and bus-miles. Full costs will be used because this is a long-range planning analysis, projecting ahead by 13 years to 1990. The following specific cost parameters will be used to represent 1977 dollar values (based on August, 1977 data from the Service Analysis Section):

(a) For lines operating only in the peak period

To obtain mileage related costs. Multiply bus miles by \$0.435 for standard buses and \$0.60 for articulated buses.

To obtain bus hour related costs<sup>(1)</sup> Multiply bus hours by \$26.35

(1) NOTE: This number represents the following: Of the \$18.664 per pay hour, the \$10.206 attributable directly to operator's pay and fringes is multiplied by 1.10, to arrive at the composite bus hour factor of \$26.35 for peak hour services.

(b) For all other lines (includes local and freeway lines operating both base and peak service.)

To obtain mileage related costs Multiply bus miles by \$0.435 for standard buses and \$0.60 for articulated buses

To obtain bus hour related costs<sup>(2)</sup> Multiply bus hours by \$20.53

(2) NOTE: This number represents the following: Of the \$18.664 per pay hours, both the \$10.206 attributable directly to operator's pay and fringes, and the remainder of \$8.458, are multiplied by \$1.10, to arrive at the composite bus hour factor of \$20.53 is for all other bus lines.

(c) Annualization Factors: Weekday-only service will be annualized with a factor of 255; lines with no Sunday service will have a factor of 280, reflecting less service on Saturdays, and all-week service will have a factor of 310.

All bus costs are derived from the above formula. For Alternative VI, which assumes a rail-type operation on an exclusive aerial guideway, bus costs include the operation and maintenance costs associated with guideway and stations. A summary of bus and rail operating statistics and costs is shown in Figure VI.16.

B. TRANSIT EFFICIENCY

1. Introduction

Transit efficiency provides a means of assessing the cost effectiveness of attracting and moving passengers under each alternative. Transit efficiency measures allow comparison of alternatives in terms of their costs, revenues, and the resulting surplus or deficit per unit of transit productivity. For this analysis, transit productivity is defined in terms of passenger trips and passenger miles.

Inputs into the transit efficiency analysis include annual linked passenger trips, passenger miles, capital costs, annual operation costs, and annual revenues. Patronage estimates, operating costs, and revenues were estimated for 1990 service levels and are expressed as annual amounts. These estimates are detailed in their respective chapters in the report.

FIGURE VI.16

SUMMARY OF BUS AND RAIL OPERATING COSTS FOR ALL ALTERNATIVES  
 (INCLUDING BACKGROUND BUSES AND FEEDER BUSES FOR ALTERNATIVES I THRU V) <sup>(1)</sup>

ITEM	ALTERNATIVES										
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI
Number of Buses*	934	945	982	910	986	1,186	1,132	1,096	1,165	1,154	939
Number of Rail Cars*	106	120	94	80	54	-	-	-	-	-	-
Annual Bus Miles (1000's)	35,305	35,154	36,958	35,051	38,051	54,718	41,753	42,144	42,328	40,739	32,723
Annual Rail Car Miles (1000's)	10,188	11,439	8,788	5,402	3,571	-	-	-	-	-	-
Annual Bus Hours (1000's)	2,993	2,978	3,125	2,983	3,276	3,698	4,082	3,966	3,988	3,886	3,156
Annual Bus Operating Costs (Millions)	77.2	76.8	80.6	76.9	84.3	110.5	102.7	99.9	100.7	97.7	79.1
Annual Rail Operating Costs (Millions)	21.5	23.0	19.5	14.5	12.0	-	-	-	-	-	-
Total Operating Cost (Millions)	98.7	99.8	100.1	91.4	96.3	110.5	102.7	99.9	100.7	97.7	79.1

\*Includes 10% spares

(1) Projected 1990 costs in 1977 Dollars

SOURCE: SCRTD Staff Analysis

Capital costs occur unevenly overtime, usually most heavily at the beginning of the project. Therefore, it is necessary to represent the capital costs on an annual basis to allow comparison with patronage and operating costs. Because there is a cost of capital, annualizing capital costs is more than simply dividing the total costs by the system lifetime. To place capital on an equivalent annual basis it is necessary to apply a capital recovery factor which takes into account both the cost, or rate of return, on capital as well as the lifetime of the project.

The capital recovery factor is expressed as follows:

$$CRF = \frac{i (1+i)^n}{(1+i)^n - 1}$$

where CRF = Capital Recovery Factor  
 i = interest rate  
 n = lifetime of project components

The capital costs were annualized using interest rates of four, seven, and ten percent which do not include the effect of inflation. In the discussion on discount rates, it should be noted that OMB Circular A-94 prescribes that federal projects use a standard discount rate of 10%. While non-federal recipients of federal loans and grants (e.g. SCRTD) are exempt from this requirement, it is important to recognize that the 10% figure is considered reasonable from a federal perspective. The 7% rate is considered acceptable and the 4% rate is shown only for sensitivity purposes.

Industry-wide and the Federal Department of Transportation's accepted economic lifetimes for buses and rail vehicles of 12 and 36 years, respectively, have been used in this analysis. The lifetime of fixed facilities has been assumed to be equal to 36 years.

## 2. Annualized Costs

All costs shown in this chapter are expressed in constant 1977 dollars. This permits a consistent comparison of the real value of these elements. Only costs for the bored subway construction have been used for rail alternatives.

The transit efficiency measures have been calculated on a total and marginal cost basis. The efficiency measures based on total costs and total patronage portray the average cost incurred for each unit of productivity. The marginal measures show the additional (marginal) investment required for each additional (marginal) unit of productivity, relative to the Null Alternative (XI).

Economic theory states marginal returns should equal marginal costs at the optimum level of investment; hence additional dollars should be invested as long as greater productivity is received for each additional dollar invested.

The total annualized system costs (annualized capital cost and annual operating cost) for the alternatives in the Regional Core are presented in Figure VI.17. At the 7% and 10% discount rates the total annualized system costs are approximately \$91 million for the Null Alternative (XI), and range from \$170 to \$180 million for Alternatives II and VI. Generally, using the same interest rates, the All-Bus Alternatives show an annualized system cost of about \$115 million while the Rail/Bus Alternatives range from \$144 million to \$184 million.

Figure VI.18 compares the marginal annualized system costs for the various alternatives i.e., net of the null. At the 7% interest rate, the All-Bus Alternatives show a marginal annualized system cost ranging between 20 and 30 million dollars; for the Rail/Bus Alternatives the range is 50 to 80 million dollars.

FIGURE VI.17

TOTAL ANNUALIZED SYSTEM COSTS

Total Annualized System Costs (Millions of 1977 Dollars)	TRANSIT ALTERNATIVES FOR THE REGIONAL CORE										
	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>VII</u>	<u>VIII</u>	<u>IX</u>	<u>X</u>	<u>XI</u>
4%	151.8	156.4	149.3	136.5	134.7	159.6	117.0	113.8	115.4	112.0	90.2
7%	165.9	171.7	161.9	148.1	143.7	171.5	117.8	114.6	116.2	112.8	90.7
10%	177.3	184.1	172.1	157.4	150.8	180.7	118.4	115.2	116.9	113.4	91.1

FIGURE VI.18

MARGINAL ANNUALIZED SYSTEM COSTS

Marginal Annualized System Costs (Millions of 1977 Dollars)	TRANSIT ALTERNATIVES FOR THE REGIONAL CORE										
	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>VII</u>	<u>VIII</u>	<u>IX</u>	<u>X</u>	<u>XI</u>
4%	61.6	66.2	59.1	46.3	44.5	69.4	26.8	23.6	25.2	21.8	-
7%	75.2	81.0	71.2	57.4	53.0	80.8	27.1	23.9	25.5	22.1	-
10%	86.2	93.0	81.0	66.3	59.7	89.6	27.3	24.1	25.8	22.3	-

### 3. Patronage Measures

Patronage estimates for each alternative were made as described in Chapter III. section A. Passenger trips and passenger miles were taken directly from these estimates. These statistics are listed in Figure VI.19 in total and marginal form.

The passenger trips shown represent the annual linked passenger trips adjusted to eliminate the double counting of transfers. All of the alternatives show increases in patronage over the null (XI) which carries 125 million annual passengers. Alternative II carries the greatest number of passengers, 199 million, which indicates a 59% increase over the null.

The passenger miles were obtained from the LARTS UTPS forecasting model and adjusted for the capacity constrained analysis. As the table indicates, they range between 512 million for the Null Alternative (XI) and 958 million for the 18 mile Rail/Bus Alternative II.

### 4. Transit Efficiency Measures

Transit efficiency measures express patronage, costs, and revenues on a per unit of transit productivity basis. All patronage, cost and fare revenue measures used in this report are based on the 1990 "design year" level of service. As such, the transit efficiency measures shown in this analysis can be considered "snapshot measurements" and the relative value of the measures will vary at different times and patronage levels.

#### a. Total (Capital + Operating) Cost Efficiency Measures

##### (1) Total Cost Efficiency

The total system cost efficiency measures are given in Figure VI.20 Viewing the figures listed at the 7% discount rate on capital expenditures, the total system cost per passenger ranges from 72¢

FIGURE VI. 19

TOTAL AND MARGINAL

ESTIMATED ANNUAL PASSENGER TRIPS AND PASSENGER MILES IN 1990  
(In Millions)

	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>VII</u>	<u>VIII</u>	<u>IX</u>	<u>X</u>	<u>XI</u>
<u>TOTAL ANNUAL</u>											
Passenger Trips	194	199	191	181	178	194	160	157	159	156	125
Passenger Miles	933	958	897	848	820	933	646	645	652	642	512
<u>MARGINAL ANNUAL</u>											
Passenger Trips	69	74	66	56	53	69	35	32	34	31	--
Passenger Miles	421	446	385	336	308	421	134	133	140	130	--

FIGURE VI. 20

TOTAL SYSTEM COST TRANSIT EFFICIENCY MEASURES (1977 Dollars)

(Capital and Operating)

	TRANSIT ALTERNATIVES FOR THE REGIONAL CORE										
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI
Total Cost Transit Efficiency Measures (\$/passenger trip)											
Per Passenger											
4%	.78	.79	.78	.75	.76	.82	.73	.72	.73	.72	.72
7%	.86	.86	.85	.82	.81	.88	.74	.73	.73	.72	.73
10%	.91	.93	.90	.87	.85	.93	.74	.73	.74	.73	.73
Per Passenger Mile											
4%	.16	.16	.17	.16	.16	.17	.18	.18	.18	.17	.18
7%	.18	.18	.18	.17	.18	.18	.18	.18	.18	.18	.18
10%	.19	.19	.19	.19	.18	.19	.18	.18	.18	.18	.18

FIGURE VI. 21

MARGINAL COST TRANSIT EFFICIENCY MEASURES (1977 Dollars)

(Capital and Operating)

	TRANSIT ALTERNATIVES FOR THE REGIONAL CORE										
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI
Marginal Cost Transit Efficiency Measures (\$/passenger trip)											
Per Passenger											
4%	.89	.89	.90	.83	.84	1.01	.77	.74	.74	.70	-
7%	1.09	1.09	1.08	1.03	1.00	1.17	.77	.75	.75	.71	-
10%	1.25	1.26	1.23	1.18	1.13	1.30	.78	.75	.76	.72	-
Per Passenger Mile											
4%	.15	.15	.15	.14	.14	.16	.20	.18	.18	.17	-
7%	.18	.18	.18	.17	.17	.19	.20	.18	.18	.17	-
10%	.20	.21	.21	.20	.19	.21	.20	.18	.18	.17	-



to 86¢. Except for the aerial busway, Alternative VI, the per passenger cost for the All-Bus Alternatives is about 73¢. The Rail/Bus Alternatives per passenger cost is slightly higher, ranging from 81¢ for Alternative V, the least expensive, and shortest (8 mile) rail system to 86¢ for Alternative II (the Board Preferred Alternative), the longest (18.6 mile) rail system. When the per passenger mile measures are looked at, all of the Rail/Bus and All-bus Alternatives show a total system cost per passenger mile of 18¢, except Rail/Bus Alternative IV, which has a cost per passenger mile of only 17¢. While the Rail/Bus Alternatives yield a higher total cost per passenger trip, these figures suggest that in terms of cost per passenger mile the Rail/Bus Alternatives have the same total cost efficiency as the All-Bus Alternatives.

#### (2) Marginal Cost Efficiency

A similar pattern is suggested by the marginal cost transit efficiency measures as is seen in Figure VI.21. At the 7% discount rate the All-Bus Alternatives show a marginal cost per marginal passenger ranging from 71¢ (X) to 77¢ (VII). The Rail/Bus Alternatives range from \$1.00 (V) to \$1.09 (I, II). Again the aerial busway (VI) shows the highest cost at \$1.17. When marginal cost is measured against the marginal passenger mile, the Rail/Bus Alternatives appear to be more efficient. Their marginal cost per marginal passenger mile is either 17¢ or 18¢, while the All-Bus Alternatives show for the same measure a range between 17¢ and 20¢.

#### b. Operating Cost Transit Efficiency Measures

##### (1) Operating Cost Efficiency

An operating cost analysis is of particular importance to transit planning. Once the capital costs involved in system implementation have been spent, the chief concern is the continuing operating costs of the alternative chosen and how they might be met. Transit efficiency measures were calculated for total and marginal system operating costs as another measure of distinction among the alternatives.

Total Regional Core system annual operating costs, operating cost per passenger and operating cost per passenger mile are listed in Figure VI.22. Because of the operating efficiencies of the Rail/Bus Alternatives and because they attract more passengers, the Rail/Bus Alternatives are significantly more efficient than the All-Bus Alternatives. On a per passenger basis, Figure VI.22 shows that the Rail/Bus Alternatives have an operating cost ranging between 50¢ and 54¢. Meanwhile, for the same measure, the All-Bus Alternatives show a 19% higher cost of either 63¢ or 64¢. This trend is consistent in the operating cost per passenger mile measure, where the Rail/Bus Alternatives show an operating cost of either 10¢, 11¢, or 12¢ per passenger mile, while the All-Bus Alternatives, except Alternative VI, are 45% higher and range from 15¢ to 16¢.

#### (2) Marginal Operating Cost Efficiency

The marginal operating cost transit efficiency measures yield the same results as above. As Figure VI.23 indicates, the marginal annual operating cost per marginal passenger for the Rail/Bus Alternatives is much more favorable than those for the All-Bus Alternatives. For the Rail/Bus Alternatives it ranges between 22¢ and 32¢, but the All-Bus Alternatives range between 46¢ and 67¢ indicating a more than double cost.

The same is true of the marginal operating cost per marginal passenger mile measure where the Rail/Bus Alternatives range between 4¢ and 6¢ but the All-Bus Alternatives range between 7¢ and 18¢.

#### c. Operating Surplus or Deficit Efficiency Measures

##### (1) Operating Surplus or Deficit Efficiency

In Figure VI.24, estimated revenues were added to the formula to offset operating costs. The revenue was estimated using an average fare assumption of 50 cents per linked passenger trip in 1977 dollars. This assumed a 25% increase over the existing average fare of 40¢ which is explained more fully in the Financial Analysis section.

FIGURE VI. 22

TOTAL ANNUAL OPERATING COST AND OPERATING COST TRANSIT EFFICIENCY MEASURES

	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>VII</u>	<u>VIII</u>	<u>IX</u>	<u>X</u>	<u>XI</u>
Total Annual Operating Cost (Millions)	98.7	99.8	100.1	91.4	96.3	110.5	102.7	99.9	100.7	97.7	79.1
Total Annual Operating Cost - Per Passenger (\$)	.51	.50	.52	.50	.54	.57	.64	.64	.63	.63	.63
- Per Pass. Mile(\$)	.11	.10	.11	.11	.12	.12	.16	.15	.15	.15	.15

FIGURE VI. 23

MARGINAL ANNUAL OPERATING COST AND OPERATING COST TRANSIT EFFICIENCY MEASURES

	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>VII</u>	<u>VIII</u>	<u>IX</u>	<u>X</u>	<u>XI</u>
Marginal Annual Operating Cost (millions)	19.6	20.7	21.0	12.3	17.2	31.4	23.6	20.8	21.6	18.6	--
Marginal Annual Operating Cost - Per Passenger(\$)	.28	.28	.32	.22	.32	.46	.67	.65	.64	.60	--
- Per Pass.Mile(\$)	.05	.05	.05	.04	.06	.07	.18	.16	.15	.14	--

A sensitivity analysis has been made on the basis of a 40¢ average fare and the results are also included in the Financial Analysis Section. As the Figure VI.24 indicates, the annual revenue estimates for 1990, in 1977 dollars, range from \$62 million for the Null (XI) to \$100 million for Rail/Bus Alternative II (the Board Preferred Alternative). In general terms, the All-Bus Alternatives, excepting Alternative VI, generate either 78 or 80 million dollars and the Rail/Bus Alternatives bring in between 89 and 100 million dollars. When these revenues are applied to the operating cost estimates, Rail/Bus Alternative II is the only alternative which virtually recovers its operating cost. The remaining Rail/Bus Alternatives come close to recovering their operating costs, yielding deficits ranging between 1 and 7 million dollars.

The All-Bus Alternatives, on the other hand, show annual deficits ranging from \$14 million for the aerial busway (VI) to \$23 million for the exclusive median bus lanes on Wilshire and La Brea (VII).

When the surplus or deficit is assigned to the passenger or passenger mile unit measure, the distinction does not change. Rail/Bus Alternative II shows neither a surplus or deficit per passenger and passenger mile, Alternatives I, III, IV and V show small deficits for the same measures, and the All-Bus Alternatives show significantly higher deficits ranging from 7¢ to 14¢ per passenger or 1.4¢ and 3.5¢ per passenger mile.

## (2) Marginal Operating Surplus or Deficit Efficiency

When the marginal analysis is considered, as is presented in Figure VI.25, the distinction between Rail/Bus Alternatives and All-Bus Alternatives is even more pronounced. All of the Rail/Bus Alternatives show a marginal operating surplus ranging between \$9 million and \$17 million, while the All-Bus Alternatives, except for Alternative VI, yield an operating deficit of between 3 and 6 million dollars. Alternative VI, the aerial busway, shows an operating

FIGURE VI. 24

TOTAL ANNUAL OPERATING SURPLUS/DEFICIT EFFICIENCY MEASURES

(1977 Dollars)

<u>Alternatives:</u>	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>VII</u>	<u>VIII</u>	<u>IX</u>	<u>X</u>	<u>XI</u>
Estimated Total Annual Fare Revenue (millions \$)	97.0	99.5	95.5	90.5	89.0	97.0	80.0	78.5	79.5	78.0	62.5
Estimated Total Annual Operating Cost (millions \$)	98.7	99.8	100.1	91.4	96.3	110.5	102.7	99.9	100.7	97.7	79.1
Estimated Total Annual Surplus or (Deficit) (millions \$)	(1.7)	(0.3)	(4.6)	(0.9)	(7.3)	(13.5)	(22.7)	(21.4)	(21.2)	(19.7)	(16.6)
Per Passenger (\$)	(.01)	0.0	(.02)	0.0	(.04)	(.07)	(.14)	(.14)	(.13)	(.13)	(.13)
Per Passenger Mile (\$)	(.002)	0.0	(.005)	(.001)	(.009)	(.014)	(.035)	(.033)	(.033)	(.031)	(.032)

FIGURE VI. 25

MARGINAL ANNUAL OPERATING SURPLUS/DEFICIT EFFICIENCY MEASURES

(1977 Dollars)

<u>Alternatives:</u>	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>VII</u>	<u>VIII</u>	<u>IX</u>	<u>X</u>	<u>XI</u>
Estimated Marginal Annual Fare Revenue (millions \$)	34.5	37.0	33.0	28.0	26.5	34.5	17.5	16.0	17.0	15.5	0.0
Estimated Marginal Annual Operating Cost (millions \$)	19.6	20.7	21.0	12.3	17.2	31.4	23.6	20.8	21.6	18.6	0.0
Estimated Marginal Annual Surplus or (Deficit) (millions \$)	14.9	16.3	12.0	15.7	9.3	3.1	(6.1)	(4.8)	(4.6)	(3.1)	0.0
Per Passenger (\$)	.22	.22	.18	.28	.18	.04	(.17)	(.15)	(.14)	(.10)	0.0
Per Passenger Mile (\$)	.035	.037	.031	.047	.030	.007	(.045)	(.036)	(.033)	(.024)	0.0

surplus of \$3 million. These same surpluses and deficits are reflected in the productivity measures where the Rail/Bus Alternatives show a per passenger surplus ranging from 18¢ to 28¢ and the All-Bus Alternatives except Alternative VI, show per passenger deficits between 10¢ and 17¢. The same pattern is reflected in the passenger mile statistic.

### c. Conclusions

When the total system annualized costs (annualized capital cost + annual operating cost) are measured against productivity the All-Bus Alternatives appear to be more efficient on a per passenger basis. But, when the same cost is measured against the passenger mile, they all have the same efficiency.

When operating costs only are analyzed, the Rail/Bus Alternatives are more efficient than the All-Bus Alternatives. When anticipated fare revenue is considered, the Rail/Bus Alternatives show a greater potential to cover their operating costs than the All-Bus Alternatives.

## C. URBAN ECONOMY

### 1. Introduction

An important consideration in alternative selection is the extent of the impact of such a project on the economy of the region. The evaluation criteria considered in this analysis are termed economic base impacts and include employment impacts, tax base impacts, and the impacts on residential and business activity. This section will discuss these impacts, with emphasis on the difference among the various alternatives.

### 2. Employment Impacts

Employment impacts fall into two major categories; short-term and long-term. Short-term employment impacts are related to the implementation of the system with direct job benefits caused by increases

in construction employment and employment in manufacturing of vehicles and equipment.

The number of jobs which would be created in construction would be directly related to the project's cost. Alternative II (the Board Preferred Alternative) for example, is estimated to produce an average of 3,000 to 5,000 jobs per year in the construction, equipment, material, manufacturing and service industries for approximately five years, assuming bored tunnel construction. This would have a beneficial effect on the area's unemployment situation. It would save appreciable amounts in welfare payments and unemployment insurance. The peak employment could be twice that number. The other alternatives would create jobs, in proportion to their costs. The lower level bus alternatives have very small construction elements and thus would generate very little construction employment.

In a separate employment category will be the manufacture of the rapid transit cars, buses, communication and fare collection equipment, controls and electrical systems. Additional employment would be created in the supplying of steel, rock, gravel and cement, and in the transportation thereof.

In addition to the jobs created in construction, the multiplier effect will cause more jobs to be created in the many related support industries. Assuming the experience in other areas is an indication, it is estimated that the total multiplier effect of this project might be in the range of two to three dollars for every dollar invested - which means many jobs in the service industries.

As construction phases out and pre-operational testing begins, a certain number of jobs will carry over, and other jobs will terminate as the various tasks of construction are completed. As the system comes into the operational stages, a permanent level of employment will be established. It is estimated that Rail/Bus Alternatives I through V would realize a permanent employment ranging from 400 to 500 positions, primarily in the areas of systems operation, maintenance, security, and system management.

The All-Bus Alternatives (VI through X) would also provide approximately 600 permanent jobs in transit, principally in bus operation and maintenance.

Not only would a major transit project result in an increase in employment in the Regional Core, there would likely be a shift in employment opportunities toward the Regional Core. This is a result of an expected shift in the residential population to station vicinity and of more intensive development which would be generated from system implementation. Based on present trends without transit development, a decrease in employment is likely at many of the station locations. On the reverse side, if an aerial alternative were chosen, there would be some unemployment resulting from off-street right-of-way acquisition. This would be true to a much lesser extent for a subway alternative.

### 3. Impact on Residential and Business Activity

The transit system can affect the residential and business activity in various ways. First, it can help generate new development; second, it can displace older development; and third, it can generate increased activity and value of existing development. Although there is some debate among economists as to whether a transit system generates new growth in an area or merely impacts the location and timing of development which would have occurred anyway, there is no doubt that property values will increase and development potential will be enhanced around certain stations in a transit system.

A report entitled "Evaluation of Rapid Transit Joint Development Opportunities and Value Capture Potential" was prepared. Joint development is defined as "a process through which public transportation investments are coordinated with private land development investments so that they will generate a maximum stimulus to economic development and urban revitalization".

This report is used as the basis for distinguishing between alternatives in terms of their development potential. It indicates that Alternative II (Board Preferred Alternative) (Wilshire to Fairfax to

North Hollywood) has the greatest development potential. Alternatives I and V are next in this category and III and IV offer the least potential.

The estimated dollar amounts of possible development are shown in Figure VI.26. (See Appendix III.A. for complete report).

FIGURE VI.26

#### Estimated Joint Development Potential

	(Millions of 1978 \$)				
	Alternatives				
	I	II	III	IV	V
CBD Stations (Common)	164	164	164	164	164
No. Hollywood, Universal City	78	78	78	-	-
Normandie, Western, La Brea	77	77	-	77	77
La Brea/Fairfax Stations	39	39	-	39	-
Vermont and Selma	-	-	38	-	-
Wilshire/Houser	-	101	-	-	101
Wilshire/Vermont & Alvarado	120	120	120	120	120
Totals	478	579	400	400	462

It is important to note that this development will not occur automatically as a result of system implementation. Other forces must also be present, including supportive land use policy and zoning, a healthy economy, and advance planning. The All-Bus Alternatives were not analyzed. However, with the exception of the Aerial Busway (VI), the All-Bus Alternatives would have very little development potential since such potential is related to a commitment in fixed facilities. Again, this is not to say that the development will not take place, but, rather, that the development may not occur at the locations studied. In terms of displacement, any aerial configuration would cause the removal of commercial and residential units that could be expected to be replaced. An aerial system would, therefore, have a negative impact on the real estate market. Neither the subway alternatives nor the bus-on-street alternatives would show any appreciable adverse impact as far as displacement is concerned. Precise and detailed information on displacement and relocation is contained in the "Social Impacts" Chapter under "Relocation."

In terms of existing development, an increase in residential property values within the station influence areas along the entire route can be expected, particularly within the "walking distance" areas. This results from capitalization of transportation cost savings.

A number of surveys of property values before and after the implementation of a major transit project show that, for single family residential units, the increase in property value expected per dollar per day saved on transportation ranges from approximately \$2,000 in anticipation of construction to \$3,000 after start of operations. The effect on vacant residential lots is estimated at \$1,000 to \$1,400 per daily dollar saved by public transit. Thus, the amount of the increase in property value is directly proportional to the savings in transportation costs. While this would certainly be a benefit to those selling - it is a disturbance to those who remain; i.e., property taxes will increase, and for those waiting to purchase in the area.

Within the Regional Core, there are ten major retail centers (MRC) as defined by the U.S. Department of Commerce. These MRC's are area groupings of individual business concerns engaged in retail sales of goods and services. MRC's form the economic back-bone of the Regional Core in providing jobs and keeping money in circulation.

Portions of some of these centers, particularly along Wilshire Boulevard, could be impacted by displacement due to either aerial or subway rail system construction. Generally, however, they will interact with a transit system in a mutually beneficial way. For some of these centers, transit access can be markedly improved. As a result, their property tax base values may increase on the basis of capitalization of transit savings, similar to the methodology described for single-family residential properties. A data base for a quantitative prediction of property value added for each business does not exist, therefore, a numerical evaluation is not possible at this time.

#### 4. Tax Base Impact

Tax base impacts of the transit system are both positive and negative in nature. On the negative side, none of the alternatives will result in any tax revenue from the transit facilities and right-of-way per se.

Thus, any land and buildings that are needed for right-of-way will be removed from the tax rolls, and will result in a smaller tax base. For an aerial system the loss of tax base will be dependent on areas of private right-of-way and buildings taken - primarily on curves and for yards and any stations not located over streets - this should not be very appreciable. For a subway, the loss of tax base would be minor, as the affected area will, for the most part, be limited to station access points and train storage yards.

Offsetting the tax loss would be revenue due to increased property valuation due to new developments in the vicinity of the stations, and due to improvements in and upgrading of existing structures.

However, although land values will increase around the stations, limitations placed on increases of two percent per year in assessed valuation have been imposed by Proposition 13. This will limit benefits from increased property values. The only appreciable increase in tax revenue will come from new buildings constructed and from property changing ownership (a change in ownership negates the two percent limitation). The potential for such new development has been discussed previously in this section.

#### 5. Summary

In general, the magnitude of the economic base impacts are related to the capital costs of the system and particularly to the fixed facilities constructed. Accordingly, the Rail/Bus Alternatives, particularly Alternatives I, II (Board Preferred Alternative), and V, will

generate the greatest positive economic base impacts. The positive impacts of the Aerial Busway would be offset partly by the negative impacts inherent in an aerial system.

#### D. FINANCIAL FEASIBILITY

##### 1. Introduction

A critical consideration for any analysis of transit alternatives is financial feasibility from both the capital cost and annual operating cost points of view. Financial analysis is a significant factor in system selection, since it provides a means of comparing system costs at various levels and can also be used as a tool for long term financial planning after system selection has been made. Under current conditions of escalating costs and fiscal pressures at all levels of government, financial feasibility analysis has become an indispensable component of investment decision-making.

The financial analysis consists of estimating the costs and cash flow requirements of the various alternatives and comparing them with the funding sources expected to be available. Capital and operating costs are considered separately, since they have different funding sources. Capital costs are incurred non-uniformly and are heaviest during the years of system implementation. Accordingly, the capital cost analysis consists of a year-by-year projection of capital expenditures during the period of system implementation. The operating costs, in contrast, change gradually in response to inflation and service increases as needed to keep pace with patronage increases. Increased patronage, of course, also implies increased revenue from the farebox. A single-year projection of the operating costs and funding availability in 1990 provides a relative indication of the operating costs for other years as well and is used as the basis of the analysis presented below.

Financial planning for future funding requirements must consider escalation. The cost estimates have utilized 1977 dollars throughout as a basis for consistent comparison of alternatives. Projections for funds needed at a future date involve estimates of the inflated, current dollar amounts which will be needed in each future year. This analysis assumes a uniform rate of cost escalation of eight percent per year for capital and operating costs and revenues.

Presented first in this chapter are the escalated capital and operating costs of each alternative. Secondly, these costs are compared with the funding sources expected to be available for project implementation and operation.

##### 2. Implementation Schedule

An important determinant of the capital costs is the implementation schedule assumed. In this analysis, the schedule was devised in keeping with a reasonable time schedule for design, construction and vehicle acquisition. Different system components have varying implementation schedules, as shown in Figure VI.27. All-Bus Alternatives VII through X can be implemented within five years, whereas the Rail/Bus Alternatives and Alternative VI, the aerial busway, could require seven to eight years.

The total escalated capital costs for the Rail/Bus and the All-Bus Alternatives which result from the implementation schedule are shown in Figure VI.28. In this figure, the total escalated costs for the Rail/Bus Alternatives range from a low of \$1328 million for Alternative V to \$2021 million for Alternative II.

##### 3. Existing Funding Sources

In order to evaluate the financial feasibility of the various alternatives it is necessary to examine the funding sources that may be



FIGURE VI. 27

IMPLEMENTATION CAPITAL NEEDS\*

(Percentage of Total Capital Costs Required Per Year)

<u>Fiscal Year</u>	<u>Rail Facilities &amp; Rail Vehicles for Alt. I-V</u>	<u>Aerial Busway to Alts. VI</u>	<u>Bus Divisions for Alts. I-VI</u>	<u>Bus Divisions for Alts. VII-XI</u>	<u>Bus Acquisition for Alts. I-VI</u>	<u>Bus Acquisition for Alts. VII-XI</u>
1979	1	1				
1980	7	8				
1981	14	15		1		
1982	24	25		30		50
1983	25	24		69		50
1984	15	14	1			
1985	10	9	30		50	
1986	<u>4</u>	<u>4</u>	<u>69</u>	<u>    </u>	<u>50</u>	<u>    </u>
	100	100	100	100	100	100

\* Based upon midpoint of construction period being in Fiscal Year 1983.

FIGURE VI. 28

THE TOTAL ESCALATED CAPITAL COSTS  
OF THE RAIL/BUS AND THE ALL-BUS ALTERNATIVES

Alt.	1977 Costs		1977 Costs Escalated @ 8%**		
	Rail	Bus*	Rail Only	Bus Only*	Total*
I	1035	140	1618	270	1886
II	1120	141	1749	272	2021
III	923	141	1442	299	1741
IV	849	136	1326	262	1588
V	659	152	1029	299	1328
VI	-	1050	-	1714	1714
VII	-	169	-	259	259
VIII	-	165	-	253	253
IX	-	181	-	266	266
X	-	169	-	259	259
XI	-	128	-	196	196

\* Cost for buses is for initial set only - they must be replaced every 12 years

\*\*Escalation based on implementation schedule shown in Fig. VI. 27

available. The prime sources of funding potentially available for system implementation and operation include the following:

a. Federal

- Urban Mass Transportation Administration: UMTA provides the major Federal Source of transit funding. The money available is provided primarily through two programs. Section 3 is a capital grant program which is available for 80 percent funding of capital projects on a discretionary basis. Section 5 is a formula grant program which allocates funds nationally based on population and population density. Section 5 funds may be used for either 50% of the operating subsidy or 80% of the capital costs of transit projects.
- Federal Highway Administration: The FHWA allocates monies to various highway and other transportation programs. Federal Aid Urban (FAU) can be used for highway or transit capital projects with distribution between these uses at the discretion of county FAU committees.

b. State

In June, 1974, affirmative state-wide and Los Angeles County votes for Proposition 5 (Prop. 5) amended the State constitution to permit motor vehicle revenues to be used for the "research, planning, construction and improvement of exclusive mass transit guideways (and their fixed facilities but not vehicles), including the mitigation of their environmental effects, the payment for property taken or damaged for such purposes, the administrative costs necessarily incurred in the foregoing purposes and the maintenance of the structures and the immediate right-of-way for the public mass transit guideways, but excluding the maintenance and operating costs for mass transit power systems and mass transit passenger facilities, vehicles, equipment and services." "Mass transit guideways" are interpreted by the State Legislative Counsel as fixed guideways for rail transit, and, therefore, are not available for the All-Bus Alternatives.

The individual cities and counties have discretion over the portion of the fuel tax funds (Prop. 5) allocated to them in deciding on the amount thereof to be diverted to mass transit. In June of 1974 over 60% of the voters in the entire County of Los Angeles voted to authorize the use of these funds for fixed guideway mass transit. The State Director of Transportation may exceed the 25% limitation on the use of the state's gasoline tax funds if necessary to maximize the federal contribution to a project.

Since that time, the State Department of Transportation has made its Prop. 5 funds available to provide most of the local share of rapid transit planning efforts -- thus enabling the District to obtain federal rapid transit planning grants. The balance of the local share has been furnished by the SCRTD.

TDA (SB325) funds, derived from a 1/4 percent sales tax, are also available for transit capital and operation purposes within California -- not more than 85% can be used for operations. Within L. A. County, the area within SCRTD received approximately 91.7 percent of the total County SB325 funds for transit which are allocated between SCRTD and municipal operators by the LACTC. A maximum of 85 percent of these funds are available to SCRTD.

#### 4. Potential Funding Sources

There are several other potential funding sources, in addition to the above mentioned sources, currently available.

- a. The State Legislature has prescribed two new sources of transit funding which can be instituted by the Los Angeles County Transportation Commission -- subject to voter approval. These sources are: (a) 1/2¢ increase in the sales tax and (b) a 1¢ increase in the gasoline tax in the County. The City of Los Angeles is also authorized to increase the gasoline tax 1¢ in the City, subject to voter approval. It should be noted that while sales tax revenue is expected to grow at eight percent, thereby keeping pace with cost increases, the gas tax is projected to remain constant since it is a flat charge and gasoline consumption is expected to be approximately constant in future years.

- b. The use of the 1913 Act Assessment District procedure applied around rail transit stations is a potential source of local funds. This Act allows assessment against property benefiting from an improvement project.
- c. Another potential source of funds which could be generated by a rail rapid transit line is "value capture" -- a means by which a transit project can benefit financially from the increased economic or real estate value it generates around station sites. Value capture potential for the rail rapid transit alternatives has been approximated, and it was found that Rail Alternatives I, II (the Board Preferred Alternative) and V have the highest value capture potential in that they will induce the most development, with Alternatives III and IV the least. The All-Bus Alternatives do not have any appreciable value capture potential. It is important to point out that the full potential return from this source would not occur for many years. Depending on the types of development arrangements made, there is a possibility of some early return from this source, but again, it is not possible to estimate the amount at this time.
- d. The use of SB 325, Transportation Development Act (TDA) funds offer another possible local revenue source. These funds, which are derived from the application of the State sales tax to gasoline, are apportioned to the SCRTD annually and may be used for operations expense or for capital expenditures.

#### 5. Funding Availability

The following assumptions were used to project future funding sources available for project implementation:

- a. Federal Section 3 and Section 5 Funds

Although all the current Federal transportation funding authorization expires in 1980, Federal assistance in the financing of capital and operating costs can reasonably be expected to extend into the future.

With the exception of UMTA Section 5 funds which are fully used to subsidize the operating costs, all available Section 3 Federal Funds can only be applied to the capital costs associated with system implementation. Although the prescribed Federal share varies between sources, for purposes of initial evaluation, Federal funds (comprised primarily of UMTA Section 3 monies with supplementary use of FHWA funds where applicable) are assumed to be available to finance 80 percent of the capital costs.

b. Prop. 5 Funds

Prop. 5 funds, described in a previous section, are assumed to be available and will be further discussed in the following section (Section 6).

c. TDA Sales Tax Revenue

SB-325 funds are assumed to grow at a rate equal to a rate of eight percent which reflects increase in prices and growth in taxable sales.

d. Equipment Trust Certificates

As is commonly done by the railroad industry, the District could issue Equipment Trust Certificates for the rail transit cars required for any of the rail alternatives, and repay such amounts from one or more available sources in future years.

6. Financial Feasibility

a. Capital Costs

Figure VI.29 shows the projected total capital cost to implement each alternative system, including buses. Federal funds will be relied upon for 80%, and local funds for 20% of the total costs.

The opportunity exists to raise the local funds required to implement the Rail/Bus Alternatives by a variety of methods, as previously outlined, which would not call for any increase in taxes.

FIGURE VI. 29

SUMMARY OF IMPLEMENTATION FUNDING ANALYSIS  
 (in Millions of 1977 Dollars Inflated at 8% to Mid-Point of Construction)  
TRANSIT ALTERNATIVES OF THE REGIONAL CORE

	RAIL RAPID TRANSIT/BUS					ALL BUS					
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI
	Wilshire-La Brea to North Hollywood Rail Line	Wilshire Fairfax to North Hollywood Rail Line	Wilshire Vermont Hollywood to North Hollywood Rail Line	Wilshire La Brea to Hollywood Rail Line	Wilshire to Fairfax Rail Line	Aerial Busway (Alt.1)	Exclusive Center Lanes	Reversible Center Lane	Exclusive Curb Bus Lanes	TSM Modest Bus Improvem'ts	NULL Existing Bus Service in 1990
	79-86	79-86	79-86	79-86	79-86	79-86	79-83	79-83	79-83	79-83	
Total Rail Costs	1618	1749	1442	1326	1029						
Total Bus Costs	270	272	299	262	299	1714	259	253	266	259	196
TOTAL SYSTEMS COSTS*	1888	2021	1741	1588	1328	1714	259	253	266	259	196
100% Federal Share	1510	1617	1393	1270	1062	1371	207	202	213	207	157
100% Local Share	378	404	348	318	266	343	52	51	53	52	39

\*Detailed costs for each alternative in 1977 dollars are shown in Table VI.2

†State Prop. 5 funds cannot be used for bus capital costs.

Subject to concurrence of the State Department of Transportation, the Los Angeles County Transportation Commission and the Southern California Association of Governments, the State's portion of the Proposition 5 funds developed in Los Angeles County can provide the major portion of the local matching funds required for a rail rapid transit project. No further vote is necessary. Over the next 10 years, the maximum amount of such funds which could be used (within the 25% limitation) is estimated to total from about \$300 to \$400 million. Over this period, approximately \$70 and \$140 million additional Prop. 5 funds will also accrue to the City and County of Los Angeles respectively.

As discussed in the following section, "Operating Funds", if either of Rail/Bus Alternatives I, II (Board Preferred Alternative) or IV were in operation, what would otherwise be an estimated deficit of some 45-60 million dollars in 1990, would be reduced to 2-5 million. This would free funds, which could be used to retire any certificates or bonds issued for part of the local share.

Another possible source of local funds could come from the use of various joint development/value capture techniques to develop income to help offset the capital cost. Rail systems historically encourage increased commercial development in the areas surrounding the stations. Revenue from this source, however, would probably not be forthcoming in any appreciable amounts for several years after a system was built, but could be used to finance extensions.

Yet another option is the possible creation of 1913 Act Assessment Districts around stations to help defray some of the local share portion of the costs.

Each of these latter methods, some of which can be used in combination, require the existence of a rail rapid transit system. These opportunities would not be available for any of the All-Bus Alternatives.

Except for Alternative VI, the local share of the cost of any of the All-Bus Alternatives could be financed by the use of a portion of the Transportation Development Act (TDA) funds, allocated to the SCRTD each year, and the sale of Equipment Trust Certificates. There does not appear to be any feasible way of financing the local share of Alternative VI.

#### b. Operating Funds

The analysis of operating funding differs from capital funding in that the UMTA Section 5 funds available, are not designated as a prescribed share but as a total dollar amount. As such, financial feasibility focuses on the operating costs net of fares, UMTA Section 5 funds and available local funds. The key criterion of operations financing then becomes the relative magnitude of the resulting shortages of total funds available, which equals the additional (presumably local) funds required. Figure VI.30 shows the projected operating cost for each alternative together with the projected revenue from fares. Revenues have been projected at an average fare of 50¢ per passenger trip in 1977 dollars (passenger trips exclude double counting for transfers and are detailed in Chapter III.A. of this report). The current average fare per passenger trip (including transfers, monthly passes, Student and Elderly and Handicapped discounts) is approximately 40¢. The 25% increase from 40¢ to 50¢ will result from either charging a premium fare on the rail line in the Rail/Bus Alternatives, or assuming a fare increase for all trips in the Regional Core.

The operating costs presented for each of the Rail/Bus Alternatives in the Regional Core includes the cost of operating the local and feeder bus system which complements the rail system. The subsidy requirements for the Rail/Bus Alternatives would range from approximately \$1 million for Alternative II to \$20 million for Alternative V, in 1990 dollars. The 1990 subsidy requirements for the All-Bus Alternatives would range from \$37 million for Alternative VI to \$62 million for Alternative VII. If no project is selected and only the existing service (the Null

FIGURE VI. 30

1990 OPERATING COST ANALYSIS  
(Millions of 1977 Dollars Escalated at 8% to 1990)  
TRANSIT ALTERNATIVES OF THE REGIONAL CORE

	RAIL RAPID TRANSIT/BUS					ALL BUS					
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI
	Wilshire-La Brea to North Hollywood Rail Line	Wilshire Fairfax to North Hollywood Rail Line	Wilshire Vermont Hollywood to North Hollywood Rail Line	Wilshire La Brea to Hollywood Rail Line	Wilshire to Fairfax Rail Line	Aerial Busway (Alt.1)	Exclusive Center Lanes	Reversible Center Lane	Exclusive Curb Bus Lanes	TSM Modest Bus Improvem'ts	NULL Existing Bus Service in 1990
Total 1990 Operating Cost	268.4	271.4	272.2	248.6	61.9	300.5	279.3	271.7	273.9	265.7	215.1
Operating Revenues	263.8	270.6	259.7	246.1	42.0	263.8	217.6	213.5	216.2	212.1	170.0
Operating Deficit	4.6	0.8	12.5	2.5	19.9	36.7	61.7	58.2	57.7	53.6	45.1

Alternative XI) is maintained, the current annual subsidy of approximately \$17 million will increase to \$45 million by 1990 for the Regional Core bus service, and the subsidy amount would continue to increase each year thereafter.

Of all the alternatives, implementation of Alternatives I, II or IV would yield the greatest operating cost savings within the Regional Core. Compared to the Null system (Alternative XI), the net annual operating cost savings would be approximately \$40 million dollars. Since selection of the Null Alternative is highly unlikely in the face of increasing demands for transit service, the TSM Alternative (X), or the reserved curb lanes (Alternative IX), provide a more realistic comparison. Compared to All-Bus Alternatives IX or X, Rail/Bus Alternatives I, II and IV would save nearly fifty million dollars annually in 1990.

c. Implementation of the Regional Transit Development Program (RTDP)

To show the financial feasibility of the total RTDP in the SCAG region, the following discussion and three figures have been taken from the report by the Southern California Association of Government report of February, 1979, entitled "Regional Transit Development Program." (See Figures VI.31 thru VI.33)

AN INITIAL PHASE, FINANCIALLY FEASIBLE IMPLEMENTATION PROGRAM

As a financially feasible and immediate course of action, it is recommended that:

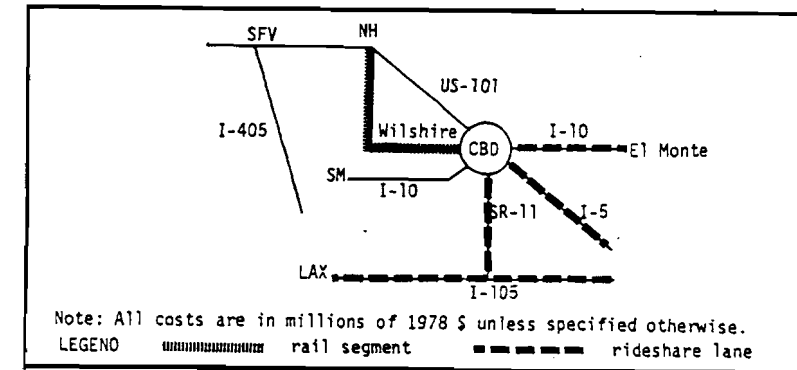
- The Element 1 local bus services be expanded to the maximum extent feasible with existing funds.
- TSM fixed facility improvements including bus replacements and low cost operational improvements should be undertaken, but significant expansion of bus services at this time is not financially feasible because of the limited funds for operations.

Figure VI.31

RTDP: Recommended Implementation Program

TSM non-expansion, DPM, rideshare lanes on the Harbor and  
OPTION J- Santa Ana Fwy, and the full rail line to North Hollywood

Total capital costs	Local matching requirement (esc \$)	Annual operating costs	Total annualized costs	Daily Patronage (thousands)	Operating costs per passenger
2123	560	260	448	1,321	\$0.63



ELEMENT 1 - TSM NON-EXPANSION

- Transit centers
- Fixed facilities
- Bus replacements

ELEMENT II - FREEWAY TRANSIT

- Exclusive rideshare lanes on the Harbor Freeway
- Exclusive rideshare lanes on the Santa Ana Freeway

ELEMENT III - DOWNTOWN PEOPLE MOVER

- 3-mile rail line from Union Station to the Convention Center

ELEMENT IV - REGIONAL CORE RAPID TRANSIT

- 18-mile rail line from downtown Los Angeles, to Fairfax on Wilshire, Hollywood and North Hollywood



FIGURE VI.32

RTDP  
RECOMMENDED IMPLEMENTATION PLAN  
TOTAL SYSTEM COSTS AND SOURCES OF FUNDS  
(MILLIONS \$)

COSTS	(TOTAL & ESCALATED) 1979 THRU 1990
OPERATIONS	4684
CAPITAL	3086
	<hr/>
TOTAL COSTS	7770
FUNDS	
FEDERAL	3611
STATE (INCLUDED TDA)	1825
FARES AND OTHER LOCAL	2060
	<hr/>
TOTAL FUNDS	7496
SURPLUS (DEFICIT)	(274)
BORROWED FUNDS	274

SOURCE: "Regional Transit Development Program," SCAG, February, 1979.

Note: The capital costs of the RTDP do not include funds for the Century Freeway, I-105.

FIGURE VI.33

RTDP  
RECOMMENDED IMPLEMENTATION PLAN  
CAPITAL COSTS AND SOURCES OF FUNDS

COSTS	(1978 \$)	(\$ ESCALATED) THRU 1990)
ELEM I TSM NULL	433	646
ELEM II FREEWAY TRANSIT HARBOR AND SANTA ANA	322	476
ELEM III DPM	158	181
ELEM IV REGIONAL CORE WILSHIRE - NO. HOLLYWOOD	1210	1784
	<hr/>	<hr/>
TOTAL COSTS	2123	3087
FUNDS		
FHWA		427
UMTA		2095
STATE ART, 19 PROP 5		178
STATE ART, 19 OTHER		35
TDA		242
LOCAL DPM		16
		<hr/>
TOTAL FUNDS		2993
REQUIRED BORROWING		94

SOURCE: "Regional Transit Development Program," SCAG, February, 1979.

- Element II Freeway Transit ridershare lanes should be pursued for implementation through preliminary engineering, environmental studies, and construction on the following freeways:
  - The Harbor Freeway (Rt. 11) from I-10 to I-105 with 9 stations located along Rt. 11 from San Pedro to the Convention Center.
  - The Century Freeway from LAX to I-605 with 8 stations.
  - The Santa Ana Freeway bus/pool lane (11 miles) from I-10 to I-605 with two stations.
  - The extension of the San Bernardino Busway from its present western terminus to Union Station.
  - The Harbor Freeway rideshare lane will interconnect the I-105 busway and the DPM which in turn connects with the San Bernardino Busway and the Wilshire rail line thus creating a 62 mile continuous system.
  - The capital cost for both rideshare lanes are eligible for 92% federal highway Interstate funding. The Harbor Freeway recently became eligible for Interstate funding as a result of Congressional action.
  - A demonstration grant should be pursued to fund increased Freeway Transit operations.
- The Downtown People Mover (DPM) should be implemented.
- The Regional Core rail rapid transit subway line - 18 miles from Union Station, along Wilshire Blvd. - north along Fairfax Ave. to Lankershim and Chandler in North Hollywood should be implemented.
- State Prop. 5 funds in the maximum amounts permissible by law should be committed to the Wilshire rail project and DPM.

- A commitment of funds from local agencies in Los Angeles is also necessary if the Wilshire rail line is to be funded without borrowing. Borrowing may not be feasible in any case.
- Additional sources of local funds for the Wilshire line should be pursued in detail.

d. Sensitivity Testing of Operating Funds by Assuming Less Patronage

Sensitivity testing was performed to measure the financial impact should actual patronage fall short of the projected patronage. Assuming a "reasonable worst case" for Alternative I, ridership for the entire Regional Core was assumed equal to patronage for Alternative X, the TSM Alternative, at 504,000 daily riders. This represents a 24% decrease in projected system patronage. Furthermore, in this test, ridership on the rail rapid transit line itself, was lowered by 85,000 daily trips from 260,000 riders to 175,000. The level of service provided for the higher projected patronage was maintained. In this case, the annual operating and maintenance cost for Alternative I did not change, but revenues were reduced to the level projected for Alternative X. Because the projected annual operating cost for Alternative I is approximately equal to that for Alternative X, the Rail Rapid Transit/Bus Alternative would have an annual operating deficit approximately the same as for the all-bus, TSM Alternative.

However, if patronage did fall short of projections, adjustments would be made in bus and rail operations to reflect the lower demand. In this circumstance, the annual operating cost for Alternative I would be less than presently projected and would lead to an improved deficit situation when compared to the TSM alternative. In other words, the better operational efficiency of a Rail/Bus system relative to an All-Bus system is confirmed even at TSM ridership levels.

e. Sensitivity Analysis of Operating Deficits Assuming No Fare Increase

Financial projections in the report are based on receipt of an average fare of 50 cents per linked trip for all Regional Core transit trips. This 25% increase over the existing average fare of 40 cents would result from charging a premium fare for the premium service.

To determine the financial impact that would result if premium fares were not charged for premium service (i.e., if there were no fare increase), a sensitivity analysis was performed using the existing average revenue of 40 cents per linked trip. The results are shown in Figure VI.34 and indicate that if premium fares were not charged, the deficit for the Rail/Bus Alternatives would range from approximately \$50-\$70 million, in inflated 1990 dollars. The deficits of the All-Bus Alternatives would range from approximately \$80-\$105 million.

FIGURE VI. 34

1990 OPERATING COST SENSITIVITY ANALYSIS  
(Millions of 1977 Dollars Escalated at 8% to 1990)  
TRANSIT ALTERNATIVES OF THE REGIONAL CORE

RAIL RAPID TRANSIT/BUS					ALL BUS						
I	II	III	IV	V	VI	VII	VIII	IX	X	XI	
Wilshire-La Brea to North Hollywood Rail Line	Wilshire Fairfax to North Hollywood Rail Line	Wilshire Vermont Hollywood to North Hollywood Rail Line	Wilshire La Brea to Hollywood Rail Line	Wilshire to Fairfax Rail Line	Aerial Busway (Alt.1)	Exclusive Center Lanes	Reversible Center Lane	Exclusive Curb Bus Lanes	TSM Modest Bus Improvem'ts	NULL Existing Bus Service in 1990	
Total 1990 Operating Cost	268.4	271.4	272.2	248.6	261.9	300.5	279.3	271.7	273.9	265.7	215.1
Fare Revenues assuming no premium fare	211.0	216.5	207.8	196.9	193.6	211.0	174.1	170.8	173.0	169.7	136.0
Operating Deficit with no premium fare	57.4	54.9	64.4	51.7	68.3	89.5	105.2	100.9	100.9	96.0	79.1

## **VII. IMPACTS OF 4(F) LANDS AND 106 ISSUES**



VII. IMPACTS OF 4(F) LANDS AND 106 ISSUES

4(F) Requirements refer to those policies and procedures required on federally funded projects specified in the following:

Federal Statute Title 49-Transportation, Section 1653(f):

"(f) Maintenance and enhancement of natural beauty of land traversed by transportation lines.

It is hereby declared to be the national policy that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites. The Secretary of Transportation shall cooperate and consult with the Secretaries of the Interior, Housing and Urban Development, and Agriculture, and with the States in developing transportation plans and programs that include measures to maintain or enhance the natural beauty of the lands traversed. After August 23, 1968, the Secretary shall not approve any program or project which requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance as determined by the Federal, State, or local officials having jurisdiction thereof, or any land from an historic site of national, State, or local significance as so determined by such officials unless (1) there is no feasible and prudent alternative to the use of such land, and (2) such program includes all possible planning to minimize harm to such park, recreational area, wildlife and waterfowl refuge, or historic site resulting from such use." (Pub.L. 89-670, Section 4, Oct. 15, 1966, 80 Stat. 933)

106 Requirements refer to those policies and procedures required on federally funded projects specified in the National Historic Preservation Act of 1966. (16 U.S.C. 4704 as amended, 90 Stat. 1320)

This act requires that an agency:

"as early as possible and in all cases prior to agency decision concerning and undertaking, the Agency Official shall identify properties located within the area of the undertaking's potential environmental impact that are included in or eligible for inclusion in the National Register."

Futhermore,

"To identify properties eligible for inclusion in the National Register, the Agency Official shall, in consultation with the appropriate State Historic Preservation Officer, apply the National Register Criteria, set forth in Section 800.10 to all properties possessing historical, architectural, archeological, or cultural value located within the area of the undertaking's potential environmental impact."

To meet the requirements of these two Federal laws as well as four other items of legislation listed below, a procedure was developed with the California State Historic Preservation Office, to examine the actual and potential buildings, sites, lands, facilities and districts in the Regional Core which may be affected. A copy of the letter which delineates the procedure is included in the appendix. It is important to emphasize that since this "project" is a general alternatives analysis of a number of different routes and station locations, the 4(F)/106 survey was completed to an appropriate general level of detail. When the specific route and stations are selected, additional 4(F)/106 analysis will be completed as necessary, and documented in the supplemental, or tiered, EIS which will be prepared during Preliminary Engineering.

In this chapter, the following four subject areas are covered:

- A. Archaeological
- B. Cultural-Historical
- C. Paleontological
- D. Parks and Recreation Facilities

Two reports were completed to assist with this analysis. The archaeological and cultural-historic resources were examined in the first report and paleontological resources in the second. Both of these reports are included in the Appendix.

This chapter will provide some details about the four subject areas covered, but the Appendix should be consulted for the specific list and maps/photos which locate the buildings, parks and sites.

#### A. ARCHEOLOGICAL

Little information is available on the prehistory of the project area (df. Beck and Hasse 1974). The archaeology of the area is poorly understood due to early and sustained development which effectively destroyed most of the archaeological sites before they could be studied. For example, only two archaeological sites are recorded within the project area, and neither is, strictly speaking, a prehistoric habitation site. Yet prehistoric villages are known to have existed in the area, and archaeological material is periodically found during construction or excavation work.

Yangna, a Gabrieleno village that was probably located along the bluff overlooking the Los Angeles River somewhere in the Vicinity of Union Station, was first visited by the Spanish explorer Gaspar Portola and his party on the 2nd or 3rd of August, 1769. The exact location may have been near the area of 1939 construction, or it may have been farther south at the site of the former Bella Union Hotel at 314 South Main Street. Construction of a parking lot in 1940 probably destroyed this latter deposit.

Neither the locality nor the description of Yangna corresponds to the site record by Dr. C. W. Meighan in 1951, LAN-7, which seems to have been an historic site. Dr. Charles Rozaire of the Los Angeles County Museum of Natural History indicated that isolated prehistoric artifacts have been found throughout the downtown area, and that a human skeleton was unearthed near the corner of Temple



and Hill Streets during construction of an air-conditioning plant. The isolated artifacts and the human skeletal material testify to the prehistoric human settlement of the downtown Los Angeles area.

Spanish, Mexican and American settlements followed in rapid succession beginning in the late 18th Century, all but obliterating the sparse native population. The last Native Indian community in Los Angeles may have been its first ghetto - the segregated community that existed in the mid-19th Century near the south-east corner of Alameda and Commercial Streets.

After leaving the Gabrieleno village of Yangna, the Portola Expedition followed the Indian trail westward along what is now Wilshire Boulevard passing the La Brea Tar Pits and La Cienega area around the 3rd of August, 1769. They camped somewhere near Olympic and La Cienega Boulevards, probably at a spring, then proceeded to the coast via Ballona Creek and eventually left the Los Angeles basin through Sepulveda Pass on their way to Monterey. Upon their return several months later, they re-entered the Hollywood area by coming through the Cahuenga Pass after crossing the San Fernando Valley in January, 1770. This gap in the Santa Monica Mountains was also the location of the signing of the treaty which ceded California to the United States from Mexico on January 13, 1847.

Three general areas emerge which have equal significance for archaeologists and historians: (1) old downtown Los Angeles, (2) Rancho La Brea and (3) Cahuenga Pass. A total of 12 recorded sites in the vicinities of the proposed routes or the station locations have been identified. The twelve sites are listed in the following Figure VII.1 and their specific locations are shown on the accompanying map in Figure VII.4. Figures VII.2 and VII.3 serve as index to the stations and route segments. In the Central Business District there are more station sites and route segments listed than are currently being considered. At one time they all were under consideration and in accord with the agreed upon procedure, they were reviewed.

FIGURE VII.1

Archaeological Sites and Historic Landmark and Structures

- (1) A Mid-19th Century dump containing quantities of Chinese pottery and stoneware located "across the street from Union Station", near Routes K and L, and Station 24 - (Lan-77)
- (2) The Pleistocene and Early Recent fossil deposits located at the Rancho La Brea, on proposed Route I and near Station 15 (Lan-159)
- (3) Plaza Park and the Old Pueblo de Los Angeles area of downtown - the entire area along Routes K, L, and Stations 23 and 24
- (4) River Station (Union Station and Southern Pacific Railroad Yards) - the areas near Route L and Station 24
- (5) Palm Court and Alexandria Hotel (210 West Fifth Street) an economic, industrial and social landmark on Route K near Station 22
- (6) Bradbury Building (304 South Broadway) - a renowned architectural, economic and historic landmark on Route K
- (7) Los Angeles Athletic Club (431 West Seventh Street) - an arts and recreational facility and landmark on Route J
- (8) Barnsdall Park (4800 Hollywood Boulevard) - an architectural landmark and park facility on Route D
- (9) Bullocks Wilshire Building (3050 Wilshire Boulevard - an architectural landmark on Route I
- (10) Hancock Park La Brea Fossil Deposits - see Archaeological Site LAN-159 above
- (11) Portola Trail Campsite #2 - historic landmark on La Cienega Boulevard near Olympic Boulevard, close to the west end of Route I
- (12) Campo de Cahuenga in Cahuenga Pass - an historic and military landmark on Route A

Source: City Planning Department and State Historical Preservation Office

FIGURE VII.2

Numbered Station Locations - Index to Map in Fig. VII.4

- (1) Vineland Avenue and Chandler Boulevard (North Hollywood)
- (2) No Station
- (3) Lankershim Boulevard and Hollywood Freeway (Campo de Cahuenga)
- (4) Highland Avenue at the Hollywood Bowl
- (5) Las Palmas and Selma
- (6) Vine Street and Selma between Hollywood and Sunset Boulevards
- (7) Western Avenue and Carlton between Hollywood and Sunset Boulevards
- (8) Vermont Avenue and Sunset Boulevard (Barnsdall Park)
- (9) Fairfax Avenue and Santa Monica Boulevard
- (10) La Brea Avenue and Santa Monica Boulevard
- (11) Vermont Avenue and Santa Monica (Los Angeles City College)
- (12) Fairfax Avenue and Beverly Boulevard (CBS Center)
- (13) La Brea Avenue and Beverly Boulevard
- (14) Vermont Avenue and Beverly Boulevard
- (15) Wilshire and Hauser Boulevards (Los Angeles County Museum of Art and La Brea Fossil Deposit)
- (16) Wilshire Boulevard and La Brea Avenue
- (17) Wilshire Boulevard and Western Avenue
- (18) Wilshire Boulevard and Normandie Avenue
- (19) Wilshire Boulevard and Vermont Avenue
- (20) Wilshire Boulevard and Alvarado Street (MacArthur Park)
- (21) Seventh and Flower Streets
- (22) Fifth and Broadway
- (23) First Street and Broadway
- (24) Southeast Corner of Union Station, North of the Hollywood Freeway
- (25) Wilshire Boulevard and Fairfax Avenue
- (26) First and Flower Streets (Bunker Hill)
- (27) Eleventh Street and Broadway
- (28) Eleventh and Figueroa Streets

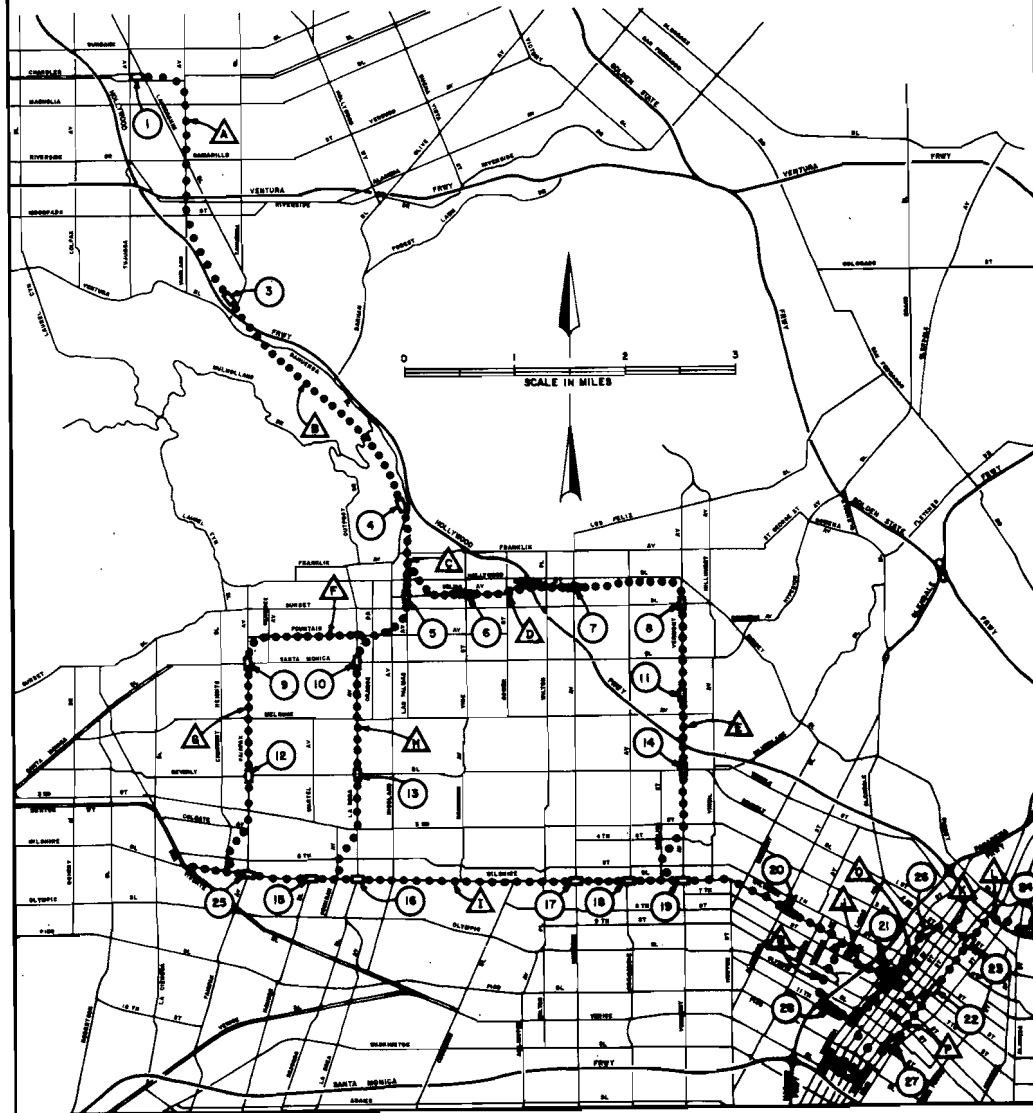
FIGURE VII.3

Designated Route Segments - Index to Map in Fig. VII.4

- (A) South along Vineland Avenue to the South side of the Hollywood Freeway in North Hollywood
- (B) Southeast through the Cahuenga Pass along the south side of the Hollywood Bowl and Highland Avenue
- (C) South along Highland Avenue and Las Palmas to just south of Sunset Boulevard in Hollywood
- (D) Eastward from Highland Avenue to Vermont Avenue between Hollywood and Sunset Boulevards
- (E) South along Vermont Avenue from Sunset to Wilshire Boulevard
- (F) Westward along Fountain Avenue from Las Palmas to Fairfax Avenue
- (G) South along Fairfax Avenue from Fountain Avenue to Wilshire Boulevard
- (H) South along La Brea Avenue from Fountain Avenue to Wilshire Boulevard
- (I) Eastward along Wilshire Boulevard from San Vicente (Beverly Hills city limit) to Lafayette Park Place
- (J) Eastward along 7th Street from Lafayette Park Place to Broadway in downtown
- (K) North along Broadway from Seventh Street to just north of Temple Street
- (L) Eastward along the north side of the Hollywood Freeway to the Los Angeles River Channel
- (M) Southward along the west side of the Los Angeles River Channel to a point south at First Street (omited from map)
- (N) Union Station south to First Street then west on First Street to Flower Street (omited from map)
- (O) Southward along Flower Street from First Street to Eleventh Street
- (P) South along Broadway from Seventh Street to Eleventh Street, and west to Flower Street between Eleventh and Twelfth Streets.
- (Q) West along Eleventh Street from Flower Street to Lucas Avenue, and north on Lucas from Eleventh Street to Seventh Street.

Figure VII.4

STATION AND SEGMENT IDENTIFICATION FOR ARCHEOLOGICAL AND PALEONTOLOGICAL RESOURCE SURVEY, February 1978



It is conceivable that construction of the proposed system in Alternatives I-V in a subway could add significantly to the knowledge of the archaeology, paleontology and paleoecology in the project area. However, the project could also result in the destruction of irreplaceable cultural resources if evacuations are not done using appropriate techniques under capable supervision. Cut and cover construction would be most damaging of all.

Unrecorded archaeological materials may be found anywhere in the project area where potable water and/or other exploitable natural resources may have occurred in the prehistoric past. However, the likelihood of finding intact materials or deposits is very slight because of prior developments. Some prehistoric materials may still exist in the downtown area and possibly in Cahuenga Pass, other materials certainly remain to be found in the Rancho La Brea deposits. Therefore, the proposed station at Hauser Boulevard (#15) on Wilshire Boulevard is of most concern. It is reasonable to expect an adverse effect on the archaeological materials in that vicinity.

Of these twelve sites, the La Brea Fossil deposits are perhaps the most important, and are also one of the world's foremost paleontological localities. Well-preserved floral and faunal materials have been recovered from the surface to a depth of nearly 60 feet in selected areas.

Human bones and well-preserved archaeological materials have also been found in association with extinct fauna within the deposit. (Merriam 1914, Woodward 1937, Howard and Miller 1939, Stock 1958). The La Brea woman has recently been dated; she seems to have died and fallen into the asphalt pit about 9,000 years ago (Berger 1975).

However, the artifacts recovered from various excavated units appear to be somewhat more recent, dating from the "Early Horizon" of California prehistory, circa 3,000 to 5,000 B.C.

The Rancho La Brea deposits were recorded as an archaeological site LAn-159, by Dr. Robert F. Heizer in 1949. Woodward (1937) has previously published a short article on several wooden artifacts found there, but with the exception of Berger's (1975) dating article, nothing new has been written about the materials from the site. In addition, several dozen whole and fragmentary marine shells have been found in the deposit which were probably introduced by human agency. At least six different species of molluscs are represented, including two Pecten sp., Haliotis sp., Tivela sp., Trachycardium sp., and Polinices sp.

The potential for direct or indirect adverse impacts from a subway system 60 to 200 feet below the surface is virtually zero. But problems may arise in conjunction with station construction on or near the ground surface, particularly cut and cover construction. For an aerial system only minor impacts may be expected since minimal excavation will be necessary.

As no significant construction will occur for Alternatives VII through XI, no significant adverse impacts are anticipated.

In order to prevent significant adverse impacts, a qualified professional archaeologist should be retained to thoroughly examine the route alternative that is eventually chosen before construction begins. Thorough examination of the chosen route alternative must include an historic archeological study of archival and literature research. The archeologist should also monitor construction operations and supervise removal of any artifacts that may be encountered.

Subway:

If a subterranean system is constructed using deep bore tunneling technology, the only areas requiring an archaeological inspection or

monitoring operation would be the station access points along the route wherever surface construction is scheduled. If cut-and cover technology is used, the entire cut-and-cover area will require inspection.

If an aerial configuration is selected, then the entire route should be inspected and all phases of surface modification should be monitored to avoid potential adverse impacts to buried material.

If a site or resource is found during any phase of construction, the Los Angeles Region District Clearinghouse will be contacted and given ample time to evaluate and excavate if so desired by the Clearinghouse.

#### B. CULTURAL-HISTORICAL

The Regional Core Corridor encompasses some of the City's older, urbanized commercial districts. Valuable cultural resources are concentrated in these areas, which include the Central Business District and portions of Wilshire Boulevard and the Hollywood Community. A few noteworthy sites are also located elsewhere in the Core area.

Loosely defined, "cultural" and "historic" resources are sites, structures, objects and districts of significant value with respect to history, architecture, archaeology or culture. Similarly, "historic preservation" includes the protection, rehabilitation, restoration and reconstruction of these resources, as stated in the National Historic Preservation Act of 1966, Section 101. The National Environmental Policy Act of 1969 more broadly interprets "historic and cultural resources" to include "historic properties that have lost their physical integrity or whose history cannot be demonstrated but which are nonetheless regarded by local people as having historic or cultural value."

Increasing recognition of the economic, social, cultural and planning benefits attributable to historic resources is evidenced by the rising

degree of interest in and protection of these sites by governmental legislation at all levels. A summary of applicable legislation is included in the Appendix.

The literature analysis and field survey determined that there were 265 cultural-historic resources in the Regional Core influence area. An inventory of these sites and maps of the survey area are included in the Appendix.

The nature of each historic feature determines which impacts could be significant to it. The overall type of resource, such as a church, park, theater or commercial building, or an entire district; previous and current uses; construction materials and methods; and other significant features which cause it to be noteworthy all must be considered for impact evaluation. The physical/environmental context of the resource, such as its neighborhood, ethnic composition, relationship to other structures, and its orientation to and setback from a street, need to be taken into account. In the case of districts, all these factors could contribute to historical designation.

Physical features of stations and aerial guideways determine relative degrees of system impact on historic resources. Alignment, curvature and mass, station length, width, height, access, operating characteristics including frequency and noise, associated parking and joint development were all considered in the impact evaluation process. Because much of this information has not yet been specifically determined, the impact analysis is general in nature.

Generalized evaluation criteria for the determination of system-generated impacts on historical resources have been developed to be consistent with three major pieces of federal legislation; the National Historic Preservation Act of 1969, Advisory Council Procedure for the Protection of Historic and Cultural Properties (NHPA), Executive Order 11593, (relevant to federally-owned properties but can be cited for National Policy and Intent) and the National Environmental Policy Act (NEPA). State and local govern-

ments, acknowledging Federal leadership in this area, have chosen to defer to the latter's assessment policies and process.\*

Specifically, the Advisory Council Procedures for the Protection of Historic and Cultural Properties on the Criteria of Effect (Section 800.8) and the Criteria of Adverse Effect (Section 800.9) state:

#### 800.8 Criteria of Effect

A Federal, federally assisted, or federally licensed undertaking shall be considered to have an effect on a National Register property or property eligible for inclusion in the National Register (districts, sites, buildings, structures, and objects, including their settings) when a condition of the undertaking causes or may cause any change, beneficial or adverse, in the quality of the historical, architectural, archaeological, or cultural character that qualifies the property under the National Register Criteria.

#### 800.9 Criteria of Adverse Effect

Generally, adverse effects occur under conditions which include but are not limited to:

- Destruction or alteration of all or part of a property;
- Isolation from or alteration of its surrounding environment;
- Introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting;

\*These policies are taken from Federal Register 41 FR 28, Feb. 10, 1976. Sections 800.4 - 800.7 are included in the Appendix.

- Transfer or sale of Federally owned property without adequate conditions or restrictions regarding preservation, maintenance or use; and
- Neglect of a property resulting in its deterioration destruction.

The potential effects on cultural-historical resources were categorized as physical, visual and noise and are provided on a specific list in the Appendix. Possible physical impacts could range from slight alteration of signs to major structural displacement, depending upon configuration of an aerial system and station design and location. Changes in route direction via transition curvatures and routing on narrow streets might cause some physical impacts, particularly in the intensively developed downtown area and in Hollywood.

Potentially significant visual impacts of an aerial guideway and/or stations are more difficult to evaluate. Overall structural design, noteworthy detailing, setbacks from and width of street, layout and orientation to site, and plant materials and landscaping important to the buildings' environmental context are all components of the visual assessment.

Uses such as hospitals, single-family homes and schools are more sensitive to negative noise spillovers than are retail and commercial activities. Local ambient noise and traffic levels, building setbacks and street widths, and window frontage influence the perceived noise impact. An aerial system with sound barrier walls would generate noise equivalent to buses now in use (see the Noise section in the Environment Impacts Chapter). Street widths and presence or absence of medians can make substantial difference in transit line proximity to historic structures fronting the alignment. Aerial routings along Beverly Boulevard, Selma and Las Palmas Avenues and Hollywood Boulevard, which vary from two to five lanes in width plus parking, would be likely to generate noise and visual disruption problems because of the narrow distance between fronting structures and the guideways. Wider streets, such as the western portion of Wilshire, would provide additional horizontal clearance to lessen impacts.

Building setbacks would similarly determine guideway proximity and resulting impacts to an aerial transit alignment. Anticipated impacts would include system noise and/or visual intrusion. In specific instances, some physical alteration of marquees may be necessary where they overhang to the curblin and the street itself is narrow.

Traffic levels, both existing and projected, are the primary sources of ambient noise along the proposed transit alignments. Increases in local noise levels attributable to the system itself would necessarily be minimal in areas of currently heavy traffic, particularly in the more intensively developed commercial areas with shallow setbacks. The major streets are utilized by heavier vehicles, such as trucks and buses, which tend to be noisier. System-generated noise would create a greater impact on quieter, more lightly traveled residential streets. Cut and cover construction would divert a great deal of traffic and therefore cause significant disruption and increase noise disturbance on the entire community.

As previously indicated, detailed impact evaluations of each historic resource will be made when route selection has been finalized and preliminary engineering begun. From the Inventory list of 265 there are 83 sites which potentially could be impacted by one or more of the proposed alternatives.

The following is a generalized analysis of the four cultural-historic areas that could be impacted by the construction of an aerial or subway rapid transit system. These major areas are:

- (1) Central Business District
- (2) MacArthur Park-Alvarado-Wilshire
- (3) Western at Wilshire
- (4) Sunset-Vermont-Barnsdall Park

### Cultural-Historic Area 1

The Central Business District contains the majority of the Regional Core's historically valuable resources. Of the 265 listed resources, 182 are located in the CBD. The intensity of development and concentration of documented features compounded with the variety of alternative alignments through downtown creates a situation in which some adverse impacts are inevitable for an aerial system. Because of the depths of a subway system and the use of boring equipment, most impacts should be avoidable. There are three historic sub-areas containing a high percentage of downtown's 182 resources: the Los Angeles Plaza-Olvera Street area has 12 resources, the Spring Street Financial area, located between 4th and 7th Streets, has 26 resources identified in the National Register and the Broadway Theater and Commercial District, extending between 3rd and 9th Streets, has 64 resources identified for nomination of the National Register. The remaining cultural resources are scattered throughout the CBD.

An aerial rail configuration traversing the central city could create substantial physical and visual disruption to buildings along its frontage. The majority of physical damage in structures would occur at locations of route curvature through existing development. All CBD alternatives change direction two to three times and could affect two or more blocks (or portions thereof) per turn. Guideway mass and height, in combination with zero building setbacks and modest street widths (of five to seven lanes including parking), would generally obscure much of the architectural base of all fronting historic structures, creating negative visual impacts. It should be noted that, because of current high ambient noise levels in much of downtown and the lower sensitivity of retail and commercial uses, system-generated noise should not create any additional impacts on cultural-historic resources.

Aerial stations would reduce the visibility of historic buildings and intensify pedestrian use of structures providing station access. Provision of access and heavier usage could necessitate some structural alteration, resulting in physical impacts.

A subterranean transit system, because of its depth, may impact historic resources only at surfacing intervals. Careful orientation of station locations and their entries could prevent any physical and visual disruption to cultural features.

### Cultural-Historic Area 2

The MacArthur Park-Alvarado-Wilshire station extends easterly along Wilshire Boulevard from Alvarado to Bonnie Brea Street for 500 feet. MacArthur Park, Wilshire Boulevard and the Westlake Theatre location a short distance north on Alvarado, are designated cultural resources.

No entryway impacts would occur for a subway system since no direct park entry or utilization of park land is planned. Some impacts may occur for the aerial configuration if any park land is utilized for park entries. Construction of an aerial guideway above Wilshire Boulevard through MacArthur Park would produce direct physical and visual adverse impacts on the park. Westlake Theatre may be impacted by an aerial system but not at all by a subway system.

### Cultural-Historic Area 3

The Wilshire at Western Station extends easterly from Western Avenue 500 feet to Serrano Avenue. Two valuable historic resources are among the fronting office buildings. The Pellisier Building is located at the southwest corner of Western at Wilshire, and the McKinley Building is near the northwest corner of Oxford at Wilshire. The Urban Design Team suggests joint development

for station - associated parking and commercial - office development on sites behind each of these buildings, and a third site nearby. If access from these two sites to the station is made it would create an adverse physical impact.

Construction of an aerial system and station would visually impact both sites by obscuring the design and architectural detailing of the building. The office uses of these resources would be sensitive to the increased noise levels.

Subterranean routing and station development could prevent noise or visual impacts to the cultural features. Careful construction methods would have to be employed to assure continued structural integrity and stations placed so that no adverse impacts would be created on these two historic resources.

#### Cultural-Historic Area 4

The alignment for Alternative III that is proposed for the Sunset-Vermont-Barnsdall Park area, curves through the park's lower half. Another alternative of turning west on Sunset Boulevard is possible. Stations are indicated both south of Sunset on Vermont and north of Sunset.

Above the concentration of medical facilities and neighborhood shopping centers, on a knoll, Barnsdall Park lies with its Hollyhock House, art museum, crafts center and outdoor recreational and picnic amenities. An above-ground guideway through Barnsdall Park would cause serious adverse physical, visual and noise impacts to the park facilities. In addition, the SCRTD's engineering staff has indicated that there would be technological difficulties in constructing an aerial system through Barnsdall Park because of the topography. Such an aerial system would virtually destroy the park. Mitigation of these impacts would necessitate major route relocation to Sunset Boulevard or transition from an aerial alignment to a subway in this

area. Cut and cover construction would be practically impossible in this location.

Development of an aerial or subway system along Sunset Boulevard would generate no undesirable impacts on Barnsdall Park. A subterranean routing through Barnsdall Park would eliminate the majority of adverse impacts associated with an above-ground system. Some physical impact could result if a station accessway were constructed on the parkland. Careful design, location and orientation could lessen impacts to an insignificant level in that situation.

Maximum planning effort must be directed toward the prevention of adverse effects on historic resources, including conscientious application of mitigation measures in the planning design, construction and operational phases of the proposed project. The following set of activities should be considered and incorporated, as appropriate, from the earliest stages of system planning and design. While most measures generally apply only to an aerial and cut and cover subway configuration, others may need to be applied to aerial "bored" subway proposal.

- Building a deep bore tunneled subway instead of an aerial system to avoid historic resources would prevent most associated negative environmental impacts of structural alteration, visual intrusion and noise levels. Building a cut and cover tunnel would cause major adverse impacts in the short run many of which may become long term in nature.
- Station relocation of an aerial system could mitigate the visual effects on historical structures fronting the alignment.
- Location of entranceways of an aerial system away from sensitive cultural resources, including prohibition of direct access in instances of joint development, would prevent inappropriate structural alteration of historic buildings.



- In appropriate locations, heavy landscaping could lessen the stations' visual impact.

If all of the discussed mitigation measures are implemented, the possibility of significant adverse impacts would be reduced but not eliminated for a subterranean system. The impacts of an aerial system can not be reduced to an acceptable level.

#### C. PALEONTOLOGICAL

In the consultant report prepared by the Archeological Resources Management Corporation, paleontological resources were examined. The results of this report are included in Appendix II.J.

As in the archaeological section, concern is raised particularly about the proposed station at Hauser and Wilshire Boulevards. It is most likely that paleontological discoveries will be found at this location. If a station at this location is considered necessary, great care should be exercised in its excavation and construction for it is reasonable to expect an adverse effect upon this resource in this location. Cut and cover construction would be especially adverse in its impacts. This adverse impact can best be mitigated by relocating the station elsewhere along the line.

#### D. PARKS AND RECREATION

Fifteen parks and senior citizen centers within the Regional Core Corridor area are located near proposed station sites and/or route alignments. These facilities either lie within a one-half-mile radius of proposed stations or front directly on proposed route alternatives. Fig VII.5 lists these facilities, their proximity to stations, and respective park acreages.

FIGURE VII. 5

#### PARKS AND RECREATIONAL FACILITIES

<u>Park Facilities by Community Plan Area</u>	<u>Acreage</u>	<u>Route Frontage (Distance to Line)</u>	<u>Radius Distance To Stations (Miles)</u>		
			<u>Westside</u>	<u>Eastside</u>	<u>Fairfax LaBrea Vermont</u>
<u>Central City</u>					
City Hall Park	4.0	900' Spring	0	DNA	
First and Spring		350' First	DNA	0	
Pershing Square	5.0	Southeast corner	DNA	0	
Fifth & Olive					
<u>Westlake</u>					
MacArthur Park	32.1	1200' Wilshire	0	0	0
Wilshire & Alvarado		north & south			
<u>Wilshire</u>					
LaFayette Park & Rec Center	9.7	800' Wilshire	3/8	3/8	3/8
Wilshire & Hoover		north			
L.A. High Memorial Park	2.5	275' Olympic	1+	1+	DNA
Olympic & Muirfield		north			
Hancock Park*	23.0	1400' Wilshire	1/8	5/8	DNA
Wilshire & Curson					
West Wilshire Rec Center	4.9	(3/8 mile)	1/2	5/8	DNA
Gardner by Third					
<u>Hollywood</u>					
Barnsdall Park	13.6	Center of park	DNA	DNA	1/8
Vermont by Hollywood					
Fairfax Senior Center	1.8	(250')	1/2	DNA	DNA
Melrose by Fairfax					
De Longpre Park	1.4	(1/4 mile)	DNA	1/4	DNA
De Longpre & Cherokee					
Las Palmas Senior Center	1.1	350' Las Palmas	3/8	1/8	DNA
Las Palmas & Franklin		east			
Hollywood Bowl	77.4	(1/4 mile)	1/4	1/4	1/4
Cahuenga Blvd. West					
<u>North Hollywood-Studio City</u>					
El Pasco de Cahuenga	1.3	300' Hollywood Fwy. & Cahuenga West	1	1	1
Cahuenga West & Ellington					
South Weddington Park	14.5	1000' Hollywood Fwy. **	***	***	***
Lankershim & Heart					
North Weddington Park	9.2	1/4 mile Hollywood Fwy.**	***	***	***
Acama & Riverton					

(Note: The Santa Monica National Recreational Area has recently been established. Its boundaries are still being finalized. Its specific interface with the proposed Alternative II (the Board Preferred Alternative), if applicable, will be examined during further study.)

\* Hancock Park includes the La Brea Tar Pits and the John C. Page and Los Angeles County Art Museums.

\*\* Frontage depends on specific alignment chosen.

\*\*\* Distance to Stations depends on specific alignment chosen.

DNA = DOES NOT APPLY

SOURCE: LA CITY PLANNING DEPARTMENT

4(f) legislation states that routing through public lands would be prohibited, except where alignment relocation is infeasible and provisions have been made for mitigation measures to minimize negative, project-associated impacts.

In the following text, impacts are projected for each of the alternatives and include the respective alignments, modes and station location variations. Generally, environmental impacts on park facilities are of several types: (1) the possible use (taking) of parkland for station access, or parking, or right-of-way for aerial guideways; (2) higher local noise levels (3) visual blight; and (4) parking congestion.

#### General Comments - Aerial vs. Subway vs. Bus

An aerial guideway as proposed in Alternatives I through VI (including the Board Preferred Alternative II) would generally traverse the regional core along medians of the area's major thoroughfares, as delineated within the respective route descriptions of each alternative. Maximum utilization of existing rights-of-way will minimize or eliminate system-associated impacts on adjacent park recreation facilities.

Where the system does not follow existing highways, particular attention will be addressed to minimizing or eliminating structural guideway intrusion into parklands in accordance with Section 4(f) requirements.

Aerial stations would generally be about two stories above major streets and, in appropriate situations, would be incorporated adjacent to or within new structures via joint development. These stations would be approximately 500' long, about the distance of a city block. Entrances into these stations would most likely extend into adjacent sites in the form of stairways and escalators to sidewalk areas below, thereby minimizing impact on parkland and facilities.

A subway system as proposed in Alternatives I through V would have both guideways and stations underground, requiring only small entryway areas proximate to the stations for access. The specific siting of these entryways would be somewhat flexible within the immediate area. Because of the entryways' size, impacts on parklands are not expected

Either an aerial or subway system might require parking around station locations. The SCRTD plans to construct parking structures at the stations in North Hollywood, Universal City and Santa Monica, at either Fairfax or La Brea, and at other locations depending on demand.

Stations located in proximity to MacArthur, Hancock, and South Weddington Parks will have the potential of transit patrons utilizing existing park parking facilities and street parking surrounding parklands and thus limiting access to park facilities. It is also possible that park patrons would use transit to access the park, thereby reducing the need of patron parking already existing.

Surface Bus Alternatives VII-XI would not adversely impact park and senior citizen facilities, as they utilize existing rights-of-way and are not intended to have the same type of impacts as the alternatives which feature stations.

#### Alternative I - Wilshire-La Brea-North Hollywood Rail Line

Implementation of Alternative I could adversely impact up to seven park areas, depending upon the system design utilized. MacArthur Park, in the Westlake Community, fronts on Seventh Street for approximately 1,250 feet. Further west, in the the Wilshire District, the rail line would cross from Seventh Street to Wilshire Boulevard in the vicinity of LaFayette Park. In Hollywood, the Las Palmas Senior Citizen Center lies adjacent to the route for a distance of about 350 feet. Impacts resulting from the addition of an aerial transit line in the vicinity of the Hollywood Bowl would probably be minimal, due to the extensive paved right-of-way and parking facilities adjacent to the facility.

Implementation of a subway system following the routing of existing rights-of-way reduces both guideway and station impacts, and more closely adheres to the Section 4(f) prohibition of parkland conversion to other purposes. Undergrounding of the alignment would eliminate all guideway-related impacts, and station impacts would be negligible since no use of parkland for station entranceways is necessary.

Utilization of an underground rail system would minimize impacts on parklands as the rail alignment itself would preserve the existing surface amenities, and the five potentially impacted subterranean stations would only require small access entranceways. The specific siting of these entryways would be somewhat flexible within the immediate area. Because of the size of the entryways, impacts on parklands is not expected.

Rapid transit stations near parks could create parking problems at existing park parking facilities and on-street parking nearby. However, since peak recreational periods do not generally coincide with peak transit use periods, this is not expected to affect access or park-related activities.

Alternative II - Wilshire-Fairfax-North Hollywood Rail Line  
(SCRTD Board Preferred Alternative)

Development of a rapid transit rail line following the Alternative II alignment could affect up to eight park areas, depending upon the system design selected. The development of an aerial configuration could require utilization of parklands. In addition to the sites discussed under Alternative I, Hancock Park could be affected and it extends about 1,400 feet along Wilshire's northerly side. Hancock Park comprises the George C. Page National History Museum, the Los Angeles County Museum of Art and the La Brea Tar Pits and is administered by the County of Los Angeles. An aerial system traversing this site would not directly affect either museum structure but could require parkland for the guideway. The entire park area has great cultural importance.

Some impacts could result from the expected increase in parking demand for the transit system which would reduce the parking supply for the park.

However, enforcement measures will, where appropriate, be implemented to ensure minimal impact on parklands and ancillary facilities.

Alternative III - Vermont-Hollywood-North Hollywood Rail Line

Construction of a rapid transit line along this alignment could impact up to seven recreation areas. An aerial design, in addition to affecting the six sites addressed under Alternative I, could traverse Barnsdall Park, a Historic Place in the National Register.

To avoid an aerial system's impact in Barnsdall Park, the alignment for Alternative III should be shifted to Sunset Boulevard in the vicinity of Vermont Avenue. This southerly shift would prevent parkland intrusion. An alternative mitigation measure that would also alleviate the Barnsdall Park impact would be to require the utilization of a subterranean system under Barnsdall Park.

If one of the proposed mitigation measures is implemented for Barnsdall Park, this alternative will have the same unavoidable adverse impacts as Alternative I.

#### Alternative IV - Wilshire-La Brea-Hollywood Bowl Rail Line

This alternative is an abbreviated version of Alternative I (the La Brea alignment) and terminates at the Hollywood Bowl, where bus connections would be provided. Both alignments and design configurations would have the same respective parkland impacts as described in the Alternative I impact section. The aerial system would require parkland for guideways and station development and entranceways, while the subway system would not require any parkland use.

As suggested in sequence to the potential first and second alternative impacts described earlier, subway construction with well-sited and well-designed station entrances would mitigate significant rapid-transit-generated impacts.

#### Alternative V - Wilshire-Fairfax Rail Line

This alternative is a similar but still shorter version of the Fairfax alignments discussed under Alternatives II and IV. The transit line (like No. IV) would either be a subway or aerial system, terminating at Fairfax and connecting with local and express buses along its route. Despite the shorter length of this proposed route, the parkland impacts for both design configurations are the same as those for Alternative II.

#### Alternative VI - Wilshire-La Brea-North Hollywood Exclusive Guideway

This aerial-bus option was designed to closely parallel the features of Alternative I, substituting the vehicular mode from rail to bus and limiting the alternative to an aerial configuration. Development of an aerial guideway bus system would produce parkland utilization and parking effects similar to those of rail (as discussed in the impacts section of Alternative I). Safety considerations for park users (among others) would be greater for this option, in that buses

are subject to additional problems of weather and a wider margin of driver error. Another bus-specific impact would be greater air pollutant concentrations on those recreational areas adjacent to the guideways. No mitigation measures are proposed.

A bus subway alternative has been found to be impractical, thus leaving the impacts caused by an elevated busway of air, noise, safety and parkland utilization (see Alternatives I and II) unmitigated.

#### Alternative VII - Wilshire-La Brea-Hollywood Freeway Exclusive Bus Medians

Development of two exclusive bus medians down the center of Wilshire Boulevard to La Brea Avenue would only minimally impact recreation sites, because there would be no expansion of the right-of-way into or station development on parklands. Park patrons would be subject to higher air pollutant concentrations, noise levels, traffic congestion and access difficulties each of which is separately addressed in other chapters.

Mitigation measures are included in the specific sections mentioned above. No parkland or park facilities would be utilized.

#### Alternative VIII - Eighth and Olympic Exclusive Bus Medians

Creation of reversible exclusive bus medians on Eighth Street and Olympic Boulevard for peak-hour express buses would produce minimal impacts similar to those of Alternative VII; refer to that discussion of impacts.

As specified under Alternative VII, mitigation measures are separately addressed in other sections.

#### Alternative IX - Wilshire Express-La Brea-Hollywood Freeway

Because of the low level of additional services, designation of exclusive curb lanes for buses on Wilshire Boulevard and La Brea Avenue would have a minimal impact on park and recreation areas in the Regional Core.

Because there are no significant parkland-related impacts of this alternative, no mitigation measures are necessary.

There are no new unavoidable adverse impacts associated with this alternative.

#### Alternative X - Existing Conditions With Transportation Systems Management

Increasing the frequency of existing Wilshire Boulevard operations west to Fairfax would minimally affect parklands in the form of greater traffic-related noise, air pollution and congestion.

There are no new unavoidable adverse impacts associated with this alternative.

#### Alternative XI - No Project

There would be no new impacts generated as this alternative maintains existing conditions. There are no unavoidable adverse impacts associated with this alternative.

#### Construction - Short-term Impacts

This corridor-level study does not include preliminary engineering activities from which detailed construction data and subsequent environmental impact assessments would be derived. Although this data is unavailable at present, it is possible to anticipate some of the more generalized construction-related impacts. More detailed construction impacts are included in Chapter IV.G.

Existing urban development of much of the Regional Core Study Area in general, and of areas proximate to planned station sites in particular, could necessitate use of nearby, undeveloped areas. Section 4(f) of the National Register discourages use of parklands for construction-related activities, yet such limited use for temporary boring equipment storage may prove the best solution (least disruption, least environmental impact) in a few specific locations, should no other, more feasible alternative be found.

Equipment and building operations would raise local noise and air pollution levels incrementally at portal sites and station locations. If these sites or stations were near park facilities, problems of safety of park patrons would increase. Additionally, congestion, parking, traffic and associated impacts from the construction equipment and its movement can be expected.

Construction of transit stations and/or their entryways necessary for Alternatives I through VI (including the Board Preferred Alternative II) on parklands would probably necessitate temporary suspension of some or all adjacent parking. This could discourage some park patrons. Nearby on-street parking might be utilized, thereby lightly congesting local streets. However, it should be noted that peak recreational periods do not generally coincide with work activity hours. Therefore, temporarily lessening of parking is not expected to have a significant impact on park access or use.

An aerial system would also require construction activity along the guideway. While most of the guideway would be within existing right-of-way, some parkland could be directly impacted by construction or at least be affected by construction-related activity.

Bus Alternatives VII, VIII and IX will utilize existing streets. Minor construction will be necessary for station shelters and median dividers.

Bus Alternative X and XI do not involve construction, hence, they would have no construction impacts.

Subway development would substantially preserve existing amenities, although boring equipment would require surfacing at approximately six points for the longest route proposal. Therefore, whenever feasible, construction of a subway with bore surfacings made coincident to station locations should be utilized to minimize surface disruption. Mitigation measures of associated traffic, safety and parking concerns are specifically addressed in those sections.

Non-park sites should be used for equipment storage to the extent possible. However, in some locations this may not be possible because the effects on the parcels surrounding the alternative site may be greater than if parkland were used.

Boring equipment must surface at approximately six points along the longest of the routes. Accompanying surface disruption at these surfacing points will occur. Construction of station entranceways on park sites would temporarily curtail park activity in the immediate area and would raise noise and air pollution levels.

## **VIII. UNAVOIDABLE ADVERSE IMPACTS**





## VIII. UNAVOIDABLE ADVERSE IMPACTS

### A. INTRODUCTION

The purpose of this chapter is to describe those significant adverse impacts which would result from the implementation of any of the alternatives, which are unavoidable, but which could, or could not, be mitigated. All of these impacts have been discussed in previous chapters.

### B. ALTERNATIVES I-V (INCLUDING THE BOARD PREFERRED ALTERNATIVE II) IN SUBWAY

#### 1. Using bored tunnel method of construction:

- a. There are no significant, unavoidable, long term adverse impacts which would result from the implementation of any one of the Alternatives I-V in a subway constructed by the deep bore method.
- b. There are a number of significant short term adverse impacts which could be mitigated to an insignificant level, but not eliminated.
  - (1) Water, gas and oil seepage into tunnel.
  - (2) Localized noise and dust caused by construction activities at station locations.
  - (3) Short-term interruption of some utilities.
  - (4) Potential damage to archaeological finds in the path of construction, particularly at some station locations.
  - (5) Temporary disruption of traffic and business at those stations built by the cut and cover method.

#### 2. Cut and Cover Subway

- a. There are several significant and unavoidable short term adverse impacts which would result from construction of a subway by the cut and cover method along the entire length of the line.

- (1) Disruption of traffic and business activity all along the route.
- (2) Dust and noise caused by construction activity all along the route.
- (3) Potential damage to archaeological finds along route.
- (4) Short term interruption of some utility services.
- (5) Water and gas seepage into the cut.

C. ALTERNATIVES I-VI ON AERIAL

Aerial Impacts are:

1. There are many significant and unavoidable long and short-term adverse impacts which would result from the implementation of any one of the Alternatives I-VI in an aerial configuration:
  - a. Disruption of traffic and loss of business along the route.
  - b. Displacement of residential and commercial buildings to clear rights-of-way on curves.
  - c. Potential for greater damage and hazard than subway in event of earthquake.
  - d. Aesthetic impacts caused by the shade and shadow and obtrusiveness of an aerial structure all along the route but particularly on "4(F) and 106" cultural and historical facilities.
2. There would be some significant adverse impacts on MacArthur Park (Alternatives I-V) and Barnsdall Park (Alternative III). These impacts could be mitigated. The aerial line would bisect these two parks. The most likely mitigation measure in each case would be to reroute the lines around them.
3. There are several other adverse impacts of aerial structures which could, however, be mitigated to an acceptable level. They are as follows:

- a. Noise and vibration impacts during construction and operation.
- b. Utility disruptions to make way for columns.
- c. Potential archaeological and paleontological finds in the way of pier foundations.

D. ALTERNATIVES VII-XI ON SURFACE STREETS

1. There are a few significant unavoidable long term adverse impacts which may result from implementation of All-Bus Alternatives VII-XI:
  - a. Traffic congestion may be increased to an unacceptable level.
  - b. Energy useage will experience a net increase compared to the Null (Alternative XI) with each alternative.
  - c. An increasing amount of money (millions of dollars) will be needed to cover the steadily increasing operating deficit of the present bus system in the Regional Core.
  - d. The city will continue to have a land use pattern which does not maximize efficiency.
  - e. Economic growth of the Regional Core is likely to slow due to congestion.

**IX. RELATIONSHIP BETWEEN  
LOCAL SHORT TERM USES  
OF THE ENVIRONMENT AND  
THE MAINTENANCE AND ENHANCEMENT  
OF LONG TERM PRODUCTIVITY**



IX. RELATIONSHIP BETWEEN LOCAL SHORT TERM USES OF THE ENVIRONMENT  
AND THE MAINTENANCE AND ENHANCEMENT OF LONG TERM PRODUCTIVITY

A. INTRODUCTION

With implementation of any of the Alternatives I -XI (including the Board Preferred Alternative II), there will be both short term and long term adverse and beneficial effects upon the state of the environment. These are discussed in detail in preceding chapters of this report.

According to Sec. 15143(e) of the California State EIR Guidelines, the sponsor is to "describe cumulative and long-term effects of the proposed project which will adversely affect the state of the environment, which narrow the range of beneficial uses of the environment, or pose long term risks to health or safety. In addition, the reasons why the proposed project is believed by the sponsor to be justified now rather than reserving an option for further alternatives should be explained".

Short term basically construction related impacts were discussed in Chapter IV.G, Construction Impacts.

Long term adverse impacts are identified in detail, and they are discussed in Section B in the same order that they are found in Chapter III, Impacts of Alternatives.

The justification for action now is set forth in Section C as well as in the Summary and Chapter I, Setting and Need for Action.

B. LONG TERM PRODUCTIVITY

Implementation of any of Alternatives I through X would result in many long term changes in the Regional Core Area and some long-term changes in the region. These changes are discussed below on a topic basis. The cumulative and long-term effects are beneficial for most of the Alternatives.

1. Transportation

Patrons of some of the proposed alternatives would have the opportunity to realize significant transportation time savings. Calculations of the net trip savings of the present 403,000 transit riders for the various alternatives are presented in Figure IX.1 below:

Figure IX.1  
Transit Time Saved

Alt.	Net Average Trip Time Savings			Total Minutes Saved Daily by Transportation in 1990
I	8.93 min	403,000	=	3,598,790
II	8.83 "	403,000	=	3,558,490
III	7.31 "	403,000	=	2,945,930
IV	8.37 "	403,000	=	3,373,110
V	7.51 "	403,000	=	3,026,530
VI	8.93 "	403,000	=	3,598,790
VII	4.73 "	403,000	=	1,906,190
VIII	4.19 "	403,000	=	1,688,570
IX	3.93 "	403,000	=	1,583,790
X	3.67 "	403,000	=	1,479,010
XI	Null			

SOURCE: Los Angeles City Traffic Department

Of course the above calculations were calculated only on present bus patrons. It is assumed that the additional patrons attracted by each alternative will, on the average, reduce their time in commuting to work as well. Generally, from North Hollywood to downtown, the rail lines would save about 10 minutes compared with an auto trip and 20 minutes when compared to a trip using buses only. Thus, the cumulative, long term effects of implementing one of the Alternatives I - X would be to save a great amount of time for patrons who would previously have been commuting in autos or on the present transit system. The Rail/Bus Alternatives would be more effective in this regard than the All-Bus Alternative.

To the motor vehicle operator who still uses his car, the lessening of congestion compared to the Null Alternative would result in an auto travel time savings also. It is important to note that there will be a 16% increase in vehicle trips and vehicle miles traveled in the Regional Core Traffic Impact Area if no improvements are made. Even if Alternative II is implemented, there will still be a 12% increase in trips and vehicle miles traveled. But, a comparison of the improvement to what the situation would be like if no improvement is made, is shown in Figure IX.2.

Figure IX.2  
Auto Time Saved

Alt.	Daily Time Savings in Vehicle Minutes Over Alternative XI *
I	1,882,300
II	2,072,000
III	1,741,700
IV	1,350,500
V	1,151,600
VI	1,882,300
VII	92,700
VIII	141,100
IX	46,200
X	180,400
XI Null	

\*These are vehicle minutes saved, not person minutes. Each vehicle is assumed by the City Traffic Department to carry 1.2 persons.

These time savings to bus patrons and auto drivers and passengers can be expected to increase on a long term basis. It is reasonable to expect in the same long term time frame, that additional improvements to public transit will be made, resulting in additional and on going time savings to patrons compared with a Null Alternative.

Improvements in 1990 traffic circulation in the Regional Core would result through reductions in both vehicle trips and vehicle miles travelled projected under any of Alternatives I through X compared with the Null, Alternative XI. Current estimates (1977) indicate that

there are approximately 17,477,000 daily vehicle miles of travel (VMT) in the Regional Core Traffic Impact Area. Under the Null Alternative, projected to 1990, the daily VMT under Alternatives I through X would range from approximately 19,629,000 to 20,197,000; a 12.3 percent to 15.6 percent increase over existing conditions, but 3.6 percent to 0.3 percent less than if the Alternative XI, (no project) is selected. Although Alternatives I through X all would result in some reduction of VMT, under All-Bus Alternatives VII through IX there would likely be local increases in traffic congestion due to the creation of exclusive lanes and/or the increased number of vehicles necessary to provide the desired level of service. Alternative VII, as a worst case, would commit portions of Wilshire and La Brea to "transit street" status, reducing drastically their auto capacity.

Lessening of the expected adverse impacts from increased traffic will be a major beneficial cumulative and long term effect of implementing one of the Alternatives I through VI. By doing nothing there would be increasing risks to the health and safety of the persons who travel in the Regional Core.

## 2. Environmental

### a. Geologic

There are no cumulative long term effects of the alternatives on major land forms.

### b. Seismic

There are no cumulative long term effects of the alternatives on seismic aspects of geology. Implementation of any of the alternatives would not cause seismic activity. If a significant earthquake were to occur in the vicinity of the Regional Core, it could have a significant effect on the project, depending on many factors. This is discussed under Chapter VIII, Unavoidable Adverse Impacts.

### c. Subsidence

There would be no cumulative long term effects on subsidence within the Regional Core from implementation of one of the alternatives.

### d. Mineral and other resources

There would be no cumulative and long term cumulative effects on mineral and other resources due to implementing any of the alternatives.

## 3. Ecological

### a. Meteorology

There are no cumulative, long term impacts expected on the meteorology of the Regional Core or region from implementation of any of the alternatives.

### b. Vegetation and Natural Wildlife

There are no cumulative, long term impacts expected on the vegetation and wildlife of the Regional Core or the region from implementation of any of the alternatives.

## 4. Water Quality

There are no cumulative, long term impacts expected on the water quality of ground water, oceans or the water supply within the Regional Core expected from implementation of any of the alternatives.

## 5. Air Quality

The long term goal is to meet and then exceed the Federal and State standards for ambient air quality. Of the causes of air pollution, motor vehicles are a major source. Increases in vehicular miles traveled are expected in 1990. If no improvement is made, VMT will increase by 16%. Any alternative that reduces this increase in vehicle-miles traveled will assist in improving the regional air quality.

As more fully discussed in Chapter IV.D Air Quality, implementation of any of Alternatives I through X would, by 1990, assist in decreasing total emissions in the Regional Core. Even if no project is built, however, there is expected to be an improvement in the ambient air quality in the Regional Core and in the SCAB region as a result of implementation of present laws and regulations. Projected decreases from the expected 1990 ambient air quality of emissions under the various alternatives would vary for each alternative. The tons per day reductions represent less than one percent of the pollutants in the South Coast Air Basin in 1990. While Alternatives I-X would improve the 1990 regional air quality, selection of one of the Alternatives I-VI could result in some minor deterioration in the local air quality surrounding station stops. This is, however, considered a necessary cost to provide an overall improvement in the regional air quality. Traffic engineering measures should be able to minimize station area congestion and resulting air pollution.

#### 6. Noise Levels

Most of the proposed transit routes are along corridors with large traffic volumes and correspondingly high noise levels. The resulting increase in Regional Core Traffic projected under the Null Alternative will not be sufficient to cause significant changes to the ambient noise levels. Eventually there may be more traffic around some stations with the implementation of Alternatives I - VI, this increase will not be a significant increase above the background noise level. Most of the areas surrounding proposed station stops already surpass the normally acceptable Noise Compatibility Levels.

Chapter IV.E, Noise and Vibration, provides a full discussion and analysis of the noise and vibration estimated to result from each alternative. The analysis indicates that an aerial transitway without sound mitigation measures would result in a 20-30 percent increase in noise. But, with mitigation measures even an aerial system would be within background noise levels. It also shows that buses produce somewhat less noise impact than the rail transit trains on aerial

structures without sound barrier walls, except at points where buses are accelerating.

For a subway there are numerous noise and vibration mitigation measures, and if implemented no adverse impacts are expected.

#### 7. Energy Consumption

A major goal of this transportation study, and one of national as well as local significance, is the more efficient use of energy through improvements to public transportation facilities. As discussed above, implementation of any of the alternatives would reduce projected 1990 VMT in the Regional Core compared to the null. Reduced VMT is directly related to the projected reductions in energy consumption compared to the null.

Chapter IV.F, Energy, provides a full discussion and analysis of the total energy requirements of all the alternatives. For purposes of analysis, the total energy requirements of each alternative are equated to equivalent barrels of oil (EBO) and British Thermal Units (BTU's). A comparison of the ten improvement alternatives to the null indicates that the Rail Alternatives (I through V) would save 29,000 to 44,000 EBO's per year in 1990. The All-Bus Alternative VI would save 1000 EBO's per year and Alternatives VII - X would use 28,000 to 39,000 more EBO's per year.

By slightly reducing our dependence on oil for transportation purposes we can reverse the present trend and thus derive beneficial long term and cumulative effects. Much of the oil used to fuel auto, truck and bus vehicles is imported. The balance of payments of the United States would be helped. More reliance could be placed on renewable sources of energy or coal which the United States has in abundance.



## 8. Social

### a. Demographics

There are slight cumulative and long term effects of the alternatives which would affect the demographics of the Regional Core. As stated in Chapter V.A, Demographics, the City of Los Angeles is projected to increase in population by 10.3 percent from 1975 to 1990. Employment in the city will increase 17.9 percent in that same period. In the Regional Core, population is expected to increase by 7.2 percent and employment by 2.0 percent. Due to implementation of one of the alternatives, it could be expected that there would be some shifting of the population and employment from the more suburban areas of Los Angeles to the Regional Core to result in more than these figures. This should help stabilize the Core area, which will be beneficial.

It is reasonable to assume that if transit service is upgraded in the Regional Core, it will facilitate access by minorities and transit dependents to jobs and residences.

### b. Land Use

The adopted land use plans for the Regional Core call for the development of high density centers of commercial and residential activities, with preservation of the low density development in between. A key feature of the plan is the development of a high speed rapid transit system which would connect these centers. To the degree that implementation of one of the proposed alternatives encourages development of these centers it will have a long term cumulative impact - not an adverse impact. These centers exist today. The plan calls for their further development. Although there may be more intense development, it is felt that proper design of these developing centers can minimize if not reduce pedestrian-vehicle conflict in these centers. Hence, no significant adverse impact is expected.

### c. Relocation

There will definitely be significant cumulative and long term adverse effects on residents and business persons if an aerial busway or aerial rail system is implemented. Numerous residences and businesses would have to be purchased to secure rights-of-way for the system. These persons and businesses must all be satisfactorily relocated, and, of course, their private properties will be permanently removed from the tax rolls. Chapter V.C. has a detailed discussion for this subject. No such adverse impact is foreseen from a bored subway. A cut-and-cover subway would cause adverse relocation impact similar to aerials over a train way.

### d. Public Service

Of the public services that are provided in the Regional Core, only the provision of police services may be affected by the proposed alternatives on a long term and cumulative basis. No final decisions have been made about station design, security systems and the size of transit district security forces. Since more persons would use the rail alternatives, street crime and auto thefts from parking facilities associated with the transit system could increase over the long run. Upon the selection of a project, the design of security systems can be completed and appropriate security staffing and cooperative agreements can be established. More detail can be found in Chapter V.D.

### e. Utility Systems

There are no adverse long term, cumulative impacts expected from any of the proposed Alternatives I through XI.

### f. Aesthetics

There are definite adverse long term, cumulative impacts expected on the visual environment from the implementation of an aerial system in

Alternatives I - VI. In addition to the disruption and relocation caused by an aerial system, the shade and shadow aspects of the system would cause permanent detrimental impacts on business and residential activities along the routes. There are no detrimental impacts by the implementation of a subway system in Alternatives I - V or from the All Bus Alternatives VII - X.

g. Employment

As detailed in Chapter VI.C, development of a rapid transit system should, in the long run, enhance local employment opportunities, increase the tax base and stimulate commercial activity within the Regional Core. Operation and maintenance functions will create hundreds of permanent positions. Economic multiplier effects indicate that an additional three to five new positions would be created in supporting sectors for each new, direct transit job. Alternatives I through VI would have by far the greatest positive impact on the local construction, material, and equipment industries.

Availability of an attractive transportation alternative providing fast, inexpensive, and convenient travel to many of the City's commercial centers and residential neighborhoods, may increase the desirability and value of such areas to residents and business interests alike. Transit patrons would benefit by reduced automobile travel costs. Business activity proximate to transit stations is anticipated to increase. As the value of private property increases and as that property changes hands, the property tax paid to local government will increase. Retail centers located elsewhere could experience some loss in sales or not increase as much as projected. No specific estimates have been made of these possible changes in retail sales. Such changes are long term and cumulative in nature, but are not considered as significant adverse impacts.

9. 4(f) and 106 Impacts

From the general level of analysis completed at this point, the following cumulative long term impacts are expected on parks, recreation facilities, archeological, cultural, historical and paleontological resources in the Regional Core.

a. Alternative III

Alignment of the aerial system would run through the middle of Barnsdall Park near Sunset Boulevard and Vermont Avenue. Definite adverse long term impacts could be expected on that facility. These would include the taking of land, visual blight and increased noise. An alternative to turn west on Sunset Boulevard south of the Park and thereby avoid this detrimental impact is possible.

b. Alternatives I - V

In an aerial configuration which would run along Wilshire Boulevard would adversely effect on a long term and cumulative basis a number of cultural-historical facilities and especially MacArthur Park, Lafayette Park, Hancock Park, as well as the Hollywood Bowl facility.

c. Alternatives I - X

The rail subway configuration especially to the degree that access to the 4(f) and 106 facilities is improved without adverse impacts will have beneficial long term impacts.

d. For Alternatives II & V

In a cut and cover configuration, long term adverse impacts could be expected in the vicinity of the La Brea Tar Pits on archeological and Paleontological resources. This area is most likely to have artifacts

buried under the surface to a depth of sixty feet. Placing a station in the vicinity of Wilshire and Hauser Boulevards would require at least some excavation in the 0 - 60 foot depth range. If proper care and time are taken in this excavation, so as not to destroy these expected artifacts, the adverse impacts may be avoided. Another option is simply not to build a station at this location, and to ensure that the subway tunnel passing under it is below the 60 foot level.

C. JUSTIFICATION FOR A PROJECT NOW

There are several reasons a transit improvement project is believed by the sponsor to be justified now, rather than reserving an option for further alternatives. The reasons are as follows:

1. Traffic congestion (vehicle trips and VMT) are expected to increase steadily in the Regional Core if no project is implemented.
2. Energy consumption, particularly the use of petroleum by autos, will continue to increase if no alternative to (and competitive with) the auto is implemented.
3. The present public transit (bus) system in the Regional Core is at or over capacity, and a more efficient system is needed to help accommodate the riders that can be attracted to public transit.
4. A more efficient and balanced transit system will significantly reduce net transit operating deficits in the Regional Core.
5. A more efficient transit system will save its users time and money.
6. A transit system which can save as many as 100,000 vehicle trips and 710,000 VMT can help to improve air quality. State and Federal law require measures to be taken to improve air quality to meet stringent standards by 1982 or 1987.



**X. IRREVERSIBLE AND IRRETRIEVABLE  
COMMITMENT OF RESOURCES**



## X. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

### A. INTRODUCTION

The purpose of this chapter is to summarize the primary and secondary impacts of the use of nonrenewable and irretrievable resources, and to discuss any irreversible damage that could result from environmental accidents associated with the project. Many of these subjects are addressed in previous chapters.

### B. NON-RENEWABLE AND IRRETRIEVABLE RESOURCES

There will be significant differences in the quantity of resources used for each of the eleven alternatives. This discussion will focus on the following resources: land, money, construction materials, manpower and energy.

#### 1. Land

##### a. All-Bus Alternatives VII-XI

If bus alternatives VII-XI were selected very little land would be necessary. No route right-of-way need be acquired, because they would use public streets and freeways. Some alternatives would feature converting existing traffic or parking lanes to exclusive bus lanes. However, this is not an irreversible use of land.

Depending on the bus alternative selected, one or two additional bus storage and maintenance divisions would be required. Again, this is not absolutely irreversible, but from a practical standpoint it is most unlikely that the land would be used for any other purpose for many, many years.

b. Rail/Bus Alternatives I-V and All Bus VI

(1) If an aerial guideway were selected for Alternatives I-VI, private property would be required where the line curved from one street to another and along tangents where public street or freeway right-of-way could not be used. The longer Alternatives I-III would result in the greatest amount of displacement and taking of private land for right-of-way purposes. The cost of acquiring the land and costs of displacing the numerous residences and businesses, and the cost of the special noise and vibration treatment that would be required for an aerial guideway, would considerably narrow and perhaps even reverse the basic structure cost difference between the aerial and bored subway methods. The cost of this land (which would also be required for turns in a cut and cover subway if these were not made by bored tunnel) is one of the factors which could make that method more expensive than a bored subway.

(2) In bored subway for the Rail/Bus Alternatives I-V, the quantity of land required for a bored subway would be minimal. Small amounts of land would be required for station entrances and exists. Most of these are expected to be provided in a cooperative joint development fashion from private sources in commercial districts and from public sources in governmental centers. No land would be required to be purchased or used for the route where it would be under public streets. On curves under private property only, much less costly subsurface easements would be needed.

c. Parking Needs

For both the aerial and subsurface alternatives, at those stations where parking facilities would be provided, land would be needed. Major parking facilities are proposed for the stations in North Hollywood and in the Universal City area. (Alternatives I, II, and III) Land for parking would also be required for most if not all other stations except those in the Central Business District. However, the objective would be to incorporate the needed parking spaces for transit patrons into a structure that was part of a major joint

development project around that station with offices, etc. - so that the land would be put to multiple use.

2. Money

The subject of funding required to implement and operate the various transit alternatives is dealt with extensively in other chapters. The purpose of this discussion is to make some comparisons.

The Regional Core, as the highest density transportation corridor in the Los Angeles region, has the greatest amount of transit ridership. The existing bus transit system is now at about capacity, and all indications are that dependence on public transit in this area will continue to increase. The present bus system in the Regional Core required an annual subsidy of nearly 17 million dollars in 1977. By 1990 this annual subsidy, because of inflation, would escalate to 45 million dollars. The All-Bus Alternatives VII-X would require an annual subsidy of between 54 and 62 millions of 1990 dollars.

For All-Bus Alternatives VII-XI between 8 and 17 million (1977) dollars would be required to provide for one or two new bus divisions. Between 361 million and 474 million ('77) dollars would be required to purchase added and replacement buses over a 36 year period (equal to useful life of a rail transit car).

For the All-Bus Alternative VI a total of 1.450 billion dollars would be required to construct the aerial guideway, provide bus yards and purchase the buses. In addition to its high capital cost, it would have the disadvantage of having a high operational cost as well, which would result in a \$37 million deficit in 1990.

For the Rail/Bus Alternatives I-V, the capital costs in 1977 dollars range from 659 million and 1.120 billion dollars. The advantage of this capital investment is improved operational efficiency and a decrease of yearly required subsidy. The estimated 1990 subsidies required would range from \$20 million for Alternative V to \$1 million



## **XI. GROWTH INDUCING IMPACTS**



## XI. GROWTH INDUCING IMPACTS

### A. ECONOMIC GROWTH

#### 1. Additional Employment Opportunities

The economic growth of the Regional Core and the entire region would be appreciably stimulated by the number of jobs created as a result of a major, capital intensive transportation improvement project. There would be three categories of additional employment: construction related, system related, and community employment, as discussed below.

- a. Construction related jobs are all those required to design and construct the project, as well as those involved in producing the raw materials used in construction (cement, aggregate lumber, steel, etc.), and those involved in fabricating and assembling the many items of special equipment required (rail cars and all their components, electrical sub-stations, train control and communications, and fare collection equipment) and, of course, many people would be involved in transporting all of these materials and equipment.

It is conservatively estimated that a one billion dollar project of this nature would create 20,000 to 30,000 man years of employment, or an average of 3000 to 5000 jobs per year for 5 to 6 years on site.

In addition, there would be considerable number of jobs created in the service industries - a generally recognized result of a major project anywhere.

- b. System related jobs are those required to operate and maintain the transit system. Rail/Bus Alternatives I to V would result in a need for from 300 to 400 employees to be train operators, train

car maintenance and repair mechanics, track and structure maintenance and repair people, security people, electronics and communication maintenance and repair people, plus administrative and management personnel.

All-Bus-Alternatives VI-X would require from about 300 to as many as 900 more personnel, most of whom would be bus operators, but some mechanics and supervisory personnel also.

c. Community Employment

The Regional Core includes 9 major employment centers. In 1970, it was estimated that 541,600 jobs were located in this area, which includes the CBD, Wilshire, Miracle Mile, Hollywood, Universal City and North Hollywood. Without factoring in the effects of Rapid Transit, employment in the Regional Core is expected to increase by 2% by 1990. It is reasonable to expect that if a rail rapid transit line were constructed, and began operation by 1987, more than a 2% increase in jobs would be expected by 1990.

The Central Business District, Hollywood and North Hollywood communities have mounted active redevelopment and revitalization projects. They are trying to stem the decline of their areas and reverse the job loss trends of recent years. It is likely that rapid transit could be a major factor in reversing this decline. The Urban Design Consultants and Economic Consultants project that in the vicinity of six sample stations, over 6,000,000 square feet of new development would be expected to occur.

2. Benefit to Local Economy

The impact on the local economy has been estimated in other areas to be as much as \$3 for every \$1 spent on the project. In addition to direct impact of the funds going into payrolls, and material and

equipment purchased and transported, such a project would result in significant sales tax revenues. In subsequent years it would be reasonable to expect an increase in property tax revenue as a result of increased values of property within transit station influence areas. Further, to the extent that the project would relieve unemployment there would be savings in welfare and unemployment payments.

Again, the extent of these impacts on the economy would be directly related to the capital cost of the project that was invested in permanent facilities.

B. POPULATION GROWTH

The Los Angeles Concept Plan features, in the Regional Core, nine high density residential/commercial centers connected by a rapid transit system. Between 1975 and 1990, an increase in residential population of 7.2% was projected in the Regional Core without factoring in the effect of a rapid transit system. The city is expected to grow by 10% in population during that same period. With a significantly improved transit system (Alternatives I-V) more than 7.2% increase in the Regional Core could be expected, although there are other factors that will assist in inducing increased residential and commercial construction. These factors include favorable land use and zoning policies. Many steps have been taken in these areas including the adoption by the City of Los Angeles of the "Center Concept Plan" which calls for high density connected by mass rapid transit. Zoning capacity exists to encourage this type of development.

The All Bus Alternatives VI-XI would not assist in implementing the "Concept" to any appreciable extent.

## **XII. COMMUNITY PARTICIPATION**



## XII. COMMUNITY PARTICIPATION

### A. GOALS

The goals of the Community Participation Program were the following:

1. To develop a public awareness of the program, and then to achieve a community consensus that the selection and implementation of the Preferred Alternative is necessary.
2. To work with the community in developing or modifying goals as a result of the Regional Core Transit Alternatives Analysis and assist the community in reaching decisions on plan specifics.

### B. PUBLIC INVOLVEMENT GUIDELINES

A profile was developed on all affected/interested communities and their major concerns. Issues of particular interest to these communities were identified and preliminary research was done to address them. These issues were grouped, based upon their importance to (1) corridor residents, (2) out-of-corridor residents, (3) affected businesses, (4) municipalities, (5) transit dependents.

Milestones for public participation during the Alternatives Analysis process, and their principal objectives were designated as follows:

1. At the initial stages of the alternatives development so that community suggestions would be addressed.
2. After refinement of transit alternatives -- so that the community would be able to comment on their environmental, physical and operating characteristics.

3. During evaluation of patronage estimates, operating plans and operating and capital cost estimates of the eleven alternatives - so that community comment would be received on these aspects of the alternatives, and preferences expressed.

#### C. GROUP MEETINGS

Public Participation activities conducted with interested communities and the results of these activities are as follows:

##### 1. Community Meetings

Corridor residents and businesses were identified as those directly affected by this program and therefore, the most important community to involve in the Alternatives Analysis process. To encourage their participation, four rounds of community meetings were conducted throughout the Regional Core by Los Angeles City Planning staff with the assistance of SCRTD staff. Publicity in advance of these meetings included newspaper announcements, spot radio and T.V. announcements, notices on buses, and notices mailed to a broad list of community leaders and organizations as supplied by City Council offices.

##### 2. Organization Meetings

In pursuit of attaining further awareness of the Regional Core Transit Alternatives Analysis, meetings have been held with numerous civic and professional organizations, such as (1) Chambers of Commerce, (2) Professional Groups, (3) Labor, (4) Specifically Interested Service Organizations.

In all cases the organizations have shown appreciation at being involved in the project, and indicated that they wanted to be kept involved in and aware of its progress until the final decision on this Preferred Alternative was made, and the necessary local funding

committed. They were asked to express their preference in the form of formal resolutions to local decision-making bodies.

##### a. Affected Businesses in the Regional Core

Contacts were made with the business community through the several Chambers of Commerce and other business organizations in the Regional Core.

The transportation committees of these organizations received several presentations on the alternatives and generally indicated keen interest in the program. They also were very interested in the comparative cost data. The following were some of their main concerns:

- Transportation is presently such a problem in the study area (especially along Wilshire) that businesses are losing good employees.
- Exclusive bus lanes would have a tremendous negative impact on the businesses along these streets.
- Rail construction should be done so as to cause as little disruption as possible.
- Cost-effectiveness should be one of the main criteria in selecting the system.

##### b. Regionwide Organizations

In addition to organizations within the Regional Core area, several regional organizations that demonstrated special interest were also made part of the Community Participation Program. Such organizations as the League of Women Voters, the Sierra Club, Los Angeles County Organization for Economic Development Program (OEDP), the Urban League, the Los Angeles County Employees Association (LACEA), the Building Industry Associates and the Los Angeles NAACP all have participated.



The goals for working with these organizations were the same as for the organizations within the Regional Core. Results of meetings were similar to those for the other organizations.

### 3. Media Representatives

A number of information briefings were held with media representatives (1) to encourage publicity for the Citizen Participation Program, and (2) to ensure accurate media coverage of the project. All regional newspapers and electronic media were contacted, but particular emphasis was given to the local newspapers circulated in the Regional Core area.

Background information on the Regional Transit Development Program (RTDP) and the specific scope of the Regional Core Transit Alternatives Analysis were the main issues discussed during the briefings. Follow-up information and graphics on the eleven alternatives were given at subsequent meetings.

The overall response of the media to the meetings was favorable. Additional briefings were held just prior to the formal hearings on July 7, 8, and 9, 1979.

### 4. Elected Officials

Continually updated information on the Regional Core Transit Alternatives Analysis has been provided to national, state and local elected officials who (1) represent jurisdictions falling within the Regional Core and (2) are legislators who would be involved in an eventual decision on this project.

There was active interface with the offices of L. A. City Council members whose districts comprise the Regional Core. Briefings have been held for the council members and their staffs. Council representatives frequently attended the community meetings.

Other officials received a schedule of the program, notices of all community meetings, copies of public information materials and a summary report of presentations made in their districts.

### 5. L. A. City Board and Commissions

Los Angeles City Boards and Commissions, whose activities might be affected by our program, were notified of our project and asked if they would like a briefing. Eight of the ten contacted did request more information and presentations were made. All of the Commissions briefed were very interested in the project and asked for a follow-up presentation on the alternatives. They were pleased to be informed during the planning stages, and appreciated the fact that their comments were solicited this early in the Alternative Analysis. Additional meetings were also scheduled with these Boards and Commissions prior to the public hearings.

### 6. Inter-Agency Coordination

There is a Marketing Sub-Committee of the Interagency Technical Committee which has a primary purpose of coordinating all communication and publicity with the public on the various elements of the RTDP. The Committee consists of representatives from SCAG, CALTRANS, The Los Angeles County Transportation Commission, the Los Angeles Community Redevelopment Agency, L. A. County and City and the SCRTD. The SCRTD representative has served as chairman of this sub-committee during most of the period of its existence. It has provided information to the public on each element of the RTDP.

### 7. State and Federal Agencies

Some State agencies were consulted directly on aspects of the study of concern to the particular agency. For example, the California Air Resources Board was contacted to determine a suitable methodology for

evaluating air quality impacts of the various alternatives. Meetings were also held with members of the State Cultural Heritage Preservation Office to discuss potential impacts of the alternatives on cultural-historic resources. Based on these meetings a cultural-historic impact analysis methodology was developed for the study. Requirements and concerns of other State and Federal Agencies were generally addressed by following written study guidelines dealing with the various areas of concern and by consulting SCAG, which is the regional representative for many State and Federal agencies.

#### D. INFORMAL PUBLIC MEETINGS

1. At the initial meetings, the Regional Core Transit Alternatives Analysis and its scope of work were explained, as well as its relationship to the 4-Element Regional Transit Development Program. The range of alternatives from rail rapid transit to exclusive bus lanes on surface streets to modest improvements in the present bus system was explained. Participants were asked to make suggestions for alternatives to be included for consideration.

Those who attended the meetings were receptive to the presentation. Key concerns expressed were:

- Costs of the alternatives and funding sources.
- Property taxes were presently too high and could not be considered as funding sources.
- Earthquake dangers involved in a subway.
- Citizen input be incorporated into the decisionmaking process.
- Adamant opposition to cut-and-cover construction of subway.

2. The second round of meetings went into detail on the operating and environmental characteristics of the eleven alternatives which had been developed. Although attendance was modest, the participants were quite knowledgeable and the discussions resulted in valuable input to the analysis process. Generally speaking, the participants appeared

to favor a rail system over bus at this stage. However, expansion and improvement of bus service to supplement the rail system was considered vital. The need for cost information was re-emphasized, and inquiries into financing techniques were numerous.

3. At the third round of meetings, the patronage estimates and operating and capital cost estimates were presented for each of the eleven alternatives. Attendance at this series of meetings was hampered by heavy rains. However, those who did attend provided useful feedback.

4. At the fourth round of meetings, the results of the evaluation were explained; the various alternatives compared in terms of patronage, cost, efficiency and environmental impacts; and the possible financing arrangements were shown.

People have been particularly interested to know that the opportunity exists to proceed with a rapid transit starter line without having to add any new taxes.

Very quickly after viewing and hearing of the results of the analysis, the groups focused on such matters as:

- When could construction of a rail line begin?
- How long would it take to put into operation?
- What extensions could and/or should be made to a starter line?
- How much or little disruption would there be during construction?

The Hollywood community groups expressed a strong desire for locating the Hollywood station at Cahuenga and Hollywood Boulevards. Upon reevaluation of possible station locations in the Hollywood area, it was concluded that location of a station along Hollywood Boulevard at Cahuenga, instead of Las Palmas, was a better choice.

## **XIII. PUBLIC HEARINGS AND RESPONSE TO COMMENTS**



### XIII PUBLIC HEARINGS AND RESPONSE TO COMMENTS

This chapter details the entire effort of the official public hearing process that was conducted on the project and includes: (1) an overview of the process, with locations of the hearings; (2) the official notice of public hearings; (3) listing of the speakers testifying of the public hearings; (4) fully written text of letters and statements, with accompanying index; (5) responses to substantive (written and oral) comments and (6) statements (written and oral) of preference for alternatives.

The written comments consist of formal letters and are included verbatim in this final report; while the voluminous transcripts resulting from the oral testimony are on file with the District Secretary, and are available for public inspection. The Rapid Transit staff of SCRTD examined all such written and oral comments based upon the distribution of the document and the hearings; re-evaluated the Draft AA/EIS/EIR in view of all substantive comments; and produced this final report based upon such re-evaluation.

#### A. OVERVIEW

##### 1. Introduction

In order to encourage feedback from the general public in response to an Environmental Impact Statement (EIS), the Federal Government, under provisions of the National Environmental Policy Act (NEPA), requires that at least one public hearing be conducted. In contrast, the State Government, under provisions of the California Environmental Quality Act (CEQA), does not have such a requirement. However, in order to allow the greatest number of people, organizations, and agencies, to express their opinion directly to SCRTD's Board of Directors, thereby maximizing public input and comment, the District has gone beyond the mere satisfaction of such minimum requirements. In particular, SCRTD held a total of six sessions of formal public hearings, located in four different geographical areas

within the Los Angeles Regional Core. These hearings were held on July 9, 10, and 11, 1979; both in the afternoon and in the evening; and were located in the North Hollywood/San Fernando Valley Area (two hearings), Hollywood/West Hollywood Area (one hearing) Fairfax/West Wilshire Area (one hearing), and the Wilshire/Central Business District Area (two hearings).

## 2. Methodology and Approach

### a. Criteria for Locations

The selection of these four geographical locations was based upon (1) the desire to cover the entire Regional Core; (2) the multiplicity of citizen and business interests, and (3) convenience in terms of accessibility (walking distance or bus transportation) and parking facilities.

### b. Publicity Campaign

Extensive public notice about the hearings was given throughout Los Angeles County including, but not limited to, the following:

- (1) 150 local community newspapers including foreign language newspapers;
- (2) Metropolitan Newspapers;
- (3) Three radio stations (including special interviews);
- (4) Several television stations (including special news segments);
- (5) 50,000 "Take One" brochures providing notice of the public hearings available on every bus line throughout the regional core area;
- (6) Distribution of the full technical study to public libraries and further distribution to individuals upon special request;
- (7) Distribution of nearly 4,000 Executive Summaries;
- (8) Notices to all local community groups of which the District had knowledge;
- (9) Personal appearances by SCRTD community representatives at meetings of local community groups.

- (10) Notices to all local, state, and federal offices with any relevant interest;
- (11) A direct mailing list of over 700 that included notices to potentially impacted business, recreational, cultural, and entertainment centers; as well as individual citizens, organizations, associations, and elected officials. This direct mailing included a copy of the Executive Summary Report on the Draft AA/EIS/EIR; along with a letter from the President of the SCRTD Board of Directors; a notice from UMTA; and a Notice of Public Hearings.
- (12) Notice of Public Hearings were mailed to all elected officials in the Regional Core area.

### c. Conduct of Hearings

In order to provide the widest opportunity for both working (day or night) and non-working individuals to attend these hearings, sessions were set up for the evening as well as the afternoon. Each session was opened using the same format of giving the purpose of the hearings, a summary of the work done, and a report on the publication of the "Notice of Intent" to hold the hearings. There were both scheduled and non-scheduled appearances of various speakers. Those who were scheduled had specific "time-slots" within which to speak, and all other speakers (i.e., non-scheduled) were worked around such specific time-slots. In general, all sessions ran continuously, averaging about one speaker every five minutes. Transcripts were taken of all verbal testimony in its entirety. The voluminous transcripts resulting from this oral testimony are on file with the District Secretary and are available for public inspection. Finally, all persons at these hearings were made aware that there was an additional 30-day period (until August 12, 1979) to submit any written comments on the Draft AA/EIS/EIR.

d. Results and Conclusions

The hearings ran a cumulative total of 13 hours, with a concomitant 404 persons attending. Within this total, 144 persons gave oral testimony and 13 of these submitted written comments. In terms of preference, Alternative II was supported by the greatest number of people, with 80 oral testifiers supporting it; while the second most favored option was Alternative III, with 10 oral supporters.

The variety of political, labor, business, community, and educational leaders, as well as environmental groups and citizens in general, represented a multiplicity of viewpoints which contributed to the comprehensive nature of the hearings. Moreover, the total attendance of 404 people at such sessions reflects strong citizen interest in rapid transit development in Los Angeles, as well as the excellent lines of communication that have been established with the community as a whole.

B. OFFICIAL NOTICE OF PUBLIC HEARINGS

The official "Notice of Intent to Hold Public Hearings" was widely distributed throughout the Regional Core and beyond. Specifically, such notice was printed in the: (1) Los Angeles Times, (2) Los Angeles Herald Examiner, (3) Valley News, (4) Los Angeles Sentinel, (5) Wilshire Press, (6) Pico Post, (7) Hollywood Independent, and (8) La Opinion. In addition, these documents were mailed to all elected officials in the Regional Core, as well as all relevant federal, state, and local public agencies. Moreover, in libraries and other public buildings, the notices were prominently displayed for the community at large to see. This official "Notice of Intent" is printed in its entirety in this section and follows next.

NOTICE OF INTENT TO HOLD PUBLIC HEARINGS ON THE  
DRAFT ALTERNATIVES ANALYSIS/  
ENVIRONMENTAL IMPACT STATEMENT/  
ENVIRONMENTAL IMPACT REPORT  
ON TRANSIT IMPROVEMENT ALTERNATIVES  
IN THE LOS ANGELES REGIONAL CORE,

A PROJECT OF THE SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT  
UNDER A TECHNICAL STUDIES GRANT FROM THE  
UNITED STATES DEPARTMENT OF TRANSPORTATION,  
URBAN MASS TRANSPORTATION ADMINISTRATION (UMTA)

---

Notice is hereby given, concurrently with the release of said report, that the Board of Directors of the Southern California Rapid Transit District (SCRTD) intends to hold Public Hearings for the purpose of receiving comments from interested and concerned organizations and community groups on the economic, social and environmental impacts of various rail/bus and all-bus mass transit improvement alternatives in the Los Angeles Regional Core.

The Regional Core is defined, for the purpose of this report, as the area lying northerly of the Santa Monica Freeway and extending westerly from the Los Angeles Central Business District to Robertson Boulevard and includes Hollywood and the Studio City/North Hollywood area in the San Fernando Valley.

The locations, dates and times scheduled for these official public hearings are as follows:

NORTH HOLLYWOOD/SAN FERNANDO VALLEY AREA - Monday, July 9, 1979

Location: Howard Johnson's Motor Lodge  
4222 Vineland Avenue  
(Father Serra Room)

Time: 2:00 P.M. - 4:00 P.M.  
7:00 P.M. - 9:00 P.M.

HOLLYWOOD/WEST HOLLYWOOD AREA - Tuesday, July 10, 1979

Location: Hollywood High School Auditorium  
1521 N. Highland Avenue  
(Corner of Highland Avenue and Sunset Boulevard)

Time: 2:00 P.M. - 4:00 P.M.

FAIRFAX/WEST WILSHIRE AREA - Tuesday, July 10, 1979

Location: Fairfax High School Auditorium  
7850 Melrose Avenue  
(Corner of Melrose Avenue and Fairfax Avenue)

Time: 7:00 P.M. - 9:00 P.M.

WILSHIRE/CENTRAL BUSINESS DISTRICT AREA - Wednesday, July 11, 1979

Location: Great Western Savings & Loan  
3660 Wilshire Boulevard  
(Community Room on Mezzanine Level)

Time: 2:00 P.M. - 4:00 P.M.  
7:00 P.M. - 9:00 P.M.

The alternatives which are the subject of the hearings are described in detail in the SCRTD's Draft Alternatives Analysis/Environmental Impact Statement/Environmental Impact Report on Transit System Improvements in the Los Angeles Regional Core (AA/EIS/EIR) dated May 18, 1979. The various alternatives are grouped into three categories:



- Five-combination Rail Rapid Transit/  
Feeder Bus Alternatives
- Five Bus-Only Alternatives
- One "Status Quo" Alternative.

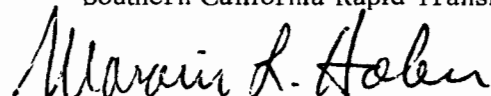
Not sooner than 30 days following completion of the hearings on the Draft Report, the District's Board of Directors will, after considering all pertinent comments, select a preferred alternative which will then be submitted to the Urban Mass Transportation Administration (UMTA). The District will also submit, at the same time, its application to UMTA for a grant of funds with which to proceed with Preliminary Engineering on the selected and approved alternative.

Upon completion of the Preliminary Engineering process, UMTA will decide whether or not to commit funding for the Final Design and Construction of the preferred alternative.

Among the concerns given particular attention in this Draft Report are the comparable numbers of riders attracted and the capital and operating costs of the various alternatives, and the relative environmental, energy and community benefits.

All persons, community and civic organizations and public agencies interested in the improvement of public transportation in Los Angeles are urged to appear and be heard at one of these hearings for the purpose of expressing their preference from among the Alternatives. We shall appreciate receiving their formal resolutions or letters at the same time.

Board of Directors  
Southern California Rapid Transit District

  
Marvin Holen, President

#### C. LISTING OF SPEAKERS TESTIFYING AT PUBLIC HEARINGS

These formal public hearings ran a cumulative total of 13 hours, with a corresponding 144 persons giving oral testimony. What follows is a list of speakers in the order in which they appeared at each hearing. Individual speakers are referenced by session, location, date, time (afternoon/evening) and transcript page number. By utilizing this reference system, one can easily locate the actual text of a specific oral testimony within the transcript. The six volumes of the transcript are on file with the District Secretary and are available for public review.

LISTING OF SPEAKERS TESTIFYING AT PUBLIC HEARINGS

Session A - North Hollywood  
July 9, 1979 - Afternoon

Speaker and Transcript Page Reference

1. Mayor Tom Bradley (p.14)
2. Councilwoman Pat Russell of the Los Angeles City Council (p.23)
3. Congressman Barry Goldwater, Jr. (p.25)
4. Larry Spungin representing MCA/Universal (p.28)
5. Dr. Alice Thurston, President of Los Angeles Valley College (p.29)
6. Attorney Byron Cook (p.31)
7. Dr. Abe Falick -- Coalition for Rapid Transit (p.34)
8. Richard Luehrs, Executive Director  
North Hollywood Chamber of Commerce (p.38)
9. Ms. Reba Roebuck -- California Retired Teacher's Association (p.39)
10. Mr. Steve Morris -- Los Angeles Urban League (p.42)
11. Beverly Garland -- Honorary Mayor of North Hollywood (p.46)
12. Roger Stanard -- Valley Wide Streets, Highway &  
Transportation Committee (p.47)
13. George Falcon -- Citizens for Rail California (p.50)
14. Leo Potucek -- North Hollywood PAC (p.52)
15. Peggy Schade -- Studio City Chamber of Commerce (p.52)
16. Glenn Bailey, President -- West Los Angeles County Resource  
Conservation District (p.54)
17. Councilwoman Joy Picus -- Los Angeles City Council (p.58)
18. Dennis Cannon -- Past President CAHI (p.60)
19. Charlotte Saldick -- S. F. Valley Fair Housing Council (p.65)
20. Joseph Dunn -- Student (p.66)
21. Ione Buie -- San Fernando Valley Sierra Club (p.68)
22. Ben Bogartz -- Pacific Electric Motorman (p.71)

Session B -- North Hollywood  
July 9, 1979 - Evening

Speaker and Transcript Page Reference

1. Mr. James B. McKenna -- AM-CAL Realty Inc. (p.14)
2. Mr. David Downing - L. A. City & County Area Agency on  
Aging Committee (p.17)
3. Mr. Bruce Miller -- P.A.C., North Hollywood (p.21)
4. Mr. Bill Steward -- Mayor's San Fernando Valley Advisory  
Committee (p.23)
5. Kurt Colicchio -- Studen, Hughes Junior High School (p.24)
6. Guy McCreary -- North Hollywood Chamber of Commerce (p.26)
7. Fred Valentine -- Private Citizen (p.28)
8. Robert Richmond -- Private Citizen (p.29)
9. Richard Cowsill - President of the Student body at Los Angeles  
Valley College (p.31)
10. Dwight Winegar -- Student at San Fernando Valley College (p.34)
11. Patrick Moser -- L. A. County Democratic Central  
Committee (p.36)
12. Gordon Clint -- Winnetka Chamber of Commerce (p.39)
13. Frank Pine - United Chambers of San Fernando Valley (p.39)
14. Greg Roberts - Private Citizen (p.48)
15. Phyllis Roberts - President, N. Hollywood Chamber of  
Commerce (p.51)
16. Mr. Sheldon Walters - Private Citizen (p.54)
17. Dorothy Downing - Private Citizen (p.58)
18. Art Schneider - Private Citizen (p.59)
19. Bryan Allen - Private Citizen (p.60)
20. J. Crawford - Small Business Owner (p.62)
21. Rick Rofman - Private Citizen (p.63)
22. Leon Opseth - Homeowner; North Hollywood Redevelopment  
Committee (p.66)

Session C - Hollywood High  
Hollywood  
July 10, 1979 - Afternoon

Speaker and Transcript Page Reference

1. Mr. Sherrill Corwin - Board of Directors, Los Angeles Philharmonic & Music Center (p.16)
2. Mrs. Daniel Frost - Representing the Los Angeles County Museum of Art (p.19)
3. Mr. L. J. Murphy - West Hollywood Chamber of Commerce (p.22)
4. Rose Heller - Private Citizen (p.23)
5. Joyce Snyder - Do It Now Foundation (serves hospitals) (p.25)
6. Mrs. D. Hicks - Private Citizen (p.27)
7. Norris Dabbs - Private Citizen (p.28)
8. Bo Young - Representing Los Angeles City Councilwoman Peggy Stevenson (p.31)
9. Mr. Sheldon Davidow - Hollywood Chamber of Commerce (p.31)
10. Leonard Reeg - Hollywood Coordinating Council (p.40)
11. Mr. Bob DiPietro - Hollywood Revitalization Committee (p.41)
12. Tim Creedon - Hollywood Bowl (p.46)
13. Bill Sisson - Private Citizen (p.49)
14. Mr. Oscar Singer - Private Citizen (p.56)
15. Lazear Israel - Private Citizen (p.58)
16. Mr. Edmund J. Russ - Chairman of the Los Angeles County Transportation Commission (p.59)
17. Ms. Nancy Burns, Representing State Senator David A. Roberti (p.65)
18. Dan Narvaez - Rosewood Senior Citizen's Center
19. Mr. Barry Adler - Private Citizen (p.66)
20. Peter Stoner - Private Citizen (p.69)
21. Howard Watts - Private Citizen (p.70)
22. Eugene Henning - Private Citizen (p.71)

Session D -- Fairfax High School  
July 10, 1979 -- Evening

Speaker and Transcript Page Reference

1. Bob Geoghegan, Respresenting Supervisor Edmund D. Edelman (p.16)
2. Ms. Karen Labinger - National Council of Jewish Women (p.20)
3. Mr. Bud Siegal - West Hollywood Citizens Advisory Committee (p.23)
4. Mr. Rod Diamond - Retail Clerks Union (p.26)
5. Mr. Phil Schmidt - May Company Department Stores (p.27)
6. Mr. Jim Butler - California Federal Savings & Loan (p.31)
7. Richard Thompson - American Institute of Architects (p.35)
8. Mr. Gale Williams - President of California Association of Physically Handicapped (p.39)
9. Evelyn Ghormley - American Association of University Women (p.44)
10. Sandra Spitzer - Jewish Legal Services (p.46)
11. Warren Martin - Century City Chamber of Commerce (p.49)
12. John Touchet - Future of Los Angeles Organization (p.51)
13. Girard L. Spencer - West Hollywood Citizens Advisory Sub-Committee (p.55)
14. Nancy Pearlman - Ecology Center of Southern California (p.56)
15. Louis Korn - President, Carthay Circle Homeowners Association (p.65)
16. David Learn - Private Citizen (p.68)
17. Al Nyberg - Private Citizen (p.74)
18. Theodore Zier - Private Citizen (p.77)
19. Robert Richmond - Private Citizen (p.79)
20. Elliot Harmer - West Hollywood Advisory Council (p.80)

Speaker and Transcript Page Reference

1. Mr. Bill Robertson - Los Angeles County Federation of Labor, AFL/CIO (p.13)
2. Mr. Jim Gordon - Los Angeles Area Chamber of Commerce (p.15)
3. Rabbi Wolf - Wilshire Temple (p.16)
4. Mr. John McKay - Wilshire Chamber of Commerce (p.17)
5. Ms. Gloria Schmidt - President, Los Angeles County League of Women Voters (p.18)
6. Fred Terrell for Councilman John Ferraro - President of the Los Angeles City Council (p.21)
7. Mr. Frank Rice - Vice President of Bullock's (p.24)
8. Mr. Laurence S. Caretto - Air Resources Board (p.25)
9. Mr. Glen Bennett - Park La Brea Associates (p.28)
10. Dr. James Cox - Dean of Students, Los Angeles City College Chancellor's Committee on Transportation (p.29)
11. Mr. John Gendron - Sr. Vice President, Public Affairs Director, ARCO (p.32)
12. Mr. Don Muchmore - Sr. Vice President, Corporate & Public Affairs, California Federal Savings & Loan (p.35)
13. Mrs. Toni Rini - Chairwoman, East Los Angeles Senior Citizens Committee (p.39)
14. Councilman Robert Farrell - Representing Executive Committee of Southern California Association of Governments (p.43)
15. Mr. Patrick Ela - Director, Craft & Folk Art Museum (p.48)
16. Dr. Stanley Rokaw - Los Angeles County Medical Association (p.49)
17. Mr. John Saito - Japanese American Citizen's League (p.54)
18. Ms. Marge Klugman - Greater Los Angeles Council on Deafness (p.55)
19. Mr. Tomas Pompa - East Los Angeles Interagency Coalition (p.57)
20. Lloyd De Marais - Computer Learning Center (p.59)
21. Joe Vasquez - East Los Angeles Area Aging Advisory Council Chairman (p.61)
22. Mr. Earnest Weber - Aames Bureau of Employment (p.64)
23. Mr. Tom Benson - Carpenter's Union (p.66)
24. David Gonzales - Whittier Blvd. Merchants Association (p.66)
25. Mr. Warren Thorpe - Children's Hospital, Health Maintenance Organization (p.68)
26. Meda Rosado - Citizens Planning Council - Transportation Committee (p.69)
27. Lou Nau - Los Angeles Mayor's Office for Handicapped (p.71)
28. Marvey Chapman - Los Angeles County Grand Jury (p.73)
29. Ethel Blackwell - Private Citizen (p.76)
30. Elizabeth Bell - Los Angeles City College Student Council (p.78)
31. Marge Webb - Private Citizen, Sculptor, uses Art Institute (p.79)
32. Richard Workman - Private Citizen (p.80)
33. Mrs. H. Mellow - Private Citizen (p.82)
34. Jim Gagnon - Private Citizen (p.87)

Speaker and Transcript Page Reference

1. Mr. Jack Hallen - American Society of Civil Engineers (ASCE) (p.16)
2. Robert Datel - District Director, California Department of Transportation, District 7 (p.18)
3. Mr. Ken Gregory - American Planning Association (APA) (p.21)
4. Jim McDermott, Representing Assemblyman Michael Roos (p.25)
5. Mr. Stan Hart - Sierra Club (p.28)
6. Mr. Norm Murdoch - Los Angeles County Planning Department, Director of Planning (p.31)
7. Mrs. Honora Wilson - American Lung Association (p.35)
8. Dr. Abe Falick - Coalition for Rapid Transit (p.38)
9. Michael Clements - Ecology Legislative Action (p.47)
10. Arch D. Crouch - Los Angeles City Planning Department (p.50)
11. Mr. Dave Waters - Los Angeles NAACP (p.53)
12. Ms. Evelyn Kieffer - Sutro Company (p.57)
13. Joseph Rocco - Citizen (p.61)
14. Ernest L. Crawford - Private Citizen (p.64)
15. Michael Rosen - Small Business Owner (p.67)
16. John H. Welborne - Private Citizen (p.71)
17. Al Nyberg - U.C.L.A. (p.76)
18. James Seal - National Fight Back Organization (p.79)
19. Ted Mauritzen - Private Citizen (p.82)
20. Rex Links - Wilshire Chamber of Commerce (p.89)
21. J. T. Spencer - Private Citizen (p.90)
22. Pat Gibbs - Private Citizen (p.93)
23. Sheldon Walter - Private Citizen (p.96)
24. Bryan Allen - Private Citizen (p.99)

D. LETTERS AND WRITTEN STATEMENTS RECEIVED (WITH INDEX)

Similar to the oral testimony, the re-evaluation of the Draft AA/EIS/EIR and the resulting Final AA/EIS/EIR was based, in part, on the written comments in response to the distribution of the draft document and the hearings. These written comments consist of formal letters and are included verbatim in this section of the final report. In addition, the public was made aware that there was an additional 30-day period (until August 12, 1979) to submit any written comments on the Draft AA/EIS/EIR after the completion of the formal hearings.

There were 90 written comments which were received in response to both the distribution of the draft document and the public hearings, with 13 of these specifically generated from the oral testimony, and the remainder resulting from the distribution of the draft report. What follows is a "written comments document package" which consists of the full text of all the written letters and comments received by the SCRTD staff. Immediately preceding this document package is an index which lists these letters in the order in which they are printed. Individual letters are referenced by the author and the index (order) number. By utilizing this reference system, one can easily locate the actual text of a specific letter within the written comments document package.

The number of the response to each substantive comment, (these responses are contained in the next section) is also indicated in the margin of the letters, wherever applicable, for easy reference. In addition, an asterisk in the index identifies letters that required no response.

The index and the letters follow.

INDEX OF LETTERS AND STATEMENTS RECEIVED

Index Number	Author of Letters
* 1.	Dorothy Beffman
* 2.	Congressman Anthony Beilenson
* 3.	Assemblyman Howard L. Berman
* 4.	Beneficial Standard Properties, Inc.
5.	Hollywood Arts Council
6.	Hollywood Coordinating Council
7.	Hollywood Revitalization Committee, Inc.
* 8.	KNBC Editorial
9.	Los Angeles City Council
10.	Los Angeles County Flood Control District
*11.	Alden Nash
12.	National Society of Professional Engineers
*13.	North Hollywood Project Area Committee - June 12, 1979
*14.	North Hollywood Project Area Committee - July 16, 1979
*15.	James B. Rives
16.	U. S. Department of Transportation - FHWA Region Nine
*17.	Valleywide Committee on Streets, Highways & Transportation
*18.	Sheldon Walter
*19.	Larry Wartel
20.	Westside Community For Independent Living, Inc.
*21.	Donald and Roberta Whitney
22.	City of San Fernando
*23.	Trinity Community Presbyterian Church
*24.	Mental Health Association
*25.	Taft High School Community Advisory Council
*26.	Office of Planning & Research (State Clearinghouse)
*27.	Wilshire Chamber of Commerce
*28.	Los Angeles City Board of Transportation Commissioners
29.	Edgar D. Cahn
*30.	Los Angeles City Board of Building & Safety Commissioners
31.	South Coast Air Quality Management District
*32.	Building Industries Association of Southern California, Inc.
33.	John Pignataro
34.	Arturo Stephens
*35.	Central City Association
*36.	United Chambers of Commerce of the San Fernando Valley, Inc.
37.	Los Angeles City Department of Transportation
38.	United States Department of the Interior
*39.	Alice E. McLaury
40.	Coalition for Rapid Transit
41.	NAACP - Los Angeles Branch
42.	California Retired Teachers Association
43.	Jewish Legal Services

June 1, 1979

LETTER No. 1

Handwritten Original  
on file at SCRTD

- 44. Santa Monica Area Chambers of Commerce
- 45. George C. Page Museum
- 46. Los Angeles Conservancy
- \*47. SCAG Metropolitan Clearing House
- \*48. Institute of Electrical & Electronics Engineers
- \*49. Power Engineering Society
- 50. Hollywood Revitalization Committee, Inc. - August 8, 1979
- \*51. Joint Council of Teamsters No. 42
- \*52. Assemblyman Tom Bane
- \*53. Masquers Club
- \*54. Ted H. Smith and Son Realtors
- 55. USO - Los Angeles Area
- 56. Citizens Bicycle Advisory Committee
- 57. Councilwoman Peggy Stevenson
- 58. T. A. Nelson - Professional Engineer
- 59. Hospital of the Good Samaritan
- 60. Ramsey-Shilling Company
- 61. Century City Chamber
- 62. Church of the Blessed Sacrament
- 63. Silverman, Katz, Fran & Co.
- 64. Beverly Hills Chamber of Commerce
- 65. Hollywood Chamber of Commerce
- \*66. Fred Valentine
- 67. Office of the Chancellor - UCLA
- 68. San Fernando Chamber of Commerce
- 69. Western Los Angeles Regional Chamber of Commerce
- 70. Associated Students - Los Angeles City College - Elizabeth Bell
- 71. Associated Students - Los Angeles City College - Geraldine Brooks
- 72. Associated Students - Los Angeles City College - Leslie Spates
- 73. Los Angeles City College - James Cox
- \*74. Tishman Construction Corporation
- 75. California Department of Transportation
- 76. Assistance League of Southern California
- 77. William G. Thompson
- 78. Holmby-Westwood Property Owners Association, Inc.
- 79. Tract No. 7260 Homeowners Association, Inc.
- \*80. Los Angeles County Federation of Labor
- 81. Automobile Club of Southern California - David Grayson
- 82. Los Angeles Police Department
- \*83. Los Angeles Community Colleges District Office
- 84. United States Environmental Protection Agency
- 85. U. S. Department of Transportation - Office of Environment and Safety
- \*86. Hollywood Chamber of Commerce -- sample Form Letter  
(744 received)
- 87. State of California - Office of Planning and Research
- 88. John H. Welborne
- \*89. Congressman Henry A. Waxman
- 90. State of California - Office of Historic Preservation

Board of Directors  
SCRTD  
Los Angeles, Ca.

Dear Board Members:

I read very carefully the Transit Alternatives in the  
L. A. Regional Core.

I find Plan II the best (If less funds, Plan V.)

To be successful, mass transit must serve the masses.

(A) Plan II covers major points of interest - L.A.  
County Museum and Farmers Market. Huge tourist attractions  
throughout the year.

(B) Two large department stores at Wilshire and Fairfax.

(C) Large office buildings within walking distance of  
Wilshire and Fairfax.

Going thru Hollywood doesn't require an explanation - nor  
does the entertainment facilities at Universal City.

As one totally dependent on public transit I'm familiar  
with many of the bus lines and where they are needed to serve  
the greatest number of people in all walks of life.

Thank you for permitting me to convey the above.

Yours for better transit.

Dorothy Beffman  
747 S. Curson  
Los Angeles, Ca. 90036

\* Letters not requiring a response.

ANTHONY C. BEILENSON  
23RD DISTRICT, CALIFORNIA

COMMITTEES:  
COMMITTEE ON RULES

Congress of the United States  
House of Representatives  
Washington, D.C. 20515

WASHINGTON OFFICE:  
1025 LONGWORTH BUILDING 20515  
(202) 225-5911

LOS ANGELES OFFICE:  
11000 WILSHIRE BOULEVARD 90024  
(213) 824-7801

VALLEY OFFICE:  
18401 BURBANK BOULEVARD  
TANZANA, CALIFORNIA 91356  
(213) 345-1560

SACRAMENTO ADDRESS:  
STATE CAPITOL  
SACRAMENTO, CALIFORNIA 95814  
TELEPHONE (916) 445-4956

DISTRICT OFFICE  
520 SO. SEPULVEDA BLVD.  
SUITE 406  
LOS ANGELES, CALIFORNIA  
90049  
213-476-7848  
213-890-1070  
213-620-4727

COMMITTEES:  
JUDICIARY  
WATER, PARKS AND WILDLIFE  
WAYS AND MEANS  
POLICY RESEARCH  
MANAGEMENT

Assembly  
California Legislature

LETTER No. 3

HOWARD L. BERMAN  
ASSEMBLYMAN  
MAJORITY LEADER

July 9, 1979 LETTER No. 2

Board of Directors  
Southern California Rapid Transit District  
425 South Main Street  
Los Angeles, California 90013

Dear Friends:

Thank you for providing me with a copy of the Executive Summary of the Southern California Rapid Transit District's Alternatives Analysis and Environmental Impact Statement/Report for Transit System Improvements in the Los Angeles Regional Core.

I have reviewed the findings and wish to advise you of my support for Alternative 2, which would run 18 miles in subway under downtown Los Angeles, out Wilshire Boulevard, then north under Fairfax Avenue through Hollywood and in to North Hollywood in the San Fernando Valley.

My support for Alternative 2 is based on data indicating that this alternative exhibits the highest patronage, serves the broadest area within the regional core, exhibits the lowest operating cost per passenger and per passenger mile, and also exhibits the lowest annual operating subsidy requirement.

I regret that I am unable to attend the public hearing on the Alternatives Analysis/EIS report, and hope that you will include this letter of support in the public hearing record.

Sincerely,

  
ANTHONY C. BEILENSON  
Member of Congress

ACB:je

RECEIVED

JUL 12 1979

SCRTD. SECRETARY

July 6, 1979

Ms. Marlee Coughlan  
CKT Associates  
21050 Waveview Drive  
Topanga, CA 90290

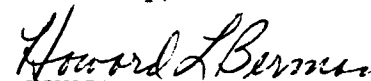
Dear Ms. Coughlan:

I am pleased to go on record as a supporter of a mass rapid transit starter line for Los Angeles.

The current gasoline shortage once again highlights our need for a transit alternative to the automobile. The availability of gasoline is becoming increasingly doubtful and the costs increasingly prohibitive. But this is only one reason to justify the construction of a mass rapid transit system in Los Angeles. Other reasons include the continuing smog problem; congestion on all freeways; and, the need for an efficient inexpensive system for those who cannot afford cars.

Consequently, I think the sooner we face this problem, the better. The Wilshire Corridor, with a link to rapidly growing North Hollywood, appears to be a logical starting place. The fact of federal funds being available for this project means this starter line would not be a tax burden. We can afford it and we should begin as soon as possible.

Sincerely,

  
HOWARD L. BERMAN

HLB/ak

HARRY EPSTEIN  
President

July 17, 1979

Ms. Diane Thomas  
ckt Associates  
21050 Waveview Drive  
Topanga, CA 90290

Dear Ms. Thomas

Your recent letter, addressed to Ms. Deborah Carr of TRANSIT CASUALTY has been forwarded to me. BENEFICIAL STANDARD PROPERTIES, INC., of which I am President, manages all the real estate interests of BENEFICIAL STANDARD CORPORATION. The major subsidiaries of BENEFICIAL STANDARD CORPORATION are:

BENEFICIAL STANDARD LIFE INSURANCE COMPANY  
TRANSIT CASUALTY COMPANY  
BENEFICIAL STANDARD PROPERTIES

and several other insurance-related and service-oriented companies.

I have been authorized to advise you, on behalf of all of these companies, that we favor the program for installing a rapid transit starter line for Los Angeles along the lines that have been outlined in a brochure entitled, "Southern California Rapid Transit District, Rapid Transit Starter Line for Los Angeles, Facts".

You may place this letter into the minutes of any hearing held in connection with this program.

Sincerely,

*Harry Epstein*  
Harry Epstein

HE:cs



**HOLLYWOOD ARTS COUNCIL**  
Dedicated to nurturing the arts in Hollywood  
6255 Sunset Boulevard, 20th Floor  
Hollywood, California 90028  
(213) 462-2355

July 12, 1979

RTD  
425 S. Main Street  
Los Angeles, CA 90013

Gentlemen:

This letter is written in support of the RTD's subway plan known as Alternate III. The main factor prompting this action is the location of the proposed Hollywood Station. It is our position that a more easterly location for the station would better serve the needs of the Hollywood community AND the many visitors who come here each year.

The concentration of large office buildings on the east side of Hollywood as well as our three legitimate theatres operating near Vine Street seem to warrant a station in this area. This area is currently accomodating 5000-plus theatregoers each night.

The Hollywood Arts Council and other organizations in our community are aggressively working to effect major change in Hollywood. Our particular focus is to promote existing art-related activities and to stimulate the formation of additional events. It is our hope that the RTD will carefully review its decision regarding the Hollywood Station. It's location can be an important factor in the revitalization of Hollywood.

If I can provide any additional information, please call me. Thank you for the opportunity to present this input for your consideration.

Sincerely,

*Nyla Arslanian*  
Nyla Arslanian  
President

NA:ss

①  
②  
⑥②

②



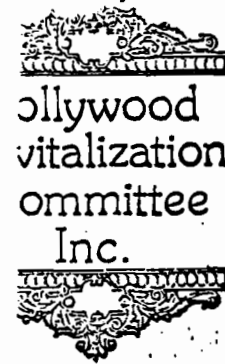


LETTER No. 6



LSB206(1320)(4-027677E192)PD 07/11/79 1319  
ICS IPMRNCZ CSP  
2134698311 IDRM LOS ANGELES CA 19 07-11 0119P EST  
PMS R.T.D. BOARD, ATTN PRESIDENT MARVIN L HOLEN C/O GREAT WESTERN  
SAVINGS COMMUNITY BLDG 2ND FLOOR, COMMUNITY ROOM MEZZ. LEVEL, DLR  
3660 WILSHIRE BLVD  
LOS ANGELES CA  
THE HOLLYWOOD COORDINATING COUNCIL SUPPORTS PLAN #3 OF THE  
ALTERNATIVE ANALYSIS ON TRANSIT SYSTEM IMPROVEMENTS IN LA REGIONAL  
CORE  
KATHY LANE, PRESIDENT  
NNNN

8F-1201 (RS-69)



Hollywood  
Revitalization  
Committee  
Inc.

LETTER No. 7

MEMORANDUM

To: Richard Smith, Community Planner  
Office of Planning Assistance UPM-12  
From: Revitalize Hollywood Advisory Committee  
Re: Comments on Alternatives Analysis and EIR on Transit  
Systems Improvements in the L.A. Regional Core  
Date: July 5, 1979

The Revitalize Hollywood Advisory Committee is pleased to have an opportunity to comment on the Alternatives Analysis and Environmental Impact Statement/ Report on Transit Systems Improvements in the Los Angeles Regional Core.

The Committee was established by City Council ordinance in 1978 as the official advisory body responsible to communicate the needs and the desires of residents and business interests in the Hollywood Community.

After review of each of the proposed bus/rail alignment alternatives under element four of the proposed Regional Transit Development Program (RTDP), the Committee feels that a more easterly alignment at Vermont Avenue will best service residents of Hollywood. Furthermore, it is our contention that regardless of the rapid transit system alignment, a transit station must be provided at Cahuenga Avenue and Hollywood Boulevard. Accordingly, the Committee passed the following Resolution concerning element 4 on December 19, 1978:

It is resolved that the Revitalize Hollywood Advisory Committee, recognizing the possibility that a bus/rail starter line may be constructed and that such line would have a direct and primary effect on the revitalization of Hollywood, supports a transit station in the area of the intersection of Hollywood Boulevard and Cahuenga for the following reasons:

1. Hollywood-Cahuenga area is at the center of the regional center as defined in the Hollywood Community plan adopted by the City Council and the Hollywood Specific Plan being prepared by the L.A. City Planning Department.
2. Cahuenga is a direct route through the Cahuenga Pass.
3. Cahuenga can function as a primary collector for Hollywood core and station bound traffic.
4. The location will reinforce the Skidmore, Owings & Merrill and A.I.A. study recommendations for a regional center in the Hollywood-Vina area.

- 5. There is zoning and space available for development in this area. The area is underbuilt and generally is in a poorer state of repair than other parts of the Hollywood core.
- 6. There is space available for parking facilities in conjunction with a station and regional center.
- 7. The location is near an entertainment center.
- 8. The location buttresses the CARE area along Hollywood Boulevard and will encourage other improvement and development at the center of the commercial core.
- 9. The location is near the northern boundary of the recently designated Neighborhood Strategy Area. This area has a large number of transit dependant residents who can benefit from improved public transportation.

2

The Revitalize Hollywood Advisory Committee also recognizing the recommendation of the A.I.A. transit task force, recommends that expanded bus and other feeder lines along an east-west axis to service the transit station and the regional core be considered a high priority and that this service be closely tied in with the station development and location.

continued

It is realized that only preliminary decisions have been made on the location of proposed subway stations in the Hollywood area. Furthermore, it is obvious that detailed impact analysis will occur upon the final determination of such stations.

Since 1978, the Hollywood Revitalization Committee has been conducting an extensive Cultural and Historical Resources inventory. Numerous sites not listed in your inventory (Appendix II, Part 4) are in your designated impact area. (Blessed Sacrament Catholic Church, for example). These sites are being listed on the California Resources Inventory.

40

The information gathered by our survey must be utilized by your planning staff to insure that adverse impacts are minimized. Future cooperation between the Hollywood Revitalization Committee and S.C.R.T.D. will insure that such adverse impacts are minimized.

THE WILSHIRE SUBWAY

LETTER No. 8

We have long maintained here that as soon as gasoline got to be a dollar a gallon, people would demand a fixed-guideway transit system. That time has come.

Plans for transit systems that have been on the shelf or grinding through processes designed to kill them off are now coming to life.

One of those is Los Angeles County Supervisor Baxter Ward's 232-mile Sunset Coast Line, a system of high speed trains running in their own rights of way serving 80 percent of the homes and job centers in the county. The cost? Plenty.

Another is the Southern California Rapid Transit District's own starter line; a subway from Union Station downtown, west on Wilshire, north on Fairfax and through Cahuenga Pass to North Hollywood. The cost? Around a billion and a half dollars.

And there are all sorts of other plans around.

As we see it, there is no alternative to building something, starting soon. Building nothing is no longer one of the options.

We support the rapid transit district's Wilshire subway plan now because it's do-able with no new taxes and it's essential, we think, to get going now.

The rapid transit district is holding public hearings on the subway all next week, Monday through Thursday, in the Wilshire, Fairfax, Hollywood and North Hollywood neighborhoods. What we think will come out of those hearings is that the time has come to start.

#II-864

Broadcast times: 7/4-Sign-Off; 7/5-6:55 AM; 7/6-6:55 PM  
Time: 1:40

REX E. LAYTON  
CITY CLERK



TOM BRADLEY  
MAYOR

OFFICE OF  
CITY CLERK  
ROOM 385, CITY HALL  
LOS ANGELES, CALIF. 90012  
485-5705

LETTER No. 9

WHEN MAKING INQUIRIES  
RELATIVE TO THIS MATTER,  
REFER TO FILE NO.

79-2459

July 9, 1979

Honorable Tom Bradley, Mayor  
Supervisor Baxter Ward  
Department of Transportation  
City Planning Department  
City Administrative Officer  
Controller  
Board of Public Works  
Data Service Bureau

Southern California Rapid Transit District  
425 South Main Street  
Los Angeles, CA 90013

"DRAFT ALTERNATIVES ANALYSIS EIS/EIR ON TRANSIT IMPROVE-  
MENT IN THE LOS ANGELES REGIONAL CORE"

At the meeting of the Council held July 9, 1979, the attached  
report of the TRANSPORTATION AND TRAFFIC COMMITTEE was adopted.

*Rex E. Layton*

City Clerk

mh

TO THE COUNCIL OF THE  
CITY OF LOS ANGELES

-1-

Your TRANSPORTATION AND TRAFFIC Committee

reports as follows:

RECOMMENDATIONS

That, in response to the "Draft Alternatives Analysis EIS/EIR on Transit Improvement in the Los Angeles Regional Core" (Downtown, Westlake, Wilshire, Hollywood and North Hollywood communities), as submitted by the Southern California Rapid Transit District (SCRTD), we RECOMMEND, as substantially recommended by the Department of Transportation and the Department of Planning, that by the adoption of this report the SCRTD be advised as follows:

1. That, based upon cost effectiveness, land use, service level, financial and environmental considerations, the City Council hereby endorses further preliminary engineering work to be performed on Alternative 2 (CBD, Wilshire-Fairfax, North Hollywood rail line).
2. That the SCRTD should consider the following:
  - a. Eliminating further consideration of the Wilshire-Hauser Station because of concerns regarding the major archaeological, historical, paleontological sites at Wilshire and Hauser. (33)
  - b. Relocating the Beverly/Fairfax station between Third and Beverly. (53)
  - c. Giving equal consideration to locating the Hollywood station at either Selma/Las Palmas or Selma/Cahuenga. (2)
  - d. Eliminating the Hollywood Bowl station from further consideration on the basis of patronage. (3)
  - e. Locating the Universal City station on the east side of the Hollywood Freeway. (54)
3. That the SCRTD continue to evaluate and maximize alternative sources of funding, such as the use of Equipment Trust Certificates, so as to minimize the necessity of utilizing City gas tax monies as a specific source to fund a portion of the local share.
4. That the Department of Transportation is instructed to develop an agreement with the SCRTD for City participation in

-continued-

TO THE COUNCIL OF THE  
CITY OF LOS ANGELES

-2-

Your TRANSPORTATION AND TRAFFIC Committee

reports as follows:

preliminary engineering to ensure that all City concerns and Code requirements are met.

Your Committee ALSO RECOMMENDS that the City Council adopt the following findings regarding the financial analysis of the transit alternatives:

1. That the financial information presented in the "Draft Alternatives Analysis EIS/EIR...Regional Core" prepared by the SCRTD is at a sufficient level of detail to permit a selection of a preferred alternative for preliminary engineering.
2. That further detailed analyses of the financial data are necessary to develop an adequate financial plan.
3. That such a financial plan should incorporate the cost of debt repayment and contingency costs at an adequate level in the operating cost assessment.
4. That through the use of a slightly higher premium fare on the rail component, it may be possible to eliminate any proposed deficit on rail operations.

SUMMARY

Your Committee considered the "Draft Alternatives Analysis EIS/EIR on Transit Improvement in the Los Angeles Regional Core." The Draft Alternative Analysis does not recommend a preferred alternative nor does it contain a complete financial plan. However, the estimates of capital cost, operating cost are adequate to permit a comparison among the various alternatives and selection of a preferred alternative for preliminary engineering.

A number of factors clearly indicate the justification for a major transit improvement in the regional core:

1. Deletion of the Beverly Hills and Laurel Canyon Freeways resulted in a lack of ability to relieve an ever-increasing level of traffic congestion on surface streets;

-continued-

TO THE COUNCIL OF THE  
CITY OF LOS ANGELES

-3-

Your TRANSPORTATION AND TRAFFIC Committee

reports as follows:

2. Highest population and employment densities in the City;
3. Existing bus lines are often overcrowded; transit patronage has increased as the result of lessened fuel supplies.

It is indicated by the staff review of the documentation presented in the EIR/EIS regarding increased levels of service and all other critical evaluation factors, including the financial analysis, that Alternative 2, the 18-mile rail line to North Hollywood via Fairfax would be the best selection. The Draft Alternative Analysis was prepared by the SCRTD to aid its governing board, the general public and interested governmental agencies in selecting an alternative method of improving transportation in the Regional Core (Downtown, Westlake, Wilshire, Hollywood and North Hollywood communities).

A key ingredient of the implementation of alternatives is the participation of the Federal government in capital funding. After preliminary engineering, the SCRTD intends to apply to UMTA for 80% of the capital cost. State gas tax funds, 25% of which can be diverted to fund transit system guideways under the terms of Proposition 5, are intended to fund the majority of the non-federal share. Local gas tax funds are also eligible, but their use would delay street construction and maintenance projects. Their use may also jeopardize the City's ability to utilize and maximize its available Federal Aid Urban (FAU) funding.

If adopted into law, Assembly Bill 1429 would set the required local share at 5% of total capital cost. SCRTD indicates intention to finance the remaining capital costs by sale of Equipment Trust Certificates, use of Transportation Development Act monies, the creation of 1913 Act Assessment Districts around each station, and use of joint development. In connection with the upcoming preliminary engineering phase, a detailed financial plan needs to be prepared for the selected alternative.

The Federal government, through its UMTA Section 5 funds, subsidizes operating cost deficits of transit systems. State Transportation Development Act (TDA) funds are also available for this purpose.

A review of the system alternatives and their estimated operating deficits in 1990 range from a low of .8 million for the Alternative No. 2 to a high of 19.9 million for a rail line. The six bus line alternatives range from a low of 36.7 million to a high of 61.7

-continued-

TO THE COUNCIL OF THE  
CITY OF LOS ANGELES

-4-

Your TRANSPORTATION AND TRAFFIC Committee

reports as follows:

million. The modest operating deficits generated by Alternative 2 is remarkable because the operating costs and revenues include an extensive background bus system in the Regional Core as well as the rail component. This indicates that the rail component, because of its low operating costs, generates a large "profit" which offsets the large deficit of a bus system. A slight increase in the premium fare could produce a rail system with no deficit.

Travel studies consistently indicate that a significant amount of vehicular travel originating in the San Fernando Valley is bound for destinations along the Wilshire Corridor and the Central Business District. Additionally, population shifts occurring in the eastern San Fernando Valley are resulting in large concentrations of elderly and low income individuals that utilize public transit. Expansion of the line to North Hollywood, with park-and-ride facilities at Universal City, provides an opportunity for a significant portion of commuters, including transit-dependent users, in the San Fernando Valley to utilize a fast, efficient transit mode to Hollywood, Wilshire Center and the Downtown CBD. It would be a serious mistake and diminish the ability of the project to meet patronage goals not to extend the line from Wilshire Boulevard into the San Fernando Valley.

Of the three conceptual alignments for a northerly extension of service, Fairfax is clearly the superior route. The Fairfax alignment serves a higher population density, more activity centers and is the most cost efficient in terms of "Total Annual Operating Surplus/Deficit Efficiency Measures" of the three northerly extensions. Since there is a significant travel demand between the western portion of Los Angeles and the Wilshire Corridor, the positioning of the alignment further west best serves the trip desires in and into the Corridor. The nature of the automobile demand on the arterials serving the Regional Core is such that the local congestion impacts on the east-west streets would be more difficult to mitigate at Vermont and/or La Brea than Fairfax. For example, it is not feasible to widen many of the impacted intersections approaching any of these northern extensions. But, by intercepting auto/bus trips westerly of Fairfax, the load in the east-west corridors is diminished.

In a comparison of the Fairfax vs. La Brea alignment, an additional 15,000 patrons can be expected by extending the alignment to Fairfax prior to turning north. Two department stores and a major Los Angeles

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LOS ANGELES COUNTY  
FLOOD CONTROL DISTRICT

File No. ~~XXXXXXX~~ 1.21

TO THE COUNCIL OF THE  
CITY OF LOS ANGELES

-5-

Review of EIR - Downtown - Wilshire  
Hollywood-San Fernando Corridor  
RE: Tentative Map Date \_\_\_\_\_  
Final Map Date \_\_\_\_\_  
EIR Transmittal Letter Date June 5, 1979  
Flood Hazard Report Request Date \_\_\_\_\_

TO: Mr. Marvin Hoken, President  
Board of Directors  
Southern California Rapid Transit District  
425 South Drain Street  
Los Angeles, CA 90013

Your **TRANSPORTATION AND TRAFFIC** Committee

reports as follows:

County cultural facility become more accessible. The eventual ability to expand west to Beverly Hills and Century City is enhanced.

It was noted that in the vicinity of Fairfax there are two major tourist attractions: CBS Studios and Farmer's Market. The Fairfax location has a heavier residential density surrounding the station vicinity at Santa Monica than the La Brea/Santa Monica location.

The Transportation and Planning Departments indicate that they have other station concerns which have been incorporated in the recommendations to SCRTD for further consideration. This involves stations at either Las Palmas/Selma or at Selma/Cahuenga; the lack of need for the Hollywood Bowl station; the archeological, historical concerns regarding the site at Wilshire/Hauser; locating the Universal City station on the east side of Hollywood Freeway; and the designing of station cross-overs to allow for future extensions.

Respectfully submitted,

TRANSPORTATION AND TRAFFIC COMMITTEE

CBP:jd  
7-6-79

1. This area is outside the boundaries of the Flood Control District and not under its jurisdiction.
2. The subdivision is reasonably free of flood hazard from major channels and streams, but maybe subject to local flood hazard. Refer to the report of the City/County Engineer concerning local drainage.
3. Portions of the subdivision lying in and adjacent to ( ) steep hillsides, ( ) natural watercourses, ( ) overflow, ( ) erosion, ( ) mudflow and/or deposition of debris, ( ) see comments below. Also, refer to the report of the City/County Engineer concerning local drainage.
4. Place a note of flood hazard on the final map and submit adequate engineering documentation to support those limits.
5. Prior to recordation of the final map, adequate engineering documentation must be submitted showing building sites free of flood hazard.
6. Provide a drainage concept prior to approval of the tentative map. Sufficient information must be submitted to the District showing the extent of the drainage problem and proposed solution. Information required will include some or all of the following: hydrology map; calculation for Q and debris production; delineation of watercourses, debris paths, and flood plains; schematic of drainage facilities; types of inlets; and proposed homesites.
7. Provide improvements to eliminate the flood hazard.
8. Dedicate fee title/an easement to the County of Los Angeles/City of \_\_\_\_\_ providing adequate right of way for \_\_\_\_\_.
9. Offer to dedicate a future easement to the Flood Control District for purposes authorized by the Los Angeles County Flood Control Act.
10. Show and label on the final map, Flood Control District's right of way for \_\_\_\_\_  
A permit will be required for any construction affecting the District's right of way.
11. If drainage facilities are required, it may be necessary to arrange for reimbursement of the District's operation and maintenance expenses.
12. The area may be subject to ground water at a depth of less than ten feet from the natural ground surface.
13. Approval of the final map is recommended subject to any conditions noted herein or shown on returned map.
14. The final map is unsatisfactory. Note the reasons stated herein or shown on returned map.

Comments:

The Flood Control District has storm drain systems in proximity to your proposed transit routes. Proposed subways may require modification or relocation of some of these drainage facilities. A careful analysis of drainage solutions and costs should be made and discussed in the Environmental Impact Report.

Information relative to the above comments may be obtained by contacting:

Engineering Investigator William E. Tempel, Jr.  
Telephone (213) 226-4324

Approved by Neil Rubin ACE 19250

Date of this report 6-22-79

3728 FCD 2/78

*Heine*  
6-25-79

RECEIVED  
JUN 26 1979  
SCRTD. SECRETARY.

16



6212 La Mirada Avenue  
Hollywood, California  
90038

22 June 1979

LETTER No. 11

RECEIVED  
JUN 25 1979  
SCR. SECRETARY

The Board of Directors  
Southern California Rapid Transit District  
425 South Main Street  
Los Angeles, California 90013

Gentlemen:

I have carefully studied "the Executive Summary and analysis" and the several proposals offered, copy of which Mr. Marvin Holen was good enough to send me, since I have long been an advocate of the Rail/Feeder Bus System.

I am pleased to know that all of my reasons for favoring such a type of transit system for the Greater Los Angeles Area appear to the same of which your analysis presents.

I urge you all to put every effort to persuading the public and those other agencies involved to put into action the PROPOSAL TWO plan since it is the most practical of the lot. The underground would only be two miles longer than the #1 plan but is better coverage and the difference in cost is negligible.

Cordially and sincerely,

cc: Mayor Bradley  
L. A. City Council  
County Bd. Supervisors.



# national society of professional engineers

CALIFORNIA SOCIETY of  
PROFESSIONAL ENGINEERS

LETTER No. 12

LOS ANGELES CHAPTER

## POSITION STATEMENT

This statement is based on the adoption by the Directors of this Chapter of a resolution endorsing the Four Point Plan for Los Angeles transit improvement. A previous study had been made resulting in a recommendation that bus on freeway transit, operating as freeway flyers, be expanded and ultimately replaced by rail rapid transit when the patronage justified such action.

In regard to the recently announced plans for the Wilshire-San Fernando route, we support this as an element of the plan endorsed. However, we urge that in publicity it should be made clear that this is only a "Starter Line" and that other lines and extensions will be built as funds become available and on the basis of priorities to be determined later.

W. H. T. Holden, P.E.  
Chairman, Transportation Committee  
Third Vice-President, Los Angeles Chapter.

4

# nh north hollywood

PROJECT AREA COMMITTEE

*To Board of Directors  
Ex Staff*

*To Helen  
JUL 7-9  
Rudolph Henry  
file  
RMJ*

June 13, 1979

Board of Directors  
Southern California Rapid  
Transit District  
425 South Main Street  
Los Angeles, CA 90013

Gentlemen:

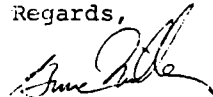
The purpose of this letter is to convey a resolution that the North Hollywood Project Area Committee adopted on May 8, 1979. At the June 12, 1979 meeting it was agreed that a letter be sent to you regarding our position.

The North Hollywood Project Area Committee has unanimously resolved that:

- "(1) The City of Los Angeles needs a rail rapid transit line,
- (2) the over one million residents of the San Fernando Valley and North Hollywood would greatly benefit from such a line, and
- (3) that either alternative ending in North Hollywood would have our full support."

I might additionally comment that our Committee will have representatives at your public hearing in North Hollywood on July 9, 1979.

Regards,



Bruce Miller  
PAC Chairman

BM:jb

LETTER No. 13

RECEIVED  
JUN 18 1979  
SECRETARY



RECEIVED

JUL 18 1979

north hollywood project area committee • 213/506-8620

5651 vineland avenue • north hollywood, california 91601

LETTER No. 14

July 16, 1979

Board of Directors  
Southern California Rapid  
Transit District  
425 So. Main Street  
Los Angeles, CA 90013

Gentlemen:

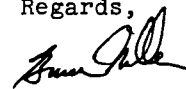
Per my remarks at the July 9th public hearing evening session, I wanted to provide you with some written documentation supporting my statements.

On May 8, 1979 the North Hollywood Project Area Committee unanimously resolved that:

- " 1) The City of Los Angeles needs a rail rapid transit line,
- 2) the over one million residents of the San Fernando Valley and North Hollywood would greatly benefit from such a line, and
- 3) that alternatives I and II will have our full support."

I would also like to add that we hope to work closely with you regarding your project and the revitalization of our commercial sector near your proposed station.

Regards,



Bruce Miller  
PAC Chairman





U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION  
REGION NINE

ARIZONA  
CALIFORNIA  
NEVADA  
HAWAII  
GUAM  
AMERICAN SAMOA

Two Embarcadero Center, Suite 530  
San Francisco, California 94111

August 3, 1979

July 2, 1979

LETTER No. 15

████████████████████ IN REPLY REFER TO  
LETTER No. 16 - HED-09

Handwritten Original  
on file at SCRTD

Mr. Richard Smith  
Office of Planning Assistance (UPM-12)  
Urban Mass Transportation Administration  
400 7th Street, S.W.  
Washington, D. C. 20590

see Response # 55

Board of Directors  
Southern California Rapid Transit District  
425 South Main St.  
Los Angeles, Ca. 90013

Gentlemen:

Alternative #1 is the best. The sooner the better.

Very truly yours,

James B. Rives  
1341 Cahuenga Boulevard  
Los Angeles, California 90028

Dear Mr. Smith:

We have reviewed the Draft Alternatives Analysis and Environmental Impact Statement for the Transit System Improvements in the Los Angeles Regional Core, Los Angeles County, California, and provide the following comments:

1. Figure I.14, Discontinuities in Arterial Street System in Regional Core, Page I-13. Three of the discontinuities shown are in the City's five-year capital program. They are Fountain Avenue from Western to Wilton, Normandie Avenue at Wilshire, and Olympic Boulevard in the CBD. These proposed upgradings should be noted in the EIS. A general discussion of the five-year capital improvement program is on Page I-18; however, this information needs to be updated.
2. Page I-22. The patronage information on the San Bernardino busway is out-of-date. Current data should be used in the EIS.
3. It is difficult to analyze Alternatives VII, VIII, and IX, Pages II-30 to II-35. Typical roadway sections need to be included with the discussion to clarify the analysis. Generalized street widths are noted on pages III-32 and 33; however, this discussion only indicates that minimum standards will be provided for lane widths and passenger loading platforms.
4. It is assumed that the term "existing travel time" on Page III-14 refers to existing transit travel time. This term should be clarified.

- 5. The cost and source of funds for station access and traffic measures for the rail alternatives discussed on Page III-31 should be identified in the EIS.
- 6. The discussion of possible earthquake damage (Pages IV-8 to IV-10) appears to be biased in favor of a sub-way system rather than one on viaduct structure.
- 7. Page IV-31, Construction Impacts. The following items should be addressed in the EIS and in detail during the design phase.
  - a. Disposal of excess boring or excavation material. The matter of hauling on City streets is usually a sensitive issue. In addition, secondary impacts, such as effect of excess material on a disposal area, needs to be assessed.
  - b. Construction scheduling. The total time for construction and the impacts due to staging should be stated.
- 8. Figure VI.2 on Page VI-6 indicates freeway transition and street construction costs for alternatives IV, VI, VII, and VIII. However, as noted in comment 5 above, there is reference to costs for station access and traffic measures for other alternatives on Page III-31. It is suggested that costs for such local improvements be noted under all applicable alternatives.
 

Similarly, on Page VI-36, reference to FHWA funds is made. It is suggested that the features eligible for FHWA funds be identified.
- 9. Page VI-41. It should be clearly stated that the RTDP costs do not include funds for the Century Freeway, I-105.
- 10. Page VII-11. We believe that the newly created Santa Monica Mountains National Recreation area should be listed in Figure VII.5.
- 11. Page VIII-1. A significant long term impact could be disposal of excess tunnel excavation. See comment 7 above.

*Neil Dillabough*  
 Neil Dillabough, Director  
 Office of Environment and Design

*see copy*  
**VALLEYWIDE COMMITTEE**

on

JUL 2 1979

**Streets, Highways & Transportation**

JTS

SPOKESMAN FOR A UNITED SAN FERNANDO VALLEY FOR A QUARTER CENTURY

June 27, 1979

LETTER No. 17

- BOARD OF REALTORS
- INDUSTRIAL ASSOCIATION
- CHAMBERS OF COMMERCE
- BURBANK
- CALABASAS
- CANOGA PARK
- CHATSWORTH
- ENCINO
- GRANADA HILLS
- NORTH HOLLYWOOD
- NORTHRIDGE
- MISSION HILLS
- PACOIMA
- PANORAMA CITY
- RESEDA
- SAN FERNANDO
- SEFULVEDA
- SHERMAN OAKS
- STUDIO CITY
- SUN VALLEY
- SUNLAND-TUJUNGA
- SYLMAR
- TARZANA
- TOLUCA LAKE
- VAN NUYS
- WEST VAN NUYS
- WINNETKA
- WOODLAND HILLS

Board of Directors  
 Southern California Rapid Transit District  
 425 S. Main  
 Los Angeles, CA 90013

The Valleywide Committee on Streets, Highways, and Transportation hereby resolves formal support of the Southern California Rapid Transit Districts proposal of a Rapid Transit Starter Line from the North Hollywood area to the LaBrea/Fairfax area.

Valleywide Committee is a representative of the Ventura Freeway Improvement Coalition, Board of Realtors, Industrial Association, and 25 Chambers of Commerce in the San Fernando Valley. It is of our opinion after reviewing the facts on this proposal this starter line would effectively serve the future transportation needs for our community.

Because of the estimated time for completion, we feel that continued emphasis on alternative Bus Mass Transit lines should be implemented to serve our immediate transportation problems within the San Fernando Valley. Hopefully, this concern will be integrated with the Rapid Transit Starter Line proposal.

Respectfully yours,  
*Ruth Richter*  
 Ruth Richter  
 Chairman

RR/tj

RECEIVED  
 JUL 2 1979  
 SECRETARY

16647 San Jose Street  
Granada Hills, California 91344  
June 15, 1979

Mr. Lawrence A. (Pat) Hyland, President  
Hughes Aircraft Company  
Building 1, Executive Offices  
Florence at Teale Streets  
Culver City, California 90230

3rd Edition Letter  
1st Edition - Jan. 6, 1979  
2nd Edition - Jan. 15, 1979

RE: Rapid Transit for Los Angeles

Dear Mr. Hyland:

What happened to you?

YOU FORGOT!!!

You failed again to present your Hughes rapid transit project to the SCRTD Board of Directors and/or the Los Angeles County Transportation Commission (copies of this letter sent to both agencies).

You should be ashamed of yourself! How can this vast mass rapid transit system get "off the ground" without your financial authorization? Public funding has never been available, and is certainly not available today, especially after Proposition 13. Federal UMTA (Urban Mass Transportation Administration) funds are committed to other cities for rapid transit development with nothing for Los Angeles which continues to be "left out" of allocations.

In 1972 when the funding situation was nearly as bad as today, Howard R. Hughes was alive and well with billions of \$'s he did not know what to do with. However, the psycho-Freudians that run the tax-exempt psychiatric foundation, The Howard Hughes Medical Institute, which owns and controls Hughes Aircraft Company, had locked Mr. Hughes away from society. Therefore, he was unable to present his rapitrans to the SCRTD Board of Directors.

You should have appeared in his absence. What was the matter with you? Certainly, you should have had representatives there. However, nobody showed up.

Since your Empire fell apart in disintegration, I took the leadership and presented Mr. Hughes rapitrans to the SCRTD Board of Directors on Tuesday, October 3, 1972. Also, I presented your proposal to SCAG, and many hearings on transportation. To date you failed to pay my salary (Hughes #77331) for performing your duties. What happened to your vast kingdom? You should be ashamed of yourself to permit your once proud and mighty Hughes monolith to crumble and collapse? Great Empires have fallen before.

With your Empire in a shambles, your Hughes operation is not effective in the defense project; in fact, you jeopardize the national defense by running a mental institution for Hughes Aircraft Company employees. Many Hughes employees are alarmed, and hate to work in psycho-wards within your falling kingdom. You should shut down the Medical Institute in order that your operation can function again and be productive. (Copy of this letter to the U.S. Dept. of Defense). Another copy is being sent to your insurance company, Pacific Mutual Life Insurance Company, which prefers to pay claims instead of getting your Hughes Empire productive.

In July 1979 hearings will be held on SCRTD's proposed subway starter line (18 miles from Union Station through Wilshire-Fairfax-Hollywood into North Hollywood). You can finance the entire estimated \$1.3 billion cost with your Hughes tax-exempt psycho-Freudian operation.

RAPID TRANSIT FOR LOS ANGELES - (Continued)

What happened to you on Wednesday, March 21, 1979 about 10 AM? Since you didn't show up, old fool, I presented your rapitrans to the Los Angeles City Council which was considering the DPM (Downtown People Mover). Councilmembers were informed you had the \$1.3 billion to finance the subway, and \$174,000,000 from your petty cash fund to purchase the DPM. These funds come primarily from Howard Hughes Estate, and may be in his will.

Had City Council members contacted you about this? If they are serious about rapid transit in this town, they will be negotiating funding from you and your Hughes Empire. Only the Hughes Estate can possibly finance such a massive project as public funding has never been available. The use of Proposition 5 gas taxes has only been for more studies, not for design and construction. There is not a ghost of a chance of constructing genuine rapitrans without your funding; not a prayer! Everybody knows this. You know this. You got the money, power and organization if your kingdom has not collapsed! With the energy crisis, many public officials exercise remorse they hadn't met with Howard Hughes while he was alive and well to negotiate a financial arrangement for rapitrans, for rapitrans could be operational today with his funding. Most average citizens wish public officials met with Mr. Hughes on this.

Have you discussed this with Mr. Jerome Primo, Executive Director of LACTC? Have you talked with Mayor Tom Bradley? Mr. Marvin Hoken, SCRTD President? Mr. W. O. Ackermann, Jr., SCAG's fearless Transportation Director was waiting to talk with Mr. Hughes before Mr. Ackermann presented SCAG's rapid transit proposal to the Los Angeles City Council about three years ago; however, Mr. Hughes never showed up and the proposal died for lack of funds. You should have appeared for Mr. Hughes. You should be ashamed of yourself! Mr. Ackermann was not challenging you to a duel; he is truly a nice guy, a delightful fellow with a financial problem. Since no decision could be reached on financing transit, most decisionmaking was transferred to LACTC. Now it is up to Mr. Primo to meet with you, Mr. Hyland.

Also, Supervisor Baxter Ward has the Sunset Coast Line Limited which he wishes to discuss financing with you.

Ray Hebert, Los Angeles Times Urban Affairs Writer has not had his interview with you as yet. You should be ashamed of yourself for forgetting to tell him about your secret, mysterious Hughes Empire that has developed the energy-efficient, smogless Hughesmobiles, named for the famous late billionaire, Howard Hughes. You should be proud of your Hughesmobiles! Since it "all comes together in The Times", Mr. Hebert cannot write an article for publication until he gets the facts from you, Mr. Hyland. (Copies of this letter to all above)

The SCRTD subway project is not the first time it has been proposed. This and similar transit proposals have been studied for decades, but never got "off the shelf" because neither you or Mr. Hughes showed up with the financing. In the early 1970s the Los Angeles Area Chamber of Commerce favored a subway along Wilshire Boulevard. I suggested to Chamber officials to meet with Mr. Hughes, but many believed Mr. Hughes to be eccentric, and the subway plan died for lack of funds. Had the Chamber taken leadership in meeting with Mr. Hughes, the subway may have been in operation today, and probably at about half the cost of the present \$1.3 billion SCRTD subway proposal.

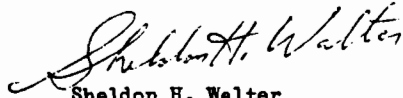
RAPID TRANSIT FOR LOS ANGELES (Continued)

However, your assistant, Mr. Allen E. Puckett, Executive Vice-President of Hughes Aircraft Company is a Director of the Los Angeles Chamber. He must certainly be a responsible official and community leader. Mr. Hyland, you could have Mr. Puckett present your Hughes rapitrans plan at the forthcoming SCRTD hearings in July. The DPM and subway could be named for Allen E. Puckett, certainly, if he shows up. (Copy of letter to Mr. Puckett)

While Mr. Puckett may be most effective, you, Mr. Hyland, in contrast have been an old fool! You never showed up any better than Mr. Hughes, as both of you are or were old fools! The transit systems could be named for you. Think of it! "Lawrence A. Hyland Subway." "Lawrence A. Hyland Downtown People Mover." You could be famous for the subway going through Hollywood, your name can be written forever for posterity in bright lights!

Instead, so far, you are an old fool, and should be ashamed of yourself! Furthermore, you not only forgot transit, you forgot my salary for performing your job for you, or has your Hughes monolith fallen?

Sincerely,



Sheldon H. Walter  
Transit Advisor, LA Region

PS The Pacific Electric Red Car system would never have happened without the financing leadership of Henry E. Huntington, a famous capitalist early this century. Cities, streets, buildings and the Huntington Memorial in San Marino have been named for him. You could finance the "New Red Cars" as Mr. Huntington financed the "Olde Red Cars."

COPIES OF LETTER TO MR. HYLAND, PRESIDENT

HUGHES AIRCRAFT COMPANY

Mr. Allen E. Puckett  
Executive Vice-President  
Hughes Aircraft Company  
Building 1, Executive Offices  
Florence at Teale Streets  
Culver City, California 90230

Mr. Allen E. Puckett, Member  
Board of Directors  
Los Angeles Area Chamber of Commerce  
404 South Bixel Street  
Los Angeles, California 90028

Mr. Marvin Holen, President  
Southern California Rapid Transit District  
425 South Main Street  
Los Angeles, California 90013

Mr. Jerome C. Premo, Executive Director  
Los Angeles County Transportation Commission  
311 South Spring Street, Suite 1206  
Los Angeles, California 90013

Mr. Wendell Cox, Commissioner  
Los Angeles County Transportation Commission  
311 South Spring Street, Suite 1206  
Los Angeles, California 90013

Commanding Officer  
Defense Contract Administration Services  
11099 LaCienega Boulevard  
Los Angeles, California 90045

Mr. Asa Call, Chairman of the Board  
Pacific Mutual Life Insurance Company  
Pacific Mutual Building  
P.O. Box 54040  
Los Angeles, California 90054

Mr. Daniel T. Townsend, Program Manager  
Circulation/Distribution System  
The Community Redevelopment Agency of the  
City of Los Angeles  
727 West 7th Street, Suite 300  
Los Angeles, California 90017

The Honorable John Ferraro, President  
Los Angeles City Council  
City Hall, Room N-30  
Los Angeles, California 90012

The Honorable Tom Bradley, Mayor  
City of Los Angeles, Room 305  
City Hall  
Los Angeles, California 90012

Mr. W. O. (Bill) Ackermann, Jr.  
Transportation Planning Director  
Southern California Association of  
Governments (SCAG)  
600 South Commonwealth Avenue, Suite  
1000  
Los Angeles, California 90005

The Honorable Baxter Ward  
Supervisor, Fifth District *500 West Temple Street*  
869 Hall of Administration  
Los Angeles, California 90012

Mr. Ray Hebert  
Times Urban Affairs Writer  
The Los Angeles Times  
Times Mirror Square  
Los Angeles, California 90013



July 11, 1979

Larry Wartels  
2550 Greenvalley Road  
Los Angeles, CA 90046

Southern California RTD  
Board of Directors  
425 So. Main Street  
Los Angeles 90013

Dear Sirs:

Concerning the starter rail line, Alternative III. is a more socially useful line as it would help to more quickly revitalize the Hollywood area, while serving the lower income peoples and medical complexes of East Hollywood.

Economically speaking, Alternative II. is the preferable option, as it would probably show lower operating costs, and the extra three miles would be most cheaply built at this time, due to inflation.

I support Alt. II., as Concept Los Angeles provides for inner Hollywood service anyway. (Hopefully, not more than a decade away.)

Thankyou,

*Larry Wartels*

Larry Wartels

cc:  
Board of Supervisors, L.A. County  
City Council  
Mayor Bradley

RECEIVED

JUL 12 1979

SECRETARY

Los Angeles

HARRISON GRAY OTIS, 1881-1917  
HARRY CHAMPLER, 1917-1918

NORMAN CHANDLER, 1944-1948



CHIEF CLERK

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Executive Vice President and General Manager  
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Executive Vice President and Editor

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ROBERT C. LOBDELL, Vice President—Administration-General Counsel  
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VANCE L. STUCKELL, Vice President—Sales

JAMES RANFETT, Associate Editor  
JAMES BELLOWS, Associate Editor  
ANTHONY DAY, Editor of the Editorial Pages  
ROBERT J. DONOVAN, Associate Editor  
FRANK P. HAVEN, Managing Editor

*In 1976 the... as a...  
Propositions...*

A-10 Los Angeles Herald Examiner, Tuesday, February 21, 1979

LOS ANGELES EVENING AND SUNDAY  
**HERALD EXAMINER**

George R. Hearst Jr., Publisher

Donald Goodenow, Managing Editor

**Urgent Transit Need**

The nation's metropolitan areas, choked by auto traffic and choking on its fumes, won a victory of sorts last week in their battle to use federal highway construction money for the buying of buses and the building of rapid rail systems instead.

By a vote of 49 to 41, the Senate approved a measure which would permit the cities and their suburbs to spend any or all of their \$850 million annual share of the Federal Highway Trust Fund according to individual transportation requirements.

The slim Senate vote was far closer than supporters of the mass transportation cause had expected.

There is still a chance for House passage this year — but only if the lawmakers there become more responsive to the urgent transit needs of the cities. The senators, even with the relative security of six-year

terms, meanwhile have hardly set a brave example in their lukewarm vote.

Diversion of a mere \$850 million from the \$6 billion raised annually for the highway fund through gasoline taxes would do no harm whatever to the almost-completed 12,500-mile, \$80 billion interstate highway system for which the fund was created in 1956 — a program pioneered and strongly backed by The Hearst Newspapers.

To day the nation's overriding transportation need has radically altered. Adequate mass transit facilities in urban areas simply must be provided and one reason is they are essential if our great country-wide grid of highways is to serve its purpose properly. The cities, after all, are the key connecting links and travel inside them is directly correlated to travel between them.

8-Part II F

MONDAY MORNING, FEBRUARY 5, 1973

\*

**This Is the Year on Transit**

Warnings of the urgent need to develop mass transit for this and other cities are coming thick and fast. Recently it was the threat of gasoline rationing. Last week it was the rule of a federal court in Washington, D.C., that increased pressure on the states to meet the 1975 clear-air deadline established by Congress.

For cleaner air, for social improvement, for convenience and for the sheer economics of the thing, urban mass transit, preferably rapid mass transit, is a necessity. An expensive necessity. One way to begin to pay for it is to break open the highway trust fund that finances most of the nation's highway construction.

President Nixon's budget for fiscal 1974 proposes \$1 billion for urban mass transit. The President is again supporting legislation proposed to unfreeze a portion of the highway trust fund so that cities and states can make investments for mass transit from it.

Sen. Edward M. Kennedy (D-Mass.) has introduced a bill that would go beyond the Administration proposal and divert \$2.7 billion from the highway fund for transit purposes. A less ambitious measure by Sen. Edmund Muskie (D-Me.) would allocate about \$1 billion for transit.

In California, Assemblyman John Foran (D-San Francisco) has reintroduced a constitutional amendment (ACA 16) that would release a portion of the \$1 billion a year in gas tax revenues, now dedicated solely to highway construction, for public transit systems and the control of environmental pollution caused by motor vehicles. The amounts to be set aside for such purposes and the manner in which they would be spent would be subject to future legislative action. Foran's proposal is based on recommendations of the Constitutional Revision Commission.

Last year a similar amendment was approved by the Assembly but was killed in the Senate by the potent highway lobby. Also in 1972, the U.S. Senate passed for the first time in history a bill to permit use of \$1.6 billion in highway trust funds over a two-year period for mass transit projects. The House Public Works Committee rejected the proposal.

This is the year for a change of mind in Washington and in Sacramento. To use part of the highway trust fund is not to say no to all highways; it is to say yes to a transportation necessity that only grows more pressing with time.

WCIL

Westside Community For Independent Living, Inc.

(213) 473-8421  
T.T.Y. (213) 477-5306

11687 National Blvd. • Los Angeles, Calif. 90064

Douglas Martin  
Executive Director

July 17, 1979

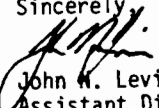
RECEIVED  
JUL 19 1979  
SCAID. SERVICES

Board of Directors  
Southern California Rapid Transit District  
425 South Main Street  
Los Angeles, CA 90013

Gentlemen:

Attached please find a set of comments regarding the recently issued "Executive Summary of Transit Alternatives in the Los Angeles Regional Core." These comments are being provided in response to a letter by Marvin Holen of RTD requesting community input on the various transit plans being considered for implementation in the Regional Core.

I trust that the attached will assist the evaluation of transit alternatives. If you require additional information or input on this important matter, please do not hesitate to contact me.

Sincerely  
  
John W. Levin  
Assistant Director

JL/dk

Westside Community for Independent Living, Inc.

Comments on "Executive Summary of Transit Alternatives  
in the Los Angeles Regional Core"

The following comments are based on the review of the "Executive Summary of Transit Alternatives in the Los Angeles Regional Core." The information contained in this publication was carefully studied by John Levin, assistant director of the Westside Community for Independent Living and chairman of the Coalition for the Transportation of the Elderly and Disabled, an organization of paratransit providers and concerned social service agencies working to improve demand-responsive transportation for senior citizens and the handicapped community. Within these comments, there is no endorsement of any alternative described in the "Executive Summary" for two reasons. First, there is insufficient data on the systems described to make an educated judgement of their relative merits. Moreover, there are certain priorities for mass transit in Los Angeles which no alternative appears to meet.

In reviewing the "Executive Summary," it was felt that this publication suffered from some vagueness in its presentation. Moreover, some of the statistical information seems questionable. Consequently, the comments that follow are divided into two areas, those that pertain to a mass transit system in the Regional Core and those that pertain to the content of the "Executive Summary."

I. Comments on mass transit in the Regional Core

- A. The purpose of mass transit in the Regional Core is to connect the communities on the west side of Los Angeles and the communities in the San Fernando Valley with the Wilshire business district and downtown Los Angeles. The effectiveness and utilization of any rapid transit system in this area will be directly proportional to its penetration into outlying communities. Therefore, the system to serve the Regional Core should extend to the extreme boundaries of this area (Robertson Blvd. to the west and Van Nuys to the northwest).
- B. The "Executive Summary," in outlining alternatives I - V, does not show where rails and where buses would be implemented to service these routes. In developing an improved rapid transit system for the Regional Core, we believe that buses should be used for transportation wherever possible.
  - 1. Buses offer greater flexibility in accomodating daily fluctuations in ridership.
  - 2. They are not major targets of vandalism as subways have been in other urban centers.
  - 3. They offer greater flexibility in accomodating changes in population distribution (Buses can be moved; rails cannot). This asset is of prime importance given the uncertainty of future trends in population distribution and demographics in the Regional Core.

17

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4. Consideration of buses to improve transit in the Regional Core is given short shrift because of the general perception of these vehicles as noisy, dirty, unattractive vehicles that clog the streets. Buses designed for use in heavily congested, polluted cities should be examined. Edmond J. Russ, chairman of the County Transportation Commission has just returned from a trip to Germany where he saw much improvement in the engineering of buses. His comments on this subject merit serious consideration. (20)
- C. A simple and effective method to establish a transportation link between the west side of the Regional Core and downtown L.A. is to extend the El Monte express bus routes on Interstate 10 through the central business district to the end of the Santa Monica Freeway. This extension will give residents in the Regional Core and west side communities an attractive alternative to driving downtown. (21)
- D. In the early days of mass transit in Los Angeles, street cars had the right of way. Polite signs on the backs of buses will not restore that right. It is unfair for one or two car passengers to delay a busload of people. Bus rights of way should be reinstated, even if on a limited basis initially to speed mass transit by bus. (22)
- E. The construction of low-cost parking along rapid transit lines and at central transfer points offers an additional incentive for the commuter seeking a convenient and inexpensive alternative to driving. (66)
- F. Promotion is crucial to the success of any product or service. For maximum utilization, any rapid transit system must be heavily promoted. The Underground in London receives substantial public advertising; the result is a rapid rail system that is practically self-supported by farebox revenue. (8)
- G. The Westside Community for Independent Living provides essential services for physically disabled residents on the west side of Los Angeles. For many of our clients, lack of mobility is a critical problem. It is essential that rapid transit be constructed that permits access by people with visual, hearing and mobility problems. (8)
- II. Comments on the "Executive Summary of Transit Alternatives in the Los Angeles Regional Core" (23)
- A. The "Executive Summary" fails to delineate the boundaries of the Regional Core. This oversight certainly impedes understanding of the problem as well as the proposed alternatives. (23)
- B. The transportation problems that exist in the Regional Core are but one part of the thorny issue of public transit in L.A. County. Proposals for the Regional Core can only be assessed in terms of impact on the total transportation picture. The "Executive Summary" fails to provide information on how the proposed alternatives interface with plans for County-wide improvements. (23)

- C. There are many statements in the "Summary" that promote the utilization of subways over buses. We believe that some of these assertions are of questionable accuracy. Also, as stated in I-B, we believe that buses offer some distinct advantages over rail systems. (24)
1. It is stated that bus lines do not provide the incentive for community development (spinoff) that subways do. Since such spinoff should lead to increased use of public transit, one can infer that projected ridership for bus and rail should reflect this statement. However, it does not. Alternative I shows no greater projected use than Alternative VI. The projection is identical, we believe, because effective bus service is as much an incentive for community development as effective rail service is. (24)
  2. Effective rail systems may promote community development; in many cities, they also provide a target for crimes such as assault and vandalism. (24)
  3. The figure on projected usage of the "status quo" transit system in the Regional Core in 1991 seems low. Usage of buses in this area is greater today. In our opinion, projections for use of other bus alternatives are also low. (25)
  4. Ridership projections are used to calculate the annual per-passenger operating cost and the subsidy requirements. Low projected usage of bus alternatives raises the cost of these options, making them appear uneconomic. (26)
  5. The statements about the relative pollution of trains and buses are questionable. Efficiencies for trains and buses are about the same. As a matter of fact, trains are considered to be less efficient than buses by some, particularly where there are high transmission losses. Therefore, electric trains may produce as much pollution as buses. However, this pollution will be displaced to the sites of power plants. It should also be pointed out that improvements in bus design can be expected to reduce energy consumption and pollution of these vehicles in the future. (27)
  6. In promoting the construction of a subway system, the "Executive Summary" states that "in earthquakes, deep tunnels are safer than structures at or above ground level." This assertion may be true, but it is hard to believe that a train traveling at 50 mph only inches away from rock walls is safer in the event of an earthquake than a bus traveling in a reserved bus lane on streets or freeways. (28)
  7. (29)
  8. (30)



4512 W. 135th St.  
Hawthorne Ca. 90250  
30 June 1979

LETTER No. 21

Handwritten Original  
on file at SCRTD

Board of Directors  
Southern California R.T.D.  
425 S. Main St.  
Los Angeles, Ca. 90013

Gentlemen:

As residents and taxpayers of the Los Angeles area we wish to let you know our views on the vital matter of an effective mass transit system. We feel that Alternative II, the Wilshire-Fairfax rail plan is the best concept.

Given the present conditions of energy crisis, environmental pollution and population increase and the likelihood that they will continue, a mass transit alternative to the private auto is necessary. The proposed rapid rail plan will provide the most attractive concept (a much better investment than a Century Freeway or a "Downtown People Mover"). Even though we do not live in an area to be served by the rail plan, we are sure that its inevitable success will lead to its extension to wider areas, perhaps our own someday.

Sincerely,

Donald C. Whitney  
Roberta A. Whitney

cioues tiL Kis A

Copies to: Los Angeles Mayor and City Council  
County Board of Supervisors  
Hawthorne Mayor and City Council



*City of San Fernando*

CITY HALL, 117 MACNEIL STREET  
SAN FERNANDO, CALIFORNIA 91340

LETTER No. 22

(213) 365-2541

July 9, 1979

Southern California  
Rapid Transit District  
425 South Main Street  
Los Angeles, CA 90013

Attention: Mr. Marvin L. Holen  
President, Board of Directors

Gentlemen:

Rapid Transit Starter Line

The City Council of the City of San Fernando realizes the great need for improved public transportation in the San Fernando Valley. We are pleased to support the Rapid Transit Starter Line, which we understand will reach the San Fernando Valley in the North Hollywood area. Following the Starter Line approval, we will look forward to the future extension of the Rapid Transit to the northeast portion of the San Fernando Valley.

However, we are not in favor of supporting any project that would infringe on the gas tax revenues to cities. The State of California leads the Nation as to the quality of its highway system. This is due, in large measure, to the gas tax levy on the motorists of our State. We feel it would be detrimental to tamper with an excellent system by which the users of the highway pay for the maintenance of highways.

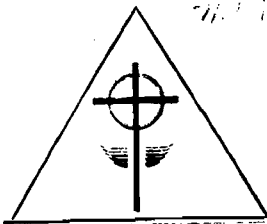
Again, the City Councilmembers offer their support and their best wishes for the success of this program.

Sincerely,

Michael Y. Sagar  
Mayor  
CITY OF SAN FERNANDO

MYS:mlg

15



Trinity Community Presbyterian Church  
 11960 Victory Boulevard • North Hollywood • California 91606  
 761-8444 • 761-8000

LETTER No. 23

June 29, 1979  
 LETTER No. 24

Handwritten Original  
on file at SCRTD

Robert B. Scott  
 Pastor

June 29, 1979

Louise Graves  
 Clerk of Session

Bette:

Attached are the letters our Activity Center members wrote in regard to the proposed Starter Line. I hope they are helpful. Thanks for thinking of us.

Bev Dunlap  
 Director of Volunteer Services  
 Mental Health Association  
 of Los Angeles County  
 930 Georgia Street  
 Los Angeles, Ca. 90015

CKT Associates  
 21050 Waveview Drive  
 Topanga, Ca. 90290

This letter concerns the public hearing in North Hollywood on July 9th about the Rapid Transit Starter Line for Los Angeles.

On June 28, 1979 the Session (the ruling body) of Trinity Community Presbyterian Church in North Hollywood passed a resolution in support of this Rapid Transit Starter Line for Los Angeles.

We have a moral responsibility to develop alternate means than automobiles of moving people from the suburbs to their employment in the city core. This is made urgent by yesterdays stage 2 smog alert in the valley and also yesterdays announced cost of oil increase by OPEC. We would be irresponsible as a region and foolish as citizens if we did not develop ways of maintaining our standard of living while at the same time providing sensible use of fossil fuels and stewardship of natural resources.

We are in unanimous support of the Rapid Transit Starter Line for Los Angeles and subsequent links to it for quick access to the different suburban valley regions.

Signed,

*Robert B. Scott*  
 Robert B. Scott, Pastor  
 and Session Members

*Mrs Virginia Nicot*  
*Mrs. Eleanor Panger*  
*Mr. W. R. Stubbins*  
*David O. Smith*  
*Louise Graves*  
*11201 Sherman*  
*Bob C. Hennessey*

*6243 Cooper North Hollywood 91606*  
*6655 Helen Ave. N. H. 91606*  
*2040 N. KENNEDY BURBANK 91525*  
*11302 Neenach St Sun Valley 91352*  
*201 E. D. Aguirre Lemoore 91501*  
*6501 Siverton Ave 91606*  
*13355 Compton St. Van Nuys, CA 91401*

6/29/79

No.24 (continued)

6/29/79

Dear Mr. Collier :

I support the proposed of the sub-way system.

I think this system in Los Angeles would help the "gas system", in 6:00 o'clock traffic. on the freeways.

I'm for the subway SCRTD.

John R. Weld

07-03-79

Dear Mr. Collier

I support the proposed Souther California RTD subway system. Los Angeles and Beverly Hills need better and faster transportation. Please do everything you can to start building the subway as soon as possible. I hope to go to West Hollywood (on Bus 94) to 8151 West Santa Monica Blvd in West Hollywood.

I have a \_\_\_\_\_ session (on Santa Monica and Crescent Heights Blvds - in West Hollywood). I need a schedule of the 94 soon.

Must close now. Send me a 94 schedule in the mail.

Your passenger,  
signature illegible

Mr. Lou Collier  
425 So. Main St.  
Los Angeles, Ca. 90013

Dear Mr. Collier:

I support the proposed SCRTD Subway System. Los Angeles needs. Los Angeles needs better and faster transportation. Please do everything you can to start building the subway as possible.

Sincerely,  
Jill

6/29/79

Dear Collier:

I support SCRTD subway system. Los Angeles need better and faster transportaion. Please do everything you can to start building the subway as soon as possible.

Sincerely,  
Joe Gebora

6-29-79

I support the proposed SCRTD subway system. Los Angeles needs better faster transportation. Please do everything to building as soon possible.

Sincerely,  
Frank Mauceki

No. 24 (continued)  
6/29/79

No. 24 (continued)

June 29, 1979

Dear Mr. Collier:

I support the proposed S.C.R.T.D. subway system.

Los Angeles needs better and faster transportation. Please do everything you can to start building the subway as soon as possible.

Sincerely,

J. Alexander

-----  
6-29-79

Dear Mr. Lou Collier:

Thank you for the kind service. I'm already a holder of a Reduced Fare Card #1167-2, which I'm able to purchase my monthly handicapped monthly pass.

Mr. Joseph E. Thompson

P.S. The service is excellent.

-----  
6-29-79

Mr. Mr. Collier:

I support the proposed S.C.R.T.D. subway system. Los Angeles needs better and faster transportation.

Please do everything you can to start building the subway as soon as possible.

Sincerely,

Maureen Sausman (illegible)

Dear Mr. Collier,

I support the proposed SCRTD subway system. Los Angeles needs a better and faster transportation system.

Please do anything possible to start this system.

Sincerely,

Paulette Schuster

-----  
Dear Mr. Collier:

I firmly support the SCRTD system.

Please go through with it. Los Angeles needs a better bus system.

Sincerely yours,

signature illegible

LOS ANGELES CITY SCHOOL DISTRICT

*William Howard Taft High School*

5461 WINNETKA AVENUE, WOODLAND HILLS, CALIFORNIA 91364

TELEPHONE: (213) 348-7171

LETTER No. 25

William J. Johnston  
Superintendent of Schools

Marvin H. Borden  
Principal



EDMUND G. BROWN JR.  
GOVERNOR

State of California

GOVERNOR'S OFFICE  
OFFICE OF PLANNING AND RESEARCH  
1400 TENTH STREET  
SACRAMENTO 95814  
(916) 445-0613

LETTER No. 26

June 20, 1979

July 31, 1979

Mr. Marvin L. Holen,  
President, Board of Directors  
Southern California Rapid Transit District  
425 So. Main Street  
Los Angeles, California 90013

Dear Mr. Holen,

At the June 7, 1979 meeting of the Taft High School Community Advisory Council the proposed Southern California Rapid Transit District Rapid Transit Starter Line for Los Angeles came under discussion. After hearing the facts as they are now stated, the council unanimously voted to approve the SCRTPD proposal for a Rapid Transit Starter Line linking the downtown Los Angeles area with the North Hollywood area in the San Fernando Valley.

Following is the Taft High School CAC resolution:

"The Taft High School Community Advisory Council moves that the Southern California Rapid Transit District install a subway rail line linking the downtown Los Angeles area with the San Fernando Valley, being financed in such a way that no new taxes would be required for this project."

The considerations of the council in reaching this resolution are numerous. Among the advantages that we foresee are those of all responsible citizens in regard to the vital need for energy conservation for this city, the educational advantage for our children to grow into independent adults by being able to travel independently to all areas of this city and reaping the rewards that Los Angeles has to offer them, and finally, the advantage that rapid transit would offer in integrating the people of this city in a more natural meaningful manner than forced busing accomplishes.

I sincerely hope that the Taft High School CAC resolution will be considered by the Southern California Rapid Transit District.

Very truly yours,

*Judy Rosen*

Judy Rosen  
Chairman Taft SCAC

cc: Marlee Coughlan  
Al Herman

Richard Gallagher  
Southern California Rapid Transit District  
425 S. Main Street  
Los Angeles, CA 90013

Subject: SCH# 79061927 Alternatives Analysis - EIR for Regional Core

Dear Mr. Gallagher:

The State Clearinghouse submitted the above listed environmental document to selected State agencies for review. The review is complete and none of the State agencies have comments.

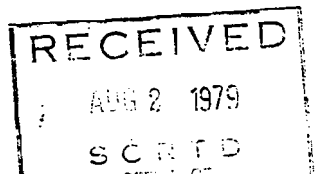
This letter verifies your compliance with environmental review requirements of the California Environmental Quality Act.

Thank you for your cooperation.

Sincerely,

*Stephen Williamson*  
Stephen Williamson  
State Clearinghouse

SVW/ag



**WILSHIRE CHAMBER OF COMMERCE**

*Serving the Wilshire District Since 1920*

2961 Wilshire Boulevard • Sheraton-Town House • Los Angeles, California 90010

(213) 387-1224

July 12, 1979

Marvin Holen, President  
Board of Directors  
Southern California Rapid Transit District  
425 South Main Street  
Los Angeles, CA 90013

Dear Mr. Holen:

The Board of Directors of the Wilshire Chamber of Commerce at its regular meeting, held on Tuesday, July 10, 1979, by unanimous vote of the members present, reaffirmed the position of the Chamber in favor of the SCRTD plan for an underground rail system Alternative II Central Business District-Wilshire-Fairfax-Hollywood-North Hollywood.

We would appreciate a copy of your press release relative to the public hearings on this matter for inclusion in the next issue of our publication "Wilshire Business".

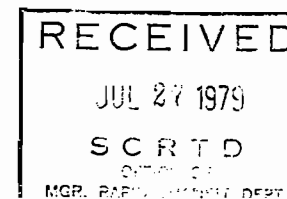
Yours very truly,



C. George Allen  
Executive Vice President

GA:nb

cc: Mayor Thomas Bradley  
Councilman John Ferraro  
Supervisor Ed Edelman



CITY OF LOS ANGELES

CALIFORNIA



TOM BRADLEY  
MAYOR

BOARD OF TRANSPORTATION  
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DEPARTMENT OF  
TRANSPORTATION

DONALD R. HOWERY  
GENERAL MANAGER

485-2274

LETTER No. 28

Edgar D. Cahn  
629 So. Norton Ave.  
Los Angeles, Ca. 90005  
July 12, 1979.

LETTER No. 29

July 19, 1979

Mr. Marvin Holen, President  
Board of Directors  
Southern California  
Rapid Transit District  
425 South Main Street  
Los Angeles, California 90013

REGIONAL CORE TRANSIT ALTERNATIVE II

At its meeting of July 12, 1979, the Board of Transportation  
Commissioners took an action endorsing Alternative II and urging  
your continued evaluation of Alternative II through preliminary  
engineering.

BOARD OF TRANSPORTATION COMMISSIONERS

*Carmen Alva*  
Carmen Alva, Secretary

cc Mr. Jack R. Gilstrap  
General Manager  
Southern California  
Rapid Transit District

Mr. Marvin Holen,  
Pres. board of Dir., RTD  
425 South Main Street  
L.A., Ca. 90013

Dear Mr. Holen:

I must express my surprise and dismay fo have discovered in the  
Wilshire Corridor Subway plan that no provision has been made for a station  
at Wilshire Blvd. and Crenshaw.

This is a very serious omission because so many people ride the RTD bus  
from as far South as Roscrans and if there were to be no station in this  
place, these people would be required to transfer in order to make the  
connection with the subway.

I regret to point out that my inquiries have led to the discovery that  
this omission was due to pressure from the Park Mile people, who "wish to  
maintain minimum density in the area". It is ironic that these people with  
their fine limousines will never use the system regardless of the price  
of motor fuel.

The fact is, Mr. Holen, there is a tremendous transfer of passengers  
at this intersection and many people in the southern part of the city will  
be inconvenienced.

When examining a map of the proposed Wilshire Corridor system, one  
sees a much larger gap between La Brea station and Western Ave. station  
than in any other westerly part of the Wilshire Blvd. segment.

I beg you, Mr. Holen, to reconsider this omission and to establish  
a station at Wilshire Blvd. and Crenshaw so that it really be a complete  
system and truly serve the interests of all the people.

very truly yours,

*Edgar D. Cahn*  
Edgar D. Cahn

copy to: Mr Brad Pye, Editor L.A.Sentinal

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JUL 27 1979  
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MGR. RAPID TRANSIT DEPT.

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32

CITY OF LOS ANGELES

CALIFORNIA



TOM BRADLEY  
MAYOR

COMMISSIONERS

MAURICE E. MARTINEZ  
PRESIDENT  
MARCIA MARCUS  
VICE-PRESIDENT

RACHEL GULLIVER DUNNE  
TOSHIKAZU TERASAWA

DEPARTMENT OF  
BUILDING AND SAFETY  
402, CITY HALL  
LOS ANGELES, CALIF. 90012  
JACK M. FRATT  
GENERAL MANAGER

LETTER No. 30

South Coast  
AIR QUALITY MANAGEMENT DISTRICT

CENTRAL OFFICE  
9150 E. FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

LETTER No. 31

July 17, 1979

Board File #79.704.1

RECEIVED

AUG 2 1979

SCRIB. SERVICES

Mr. Richard Smith  
Community Planner  
Office of Planning Assistance, UPM-12  
Urban Mass Transportation Administration  
400 - 7th Street, S.W.  
Washington, D.C. 20590

Date July 31, 1979

File No. A90607C

Southern California  
Rapid Transit District  
425 So. Main Street  
Los Angeles, CA 90013

Attn: Marvin L. Holen  
Director and President

COMMENTS ON: Draft SCRTD Alternative Analysis and Environmental Impact  
Statement/Report for Transit System Improvements in the  
Los Angeles Regional Core.

PROPOSED MASS TRANSIT FOR LOS ANGELES

ADEQUACY OF AIR QUALITY ANALYSIS

The Board of Building and Safety Commissioners has reviewed your pamphlet entitled "Executive Summary of Transit Alternatives in the Los Angeles Regional Core". The Commission also remembered the oral and visual presentation made by the staff members, and the District is to be complimented for the clear and concise explanation of the issues.

	Adequate	Inadequate	NA
Existing Air Quality in Area	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Existing Emissions in Area	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Project Emissions:			
Construction Phase	<input type="checkbox"/>	<input checked="" type="checkbox"/> 1)	<input type="checkbox"/>
Completed Project Vehicular	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stationary	<input type="checkbox"/>	<input checked="" type="checkbox"/> 2)	<input type="checkbox"/>
Project Impact on Air Quality	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

This Commission supports the efforts to improve the mass transit system in the City of Los Angeles and specifically supports the concepts of a deep-bored tunnel subway within the Regional Core area. However, at this time, the Commission does not have a direct preference as to the route alternatives.

ARE ADEQUATE MITIGATION MEASURES PROVIDED FOR PROJECT AIR POLLUTANTS?

The Commission appreciates being included as one of the groups being asked to comment. We wish to emphasize that these comments are solely those of the Board of Building and Safety Commissioners and should not be construed as reflecting the official position of the City of Los Angeles.

Yes  No 3)  Incomplete  NA

ARE GROWTH INDUCING EFFECTS OF PROJECT ON POLLUTANT EMISSIONS DISCUSSED?

Yes  No  Partially  NA

AQMD PERMIT

POTENTIAL EFFECT ON AIR QUALITY (AQ)

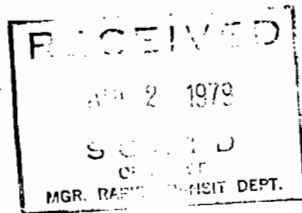
Not required  
 Required  
 May be required, contact Zone office

Beneficial: will probably tend to improve AQ  
 No effect  
 Impairment: probably no substantial adverse effect  
 Unfavorable: may degrade AQ to a significant extent  
 Adverse: will degrade AQ to a significant extent  
 Indeterminate: due to lack of data

Marcia Marcus  
MARCIA MARCUS, President  
BOARD OF BUILDING AND  
SAFETY COMMISSIONERS

erb  
485-5226

cc: Jeff Matsui, Mayor Liaison  
Chief Legislative Analyst



IS PROJECT CONSISTENT WITH THE ATTAINMENT AND  
MAINTENANCE OF THE NATIONAL AIR QUALITY STANDARDS?

Yes  No



COMMENTS:

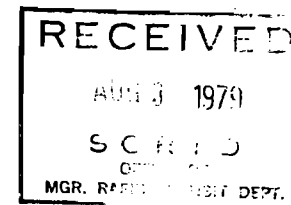
1. Not mentioned (needed for rail system).
2. Emissions caused due to the generation of electricity for the rail system should be calculated.
3. Specific mitigation measures for bus stations and construction phase (rail system) should be mentioned.

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los angeles chapter

building industry association of southern california, inc.



LETTER No. 32 -

July 31, 1979

Richard Gallagher  
Southern California Rapid  
Transit District  
425 South Main Street,  
Los Angeles, California 90013

Dear Mr Gallagher:

The Building Industry Association of Southern California, Inc. has reviewed the Downtown-Valley subway proposal. Unfortunately we were unable to attend the hearings and we sincerely hope that this letter will become part of the record on this important project.

We feel that the 18-mile line is an important step in building a regional rapid transit system in Los Angeles. There is no question in our mind that we in Southern California are long overdue in terms of a rapid transit system.

It is our considered opinion that the proposed 18-mile line will benefit the citizen's of Los Angeles in many ways. It will undoubtedly relieve traffic congestion and will improve our quality. It will afford the citizens an opportunity to get to and from work expeditiously in an energy conserving manner. It will also be a tremendous benefit to our economy in terms of jobs, especially in our industry, the construction industry.

We are also very supportive of the project in that no new tape will be needed. Instead Federal financing will be utilized. Also of importance is the fact that there will be no disruption to the community during construction since it will utilize deep-bore tunneling in construction.

If you have any further questions, please call Mike Nazemi at (213) 572-6427.

Very truly yours,

J. A. Stuart  
Executive Officer

*for* J. S. Nevitt  
Director of Evaluation and Planning

MN:js

cc: Mr. Peter Broy

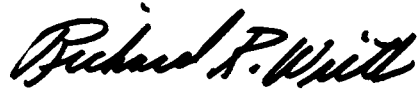
..2/

SCHIE. SECRETARY

For the above reason, the Building Industry Association of Southern California would like to respectfully request that it be put on record in support of the Southern California Rapid Transit District Downtown-Valley subway proposal.

Board of Directors  
Southern CA Rapid Transit  
District  
425 South Main Street  
Los Angeles,

Respectfully submitted,



Richard R. Wirth  
Director, Dept. of Governmental Affairs.

Much to my surprise I was quite astonished that the extention of the proposed Wilshire line would not be extended through the the Beverly Hills, Century City and UCLA/Westwrod areas. Can it be that your staff does not have the foresight to assume that within the next two decades commercial and of course residential dwellings will not flourish in these areas. Please review this matter before it is to late and thousands will then have to suffer the consequences. Let us hope that an alternative analysis of extending the Wilshire subway will be obliged and the future patrons will reap in the harvest of your decisions.

4  
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Yours Very Truely  
John Pignataro  
8953 Cynthia Apt A  
West Hollywood, CA 90069

ARTURO STEPHENS  
739 South Mariposa # 203  
Los Angeles, California 90005

LETTER No. 34

July 16, 1979

Dear Mr. Holen:

I attended the Wilshire District hearing that was held on July 11, 1979 at the Great Western Savings, Community Room. I sat in the hearing from 7pm to 9:00 pm. I wanted to address the entire board, but it was already 9:00 pm and I had another engagement. One of your staff members suggested I write to you so my comments could be enclosed as a part of the legal record for the Wilshire District hearing.

I support 100% the 18-mile Downtown Los Angeles-Wilshire Blvd-Fairfax-North Hollywood Rail Rapid Transit line. I am a native son of Los Angeles and I remember the old Red Cars that were an early form of rail rapid transit. We need desperately an efficient, well-designed subway system for the City and County of Los Angeles. I lived in Tokyo, Japan for two years and I used every day the subway system in Tokyo. It is fast, cheap, efficient and comfortable. Also, on two trips to Mexico, I have used the Metro subway in Mexico City. During the last three months, I have ridden the RTD buses to and from my job. The buses are now overcrowded and slow. Some of the buses are old and uncomfortable. I believe the RTD will attract many more thousands of commuters once the subway system is in operation. Many blue-collar and white-collar workers as well as executives will use the new proposed subway system.

Last night, I heard the President of the United States of America speak to the nation on the problems of our energy shortage. The President urged our people to use mass rapid transit systems as often as possible and especially to commute to and from work. With the swift construction of the new subway system, we will help our nation and our community to save energy and to help clean the air, by eliminating some of the auto traffic and auto congestion on the surface and freeway system. I urge you and your entire board to speed up the implementation of the proposed subway system. Let us start construction as soon as possible. We need only to look at San Francisco and envy them having the Bart system. Why didn't Los Angeles start its mass rail rapid system before the City of San Francisco did?

A Community Leader and Native son of  
Los Angeles:

*Art  
Stephens*

5

XIII-37

LETTER No. 35



CENTRAL CITY ASSOCIATION OF LOS ANGELES

THE OFFICE OF THE PRESIDENT

July 25, 1979

Mr. Marvin L. Holen  
President, Board of Directors  
Southern California Rapid Transit District  
425 South Main Street  
Los Angeles, California 90013

Dear Mr. Holen:

In re: Environmental Impact Statement, Transit  
Improvement Alternatives, Los Angeles Regional  
Core

The Central City Association of Los Angeles is supportive of the construction of an initial rapid transit guideway line between downtown Los Angeles and the San Fernando Valley.

The association has long been supportive of the construction of a mass rapid transit system for the City of Los Angeles and endorses the starter line philosophy inherent in the present proposal. CCA believes that a long range solution to the present energy situation in the Los Angeles area must include appropriate guideway rapid transit segments. The present proposal provides an important start for this program.

At this time, the association is not taking a position on a precise guideway alignment to and through the central business district, nor is it providing any approval at this time of precise station locations. We look forward to working with the appropriate technical people, as actual design commences, to properly align the guideway routing and to service it with a suitable number of station facilities.

Sincerely,

*Stephen D. Gavin*  
Stephen D. Gavin, President

SDG:jb

523 West Sixth Street, Suite 200, Los Angeles, California 90014



UNITED CHAMBERS OF COMMERCE

of the San Fernando Valley, Inc.

LETTER No. 36

1 Financial Center Building • 14545 Victory Blvd. • Van Nuys, California 91411 • (213) 781-1672

July 27, 1979

Southern California Rapid Transit District  
425 South Main Street  
Los Angeles, California 90013

Attention: Mr. Marvin Holen, President

Gentlemen:

One of the primary concerns of the United Chambers of Commerce of the San Fernando Valley, Inc. is the development of a comprehensive public transportation system to meet the varied and specialized needs of Southern California in moving both people and goods.

As an organization representing the San Fernando Valley part of Southern California, it is natural that our support would be tempered by those plans which will enhance the welfare of the citizens of the Valley. However, we recognize our responsibility to our fellow Southern Californians and intend to support those plans which may more directly serve others.

One of the long range projects WHOSE TIME SEEMS TO HAVE COME is the Regional Core Rapid Transit Rail Starter Line. For the first time, Federal and State backing is promised if the project bears the approval of the overall area - the project makes sense and is judged feasible by recognized authorities. We, therefore, urge that the citizens of the area involved support and work for the early start AND completion of this project, preferably Alternate Route II.

We are aware that this Starter Rail Line IS long range and will be ten years in becoming a reality so we are very concerned that the short range projects that will meet our needs tomorrow and next year not be neglected or forgotten in the pursuit of this Major Starter Line. It is in this spirit that we urge full speed ahead and look forward to working with the SCRTRD toward that end.

Adopted this 23rd day of July, 1979, by the Board of Directors of the United Chambers of Commerce of the San Fernando Valley, Inc.

Sincerely,

Frank Pine, Chairman  
Transportation Committee

FP/ebh

CITY OF LOS ANGELES

CALIFORNIA



TOM BRADLEY  
MAYOR

July 27, 1979

DEPARTMENT OF  
TRANSPORTATION  
ROOM 1200, CITY HALL  
LOS ANGELES, CA 90012  
485-2265

LETTER No. 37

Mr. Richard Smith, Community Planner  
Office of Planning Assistance (UMP-12)  
Urban Mass Transportation Administration  
400 M Street, S.W.  
Washington, D.C. 20590

see Response #52

Mr. Richard Gallagher  
Southern California Rapid Transit District  
425 South Main Street  
Los Angeles, CA 90012

Gentlemen:

Draft AA/EIS/EIR On Transit System Improvements in the  
Los Angeles Regional Core - Environmental Comments

Thank you for the opportunity to review the Draft EIS/EIR prepared by the SCRTRD to address transit alternatives in the Regional Core. We believe the Draft generally satisfies the most recent Federal guidelines to meet the intent of the National Environmental Policy Act (NEPA). However, we offer the attached comments in order to strengthen the document's ability to fulfill the intent of the State guidelines governing the California Environmental Quality Act (CEQA).

Because of the nature of the alternatives analysis, it was not possible for the SCRTRD to incorporate all mitigation measures into the documents. It is expected that the SCRTRD engineering staff will work with staff of the City of Los Angeles during the preliminary engineering phase to identify all feasible mitigation measures and that the SCRTRD Board will commit to their implementation. To the extent that implementation will increase project costs, they should be identified as early as possible.

Very truly yours,

DONALD R. HOWERY  
General Manager

ADL:jcv

cc: Councilwoman Pat Russell

Attachment

direct comparison should be made of alternatives to the Civic Center, where the bus and subway would serve a similar destination radius. For example, Bus Line 35 from Reseda and Sherman Way to Temple and Hill takes 55 minutes. How long will Alternative 2 take to reach the Civic Center stop? The AA/EIS/EIR selects destination points which the rail serves as a direct connection. The bus comparison has destination points requiring walking, transfers, and waiting.

7. Page III-29. While the City Department of Water and Power has indicated that supplying the energy requirements for rail rapid transit should not present a problem, the power system sustained "brown-outs" during the recent June, 1979 heat wave. There is no assessment of how power will be distributed in the event of such failures. Will the rail line be a priority recipient in the event of energy supply restrictions or power outages?
8. Page IV-23, Air Quality in the Vicinity of Stations. In 1977 the Annual maximum hourly average of Carbon Monoxide for the Burbank monitoring station was 28 ppm. Although this figure meets State standards, it far exceeds the ambient reading of 5.0 ppm projected by the CALINE model for 1986. Therefore, there is some question that the results represented a worse case analysis. Particular care must be exercised in the design of parking facilities to insure that air quality standards are attained.
9. Page VI-5. It is not clear that the estimated rail rapid transit costs incorporate a sufficient contingency cost factor to cover the cost of required mitigation measures. These costs should be further refined in preliminary engineering.

## II. Mitigation Measures for Traffic Impacts Page III-26-33

1. Many station locations are proposed for areas with existing neighborhood parking shortages. To the extent that station locations further impact neighborhood parking, additional parking should be incorporated into station design to compensate (i.e., Selma Avenue in Hollywood).
2. Increased bus service to feed many of the stations will contribute to local congestion on surface street arterials. Therefore, station designs should incorporate bus turnout bays on major and secondary arterials.

## I. Generalized Environmental Comments

1. Page S7. Further analysis should be conducted on whether a 24-hour operation is warranted or desirable.
2. Page I-9 indicates a different employment range per square mile than the one indicated in the summary on page S-10. The range in Figure I.10 is from 2,765 to 58,140 with a 9,746 average in the Regional Core Study Area. The summary shows a range of 21,000 to 28,000.
3. Page II-29. The project description for Alternative VI does not indicate whether the system would be on a guideway through the CBD or on preferential lanes on existing streets. Articulated buses have been proposed for use; however, other SCRTD reports have stated that for reasons of safety, articulated buses would not be used on freeway segments. Therefore, there appears to be an inconsistency in determining the number of buses to meet capacity needs.
4. Page III-7. Assumed patronage on the Hollywood Freeway appears to be low. As the Hollywood Freeway is the more direct route from the San Fernando Valley to the CBD, and 14,000 patrons use express buses today, the 5000 patron statistic is questionable, even with rail in place. The Hollywood Freeway guideway would provide a more direct connection from the San Fernando Valley to the LACBD. Patrons destined directly for the CBD may elect to remain on express buses rather than make a mode change to rail, which follows a less direct route. Therefore, the estimate of 1990 transit passengers in Cahuenga Pass as shown in figure III-6 may be under-estimated by the model.
5. Page III-10. Figure III.8 "24-hour Entering and Exiting Rapid Transit Station Volumes" needs additional clarification. The patronage for the La Brea versus Fairfax stations at Beverly and Santa Monica Boulevards are of concern. Fairfax at Santa Monica has a heavier residential density surrounding the station vicinity. The vast majority of units within walking distance are low-medium II density (12+ to 24 dwelling unit/gross acre) to high R3/low R4 (30-50 d.u./gross acre). The densities near La Brea range from duplexes to low-medium I (5-12 d.u./gross acre). Additionally, at Fairfax and Beverly there are two major tourist attractions, CBS Studios and Farmers Market; both can be expected to induce additional patronage over that shown.
6. Page III-13. Figure III.10 is misleading in that it does not make an equal comparison of origins and destinations. A



United States Department of the Interior

OFFICE OF THE SECRETARY  
WASHINGTON, D.C. 20240

LETTER No. 38

ER-79/530

AUG 2 1979

See Response # (51)

- (53)
3. Projections of future traffic volumes indicate severe congestion on Fairfax in the vicinity of Beverly Boulevard. To avoid aggravating this congestion, the Fairfax/Beverly station should be located south of Beverly Boulevard.
  4. Estimated future traffic demands on Santa Monica Boulevard indicate severe congestion can be expected on Santa Monica Boulevard at both La Brea and Fairfax Avenues. To minimize additional impacts, if the La Brea station is implemented, Santa Monica Boulevard should be widened to full major highway standards from two blocks west of La Brea to one block east of La Brea; if the Fairfax station is implemented, Santa Monica Boulevard should be widened one block east and west of Fairfax.
  5. The highest traffic projections in the corridor are on Highland Avenue in the vicinity of the proposed Hollywood Bowl Station. To prevent a further increase in congestion, park-and-ride facilities should not be made available during peak hours. During preliminary engineering, consideration should be given to deleting this station stop.
  6. Traffic impacts are anticipated at the Universal City station. A specific traffic study should be undertaken during the preliminary engineering phase to identify the mitigation measures that must be incorporated.
  7. The Community Redevelopment Agency is now preparing a redevelopment plan for North Hollywood. Rail planners should coordinate with the CRA and this Department to insure that proposed near-term highway and parking improvements are ultimately compatible with rail-associated improvements.
  8. As design of the El Monte Busway extension proceeds, it would be appropriate to evaluate alternative station locations at the Union Station, recognizing that the Union Station will be studied in greater detail in the preliminary engineering phase.

Dear Mr. Gayton:

In response to a request from the Southern California Rapid Transit District, the Department of the Interior has reviewed the draft environmental statement and Alternatives Analysis for Transit System Improvements in the Los Angeles Regional Core, Los Angeles County, California.

GENERAL COMMENTS

The Alternatives Analysis discusses a wide range of viable alternative plans for improvement of the Los Angeles transit system. The potential environmental effects of these plans are examined in general terms, as required at this stage of planning, yet in enough detail to form a basis for selection of a final plan. We particularly wish to commend the preparers for their early identification of a number of potential impacts on parks and historic/cultural resources.

PRELIMINARY SECTION 4(f) COMMENTS

The alternatives with the greatest potential for adverse effect on recreation and cultural resources in the Regional Core are those calling for either aerial railways, aerial busways or cut-and-cover subway construction.

Alternatives calling for an all-bus surface system could affect parklands and cultural resources through increases in noise, congestion and air pollution. The alternatives with the least disruptive, most readily mitigable impacts appear to be those calling for a bored-tunnel subway. Since the exact route alignments and station locations have yet to be determined, specific Section 4(f) involvements are still unknown and we must defer more detailed comment to a later date.

Mr. Gayton, Washington, DC

We are pleased to see that the Urban Mass Transportation Administration (UMTA) and the Southern California Rapid Transit District (SCRTD) have worked with the State Historic Preservation Officer to develop a procedure for identifying historic/cultural sites and districts which could be affected by the transit project. Given the number of historic and archeological sites with recognized or potential national, state or local significance in the Regional Core, as well as the number of ways the transit system could create an effect on these sites, the discussion of possible Section 4(f) involvements with cultural resources is exceptionally thorough and well done.

The statement's identification of potential park and recreation impacts is on the whole equally complete. However, we note that taking of school lands which are open without restriction to the public for recreation use involves Section 4(f) if local officials consider the area to be a significant recreation resource for the community. The preparers should consult the Los Angeles Department of Parks and Recreation and school officials to determine whether any of the school facilities listed on page V-26 might be subject to Section 4(f).

#### ENVIRONMENTAL STATEMENT COMMENTS

The environmental statement is unusually complete and informative from the standpoint of geologic and seismic hazards and impacts (for example, p. IV-9 to IV-11). However, we have the following suggestions for improvements.

In reference to the note above the title of figure IV.2, there is evidence of seismic activity along the Santa Monica fault, but it is low relative to that along the Newport-Inglewood zone. (See Buika and Teng, 1978, in Association of Engineering Geologists Guidebook, 1st Annual Meeting, California Section Conference, May 1978.)

Regarding page IV-8 (par. 2) many authorities map surface exposures of the Hollywood fault just west of the Los Angeles River near boundary T.1N./T.1S. (See Los Angeles sheet, California Geologic Map; Lamar, 1970, in California Division of Mines and Geology Special Report 101; Yerkes et al, 1977, op. cit., p. IV-2.)

Mr. Gayton, Washington, DC

Figure IV.21 (p. IV-34) shows an identical number of structures displaced by the cut-and-cover and the aerial-structure modes of construction, ranging from 80 to 720 displacements for alternatives I to V. The same figure shows 40 to 103 displacements by the bored-tunnel mode. However, figure IV-22 (p. IV-35) shows differing impact of displacements under the cut-and-cover and the aerial-structure modes, while the bored-tunnel mode is shown as having "No effect" by displacements. It is stated in chapter IX that "A cut-and-cover subway would cause adverse relocation impact similar to aeriels over the train way" (p. IX-5, par. 4), and it is stated in the same paragraph that "No such adverse impact is foreseen from a bored subway." These discrepancies should be clarified.

The reference to "northwesterly" on page IV-8 (par. 2, line 12) should apparently be changed to "northeasterly." The "Miracle Mile" referred to on page S-8 (par. 1 and 2) should be identified as to location, as it was not found on maps.

The map of potentially active faults (fig. IV.5) is so highly generalized, at the scale of approximately 1:2,000,000, that the study area is less than 1 cm in length. The map is useful for regional overview of faults, but is not adequate for showing faults in relation to proposed rail alignments. The geologic map (fig. IV.1) appears to show the major faults in the study area, but the method of reproduction has made most of these illegible. Moreover, the geologic units shown on that map have not been adequately identified or explained, with the result that most of the geologic information has been obscured. It would be helpful to redraft and clarify the map. The proposed subway alignment as shown on that map is not the same as any of the alternatives now under consideration (p. S-4 to S-6). It would be preferable to show the rail alignment more accurately and by some means that does not obscure the geologic contacts in the areas where this information is of most importance to the user.

#### SUMMARY COMMENTS

The "Preliminary Section 4(f) Comments" in this letter are intended to give you an early indication of our thoughts about this project's Section 4(f) involvements and their analysis in the statement. These comments do not represent

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on file at SCRTD

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Mr. Gayton, Washington, DC

the results of formal consultation between the Department of Transportation and the Department of the Interior, as required by Section 4(f) of the Department of Transportation Act. This requirement will only be fulfilled when the Office of the Secretary comments separately on any Section 4(f) statement prepared after more specific planning has been done.

As this Department has a continuing interest in the transit system improvements in the Los Angeles Regional Core, we would be willing to cooperate and provide technical assistance to aid you with further planning and documentation for the project. The Department's assistance will be coordinated by: Regional Director, Heritage Conservation and Recreation Service, Pacific Southwest Region, 450 Golden Gate Avenue, P.O. Box 36062, San Francisco, California 94102.

Sincerely yours,



Larry E. Meierotto  
Assistant Secretary of the Interior

Mr. Gary P. Gayton  
Acting Administrator  
Urban Mass Transportation  
Administration  
400 - 7th Street, SW  
Washington, DC 20590  
Attention: Mr. Richard Smith

cc: Mr. Jack R. Gilstrap  
General Manager  
Southern California Rapid  
Transit District  
425 S. Main Street  
Los Angeles, California 90013  
Attention: Mr. Peter Broy

467 No. Normandie Place  
Los Angeles, Calif. 90004  
July 27, 1979

R.T.D.  
Board of Directors  
425 No. Main Street  
Los Angeles, Calif. 90013

Gentlemen:

The article regarding hearings on rail/bus transit published in the July 11 issue of the Wilshire Press was read with great interest. With special reference to a rail system from Union Station through the Wilshire Corridor to Fairfax, then north through Hollywood to North Hollywood and other Valley points would be one of the greatest improvements we could possibly make in rapid transit in the City of Los Angeles. We are totally behind all major cities in the United States in the development of mass rapid transit by rail. This would be the best way to conserve on fuel and eliminate all the gas fumes from buses. Travel would be rapid, safer, and we could transport more people faster than any bus line.

I am totally in favor of developing this rail system immediately regardless of any cost. I respectfully submit my opinion on this matter for your consideration before your hearing in August.

Very sincerely,

(Miss) Alice E. McLowry



## Coalition for Rapid Transit

LETTER No. 40

### COALITION SUPPORTS STARTER LINE - SUGGESTS THREE CHANGES IN PLAN

The Coalition For Rapid Transit wishes to express its support for the highly innovative Starter Line proposal of the Southern California Rapid Transit District. We believe that the Starter Line is a limited but attainable objective. It addresses two of the three priorities for rapid transit in the City of Los Angeles, namely improved access from the San Fernando Valley and relief of congestion in the Wilshire Corridor. We anticipate that the third priority, better access from south Los Angeles will be the next order of business for expansion of the Starter Line.

Participants in our Coalition include the Sierra Club, NAACP, Women For, Watts Labor Community Action Committee, Citizens for Rail California, LA Chapter California Society of Professional Engineers, Watts-Willowbrook Chamber of Commerce and others. Like the SCRTD Board of Directors, we favor Alternative II of the eleven proposals described in the Environmental Impact Report -- but with a few modifications that we shall come to in a moment.

It is fitting that the Starter Line begins in North Hollywood since this community at the foot of Cahuenga Pass has had the historic role of a "port" or gateway between the San Fernando Valley and the flatlands of the Los Angeles basin. North Hollywood was once the commercial capital of the Valley. With its new role as a key rapid transit terminal and freeway-intercept the community can expect a strong revival of its commercial activity.

Lease of air rights above and concessionaires within the rapid transit terminal could pay for the construction of the station and even make it a more luxurious facility serving both commuters from the Valley and the North Hollywood community itself.

The Coalition for Rapid Transit wishes to propose three modifications to the Starter Line proposal, and specifically to Alternative II which it otherwise favors. These modifications include an accelerated time schedule for construction, substitution of a stop at the Hollywood Bowl for one at Hauser/Wilshire and construction of a subway loop in the Central Business District.

#### 1) Accelerated Time Schedule for Construction

The SCRTD time schedule for construction of Alternative II runs to 1986. We should like to suggest that SCRTD submit a budget for completing the Starter Line in three years instead of six years by use of several construction companies starting simultaneously at different points on the route. The Coalition believes that a faster construction schedule could even save costs because the impact of inflation (10-15% in the construction industry, plus bond interest charges) would be considerably reduced.

A three year schedule would also prepare the City to accommodate the crowds  
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## Coalition for Rapid Transit

anticipated for the 1984 Olympics. The need for a rapid transit alternative to the automobile is more urgent than the relaxed SCRTD schedule would indicate. The State of California (SB260) has now declared itself into a large role in rapid transit so that advance funding for a fast schedule is in sight.

#### 2) Substitution of a Hollywood Bowl Stop for Hauser/Wilshire Stop


One of the most heavily used and low-priced cultural assets in the City is the Hollywood Bowl. To omit it from the Starter Line, as a senior staff member of SCRTD has recommended, would be a major error. While its peak usage is in the summer months, the same can be said of Universal City which (deservedly) rates a transit stop. The Bowl's large parking lot areas would make it a great daytime Park & Ride transit station. If the cost of a stop at the Hollywood Bowl is a deterrent, then let us reorder our priorities for Alternative II. The Hauser/Wilshire stop can be eliminated by setting the Fairfax and La Brea stops a bit closer (Fairfax/Genesee, La Brea/Cochran). These moves would still serve the Miracle Mile area well and offset the cost of a stop at the Hollywood Bowl.

#### 3) Construction of a Subway Loop in the Central Business District

The proposed alignment of the subway downtown reaches the southern and eastern parts of the CBD but neither the Music Center complex to the north nor the high rise buildings to the west, along Flower and Figueroa are served. Substitution of a subway loop via 1st and Flower Streets would cost less than the \$174 million Downtown People Mover proposed by the SCRTD. A subway loop would provide faster, more frequent service in a secure environment, without the need to change vehicles. The DPM is a mickey mouse contraption which is an absolute menace to rapid transit since it competes with it for physical space as well as for federal and local funds. The DPM presents the most awkward possible interface with a subway with one 50 feet below ground and the other 20 feet in the air. In short, the Coalition regards the DPM as a terrible waste of public money since it makes no real contribution to the development of a mass rapid transit system. The funds for the DPM should be reallocated into a subway loop for the Central Business District.

While all of us in the Coalition support SCRTD's Alternative II, with these alterations, we are also keenly aware of the need for action on the third priority, a rapid transit line to south Los Angeles via Figueroa (or Vermont). We are totally against the CALTRANS freeway transit proposal.

Rapid transit is an idea whose time has come. Let us move quickly. The Starter Line is here for action.

  
Abraham J. Falick, PhD, Chairman

6010 Wilshire Boulevard, Suite 204 • Los Angeles 90036 • (213) 936-7205

## Coalition for Rapid Transit

### COALITION RECOMMENDS SUBWAY LOOP IN PLACE OF DOWNTOWN PEOPLE MOVER

The coalition for Rapid Transit has previously expressed its support of the Starter Line, Alternative II. It has, however, suggested three changes in the plan. The most important of the three being the matter of a subway loop in the Downtown area. We should like to elaborate on this suggested change.

A subway loop would serve the northwest part of Downtown and would enhance the effectiveness of the whole rapid transit system by providing an entrance portal for the South Los Angeles Line. The northwest part of downtown is the location of the Music Center and a complex of government offices. Neither the proposed downtown alignment of Alternative II, nor the Downtown People Mover can serve these areas.

The subway alignment preferred by the Coalition is similar to that of Alternative II, that is, with the Wilshire line having its first stop at 7th and Flower. Instead of going north on Broadway, we would prefer the use of Spring Street. A station between 6th Street and 5th Street would be closer to the Grayhound/SCRTD Bus Terminal at 6th and Los Angeles and the garment district. Shoppers on Broadway would be little inconvenienced by the short walk from a Spring St. station but they would be greatly effected by subway construction on such a congested street as Broadway. Spring Street is much less used by foot and auto traffic so station construction would be less burdensome. Moving the subway to Spring Street will also aid the redevelopment of this economically damaged area.

Going north on Spring we would suggest a stop between 2nd Street and 1st Street that would serve City Hall, County Courts and Little Tokyo. The loop portion would turn west on 1st Street with a stop between Hill and Grand which would serve the Music Center, DPW, County Buildings and the L.A. Board of Education. The loop would then turn south on Flower Street and stop between 3rd and 4th serving the Bunker-Hill Towers, the World Trade Center, Bonaventure Hotel and the Security Pacific Bank Building. The next stop south, between 6th and 7th, would serve the ARCO/Bank of America Towers, Wells Fargo Bank, the Public Library and other high rise buildings.

The segment of line continuing down Flower/Figueroa would become part of the South Los Angeles Line with a stop at the Convention Center between 11th and 12th Streets. It would go down Figueroa with a stop between the Coliseum and Sports Arena within Exposition Park.

It is proposed that the Downtown People Mover be the system to cover the west side in the absence of a subway line there. We believe that this would be a serious mistake because of the many inadequacies of the DPM. The DPM system is mainly oriented to serving the high rise offices of the west side of downtown. It does not reach the Music Center complex but it does partially overlap areas that would be served as well by the subway.

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Because the subway is about 50 feet below ground and DPM 20 feet in the air, any interface between the two is a rather awkward arrangement. The small cars and limited capacity of the DPM means that the system is not in itself capable of moving large numbers of people - mass transit. The DPM is a parking lot convenience vehicle system with its terminals at Convention Center and Union Station auto parks. It would also be constructive to talk to the police as to what they think about the security risk presented by these small automatic operation vehicles.

The most serious effect of the DPM lies in the financial area. The DPM competes with the general rapid transit system for federal and local funds. In any list of priorities for expenditure on our transit needs the DPM must surely have one of the lowest ratings for cost-effectiveness. No matter what UMTA or our local bureaucracies say about the DPM being funded separately, it all comes out of the same pocket. Any money spent on DPM will surely be charged against Los Angeles account for mass rapid transit funding. Spending \$174 million on the DPM would be a clear waste and higher priority rapid transit construction projects would suffer.

In place of the DPM the Coalition for Rapid Transit strongly urges the construction of a subway loop. Such a loop will probably cost less than the DPM. It will serve areas that the DPM would not reach, will have more frequent and more secure service. There would be no need to change vehicles to a DPM system to reach the west side of downtown if the subway loop is built.

The DPM will ultimately be recognized as the poorest value possible for serving the whole community's need for a mass rapid transit system. A subway loop not only provides better service but it looks to the future, especially for a South Los Angeles Line and possible construction in time for the 1984 Olympics.

  
Abraham J. Falick, PhD, Chairman

██████████  
LETTER No. 41

July 11, 1979

Transportation Committee  
Los Angeles Branch NAACP

Position on Wilshire Subway (Starter Line)

Members of the Board, SCRTD:

We are very pleased to have a few minutes of time so that we may be able to announce our full and enthusiastic support for the Wilshire rapid transit line presently under consideration. Our only regret is that the current plan does not include a similar facility for the south-central portion of Los Angeles. Nevertheless, we understand that with limited resources one must assign priorities on the basis of maximum travel demand. We also understand that a significant number of commuters from the south-central area will use the Wilshire corridor each day for home-to-work trips. The real issue of uncertainty, from our view point, is that of interfacing the Wilshire line with other routes, particularly that through S. Central Los Angeles.

In writing this statement we found ourselves in a strange situation: what can one say about a project that is forty or fifty years overdue? After many years of transit stagnation and self-defeating favoritism to automobile and highway use, it would appear that automatically a project such as this would "fall into place". However, it is indeed most disturbing that there are some, particularly in the Federal government, who appear to have doubts that rapid transit is the answer to transportation problems in Los Angeles. To these pitiful and misguided souls, the Century freeway, a billion-dollar highway project, is all right; but a billion-dollar rapid transit line is, to quote one official, a "monumental public works program".

We would like to make it unmistakably clear here and now that such two-faced, hypocritical attitudes on the part of certain public officials CAN NOT BE TOLERATED ANY LONGER! We are tired of former freeway pushers telling us from one side of the mouth that we should reduce our driving, while on the other side they are finding excuses for not providing a satisfactory alternative to the automobile.

This concern and criticism also applies to the act of wasting public funds on such ill-conceived and frivolous projects as the DPM and the freeway transit program which have been adopted as part of the RTP plan.

The DPM (Downtown People Mover) merely portrays waste and redundancy in the thinking of certain people. Not only would this project siphon over \$20 million of LOCAL SHARE funds away from rapid transit construction, but its operation and service would be much better performed by a subway loop bounded by Figueroa and Flower streets on the west, the Music Center, Bunker Hill, and Civic Center on the north, Spring street on the east, and Wilshire on the south. The west and north legs of this loop would be formed by a line extending through S. Central Los Angeles, eventually to terminate in the city of Long Beach. At present a Vermont Ave. alignment would appear to be the most favored for this at least to Imperial Highway.



CALIFORNIA RETIRED TEACHERS' ASSOCIATION

In conclusion, we support the Wilshire corridor plan with the following suggested modifications or alternatives:

1. Construction of a downtown loop as described above. The west and north legs of this loop should be part of a S. Central Los Angeles line, the immediate planning and construction of which are urged.
2. Retention of the Hollywood Bowl as a station stop, and the elimination of the Hauser-Wilshire station.
3. An acceleration of the construction activity so that the line can be built in about one half the present estimated time.

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We are strongly urging that the Board of Directors and staff of the SCRFD contact us at any time if there are questions or points of concern.

Gentlemen, we congratulate you on the work that you have done thus far!

Sincerely,

The Transportation Committee,

Los Angeles Branch NAACP

RAPID TRANSIT STARTER LINE HEARING

North Hollywood  
July 9, 1979  
2:00 P.M.

As president of the San Fernando Valley Division of the Calif. Retired Teachers' Association I represent 915 members who are interested in having a rapid transit system to serve Los Angeles.

After reaching retirement age many of us become more dependent on public transportation. Retirement income is usually substantially lower than the previous salary. The cost of a motor car and fuel for it has increased. The physical reaction time of the retired driver is usually slower and our eyesight tends to become impaired. Any or all of these conditions may preclude the owning and operating of an automobile. Therefore, we are in need of reliable public transportation.

If, however, the mass transit system is to help us, it must (a) be within our easy reach, (b) it must go where we have a need to go and (c) it must be affordable.

Where should it be located to be accessible to us? 90 of our members live in North Hollywood. The majority of the remaining approximately 800 live in mid-valley and west valley.

To where do we feel a need to be transported? To department stores, clinics, libraries, museums, theaters, stadiums, and to our volunteer work at schools, churches, hospitals or the Braille Inst., to name only a few.

With this in mind we raise the question; Would our transportation needs be any better served with the subway starter line from Union Station to North Hollywood unless feeder lines with connecting schedules are arranged?

This brings us to the third crucial contingency. Can we afford it?

We retirees are, also, taxpayers. Can retired taxpayers, on a restricted set income, afford to help defray the cost of such a system?

The executive officials of the Rapid Transit District have, no doubt, been communicating with their counterparts in such cities as San Francisco and Toronto; and they may have learned that the expenditure in both time and money, for the rapid transit systems in those cities, was much greater than anticipated.

Whether the cost of such a system is defrayed by local or federal taxes it is we, individually and collectively, who will pay for it. We, the taxpayers, who are taxed by both federal and local governments, will pay.

In conclusion, the San Fernando Valley Division of the California Retired Teachers' Association would like to go on record as encouraging the establishment of a rapid transit system which is extensive enough in route coverage to be functional for us; with cost assesment low enough to be affordable for us; and with a completion date which would permit many of us, now living, to use it.

We realize that such a system may not be planned and constructed

solely for the convenience of retirees. However, we believe that many of our needs are synonymous with those of the majority of the current valley citizenry. Bear in mind that, sooner or later, most of the valley population will become retirees.

*Reba Roebuck*

Mrs. Alfred H. Roebuck

President

7785 Skyhill Drive

Los Angeles, 90068

851-3397

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jewish legal services

LETTER No. 43

צדק צדק תרוך

163 S. Fairfax Avenue · Los Angeles, California 90036  
Tel. 938-6271

"Justice You Shall Justly Pursue"

July 12, 1979

Richard Smith  
Office of Planning Assistance  
Urban Mass Transportation Administration  
400 7th Street, S.W.  
Washington, D.C.

Dear Mr. Smith:

The enclosed letter was sent to the Board of Directors of the Southern California Rapid Transit District in response to their Alternatives Analysis and Environmental Impact Statement Report for Transit System Improvements in the Los Angeles Regional Core.

The letter explains the reasons for Jewish Legal Services' support of proposed Alternative II. It also expresses our concern that the special needs of the elderly and the handicapped will be adequately provided for in the new rapid transit system.

As you are also closely involved with the planning of the new system, I have sent you the letter in the hope that its contents will prove helpful in your consideration of the proposed transit alternatives. If at any time you wish further comments of other participation from Jewish Legal Services, please feel free to contact me.

Sincerely,

*Terry B. Friedman*

TERRY B. FRIEDMAN  
Executive Director

jewish legal services

צדק צדק תרוך

163 S. Fairfax Avenue · Los Angeles, California 90036  
Tel. 938-6271

"Justice You Shall Justly Pursue"

July 10, 1979

Board of Directors  
Southern California Rapid Transit District  
425 South Main Street  
Los Angeles, California 90013

Dear Sirs:

Jewish Legal Services is a legal aid office operating under the auspices of the Legal Services Corporation. Although the office offers legal help to all persons who meet the financial qualifications for aid, the majority of our clients are elderly persons who live in the Fairfax and West Hollywood areas. The overwhelming majority of our clients are dependent on public transit for transportation. Many of these people have only limited mobility, being able to walk only with difficulty. Jewish Legal Services feels a responsibility to our clients to point out to those planning Los Angeles' future rapid transit the necessity for special services for the elderly and the handicapped, and to consider their needs in planning routes and methods of construction.

The obligation to provide transit services which are available to the elderly and the handicapped is not only a moral obligation. It is a legal one as well. Both the state and the federal legislatures have announced policies requiring special services for the elderly and the handicapped. In 49 USC Section 1612 the United States Congress declared its policy that "special efforts shall be made in the planning and design of mass transportation facilities and services so that the availability to elderly and handicapped persons of mass transportation which they can effectively utilize will be assured." See also California Public Utilities Code Section 99220. Under 49 Code of Federal Regulations Section 613.204(a), U.M.T.A. will approve projects only if the plans exhibit "satisfactory special efforts in planning public mass transportation facilities and services that can be utilized by elderly and handicapped persons."

49 U.S.C. Section 1604(m) requires reduced fares at off-peak hours for the elderly and the handicapped. 49 C.F.R. Sections 609.13 and 609.21 provide specific guidelines for special access and safety facilities in transit vehicles and in fixed facilities (e.g., stations). For example, 49 C.F.R. Section 609.13(b)(3) requires that "transit fare vending and collection systems shall be designed so as not to prevent effective utilization of the transportation system by elderly and handicapped persons." See Appendix for additional regulations.

In view of the fact that the "Alternatives Analysis and Environmental Impact Statement/Report on Transit System Improvements in the Los Angeles Regional Core" (Alternatives Analysis) does not even mention these U.M.T.A. requirements or plans to comply with them, we must stress our expectation that the proposed transit system improvements, whichever Alternative is chosen, will comply with and even exceed the guidelines set forth in the Code of Federal Regulations. Such compliance is imperative, given the fact that, according to the Alternatives Analysis, over 110,000 persons in the regional core alone are possibly totally transit-dependent due to age or handicap. To this group must be added the large number of people who will come into the Regional Core on feeder lines.

Easy access and safety within stations and on vehicles are not the only conditions necessary to enable the aged and the handicapped to effectively utilize mass transit. The location of stations and routing of the lines can have a great impact on effectiveness of the mass transit system for use by the elderly and the handicapped.

The Fairfax area includes a large community of elderly persons whose only means of transportation is presently the bus system. These people would best be served in the future by proposed Alternative II. An informal survey of our clients reveals that the great majority of them constantly ride on the Fairfax and Wilshire bus lines. They have complained of severe overcrowding on both lines. According to the Alternatives Analysis, the Wilshire line is operating at maximum capacity. A route such as that in Alternative III which ends at Vermont Avenue would not alleviate the serious overcrowding problem, which extends well beyond Vermont Avenue. A subway which would follow Fairfax would also alleviate the crowding on the Fairfax (89) line.

Our clients do not stay within the confines of the Fairfax area. The survey revealed that elderly Fairfax residents travel to destinations throughout the city. The most common destinations were downtown and the Wilshire district, probably because they are the easiest accessible under the present bus system. However, Fairfax residents also travel regularly to Hollywood, Santa Monica, West Los Angeles, and the San Fernando Valley. Those surveyed complained of the difficulty of traveling to some of these areas, particularly Santa Monica and Valley areas. They mentioned the need for many transfers, and the resulting unreasonably long time required for the trip.

A transit routing through the Fairfax area which extended to North Hollywood, as Alternative II does, would help solve these problems in two ways. First, the transit time from the Valley to the Fairfax area would be cut to less than half of what it is now, according to Figure III.10 of the Alternatives Analysis. Alternative II would cut this

travel time the most. Secondly, access to West Los Angeles from Fairfax and to the West and North Valley from North Hollywood would be greatly improved by the existence of efficient feeder bus lines. Terminating the transit route in Hollywood, as do Alternatives IV, VII, and IX would not provide the ease of access to the Valley from the Fairfax area that a North Hollywood terminus would provide. Alternatives V and VIII provide no North/South improved service whatsoever.

Greater access from Fairfax to other areas also means greater access to Fairfax from areas such as West Los Angeles and the San Fernando Valley. The Fairfax area has long been a center of Jewish culture in Los Angeles. Recently, the area has suffered some decline. Some businesses in the district are failing. Many of the elderly residents have moved away, often because of the high cost of housing. Many have moved to the San Fernando Valley. The substantial elderly Jewish population of North Hollywood would greatly benefit from simplified access to Fairfax. Improved transit to the Fairfax area would revitalize the neighborhood and preserve it as a Jewish cultural center not only for local residents, but also for the Los Angeles Jewish community as a whole.

A transit route using La Brea instead of Fairfax, as in Alternative I, would not have the same beneficial results for the Fairfax residents as would a Fairfax line. In order to avail themselves of the La Brea-Wilshire line, many area residents, particularly those who live west of Fairfax, would have to take a bus to La Brea, since it is nearly a mile from Fairfax to La Brea. For a person who is not very mobile, the addition of a transfer could make a trip much more difficult. In addition, the revitalizing power of proximity to rapid transit stations would reach the Fairfax area in only a greatly diluted form. Alternative I or VI would, however, be better than these Alternatives which either do not go to the Valley or Alternative III which does not serve the Wilshire-Fairfax area at all.

If, as we are urging, the route taken by Alternative II is chosen, there are still other decisions which must be made. The Alternatives Analysis discusses both the cut-and-cover and bored tunnel method of subway construction. According to Figure IV.22, adverse impact due to cut-and-cover construction would be high for noise, dust and engine exhaust, traffic congestion, commerce, and utilities, while bored tunnel construction would have a low impact on all those factors. For these reasons we are very much opposed to the use of cut-and-cover construction; such extreme adverse impacts should be avoided when possible, both because of their

short-term effects on health, comfort, and business, and also because of their unknown long-term effects.

The elderly residents of the Fairfax area would be affected even more by cut-and-cover construction, than would the general population. Air and dust pollution may affect them more severely. Lacking the ease of mobility of younger persons, they would find it more difficult to escape the construction area by taking care of their shopping and other necessities elsewhere. Finally, cut-and-cover would displace seven times as many structures (business and residential) as would bored tunnel construction. In today's extremely tight housing situation, unnecessary loss of even a few housing units is too high a price to pay for a subway. Loss of even a few structures in the Fairfax area due to cut-and-cover (or to construction of an aerial busway) would be disastrous for this community. Should it be decided that such destructive methods will be used, it would be far better for the neighborhood that residents should travel to a subway or busway on La Brea, than to have the community decline any further due to loss of structures or to the environmental annoyances and other damage caused by cut-and-cover construction.

One final consideration, important to the handicapped and the elderly, is the spacing of stations. The Alternatives Analysis states that a half-mile is the maximum comfortable walking distance. While this may be true for the general population, a half-mile is a long distance for the elderly and the handicapped. Of those elderly clients who responded to our survey, the majority stated that the maximum they could comfortably walk was approximately four blocks - a distance much less than a half-mile.

The distance between the proposed stations on Fairfax is one mile between Santa Monica Boulevard and Beverly Boulevard, and 7/8 mile between Wilshire Boulevard and Beverly Boulevard. From many points in the Fairfax area, therefore, the transit stations would be inaccessible to the elderly by foot, although for younger persons there would be no problem. One solution to this problem would be to build a fourth station on Fairfax, admittedly an expensive solution. Another solution would be a shuttle bus or minibus to circulate the area and provide inexpensive transport to and from stations.

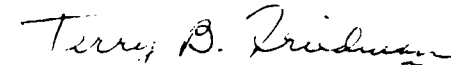
This letter has discussed methods for making rapid transit more accessible to those who are mobile enough to use it. However, we have not forgotten those who are not able to use mass transit at all, and we urge the planners of the new system also to include in their proposals a permanent plan for providing the more severely disabled with transportation. The Dial-A-Ride Program, which presently ful-

fills this function, is now suspended and faces an uncertain future due to lack of funds. Institutionalizing such a program as part of the Rapid Transit District, and/or procuring for it a permanent source of funding, would ensure that the transportation needs of these disabled persons will be met.

Jewish Legal Services wishes to commend the Rapid Transit District and other agencies for their imaginative approach in trying to solve the transit problems of Los Angeles. We hope that the plan for the Regional Core is only the beginning of an extensive, efficient, and energy-saving transit system for the entire metropolitan area. It is our hope that throughout the planning of the system, the needs of not only the community as a whole, but also the special needs of the elderly and the handicapped, will be considered fully.

Jewish Legal Services is very interested in the rapid transit proposals, and we plan to monitor continuing developments in the planning and implementation of a new rapid transit system. We would be pleased to help in this endeavor in any way we can.

Sincerely,



TERRY B. FRIEDMAN  
Executive Director

TBF:hw

cc: Mayor Tom Bradley  
Los Angeles City Council  
Los Angeles County Board of Supervisors  
U.M.A.T.A.



Chapter VI—Urban Mass Transportation Admin.

§ 609.5

County Civil #297329) against the City, contesting its authority to engage in charter bus operations."

As indicated above, it is clear that under the act in question grants may not legally be made to purchase buses to be used "exclusively" in the operation of charter bus service. However, in view of the purposes of the act involved it is our opinion that a city which has purchased with grant funds buses needed for an efficient mass transportation system, is not precluded by the act from using such buses for charter service during idle or off-peak periods when the buses are not needed for regularly scheduled runs. As indicated above, such a use would appear to be an incidental use.

The fourth question is answered accordingly.

As requested, the correspondence enclosed with your letter is returned herewith.

Sincerely yours,

FRANK H. WEITZEL,  
Assistant Comptroller General  
of the United States.

Enclosures.

The Honorable Bob Wilson, House of Representatives.

MARCH 29, 1976.

INFLATIONARY IMPACT STATEMENT  
FINAL REGULATIONS ON SCHOOL BUS  
OPERATIONS

I certify that, in accordance with Executive Order 11821, dated November 27, 1974, and Departmental implementing instructions, an Inflationary Impact Statement is not required for final regulations on School Bus Operations.

ROBERT E. PATRICELLI,  
Urban Mass Transportation  
Administrator.

PART 609—TRANSPORTATION FOR  
ELDERLY AND HANDICAPPED PER-  
SONS

- 609.1 Purpose.
- 609.3 Definitions.
- 609.5 Applicability.
- 609.7 Transportation planning in urbanized areas.
- 609.9 Transportation planning in nonurbanized areas.
- 609.11 Applications for capital or operating assistance.
- 609.13 Fixed facilities.
- 609.15 Buses.
- 609.17 Rapid rail vehicles.
- 609.19 Light rail vehicles.
- 609.21 Other vehicles.
- 609.23 Reduced fare.
- 609.25 Waiver.

AUTHORITY: Secs. 5 and 16, Urban Mass Transportation Act of 1964, as amended (49 U.S.C. 1604, 1612; sec. 165(b), Federal-Aid Highway Act of 1973, as amended (23 U.S.C. 142 n.t.e. sec. 504, Rehabilitation Act of 1973 (29 U.S.C. 794); 49 CFR 1.51.

SOURCE: 41 FR 18239, Apr. 30, 1976, unless otherwise noted.

§ 609.1 Purpose.

The purpose of this part is to establish formally the requirements of the Urban Mass Transportation Administration (UMTA) on transportation for elderly and handicapped persons.

§ 609.3 Definitions.

As used herein:  
"Elderly and handicapped persons" means those individuals who, by reason of illness, injury, age, congenital malfunction, or other permanent or temporary incapacity or disability, including those who are nonambulatory wheelchair-bound and those with semi-ambulatory capabilities, are unable without special facilities or special planning or design to utilize mass transportation facilities and services as effectively as persons who are not so affected.

§ 609.5 Applicability.

This part, which applies to projects approved by the Urban Mass Transportation Administrator on or after May 31, 1976, applies to all planning, capital, and operating assistance projects receiving Federal financial assistance under sections 3, 5, or 9 of the Urban Mass Transportation Act of 1964, as amended (49 U.S.C. 1602, 1604, or 1607a), and nonhighway public mass transportation projects receiving Federal financial assistance under: (1) Subsection (a) or (c) of section 142 of title 23, United States Code; and (2) paragraph (4) of subsection (c) of section 103, title 23, United States Code. However, under certain circumstances evident in §§ 609.13 through 609.21, the latter sections apply to fixed facilities and vehicles included in projects approved before May 31, 1976. Sections in this part on capital assistance applications, fixed facilities, and vehicles apply expressly

§ 609.7

to capital assistance projects receiving Federal financial assistance under any of the above statutes.

§ 609.7 Transportation planning in urbanized areas.

General requirements for transportation planning in urbanized areas are found in joint UMTA-Federal Highway Administration regulations (23 CFR Part 450 and 49 CFR Part 613). These regulations require the urban transportation planning process to include special efforts to plan public mass transportation facilities and services that can effectively be utilized by elderly and handicapped persons. UMTA and FHWA have added a supplementary statement on the special efforts requirement as an appendix to the joint planning regulations. Satisfactory special efforts in this area is an express condition (49 CFR 613.204) for UMTA project approvals required by 23 CFR 450.320, and UMTA has added a supplementary statement on that requirement as an appendix to 49 CFR Part 613.

§ 609.9 Transportation planning in nonurbanized areas.

Before a capital assistance project can be approved in a nonurbanized area, the local planning process must include special efforts to plan public mass transportation facilities and services that can effectively be utilized by elderly and handicapped persons.

§ 609.11 Applications for capital or operating assistance.

Applications for capital or operating assistance shall include assurance(s) and descriptive material on transportation for elderly and handicapped persons in accordance with current application instructions.

§ 609.13 Fixed facilities.

(a) Except as otherwise provided in paragraph (c) of this section, every fixed facility—including every station, terminal, building or other facility—designed, constructed, or altered on or after May 31, 1976, with UMTA assistance, the intended use for which will require either that such fixed facility be accessible to the public or may

Title 49—Transportation

result in the employment therein of physically handicapped persons, shall be designed, constructed, or altered in accordance with the minimum standards in the "American Standard Specifications for Making Building and Facilities Accessible to, and Usable by, the Physically Handicapped, Number A117.1—R 1971," approved by the American Standards Association, Inc. (subsequently changed to American National Standards Institute, Inc.) (ANSI).

(b) In addition to the ANSI standards of paragraph (a) of this section, the following standards apply to rail facilities covered by that paragraph:

(1) Travel distance for wheelchair users: In designing new underground or elevated transit stations, careful attention should be given to the location and number of elevators or other vertical circulation devices in order to minimize the extra distance which wheelchair users and other persons who cannot negotiate steps may have to travel compared to nonhandicapped persons.

(2) International accessibility symbol: The international accessibility symbol shall be displayed at wheelchair accessible entrance(s) to buildings that meet the ANSI standards.

(3) Fare vending and collection systems: Transit fare vending and collection systems shall be designed so as not to prevent effective utilization of the transportation system by elderly and handicapped persons. Each station shall include a fare control area with at least one entrance with a clear opening at least 32 inches wide when open.

(4) Boarding platforms: All boarding platform edges bordering a drop-off or other dangerous condition shall be marked with a warning device consisting of a strip of floor material differing in color and texture from the remaining floor surface. The design of boarding platforms for level-entry vehicles shall be coordinated with the vehicle design in order to minimize the gap between platform and vehicle doorway and to permit safe passage by wheelchair users and other elderly and handicapped persons.

(c). The standards established in paragraphs (a) and (b) of this section do not apply to:

(1) The design, construction, or alteration of any portion of a fixed facility which, because of its intended use, be made accessible to, or usable by, the public or by physically handicapped persons;

(2) The alteration of an existing fixed facility to the extent that the alteration does not involve the installation of, or work on, existing stairs, doors, elevators, toilets, entrances, drinking fountains, floors, telephone locations, curbs, parking areas, or any other facilities susceptible of installation or improvements to accommodate the physically handicapped (the standards do not apply to the unaltered portions or items of an existing fixed facility);

(3) The alteration of an existing fixed facility, or of such portions thereof, to which application of the standards is not structurally possible; and

(4) The construction or alteration of a fixed facility for which a grantee has, prior to May 31, 1976, issued a formal invitation for bids to perform such construction or alteration.

(d) The final project application for any project that includes the design, construction, or alteration of a fixed facility subject to paragraph (a) of this section shall contain one of the following: (1) An assurance that the standards of paragraph (a) of this section will be adhered to in the design, construction, or alteration of such facility; (2) a request for a finding that the project is within one of the exceptions set out in paragraph (c) of this section (the specific exception being identified), with appropriate supporting material; or (3) a request pursuant to § 609.25 for waiver of the standards of paragraphs (a) and (b) of this section, with appropriate supporting material.

#### § 609.15 Buses.

(a) Effective with procurement solicitations containing UMTA-approved specifications issued after September 30, 1979, UMTA grantees may procure new, standard, full-size urban transit

buses only if the procurement solicitation utilizes UMTA's bid package entitled "Transbus Procurement Requirements", which requires a stationary floor height of not more than 22 inches, an effective floor height including a kneeling feature of not more than 18 inches, and a front door ramp or front door lift for boarding and exiting.

(b) Paragraphs (c) through (i) of this section apply to new, standard, full-size urban transit buses (of current or advanced design) for which an UMTA grantee issues a procurement solicitation containing UMTA-approved vehicle specifications on or before September 30, 1979. In addition to the vehicles described in the above sentence, paragraphs (d) through (i) of this section also apply to all other new transit buses exceeding 22 feet in length for which an UMTA grantee issues a procurement solicitation containing UMTA-approved vehicle specifications. After September 30, 1979, the design requirements in paragraphs (d) through (i) of this section will apply only to these other transit buses. For any new transit buses exceeding 22 feet in length except new, standard, full-size urban transit buses, any requirements concerning wheelchair accessibility will be handled on a case-by-case basis as part of the project approval process.

(c) Wheelchair accessibility option: Procurement solicitations issued on or before September 30, 1979 containing UMTA-approved vehicle specifications for new, standard, full-size urban transit buses (of current or advanced design) shall provide for a bus design which permits the addition of a wheelchair accessibility option and shall require an assurance from each bidder that it offers a wheelchair accessibility option for its buses. The term "wheelchair accessibility option" means a level change mechanism (e.g., lift or ramp), sufficient clearances to permit a wheelchair user to reach a securement location, and at least one wheelchair securement device.

(d) Priority seating signs: In order to maximize the safety of elderly and handicapped persons, each vehicle shall contain clearly legible sign(s)

#### § 609.17

which indicate that seats in the front of the vehicle are priority seats for elderly and handicapped persons, and which encourage other passengers to make such seats available to elderly and handicapped persons who wish to use them.

(e) Interior handrails and stanchions: (1) Handrails and stanchions shall be provided in the entranceway to the vehicle in a configuration which allows elderly and handicapped persons to grasp such assists from outside the vehicle while starting to board, and to continue using such assists throughout the boarding and fare collection processes. The configuration of the passenger assist system shall include a rail across the front of the interior of the vehicle which shall serve both as an assist and as a barrier to reduce the possibility of passengers sustaining injuries on the fare collection device or windshield in the event of sudden deceleration. The rail shall be located to allow passengers to lean against it for security while paying fares.

(2) Overhead handrail(s) shall be provided which shall be continuous except for a gap at the rear doorway.

(3) Handrails and stanchions shall be sufficient to permit safe on-board circulation, seating and standing assistance, and unboarding by elderly and handicapped persons.

(f) Floor and step surfaces: (1) All floors and steps shall have slip-resistant surfaces.

(2) All step edges shall have a band of bright contrasting color(s) running the full width of the step.

(g) Lighting: (1) Any stepwell immediately adjacent to the driver shall have, when the door is open, at least 2 foot-candles of illumination measured on the step tread.

(2) Other stepwells shall have, at all times, at least 2 foot-candles of illumination measured on the step tread.

(3) The vehicle doorways shall have outside light(s) which provide at least 1 foot-candle of illumination on the street surface for a distance of 3 feet from all points on the bottom step tread edge. Such light(s) shall be located below window level and shielded

#### Title 49—Transportation

to protect the eyes of entering and exiting passengers.

(h) Fare collection: The farebox shall be located as far forward as practicable and shall not obstruct traffic in the vestibule.

(i) Destination and route signs: Each vehicle shall have illuminated signs on the front and boarding side of the vehicle.

(41 FR 18239, Apr. 30, 1976, as amended at 42 FR 48340, Sept. 23, 1977; 43 FR 41969, Sept. 19, 1978)

#### § 609.17 Rapid rail vehicles.

(a) The requirements of this section apply to all new rapid rail vehicles for which an UMTA grantee issues, on or after May 31, 1976, a formal procurement solicitation containing vehicle specifications approved by UMTA.

(b) Doorways: (1) Passenger doorways on vehicle sides shall have clear openings at least 32 inches wide when open.

(2) The international accessibility symbol shall be displayed on the exterior of each vehicle operating on a wheelchair accessible rapid rail system.

(3) Audible warning signals shall be provided to alert elderly and handicapped persons of closing doors.

(4) Where the vehicle will operate in a wheelchair accessible station, the design of vehicles shall be coordinated with the boarding platform design in order to minimize the gap between the vehicle doorway and the platform and to permit safe passage by wheelchair users and other elderly and handicapped persons.

(c) Priority seating signs: In order to maximize the safety of elderly and handicapped persons, each vehicle shall contain clearly legible sign(s) which indicate that certain seats are priority seats for elderly and handicapped persons, and which encourage other passengers to make such seats available to elderly and handicapped persons who wish to use them.

(d) Interior handrails and stanchions: (1) Handrails and stanchions shall be sufficient to permit safe boarding, on-board circulation, seating and standing assistance, and unboard-

ing by elderly and handicapped persons.

(2) Handrails, stanchions, and seats shall be located so as to allow a wheelchair user to enter the vehicle and position the wheelchair in a location which does not obstruct the movement of other passengers.

(e) Floor surfaces: All floors shall have slip-resistant surfaces.

§ 609.19 Light rail vehicles.

(a) The requirements of this section apply to all new light rail vehicles for which an UMTA grantee issues, on or after May 31, 1976, a formal procurement solicitation containing vehicle specifications approved by UMTA.

(b) Doorways: (1) Passenger doorways on vehicle sides shall have clear openings at least 32 inches wide when open.

(2) The international accessibility symbol shall be displayed on the exterior of each vehicle operating on a wheelchair accessible light rail system.

(3) Audible warning signals shall be provided to alert elderly and handicapped persons of closing doors.

(4) The design of level-entry vehicles shall be coordinated with the boarding platform design in order to minimize the gap between the vehicle doorway and the platform and to permit safe passage by wheelchair users and other elderly and handicapped persons.

(c) Priority seating signs: In order to maximize the safety of elderly and handicapped persons, each vehicle shall contain clearly legible sign(s) which indicate that certain seats are priority seats for elderly and handicapped persons, and which encourage other passengers to make such seats available to elderly and handicapped persons who wish to use them.

(d) Interior handrails and stanchions: (1) On vehicles which require use of steps in the boarding process, handrails and stanchions shall be provided in the entranceway to the vehicle in a configuration which allows elderly and handicapped persons to grasp such assists from outside the vehicle while starting to board, and to continue using such assists throughout the boarding process.

(2) On level-entry vehicles, handrails, stanchions, and seats shall be located so as to allow a wheelchair user to enter the vehicle and position the wheelchair in a location which does not obstruct the movement of other passengers.

(3) On all vehicles, handrails and stanchions shall be sufficient to permit safe boarding, on-board circulation, seating and standing assistance, and unboarding by elderly and handicapped persons.

(c) Floor and step surfaces: (1) All floors and steps shall have slip-resistant surfaces.

(2) Any step edges shall have a band of bright contrasting color(s) running the full width of the step.

(f) Lighting in step-entry vehicles: (1) Any stepwell immediately adjacent to the driver shall have, when the door is open, at least 2 footcandles of illumination measured on the step tread.

(2) Other stepwells shall have, at all times, at least 2 footcandles of illumination measured on the step tread.

(3) The vehicle doorways shall have outside lights which provide at least 1 footcandle of illumination on the street surface for a distance of 3 feet from all points on the bottom step tread edge. Such lights shall be located below window level and shielded to protect the eyes of entering and exiting passengers.

§ 609.21 Other vehicles.

Requirements for vehicles not covered by §§ 609.15, 609.17, or § 609.19 will be determined by UMTA on a case-by-case basis as part of the project approval process.

§ 609.23 Reduced fare.

Applicants for financial assistance under section 5 of the Urban Mass Transportation Act of 1964, as amended (49 U.S.C. 1604), must, as a condition to receiving such assistance, give satisfactory assurances, in such manner and form as may be required by the Urban Mass Transportation Administrator and in accordance with such terms and conditions as the Urban Mass Transportation Administrator may prescribe, that the rates

§ 609.25

charged elderly and handicapped persons during non-peak hours for transportation utilizing or involving the facilities and equipment of the project financed with assistance under this section will not exceed one-half of the rates generally applicable to other persons at peak hours, whether the operation of such facilities and equipment is by the applicant or is by another entity under lease or otherwise.

§ 609.25 Waiver.

The requirements set forth in this part may be modified or waived on a case-by-case basis upon application to the Urban Mass Transportation Administrator if the Administrator determines that such modification or waiver is clearly necessary and is consistent with the intent of the laws cited under "Authority." However, a modification or waiver of paragraph 609.13(a) for a building covered by Pub. L. 90-480 will also require the approval of the Administrator of General Services. Any request for modification or waiver should be presented for comment at the public hearing required prior to submission of a project application to UMTA. In the event that the waiver is not presented at the hearing, the Urban Mass Transportation Administrator may require a new public hearing if he finds that the requested waiver would have a substantial effect on the accessibility of the facility or equipment to elderly and handicapped persons.

PART 613—PLANNING ASSISTANCE AND STANDARDS

Subpart A—Urban Transportation Planning

Sec.

613.100 Urban transportation planning.

Subpart B—Transportation Improvement Program

613.200 Transportation Improvement Program.

613.202 Additional criteria for Urban Mass Transportation Administrator's approvals under 23 CFR 450.320.

613.204 Additional criteria for Urban Mass Transportation Administrator's approvals under 23 CFR 450.320.

Title 49—Transportation

Subpart C—Coordination of Federal and Federally Assisted Programs and Projects

Sec.

613.300 Coordination of Federal and Federally Assisted Programs and Projects.

Subpart A—Urban Transportation Planning

§ 613.100 Urban transportation planning.

The urban transportation planning regulations implementing 23 U.S.C. 134 and sections 3, 4(a), and 5 (g)(1) and (l) of the Urban Mass Transportation Act of 1964, as amended (49 U.S.C. 1602, 1603(a) and 1604 (g)(1) and (l)), which require comprehensive planning of transportation improvements which are set forth in 23 CFR Part 450, Subpart A, are incorporated into this subpart.

(23 U.S.C. 104(f)(3), 134, and 315; secs. 3, 4(a), and 5 of the Urban Mass Transportation Act of 1964, as amended (49 U.S.C. 1602, 1603(a), and 1604); 49 CFR 1.48(b) and 1.50(f))

(40 FR 42984, Sept. 17, 1975)

Subpart B—Transportation Improvement Program

Authority: 23 U.S.C. 105, 134(a), and 135(b); secs. 3, 4(a), and 5 of the Urban Mass Transportation Act of 1964, as amended (49 U.S.C. 1602, 1603(a), and 1604); and 49 CFR 1.48(b) and 1.50(f).

Source: 40 FR 42984, Sept. 17, 1975, unless otherwise noted.

§ 613.200 Transportation Improvement Program.

The transportation improvement program regulations establishing guidelines for the development, content, and processing of a cooperatively developed transportation improvement program in urbanized areas and also prescribing guidelines for the selection, by implementing agencies, of annual programs of projects to be advanced in urbanized areas which are set forth in 23 CFR Part 450, Subpart C, are incorporated into this subpart.

Chapter VI—Urban Mass Transportation Admin.

§ 613.204

§ 613.202 Additional criteria for Urban Mass Transportation Administrator's approvals under 23 CFR 450.320.

(a) This section establishes certain additional criteria to be considered by the Urban Mass Transportation Administrator in his program approval pursuant to 23 CFR 450.320(a)(3) for all projects proposed for implementation with Federal assistance under sections 3 and 5 of the Urban Mass Transportation Act of 1964, as amended (23 U.S.C. 1602 and 1604), in urbanized areas having a population of 200,000 or more.

(b) After March 30, 1976, the Urban Mass Transportation Administrator will grant program approval for projects under paragraph (a) of this section only after he has determined that:

(i) The transportation plan developed pursuant to 23 CFR 450.116 contains a Transportation System Management (TSM) element; and

(ii) The annual element of the transportation improvement program developed pursuant to 23 CFR 450.118 contains projects drawn from the TSM element.

(c) After March 30, 1977, the Urban Mass Transportation Administrator will grant program approval for projects under paragraph (a) of this section only after he has determined that reasonable progress has been demonstrated in implementing previously programed projects.

§ 613.204 Additional criteria for Urban Mass Transportation Administrator's approvals under 23 CFR 450.320.

The Urban Mass Transportation Administrator will grant project approvals pursuant to 23 CFR 450.320(a)(3) only if:

(a) The urban transportation planning process exhibits satisfactory special efforts in planning public mass transportation facilities and services that can be utilized by elderly and handicapped persons; and

(b) The annual element of the transportation improvement program developed pursuant to 23 CFR 450.118 and submitted after September 30, 1976, contains projects or project elements designed to benefit elderly and handi-

capped persons, specifically including wheelchair users and those with semiambulatory capabilities; and

(c) After September 30, 1977, reasonable progress has been demonstrated in implementing previously programed projects.

APPENDIX

ADVISORY INFORMATION ON THE URBAN MASS TRANSPORTATION ADMINISTRATION'S REQUIREMENTS ON PROGRAMING FOR ELDERLY AND HANDICAPPED PERSONS UNDER 49 CFR 613.204

Pursuant to the planning requirements established for urbanized areas in title 23 and the Urban Mass Transportation Act of 1964, as amended, the Urban Mass Transportation Administration (UMTA) and the Federal Highway Administration (FHWA) have previously jointly issued regulations (23 CFR Part 450 and 49 CFR Part 613) that require the urban transportation planning process to include special efforts to plan public mass transportation facilities and services that can effectively be utilized by elderly and handicapped persons. They have also issued a supplementary statement which provides advisory information on the special efforts planning requirements (appendix to 23 CFR Part 450, Subpart A, published in this edition of the FEDERAL REGISTER). The Urban Mass Transportation Administration has also issued a regulation (49 CFR 613.204) which requires special efforts in the programming of projects. The purpose of this statement is to provide advisory information on that programming regulation.

As a result of special efforts in planning projects designed to benefit elderly and handicapped persons, including projects designed specifically to benefit wheelchair users and those with semiambulatory capabilities, should appear in the annual element of transportation improvement programs submitted to UMTA after September 30, 1976. The term "projects" is meant to include significant features of larger projects (e.g., level-change mechanisms on full-size buses), as well as specially designed services and improvements in the coordination of existing services and resources. "Projects" includes payment of current operating costs of previously purchased wheelchair-accessible equipment and includes payment of expenses associated with indirect methods of providing service, such as subsidies to reduce taxi fares for wheelchair users or trip coupons provided directly to wheelchair users.

Projects funded by UMTA under section 16(b)(2) may be identified as deriving from local special efforts to meet the needs of wheelchair users and semiambulatory per-

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AUG 13 1979

GENERAL MANAGER S.C.R.T.D.

LETTER No. 44

August 10, 1979

RECEIVED

AUG 15 1979

Passenger Service S.C.R.T.D.

Due Date AUG 25 1979

Mr. Jack R. Gilstrap
General Manager
Southern California Rapid Transit District
425 South Main Street
Los Angeles, CA 90013

Dear Mr. Gilstrap:

The purpose of this letter is to provide comments on the proposed 18-mile rapid transit starter line.

Santa Monica has underway a number of substantial office and retail developments to serve all of Los Angeles as well as the westside area. Perhaps the most prominent is Santa Monica Place, a fifty million dollar retail development on Third Street between Colorado and Broadway.

Public transportation to these areas as well as to the beaches and other recreational facilities used by all of Los Angeles is essential.

I request that the Southern California Rapid Transit District:

- 1. Conduct an alternative analysis for the westside extension of the subway system; and
2. Include this analysis in the presentation to the Federal Urban Mass Transit Authority.

Rapid transit public transportation from Los Angeles to Santa Monica is absolutely essential in the near future and I trust that progress will be made now to accomplish this.

Sincerely yours,

David A. Lederer

Chairman
TRANSPORTATION COMMITTEE
Santa Monica Area Chamber of Commerce

DAL:al



THE PROPOSED RAPID TRANSIT DISTRICT STARTER LINE  
AND THE RANCHO LA BREA FOSSIL DEPOSITS

LETTER No. 45

Introduction

Rancho La Brea constitutes a unique resource of Southern California and the earth. Not only is it the richest and most famous fossil vertebrate deposit in the world, but it also contains one of the best records of Ice-Age fossil plants, insects and other forms of life. Even prehistoric Indians left their record in the asphalt. Most of the known fossil sites of Rancho La Brea are contained within the 23 acre Hancock Park. This land was donated to the County of Los Angeles in 1916 by the owner, G. Allen Hancock, as a scientific and educational park. Hancock Park became a National Scientific Landmark in 1964. In 1977 the George C. Page Museum was opened to display and study the rich pre-history of Rancho La Brea. The area around Hancock Park is the most sensitive part of Los Angeles in regard to potential impact upon paleontologic resources.

Distribution of the Fossil Deposits

The individual fossil deposits are of rather limited horizontal extent, typically less than twenty feet in diameter. However, they can range from one to almost thirty feet in thickness. Within any one deposit, the fossils are tremendously concentrated, up to 50% of the total volume of sediment. Occasional specimens may be encountered between deposits. The only way to accurately predict where a fossil deposit might be found is to actually dig into it but it is possible to make a few generalizations about the distribution of fossil deposits. All vertebrate fossils occur between the surface and a depth of about fifty-five feet. Below this depth, the sediments are marine and do not contain Rancho La Brea fossils.

They do contain marine invertebrate fossils which are not of tremendous importance but which would be useful in some scientific studies. All known major fossil vertebrate deposits occur between the surface and a depth of about 35 feet. Between depths of about 35 feet to 55 feet, fossils seem to be relatively uncommon but the potential for major deposits still exists.

Horizontally, most known fossil deposits have been clustered along a line running diagonally through Hancock Park from just east of the intersection of Ogden Drive and Sixth Street through the intersection of Curson Avenue and Wilshire Boulevard. However, isolated fossil deposits are known from as far away as three miles north of Hancock Park. Along the Wilshire Corridor, we know of fossil deposits directly beneath the intersection of Curson Avenue and Wilshire Boulevard, from the excavation for the California Federal Building at Hauser and Wilshire, and under the parking lot for the Prudential Building (just north of Wilshire Boulevard and east of Curson Avenue). The greatest potential for finding Rancho La Brea fossil deposits along the Wilshire Corridor exists between Ogden Drive on the west and La Brea Avenue on the east. However, they could be found as far west as La Cienega Boulevard and as far east as Highland Avenue.

Potential Impact

The proposed construction method, of tunneling at depths greater than 60 feet below the surface, is the best possible method with regard to minimizing impact upon the Rancho La Brea fossil deposits. Since these fossil deposits do not occur below 55 feet in depth, tunneling will have no impact upon them. The marine invertebrate fossils occurring

below 55 feet are fairly widespread and the destruction of them by tunneling is not significant.

Station construction, however, could seriously impact important paleontologic resources. Excavations for three of the proposed stations: Fairfax Avenue, La Brea Avenue, and Hauser Boulevard could run into La Brea fossil deposits. Any estimates of the probability of encountering one or more fossil deposits must, of necessity, be little more than educated guesses. I would estimate such probabilities as follows: Fairfax, five percent or less; La Brea, ten percent or less; Hauser, ninety-five percent or more. It is almost certain that an excavation between the surface and a depth of 35 feet near the intersection of Hauser and Wilshire will encounter at least one important fossil deposit. Naturally, the probabilities are dependent on the size of the excavation.

Recommendations

The following recommendations apply only to excavation work conducted at depths of above 55 feet along the especially sensitive area of the Wilshire Corridor between Highland Avenue and La Cienega Boulevard.

1. As noted in Appendix II. J., Part 3, of the Draft Report as supplied to me, a full time vertebrate paleontologist should monitor all excavation activity.
2. Prior to said excavation activity, arrangements should be made for the salvage and preservation of paleontologic materials which might be encountered.

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3. During detailed planning phases, knowledgeable vertebrate paleontologists and geologists should be consulted in order to minimize adverse impacts upon paleontologic resources and to minimize construction delays which could occur should important paleontologic resources be encountered.

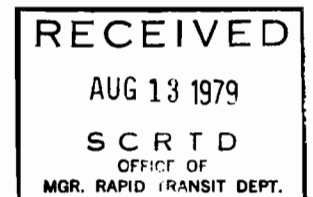
Finally, I would make one overall general recommendation for all excavation activities associated with any mass transit program. There is still much to be learned about the geologic structure and development of the Los Angeles area. Excavations are the only source for geologists and paleontologists to gain certain invaluable data which will not only solve academic problems but also practical ones such as soils engineering and earthquake hazards. Accordingly, local museum and university scientists should be permitted and encouraged to study and sample all excavation sites provided, of course, that their activities do not conflict with construction work.

If properly planned and executed, the proposed excavations could result in a positive rather than a negative impact upon paleontologic resources. We stand to learn more about the geology and paleontology of this area than would be otherwise possible.

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Respectfully submitted

William A. Akersten, Ph.D.  
Curator of Rancho La Brea  
George C. Page Museum  
5801 Wilshire Boulevard  
Los Angeles, California 90036



# THE LOS ANGELES CONSERVANCY

LETTER No. 46

August 10, 1979

Board of Directors  
Southern California Rapid Transit District  
425 S. Main Street  
Los Angeles, CA 90013

RECEIVED

AUG 14 1979

SCRTD. STG/11/11/11

TO: SCRTD Board of Directors

see Response # 40

SUBJECT: Draft of "Alternatives, Analysis, and Environmental Impact Statement/Report on Transit System Improvements in the Los Angeles Regional Core."

The Los Angeles Conservancy has received and is responding to the above-named document. The Los Angeles Conservancy is a broadly-based citizens' organization dedicated to the protection and enhancement of the historic built environment of the greater Los Angeles area. As such, we will be directing our comments primarily towards Section VII and Appendix II-J of the Draft.

Following a review of the information presented, we have identified three major areas of concern:

## 1. Methodology

The cultural-historic resources identified are compiled from previously existing resource lists and therefore do not represent a comprehensive listing. The bibliography and listing of source information shows clearly that there has been no primary or field research tailored to the proposed project.

The designation of secondary sources is occasionally confusing, specifically, the so-called "CRA Downtown Walking Tour." We have been unable to identify such a publication or source.

There has been no attempt to identify urban design features in the project area that might be impacted by the proposed project, including specific landscaping, elements, existing street lighting and other street furniture, and specific urban design contexts. Furthermore, these sections of the report contain no discussion or reference to city rehabilitation projects and other planned improvements that may impact cultural-historic resources.

The organization of the entire document is confusing and obscure, with no cross-referencing to other sections

# THE LOS ANGELES CONSERVANCY

p. 2

and volumes and no consistent pagination. Illustrations relating to cultural-historic resources are lacking.

## 2. Description and Analysis

The information on cultural-historic resources and the listing of impacts are superficial at best. In the Appendix, there is no qualitative or quantitative analysis of the various impacts identified, specifically:

- visual: impact of station and above-ground facilities on historic-cultural resources, urban design elements and contexts.
- noise/vibration: short- and long-term effects.
- physical: seismic safety (particularly in relation to unreinforced masonry buildings); demolition (partial or total), facade alteration, street widening, new construction within existing buildings.

The cultural resources dimension is not adequately integrated in other relevant sections of the report; specifically, in the Summary (E. Comparative Evaluation of Impacts and Alternatives), Environmental Impacts (IV.), and Aesthetics (V.F.).

## 3. Evaluation and Recommendation

The report contains no evaluation or recommendation regarding the effects of the project on cultural/historic resources.

A complete analysis and evaluation must include:

- Description of the resource.
- Current status of the resource.
- Probable effects of the project on the resource.
- Alternatives to avoid adverse impacts.
- Alternatives to mitigate adverse impacts.

The Draft EIS for the Los Angeles Downtown People Mover Project utilizes this recommended approach, and it is based on a comprehensive survey along the proposed route.

To conclude: In light of the above described inadequacies and omissions, the Los Angeles Conservancy judges that the report is unacceptable in its current form.

In order to create an adequate environmental impact document which will allow intelligent evaluation of the project alternatives, the following must be done:

# THE LOS ANGELES CONSERVANCY

P.3

1. A comprehensive site-by-site survey of the impact areas for the proposed project by a qualified professional team approved by the State Office of Historic Preservation.

2. A comprehensive analysis of probable effects on historic-cultural resources by the proposed project.

3. Recommendations of alternatives to avoid or mitigate adverse impacts on cultural resources and sites.

We look forward to your reply.

Sincerely,

*Barbara Thornburg (mb)*

Barbara Thornburg  
President

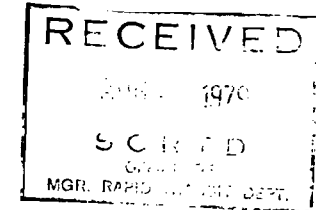
BT/mb

cc: Richard Smith  
Mayor Thomas Bradley  
City Council  
County Board of Supervisors  
State Office of Historic Preservation  
Advisory Council for Historic Preservation  
Los Angeles Cultural Heritage Board



600 South Commonwealth Avenue • Suite 1000 • Los Angeles • California • 90005 • 213/385-1000

LETTER No. 47



DATE: August 6, 1979

TO: Mr. Peter Broy  
Senior City Planner  
Rapid Transit Department  
Southern California Rapid Transit District  
425 South Main Street  
Los Angeles, California 90013

FROM: Metropolitan Clearinghouse

SUBJECT: Draft Alternatives Analysis/EIS/EIR on Transit Improvement Alternatives  
SCAG File Number LA-10608-ED

Thank you for submitting the environmental document for the referenced project for SCAG review. In accordance with procedures developed to comply with the clearinghouse guidelines for the review of voluntarily submitted environmental impact reports, we have disseminated information regarding the document to cities, counties and some special agencies which may be affected by, or interested in the project or the results of the environmental assessment. No comments were received in response to this areawide notification.

Additionally, the environmental document has been reviewed by SCAG staff to determine the relationship of your project and possible environmental impacts resulting from it to adopted regional policies, plans or programs. Staff-to-staff advisory comments generated through this environmental review process are listed below and are transmitted for your consideration.

The SCAG staff review found that:

1. The improvements of the Regional Core comprise a major element of the Transit Development Program which constitutes the long-range transit improvement plan for Los Angeles County.
2. The draft Alternatives Analysis/EIS/EIR provides a complete and accurate identification and evaluation of a wide range of transit development actions. The results of the analysis and environmental evaluation provide a comprehensive and substantive basis for selecting a final alternative for transit improvements. Results of this work provided a technical basis for identifying Alternative II as the recommended project in the Regional Transportation Plan (as amended).



3. No comments have been received in response to the inclusion of this project on the Bi-Weekly Clearinghouse Listing.

  
Clearinghouse Official

LK:cd



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AUG 7 1979  
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OFFICE OF

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS

INCORPORATED

METROPOLITAN LOS ANGELES SECTION

LETTER No. 48

August 7, 1979

WHEREAS, an urgent need exists to improve public transit within Los Angeles County; and

WHEREAS, we have witnessed a presentation and participated in a discussion of the Executive Summary of the Alternatives Analysis/ Environmental Impact Statement/Environmental Impact Report on Transit Improvement Alternatives in the Los Angeles Regional Core; and

WHEREAS, the implementation of a rapid transit system in Los Angeles will create a multi-modal, comprehensive transportation network contributing to energy conservation, air-pollution abatement, and individual and community-wide cost savings; and

WHEREAS, such a project would create thousands of jobs and be of great economic benefit to the entire County of Los Angeles; and

WHEREAS, a strong majority of the electorate of Los Angeles County voted in June of 1974, to permit the use of up to 25% of local gas tax funds for rapid transit construction; and

WHEREAS, further delays in the engineering and construction of a rapid transit starter line will result in further increased costs due to inflation; and

WHEREAS, the Metropolitan Los Angeles Section of IEEE believe Alternative #2 would be best for the Regional Core of Los Angeles.

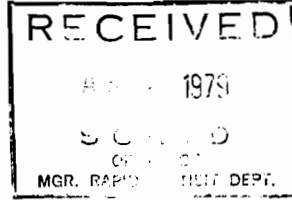
NOW, THEREFORE, be it resolved that the Metropolitan Los Angeles Section of IEEE strongly recommends and encourages the Board of Directors of the Southern California Rapid Transit District to adopt Alternative #2, and by copies of this resolution also strongly recommend and encourage the Los Angeles City Council, the Los Angeles County Board of Supervisors, and the Los Angeles County Transportation Commission to strongly endorse and support that action.

  
R. E. JORDAN  
1979-1980 Section Chairman



**POWER  
ENGINEERING  
SOCIETY**

August 7, 1979



LETTER No. 49

LETTER No. 50



**HOLLYWOOD REVITALIZATION COMMITTEE INC.**

6253 HOLLYWOOD BLVD. SUITE 1019 · HOLLYWOOD, CALIFORNIA 90028 · (213) 464 3184

WHEREAS, an urgent need exists to improve public transit within Los Angeles County; and

WHEREAS, we have witnessed a presentation and participated in a discussion of the Executive Summary of the Alternatives Analysis/ Environmental Impact Statement/Environmental Impact Report on Transit Improvement Alternatives in the Los Angeles Regional Core; and

WHEREAS, the implementation of a rapid transit system in Los Angeles will create a multi-modal, comprehensive transportation network contributing to energy conservation, air-pollution abatement, and individual and community-wide cost savings; and

WHEREAS, such a project would create thousands of jobs and be of great economic benefit to the entire County of Los Angeles; and

WHEREAS, a strong majority of the electorate of Los Angeles County voted in June of 1974, to permit the use of up to 25% of local gas tax funds for rapid transit construction; and

WHEREAS, further delays in the engineering and construction of a rapid transit starter line will result in further increased costs due to inflation; and

WHEREAS, the Los Angeles Chapter of the Power Engineering Society of the Institute of Electrical and Electronic Engineers believe Alternative #2 would be best for the Regional Core of Los Angeles.

NOW, THEREFORE, be it resolved that the Los Angeles Chapter of the Power Engineering Society of the Institute of Electrical and Electronic Engineers strongly recommends and encourages the Board of Directors of the Southern California Rapid Transit District to adopt Alternative #2, and by copies of this resolution also strongly recommend and encourage the Los Angeles City Council, the Los Angeles County Board of Supervisors, and the Los Angeles County Transportation Commission to strongly endorse and support that action.

*T. K. Hawkins*  
T. K. HAWKINS  
Chairman Los Angeles Chapter

August 8, 1979

Mr. Peter Broy  
Rapid Transit District  
425 So. Main St.  
Los Angeles, Ca. 90013

Dear Mr. Broy,

I am pleased to provide you this information.

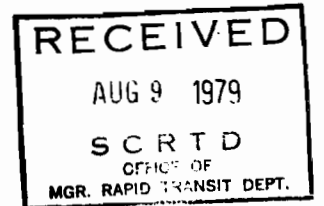
Enclosed are descriptions of additional sites of architectural and/or historical significance at the Las Palmas - Selma intersection. (40)

The joint development of this corner will have a negative impact on numerous historic resources. The long term impact on the Crossroads of the World and Grauman's Egyptian Theatre may very well be their destruction. Additionally, large residential structures adjacent to this corner will be disrupted.

Minimization of these impacts may be a relocation of this station. It appears that a station at the corner of Selma and Cabuenga would have less impact on historic resources. Your EIR should focus on the long term impact of joint development on Hollywood's historic resources. (2)

Regards,  
*Denver Miller*  
Denver Miller  
Hollywood Historic Survey Coordinator

DM/pc



#### Hollywood Baptist Church

The Hollywood Baptist Church, at the corner of Las Palmas and Selma, is a two-story Classical Greek Revival Church. The large front pedimented portico is supported by smooth Corinthian columns. A small round window is located in the middle of the pediment. Behind the portico is the gable of the structure which is also pedimented. Topping the structure is a tower and a cross. Classical detailing can be seen in the doors and windows. The structure is wood, stucco, and concrete.

#### Hollywood Newsstand

On the west side of Las Palmas, at the Gold Cup is an outdoor newsstand. This is an early type of newsstand that dominated cities before the advent of the auto. Such stands are now a rarity. They hark back to the days when streets were pedestrian oriented.

#### 1601 Las Palmas

1601 North Las Palmas is a two-story wood and stucco house on the northwest corner of Las Palmas and Selma. Stylistically, it is an international style building with links to the early Bauhaus, specifically the Viennese architects Wagner and Loos. The front facade is vertically tripartite and symmetrical. The central portion of this street facade is projected fully forward. The two sides step back to form three planes. This stepping back is seen in sections on both side facades. These side facades are also symmetrical; therefore, the rear facade becomes a variant of the front. It is basically a symmetrical building using a European architectonic system. The wood doorway has in its thin vertical elements a geometric rather than botanical reference and also alludes to early Viennese modern architecture, related to Art Nouveau.

The strongly emphasised flat roof with its thin overhang, the formal placement of the windows, and its white and green trim color are important.

The visible alterations are Spanish iron window grates on the first floor, the parking lot around the building, the block wall around the site and brick steps.

This building is very supportive to the surrounding area by: (1) its outstanding design, (2) its siting as a free-standing building, not just a decorative facade (unusual for Hollywood), and (3) its representation of an architectural style unusual in America at this early date (Cira 1925).

The house is now an institution called the Dolphin House and is in good condition but needs a lot of cosmetic work.

1618 Las Palmas

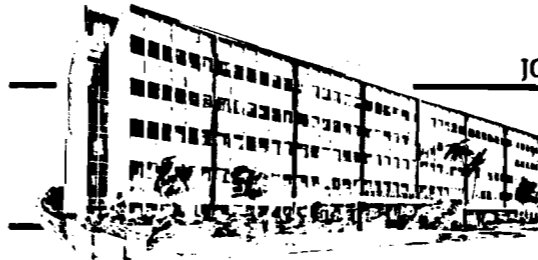
1618 N. Las Palmas, the UMS Building, is a two-story rehearsal studio-office building of stucco on the east side of Las Palmas between Hollywood Boulevard and Selma.

Stylistically, this building is Art Deco-Moderne on the facade of the usual plain warehouse-type building. The facade has a thickness to it that works very well with the regular fenestration. A squat stepped pyramid is on the flat roof to the left over the entrance. A flag pole sits dramatically on top. Very good geometric design panels are incorporated into the facade over the windows and door. Transoms are over the windows, and blue tile is below the first story windows.

Of importance are the large graphic letters announcing the name "UMS Building" on the facade.

As well as the obvious Deco-Moderne style of the facade there is an interesting Moorish feel due to the adobe-like thickness of the walls, its North African brown color, and its clean heavy lines.

A very compatible building that is in excellent condition, it has had no visible alterations.



JOINT COUNCIL OF TEAMSTERS NO. 42

International Brotherhood of Teamsters, Chauffeurs,  
Warehousemen and Helpers  
1616 WEST 9TH STREET • LOS ANGELES, CALIFORNIA 90015  
PHONE 383-4242 ROOM 500



LETTER No. 51

Michael J. Riley  
President  
Jerry L. Vercruse  
Vice President  
Karl H. Ullman  
Secretary-Treasurer  
George G. Hall  
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John S. Lyons  
Trustee  
Alex Maheras  
Trustee  
Delmar E. Seleska  
Trustee  
Paul Blinco  
Coordinator

August 3, 1979

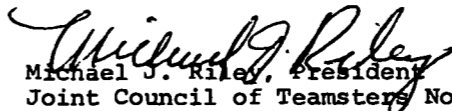
Mr. Marvin L. Holen, President  
Southern California Rapid Transit District  
425 South Main Street  
Los Angeles, California 90013

Dear Mr. Holen:

The Joint Council of Teamsters No. 42 has reviewed the S.C.R.T.D. Alternatives Analysis with respect to the proposed Regional Core Starter Line and strongly supports the basic project as defined by Alternative II.

We believe that rapid transit is absolutely essential to the future of Greater Los Angeles. Alternative II will conveniently connect the Central Business District with the San Fernando Valley and in addition, will provide access to the major Wilshire employment centers along with access to the museum and cultural complex of the Fairfax District. Also, of course, it will make access easy to the entertainment and restaurant areas of Hollywood and West Hollywood.

Sincerely,

  
Michael J. Riley, President  
Joint Council of Teamsters No. 42

MJR:ey

# Assembly California Legislature

COMMITTEES  
FINANCE, INSURANCE, AND  
COMMERCE  
GOVERNMENTAL ORGANIZATION

LETTER No. 52 -

**Tom Bane**  
Assistant  
Speaker pro Tempore

July 19, 1979

Marvin Holen, Chairman  
Rapid Transit District  
425 South Main Street  
Los Angeles, California

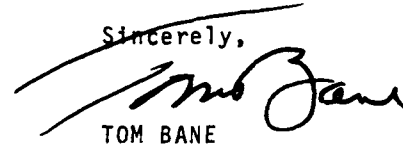
Dear Marv:

Please include in the transcript my support for developing a rapid transit starter line servicing the Wilshire Corridor and North Hollywood, which is in the San Fernando Valley.

It would be my hope that successful rapid transit service made available by this starter line would result in obtaining approval from the voters for a tax to thoroughly complete the system.

The energy shortage, as well as smog created by our jammed freeways, really demand developing an efficient rapid transit system.

Sincerely,



TOM BANE

TB:sc



A NON-PROFIT  
CORPORATION

1765 N. SYCAMORE AVENUE • HOLLYWOOD, CALIFORNIA 90028 • 474-0840

LETTER No. 53

July 27, 1979

**OFFICERS**

*Commandatore*  
(Honorary President)  
JACK L. WARNER

\*\*\*

*Harlequin*  
JOSEPH PASTERNAK

*Ferrari*  
HAROLD LEVENSON

*Macrus*  
MEL BLANC

*Punchinello*  
BILL HARDWICK

*Pantalon*  
ROBERT CLARK

*Croesus*  
ROBERT WHALEY

*Midas*  
BEN ROCHELLE

*Buffone*  
GEORGE WEST

*Historicus*  
ALLAN HERSHOLT

*Advocatus*  
ARTHUR M. APPLEBAUM

**JESTERATE**

MARVIN ALMEAS  
MUSHY CALLAHAN  
HAL K. DAWSON  
GEORGE GILFILLAN  
BILL HEYES  
RED HIPPLER  
GIL LAMB  
LEW LAURIA  
DICK McGRATH  
DAVID C. REED  
ROBBY ROBERTSON  
WILLIAMSKAHILL  
BUD SWEENEY  
CHARLES H. TARBOX  
TROY M. ZIGLAR

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JACK MULHALL  
PAT O'BRIEN  
CARROLL O'CONNOR  
JOHN QUALEN  
C. E. TOBERMAN  
DARRYL F. ZANUCK

Mr. Marvin Holen, President  
California Rapid Transit District  
4259 S. Main St.  
Los Angeles, Ca. 90013

Dear Sir:

The Masquers Club and I are very much in favor of Alternate #3, the route we feel will best serve the Hollywood community.

Hollywood has been our home for more than fifty years and we hope to carry on our traditions for many more years to come.

Sincerely yours,



Joe Pasternak

JP/dp

cc: Hollywood Chamber of Commerce

**PAST HARLEQUINS**

ROBERT EDESON - DOUGLAS MacLEAN - MILTON BILLS - SAM HARDY - MITCHELL LEWIS - ANTONIO MORENO - JOE E. BROWN  
LOWELL SHERMAN - FRANK MORGAN - PAT O'BRIEN - CHARLES CHASE - WILLIAM COLLIER, SR. - WILLIAM S. DAVIDSON - ROBERT  
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SINCE 1919

**TED H. SMITH AND SON Realtors**

7805 SUNSET BOULEVARD, SUITE 211 / HOLLYWOOD, CALIFORNIA 90046 / (213) 874-1810

LETTER No. 54

JULY 30, 1979

MR. MARVIN HOLEM, PRESIDENT  
RAPID TRANSIT DISTRICT  
450 S. MAIN ST.  
LOS ANGELES, CA 90013

DEAR MR. HOLEM:

OUR OFFICES BELONG TO THE HOLLYWOOD CHAMBER OF COMMERCE AND ARE ACTIVELY INVOLVED IN THE HOLLYWOOD REVITALIZATION PROJECT.

IN THE R.T.D.'S PLAN FOR A RAIL-TYPE, UNDERGROUND RAPID TRANSIT SYSTEM, DIFFERENT ROUTES HAVE BEEN PROPOSED. AFTER ALL ELSE, THERE DEFINITELY WILL BE A WILSHIRE CORRIDOR LINE RUNNING FROM DOWNTOWN TO THE OCEAN.

HOWEVER, ALTERNATE ROUTES ARE ALSO IN THE PLANS. THE HOLLYWOOD AREA NEEDS SUCH A ROUTE. I URGE YOU STRONGLY TO ALLOW ALTERNATE ROUTE #3 TO RECEIVE INITIAL FUNDING AND SUPPORT.

A DOWNTOWN ROUTE, THROUGH HOLLYWOOD AND INTO THE SAN FERNANDO VALLEY WOULD BENEFIT NOT ONLY A RAPIDLY EXPANDING REHABILITATION PROGRAM IN HOLLYWOOD, BUT ALSO THE TREMENDOUS COMMUTING POPULATION OF THE VALLEY.

THANK YOU FOR YOUR CONSIDERATION.

SINCERELY YOURS,

*Sean F. Grady*  
SEAN GRADY

SG:MS



LOS ANGELES AREA, INC.

1641 IVAR AVENUE • LOS ANGELES, CALIFORNIA 90028 • (213) 462-6904

LETTER No. 55

HONORARY PRESIDENT  
Mayor Thomas L. Bradley

PRESIDENT  
Jerold L. Miles

FIRST VICE PRESIDENT  
Don W. Stewart

VICE PRESIDENTS  
Patricia Bennett  
Bennett Doin  
Virginia Holley  
Alvin Malinow  
Vivian Osborn  
Rudolph Ostengaard

SECRETARY  
Anne Polim

TREASURER  
George Rosenstein

EXECUTIVE DIRECTOR  
Frank W. Cliff III

July 30, 1979

Marvin Holen  
President  
Board of Directors  
So. Calif. Rapid Transit District  
425 South Main Street  
Los Angeles, California 90013

Dear Mr. Holen:

On behalf of USO-Los Angeles Area, I would like to take this opportunity to make you aware of our support for Alternative Three in the upcoming discussions regarding transportation corridors.

Alternative Three would undoubtedly be the most beneficial route for USO constituents and we feel that it is the most positive route for the community in general as well.

Alternative Three not only passes LA City College, Children's Hospital, Kaiser, Orthopedic, and numerous shopping areas in the Hollywood area, but it also assists the very young and the very old in our community in moving from area to area with ease.

There are many crucial locations in the Hollywood area and Alternative Three would serve most of them.

We therefore strongly recommend your support of Route Alternative Three and thank you in advance for your support in this matter.

Sincerely,

USO-LOS ANGELES AREA

*Mike La Rocque*  
Mike La Rocque  
Assistant Director/  
Director of Public Relations

MLR:rm

cc: Hollywood Chamber





CITY OF LOS ANGELES  
**Citizens Bicycle Advisory Committee**

LETTER No. 56

July 31, 1979

Marvin Holen, President  
 Board of Directors  
 Southern California Rapid Transit District  
 425 S. Main Street  
 Los Angeles, California 90013

Dear Mr. Holen,

This letter is in response to your request for public opinion on the Alternatives Analysis and Environmental Impact Statement/ Report on Transit System Improvements in the Los Angeles Regional Core, May 18, 1979.

At its meeting of July 9, 1979, the City of Los Angeles Bicycle Advisory Committee voted to recommend that any plans for improvements in the public transportation system include special provisions to accommodate and encourage the use of the facilities by bicyclists. Specifically, we are aware that the BART trains in the Bay Area allow bicycles to be taken onto the cars and that bicycle lockers are provided at the various stations. This is an example of the type of accommodations that are necessary to encourage the use of this energy conserving means of transportation.

We would like to invite you to contact this and other bicycle organizations during the design of such bicycle accommodations.

Thank you for your consideration of this recommendation.

Yours truly,

*Alex Baum*

ALEX BAUM  
 Chairman  
 Bicycle Advisory Committee  
 9055 Woodman Avenue  
 Arleta, California 91331



13TH DISTRICT  
 CITY HALL  
 LOS ANGELES, 90012  
 485-3353

**Peggy Stevenson**

Councilwoman, City of Los Angeles

CHAIRWOMAN  
 POLICE, FIRE AND  
 CIVIL DEFENSE COMMITTEE  
 VICE CHAIRWOMAN  
 RECREATION AND PARKS COMMITTEE  
 MEMBER  
 PUBLIC HEALTH, WELFARE  
 AND ENVIRONMENT COMMITTEE  
 MEMBER  
 RULES COMMITTEE

LETTER No. 57

August 6, 1979

Mr. Marvin L. Holen, President  
 Board of Directors  
 Southern California Rapid Transit District  
 425 South Main Street  
 Los Angeles, California 90013

Dear Mr. Holen:

This is to inform you that I favor Alternative III - Vermont Corridor of the Rail Transit Alternatives. I am joined in this by a great number of my constituents.

Thank you for your favorable consideration.

Sincerely,

*Peggy Stevenson*  
 PEGGY STEVENSON  
 Councilwoman  
 13th District

cc: Mr. Michael Sims, Hollywood Chamber of Commerce  
 Mr. Marshall Caskey, Revitalize Hollywood Committee



LETTER No. 58

August 6, 1979

Mr. Richard Smith, Community Planner  
Office of Planning Assistance (UPM-12)  
Urban Mass Transportation Administration  
400 7th Street, S.W.  
Washington, D.C. 20590

RECEIVED

AUG 8 1979

SCRTD. SECRETARY

Dear Mr. Smith:

The following are my comments on the Draft Alternatives Analysis/Environmental Impact Statement/Report on Transit System Improvements in the Los Angeles Regional Core. As a long time resident of Los Angeles and a registered professional engineer, I am particularly interested in solutions to our transportation problems.

A review of the contents of this report leads to the conclusion that Alternative II provides the highest level of benefits and is the most logical choice of the eleven alternatives, including the "do-nothing" alternative. The back-up material supporting numerical comparisons appears to be thorough. If anything is to be faulted, certain assumptions seem to be conservative so as to show the bus alternatives to their best advantage. However, with rail assigned the task of long-haul, buses are employed in their best use, local and feeder service.

Supporting the selection of Alternative II are data that demonstrate it will produce the highest total boardings on regional lines, the least total daily auto trips and vehicle miles traveled, and the highest reduction in parking spaces needed in the central business district. Further, the projected operating cost per passenger mile is lowest for Alternative II, and although small, the greatest reduction in atmospheric pollutants will be realized. Any decrease in use of internal-combustion-engine road vehicles will be a positive factor in reducing emissions.

Concerning daily ridership figures, I would question the validity of assuming that Alternative VI will handle as many riders as Alternative I. Although traveling on exclusive busway, buses would operate at slower speeds than rail vehicles, would inherently have reduced capabilities due to manual operation, and would be subject to problems arising from the close headways required to match the capacity of rail cars. Also, the assumption is doubtful that Alternative VI would divert as many motorists from their autos as Alternative I. My personal observations indicate that rail transportation possesses characteristics which are more attractive than buses to potential riders who are not public transit dependent.

Figures in the report show that the annual operating subsidy required will be lowest for Alternative II among the rail alternatives and considerably less than needed for the bus alternatives, including the "do-nothing" choice. In fact a quick calculation reveals that compared to doing nothing, savings

in annual operating subsidy at the 1990 rate will pay for the entire local share of implementation funding in less than ten years.

Other comparisons point up the advantages of rail over bus. Travel time between North Hollywood and the central business district would be 20 minutes less by rail than bus. From North Hollywood to Miracle Mile rail would save 35 minutes over existing services. Traction energy per passenger mile is least for rail rapid transit compared to bus and auto. Buses rely on petroleum fuel while rail transit utilizes electric energy which can be generated from sources other than petroleum. Local share dollars are more readily available to complete the total necessary funding for rail than the all-bus alternatives.

Adverse environmental impacts of rail transit are relatively minor. Those of an archeological or visual nature and noise, vibration, and displacement of structures can be largely mitigated by deep tunnel boring. Even on an overhead structure, train noise can be almost negligible. Standing in a BART aerial station parking lot about 200 feet from the track, I was unaware of a train starting to move until I happened to glance upward.

Text and tables refer to six-car trains. As system patronage grows and during periods of exceptionally heavy travel, this is likely to become inadequate. During initial construction provision should be made for the future extension of station platforms to accommodate eight- or ten-car trains.

The rail alternatives place the Hollywood station at Las Palmas and Selma. Moving it easterly to a more central location in the Hollywood retail business area would provide greater convenience to transit patrons.

A statement is made that the estimated power requirements for this project are an "insignificant" part of the total load growth forecast for Los Angeles. Any load such as this has some significance, but substitution of the word "inconsiderable" would place the statement in better perspective. A rail transit system demand of 41.5 megawatts is roughly equivalent to the load of a large commercial building complex such as the Atlantic-Richfield Plaza on South Flower between 5th and 6th Streets. Although future generating facilities to supply load growth beyond the mid 1980's are not firm at the present time, it would seem reasonable that a rail transit system which reduces overall transportation energy use should be given priority in the distribution of available electric power.





THE HOSPITAL OF THE GOOD SAMARITAN  
AN AFFILIATED HOSPITAL OF THE UNIVERSITY OF SOUTHERN CALIFORNIA  
616 South Witmer Street, Los Angeles, California 90017 • (213) 488-8181

August 7, 1979

Board of Directors  
Southern California Rapid Transit District  
425 South Main Street  
Los Angeles, California 90013

Gentlemen:

The Hospital of the Good Samaritan would like to express its support for the construction of a high speed rail/bus rapid transit system in the Los Angeles Regional Core.

The Hospital of the Good Samaritan is a 411-bed acute care referral hospital located near Wilshire Boulevard on South Witmer Street. It is dedicated to providing innovative, highly technical medical care including many specialized services not available at all local hospitals. Because of this, we serve patients from all over the Los Angeles Basin in addition to providing care for the surrounding community. In order to meet the health care needs of our population, health care services must be not only available but easily accessible. An efficient public transportation system like the proposed rail/bus system could increase the accessibility of our institution to our patient population. In addition, many of the Hospital staff commute from other areas of Los Angeles. In this era of rising gas prices and increasing air pollution, alternate means of efficient public transportation would be beneficial to our employees and the well-being of the community. We feel that the present alternative to the private automobile is not adequate to meet the needs of either our patients or our staff.

We agree with the study's conclusion that a version of the high speed underground railway with a feeder bus system is the most desirable solution in terms of efficiency, long-range operating costs, and environmental impact. It is hoped, however, that construction of this system as proposed is viewed as a starter line and will be extended throughout the Los Angeles area in the near future.

The choice of the Los Angeles Regional Core as the starting point for a rail/bus system is supported by the Hospital in view of the high employment and residential population density and the lack of freeway access in this area. However, the Hospital recommends that an additional station be constructed in the vicinity of Wilshire Boulevard

The Los Angeles area ranks third among the twelve most densely populated regions in the United States. It is the only area of the twelve that does not have either an operating rail transit system or one under construction. This should be a clear indication that we are headed for serious trouble, particularly in view of the prospect of diminishing petroleum supplies. It is imperative that we proceed as rapidly as possible to construct the Wilshire rail line as Element IV of the Regional Transit Development Program.

Sincerely,

T. A. Nelson  
2563 Dearborn Drive  
Hollywood, CA 90068

cc: Board of Directors ✓  
Southern California Rapid Transit District  
425 South Main Street  
Los Angeles, CA 90013

31

RECEIVED

AUG 9 1979

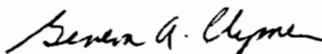
SECRETARY

Board of Directors  
Southern California Rapid  
Transit District  
Page Two

and South Witmer Street or Lucas Avenue. Under the proposed alternatives the closest station to the Hospital would be at Wilshire Boulevard and Alvarado Street. For elderly or ill patients, the distance would be too great to walk and would require an additional bus transfer. A medical office building is presently being constructed on the corner of Wilshire and Witmer. This could substantially increase the flow of people and patients in this area. By providing a rail station in the vicinity of the Hospital, we would be increasing necessary accessibility to health care services.

The Hospital of the Good Samaritan feels that it is time to take action on improving the Los Angeles Rapid Transit system. We support a rail/bus system as proposed in Alternatives 2 and 3. It is hoped that due consideration will be given to the recommendation of an additional station in the vicinity of the Hospital as we feel that accessible public transportation is a vital component in health care delivery.

Sincerely,



(Mrs.) Geneva A. Clymer  
Executive Director

GAC:mt

**Ramsey-Shilling Co.**  
Commercial Brokerage

Sales  
Leases  
Counseling

LETTER No. 60

RECEIVED

AUG 9 1979

SCRTD. SECRETARY

August 7, 1979

Board of Directors  
Southern California Rapid Transit  
425 S. Main St.  
Los Angeles, Calif. 90013

Re: The proposed route of the new mass transit system

Dear Gentlemen:

I strongly support the adoption of Route 3 over the proposed Route 2 for the mass transit routing.

It is apparent that Route 3 is a compromise in an effort to serve as many areas with one route as possible. It is neither fish nor fowl. It does not adequately support either of the areas. If the ultimate mass transit system is expected to be viable, then it would be desirable to have each leg optimized to provide the best service to the respective areas. It is generally understood that the next phase would provide service from downtown through the Wilshire corridor out to the Century City area and beyond. This route would provide better service to the Wilshire area than would be provided by the compromised Route 2.

It makes little difference which major route is developed first, as long as both are ultimately developed.

To have a viable mass transit system, areas of high population density should be served. Route 2 would not serve the high density areas of Hollywood as well as the Route 3. It is important to select routes that will result in the strongest possible mass transit system when the system is ultimately fully



-2-

August 7, 1979

developed. It would be indeed unfortunate if the performance of the final system was compromised by selecting an initial route based on political considerations and the desire to be the first selected, as opposed to the final result.

I trust that your careful consideration will result in the strongest possible mass transit system for Los Angeles.

Sincerely,

Bruce L. Canfield

BLC:ls

CC: Mr. Mike Simms

# News

FOR IMMEDIATE RELEASE

Contact: Steve Lantz  
(213) 553-4062

WESTSIDE RAPID TRANSIT LINK URGED BY  
CENTURY CITY CHAMBER OF COMMERCE

RECEIVED

AUG 9 1979

SCRTD. SECRETARY

SCRTD Board of Directors has been urged by Century City

Chamber of Commerce to consider linking Beverly Hills, Century City and Westwood/UCLA, according to the Chamber's Transit Chairman Warren Martin, of Tosco, Inc.

The Chamber is leading an effort to convince SCRTD to extend its starter line to serve the Westside. As one of eleven alternatives, SCRTD has proposed, as Alternative II, an 18-mile starter line rail subway system that would connect downtown to Wilshire and Fairfax, then tunnel under Hollywood to North Hollywood in the San Fernando Valley.

4

According to Martin, "The Chamber Board supports this Alternative since it comes closest to the Westside, but we are strongly urging RTD to extend the subway under Beverly Hills and Century City to Westwood/UCLA."

RECEIVED

AUG 9 1979

"We feel SCRTD will find that the Wilshire line better meets the following seven RTD evaluation criteria: cost, community and regional planning objectives, community and political support, patronage projections, usability as a segment if no further rail transit is constructed, speed of construction and fundability."



CENTURY CITY CHAMBER OF COMMERCE

2020 AVENUE OF THE STARS · PLAZA LEVEL · LOS ANGELES, CALIFORNIA 90067 · (213) 553-4062

SCRTD is accepting public letters and comments on its proposals until August 12. For additional information contact the SCRTD Board of Directors, 425 S. Main Street, Los Angeles, California 90012, or call Warren Martin, at 552-7154.

####

8/6/79

Century City Chamber of Commerce  
Position Paper  
Rail Transit System  
Adopted August 1, 1979

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 ROY WERBEL  
Publisher  
Century City News  
 PATRICIA WYSKOCIL  
Vice President  
1st Los Angeles Bank

The time for a rapid-transit subway system in Los Angeles is now! In the face of a long-term energy shortage, transportation habits and patterns must change. These changes will not be made easily or quickly, but they are inevitable.

We can allow events to shape our lives and react to each energy interruption, or we can shape events with planning and commit ourselves to a long-term alternative for Los Angeles. The choice is ours; but we must commit now, not next month or next year.

In the spirit of consensus and unified action Century City Chamber of Commerce supports Alternative II which was proposed by RTD and unanimously endorsed by the Los Angeles City Council.

With this alternative Century City can be linked to the closest subway terminal at Fairfax and Wilshire by express bus. Over 5,000 daily commuters could use the subway/express bus system from the San Fernando Valley and Downtown.

While we support Alternative II among the eleven RTD proposals, we strongly urge an immediate alternative analysis of a Westside extension of the subway system, which would serve Century City, Beverly Hills and UCLA/Westwood. This alternative, which has always been projected to carry the most patrons, was not even analyzed or proposed by SCRTD. We hereby request that:

- 1) An alternative analysis be immediately prepared by the RTD for the Westside extension.
- 2) This analysis be included in the presentation to the Federal Urban Mass Transit Authority.

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AUG 9 1979  
SECRET



We feel SCRTD will find the Westside extension is justified, based on the following seven SCRTD evaluation criteria:

- 1) Cost;
- 2) Community and regional planning objectives;
- 3) Community and political support;
- 4) Patronage projections;
- 5) Useability as a segment if no further rail transit is constructed;
- 6) Speed of construction; and
- 7) Fundability.

We must meet the challenges of energy, transportation and public confidence. Adequate and timely solutions require action now.

We support the starter line. We urge the inclusion of a Westside extension. We advocate a unified approach. If the Westside extension cannot be achieved in Phase I, we support Alternative II and urge that the Westside extension become Phase II.

WM:SHL:eg

*Church of the Blessed Sacrament*

6657 SUNSET BOULEVARD, HOLLYWOOD, CALIFORNIA 90028 · (213) 462-6311

August 3, 1979

The Board of Directors  
District's Rapid Transit Department  
425 Southern Main Street  
Los Angeles CA 90013

Gentlemen:

COMMUNITY LIFE  
COMMITTEE MEMBERS

Our committee for community life in Hollywood has examined your suggested plans for a Rapid Transit System from central Los Angeles to North Hollywood.

VI SWANSON

We will whole-heartedly support plan number III in whatever way that may be possible. Many reasons suggest this action. Namely, ARC has allocated seven million dollars for expansion. Major expansion plans are scheduled by KTTV, KTLA and TAV. A new one thousand room hotel is projected for the Vine Street area. Besides these, revitalizing expansion plans are scheduled by Columbia Pictures and Paramount. Added to these, three new shopping centers, such as Ghiradelli Square, in San Francisco, are now planned for the Hollywood Vine Street neighborhood. Also there is a plan for a seventeen story expansion for Holiday Inn. For the near future large expansions are on schedule for Children's Hospital, for Kaiser Hospital and for the Mental Hospital. At least two theatres have expansion plans namely Pantages and, I think, Aquarius. Not least our Chamber of Commerce has extensive plans in depth for revitalizing Hollywood.

RUTH O'CONNOR

EDITH ABRAHAMS

JULIE PARR

GEORGE ANDERSON

LEONARD REEGS

GEORGE ABRAHAMS

All these improvements will bring crowds of people to Hollywood. Their needs for gasoline could be counteracted by your plan number III going through Hollywood.

REV. EUGENE A. TONER, S.J.

Basically, we prefer the Rapid Transit to travel either Vine or Vermont Streets to Highland and there turn north through the Pass. This seems shorter and would be less expensive. Less expansive projects but real and vital are planned by the YMCA and for the property of Rancho Market.

Need for Rapid Transit in this area is the need of our immediate tomorrows. Foresight now may prevent difficult traffic problems at the times and places where they are and will be most needed.

Sincerely

*Ruth O'Connor*  
Ruth O'Connor  
Secretary

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AUG 8 1979

SCRTD. SECRETARY



**BEVERLY HILLS  
CHAMBER of COMMERCE  
& CIVIC ASSOCIATION**

239 South Beverly Drive, Beverly Hills, Calif. 90212  
271-8128 • 272-2464

LETTER No. 64

SILVERMAN, KATZ, FRAM & CO.  
CERTIFIED PUBLIC ACCOUNTANTS

ALBERT B. SILVERMAN, C.P.A.  
HAROLD L. KATZ, C.P.A.  
ARNOLD I. FRAM, C.P.A.  
ALAN B. KIMMEL, C.P.A.  
HOWARD D. LEITNER, C.P.A.  
LEONARD ZANDER, C.P.A.

LETTER No. 63

CENTURY CITY NORTH BUILDING  
10100 SANTA MONICA BOULEVARD  
SUITE 1060  
LOS ANGELES, CALIFORNIA 90067  
TELEPHONE (213) 879-2811

August 6, 1979

OFFICERS: August 8, 1979

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CHARLES BOLLA  
First Vice-President

FRED HAYMAN  
Second Vice-President

JACK HUFF  
Treasurer

JOHN F. GLICK  
Executive Vice-President

DOROTHY CHILKOV  
Manager

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DORIS FIELDS

BERNICE HUTTER

BRUCE MEYER

KEN NORIAN

PATRICIA J. BREAMS

ROSS J. REITZ

BENJAMIN F. SANFORD

ROBERT SILBERMAN

DAVID SMITH

SOLOH C. SOTERAS

W. HOWARD STURGEON

NELSON YOUNG

Board of Directors  
SCRID  
425 So. Main Street  
Los Angeles, California 90013

Gentlemen:

Your Alternative II proposal is certainly a step in the right direction. However, it doesn't extend far enough.

Before presenting this proposal to the FUMTA next year we urge you to:

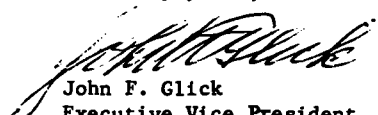
- a. Make an analysis for the so-called Westside extension to include Beverly Hills, Century City and Westwood.
- b. Include this analysis in the presentation to the FUMTA.

We have been under the impression that past studies have shown that the Westside corridor would carry the most patrons!

If correct, why not concentrate your efforts along this corridor? Yes, the costs will be higher to complete, but if they are delayed until the year 2000 the costs will be triple at least!

If I am not correct in my statement about patronage of the Westside corridor, please send me your current statistics.

Sincerely yours,

  
John F. Glick  
Executive Vice President

JFG:ak

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AUG 9 1979  
SCRID. SECRETARY

Board of Directors  
Southern California Rapid  
Transit District  
425 South Main Street  
Los Angeles, California 90013

Re: Proposed Subway Line Along  
Wilshire Boulevard

Gentlemen:

I am writing in support of the proposed subway starter line running from the downtown area via Wilshire Boulevard to Fairfax and north to North Hollywood. While I support this line on an unqualified basis, I would urge you to immediately undertake an alternative analysis of extending the Wilshire subway to the west through Beverly Hills and Century City to UCLA/Westwood. (4)

One need only take a look at the ridership on the Wilshire bus in connection with the massive employment centers that are located in the above three communities, to realize the magnitude of the population which could be served by this extension.

While it is only an assumption on my part, it would appear that the three communities would probably constitute the singularly largest population pocket (residential, employment and student) in the entire Los Angeles region.

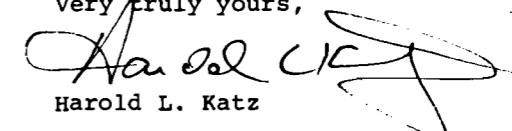
While I would not anticipate the extension being tacked on to the starter line, now is the time to begin to plan that extension.

I would also point out that there are no alternatives for the West Los Angeles area in that none of its streets are designed to carry the kind of traffic load which it is currently carrying, without even giving consideration to the increase in traffic which is going to take place.

By tying an extension into the starter line, you would be connecting West Los Angeles not only with the downtown area but with the Hollywood and Valley areas.

Very truly yours,

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AUG 8 1979  
SCRID. SECRETARY

  
Harold L. Katz

HLK:pri



LETTER No. 65

August 10, 1979

Richard Smith  
Urban Mass Transit Agency  
400 7th Street, S.W.  
Washington, D.C.

see Responses # ① ② ③ ④

Dear Mr. Smith:

The Hollywood Chamber of Commerce would like to formally respond to the draft alternatives analysis for Rapid Transit prepared by the Southern California Rapid Transit District and the Los Angeles City Planning Department. We would appreciate having our comments presented and responded to in the final Environmental Impact Report/Environmental Impact Statement (EIR/EIS) document.

We wish to point out several areas in which we believe the draft Report/Statement is technically deficient.

We believe that ridership potential was undercounted for Alternative #3, particularly in the Sunset/Vermont hospital complex, the Los Angeles City College/Braille Institute Educational complex at Melrose and Vermont, and for the entertainment zone along Hollywood and Sunset Boulevards.

Specifically, it is our understanding the daily attendance at the three major hospitals near Sunset/Vermont alone, was 18,000, while the report states that the area generates only 9,000 trips per day. Other businesses in the area surely can only widen the gap between the true count and the reports suspects statistic.

The same undercount pattern can be seen at Los Angeles City College where 70% of students already use public transit according to the president's office. The Braille Institute is almost totally dependent on public transit.

Mr. Richard Smith  
Page two

The Hollywood entertainment district is severely undercounted and in some cases, major trip generators are not included in the study sample. The Pantages and Aquarius Theatres, with 3600 seats averaging over 90% of capacity for their performances are not included. Together, they hold the potential for 1.25 million transit trips a year, but remain omitted from the study.

We also believe that a large percentage of tourists, a 3,000,000 person figure, has been all but omitted from the calculations, as have large percentages of the other 57,000 entertainment seats in Hollywood with the exception of the Hollywood Bowl.

It is also disturbing to us that no account was taken by the report of the development activity currently taking place in Hollywood along the Alternative #3 Route.

A 950-room hotel employing 1700 individuals, a 450-room hotel expansion employing hundreds more, a regional shopping center for which land has been assembled employing at least 2,000 and accommodating hundreds of thousands of shoppers, are all being built along Alternative #3 and all are missing from the report, both as transit trip generators and as joint development opportunities.

On the other hand, the study does not, in our opinion, properly discount the employee transit trips of Prudential Corporation which is moving its employment base to Westlake Village in the next few years.

Nor has the study included the fact that Broadway will close its department store Wilshire and Fairfax prior to the planned completion of the line.

We strongly believe that the technical omissions and deficiencies mentioned above render the underpinnings of this report at suspect at best. We believe that until these and other factors of the data base are restudied, any decisions drawn from them cannot be trusted as a firm course for the federal government to follow in funding this project's development.

The Hollywood Chamber of Commerce supports the development of Alternative #3 as do virtually all of our community's home owners associations, education and religious institutions, major employers and other interest groups. We all believe that the line is \$200 million dollars cheaper to build than Alternative #2, will serve more people, more of whom are transit dependent, in a shorter time throughout all hours of the day, rather than simply during traditional commuting times.

We suggest, however, that several meaningful alternatives to both lines remain to be thoroughly examined.

Mr. Richard Smith  
Page three

Post Office Box 589  
Los Angeles, Calif. 90053  
August 11, 1979

LETTER No. 66

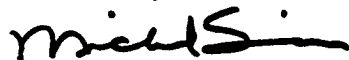
A line which included all of Alternative #3 with a portion running from Vermont west to Fairfax along Wilshire, would serve all major areas of Alternative #2 and #3 with higher patronage than either line individually, and at the same length and cost as the development of Alternative #2 alone.

Other alternatives that have been suggested, include utilizing either Western or Vine Street as a northern tangent instead of Vermont.

Finally, as a comment on Alternative #2 alone, we wish to reiterate our position that should a transit stop be located in the Hollywood core, it should be placed in the Cahuenga and Hollywood or Sunset Boulevard area rather than in the Seima/Las Palmas area that the report recommends. The latter intersection is a backwater of the core area studded with small scale residential development, churches and shops which would be adversely impacted by numerous transit patrons. Conversely, the former area is in the midst of new growth on a scale that will accommodate a major transit station.

We appreciate the opportunity to comment on the EIR/EIS and strongly urge your careful consideration of our comments.

Sincerely,



Michael Sims  
Executive Director



Sheldon Davidow  
Director, Economic Development

MS/SD:dd

cc: Councilwoman Peggy Stevenson  
Suzanne Flinton, Revitalize Hollywood Committee  
Marvin Holen, Southern California Rapid Transit District

Mr. Marvin L. Holen, Director and President  
Southern California Rapid Transit District  
425 South Main Street  
Los Angeles, California 90013

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AUG 13 1979

SCRTD. SECRETARY

Dear MrHolen,

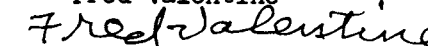
Is there any reason any and every person living 60 miles from downtown Los Angeles should not be able to arrive at this downtown area within 45 to 60 minutes making use of a transit system like the one proposed that would run under Wilshire Boulevard, high speed (isolated from automobile traffic) street car lines as feeder lines for the main transit lines and bus lines making use of streets? And is there any reason such a transit system could not be a money maker even with fares being kept to a very low figure? The statements expressed in this letter up to this point and at this time is just a dream. Is there any reason can not become a reality at a later time? Of course there isn't! This is because the R T D starter line from the Union Depot and continuing under Wilshire Boulevard is a step in the right direction!

To help the statements expressed in the paragraph above become a reality I decided at this time to make the following suggestions: (1) construct a roadbed and rail system that will permit a top speed of 150 miles per hour, (2) have the trains designed to be able to travel at 100 miles per hour, (3) build this transit system so automatic operation of this transit system can be added to it rather than alterations having to be made to make use of automatic operation at a later time, (4) design the station stops so if at later times it is found practical to use high speed feeder street car lines additions only rather than alternations, (5) do some planning now for a parallel bore under the proposed R T D rail starter line to accommodate a high speed street car line to serve as a parallel feeder line to stop at each one of the stations. I think it would be economically practical later on for the proposed R T D rail transit system to make stops spaced out 5 to 10 miles apart so considerable time could be saved in using this transit system as use of high speed street cars would (I suggest make use of all stops. and (6) In order to make the proposed R T D rail starter line a reality that might otherwise be planned that both day and evening construction operations take place because Los Angeles so badly needs this transit system.

Why are both Supervisor Baxter Ward and Mayor Tom Bradley at odds with one another regarding a transit system for Los Angeles. This great city needs both transit system ideas! I am a great admirer of both Mayor Bradley and Supervisor Ward and so look forward very much to the day both of these persons can agree with one another resulting in Los Angeles being served by Baxter Ward's idea and the R T D rail transit idea both being operated and owned by R T D.

In closing I say get started with the R T D rail starter line!

Yours very truly,  
Fred Valentine





MAILGRAM SERVICE CENTER  
MIDDLETOWN, VA. 22645



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LETTER No. 67

BOARD OF DIRECTORS  
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT 425 SOUTH MAIN ST  
LOS ANGELES CA 90013

THIS IS A CONFIRMATION COPY OF A PREVIOUSLY PHONE-DELIVERED TELEGRAM

I WOULD LIKE TO EXPRESS AS UCLA'S CAMPUS AND COMMUNITY PLANNING  
OFFICER OUR SUPPORT FOR ALTERNATIVE TWO AND STRONGLY SUGGEST...EVEN  
URGE...THAT AN ADDITIONAL ANALYSIS FOR THE WESTERN EXTENSION  
ALTERNATIVE BE PREPARED BY RTD FOR PRESENTATION TO THE FEDERAL URBAN  
MASS TRANSIT AUTHORITY.

4

GEORGE A VAJNA PHD OFFICE OF THE CHANCELLOR UNIVERSITY OF CALIFORNIA  
ROOM 2107  
LOS ANGELES CA 90024

15154 EST  
MGMCOMP MGM

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AUG 13 1979  
SCRTD. SECRETARY

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AUG 13 1979  
SCRTD. SECRETARY

# San Fernando Chamber of Commerce



502 South  
Brand  
Boulevard  
San Fernando  
California  
91340  
(213) 361-1184

LETTER No. 68

August 9, 1979

Mr. Marvin Halen, President  
Southern California Rapid Transit District  
425 South Main Street  
Los Angeles, California 90013

Dear Mr. Halen:

The San Fernando Chamber of Commerce has received information on the Rapid Transit Starter Line for Los Angeles pursuant to making a decision to support or appeal the plan.

One of the conditions that would have to be met if we were to take an affirmative stand, is an assurance that Alternative Plan #2 be adopted and with it, a firm commitment that the line extend to the Valley.

If Alternative Plan #2 were adopted, would the R.T.D. be obligated to complete the entire project? If finances were depleted before the project was completed is there the possibility that the Valley would not be included, or left out?

65

For the San Fernando Chamber to support the Starter Line we would have to be assured it will serve the Valley. Any information you could supply to answer these questions would certainly be appreciated, and would assist us in making a recommendation.

Sincerely,

Viki Rudolph  
Executive Vice President

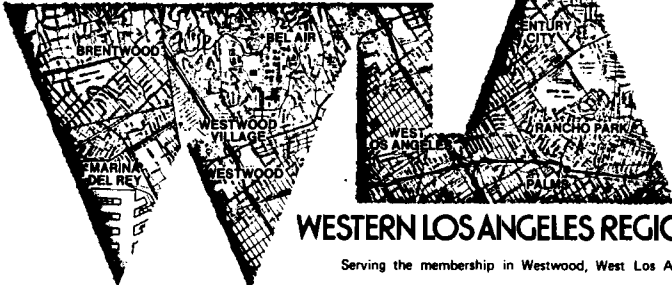
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SCRTD. SECRETARY

"The City With a Tradition"

CR-8-1096 - PART 5th fl  
7th fl  
Gallagher

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AUG 14 1979  
Passenger Service  
U.S.  
LETTER No. 69



**WESTERN LOS ANGELES REGIONAL CHAMBER OF COMMERCE**

Serving the membership in Westwood, West Los Angeles, Bel Air, Brentwood, Century City, Rancho Park

SCRTD  
Page 2

We strongly support the starter line and urge you to take every step necessary to insure that the Westside extension becomes a reality.

Sincerely,

DORI PYE, CCE  
President

DP/ch

August 10, 1979

Due Date

AUG 24 1979

Southern California  
Rapid Transit District  
425 South Main Street  
Los Angeles, Ca 90013

Gentlemen:

On behalf of the members, and as President of the Western Los Angeles Regional Chamber of Commerce, I would like to take the time to urge you to consider an immediate alternative analysis of a Westside extension of the subway system, which would serve Century City, Beverly Hills and UCLA/Westwood.

This alternative, which has always been projected to carry the most patrons, was not even analyzed or proposed by SCRTD. As a results we hereby request that:

- 1) An alternative analysis be immediately prepared by the RTD for the Westside extension.
- 2) This analysis be included in the presentation to the Federal Urban Masss Transit Authority.

4

We feel SCRTD will find the Westside extension is justified, based on the following seven SCRTD evaluation criteria:

- 1) Cost;
- 2) Community and regional planning objectives;
- 3) Community and political support;
- 4) Patronage projections;
- 5) Useability as a segment if no further rail transit is constructed;
- 6) Speed of construction; and
- 7) Fundability.



# ASSOCIATED STUDENTS

LETTER No. 70

LOS ANGELES CITY COLLEGE, 855 NORTH VERMONT AVENUE, LOS ANGELES, CALIFORNIA 90029 (213) 663-9141, Ext. 305 (213) 661-8733

August 10, 1979

Board of Directors of the  
Southern California Rapid Transit District  
425 South Main Street  
Los Angeles, CA 90013

RE: PROPOSED NORTH VERMONT RTD ROUTE

Dear Sir:

The implementation of the North Vermont Alternative III will be extremely important to a large number of students of Los Angeles City College, who must rely on public transportation. ①

A more reliable and faster public transportation system of this nature will benefit the students in the accomplishment of their educational as well as their personal and social objectives. For example, the proposed Alternative III will provide greater flexibility and access for students to destinations of employment from college. Also, this plan will allow some students who presently drive to the college to utilize public transportation. This plan will help relieve the parking problems and also relieve the problems created by the gasoline shortage.

Best wishes and thank you for giving consideration to those factors that will affect 20,000 students at Los Angeles City College.

Sincerely,

Elizabeth Bell  
Councilperson  
Administrative Procedures

cc: Mr. Sheldon Davidow  
Director, Economic Development  
6324 Sunset Boulevard  
Hollywood, CA 90028

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AUG 16 1979  
SCRTD. SECRETARY

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# ASSOCIATED STUDENTS

LETTER No. 71

LOS ANGELES CITY COLLEGE, 855 NORTH VERMONT AVENUE, LOS ANGELES, CALIFORNIA 90029 (213) 663-9141, Ext. 305 (213) 661-8733

August 10, 1979

Board of Directors of the  
Southern California Rapid Transit District  
425 South Main Street  
Los Angeles, CA 90013

RE: PROPOSED NORTH VERMONT RTD ROUTE

Dear Sir:

I am writing you in my capacity as an elected student representative for the Los Angeles City College Associated Students. The purpose of this letter is to encourage you to give favorable consideration to the North Vermont Avenue RTD proposal, designated as Alternative III. ①

The completion of this proposed route will enhance the educational and employment opportunities of the clientele in this immediate, as well as expanded adjacent areas. Access to the college and adjacent areas is important, not only to the students but residents as well. Implementation of this plan will also go a long way toward relieving the gas and parking problems associated with private transportation to and from Los Angeles City College.

Thank you very much for your expressed concern with respect to the welfare of Los Angeles City College, the students, and our community.

Sincerely,

*Geraldine Brooks*

Geraldine Brooks  
ASB Treasurer

cc: Mr. Sheldon Davidow  
Director, Economic Development  
6324 Sunset Boulevard  
Hollywood, CA 90028

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AUG 16 1979  
SCRTD. SECRETARY

ASSOCIATED STUDENTS

LETTER No. 72



Los Angeles City College

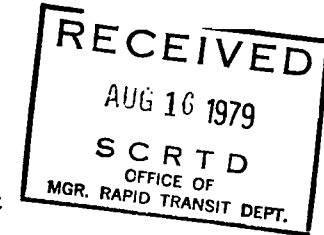
855 North Vermont Avenue / Los Angeles, Ca. 90029 / Telephone (213) 663-9141



LOS ANGELES CITY COLLEGE, 855 NORTH VERMONT AVENUE, LOS ANGELES, CALIFORNIA 90029 (213) 663-9141, Ext. 305 (213) 661-8733

LETTER No. 73

August 10, 1979



August 10, 1979

Mr. Marvin L. Holen  
Director and President  
Southern California Rapid Transit District  
425 South Main Street  
Los Angeles, CA 90013

Dear Mr. Holen:

Board of Directors of the  
Southern California Rapid Transit District  
425 South Main Street  
Los Angeles, CA 90013

RE: PROPOSED NORTH VERMONT RTD ROUTE

Dear Sir:

As President of the Los Angeles City College Associated Students, I am writing you to encourage adoption of Alternative III for the proposed RTD route. As you are aware, limited and inadequate public transportation work an extreme hardship on students. The proposed Alternative III route would provide greater accessibility for students to the college and to places of employment in the mid-Wilshire, Hollywood, and Downtown areas.

On behalf of the Los Angeles City College Student Body, I am taking this opportunity to thank you for the consideration of this recommendation.

Sincerely,

Leslie R. Spates  
Associated Student President

cc: Mr. Sheldon Davidow  
Director, Economic Development  
6324 Sunset Boulevard  
Hollywood, CA 90028

I'm asked by the President to put the administration of this college on record with the Associated Students and the Academic Senate in support of the proposed rail starter line designated Alternative III. In supporting Alternative III the college joins with our neighbors, Hollywood Presbyterian, Kaiser, and Children's Hospital and the Brail Institute, whose clientele, like ours, are heavy users of the RTD and have been for many years.

This has always been a "street car college." With an enrollment of 20,000 students, it has never had more than a thousand parking spaces. This is some indication of the dependence of our students on public transit.

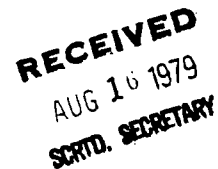
We are aware of the studies showing heavy patronage along the Wilshire portion of Alternative II. However, we look to future effect rather than past usage. We believe Alternative III would do more than serve the needs of our own and neighboring institutions. We believe it would help to revitalize the whole Hollywood area. Furthermore, we believe it would provide the direct fast service to and from the Valley that a truly regional system should envision. In due course there should be other such direct lines--to West Los Angeles, East Los Angeles, and so on. There would be no lack of patronage along any of these lines.

Sincerely,

James N. Cox  
Dean  
Student Services

JNC/1

cc: Dr. Stelle Feuers, President  
Mr. Sheldon Davidow  
Director, Economic Development  
6324 Sunset Boulevard  
Hollywood, CA 90028





LETTER No. 74

ABRAHAM S. BOLSKY  
PRESIDENT

(213) 477-7033

JULY 11, 1979

MR. L.E. COLLIER  
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT  
425 SOUTH MAIN STREET  
LOS ANGELES, CALIFORNIA 90013

DEAR LOU:

MY APOLOGIES FOR NOT BEING ABLE TO ATTEND THE MEETING LAST NIGHT. HOWEVER, UNEXPECTED BUSINESS PROBLEMS KEPT ME IN A MEETING UNTIL PAST THE HEARING TIME AND SO I COULDN'T MAKE IT.

I WOULD LIKE TO COMMENT THAT THE PLAN, ALTERNATE II, HAS MY FULL SUPPORT AND IF I CAN HELP AT ANY TIME IN THE FUTURE, PLEASE LET ME KNOW.

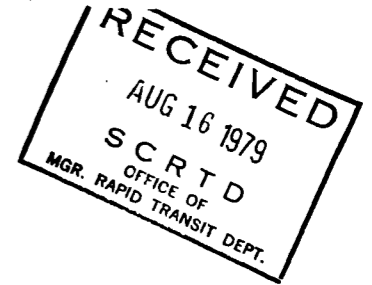
KINDEST REGARDS,

ASB:PO

DEPARTMENT OF TRANSPORTATION

OFFICE OF DIRECTOR  
1120 N STREET  
SACRAMENTO, CALIFORNIA 95814  
(916) 445-2201

LETTER No. 75



August 9, 1979

Mr. Marvin Holen, President  
Board of Directors  
Southern California Rapid  
Transit District  
425 South Main Street  
Los Angeles, CA 90013

See Response # (56)

Dear Mr. Holen:

We offer the following comments on your District's draft EIS/EIR for the proposed Wilshire Transit System.

We believe that Alternative II should be adopted as the preferred alternative for proceeding to preliminary engineering for the following reasons:

- . Provides the greatest benefits to the regional core area through improved transit efficiency, high-projected usage and lowest net operating costs.
- . This alternative can be developed with the least short-term disruptions and minimal environmental impact.
- . Provides the appropriate level of transportation improvement to a major corridor which is not served by any existing or planned freeway.
- . Will be fully consistent with the Governor's Urban Strategy for California by providing new transportation service through public transportation facilities.

The attached technical comments are designed to assist you in further strengthening your investigation of appropriate transit improvements for the Los Angeles regional core.

Sincerely,

ADRIANA GIANTURCO  
Director of Transportation

Attachment

Caltrans DEIS Review - Alternatives  
Analysis and Environmental Impact Report on Transit  
System Improvements in the L.A. Regional Core

I. TRANSPORTATION

A. Patronage Forecasts

Patronage forecast differences for the various alternatives (Page III-1) do not appear to have been significant enough to determine differences between the alternatives tested. The assumptions made for the patronage projections tend to be misleading. Rail alternatives are shown to have higher patronage than bus alternatives, which leads one to believe that the rail alternatives have created a higher mode split. However, in reality, all alternatives modeled produced essentially the same mode split or transit demand. It is through limiting the bus ridership (based on assumed bus capacities) that a patronage difference is created. This, in effect, assumes the unmet needs will remain as a latent transit demand. This assumption may or may not be valid; the point is that the differences indicated in patronage projections are more a function of capacity related difference rather than a mode selection difference.

Therefore, the only value gained appears to be a demonstration that the person trip mode split (in 1990) is high enough to support implementation of the various alternatives. In any event, the capacity restrained patronage values are carried through the entire analysis. This point needs more clarification.

The analysis indicates that if Alternative II is implemented, 100,000 daily auto trips would be saved. The validity of this estimate needs further explanation in the DEIS. If a similar constrained auto trip were assumed (such as in the transit mode) a majority of those 100,000 auto trips would be classified as an unmet latent demand rather than a reduction of trips.

B. Traffic

1. General

Without added highway capacity in the Route 2 Corridor, traffic conditions during the commute periods continue to deteriorate along Santa Monica Boulevard as growth continues in the City of Beverly Hills, Century City and West Los Angeles.

We favor an alternate which will not only serve the LACBD-Wilshire-Fairfax-Hollywood-North Hollywood areas but can be adopted to serve Beverly Hills, Century City and West Los Angeles.

Conceptually, this can be accomplished by providing a high occupancy vehicle (HOV) link between Southern California Rapid Transit District's (SCRTD) proposed transit facility and the proposed freeway transit on the San Diego Freeway by using the Southern Pacific Railroad (SPRR) right-of-way along Santa Monica Boulevard. The SPRR has removed the tracks along that segment between La Cienega Boulevard and Doheny Drive.

We think it is important to strive toward a system that provides a high level of connectivity between modes and trip destinations, as well as commercial services. Facilitating the interface of various modes should be of prime importance in station design as this will greatly enhance ridership. A fine example of this design concept is the suburban and urban stations of the Toronto Transit System.

2. Methodology (page III-26)

The vehicle occupancy cited is for work-related trips. Forecasts are for an average weekday which implies work- and nonwork-related trips. The nonwork vehicle occupancy assumptions should also be indicated. The description of the Los Angeles Regional Transit System (LARTS) model process is quite detailed. However, we question the use of the phrase "realistic projections" because the nature of assumptions about future conditions are not always based upon events that are assurable at the time of the forecast. We believe the projections are more sensitive to the socioeconomic assumptions rather than to the specific computer software program.

3. Parking

Alternatives I through VI indicate that 50 percent of the parking demand will be accommodated by providing parking structures at selected stations. The effectiveness of providing large parking structures (1,000-2,000 spaces) to accommodate this long-term parking is questionable. These facilities will have a significant impact on project cost and community impacts. Also, since these facilities will only accommodate four percent of the total demand, it would appear that the overall parking policy should be re-evaluated. Alternatives based on a subsidy for improved feeder service may prove more cost effective towards long-term productivity.

4. Implementation Schedule

The implementation schedule for Alternatives I through VI does not appear reasonable. A ten-year implementation schedule beginning in Fiscal Year 1981 would appear to be more realistically within organizational design, funding capability, and constructive industry capacity. The 1980's could conceivably see the simultaneous construction of I-105 Freeway Transitway, the Downtown People Mover, the Harbor Freeway Transitway, and substantial Central City development. The FEIS/EIR for the Los Angeles Regional Core Transit System Improvements should discuss the impacts based on this potential as related to labor supply, financial feasibility, material supply, energy required for construction of major transportation projects in Los Angeles County.

## 5. Related Transportation Planning Concerns

### a) El Monte Busway Extension

As indicated in the DEIS (pages II-13, 21, 22) rail alternatives I through V depict an alignment and station location within the corridor envisioned for the El Monte Busway extension. Although it has been noted that these alignments and station locations are conceptual at this stage, the following comments are offered for consideration.

Through recent interagency discussions, it is our understanding that the busway corridor is no longer a preferred location for the rail alignments. This is due primarily to the projects having the same implementation schedule, and the impracticality of assuming utilization of the busway extension (for rail) without converting the entire El Monte Corridor.

Although extensive engineering and design remains to be completed, it is our judgement that future studies should focus on location that assumes Union Station as a major intermodal facility. Provisions for convenient intermodal transfers between intercity rail, busway extension and people mover should be the key criterion in developing the station location and design.

### b) Provisions for Accommodating Bicycles

The DEIS does not indicate what specific provisions can and will be provided for accommodating bicycles. Caltrans suggests provisions for providing bicycle storage and transfer capabilities on mass transit vehicles and at transit stations be considered and addressed in the FEIS.

## II. FINANCING

### A. Capital and Operating Costs

Overall capital and operating cost estimates of the alternatives appear reasonable but optimistic. This reservation is particularly noted on tunneling, parking, engineering, and management capital cost estimates. Rail operating costs appear to have been estimated lower than the majority of existing systems in the United States, which also makes their reasonableness questionable.

### B. Financing

The Department does not have estimates for Proposition 5 funding beyond the five-year STIP period. The latest estimate of total available Proposition 5 funds in Los Angeles County for the five-year period from 1979-80 to 1983-84 Fiscal Years is \$112,085,000, and part of this will be used for the Downtown People Mover.

It does not appear that Proposition 5 funds as currently programmed will be sufficient to provide the local share to match Federal funds. The financing section should explore alternative sources of funding the local share.

## III. ENVIRONMENTAL

We concur with the analysis presented in the DEIS that the Rail/Bus Alternatives I-V with bored tunneling will reduce the severity of environmental impacts. Our comments with respect to this section of the DEIS are as follows:

### A. Air Quality

The DEIS/EIR indicates that no matter which alternative is chosen, there will be no significant beneficial impact on air quality, either regionally or locally. We do not believe this conclusion is fully supported with respect to the air quality evaluation or references contained in the DEIS/EIR. Some particular concerns are as follows:

1. "If headways for bus/rail are reduced, it could have beneficial results by reducing auto trips" - the absolute capacity of a facility is meaningless. It is the actual or predicted usage that is the primary concern.
2. The time frame in various tables and figures appears to be inconsistent. It appears that SCRTD is uncertain which year or years are favored for the project completion.
3. "Pollutants to be measured" - There is no discussion in this section of pollutants which was or will be measured by the SCRTD. The discussion focuses on sources of emissions. The last sentence of this discussion should be documented, rather than assumed.
4. "Air quality in vicinity of stations" - This analysis is too generalized. For example: "The facility will be carefully designed to minimize congestion and maximize dispersion". What specific design characteristics are being considered? What is the relationship between the parking structure and emissions at a street intersection? Will all traffic on the street divert to the parking structure?

5. Correction to Figure IV-7 (and others) - the Federal Standard for oxidant is 0.12 ppm.

B. Noise

The noise section is generally satisfactory. This section uses  $L_{dn}$  as a noise descriptor. The Federal Highway Administration (FHWA) may require conversion to  $L_{eq}$  noise descriptor for comparison with the Design Noise Levels in FHPM 773.

C. Energy

This section is extensive and appears to cover the subject matter satisfactorily.

D. Disposal of Material

There appears to be no extraordinary provisions or considerations for the handling of tunnel muck. The disposal of 2.5 million yards of tunnel muck (deep bore tunnel alternatives) in a highly urbanized area could prove environmentally difficult as well as significantly costly.

IV. SOCIAL/ECONOMIC IMPACTS

A. Relocation, Section V-c

There is insufficient treatment of relocation impacts and mitigation measures. For example, the document considers displacement of "structures" and is silent as to displacement of people.

The FEIS should include a thorough discussion of relocation impacts and mitigation measures, including the number of individuals and families to be relocated, and a description of the relocation assistance available.

B. Employment/Economic Impacts, p. VI-29

It is concluded that the construction of the project would result in appreciable savings in welfare and unemployment insurance payments. Was any study done of the skills to be utilized that are now on welfare or unemployed?

The construction of this project may coincide with a number of other large-scale projects in the area (Downtown People Mover, I-105 Freeway-Transitway, and substantial Central City Development). This may result in shortage of skilled labor rather than an "appreciable" reduction in general unemployment. As with the Bay Area Rapid Transit (BART) project, it is possible that this could actually further drive inflation. A discussion of this, in relation to current economic trends (recession with inflation), might be appropriate.

Our staff will be available at your convenience to discuss these comments in detail.

Assistance League of Southern California

LETTER No. 76

FOUNDED 1919 - INCORPORATED 1923  
FOUNDER OF NATIONAL ASSISTANCE LEAGUE® 1933

Mrs. Hancock Banning, Founder

Mrs. Ada Edwards Laughlin, Co-Founder

1370 NORTH ST. ANDREWS PLACE  
LOS ANGELES, CALIFORNIA 90028

469-1973

RECEIVED

AUG 13 1979

SCRTD. SECRETARY

August 9, 1979

PAST PRESIDENTS:

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MRS. JOHN TREANOR  
MRS. HAROLD C. RAMSER  
MRS. THEODORE A. FOUCH  
MRS. J. ROY HOFFMAN  
MRS. WILFRED G. LANE  
MRS. GLEN H. MITCHEL  
MRS. WILLIAM ROWLAND MOORE  
MRS. ALBERT M. NIBLO  
MRS. M. PHILIP DAVIS  
MRS. MAX G. KOLLINER

Mr. Marvin L. Holen, President  
Board of Directors  
Southern California Rapid Transit District  
425 So. Main Street  
Los Angeles, CA 90013

Dear Mr. Holen:

OFFICERS:

MRS. CHANDLER HARRIS  
PRESIDENT  
MRS. G. G. BAUMEN  
VICE-PRESIDENT  
MRS. ROBERT L. HEMMINGS  
VICE-PRESIDENT  
MRS. ROBERT L. HICKS  
VICE-PRESIDENT  
MRS. HARRY P. MYNATT  
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MRS. WILLIAM J. REA  
RECORDING SECRETARY  
MRS. DONALD D. ARNETT  
CORRESPONDING SECRETARY  
MRS. ROBERT G. GRAW  
TREASURER

As President and on behalf of the Board of Directors of Assistance League of Southern California, I wish to have our wishes on record regarding the selection of the rapid transit system location for Los Angeles.

The League favors Alternative III (Vermont Alignment) as the best alignment and to include an easterly Hollywood Station. ①

The League was founded in the area at our present location in 1919. We have grown to a membership of approximately 2,000 and provide ten vital services to the community. Assistance League of Southern California is a non-profit, private organization with tremendous interest in Hollywood and its revitalization. ②

Thank you for your attention to our stated preference on this matter.

Sincerely,

*Mrs. Chandler Harris*

Mrs. Chandler Harris  
President

cc: Councilwoman Peggy Stevenson  
William Hertz, President, Chamber of Commerce  
Helene Cohen, Hollywood Human Service Project  
Councilwoman Pat Russell  
Mayor Tom Bradley  
Marshall A. Caskey, Chairman,  
Revitalize Hollywood Advisory Committee

MEN'S ADVISORY COMMITTEE

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EX OFFICIO

MRS. CHANDLER HARRIS  
MRS. IRA S. BRANDER  
MRS. MAX G. KOLLINER



August 8, 1979

Mr. Marvin L. Holen, President  
Southern California Rapid Transit District  
Los Angeles, California

LETTER No. 77

Dear Sir/s:

See Response # 46

Having been a very frequent user of the public transportation facilities in Southern California for the past forty years, I have given long and much consideration to the problems of the RTD riders and to possible forms of rapid transit for this area.

As a result, I should like to vehemently voice my complete and unequivocal opposition to a subway system as a means of providing rapid transit in Southern California.

Here are my reasons:

1. Outlandish cost of building and furnishing a subway system. It should be apparent to anyone, whether an engineer or not, that digging and building an underground system would cost much, much more than providing an overhead rail system. After the tunnels are bored, either a concrete wall or a tile wall, or maybe both, would have to be installed. These walls would not have to be built for an overhead rail system.
2. More passenger stations and rest room facilities would have to be provided for a subway system than for an overhead rail system. It should be obvious to anyone that a subway system would require the installation of passenger stations and rest room facilities both above ground and down in the subway areas and only surface facilities would have to be provided for an overhead rail system. The subway facilities would be far more expensive to build and more expensive to maintain.
3. Huge expense and waste of electrical energy in a subway system. What is even much more important in these days of an energy crisis is the fact that millions and maybe billions of electrical kilowatts would be wasted in keeping a subway system lighted, either properly or improperly, 24 hours every day; whereas, an overhead rail system would not require daylight time lighting, thus saving a huge amount of electric energy and expense.
4. An overhead rail system would afford natural and proper ventilation. It goes without saying that an overhead rail system would easily provide natural and better ventilation than an underground subway system. Therefore, an overhead rail system would be much more pleasant to use. There simply is no substitute for above-ground air-movement. Have you ever walked through the underground tunnel under and across North Highland Avenue in Hollywood near Odin Street to the Hollywood Bowl, even on a cool evening?? It is only a short distance, probably 75 yards, yet it always contains a sickening, foul odor that is completely repulsive! And I'm sure it is ventilated from both ends 24 hours each day.
5. Great possibility of extensive graffiti on subway walls & equipment. It does not take an engineer to know that much more space for unsightly graffiti would be provided by subway walls than would be afforded by metal supports, station facilities, etc. necessary for an overhead rail system. Such subway walls would require a great deal more cleaning, painting, and repairing and many more employees to do the work.

Regarding the proposed subway system; letter from William G. Thompson

2.

6. Subways objectionable to many citizens. Many public transportation users, especially women, would be completely averse to going down into a subway, especially if it is from 50 to 150 feet underground, to get to wherever they may want to go. The very thought of going down into the abysmal depths of such a subway is obnoxious to many, many people.
7. Possible high crime rate in a subway system. A recent TV documentary about the crime occurring in the New York City subways showed that an average of 160 serious crimes take place there every week. Of course, the physical and geographical make-up of New York City is quite different from that of Los Angeles and Southern California; but a satisfactory rapid transit system for Southern California would have to cover the entire area, probably including Orange County, San Bernardino County, Ventura County, and perhaps extend into others, in order to properly serve the transportation needs of the people; and this area contains a population of around 10 million people--and that is not far short of the number of people served by the New York City subways. Therefore, the incidence of crime in the tunnels could approach that of the five boroughs of New York City.
8. The proposed subway system would be built at a depth too far below the street levels. One recent newspaper story concerning the RTD's proposed subway system said that the two tunnels would be sunk to a depth of from 50 to 150 feet below the surface of the earth. This is ridiculous!! This would mean that each station would be built so that both a descent and a rise to such depths would be located at each one, as that would be necessary in order to lower people to and to bring them up from such depths. An overhead rail system would not have to be built more than 15 or 20 feet above the surface of the ground and would thus require much less equipment and building expense.
9. Possible objection to the appearance of an overhead rail system. Some people and some businessmen may object to a possible "unsightliness" of an overhead rail system. If such an objection is entertained, this could be overcome by placing the overhead lines and stations over the alleyways and freeways in the various Southern California cities, thus removing them from the main thoroughfares and placing them at a less visible location in each block. There are very few buildings in any of the cities of Southern California over five or six stories high--and even fewer of them are located near alleyways or freeways or centers of blocks. This writer has talked with a number of men and women who have seen and ridden the overhead rail lines of Western Europe, especially in Hamburg, Germany, and all of them said that the rail lines were not unsightly or objectionable. If coloring of the facilities is a problem, perhaps they could be painted with a gold-colored paint, bearing out the motif of "The Golden State of California."
10. Convincing the public that subways are safer from earthquakes than overhead rail lines. It may be true that subways are safer than overhead lines during earthquakes--but how are you going to convince the greater part of the public that this is true?? Nobody relishes the thought of being buried alive from an earthquake--and it will take a great amount of convincing to show the average person that such is true.

3.

Yes, I very strongly oppose the building of a subway system to move people underground and to subject people who are forced to use public transportation to many more human errors in the building than would be incurred in the building of an overhead rail system. And I also know people who likewise object but who do not either have the time to write you their objections or who feel it would be useless for them to do so.

So I therefore implore you, you who have the authority and the final say, **DO NOT BUILD ANOTHER SUBWAY MONSTROSITY** in Southern California and **DO NOT WASTE ANY MORE OF THE TAXPAYERS' MONEY** on such ridiculous endeavors!! An overhead system would be far less expensive, much more sensible, far more attractive, and much less dangerous to human life!!

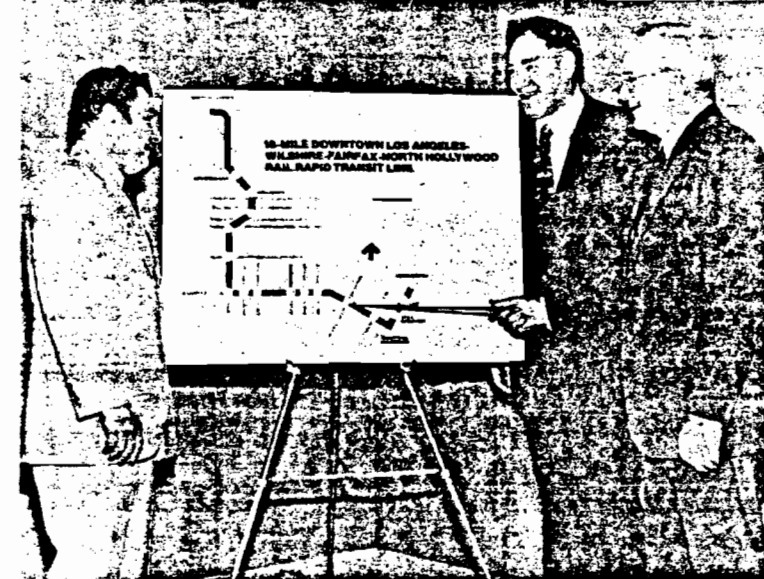
Sincerely yours,

*William G. Thompson*

William G. Thompson  
1516 North Hobart Bl. - Apt. 205  
Los Angeles, CA 90027



FROM: LOS FELIZ HILLS NEWS OF WED. JULY 11, 1979.



**SUBWAY PLAN** — City Council President John Ferraro, center, and RTD President Marvin L. Holen, left, listen as RTD Rapid Transit Manager Richard Gallagher notes path of an 18-mile subway system connecting downtown Los Angeles and the San Fernando Valley via the Wilshire and Hollywood areas. The route

depicted on the map is one of 11 alternatives, and the choice endorsed by the RTD board, that will be discussed in public hearings ending today. Today's "open forum" meeting will take place 2 to 4 p.m. and again 7 to 9 p.m. at Great Western Savings and Loan, 3660 Wilshire Blvd., Community Room, Maxzantine.

**Spending of the taxpayers' money on a subway system SHOULD NOT BE PERMITTED UNDER ANY CIRCUMSTANCES!!!!**

Los Feliz Hills News

(453)

WEDNESDAY, JULY 11, 1979

## Transit hearings to be concluded

(Continued from Page 1)

taken out, and where stations have to be constructed by cut-and-cover." According to an RTD spokesman, the tunnels would be twin bored rather than single bored since the latter would be more expensive.

They would be 50 to 150 feet below the surface, the spokesman said.

Although the start-up costs of the rail system will be significantly more expensive than a bus system, the report notes that "It will cost less in the long run to construct and operate a rail rapid transit/bus system than to continue only with buses." According to the report,

"Despite their higher capital costs, the rail/bus alternatives are on par with the all-bus systems when total system annualized costs (annualized capital cost plus annual operating cost) are measured against productivity on a cost per passenger-mile basis.

"In terms of operating cost per passenger carried, the rail/bus alternatives are, on the average, about 20 per cent more efficient than the all-bus alternatives," the report notes.

The report also indicates that rail/bus alternatives would attract more riders than an all-bus alternative.

### Youths sought for conservation work

State Senator David A. Roberti (D-Hollywood) has announced that the California Conservation Corps is seeking young men and women for public service conservation work. Those between the ages of 18 and 23 are eligible, he said. Applications are

available at Senator Roberti's district office, 6641 Sunset Blvd., Suite 202, between 9 a.m. and 5 p.m.

Information: California Conservation Corps, 1530 Capitol Avenue, Sacramento, CA 95814.

**TRACT NO. 7260 ASSOCIATION, INC.**  
LOS ANGELES, CALIFORNIA

LETTER No. 79

LETTER No. 78

August 10, 1979

August 13, 1979



**PRESIDENT**

DR. JOHN H. FRENCH  
10371 LOUISIANA AVE.  
LOS ANGELES, CALIF. 90025

**VICE-PRESIDENT**

B. LAURENCE ROGERS  
2030 FOX HILLS DR.  
LOS ANGELES, CALIF. 90025

**TREASURER**

LUDWIG SEPMAYER  
1862 COMSTOCK AVE.  
LOS ANGELES, CALIF. 90025

**SECRETARY**

E.L. GARRISON  
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LOS ANGELES, CALIF. 90025

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MONTY WALLER  
RUSSELL WALTON

Board of Directors  
Southern California Rapid Transit District  
425 S. Main Street  
Los Angeles, CA 90013

Dear Sirs:

Our homeowner association is immediately to the west of Century City, between Santa Monica and Pico Blvds.

We wish to indicate our strong support for the Alternative II proposed subway starter line along the Wilshire Corridor.

We are in the hope that it will eventually be extended to Century City, Westwood, and U.C.L.A.

Please indicate to us any support we can give to insure that this project will be approved by the appropriate agencies. We are willing to appear in person, if necessary, to insure that this much needed rapid transit project get under way as soon as possible.

Sincerely yours,

*John H. French*  
John H. French,  
President

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AUG 14 1979

Southern California Rapid Transit District

Board of Directors  
Southern California Rapid Transit District  
425 South Main Street  
Los Angeles, Calif., 90013

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AUG 14 1979

Southern California Rapid Transit District

Gentlemen:

The Holmby-Westwood Property Owner's Association strongly supports the proposed 18 mile subway starter line which is currently under consideration. We understand the plan involves construction of a \$2 billion subway to link downtown to mid-Wilshire and to Universal City in the San Fernando Valley. We further understand that this construction will be handled with no new taxes. We also urge consideration of Alternative 11 route of the Rail Rapid Transit/Bus System which would extend this route to Century City. We hope that the required study for the extension of the starter line to the Beverly Hills-Century City area will be included in your request for funds from the federal Urban Mass Transit Agency and the state of California.

With the increased canyonization of Wilshire Blvd. by hi-density apartments, condominiums and office buildings this type of mass transit must be implemented to handle the projected increase in surfact street traffic.

Your favorable consideration of this request will be very much appreciated.

Sincerely,

*Robert E. Fleming, ml.*

Robert E. Fleming

REF/ms

**OFFICERS:**

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James Arkatov, V.P.  
Robert Fleming, V.P.  
Ernest Friedman, V.P.  
Fleur Levine, Secretary  
Harold Katz, Treasurer  
Mrs. Mary Siskel,  
Recording Secretary

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Larry Teplin  
Donna Venick  
Sua Wolf  
Mary Lou Zager  
Barbara Zolla  
Marshall Zolla



CHARTERED BY: American Federation of Labor and Congress of Industrial Organizations

LETTER No. 80

Los Angeles County FEDERATION of LABOR, AFL-CIO

WILLIAM R. ROBERTSON  
EXECUTIVE  
SECRETARY-TREASURER

August 10, 1979

2130 WEST NINTH STREET  
P.O. BOX 20630  
LOS ANGELES, CALIFORNIA 90006  
Telephone: (213) 381-5611

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AUG 13 1979

SCRTD. SECRETARY

Mr. Marvin L. Holen, President  
Board of Directors  
Southern California Rapid Transit District  
425 South Main Street  
Los Angeles, California 90013

Dear Mr. Holen:

I would like to add to my remarks made at the public hearing held on July 11, 1979.

Not only do we endorse the Regional Core Starting Line but after careful review, we specifically recommend the adoption of Alternative II.

This Alternative provides the highest level of service on the most efficient basis to the largest part of our community. It gives access to the Cultural Centers of the Fairfax District as well as the entertainment areas of West Hollywood and Hollywood. It also gives access to the heavy employment centers of the Central Business District, Mid-Wilshire and Miracle Mile. Alternative II additionally opens up a whole new world of activity-shopping, cultural and entertainment - for the heavy concentration of elderly persons resident throughout the Fairfax Area.

Sincerely,

*William R. Robertson*

WILLIAM R. ROBERTSON  
Executive Secretary-Treasurer

WRR:ev/gee  
opeiu#30  
afi-cio, clc



Automobile Club of Southern California

HEADQUARTERS 2601 SOUTH FIGUEROA STREET • LOS ANGELES CALIFORNIA 90007  
MAILING P O BOX 2890 TERMINAL ANNEX • LOS ANGELES CALIFORNIA 90051

ROADWAY ENGINEERING DEPARTMENT  
DAVID D. GRAYSON, MANAGER  
(213) 742-4346

LETTER No. 81

August 10, 1979

Mr. Richard Smith, Community Planner  
Office of Planning Assistance (UPM-12)  
Urban Mass Transportation Administration  
400 - 7th Street, S.W.  
Washington, D.C. 20590

Re: Los Angeles Regional Core  
Transit Alternatives Study  
and Environmental Impact  
Report

Dear Mr. Smith:

In response to your notice, please regard the attached letter dated August 10, addressed to the Southern California Rapid Transit District, as our response to your agency as well.

Sincerely,

*David D. Grayson*  
David D. Grayson

DDG:jkm  
Attachment



# Automobile Club of Southern California

HEADQUARTERS 2601 SOUTH FIGUEROA STREET • LOS ANGELES CALIFORNIA 90067  
MAILING P O BOX 2890 TERMINAL ANNEX • LOS ANGELES CALIFORNIA 90051

MEMBER SERVICES DEPARTMENT  
12000 WILSHIRE, MANA 11  
LOS ANGELES, CA 90025

August 10, 1979

RECEIVED

AUG 13 1979

SCRTD. SECRETARY

Mr. Marvin Holen, President  
Board of Directors  
Southern California Rapid Transit District  
405 South Main Street  
Los Angeles, CA 90013

See Response # 58

Dear Mr. Holen:

We appreciate this opportunity to comment on the Los Angeles Regional Core Transit Alternatives Study and Environmental Impact Report. While we believe this document was carefully prepared and researched, our concern is much more fundamental. We believe the Study does not address the right problem; it deals with only a portion of the total problem. We urge you to evaluate the total needs of the region and to give highest priority to those improvements which provide the most service to the region, with the dollars available, based on the cost per person served.

The Automobile Club of Southern California supports public transit improvements. However, we believe public transit must be appropriate to public demand and must be technologically, economically and socially feasible. The region's Four Part Transit Plan, of which the Wilshire Corridor Study is an element, conceptually satisfied these criteria. Yet, the Club is seriously concerned that the region may give priority to the Plan's least beneficial and perhaps most expensive element. Our review of your Study indicates, if evaluated on the basis of cost per person served, the Wilshire rail line would fall low on the priority list because it will serve too few and is too costly to justify action now.

At this juncture in our region's history, it is imperative that rational, far-sighted transportation plans be developed and implemented to assure community-wide economic progress and freedom of movement. There are too many important demands on our transportation dollars to commit them to projects which do not improve transportation options for the greatest number of people.

At best, rail transit in the Wilshire Corridor will provide very limited benefit in terms of energy conservation, air quality or congestion relief -- e.g., your Study estimates it will reduce motor vehicle travel in the Corridor by only 3 1/2 percent and insignificantly in the region. In terms of energy conservation, even the most optimistic Study estimates show only about a two day savings of transportation energy in the Corridor over the course of one year. These estimates do not consider

Marvin Holen, President  
August 10, 1979  
Page Two

the ongoing technological advances in alternate fuels and auto design which will help our region achieve substantial fuel savings in the coming years. Yet rail could consume \$1.5 billion in construction costs and will require continued public subsidy even if the speculated patronage levels are achieved.

Los Angeles has better options for investing its transportation dollars. Specifically, the Four Part Transit Plan calls for substantial improvements in bus transit. This includes upgrading the bus fleet, improving schedules and routes, and implementing innovative operations, including contra-flow lanes and express buses. Another Plan element calls for 'bus on freeway' operations with convenient stations for rider access. Caltrans' study of 'bus on freeway' indicates it would serve more than 500,000 people daily at less cost than the rail line -- which would serve only about half as many people.

Bus transportation improvements could benefit citizens throughout the region, not just within a single corridor. Our region has a vast network of roads and highways already in place. Except for some essential gap closures and improvement projects, the road and highway networks are a "ready facility" for public transit. And they are a paid-for facility -- supported by the motorists and taxpayers of this region.

We encourage you to give renewed emphasis to improved bus transit for this region. If the goal is truly to improve transit service for the entire region, then our dollars must be invested where they will do the most good for the most people. The investment of motorist/taxpayer dollars should yield more benefits to the citizens of this region than is demonstrated by the rail alternatives suggested in the Study.

Before the Los Angeles region becomes committed to building and subsidizing this major rail project, we urge you to re-examine your basic premises and to re-examine the potential of developing a responsive bus transportation network that will better serve the needs of the public throughout the region.

Sincerely,

David D. Grayson

DDG:jkm

LOS ANGELES POLICE DEPARTMENT

LETTER No. 82

DARYL F. GATES  
Chief of Police



TOM BRADLEY  
Mayor

P. O. Box 30158  
Los Angeles, Calif. 90030  
Telephone:  
(213)- 485-3202  
Ref#: 1.1

Mr. Marvin L. Holen  
Page two  
1.1

July 11, 1979

Mr. Marvin L. Holen  
President, Board of Directors  
Southern California Rapid  
Transit District  
425 South Main Street  
Los Angeles, CA 90013

RECEIVED

AUG 13 1979

SCRTD. SECRETARY

See Response # (57)

Dear Mr. Holen:

The April, 1979, draft Alternatives Analysis/Environmental Impact Statement/Environmental Impact Report on Transit System Improvements in the Los Angeles Regional Core has been reviewed.

It appears that rapid transit Alternatives VIII, X, and XI would have the least adverse impact on crime and traffic violations. However, this Department would support any of the eleven alternatives which were found to best serve the transportation needs of the citizens of Los Angeles while providing adequate police protection.

Determining an adequate level of police protection, however, is a much more complex task. As communicated to your staff in mid-1978, the Los Angeles Police Department projects that 195 additional police officers would be required to provide adequate policing for the proposed regional core improvements. That projection is based upon an estimate of the number of officers required to provide adequate "on-site" protection in addition to the following necessary collateral duties:

- \* Transporting prisoners;
- \* Booking suspects;
- \* Investigating crimes;
- \* Filing charges;
- \* Providing security for parking facilities and pedestrian walkways;
- \* Investigating traffic accidents; and
- \* Directing traffic.

Those factors, in addition to regular days off, vacations, and time lost due to sickness and injury, must be built into any projected requirements for rapid transit system security. Failure to do so places the burden of fulfilling those tasks onto the City's regular force.

In Chicago, for example, regular officers of the Chicago Police Department provide substantial support services to the mass transit unit by performing the duties listed above. We are concerned that the SCRTD projected need of 45 peace officers may not have included consideration of certain essential support activities.

In our present condition of extremely limited resources, officers regularly deployed by the Los Angeles Police Department cannot accept the imposition of any additional demands. Our projected requirement of 195 additional officers suggests that without that increase, this Department cannot provide the kind of support that is currently given to the transit police in cities such as Chicago.

Very truly yours,

DARYL F. GATES  
Chief of Police

ADMINISTRATIVE OFFICES  
LESLIE KOLTAI  
Chancellor



LOS ANGELES COMMUNITY COLLEGES  
617 West Seventh Street  
Los Angeles, California 90017  
(213) 628-7788 TWX 910-321-4267

August 6, 1979

LETTER No. 83

LOS ANGELES CITY COLLEGE

Richard Smith, Community Planner  
Office of Planning Assistance (UPM-12)  
Urban Mass Transportation Administration  
400 7th Street, Southwest  
Washington D.C. 20590

SUBJECT: TRANSIT SYSTEM ENVIRONMENTAL IMPACT STATEMENT REVIEW  
LOS ANGELES REGIONAL CORE

Dear Mr. Smith:

I have received a copy of your Alternatives Analysis/Environmental Impact Statement Report on Transit System Improvements in the Los Angeles Regional Core. Each college in our District was notified about the document, and I am enclosing the only response to the Report.

The District anticipates minimal impact on student enrollment or traffic patterns as a result of any of the transit system alternatives. Thank you for circulating the document to us.

Sincerely,

W. W. Shannon  
Facilities Planner  
District Facilities Planning

WWS/GP/sas

Enc.

cc: W. Daily  
B. Sillers

TO: Mr. W. W. Shannon

DATE: July 27, 1979

FROM: Robert A. Bacon

SUBJECT: COMMENTS ON TRANSIT SYSTEM ENVIRONMENTAL IMPACT STATEMENT

Our copy of the Alternatives Analysis has been examined and we anticipate a minimal impact on student traffic and enrollment as a result of the adoption of any one of the proposals for a transit system corridor.

Thank you for bringing this to our attention and allowing us to comment on it.

RVB:em

Form No. 7030.18

WWS  
7-30-79



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX  
215 Fremont Street  
San Francisco, Ca. 94105

████████████████████  
LETTER No. 84

Project #D-UMT-K54002-CA

Richard Smith  
Community Planner  
Office of Planning Assistance, UPM-12  
Urban Mass Transportation Administration  
400 - 7th Street, S.W.  
Washington, D.C. 20590

Dear Mr. Smith:

See Responses # (42), (43), (44)

The Environmental Protection Agency (EPA) has received and reviewed the draft environmental impact statement (DEIS) titled TRANSIT SYSTEM IMPROVEMENTS IN THE LOS ANGELES REGIONAL CORE.

The EPA's comments on the DEIS have been classified as Category LO-2. Definitions of the categories are provided on the enclosure. The classification and the date of the EPA's comments will be published in the Federal Register in accordance with our responsibility to inform the public of our views on proposed Federal actions under Section 309 of the Clean Air Act. Our procedure is to categorize our comments on both the environmental consequences of the proposed action and the adequacy of the environmental statement.

The EPA appreciates the opportunity to comment on this draft environmental impact statement and requests three copies of the final environmental impact statement when available.

If you have any questions regarding our comments, please contact Betty Jankus, EIS Coordinator, at (415)556-6695.

Sincerely yours,

*for Paul C. Kohner Jr.*  
Paul De Falco, Jr.  
Regional Administrator

Enclosure

Air Comments

- (DEIS Section IV.D.2.d, page IV-23)  
CALINE 2 is an infinite source dispersion model and is not, by itself, appropriate for analyzing urban street systems where mobile source emission rates are not continuous. The excess emissions produced by vehicles during acceleration, deceleration and idling mode must be included in the Carbon Monoxide (CO) analysis where interruptions in traffic flow occur. The EPA strongly suggests the use of Guidelines For Air Quality Maintenance Planning and Analysis Volume 9 (Revised): Evaluating Indirect Sources, (EPA-450/4-78-001, September 1978) in performing the CO analysis. In determining CO levels, it is important that the presence of the "street canyon" effects be checked using the procedures given in Appendix C of this document. (42)
- (DEIS Section IV.D.2.d, page IV-23)  
It is not evident that the locations where CO levels are determined (i.e., 50, 100 and 150 feet from the parking garage) are appropriate receptor sites. The EPA suggests receptor sites for CO analysis be determined by using guidance given in the document referenced above. (42)
- (DEIS Section III.E.1.d, page III-28)  
The Draft EIS states, "Although the bus priority Facilities in Alternatives VI-IX would reduce vehicle trips and vehicle miles in the Regional Core, they would have significant negative impacts on local access and circulation." The Final EIS should address the impact of these negative traffic conditions on local CO levels. The EPA recommends the use of procedures given in the document referenced above. (42)
- Appendix II D referred to on page III-26 and III-28 should be identified and summarized, if appropriate, in the Final EIS. (43)

Noise Comment

(DEIS Section IV.E.2.c, page III-26)  
The Draft EIS states that, "In residential areas, noise from aerial guideway (bus or rail - Alternatives I-VI), can be lowered by 10 dBA using sound barrier walls." However, Figure IV.18 does not reflect the 10 dBA difference indicated above. The Final EIS should resolve this inconsistency. (44)



DEPARTMENT OF TRANSPORTATION  
OFFICE OF THE SECRETARY

UNITED STATES GOVERNMENT

## memorandum

Subject: Alternatives Analysis and Draft Environmental  
Impact Statement: Transit System Improve-  
ments in the Los Angeles Regional Core

Date: AUG 17 1979,

From: Director, Office of Environment and Safety

Reply to  
Attn. of: \_\_\_\_\_

LETTER No. 85

To: Richard Smith, Community Planner (UPM-12)  
Urban Mass Transportation Administration*see Response # (45)*

This office has reviewed the subject draft EIS/alternatives analysis. The following comments are offered for your consideration in preparing the final EIS.

As the draft statement emphasizes, the Los Angeles transit improvements project is in an early conceptual phase. Therefore, a broad and somewhat abstract analysis of environmental impacts at this point is to some extent unavoidable. However, the final EIS must examine the environmental effects of the selected alternative in greater detail. The following points in particular merit careful consideration.

Section 4(f) Impacts

A prerequisite to any use of parklands or historic sites for the construction or operation of a transportation system is a finding of no feasible and prudent alternative. Consequently, the final EIS must reflect an effort to avoid such uses whenever it is feasible and prudent, and to mitigate any inevitable adverse effects by all possible means.

Selection of any of the proposed rail alignments would appear to entail adverse impacts upon parkland areas within the regional core. Our review has raised the following specific concerns in this regard:

- 1) The impacts of the selected alternative upon Pershing Square should be detailed in the final EIS, together with commitments to measures to mitigate any adverse effects at this site. Figure VII.5 of the draft EIS suggests that the rail alignments would traverse the southeast corner of the Square, yet this impact is not given explicit consideration in the draft statement.
- 2) The final EIS should discuss the impacts of the selected alternative upon MacArthur Park, together with commitments to mitigation measures. The draft statement asserts (on page VIII-2) that this park would sustain "significant adverse impacts" if a rail alternative is implemented, yet what these impacts are, or how they might be mitigated, is not covered in Chapter VII's discussion of impacts upon parklands.

It's a law we  
can live with.

## EIS CATEGORY CODES

Environmental Impact of the Action

## LO--Lack of Objections

EPA has no objection to the proposed action as described in the draft impact statement; or suggests only minor changes in the proposed action.

## ER--Environmental Reservations

EPA has reservations concerning the environmental effects of certain aspects of the proposed action. EPA believes that further study of suggested alternatives or modifications is required and has asked the originating Federal agency to reassess these aspects.

## EU--Environmentally Unsatisfactory

EPA believes that the proposed action is unsatisfactory because of its potentially harmful effect on the environment. Furthermore, the Agency believes that the potential safeguards which might be utilized may not adequately protect the environment from hazards arising from this action. The Agency recommends that alternatives to the action be analyzed further (including the possibility of no action at all).

Adequacy of the Impact Statement

## Category 1--Adequate

The draft impact statement adequately sets forth the environmental impact of the proposed project or action as well as alternatives reasonably available to the project or action.

## Category 2--Insufficient Information

EPA believes that the draft impact statement does not contain sufficient information to assess fully the environmental impact of the proposed project or action. However, from the information submitted, the Agency is able to make a preliminary determination of the impact on the environment. EPA has requested that the originator provide the information that was not included in the draft statement.

## Category 3--Inadequate

EPA believes that the draft impact statement does not adequately assess the environmental impact of the proposed project or action, or that the statement inadequately analyzes reasonably available alternatives. The Agency has requested more information and analysis concerning the potential environmental hazards and has asked that substantial revision be made to the impact statement.

If a draft impact statement is assigned a Category 3, no rating will be made of the project or action, since a basis does not generally exist on which to make such a determination.

- 3) The final EIS should contain a firm commitment to measures which would mitigate adverse effects upon Barnsdall Park if Alternative III is selected. The draft discusses the possibility of rerouting around this park so as to maintain the integrity of the parkland.
- 4) The impacts upon Hancock Park should be discussed in detail if Alternative II is selected. The consideration of these impacts is tentative and cursory in the draft.
- 5) Impacts of the selected alternative upon any historic sites which might be affected should also be considered in detail in the final EIS. The statement should reflect appropriate consultation with the State Historic Preservation Officer.

#### Impacts Upon the Santa Monica Mountains

The impacts upon the ecological system of the Santa Monica Mountains should be detailed, and appropriate mitigation measures adopted if Alternatives I, II, III, or VI are selected. The draft statement asserts (on page IV-12) that "in no case would a transit line result in any disruption to existing vegetation and wildlife /in the Santa Monica Mountains/ because, in every instance, it would be necessary to tunnel /through the mountains/" (emphasis added). This assertion overlooks two realities: (1) that tunnel construction by the cut-and-cover method would probably cause substantial—and perhaps irreparable—disruption to this ecological community; and (2) that the construction of Alternative VI, the aerial busway, would probably not be by tunnel through the Cahuenga Pass. Consequently, the environmental impacts of this alternative would be very different from those of a tunneling alternative. Whichever alternative is selected, impacts upon the mountain area deserve much more serious consideration than the draft gives to them.

#### Displacement of Families

The analysis of anticipated displacements should be not only in terms of residential/commercial structures (as is done in the draft), but also in terms of the number of persons and families that would be displaced by the implementation of Alternatives I-VI. The analysis should include a demographic profile of the displacee (showing racial and income characteristics), as well as any other factors which might require special relocation assistance.

In addition, our examination of the draft EIS raised a question as to the accuracy of the assertion on page IV-34 that Alternative VI would displace "approximately 80" structures. This appears to be erroneous, in view of the fact that an aerial guideway construction of Alternative I, which follows an alignment identical to Alternative VI, is anticipated to displace approximately 684 structures. Presumably, Alternative VI will cause an equal amount of dislocation.

We appreciate the opportunity to review and comment on this draft statement. We look forward to reviewing the final EIS, including comments received on the draft.

  
Martin Convisser

August 5, 1979

Board of Directors of the  
Southren California Rapid Transit District  
425 South Main Street  
Los Angeles CA 90013

Gentlemen:

You have asked for comments from concerned citizens on our preference between the various rail, rapid transit, bus alternative plans now being considered to link the down-town Los Angeles business district to North Hollywood.

As a Hollywood citizen I strongly recommend PLAN III, which traverses Vermont Street to Sunset Blvd., and then would serve the heart of Hollywood itself before going on to terminate in the Valley.

This is the recommendation of the Community Life Committee of Blessed Sacrament Church, in Hollywood, to which I belong.

This determination is made for the following reasons: PLAN III will directly benefit Immaculate Heart College, Los Angeles City College, and the cluster of hospitals at Vermont Street and Sunset Blvd., which are now expanding their services.

I believe PLAN III will best serve the many employees of the basic entertainment industry of our town, now undergoing an upsurge of redevelopment.

Sincerely,

Signed:

Mary A. Leash  
(Name)  
2835 Westshire Dr.  
(Address)  
90068  
(Zip)

(744 of these letters were either hand delivered to SCRTD on August 13, 1979 by the Hollywood Chamber of Commerce or received in the mail)



EDMUND G. BROWN JR.  
GOVERNOR

State of California

GOVERNOR'S OFFICE  
OFFICE OF PLANNING AND RESEARCH  
1400 TENTH STREET  
SACRAMENTO 95814  
(916) 322-2318

*XR 9/12*

August 27, 1979



Mr. Richard Smith  
Office of Planning Assistance - UPM-12  
Urban Mass Transportation Administration  
400 7th Street, S.W.  
Washington, D.C. 20590

*see response # 61*

Dear Mr. Smith:

We're pleased to comment on the Alternatives Analysis/EIS/EIR on Transit System Improvements in the Los Angeles Regional Core. It's a well-organized informative report.

We feel the Los Angeles region should select a rail transit project for its regional core. The technical data on freeway, surface street and bus capacity, population and employment density, and corridor travel point to a need for rail transit. Common sense about parking, smog, energy use by autos, and encouragement of compact development also point toward a rail transit line.

There are also financial reasons for preferring a rail line. After Proposition 13, it will be more difficult to pay the large, continuing operating deficits of bus transit than to find grants to build a rail line that can operate at a much smaller deficit. We feel UMTA would--and should--be willing to provide a major grant to help build this first piece of a rail system in Los Angeles, since it has helped pay for rail starter lines in Miami, Baltimore, Atlanta, and Buffalo where the justification and needs are not as great.

This first rail line should be built all the way to North Hollywood. The short line along Wilshire Boulevard--Alternative V--serves mostly as a distribution system for office/job centers; it doesn't reach Hollywood, where the rail line is intended to help revitalize an older, declining area. The medium line to Hollywood--Alternative IV--doesn't cross the mountains, which are a major auto bottleneck. A transit line should bypass a bottleneck, not begin at the wrong end of it.

We don't have a specific recommendation on the alternate routes to North Hollywood: via Fairfax, via LaBrea, or via Vermont. This first rail line will probably be followed by others in later years, possibly west toward Beverly Hills/Century City/Westwood or northeast toward Pasadena/Glendale. We feel the decision on routing for this first line should consider the travel that will need to be served on a future, larger system, in addition to the travel that will use this first line alone and the impacts this line will have.

July 5, 1979

LETTER No. 88

Mr. Richard Smith

- 2 -

August 27, 1979

WHY THE SUBWAY SHOULD TURN NORTH AT VERMONT

Commentary by John H. ...

We feel a tunneled subway would be preferred, to preserve existing urban communities with the fewest impacts. We also feel stations should be designed so that additional track can be run through in the future without tearing out the station and completely rebuilding it. Los Angeles is a large, spread-out area, and a rail transit system may want to include skip-stop express lines twenty or more years from now, which is much sooner than the end of this construction's useful life.

Finally, we have some comments of caution. The BART system in San Francisco was built without a coordinated land use and zoning plan around many of its stations. Los Angeles should avoid that situation. The City of Los Angeles should be required to plan and zone for intense, high density land uses around stations, starting as soon as station locations are chosen, before construction begins.

We're concerned about costs. Escalation rates are assumed to be 10%, and inflation 8%. Recent experience suggests these may be too low. That means the rail line will cost more to build and operate. We urge UMTA to fund a full 80% share of this first line, and the State to contribute as much as it legally has available. Local government should be required to show some available source(s) to cover whatever costs may be left. The region worked hard to agree on this starter line; we expect that, if one line can go into operation, the Los Angeles area will continue with further local money to expand that into a regional system.

We're also concerned about lead times for permits. In particular, historical preservation clearance has taken long times. If construction must be delayed, costs will go up. We urge that actions to obtain the permits and clearances needed be started as soon as possible.

We thank you for the opportunity to comment on this proposal, and we want to remain involved as the process moves toward a completed project.

Sincerely,



Deni Greene  
Acting Director

cc: Richard Gallagher

A. Limitations of My Concern

1. There are only two main issues of the Los Angeles MRT quagmire in which I am interested. Concentrating on too many issues can easily mire one in the bog. The two particular issues are the most crucial ones, though, I believe. First is the need to begin." We must make every effort to coalesce and compromise...and bring an MRT system into being, soon. The questions which must be faced-to at last get construction started-are mainly political and financial.

Second is the actual route which will be chosen. The social and economic impact of a route cannot be understated. Some routes are far less costly than others; some routes allow for much more rapid construction, with less disruption. The choice of a route will affect our city's development for all time.

2. In dealing with these two major issues, I am sidestepping other issues--such as the choice of modes, which certainly is significant and certainly is a subject of controversy. As far as these other issues are concerned, though, I believe we can be relatively confident in the results and recommendations which will emerge from the current RTD Corridor Study.

B. Background--the Interrelations of the Wilshire Plan and MRT

1. The basis of Los Angeles MRT planning seems to almost always have been a "conventional wisdom" about the obvious inclusion of a high-speed rail route (at one time a monorail, nowadays a subway) along Wilshire Boulevard. The seemingly unquestioned rationale has been:

--Wilshire is our traditional, glamorous "main street."

--The present (bus) transit system has always produced its highest patronage revenues in the "Wilshire Corridor."

2. Provision of transportation facilities, especially fixed equipment facilities, spurs development. This is a tested tenet of transportation planning literature. Evidence is right here in our own city--its shape and development were determined by rail lines and the routes of the Pacific Electric. The 1970 "Centers" concept of the City Planning Department is merely recognition of the existing commercial and residential centers of Los Angeles, and almost all of them developed on the 1920's PE routes. All informed sources agree that major "development" will occur surrounding the station sites of any modern Los Angeles Rapid Lines.

3. The present character of the "Wilshire Corridor" from the border with Santa Monica east to downtown (the CBD) consists of:

- a. Veterans Administration (open space).
- \* b. Westwood (med-high density commercial and residential).
- c. Residential (low density with some medium and high density on Wilshire).
- d. Golf Course (open space).
- \* e. Beverly Hills--west (to Beverly Dr. Increasingly high density commercial n. of Wilshire).
- f. Beverly Hills--east (Beverly Dr. to Robertson. Low-med. res. plus med. commercial on Wilshire).
- g. Miracle Mile, plus (low-med. res., med. commercial on Wilshire).
- h. "Park Mile" -to Wilton (low density res., Wilshire frontage mostly undeveloped).
- \* i. Wilshire Center (med-high commercial & residential, generally increasing both densities, -to-
- \* j. Westlake (with a substitution of commercial for residential as you near the CBD). -to-
- \* k. CBD

4. The Wilshire Plan. Chief among the continuing, major objectives which form this district plan ~~is~~ is the goal "...to promote the continued role of the 'Wilshire Center' and the 'Miracle Mile' as major regional 'Centers,' providing sites for large office buildings..."

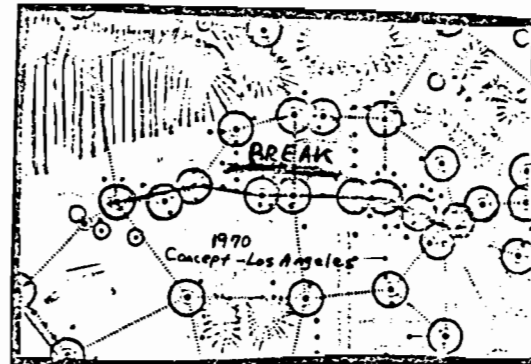
Today, there is a "Wilshire Center" which has developed and is continuing to develop high density office buildings, both north and south of Wilshire Boulevard, from Western--and more heavily, from Vermont--to the east (to the CBD). This center is being interlaced with more and more high density apartments (to serve employees of many of these buildings, presumably).

Today, the "Miracle Mile has not developed as a major regional center. Rather, there are a few high office buildings, spaced out only on Wilshire Boulevard. The rest of this part of our city, north and south of Wilshire Boulevard from Beverly Hills to Western Avenue, is primarily a residential area from very low density single family homes to duplexes and low to medium density apartments. A dense, high-rise "Miracle Mile Regional Center" could be promoted, no doubt, but it is not a part of the Los Angeles environment today.

The planners recognize that to "...facilitate rapid transit service...most of the additional population should be concentrated in proximity to the Centers," where the stations would be. Looked at the other way, we can say that where the stations are located is where the development will be.

5. This is the connecting linkage... here we see how a Los Angeles Rapid Line is interrelated with the Wilshire Plan. As we have seen, the "Miracle Mile" is not a center; it is only planned to become one in the wake of construction of a rapid transit station there. Now look at the asterisked districts in section 3, above. These areas on Wilshire Boulevard--Westwood, Beverly Hills (west), and "Wilshire Center" to Downtown--are actual centers and certainly will continue to be.

With the "Miracle Mile" removed, though, there is a gaping break in any "line" drawn from Westwood to the CBD along Wilshire, as can be seen in the map below.



Question--can we "connect the points" in a better manner than along Wilshire Boulevard?

6. In the beginning of this essay, I stated my two criteria for what I think is "better." The first issue--"the need to begin"--stressed the criterion of making a choice which will achieve political coalescence and allow us to start construction.

The second criterion is to minimize the impact of both the new system and the disruption during the years of construction.

These two criteria--"achievability" (speed in actually getting started) and "impact" (displacement and disruption, damage to aesthetics, area over-development) are "best" whenever there is more of the former and less of the latter. Using these criteria, look first at a rapid line on Wilshire and then at an alternative.

✓ WILSHIRE LINE

Alternatives I or II

"ACHIEVABILITY"/SPEED

"IMPACT"

POSITIVE ASPECTS

<p>-Garners political support of property owners around station sites.</p>	<p>-Connects west to CBD. -Gives construction jobs. -Benefits property owners around station sites. -As subway under Wilshire, will not require much condemnation of homes.</p>
--	---

NEGATIVE ASPECTS

<p>-Garners opposition from citizens opposed to increased Wilshire/Mir. Mile density. -Garners opposition from intra-regional core bus patrons whose service necessarily will be reduced as Wilshire trains replace. -As the two most lengthy routes under Wilshire, Alternatives I and II will be the costliest and slowest possible to complete. -As the costliest alternative(s), will garner opposition from penurious citizens.</p>	<p>-Reduces low density residential opportunities by spurring development. -As the most lengthy subway routes, the maximum construction disruption will be caused.</p>
--	--

✓ THE WESTSIDE LINE ...

which includes Alternative III

"ACHIEVABILITY"/SPEED

"IMPACT"

POSITIVE IMPACTS

<p>-Garners support from citizens opposed to increased density and congestion. -Garners support from property owners around new station sites. -As the shortest alternative, is the quickest to build and begin operating. (also has the possibility of elevated sections... even quicker to construct.) -As a clear departure from the more costly alternatives, it garners the support of the penurious who will applaud "economy in government." -Garners support from intra-regional core bus patrons whose service will not be so drastically impacted.</p>	<p>--Provides the better, ultimate connection of the west to the CBD (and to the Valley &amp; Hollywood, and vice-versa). -Gives construction jobs. -Benefits property owners around the new station sites. -Since it utilizes mostly subway, or available rights-of-way, will require little condemnation of homes. -Causes less construction disruption because it is less under-Wilshire subway. -Fosters needed redevelopment in an area (Hollywood) both in need and also already basically commercial or medium-high density. (Hollywood's "axis" is east-west; only Alt. III serves this axis.) -Allows more economical mix of transit modes, using buses in the short-haul Mid-Wilshire (north and south of the Boulevard) to CBD "sub-corridor." -Has fewer unfavorable aesthetic impacts because it follows the precedents of the routes of old, established transit lines.</p>
--	---

NEGATIVE ASPECTS

<p>-Garners opposition from Wilshire property owners who now won't benefit.</p>	<p>-Does not benefit the same property owners (the ones around certain Wilshire station sites). -The ultimate connection to the west might use (and therefore need) subsurface rights-of-ways under homes.</p>
---	--

7. Because of the interrelationship of MRT and community development, and based on a comparison of the criteria on the preceding two pages, Alternative III seems highly preferable to either of the Alternative I or II Wilshire Subways. It is the alternative in the best interests of the city's taxpayers, the city's potential transit patrons, and all the residents and transit patrons in the Miracle Mile and Mid-Wilshire sections of the Regional Core. Decision-makers should do their utmost to work for the construction of the preferable transit alternative...rather than the conventional "Wilshire Line."

1

C. Summary

There is a preferred, ultimate mass rapid transit route that is better than a "Wilshire Line" and that brings sounder development to the city in general and to the Wilshire, Fairfax, and Hollywood districts in particular. That alternative is Alternative III.

1

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(202) 225-3076  
DISTRICT OFFICE  
8425 WEST 30 STREET  
SUITE 400  
LOS ANGELES, CALIFORNIA 90048  
(213) 651-1040

Congress of the United States  
House of Representatives

Washington, D.C. 20515

HENRY A. WAXMAN  
24TH DISTRICT, CALIFORNIA

August 2, 1979

LETTER No. 89

COMMITTEE:  
INTERSTATE AND FOREIGN  
COMMERCE  
CHAIRMAN, SUBCOMMITTEE ON  
HEALTH AND THE ENVIRONMENT  
GOVERNMENT OPERATIONS  
DEMOCRATIC STEERING AND  
POLICY

BURT MARGOLIN  
ADMINISTRATIVE ASSISTANT

RECEIVED  
OCT 6 1979  
SCR TD  
OFFICE OF  
MGR. RAPID TRANSIT DEPT.

Ms. Marlee T. Coughlan  
CKT Associates  
Public Participation Consultants  
21050 Waveview Drive  
Topanga, California 90290

Dear Ms. Coughlan:

I very much appreciated receiving your recent letter on the proposed Rapid Transit Starter Line in the Wilshire Corridor in Los Angeles. From my review of this project, I am impressed with the service to the community this would provide, its potential contribution to revitalizing downtown Los Angeles, and its effect on surface traffic.

It is my hope a full consensus, which was apparently evident in the public hearings, can be developed on a particular route. Additionally, the proposal is fiscally attractive as it would not require any additional taxes.

Should this proposed mass transit line be formally adopted by Los Angeles, I stand ready to join with other civic leaders in supporting all necessary grant requests from UMTA.

I trust this letter is helpful, and look forward to staying in touch. With good wishes, I am,

Sincerely,

HENRY A. WAXMAN  
Member of Congress

HAW:bwo

## DEPARTMENT OF PARKS AND RECREATION

P.O. BOX 2390  
SACRAMENTO 95811

LETTER No. 90



OCT 10 1979

Richard Smith, Community Planner  
Office of Planning Assistance (UPM-12)  
Urban Mass Transportation Administration  
400 7th Street, S. W.  
Washington D. C. 20590

Dear Mr. Smith:

see Response # 63

Subject: EIS- Transit System Improvements In the Los Angeles Regional  
Core and Appendix

Thank you for the opportunity to comment on the referenced documents.

It appears that, in accordance with our previous understanding, an adequate inventory of cultural values in the core study area has been compiled. Similarly, the documents convey a generally comprehensible picture of anticipated impacts on cultural values. The data seem to indicate that, given certain assumptions, the bored tunnel alternatives and alternatives VII - XI might be least destructive to cultural resources. If the design of I - V could flexibly mitigate any potentially adverse effects at all points of surface or near surface contact, an even more persuasive case might be made. Alternatives VII - XI would also have such to recommend them as far as cultural values are concerned.

The discussion of subterranean depths seems to have focused on levels extending from roughly sixty down to two hundred feet. I have no way of knowing if these are realistic figures. If they do indeed represent accurately the limits of underground activity, there might be justification for contending that the possibility of encountering archeological values is minimal. However, I can neither affirm nor deny the accuracy of this contention. Certainly, where station parking, power collection and distribution requirements, control and communication facilities, transition areas to freeways and other mass transit nodes, maintenance and storage facilities, and other needed appurtenances come into play, the probability of impacts becomes greater, regardless of which system is ultimately selected. In my opinion, an important factor is the degree of design, i.e., relocation, modification, flexibility the various competing systems afford.

The next step, as I understand it, will be the selection of a corridor and/or system. In keeping with earlier understandings, we anticipate that an intensive study of the selected corridor by qualified professionals in all appropriate disciplines will be conducted as a prelude to identifying all

## DEPARTMENT OF PARKS AND RECREATION

P.O. BOX 2390  
SACRAMENTO 95811

Richard Smith  
Page 2

MR, eligible, and potentially eligible values located within the undertaking's area of potential environmental impact. I will not comment on any recommendations regarding mitigation of impacts made so far. These details can be addressed at the appropriate time.

It is vitally important that this Office be extended all the consultation opportunities which various federal authorities require. Beyond that, it would be most helpful and in the long run, most expeditious for the undertaking, if we could be fully integrated into all the critical decision points affecting the treatment of cultural values. This might begin with a discussion of an approach to study of the selected corridor and who would be appropriately qualified to conduct it.

Please feel free to contact Hans Krentzberg of my staff at (916) 322-8700 if you have any questions regarding these comments.

Sincerely,

Original Signed by  
Dr. Knox Mellen

Dr. Knox Mellen  
State Historic Preservation Officer  
Office of Historic Preservation

HK:pp

cc: Peter Broy, Senior Planner  
Rapid Transit Department  
SCRTD  
425 South Main Street  
Los Angeles CA 90013



## E. RESPONSES TO SUBSTANTIVE COMMENTS

In order to respond efficiently and in a consistent manner to all of the individual oral and written comments received, it was necessary to group several such comments into common points of concern. These common points of concern are defined as "substantive" comments, and for each such comment there is also a corresponding substantive response.

What follows is a "comment-response package" which consists of a series of concise statements that constitute these substantive comments. Below each such comment is a set of references which consists of one or more written or oral individual comments that apply to the substantive one. The individual written comments are referenced by their index number (See Section "D"), and the oral comments are referenced by session and transcript page number (See Section "C").

The comment responses follow:

### 1. Comment

A further comparison of the Vermont, La Brea and Fairfax alternatives was requested. It is thought by some persons that the Vermont Alternative (III) is the best one to select.

#### References

Letters 5, 6, 7, 55, 57, 60, 62, 65, 70, 71, 72, 73, 76, 88

#### Response

##### Introduction

Widespread support for a rail/bus alternative was given at the recent public hearings on the Regional Core Transit Alternatives. There was, however, some disagreement as to which rail alternative should be selected. This discussion presents supplemental data on the alternative rail alignments to aid in reaching a conclusion on the matter.

It should be emphasized that in determining the Preferred Alternative, project costs, patronage, population/employment density, operating efficiency, environmental impacts, funding, and a host of other issues were studied.

##### Centers

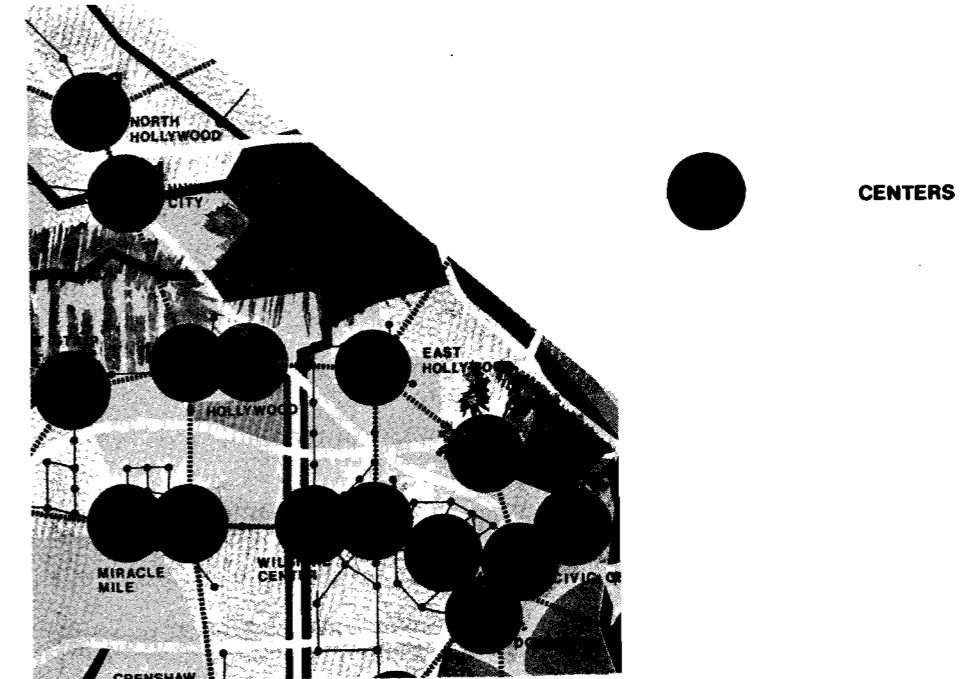
In its land use policy, the City of Los Angeles has identified, throughout the city, a number of centers which are to be developed as the focal points of concentrated urban activity. Further, it has been recognized by the city that direct and effective mass transit access to these centers is essential to their complete development.

A more detailed discussion of the City's land use policy can be found in Chapter V of the Final Alternatives Analysis/Environmental Impact Statement/Environmental Impact Report (AA/EIS/EIR). The matrix shown on the next page identifies the adopted City centers which are directly served by each rail alternative. The major centers are divided into significant and distinct sub-centers. For Example, the Miracle Mile Center is divided between La Brea and Fairfax, both major focal points of activity. See Figure 1 for a map of the centers identified.

Centers	Rail Alternatives Served				
	I	II	III	IV	V
Civic Center	x	x	x	x	x
Central CBD	x	x	x	x	x
Westlake	x	x	x	x	x
Wilshire (Vermont)	x	x	x	x	x
Wilshire (Western)	x	x		x	x
Miracle Mile (La Brea)	x	x		x	x
Miracle Mile (Fairfax)		x			x
East Hollywood			x		
Hollywood (Vine)			x		
Hollywood (La Brea)	x	x		x	
Universal City	x	x	x		
North Hollywood	x	x	x		
Number of Centers Served	9	10	8	7	7

Examination of this matrix reveals not just those centers served but also those which are not served. Alternative I does not serve the western end of the Miracle Mile and provides only limited service to Hollywood. Alternative II provides limited service to Hollywood. Alternative III, though it provides better service in Hollywood, does not serve Wilshire Center or the Miracle Mile. Alternative IV does not serve the San Fernando Valley nor the western end of the Miracle Mile, and provides limited service to Hollywood. Alternative V does not serve the San Fernando Valley nor Hollywood. Thus, it becomes clear that the selection of any particular alternative will necessarily require trade-offs among centers and communities served.

FIGURE 1  
ADOPTED CITY CENTERS  
IN THE REGIONAL CORE



1. North Central Los Angeles
2. Central Los Angeles
3. Westlake
4. Wilshire (Vermont)
5. Wilshire (Western)
6. Miracle Mile (La Brea)
7. Miracle Mile (Fairfax)
8. East Hollywood
9. Hollywood (Vine)
10. Hollywood (La Brea)
11. Universal City
12. North Hollywood

SOURCE: Concept Los Angeles, Adopted by Los Angeles City Council in 1974.

FIGURE 2

TWO MILE WIDE RAIL CORRIDORS  
BY CENSUS TRACT

Centers of Interest

The Regional Core is filled with many centers of interest; be they public, recreational or entertainment facilities. While the majority of these centers are listed in either the Final AA/EIS/EIR or its **Appendices**, some of the more notable facilities and their relationship to the various rail alternatives merit more discussion.

A major concentration of medical facilities exists in East Hollywood. Among these are the Hollywood Presbyterian Medical Center, Children's Hospital, Kaiser Hospital and the Braille Institute. Alternative III is the only rail alternative which directly serves these facilities.

Another major medical complex in the Regional Core exists at Cedars Sinai which is just west of Fairfax.

A list of all the medical centers in the regional core was compiled. There are 24. Alternative II would serve 21 of these directly or with one transfer and not more than a 10 minute bus ride. Alternatives III and I would serve 17 and 16 of these centers, respectively.

The route of Alternative III, through Hollywood, would best serve the many movie houses and theatres along Hollywood Boulevard.

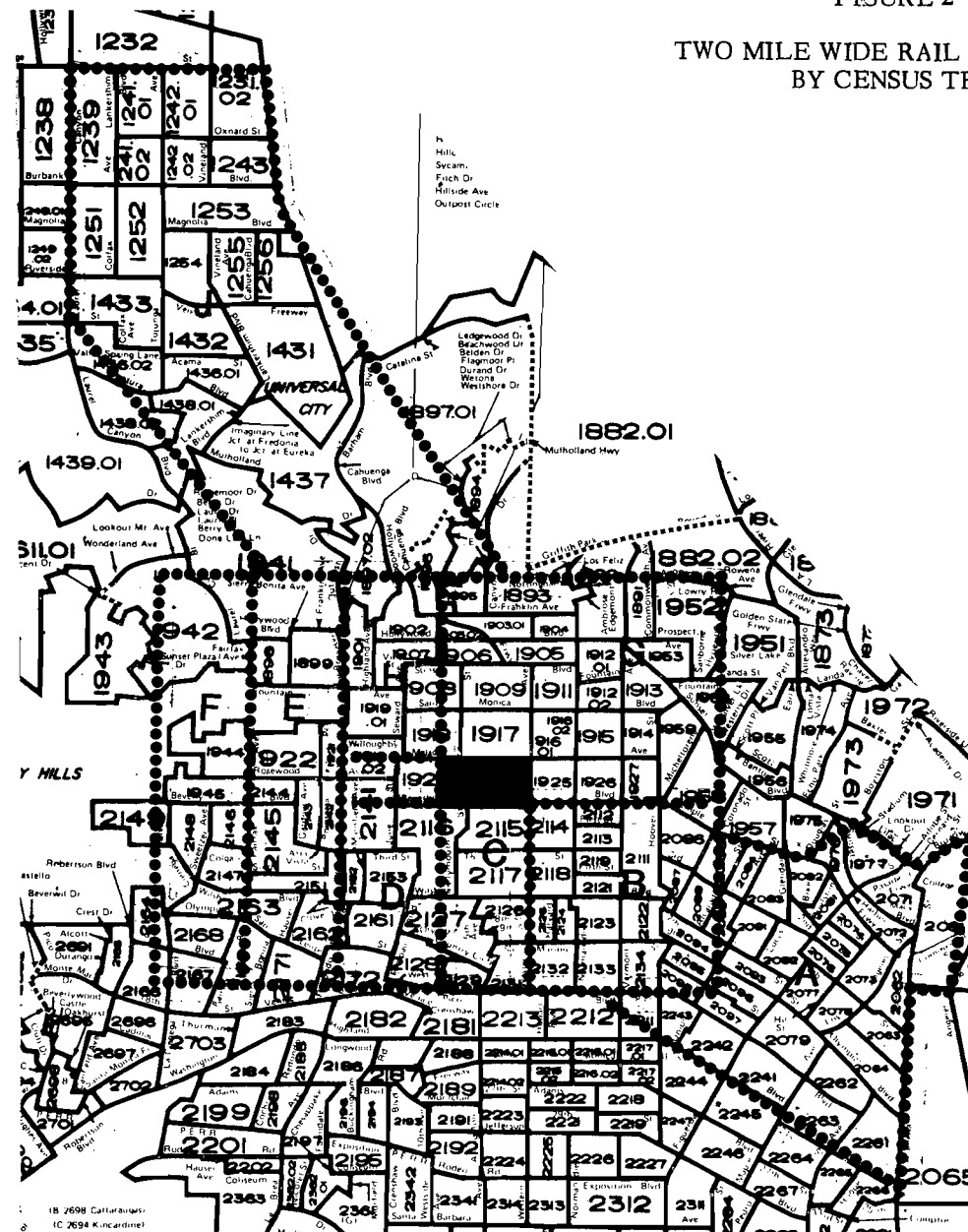
There is a heavy concentration of cultural, tourist and entertainment facilities at the western end of the Miracle Mile. The Los Angeles County Art Museum, Page Museum, and Farmers Market can only be directly served by Alternatives II and V. Alternative II additionally serves CBS Television City and the Farmers Market.

The Hollywood Bowl, Universal City Studios and Universal Amphitheatre are regional entertainment centers. Alternatives I, II and III serve these facilities. Alternative IV only serves the Hollywood Bowl.

Demographics

Population and employment densities were calculated for the La Brea, Fairfax and Vermont rail corridors (Alternatives I, II and III, respectively). Densities were obtained for two mile bands around each alignment from Vermont and Wilshire to the Hollywood Bowl (See Figure 2). The census tract blocked out is not included in any of the 3 alignments.

1978 population was summed by census tracts using, "Population, Housing and Acreage," a Los Angeles City Planning Department document dated October, 1978. The most current employment data was



Alternative I (La Brea)      ABCDEHIJ  
 Alternative II (Fairfax)    ABCDEFHJ  
 Alternative III (Vermont)    ABGHJ

obtained from the County's 1973 Industrial, Commercial Employment Estimate file. Based on these data the following corridor densities were computed.

Rail Corridor Demographic Comparison

<u>Alternative</u>	<u>Population Density</u>	<u>Employment Density</u>
Alternative I (La Brea)	11,500/sq.mi.	12,000/sq.mi.
Alternative II (Fairfax)	11,500	11,500
Alternative III (Vermont)	12,000	12,500

The computer model used in determining the patronage used a methodology which analyzed each traffic analysis zone in the LARTS region to determine if any persons from that zone would use the 18 mile rail system. There were no arbitrary boundaries or cut off lines. Station Influence Areas were devised to show where the patrons would come from and how they would arrive (i.e., by auto, walk, bus, etc.).

The following data was excerpted from the Demographic Appendix, II.K.

1976 Population and Employment in Station Influence Areas Between the Vermont/Wilshire & Las Palmas/Selma Stations, Inclusive

	<u>Alt. I</u>	<u>Alt. II</u>	<u>Alt. III</u>
Population	490,583	494,592	325,498
Population Density	11,254	10,282	9,156
Employment	353,360	344,120	242,290
Employment Density	8,106	7,154	6,815

It can be seen that the influence areas for the stations in Alternatives I and II extend over more area and serve significantly more residents and employment than do those in Alternative III.

Transit Dependency

The measures of transit dependency most frequently cited are income levels, young and old age, physical handicap and lack of auto availability. Data for the census tracts within walking distance of the three alternatives in the Wilshire/Hollywood area is shown in the following table. This table indicates that the Vermont alignment shows the lowest income level, while the Fairfax alignment shows the highest number of persons under 16, over 65, handicapped and auto less households.

Measures of Transit Dependency

	La Brea (Alt. I)	Fairfax (Alt. II)	Vermont (Alt. III)
Average median Family Income	11,272	10,951	8,334
Persons under 16 years old	10,826	13,158	10,579
Persons over 65 years old	21,564	32,034	17,168
Handicapped Persons	420	563	480
Auto less Households	18,377	23,714	22,593

Source: 1970 Census. From the Los Angeles County Transportation Commission Route Selection Report, Dated November 14, 1979.

Current Bus Ridership

Current bus ridership data for lines which operate over streets which follow the various rail alignments were collected as another measure of corridor comparison. Average weekday, all-day, two-way link volumes for the identified street segments are listed below in descending order.

Average Weekday, All-Day, Two-Way Link Volumes			
Street	Limits	Link Volume Range	No. Bus Lines
Wilshire	Vermont-Fairfax	18,000 - 20,500	3
Vermont	Wilshire-Sunset	10,000 - 18,000	4
Hollywood	Hillhurst-La Brea	12,000 - 16,500	6
Fairfax	Wilshire-Sunset	9,000 - 10,000	3
La Brea	Wilshire-Sunset	3,000 - 3,500	1

This table shows that Wilshire Boulevard has substantially higher link volumes than do the other streets. Vermont, Hollywood and Fairfax are quite high while La Brea is not so heavily traveled.

Another measure of transit activity along these corridors are on and off movements (boardings and alightings). It is difficult to make a relative comparison of this activity as each street has many stops and the on and off activity may range from as few as ten to as many as five thousand. However, to provide some measure of distinction, average on and off movements were collected at only the major intersections. (The limits for the street segments were the same as those described in the Link Volume Table, above.) Again, the data is shown in descending order.

Average Daily On and Off Movements at Major Intersections	
Wilshire	2,700
Hollywood	2,000
Fairfax	1,500
Vermont	1,300
La Brea	500

Again, Wilshire shows a very high level of on-off movements, while La Brea shows the much lower level. Hollywood, Fairfax and Vermont all experience substantial transit on-off activity.

Summary and Decision

Alternatives I, II and III serve the highest number of Los Angeles City Centers, with Alternative II (Fairfax) directly serving the most -- ten. The Vermont corridor (Alternative III) has slightly stronger demographic support within one mile of each side of that line; but Alternatives I and II are significantly stronger when their larger station influence areas are considered. Wilshire Boulevard (Alternatives I and II) is clearly more significant in terms of current transit (bus) activity, and service to transit-dependent groups (i.e. under 16, over 65, handicapped, and autoless households). Alternative III serves more low income groups.

Based on the factors considered herein, and many other issues which are discussed in this Final AA/EIS/EIR, the SCRTD Board adopted Alternative II as its "Preferred Alternative". For more details see "Rationale for Selection of Alternative II as the Preferred Alternative", in Chapter II, Section D of this Report.

The Los Angeles County Transportation Commission has also prepared a Report entitled "Regional Core Rapid Transit Route Selection Report" dated November 14, 1979, which compares the three alternatives discussed here, and recommends the selection of Alternative II. Copies of this report are available from the Commission's office.

2. Comment

The Hollywood Revitalization Committee and the Hollywood Chamber of Commerce and others have suggested that the station proposed in Hollywood along Alternatives I and II in the vicinity of Las Palmas Avenue and Selma Avenue be relocated to Cahuenga Boulevard and Hollywood Boulevard. The Los Angeles City Council asked that equal consideration be given to those locations.

Reference

Letters No. 5, 7, 9, 50, 58, 76<sup>3</sup> and Oral Testimony: Mr. Sheldon Davidow, Session C, p. 31.

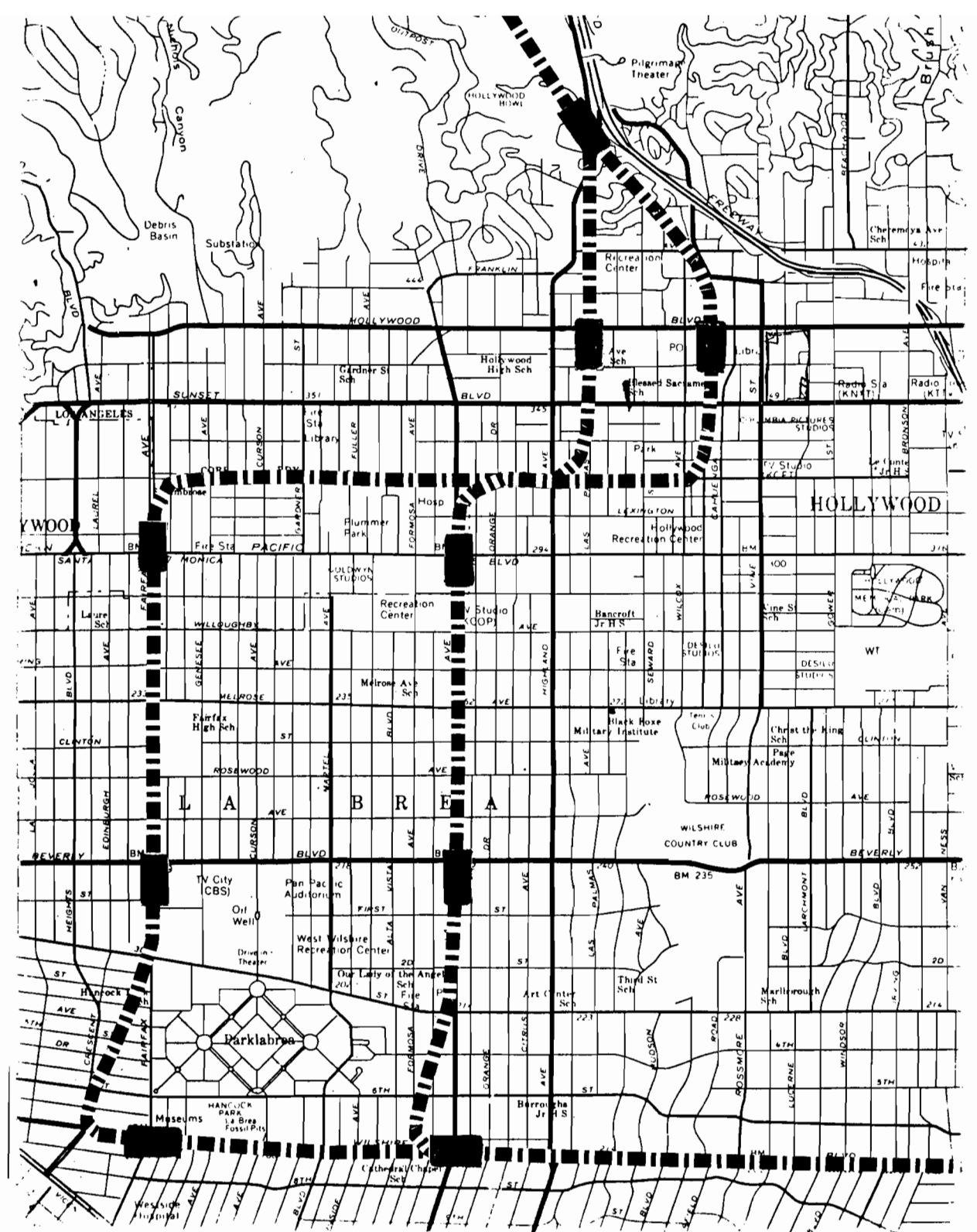
Response #2

1. Background

The Hollywood commercial district is approximately 3 miles long, extending on both Hollywood and Sunset Boulevards from Vermont Avenue on the east to La Brea Avenue on the west. At the Vermont end there is a very large medical complex. Most of the movie-television-music industry in Hollywood is located in the westerly portion of this commercial strip. There are legitimate theatre and cinema concentrations in the vicinity of both Vine Street and Highland Avenue. A Broadway Department Store is located at Vine Street and small retail establishments are fairly evenly distributed along the line.

The Los Angeles City Council adopted the Centers Concept for Los Angeles in 1974. It features three centers. One is the hospital complex at Vermont Avenue; the second is the east Hollywood commercial core centered on Vine Street; and the third is centered on Highland Avenue. This concept indicates a rapid transit line from the south under La Brea Avenue with a transit station in the Highland Avenue Center (vicinity of Highland and Hollywood Boulevard). This concept also features an auxilliary east-west transit line along Hollywood Boulevard connecting these three centers, and extending both east and west from Hollywood.

Hollywood, as a whole, has experienced a general decline in its commercial and residential character over the past twenty to thirty years. Approximately two years ago the City of Los Angeles officially designated the Hollywood Revitalization Committee, working in close coordination with the Hollywood Chamber of Commerce to begin efforts to improve Hollywood as a place in which to live and work. Several federally funded housing and commercial projects have been initiated to assist in this effort.



2. Impacts

A. Length of Line

To move the station from Las Palmas to Cahuenga would require an additional 2,900 feet of tunnel and track.

B. Station Location

The northerly end of the station structure would be located just north of the north side of Hollywood Blvd. and would extend south for approximately 500 feet.

C. Cost

To construct the additional 2,900 feet of tunnel and track, the escalated capital cost would be approximately \$25 million.

D. Travel Time

The additional travel time added by the additional length of tunnel would be approximately 30 seconds.

E. Patronage

Since Las Palmas and Cahuenga are less than a half mile apart, no reliable patronage difference can be estimated. However, one might infer from the fact that there is considerably greater bus boardings and alightings and somewhat greater density of population surrounding the Las Palmas location that the ridership at Cahuenga might be somewhat less than at Las Palmas.

As mentioned by the Hollywood Chamber, it should be noted that a large portion (about 60 percent) of the arrivals at the Hollywood station would be from the east and west of the station via feeder buses, and therefore it would appear inconsequential to these passengers whether the station were located at Las Palmas or at Cahuenga.

F. Cultural-Historical

The Hollywood Revitalization Committee staff have recently completed a review of buildings in most of the Hollywood Core Area. There are a number of significant or potentially significant buildings along Hollywood Blvd. and on side streets. They conclude the least impact on these structures would be caused by a station

located at Cahuenga Blvd. centered on Selma Avenue midway between Hollywood Bowl and Sunset Blvd. There are buildings of significance along Hollywood Blvd. both at Cahuenga and Las Palmas.

G. Joint Development

It is the intent of the Hollywood Revitalization Committee to encourage more development and redevelopment in the east Hollywood commercial core centered on Vine Street in the vicinity of Cahuenga. These include one new hotel complex announced to be constructed within two blocks of Cahuenga Boulevard, and plans for a regional shopping center for which land has been assembled. The Committee feels that the present level of development in the Highland Avenue area is sufficient for the foreseeable future and there is more need and opportunity in the Cahuenga-Vine vicinity.

There are significant amounts of land in the Cahuenga vicinity with surface parking and low rise buildings and thus joint development opportunities should be considered as good. The area in the vicinity of LasPalmas and Selma (which area would be redeveloped as a result of a transit station there) is the principal "problem" area in Hollywood. Thus joint development opportunities should be considered good in either location.

It must be kept in mind that Hollywood is essentially a strip type commercial area along Hollywood Blvd. and Sunset Blvd. There are no substantial concentrations of buildings or activities in any one particular location in the several mile long strip type core.

H. Traffic Circulation

The current daily traffic volumes were developed in a study by Associated Parking Consultants and made available in a draft report dated July 9, 1979

<u>Street</u>	<u>Direction</u>	<u>24 Hr. Volume</u>
Hollywood Blvd.	E-W	30,000-34,000
Sunset Blvd.	E-W	46,000
Highland Ave. (Near Hollywood Blvd.)	N-S	47,000-52,000
Las Palmas (2 blocks E. of Highland)	Is a narrow discontinuous local street and thus no estimates are available.	
Vine Street	N-S	19,000-28,000
Cahuenga Blvd. (3 blocks W. of Vine near Hollywood Blvd.)	N-S	16,000-18,000

The reason an Urban Design Consultant proposed the station on Las Palmas easterly of Highland Avenue was to avoid the already overcongested intersection of Highland and Hollywood Blvd. The local street system is discontinuous in this immediate area and appropriate changes could be made at the time of construction of the station to provide for traffic circulation and access. Station locations shown in the Draft Report are not exact and during preliminary engineering various conditions could cause minor shifts.

Wilcox Avenue and Vine Street are two nearby north-south arterials which could be used as alternatives to avoid any traffic slow up due to a station at Cahuenga. A station at Las Palmas would not adversely effect traffic on Highland.

I. Employment Characteristics

Block level employment estimates are not available and thus no careful study can be made of which station might serve more employees. However some general comments are appropriate.

Both stations are located within census tract 1907 which had (according to the 1973 ICE File) 7,397 employees. The Cahuenga station would be about 1/2 mile east of the Las Palmas station. In reviewing the census tracts to the east and west of this tract we find that they have very similar numbers of employees, about 3,000 on either side. Keeping in mind that Hollywood is essentially a 3 mile long strip commercial area it becomes even more apparent that there are no especially large concentrations of employment in this corridor.

J. Residential Characteristics

In examining the same census tracts for residential characteristics as the employment data it is evident that the Hollywood Las Palmas station would serve directly a somewhat greater number of residents, 18%.

	<u>Hollywood Las Palmas</u>		<u>Hollywood Cahuenga</u>
CT 1901	4,752	CT 1902	6,792
CT 1902	6,792	CT 1903.02	396
CT 1907	2,833	CT 1906	2,210
		CT 1907	<u>2,833</u>
	<u>14,377</u>		<u>12,231</u>

Again the linear nature of Hollywood, with the excellent feeder bus service along both Hollywood and Sunset Boulevards make such a micro-residential evaluation almost meaningless. A majority of persons living in the Hollywood community who would use the rapid transit system can be expected to use the feeder bus system to get to the station, irrespective of its location.

It should be noted that as far as the Hollywood Community Plan is concerned, it does not recommend a particular station stop but both proposed stations are in the "Regional Center" which the plan designates for both high density commercial and residential development. The Cahuenga Station is closer to both the federally financed Neighborhood Strategy Area and the HOME Program Housing rehabilitation projects in Hollywood, both located south of Sunset Boulevard.

K. Bus Patronage

Current Bus Ridership Information

Five different bus lines operate along Hollywood Blvd. between Highland and Cahuenga (RTD lines 81, 85, 89, 91 and 436). For these five bus lines there are, at Hollywood and Highland, 8,100 all-day on and off movements, while at Hollywood and Cahuenga, there are only 1,800.

It should be noted, however, that there is considerable more on-off activity at Hollywood and Vine which is two blocks west of Cahuenga. At that location the daily on and off movement is 6,500 - higher than Cahuenga, but still lower than Highland.

Summary and Decision

Although the Hollywood/Cahuenga location does not show a noticeable advantage over the Las Palmas/Selma location in terms of the quantitative factors considered, the SCR TD Board of Directors has determined that there are other considerations which outweigh this numerical comparison. Specifically, it was felt that the revitalization of Hollywood would be better effectuated by relocation of the Hollywood/Las Palmas station to the Hollywood/Cahuenga location.



3. Comment

The letter from the L. A. City Council suggests deletion of the rapid transit station at the Hollywood Bowl.

Reference

Letter #9, 40, 41

Response

Alternatives I, II and III travel via different routes from the Los Angeles Central Business District to North Hollywood. Each alignment passes through the Santa Monica Mountains via Cahuenga Pass and a rapid transit station has been shown in this Final Report in the vicinity of the Hollywood Bowl. The main function of such a station would be to provide access to that cultural, entertainment facility which is only active about 50 evenings per year.

The hilly, local geography, which surrounds the Bowl, forms a barrier between the San Fernando Valley and the Los Angeles Basin, and it is a low density, high income, residential area.

The population density adjacent to the station is quite low, only 2,300 persons per square mile and employment is only 480 employees per square mile. Because of the hilly terrain and the very low population and employment density, there is no bus service in the area except for trips running through the Cahuenga Pass on the Hollywood Freeway. The patronage projections indicate a very low station volume at this location. The 24-hour, average weekday station volume for the Hollywood Bowl was forecast to be approximately 5,000 persons. This volume is well below the range of 15 to 67 thousand that is projected for other stations along the route.

Two arguments advanced in support of a station at the Hollywood Bowl are: (1) that it could be used as a park-and-ride station and (2) that it would provide improved service to the Hollywood Bowl, itself.

While the existence of 3,600 parking spaces at the Bowl would ordinarily make the site an attractive candidate for a park-and-ride station, the mode split analysis shows a demand for no more than 200 spaces. Park-and-ride trips originating from the Valley would logically and preferably be intercepted at the Universal City and North Hollywood Stations.

There is no doubt that a station at the Hollywood Bowl would improve access to that entertainment facility. The real question is whether or not the improved service, just for this facility, can justify its capital and operating cost.

3. (Cont'd)

The Hollywood Bowl is an 18,000 seat, open air, musical amphitheatre -- the summer home of the Los Angeles Philharmonic Symphony Orchestra. The season runs from July through September, operating four nights weekly with approximately 45 to 50 total performances. The average nightly attendance is approximately 10,000, of which about 2,000 or 20% now arrive aboard SCRTD and other private buses. While the Starter Line could be expected to provide transportation for many of these people and some additional auto travelers as well, Hollywood Bowl patrons come from all over Los Angeles County.

Under contract with the Philharmonic, special SCRTD bus service is provided (about 30 round trips) from locations in Hollywood, Westwood, Universal City, Pasadena, Torrance, Carson, Westchester, Northridge and Long Beach. SCRTD is reimbursed the full cost of this service by the Philharmonic, net of fare revenues.

The total estimated, capital cost of a Hollywood Bowl Station could be in excess of \$30 million in escalated dollars.

Decision

In view of its providing transit service to a major county cultural, entertainment facility, the SCRTD Board agreed to retain this station, as a special purpose facility, to be operated during Hollywood Bowl events.

4. Comment

Many proposals were made to extend the rail rapid transit system outside the original regional core study area.

Reference

Letters 12, 33, 42, 44, 61, 63, 64, 67, 69, 78, 79  
Oral Testimony: Mr. Steven Morris, Session A, p. 42; Dr. A. Falick, Session A, p. 38; M. Winegar, Session B, p. 35; Mr. Pompa, Session E, p. 57.

Response

Greatest need for fixed guideway rapid transit service has repeatedly been found (by numerous previous reports made for Los Angeles) to be in the Regional Core Area within which the U.S. Secretary of Transportation, in December 1976, authorized the District to study possible alternative solutions.

We well realize that some extensions are needed, but a start must be made and available funding should first be used for the initial segment. Extensions will follow as demand is generated and funding becomes available. The ability to extend will, without any doubt, be provided for in the design of the initial line.

5. Comment

Cut in half the amount of time it takes for construction from six years to three years.

Reference

Letters 34, 40, 41, 42  
Oral Testimony: Dr. Falick, Session A, p. 34 and Session F, p. 38 and Dave Waters, Session F. p. 53.

Response

The existing environmental impact laws and other institutional requirements will not allow acceleration of construction. If all these requirements were relaxed, we could accelerate construction by about 2 years (i. e., from mid '88 to mid '86). Session F-12, p. 40).

6. Comment

It is proposed that the downtown section of the Rail Starter Line consist of a loop subway, instead of the present alignment via Broadway and 7th Streets. It is also suggested that the eastern leg of this loop be on Spring Street, the western leg on Flower Street, the southern leg on 7th Street and the northern leg on 1st or 2nd Street.

Reference

Letter No. 40, 41  
Dr. Falick, Session A, p. 36 and Session F., p. 38; Mr. Dave Waters, Session A, p. 53; and Mr. Stan Hart, Session F, p. 28.

Response

1. This use of a loop would mean the initiation of a new line to serve South Central Los Angeles and while we are aware of the importance of such a line - it would mean starting an entirely new project for which we do not have authorization nor funding.
2. Assuming a double track subway, with a Y-connection at 1st and Spring, as shown in proposed plan in Figure 2, and an over-under tunnel and station arrangement at 7th and Flower (as shown in Figure I), the loop involves, in effect, operating two lines on the same track. The minimum practical headway for operating rail systems is two minutes. So a loop configuration would mean the closest headway on each line beyond the loop would be 4 minutes. If three lines used the loop that would increase to 6 minutes on each line beyond the loop. This is not satisfactory as, due to passenger volume, we must be able to operate all the way out Wilshire on a 2 minute minimum headway in the future.
3. The Y-junctions would involve train margins at grade and any delay on one branch could adversely effect the other line.
4. A loop would duplicate, to some extent, the proposed DPM. However, if it should not be implemented, then a further analysis of the best location for the South Central/Eagle Rock Line (i. e., alongside the Wilshire Line on Broadway, or on Flower and 1st Streets) should be made.
5. Loop service would reduce the need for transferring, but at the expense of capacity which means longer minimum headways on the lines involved in the loop.
6. For through passengers, the time to go around the loop may exceed the time it would take to get off and transfer to a separate line.

6. (continued)

Spring Street Alignment for Loop Subway vs. the Broadway Alignment

The Spring Street leg has some advantages from the joint development aspect. However, there are certain other advantages to locating the line on Broadway. These are discussed as follows:

Re: Spring Street Alignment

- (1) There are more potential joint development opportunities along Spring Street between First Street and Seventh Street than along Broadway.
  - a. There are more parcels of land used for surface parking than on Broadway.
  - b. There are more vacant or substantially vacant office buildings along Spring Street in this vicinity than on Broadway.
- (2) The Community Redevelopment Agency has been developing a plan for the revitalization of Spring Street, but no definite plans have yet been announced. Spring Street appears to need more assistance than Broadway since many financial and banking offices have moved to the west side of downtown, leaving a lot of vacant buildings.
- (3) A station between 5th and 6th on Spring Street would provide good access to Broadway through the Arcade Building.

Re: Broadway Alignment

- (1) There is substantially more active commercial activity along Broadway.
- (2) There is substantial "loft" space along Broadway. There is very little along Spring Street. These lofts could be used for secondary activities, and may offer some joint development potential, but not of the level as the office space along Spring Street, according to the Community Redevelopment Agency.
- (3) There was a recent proposal developed by the Los Angeles City Engineer to create a "bus mall" along Broadway between Second Street and Ninth Street. The idea has been dropped for the present time. It may be revived at some time in the future. No such proposal has been made for Spring Street as it is a one way street paired with Main Street. Should it be revived, it would present an excellent transportation interface.

6. (continued)

- (4) There are many more persons who use the bus lines on Broadway as indicated in the link volume study at 5th and Broadway and 5th and Spring. Spring Street has a contra-flow bus lane on it.

	<u>Broadway</u>	<u>Spring Street</u>
Volumes of Bus Passengers passing 5th Street on RTD Bus Lines in one day.	27,706	14,195

Conclusion

This assessment indicates that the alignment along Broadway would best serve both the transit needs of the area and the development potential along Spring Street.

7. Comment

A suggestion was made that the Rapid Transit System accomodate bicycles.

Reference

Letter 56, Oral Testimony by Glen Bailey, Session A, P. 54

Response

This is a design detail that will be evaluated during preliminary engineering.

8. Comment

Several suggestions were made to insure full accessibility of the rapid transit system to the handicapped.

Reference

Letter No. 20, 43  
Oral testimony, Dennis Cannon, Session A, P. 60

Response

A statement to this effect, has been included on page II-13, Chapter II of the Report. To the extent possible and in accordance with Federal Law, Preliminary Engineering will assure full system accessibility for the handicapped.

9. Comment

Since the property in the vicinity of the proposed transit stations will increase because of this system, have those property owners contribute towards paying for the system.

Reference

Oral Testimony: Mr. Art Schneider, Session B, P. 59; Mr. Ken Gregory, Session F, p. 20.

Response

**This Final Report explored Joint Development/Value Capture possibilities at considerable length. (See Chapter VI).**

In this regard every effort will be made to develop some revenue to assist in defraying some of the system cost. This matter will be considered in Preliminary Engineering during the finalization of the construction financing.

10. Comment

Many persons suggested that the feeder bus service should be well organized and adequate to do the job necessary.

Reference

Oral Testimony: Mr. Ken Gregory, Session F, p. 20;  
Mr. Glen Bailey, Session A, p. 54.

Response

This matter has been discussed at length in several sections of this Final Report. Our bus operation cost estimates for each alternative are based on the cost of re-routed bus lines to serve the stations. The feeder bus service plans will be further refined during preliminary engineering.

11. Comment

Is this system safe from earthquake damage?

References

Mr. Greg Roberts, Session B, p.48; Ms. Phyllis Roberts, Session B, p.57; Mr. David B. Leary, Session D, p.68.

Response

This matter has been discussed at length in the report and in Appendix II.A., Part 3. It is the conclusion of the District's special consultants, Lindvall, Richter and Associates, that one is safer in deep tunnels than in structures on or above the ground surfaces.

12. Comment

How is East Los Angeles served by the Starter Line?

Reference

Ms. Toni Rini, Session E, p.39

Response

East Los Angeles, at present, has excellent bus service into the CBD and this will permit residents of East Los Angeles to board the rapid transit line and have much improved access to jobs and shops and public attractions along the Wilshire Corridor, Hollywood and North Hollywood.

13. Comments

Use a Personal Rapid Transit System (PRT) instead of conventional rail.

Reference

Mr. Michael Clements, Session F, p. 46

Response

In the 1973-74 report recommending a 145 mile rapid transit network, we retained a consultant to review all transit technology. PRT and all other known system proposals, were given a great deal of attention. The conclusion was that other than the type of rail rapid transit that has been proven in New York, Chicago, Philadelphia, Toronto, and most other major cities of the world, no other system has yet passed the test of time -- they are all "experimental" and a period of 10 years or so would be required to construct and adequately test any of them under heavy passenger load conditions. Therefore, the mode to use for immediate implementation is a regular, large car, rail rapid transit.

14. Comment

Provide for easy distribution throughout the CBD by Pedways, Moving Sidewalks, etc.

Reference

Mr. Ken Gregory, Session F, p. 21

Response

With the exception of Bunker Hill area, most major job centers in the CBD are within 1/4 miles (1320' or 2 long blocks) of one of the 3 stations proposed in the CBD. The City's proposed Downtown People Mover will provide additional, and even shorter access up and down the westerly side of the CBD. If the DPM does not become a reality, a line to serve South Central Los Angeles could be brought up by the Convention Center along Flower Street with stations at 7th and 2nd, thence east on 1st Street to Civic Center and Union Station.

15. Comment

The City of San Fernando does not favor any rapid transit project that uses gas tax revenues that are allocated to cities.

Reference:

Letter No. 22

Response

We are not asking for any of the gas tax funds which go to cities. But, over 60% of voters in the entire county in June, 1974, voted to authorize the use of up to 25% of this area's gas tax funds for rapid transit. We are asking only for the allocation of the state's share of these funds -- not the shares which are allocated to the County nor to the cities in the County.

16. Comment

Since some Flood Control projects are in the vicinity of the proposed rail line, a careful environmental impact study should be made.

Reference

Letter No. 10

Response

During preparation of the Alternatives Analysis and Environmental Impact Statement Report, evaluation of the impacts of the proposed project on all existing public utilities, including the storm drain system, and the cost of maintaining existing utility systems was a matter of important consideration. The City of Los Angeles Engineering Department reviewed all major underground utilities and prepared 139 reproducible maps covering the alternative alignments. These maps identify the existing utilities and show their recorded locations in plan and elevation. These are in the files of the District's Rapid Transit Department.

Information on utilities was used in preparing cost estimates for the alternative alignments and the various configurations and methods of construction which were evaluated. Documentation of the cost estimates for utilities is found in the capital cost estimates of the report and most significantly in the special study on a Cut-and-Cover cost estimate for Alternative - Route II, prepared by Jacobs Associates, dated April 1979, and available at the SCRTD offices.

Special reference to storm water run-off and storm drains is made under Appendix II. G. - Utility Systems, Storm Water Run-Off, Appendix III, Part B. 11 - Utilities, as part of discussion of station design, and the Report, pages IV-32, IV-33, and VIII-1, discussion of cut-and-cover construction.

All of the above referenced work has been done as part of the Alternatives Analysis and Environment Impact Statement/Report and no unusually serious or difficult problems have been found.

Upon the initiation of preliminary engineering on the preferred alternative II, all possible conflicts with storm drains and other public utility systems will be analyzed in detail. Where conflicts do occur, problems will be resolved directly and in cooperation with the utility involved. It is recognized that costs incurred in resolving such conflicts will be an integral part of the project cost.

17. Comment

Use buses for transportation wherever possible because they offer greater flexibilities in accomodating daily fluctuations of ridership.

Reference

Letter No. 20

Response

Daily fluctuations in ridership are best accommodated by rail systems, not buses, because with rail, additional ridership is accommodated simply by adding cars to trains, without adding any operators. With buses, not only are additional vehicles required, but additional operators also. In addition to the obtaining and training of bus operators, it is significant to note that operating labor accounts for 80% of transit operating costs.

18. Comment

Use buses wherever possible because they are not major targets of vandalism as subways are.

Reference

Letter 20

Response

Experience has shown that the new subway systems are not faced with high incident rates of vandalism because of adequate lighting and security measures. Actually, we find, based on our own experience, as well as that of other transit properties who operate both buses and rail rapid transit, that subway stations are perceived to be safer than the streets. A poorly lighted lonely bus stop is more likely to attract unlawful activity than a well designed and lighted station, which the station attendant can monitor by T. V. cameras. Buses are most certainly subject to vandalism as we know from experience.

19. Comment

Use buses wherever possible because they offer greater flexibility in serving population distribution changes.

Reference

Letter 20

Response

Rail rapid transit is most efficient in high volume corridors - which is where it is proposed. But to be most effective it must operate in concert with a good feeder bus system. A rail system tends to reduce urban sprawl and make the heart of the region more attractive. It is very costly to operate bus service in the outlying areas because of low patronage.

20. Comment

Use improved buses in the regional core to accommodate the crowds. Other cities are doing this.

Reference

Letter 20

Response

Our buses in the Regional Core - especially those paralleling Wilshire are already carrying "crush loads" and people are being passed by fully loaded buses. Bus lines on Wilshire, Olympic and Third are carrying more riders than the entire BART rail system - but their capacity has about been reached and the annual operating cost is much higher with All-Bus service than it will be with a combination of trunkline Rapid Transit and Feeder Buses. District staff members have inspected high capacity buses and equipment in Germany and the District has bought and is trying some of these type of buses.

21. Comment

Continue the El Monte Busway on Interstate 10 to the end of the Santa Monica Freeway

Reference

Letter 20

Response

There is no exclusive right of way for buses on the Santa Monica Freeway. Such a proposal would not be able to serve many passengers whose destinations are on Wilshire, not on the Santa Monica Freeway.

22. Comment

Buses should have the right of way on streets so that cars would not have priority.

Reference

Letter 20

Response

The District and the City are planning to try such a system on Ventura Boulevard, where buses will pre-empt traffic signals. A successful implementation of this system would enable its application in other SCRTD service areas.

23. Comment

The Executive Summary should have delineated the boundaries of the Regional Core.

Reference

Letter 20

Response

The Executive Summary's purpose was to briefly present the results of the Alternatives Analysis; the details are in the Final Report and its four volumes of Appendices.

24. Comment

It is questionable to assume that buses can carry as many people as subways. (See Alternative I and VI. They have the same patronage.)

Reference

Letter 20, 58

Response

Equal ridership was arbitrarily assigned to Alternative VI in order to obtain and compare operating costs between a bus (Alt. VI) and a rail system (Alt. I), on an equal basis. The capital cost for Alternative VI was high and the operating costs for Alt. VI are greater than for Alt. I.

25. Comment

The patronage on the "status quo" Alternative is low. More people than that use the buses.

Reference

Letter 20

Response

The patronage estimates for the Null Alternative (XI) were based on the actual ridership counts on the SCRTD Bus System. This data is maintained and up-dated by the Service Analysis Department of SCRTD. Details on patronage analysis are provided in Chapter III and Appendix I of this report.

26. Comment

Ridership projections were low. This makes the bus alternatives look more uneconomic than they should be.

Reference

Letter No. 20

Response

The more buses that are operated, the greater the subsidy required. Bus fares currently pay about 43% of the bus operating cost. It will be far more costly to continue with an All-Bus system.



27. Comment

Trains are less energy efficient than buses, particularly when high transmission losses are considered.

Reference

Letter No. 20

Responses

Electric trains require propulsion power only when moving. Bus engines idle when the bus is standing. Transmission losses would not offset the increased efficiency of electric motors over combustion engines, particularly as applied per passenger mile.

28. Comment

Electric power causes pollution at the source of its generation and causes as much pollution as buses do.

Reference

Letter 20

Response

Electric power is not limited to petroleum or coal products, and can be generated using hydro, solar or nuclear sources. A substantial amount of local power comes from hydro plants now. It should also be kept in mind that electric power plants are located well outside the CBD, where pollution is most concentrated.

29. Comment

Improvements in bus design will reduce the energy needed and pollution caused by future buses.

Reference

Letter 20

Response

The bus procurement future does not indicate that any design improvements can be expected that would materially reduce diesel consumption and air pollution in the future.

30. Comment

It is hard to believe that it is really safer to be in a tunnel in an earthquake than traveling in a reserved bus lane on streets and freeways.

Reference

Letter No. 20

Response

We do not know of any instance of a tunnel collapsing as the result of an earthquake; but quakes have resulted in the collapse of many above ground structures. When the Sylmar earthquake struck, men working in the Sylmar tunnel discovered that, at the end of their shift, the tunnel, including machinery, had shifted several feet. They were not even aware the quake had taken place.

31. Comment

The Executive Director of the Hospital of the Good Samaritan suggests that an additional station be constructed at Wilshire Boulevard and South Witmer Avenue or Lucas Avenue.

Reference

Letter No. 59

Response

Station locations were selected to coincide with major cross streets, so as to provide adequate feeder bus interface. This would not be possible at both Witmer or Lucas Avenues, since neither of them are major cross streets.

Also, there are some engineering and alignment problems associated with this suggestion. Specifically, it appears impractical to bend the alignment to fit the station at Witmer, (as it enters or leaves the CBD on 7th Street) without ending up with reverse curves, which would restrict the operating speed.

Although it would require a bus transfer for most passengers to get off either at Flower or Alvarado Street to reach the Good Samaritan Hospital, it is a short ride and adequate local bus service along Wilshire will continue to be provided. Witmer Avenue is approximately 3,000 feet from either the Alvarado or the 7th/Flower stations.

32. Comment

Why is there no station at Crenshaw Boulevard and Wilshire Boulevard?

Reference

Letter No. 29

Response

A station at Wilshire/Crenshaw would provide accessibility to the areas served by Crenshaw Boulevard, south of Wilshire. This area has a high transit dependent minority population. Bus line 85 serving this area carries about 27,000 daily boardings, one of the heavier lines in the SCRTD bus system.

A station here would be within the Wilshire "Park Mile" area, identified by the City of Los Angeles for low density development and the community may request that the station be planned in such a way as not to encourage surrounding development.

Decision

Based on the above considerations, the SCRTD Board decided to add a station at Crenshaw/Wilshire.

33. Comment

A proposal has been made to eliminate the proposed station at Hauser Boulevard.

Reference

Letter No. 9, 40

Response

Archaeological/Paleontological

The report prepared by Mr. Clay A. Singer of the Archaeological Resource Management Corp. identified the La Brea fossil deposits as perhaps the most important area of significance for archaeologists and historians. Mr. Raymond L. Bernor, Vertebrate Paleontologist also identified the Rancho La Brea as one of Los Angeles' most valuable prehistorical monuments. He also concludes that stations along Wilshire Boulevard may disturb part of the La Brea deposit. Furthermore the maximum depth of the La Brea fossil horizon is around 55 feet.

Assuming that no station were constructed at Hauser, it would seem that using the gravity assist (dip) profile, that the rail tunnel under Wilshire Boulevard could be substantially below the 55 foot depth at this location and thus no damage to archaeological and paleontological artifacts would be expected. Dr. William A. Akersten, Curator of the Rancho La Brea George C. Page Museum, indicates the same conclusions in his letter of August 13, 1979. (See Letter No. 45).

Patronage

There are no specific patronage estimates for the Wilshire/Hauser station. The Wilshire-La Brea station was estimated to have 18,000 24 hour entering and exiting station volumes. The Wilshire Fairfax station is slated for 41,000. It is expected that if a station were located at Hauser both Fairfax and La Brea volumes would be reduced somewhat. It is not reasonable to expect a material net gain by the addition of this station. There are no bus lines that travel along Hauser Boulevard in a North-South direction. Hauser is about 3000 feet from Fairfax and 2280 feet from La Brea. Hauser is thus for the average person about a 10 minute walk from the station at La Brea.

33. (continued)

Hauser Boulevard is designated by the City as a collector street. To the north it winds through the Park La Brea development and to the south it is interrupted at San Vicente Boulevard. The Park La Brea complex would be served by stations at La Brea, Fairfax and Beverly Boulevard.

Office Space - Commercial Space

There are two major office buildings located at Wilshire-Hauser corner. They are the California Federal Savings and Loan Association building on the south side of Wilshire and the former Prudential Insurance headquarters building on the north side. There is a small to medium sized office building directly across Wilshire Boulevard from the California Federal Building.

There is a major concentration of large office buildings just westerly of Fairfax between Fairfax and San Vicente Boulevards. There are also two major department stores at Fairfax Avenue.

Cost

The cost of a station at Hauser could be in the \$20 million range if no particular problems were encountered.

Decision

The SCRTD Board concluded that a station at Wilshire and Hauser should be eliminated, primarily because of the significant adverse environmental impacts, from the archeological standpoint, associated with this station.

34. Comment

Dr. William A. Akersten, Ph.D., Curator of Rancho La Brea George C. Page Museum, noted that there would be ninety-five or more percent chance of encountering one or more fossil deposits at the Hauser Station. He suggested that given adequate geological and paleontological expert time to excavate and remove these finds, the impact would not necessarily be negative. It may, in fact, be positive.

Reference

Letter No. 45

Response

The station proposed at Hauser Boulevard has been eliminated by the SCRTD Board. As a result, the route in this vicinity would be below the 55 foot depth level and avoid the destruction or archaeological resources.

35. Comment

Why not have a north-south leg on Western Avenue instead of Vermont, Fairfax or La Brea?

Reference

Mr. Jim McDermott, Session F, p. 25; Mr. J. P. Spencer, Session F, p. 90

Response

A Vermont Avenue alignment would be better than a line on Western Avenue for the following reasons:

1. The major drawback of Western is that it would miss the Los Angeles City College and the Hospital/Medical Complex served by Vermont.
2. Although both Vermont and Western have high population and employment densities, as does the entire regional core area, Vermont is higher than Western, as shown in the following table.

Population and Employment Densities Within 1 Mile on either Side of Vermont & Western Avenues

	<u>Pop. /Sq. Mile</u>	<u>Employment/Sq. Mile</u>
Vermont	18,460	11,116
Western	16,796	10,314

3. Bus ridership is good on both Vermont Line 95 (29, 840 daily passengers) and Western Line 84 (27,526 daily passengers). However "screen line" volumes, shown in table below (the number of people passing a certain point) which are an indication of the length of a trip, are much higher on Vermont than on Western, thus showing that people travel longer distances on Vermont than they do on Western.

All-Day, Two-Way, Screen Line Volumes along Vermont and Western

	<u>Vermont</u>	<u>Western</u>
At Wilshire	17,253	7,531
At Melrose	15,012	7,068
At Fountain	10,291	5,365

36. Comment

Upgraded North-South Feeder Bus Access to Rapid Transit Stations was suggested.

Reference

Mr. Steve Morris, Session A, p.42

Response

It is the intent of SCRTD to provide adequate and appropriate Feeder Bus Service to the rapid transit stations. Many of SCRTD's heaviest lines operate in the north-south direction in the Regional Core. These lines would naturally act as feeder buses to the Start Line on Wilshire Boulevard. Included among this group would be Line 41 on Alvarado, Lines 95 and 353 on Vermont, Line 96 on Normandie, Line 84 on Western, Line 85 on La Brea, and Line 89 and 877 on Fairfax.

In addition to this service which operates with headways (intervals) ranging between five and ten minutes, upgraded, shortline service running approximately two miles north and south of the stations would be provided to accommodate projected feeder bus access trips. In these areas immediate to the stations, the effective headways would be reduced to a two to five minute range, thereby providing twice as much or more service as exists now, which would be excellent feeder bus service.

37. Comment

The South Coast Air Quality Management District indicated in their letter of review that the analysis shows that the project will have a beneficial impact on air quality but had three specific requests with regard to the report.

Reference

Letter No. 31

Response

1. A statement as to the extent of project emissions created during the construction phase of any one of the rail systems was requested.

This analysis cannot be completed at this time because many details of construction will be developed during preliminary and final design engineering.

2. Emissions caused due to the generation of electricity for the rail system should be calculated.

No new electrical generating facilities will be necessary just to accommodate the electrical needs of even the longest proposed rail line - Alternative II. As stated on page IV-29, the rail system will require an estimated 41.5 megawatts in an average day. This represents only 1.1% of the City of Los Angeles' 1977 peak load. It is important to keep in mind that even when the peak load of electrical demand occurs (usually on a hot summer day) only about half the City total electrical generating capacity is in use.

3. The mitigation measures provided for bus stations and construction phase (rail system) should be mentioned.

As in the reply to the first segment, the detailed data necessary to adequately determine the mitigation measures requested will become available during preliminary and final engineering. Additional EIR/EIS analysis of stations, addressing these issues, will be made at that time.

38. Comment

Extend the line to Westwood and Century City

Reference

Letter No. 33

Response

An extension of the rail line from Wilshire to Century City and UCLA Westwood is a sound suggestion. We are aware of the considerable ridership demand, the commercial and residential activity and the UCLA travel needs.

A line into the San Fernando Valley was selected as the "initial segment" by policy making representatives of state and local agencies in September, 1976, and this was approved for detailed analysis by the U.S. Secretary of Transportation in December, 1976. However, there is little doubt that extensions in many directions will be requested once the initial segment is assured.

39. Comment

Has A-C electrification been considered to minimize costs?

Reference

Oral Testimony: Bryan Allen, Session F, p. 99

Response

Yes, it has been considered, but is not appropriate for metropolitan rapid transit systems, because:

1. A-C systems usually are applied to intercity train applications where low trolley currents can be achieved by using high voltage distribution.
2. Conversion equipment necessary to operate traction motors must be carried on board the cars, increasing their weight and thus requiring more energy for propulsion with A-C distribution.
3. An A-C system that would supply the heavy motor current directly without conversion would introduce greater line losses (which means excessive power consumption), because of high impedance caused by self inductance. This would not be the case with high voltage, low current A-C systems.
4. World-wide experience of transit properties has proven D-C to be most appropriate for rapid transit applications.

40. Comment

The cultural-historic survey of resources is not complete. A much more detailed and comprehensive site by site survey is recommended. Some sites affected by a Las Palmas/Selma station location are listed.

Reference

Letter No. 7, 46, 50

Response

Such a detailed study will be completed during preliminary engineering. The State Office of Historic Preservation had approved the methodology and scope of the study included in this report. Both the State and the U.S. Department of Interior were very satisfied with the results of the present study.

The station in Hollywood has been re-located to the intersection of Hollywood and Cahuenga Boulevards. (See comment #2). That site will be further examined during the additional cultural/historic work in the preliminary engineering stage. The four sites mentioned in letter #50, have been noted and will be reviewed. However, most likely, they will not be impacted due to the relocation of the station.

41. Comment

Dr. Rokow of the L.A. County Medical Association would like to make certain that the selected rail project will provide adequate service to medical centers from the main line. Which alternative best provides the above service?

Reference

Oral Testimony: Dr. Rokaw, Session E, p. 49

Response

Within the Regional Core Area there are 24 major medical facilities that are either directly on a proposed rail transit line or within a 4 block walk, or within a short bus ride after a transfer from the rapid transit.

Taking into consideration the number of medical centers that would have the best accessibility from a rail line, Alternative II, serving 21 medical centers, appears to be preferable over Alternative III (17 facilities) and Alternative I (16 facilities). For more detailed discussion see comment #1.

42. Comment

The regional office of the Environmental Protection Agency suggests that a "street canyon" model be used to determine the carbon monoxide air quality impacts on the North Hollywood station instead of the CALINE 2 model which was used.

Reference

Letter No. 84

Response

In response to item #1, some background is provided as follows:

The air quality CO analysis portion of the chapter was prepared in July 1978. The referenced publication which provides the methodology was not published until September 1978.

The EPA informally suggested using the "street canyons" model instead of the CALINE 2 model in August 1978. The State of California Air Resources Board, Modeling Section was contacted at that time for advice on this matter. At that time, given the scope and limited level of detail of this AA/EIR/EIS, ARB felt it would not be appropriate to use the "street canyons" model. They felt the CALINE 2 model was quite adequate to provide an appropriate analysis of CO. This message was conveyed to EPA. The EPA representative accepted this decision provided it was explained clearly in the report what model was being used as well as what assumptions were being made, which was done.

An air quality planner at SCAG was contacted in August 1978 to discuss the same issue. It was felt, since so few reliable details could be developed during Alternatives Analysis, regarding the size of the various parking structures, their locations and the locations of their entrances and exits and the nature of the surrounding development, it would not be worthwhile to even attempt to make such an analysis at this stage. The overall air quality impacts of the 18.6 mile rail line were therefore calculated as part of the SCAG-AQMP effort.

It is also noted that in August 1979 both the SCAG planner and the ARB modeling staff were contacted regarding the latest EPA request. The ARB staff indicated the "street canyons" model would not likely produce quite as severe, worst case impact as the CALINE 2 model using the same assumptions. Since the North Hollywood area does not have very tall buildings and since the CALINE 2 model analysis included in the Final AA/EIS/EIR produced as much a reasonable worst case impact as one could expect, its use was considered appropriate at this time.

It is important to note (also in response to items #2 and #3) that as detailed preliminary engineering work proceeds, concomitant EIS/EIR's will be prepared. With the availability of necessary reliable data at that time, the street canyons model, as well as CALINE 2 model, can be used to analyze air quality impacts to the level of detail then justified and possible.

43. Comment

The EPA suggested that Appendix II.D. Traffic Data be summarized in the Final EIS.

Reference

Letter No. 84

Response

Chapter III. Transportation Impacts, is a summary of the detailed traffic data provided in Appendix II.D.

44. Comment

The EPA notes that in Section IV.E.2.c, p. IV-26 that sound barrier walls can reduce noise by 10 dba is not reflected in Figure IV.18.

Reference

Letter No. 84

Response

This error in the Figure has been changed to reflect the correct sound levels.



45. Comment

The Office of the Secretary of Transportation noted that since the project was in an alternatives analysis stage, some conceptually abstract analysis was unavoidable. It was suggested, however, that detailed analysis should be done during Final EIS stage.

Reference

Letter No. 85

Response

Additional detailed environmental analysis will be conducted during Preliminary Engineering on the Preferred Alternative, to supplement the data already developed. Specific responses to items are as follows:

- Item 1. The letter states that there would be adverse impacts on Pershing Square Park.

Figure VII.5 of the Draft AA/EIS/EIR was in error in stating that the alignment would cross the southeast corner of the park and has been revised accordingly. The proposed rail alignments in the CBD would be on 7th Street and Broadway, which are two blocks south and one block east of Pershing Square, respectively, and would, therefore, not impact this park.

- Item 2. The letter states that according to the Draft Report, on Page VIII-2, MacArthur Park would sustain "significant adverse impacts if a rail alternative is implemented".

Alternative II is proposed as a subway and would not have adverse impacts on MacArthur Park. The examination of an aerial alternative shows that significant adverse impacts could be expected. These are discussed in general terms on page VII-12. As stated on page VIII-2, the most likely mitigation measure for an aerial alignment is to re-route the aerial structure around these parks so as to avoid these impacts. However, such an aerial alignment is not proposed for implementation.

- Item 3. With respect to the adverse impacts to Barnsdall Park, in the case of an aerial system, the re-routing of the structure around the park would be required to mitigate the problem. Since the project is proposed for construction in subway, this impact will be avoided.

- Item 4. With respect to Hancock Park, a subway system would cause no significant adverse impacts. An aerial system would, in general possibly use park land for access points, create slightly higher noise levels, create some parking congestion and visual blight. A subway might cause some minor amount of parking congestion here.

To mitigate this impact and the archeological adverse impacts, the Hauser Boulevard station has been eliminated, which removes any possibility of causing parking congestion at the park.

- Item 5. According to the letter, impact upon historic sites of the selected alternative should be examined in detail in the Final AA/EIS.

Since the details of station and route location and thus their detailed impacts will not be determined until we are able to do preliminary engineering, it is not practical to go into that detail in the Final AA/EIS/EIR. We anticipate separate public environmental hearings and documentation on most, if not all, of the stations. The State Historic Preservation Officer is aware of this situation and has reviewed the present draft and considers it to be adequate for the present level of study.

- Item 6. The claim is made that there may, in fact, be an adverse impact due to cut-and-cover subway construction through the Santa Monica Mountains.

As mentioned in the report there is no practical way to accomplish cut-and-cover tunneling. Since cut-and-cover construction through the Santa Mountains would be impractical - the tops are several hundred feet over a subway line. Therefore there would be no adverse impacts on the Santa Monica Mountains as a result of a subway.

- Item 7. Another claim is made that the impacts of an aerial busway through the Santa Monica Mountains should be studied much more seriously.

Since an aerial busway through the Santa Monica Mountains would have to follow the Hollywood Freeway through Cahuenga Pass, its environmental impacts would be the same as those discussed in the report. Such an aerial busway over the pass would have four big "humps" in it where it would have to go up and over existing bridges crossing the freeway. It would be an odd structure - like an elongated camel, be much more expensive than the usual aerial guideway, and would be more excessive for buses - they now are forced to slow way down in going over the hill on the freeway. Thus it is not appropriate to further study this option.

Item 8. The suggestion is made to revise the relocation section and identify the number of persons and families as well as a demographic profile showing the income and racial characteristics of each displacee.

It would be premature to make such a detailed investigation, family by family, of the residents to be displaced, until it is known with more certainty which residential and commercial structures, if any, would be affected. Such information will be developed for each station location and yard area during preliminary engineering.

Item 9. The error on page IV-34 with regard to the relocation caused by Alternative VI was noted. It should be the same as Alternative I or 684 structures. This correction has been made.

46. Comment

Vehement opposition to subways was conveyed, since aerial rail systems are cheaper and better.

Reference

Letter No. 77

Response

A specific item by item response to concerns in this letter is as follows:

Item 1. As shown in Fig. VI.5 of the Draft Report, Alternative II on aerial structure would cost an estimated \$927 million in 1977 dollars, or about \$193 million less than a subway. The environmental impacts and relocation costs for homes and businesses displaced shown in Fig. V.20 would, however, be much higher for the aerial system (630 for aerial vs 'o' for subway plus 90 for yards, and shops, common to both). The total costs would therefore not be "much more for subways" as you state.

Although the construction method endorsed is a subway, further engineering studies will be conducted to determine the reasonableness of the preferred method. Other methods i.e. cut and cover and aerial are not completely eliminated.

Item 2. More passenger stations and rest room facilities would have to be provided for a subway system than for an overhead rail system.

The only rest room facilities planned for subway stations would be for transit personnel and public emergency situations where access would be provided on request to the station attendant. The same would apply to aerial stations. The same number of stations would be provided in either case. These costs were taken into account in the construction cost estimates.

Item 3. Huge expense and waste of electrical energy in a subway system.

An analysis of the auxiliary power requirements for lighting subway tunnels and stations, that would not be required for an aerial system, indicates that the lighting power for the latter would be about half of the former.

This translates to between 2 to 4 percent of the annual operating cost. However, the use of a rolling grade between subway stations could much more than offset the savings in lighting energy by use of an aerial guideway due to reduction in energy needed to accelerate the trains and in reduction of air conditioning load due to reduced braking heat.

- Item 4. The subway system will be designed and built with proper and adequate ventilation at stations and as required along the route. Subway stations can be properly ventilated and pleasant to use. Examples can be found in the Washington Metro, San Francisco, Toronto, Montreal, Atlanta, etc.
- Item 5. The problem of graffiti on rail systems depends on the attitude of the public and design of the facilities. Examples of such Graffiti free stations are in San Francisco, Toronto and Washington, D.C. where the people take pride in their system.
- Item 6. Regarding the statement that subways are objectionable to many citizens, especially women, subways are used extensively by many citizens, including women. Again, nicely designed stations such as those in Washington D.C. are a good example.
- Item 7. Crime is not confined to transit systems. It can take place on aerial as well as subway stations. However, in consideration of this problem, the stations will be designed to be as "open" as possible and will be installed with closed circuit television cameras to enable monitoring all "corners" by the attendant at each station. Security officers to patrol the system will also be provided, and practical steps will be taken to insure a safe and secure environment for all users of the transit system.
- Item 8. The subway stations will generally be located at depths of 50 ft. to 60 ft. - as in other cities. The "gravity profile" rolling grades, will go deeper between stations. It doesn't cost appreciably more to tunnel at 200 ft. than at 50 ft., but are reflected in the cost estimates.
- Item 9. If the rail system were built away from the main thoroughfares, in alley ways and freeways, to reduce the negative environmental impacts, as suggested, it would not provide convenient access. Transit lines should be located to be as convenient as possible for the greatest number of people.

- Item 10. SCRTD's seismic consultants, Lindvahl, Richter and Co. (Dr. Richter developed the Richter scale for measuring earthquake intensity) have indicated that there has never been a known case of a tunnel collapse in an earthquake, and that men, working in the Sylmar tunnel in the earthquake that centered in that region, were unaware of the quake when it occurred. They went on to say that one would be much safer in a subway than on or above the ground in the event of a major quake.

47. Comment

Will there be adequate ventilation in subways?

Reference

Mr. Greg Roberts, Session B, p.48

Response

The subways and trains operating therein will be properly ventilated at all times. Environmental design is an integral part of subway system design, which will be done in accordance with established principles as found in the "Subway Environmental Design Handbook," a publication of the U. S. Department of Transportation. In addition to the ventilation systems which are installed in trains, stations, and subway tubes, natural ventilation is provided by the "piston action" of the trains operating in the subways whenever a train is moved. Trains in subways are protected from the sun and extremes of temperature experienced in vehicles operating above ground. Conditions in subway stations and trains will be comparable with those you expected in a modern office building.

48. Comment

Upgrade Fairfax Avenue from a secondary highway to a major highway.

Reference

Mr. Lou Korn, Session D, p.65

Response

Subway stations will be placed beneath any street without regard to street classification. The width of a conventional subway station is about 60 feet. Access from the surface to the station below street level is usually provided by means of stairs, escalators, and elevators. These are usually installed on property adjoining the street near the center or the ends of the station. Since Fairfax Avenue has a width that varies from 70 feet to 114 feet, there would be no problem in finding ample space within the street for the installation of subway stations no matter where they may be located along Fairfax Avenue.

49. Comment

What is the difference between cut and cover and machine bore tunneling?

Reference

Pat Gibbs, Session F, p.93

Response

Constructing tunnels using the cut and cover method is much like a giant pipe laying job. A trench is dug to the appropriate depth, usually 40 - 60 feet, the concrete tunnel is then built in place at the bottom of the trench, and then the trench is backfilled and the street and utility services are restored. In this construction, the tunnel is usually rectangular in shape because of the ease of forming rectangular concrete structures.

Machine bored tunnels are drilled using huge horizontal drilling machines. The efficiency with which they work, or the cost of drilling is not so much a function of the depth at which they operate as it is a function of the kind of materials being drilled. In using these machines, economy of construction suggests that tunnels be placed in stable bedrock formations well below the surface so that there will be little or no disturbance of buildings, streets, and city services. The actual depth of machine bored tunnels will be established as part of the preliminary engineering design work, and may vary from as little as 60 feet near stations to as much as 200 feet.

50. Comment

What about the little stream that runs along Highland Avenue and comes out at the Sutro Headquarters?

Reference

Pat Gibbs, Session F, p.93

Response

The little stream near Highland Avenue will be preserved regardless of the tunneling method used. If cut-and-cover methods were used, the stream would be carried over the trench in pipes until the street and the stream are restored to the condition prevailing before construction. With bored tunnels, no disturbance of surface features is anticipated.

51. Comment

The U. S. Department of the Interior had several comments. They are listed below.

- Item 1. School lands which are open without restriction to the public for recreation uses may be subject to 4(f) if local officials consider they are to be a significant recreation resource for the community.
- Item 2. An inconsistency is noted between Figure IV-22 and Figure IV.21 in the matter of relocation impacts.
- Item 3. The term "north-westerly" on page IV-8 (para.2, line 12), should be changed to "northeasterly".
- Item 4. Figure IV-5, Geological Map should be redrafted and clarified in several respects.

Reference

Letter No. 38

Response

- Item 1. There are no school lands in the Regional Core which are open without restriction to the public for recreation use. Further study of this matter will be undertaken as Preliminary Engineering is completed.
- Item 2. To correct this mistake the "M" in Figure IV.-22 under the Cut & Cover Displacement column has been replaced with an "H".
- Item 3. This correction has been made.
- Item 4. Additional work in this regard will be done during Preliminary Engineering which will require much more detailed geological examination. Re-drafting of the map at this time would not be productive.

52. Comment

The City of Los Angeles Department of Transportation had several comments. They are listed below on an item by item basis.

Reference

Letter No. 37

Responses

- Item 1. Is 24-hour operation warranted?

Provision of 24-hour operation is a policy question which will be decided during further stages of project development. Service on a 24-hour basis was assumed in the report for the purpose of estimating the worst case operating costs and because SCRTD presently operates several lines on a 24-hour basis, including Line 83 on Wilshire Boulevard.

- Item 2. The City's letter notes an apparent inconsistency between information provided in Figure I. 10 and information provided on page. S-10 of the Summary.

**Figure I.10 in this Final Report includes the area in each community plan (except as noted). The information in the Summary on page S-10 is taken from Figure V.5 which calculates employment for the area (residents and proposed Alternatives I, IV and V.**

Figure I. 10 showed the population and job densities by community, in the 55 square mile regional core. Figure V. 5, provided a more focused look at the individual corridors and compared them to similar corridors in other cities,

- Item 3. Is Alternative VI on guideway or on preferential lanes through the CBD?

As noted on page II-29 of the Report, Alternative VI would consist of an exclusive grade-seperated busway along the same alignment, including the CBD, as Alternative I.

- Item 4. Should articulated buses be assumed for service on Freeways? If not, this would impact total bus requirements.

SCRTD does not recommend using its present fleet of articulated buses on freeways because of the tendency for the trailer section to weave at higher speeds.

However, it is believed that future orders of articulated buses would not have these problems and therefore it is appropriate to assume that they could be used either on freeways or exclusive busways.

- Item 5. Patronage estimates for the Hollywood Freeway appear to be low, since it is the most direct route from the San Fernando Valley to the LA CBD.

Even though the Freeway is a more direct route, Figure III-10 on page III-13 of the Report shows that a trip from Lankershim and Chandler in the Valley to 5th and Broadway in the LA CBD, can be made approximately 20 minutes faster by rail than by bus on the Hollywood Freeway. This is because while the rail system operates at a higher average speed in subway, the bus system has to operate during peak period congestion on the Freeway and on LA CBD streets.

Since the patronage model makes a mode selection primarily on the basis of travel time savings and not distance (many other factors are considered, which can be reviewed in the patronage discussion in Appendix I), the Hollywood Freeway ridership drops to 5,000 daily trips when a more efficient system is provided, to link the Valley to Wilshire and LA CBD destinations.

It should be noted that the Hollywood Freeway ridership is projected to increase about 75%, from 14,600 trips to 25,400 trips, if rail service were not provided.

It is also pointed out that with construction of the rail line, most bus service in the Valley which now goes through the Cahuenga Pass, will terminate at the North Hollywood and Universal City Rapid Transit Station. This also would result in the reduction of bus trips on the Hollywood Freeway. Additionally, all transit trips from the Valley are not bound for LA CBD destinations, a large portion being destined for mid-Wilshire, West Los Angeles and Hollywood areas, which would further reduce the bus trips on the Hollywood Freeway. Train service from the Valley would initially run every 3.5 minutes.

- Item 6. Since Fairfax has a higher population density within walking distance than LaBrea, the City feels that Beverly and Santa Monica Stations should have higher ridership on Fairfax rather than on LaBrea.

Station ridership estimates excerpted from Figure III-8 of the report for the above reaffirmed stations are shown below.

	STATION PATRONS	
	Alt. I (La Brea)	Alt. II (Fairfax)
Santa Monica	22,000	14,000
Beverly	21,000	22,000

Residential density within walking distance of the two stations, one at Fairfax and Santa Monica and the other at La Brea and Santa Monica is higher at Fairfax than at La Brea.

However, it is important to realize that total patronage is dependent upon Walk, Feeder Bus, Kiss & Ride and Park & Ride trips. Of these walk trips usually comprise approximately 20% of the total trips. (For a more specific breakdown of access trips, see the Mode Split Analysis in Appendix II). Therefore patronage estimates are not always consistent with density within walking distance.

- Item 7, 8, 9. Travel time comparisons in Figure III-10 of the Report are misleading because they do not make an equal comparison of origin-destinations. These comparisons should be based on a CBD destination at the Civic Center.

Chapter III of this Final Report explains how estimates shown in Figure III-10 were derived, and states the assumptions that were made. CBD were selected on the basis of which points would best represent the focal point of CBD trip destinations. 5th, 6th and Broadway were considered most representative.

In terms of impact on the travel time estimates, had the Civic Center destination been used, it would add 1 minute (including station dwell time) to rail trips now ending at 5th and Broadway. Also, while reducing the travel time for bus trips from the Valley somewhat, the Civic Center destination would increase the travel time for the trips from Wilshire. Penalties were allocated to transfers - i.e. 1/2 headway, to allow for equal comparisons.

- Item 10. The City of Los Angeles has recently experienced brownouts. Concern is expressed for adequacy of electrical generating capacity.

The June 1979 "brownouts" were implemented through the reduction of non-essential loads largely on a voluntary basis. Total transit starter line demands of 42 megawatts will be slightly less than the ARCO Towers (about 50 megawatts) or the General Motors Panorama City plant (also about 50 megawatts). However, it should be noted that those two loads are concentrated at single locations. The transit propulsion loads would be spread over a wide area and consist of approximately 9 substations, each supplied from two separate DWP lines. Therefore, 9 substations would likely be supplied from 18 points on the DWP system, and the average maximum load on each of those 18 points would be 2.34 megawatts. In off-peak periods, the loads would be significantly reduced.

As with diesel fuel for buses, it is highly probable that power for public transit would be assigned a priority in the event of an energy cut-back. Negotiations would take place with the DWP in Final Design -- and later, operations.

- Item 11. The City of Los Angeles' letter suggests that the 5.0 ppm of CO (carbon monoxide) is too low in view of 1977 readings of 28 ppm in Burbank.

This estimate was not a product of the CALINE model but rather an estimate by staff based upon a review of limited information on ambient air gravity. Consultation with Mr. Mike A. Nazemi of the South Coast Air Quality Management District on August 7, 1979 revealed more appropriate "reasonable worst case" estimates of 1990 ambient readings in the North Hollywood area were obtained. The changes that would result have been made in the tables in Chapter IV on page IV-23 and IV-24. (Though the tables change, no other changes would result in that chapter.) It should be noted that air quality impacts will be analysed in detail during Preliminary Engineering, when adequate data will become available.

- Item 12. The City identified several concerns for examination during preliminary engineering. These are listed in paragraph I-9 and in items II-1, 2, 4 thru 8 of their letter.

We are aware of these concerns identified by the City, and will examine them during preliminary engineering.

- Item 13. The issue raised in the City's letter in paragraph II-3 is answered in comment number 53.

### 53. Comment

The City of Los Angeles proposed that on Alternative II, the station shown for the intersection of Beverly Boulevard and Fairfax Avenue be moved to the south so as to be located between Beverly Boulevard and Third Streets.

#### Reference

Letters No. 9 and 37

#### Response

At present the Beverly/Fairfax station is almost midway between Wilshire Boulevard and Santa Monica Boulevard. Specifically, center to center, the distance is 5,500 feet to Santa Monica and 4,750 to Wilshire.

It appears that such a shift would result in too sharp a curve, starting from the west end of the Fairfax/Wilshire Station and coming around and back into Fairfax Avenue.

Further, much better bus access would be provided if the station served Beverly Boulevard since Third Street dead ends at San Vicente while Beverly Boulevard extends all the way to Santa Monica Boulevard. We would, however, have the north end of the station just north of Beverly and the south end would then be about 400' south of Beverly Boulevard.

54. Comment

The City of Los Angeles suggested relocation of the Universal City Station, east of the Hollywood Freeway.

Reference

Letter No. 9

Response

With relation to the Hollywood Freeway, a westerly instead of an easterly location for the Universal City Station is favored for the following reasons:

1. A major Park & Ride facility will be provided at this station for which the area between Vineland, Ventura Blvd. and the Freeway provides the most promising site. On the east side of the Freeway, between it and Lankershim, there is a park which would be impossible to consider for a parking structure. There is also an historical monument and considerable commercial development. It would appear that there is not enough room for a transit station and a large parking structure.
2. A west side station location provides excellent auto and bus service access to the station. Most of the arrivals at this station have northerly and westerly origins, particularly trips via the Ventura Freeway and Ventura Blvd. The great majority of incoming passengers at this station will be arriving by auto and bus. Therefore, it is important to consider the convenient access of these auto and bus passengers, which would be far better served by a station west of the Freeway.
3. From the traffic point of view, it should be noted that Lankershim Blvd., from Ventura Blvd. up to the river, is already heavily congested in peak hours. A station in this area, with the additional associated traffic it would generate, would severely compound the already existing congestion. Also, there is not adequate room to make good bus connections here, thereby causing further inconvenience for passengers to and from buses.
4. If it were possible to build the parking structure and bus stalls on the west side, and locate the station east of the freeway with a pedestrian ramp connection between them, such an arrangement would involve excessive transfer walking time for the Park and Ride and Bus Access trips, which could discourage use of this station.

5. An easterly station location would better serve the Universal Studios and its destinations. However, these trips could still be well served by building a pedestrian connection across the freeway. Universal Studios could serve its tour patrons by a shuttle bus system via Lankershim, Ventura Blvd. and Vineland, or the proprietors may even consider some form of people mover connection.
6. The Urban Design Consultants examined the Universal City Station question from the development potential point of view and recommended a station west of the freeway. Their detailed discussion is contained in Appendix III, Section II.B.3 of the AA/EIS/EIR Report.



55. Comment

The U. S. Department of Transportation, Federal Highway Administration, had several comments. Responses are listed below on an item by item basis.

Reference

Letter No. 16

Response

- Item 1. Figure I-14 shows the existing (1977) street discontinuities in the Regional Core. Future planned street improvements were listed in detail in Appendix II, including those at Fountain Avenue, Normandie Avenue and Olympic. While we were aware of the potential elimination of these discontinuities, it was determined that these differences would not materially affect the analysis.
- Item 2. The base year selected for the study was 1977, the year providing the most current information at commencement of the study. We are aware that information such as the El Monte ridership has changed during the study and have attempted to keep abreast of these changes to the extent that they could affect the analysis. Current El Monte ridership data, which is available in several SCRTD publications, reflects minor changes that are inconsequential to the ranking or evaluation of the alternatives studied.
- Item 3. Because of the desire to provide at least one traffic lane in each direction if exclusive bus lanes were provided and because of the limited right-of-way available, minimum standards for street lane widths and passenger loading platforms were assumed. Had one of the All-Bus Alternatives been selected, a detailed investigation would have been undertaken to determine typical roadway sections throughout the corridor; desirable standards would have been applied wherever possible.
- Item 4. The section heading has been changed to specify transit travel times.
- Item 5. Station cost estimates reflect the cost of all elements, including access and traffic measures. However, a detailed breakdown of the costs and the source of funds, cannot be determined at this stage of project development.
- Item 6. The discussion on earthquake damage certainly favors a subsurface system rather than an aerial system. We do not view the discussion to be biased, but rather an accurate representation of past experience and the evaluation of a number of geologic and seismic experts.

- Item 7. We recognize that the removal of spoil material from excavations and tunneling, may be a very costly and sensitive issue unless the problems are recognized and detailed plans are made for handling it prior to the start of construction. Traditionally, such material removed from tunnels has been considered to be waste and responsibility for disposal is normally delegated completely to the contractor. Unless the owner has made prior plans at bidding time, contractors without access to convenient disposal areas must hypothesize as to where they will dump this material, how the work will be done, what the regulation and difficulties may be and finally what it will cost.

Recent studies of the properties of spoil generated from urban transit tunnel operations indicate that the material has great potential for reuse in the transit project or in other civil works projects. The soil and rock materials excavated from the tunnel may be used for many purposes, including compacted fill for support of structures, backfill materials, aggregate for roadway base course construction or as fill for sanitary landfill and site grading operations. In addition, in special situations the spoil may possess properties which make it suitable for specialized uses such as the manufacture of cement, clay products or brick. The whole idea is that tunnel spoil is a useful by-product and not always just a disposal problem.

The key to its utilization is thorough planning in advance of bidding and construction. The District is committed to a spoil utilization program, plans for which will be developed along with other project design concepts during the preliminary and final design phases.

Technical assessment of the types and quantities of soil and rock materials requires knowledge of the soil profile along the route, an understanding of the mining process to be used and how the process affects properties of the tunnel spoil. This information will be developed during preliminary engineering and disposal plan will be modified as necessary during construction.

Implementation of the disposal plan will be done under supervision of the District staff with aid from an advisory committee representative of affected agencies or interests, as has been done in Baltimore and Boston. The matter of hauling in City streets will be considered in detail at that time.

- Item 8. The freeway transition and street construction costs identified in Figure VI.2 are for improvements other than those associated with station access and traffic measures which are included in the station and station parking costs.

Detailed cost data and sources of funding will be available at a later stage in project development.

- Item 9. A note has been added to Figure VI.32 indicating that the capital costs for the RTDP do not include funds for the Century Freeway, I-105.
- Item 10. The Santa Monica National Recreation Area will be listed in Figure VII.5 as suggested.
- Item 11. The response to comment 7 addresses the potential long term impact of the disposal of excess material.

56. Comment

The State of California Department of Transportation (CalTrans) had several comments. They are addressed on an item by item basis.

- Item 1. Patronage differences are not significant enough to differentiate between the alternatives, and differences between bus and rail boardings are based on limiting bus capacities.
- Item 2. Additional explanation is required to justify saving 100,000 auto trips by implementing Alternative II.
- Item 3. Bus/Car Pool lanes on the SP Row in Santa Monica Boulevard for extension of service to West LA, Beverly Hills, and Century City are suggested.
- Item 4. Further explanation of auto occupancy assumptions is requested. The words "realistic assumptions" used in the Patronage appendix is not suitable.
- Item 5. Policy of providing parking at stations is questionable.
- Item 6. Is the implementation schedule reasonable?
- Item 7. Provision for convenient Intermodal Transfer should be the key criterion in developing the (transit) station location and design.
- Item 8. The Rapid Transit system should have provisions for accommodation of bicycles.
- Item 9. Capital costs seem optimistic, particularly for tunneling, parking, engineering and management.
- Item 10. "Rail Operating Costs seem to have been estimated lower than the majority of other U. S. systems, which makes their use questionable."
- Item 11. The currently programmed Prop. 5 funds will not be sufficient for financing this project.
- Item 12. No matter which alternative is chosen, there will be no significant beneficial impact on air quality, either regionally or locally."
- Item 13. Statement on Page IV-14, paragraph 3, about increasing the passenger carrying capacity and thus further reducing auto trips is meaningless.
- Item 14. There seems to be an inconsistency in target dates used within several Tables and Figures in the Air Quality Chapter.

- Item 15. Pollutants should be measured rather than assumed.
- Item 16. Air Quality analysis in the vicinity of Stations is too generalized.
- Item 17. Figure IV-7 should be corrected to reflect the new Federal standard.
- Item 18. No extraordinary provision for the disposal of tunnel muck has been made.
- Item 19. The analysis focused on displacement of "structures" and not "people", and thus it violates federal EIS guidelines and is insufficient.
- Item 20. Employment/economic impact of this construction project may be optimistic.

Reference

Letter No. 75

Response

- Item 1 Considering patronage in the Regional Core, the average daily linked trips for the eleven alternatives shown in Fig. III-1, (referred to by CalTrans) range from 403,000 for the Null (Alt. XI) to 642,000 for Alt. II. This is a significant difference of 59%.

Only the ridership within the regional core (the area directly impacted by the alternatives tested) was examined. Estimates were taken directly from the LARTS/CALTRANS model projections and used throughout the report.

Capacity constraints (which are applied directly by the model for the highway network) were applied to several transit lines so as to limit expansion in service to a feasible level. See patronage appendix for detailed explanation.

With regard to the comment that differences between the bus and rail express boardings were based on limiting bus capacities, it is pointed out that the model projections show that a rail line on exclusive guideway attracts a much higher ridership than a bus line on surface streets.

This is primarily a function of transit speeds. These speeds average 35 - 40 mph for the rail lines including station stops and about 10 - 12 mph for buses on surface streets. An estimated speed of 18 - 20 mph average was coded into the model for Alt. VII, which included express buses operating in exclusive lanes.

In practical terms, the traffic congestion and the unavailability of exclusive lanes in the LACBD might not make it possible to actually achieve the 18 - 20 mph speeds. Therefore, the estimated daily boardings of 56,000 in exclusive lanes for Alt. VIII (shown in Fig. III-2 of the report), an approximate 500% increase over the present daily express boardings of 10,000 (Alt. XI), may already be an optimistic projection. This shows that differences among bus and rail have not been created by limiting bus ridership.

- Item 2. The Department of Traffic assisted the study effort by preparing detailed vehicular traffic estimates under the operating conditions of each of the transit alternatives. These forecasts were made using a stepwise process as follows:

1. The LARTS prepared vehicular forecasts (post-mode split) for each alternative.
2. The LARTS zone system and highway network were modified to represent a finer or more detailed highway network.
3. The LARTS vehicular forecasts for each alternative were desegregated to a finer zone system.
4. Vehicle trips were assigned to the detailed highway network, using the Urban Transportation Planning System (UTPS) programs jointly developed by the Federal Highway Administration and the Urban Mass Transportation Administration.
5. The highway assignments were then compared to the transit share for each alternative and the required adjustments were made, based on level of transit service, volume to capacity ratios, an assumed auto occupancy of 1.2 person per vehicle, an average daily auto speed in the study area of 20 mph, and an average auto trip length of 7.1 miles. These final assignments were done to represent a fully constrained highway assignment with congestion analysis.

The final constrained assignments for each alternative were analyzed on a region-wide basis and on specific study area basis (Regional Core Study Area). The resulting number of daily auto trips which would be made in the Regional Core Study Area for each alternative are:

<u>Alternative</u>	<u>Daily Auto Trips Made in the Regional Core in 1990</u>
I	2,764,600
II	2,753,200
III	2,769,500
IV	2,790,800
V	2,798,300
VI	2,764,600
VII	2,842,000
VIII	2,844,500
XI	2,844,200
X	2,844,700
XI	2,853,200

Comparing these values against the "null" since it is assumed the "null" case is a reasonable value to use as a benchmark or reference point for the "do nothing case," it can be seen that the refined model produced values of vehicle trips saved for each alternative which are:

<u>Alternative</u>	<u>Daily Savings in Auto Vehicle Trips in Regional Core in 1990</u>
I	88,600
II	100,000
III	83,700
IV	62,400
V	54,900
VI	88,600
VII	11,200
VIII	8,700
IX	9,000
X	8,500
XI	-

The greatest number of trips saved is under Alternative II, which would be 100,000 auto trips daily.

Item 3. Detailed Study of Extensions outside of the Regional Core area, either rail or bus/carpool lanes, was not authorized in this phase.

Funding will be requested to examine this issue, including the conduct of an Alternatives Analysis, during subsequent phases of transit development in Los Angeles.

For several years SCRTD has been planning on the use of the railroad median in Santa Monica Boulevard for Rapid Transit as noted by the listing by SCRTD of the desirability of acquisition of said right-of-way and several other sections for Rapid Transit.

Item 4. The L. A. City Transportation Department used an auto occupancy rate of 1.2 persons per auto for all auto trips diverted to transit.

The current auto occupancy rate for work trips is 1.1 persons per auto and 1.4 for all trips including non-work trips. This was used for the LARTS/SCAG region in the patronage projections and explained in the Patronage appendix.

Normally, work trips account for about 45% of all auto trips. However, this percentage is quite different for auto diverted transit trips. The current experience on the El Monte Busway has shown that more than 90% of all auto arrivals at the stations Park and Ride lot occur within the morning rush commute period. Hence, nearly all of the auto trips diverted to transit consist of work related commute trips.

Therefore, the City's use of 1.2 as the factor to convert auto person trips to auto vehicle trips appears reasonable and conservative.

Regarding the choice of words in the Patronage Appendix, the use of "realistic projections" is considered appropriate in that the projections are "realistic" when viewed as consistent with current state-of-the-art.

Item 5. The heavy use of the parking lot at the El Monte Busway and at Rapid Transit District Park and Ride stations throughout the county indicates the need for and the desirability of providing such facilities at Rapid Transit stations.

Most successful Transit Systems include both a good feeder bus service and adequate Park and Ride facilities. These parking needs of the transit system users, not only encourage higher use of the transit facilities, but also divert auto trips from the highway system during the traffic congestion period since most of these trips are work trips diverted during the rush hour commute period.

With regard to the use of feeder buses as a more cost-effective alternative, an adequate network of feeder buses will be provided to serve all rapid transit stations. Even the best feeder bus system, however, does not eliminate the demand for Park and Ride trips. Therefore, both a good feeder bus system and adequate Park and Ride facilities are considered essential to the attractiveness of a rail facility.

- Item 6. It is to everyone's advantage to design and construct the rapid transit starter line as rapidly as possible to minimize the effect of inflation. Our reasonably optimistic schedule calls for three years of Preliminary Engineering and Design and about 5 to 6 years of construction.
- Item 7. A joint task force of interested agencies including SCRTD is working with CalTrans to develop the best coordinated plans for the Union Station intermodal transfer facility. This coordination will continue during further project development phases.
- Item 8. Bicycle racks and provisions for carrying bicycles on board the Transit vehicles will be examined for feasibility and safety considerations during the design phase of the project. We made bicycle storage provisions five years ago at our El Monte Busway station and are not unaware of the desirability of this feature.
- Item 9. Capital cost estimates were based on actual costs at other similar transit properties and the experience of senior staff members. It was not, of course, intended that the costs indicated be used as a firm estimate of individual project expenditures, but rather as a comparative yardstick to aid in the evaluation of the various basic alternatives.
- Item 10. The best common indicator of transit systems operating costs is the cost per car mile. This figure takes into account all the variables between systems, such as the length of lines, number of cars required, maintenance and operating labor costs and fixed overhead. It also indicates to a significant degree the efficiency of the operating philosophies governing each system, the size of train crews, station personnel, and the like.

The District's estimates are based on one man train crews as in Washington, D.C., Atlanta, and Patco, and one attendant per station. Estimated costs per car mile in 1977 dollars for the five rail alternatives are:

	<u>1977\$</u>	<u>1979\$*</u>
Alt. I	\$2.11	2.46
Alt. II	2.01	2.34
Alt. III	2.22	2.59
Alt. IV	2.68	3.13
Alt. V	3.36	3.92

\* '77 escalated at 8%

In determining the 1990 operating costs used in the Draft AA Report, we escalated our '77 costs upward at 8% compounded. Our estimated costs reflect the fixed overhead and administrative costs that would occur in addition to existing RTD general costs.

The 1979 costs per car mile for other rail properties are as follows:

Existing Systems

BART	\$3.26	
CTA	3.15	2-3 man crews
GCRTA	2.62	1-2 man crews
NYCTA	2.87	2 man crews
PATCO	2.54	
SEPTA	1.60	
TTC	1.40	

Proposed Systems - Projected Costs

Baltimore - For 8 miles	2.34
For 24 miles	1.76
For 23 miles	1.75
For 25 miles	1.69

Based on the above, we find the estimated operating costs for our proposed starter line appear to be realistic.

- Item 11. Federal funds are anticipated for 80% of the project cost.

In 1974, Los Angeles County authorized the use of up to 25% of Prop. 5 money for fixed guideway construction. AB 1429 authorizes banking of this money, and provides \$300 Million, which covers 15% of the total cost.

The remaining 5% of the cost, \$100 Million in local funds, has been set aside by the Los Angeles County Transportation Commission for the Starter Rail Core project.

- Item 12. The text of the AA/EIR/EIS states on Page IV-14:

"Analysis indicates that none of these transit alternatives would be particularly significant at the regional level in attempting to reach the Federal and State standards. However, on a localized level, such as in the LACBD and in the Regional Core, there could be significant improvements."

- Item 13. The emphasis and entire evaluation of air quality impacts are based on the predicted usage. However, the rail system can carry many more persons than the initial predicted usage. If more persons use the system due to factors such as energy shortages, further reduction in auto trips in the regional core could be expected.

- Item 14. Many air quality programs developed by SCAG were targeted for 1987 instead of 1990. The reason for this was that the present federal law required compliance with Air Quality standards by 1987 and thus Air Quality projections were targeted for that year.
- Item 15. Data on pollutants was developed by both SCAG and SCAQMD for the 18.6 mile rapid transit line. Their research specified the VMT saved as well as the quantities of pollutants saved as a result of this project.
- Item 16. This is a very generalized section because the kinds of details necessary will be developed during further work in Preliminary Engineering.
- Item 17. This standard was changed on a national level during report preparation and has been made in the Final Report.
- Item 18. See our response number 55 to FHWA's letter.
- Item 19. This Alternatives Analysis/Environmental Impact Report/Statement was prepared under Urban Mass Transportation Administration directives and guidelines and there is no requirement at this time for an analysis to focus on the number of individuals and families rather than structures affected.
- However, during Preliminary Engineering, as specific sites are studied and selected for stations, shops, yards and parking facilities, specific displacements and relocation assistance for persons affected will be discussed.
- Item 20. See item Number 6 of this letter.

57. Comment

The Los Angeles Police Department commented on the estimated police services manpower requirements.

Reference

Letter No. 82

Response

The Los Angeles Police Department comments were addressed in the Draft Report where the District and LAPD assessments of police service requirements were outlined, and the details of each agency plan were included in the Appendices. (See Appendix II.)

We agree with the Police Department that adequate police protection must be provided for the rail system.

During subsequent phases of project development, we will work closely with the Los Angeles Police Department and other police agencies to develop an acceptable plan.

58. Comment

The rail bus alternatives are the least beneficial and most expensive elements of a 4-part Regional Transit Plan, of which the Regional Core Rapid Transit project is one part. Rail rapid transit is not currently justifiable.

Reference

Letter No. 81

Response

The results of the two year evaluation of the Rail/Bus and All/Bus Alternatives, contained in this report show that the Rail/Bus Alternatives are the most beneficial, cost-effective and environmentally superior.

Alternative II, the Board preferred alternative is an 18-mile starter line and is proposed for the region with the most dense population and employment and most in need of transit improvements. This project conforms to the City's and the region's goals and objectives and provides the most accessibility. (For detailed discussion of the merits of Alternative II, see "Rationale for Selection" in Chapter II of this report.)

An extensive expansion of the regional bus system instead of implementation of the starter line project is suggested in this comment.

The current SCRTD Bus System operating subsidy is \$125 million annually. To give an idea of just the operating costs involved in such an expansion, if the Bus System were doubled, it would require an annual subsidy of well over \$250 million. Such an operating subsidy alone (not including the cost of buying the additional approximately 2000 buses) would pay for today's cost to build the starter line in about six years.

In the Regional Core, the Chapter III and VI comparisons of the Rail Alternatives with Bus Only Alternatives, as applied to capital costs, operating costs and efficiency measures, indicate that the Rail/Bus Alternatives carry approximately 25% more ridership, would result in an operating deficit less than the Bus Alternatives and would also provide higher economic and joint development benefits. (See "Rationale for Selection of Preferred Alternative" in Chapter II.)

It should be noted that in 1974 over 60% (a clear majority) of the entire Los Angeles County voters authorized the use of up to 25% of this area's gasoline taxes to be used for the construction of rail rapid transit. Recently passed AB 1429 allocates \$300 million of these

58. continued

funds specifically for the Starter Line Project. These will provide three-fourths of the 20% local share of the total cost. The LACTC has allocated \$100 million which provides the remaining 5%.

It was felt that on the basis of cost per passenger (Fig. VI-20) this project would be low on the priority list, and that it serves too few and is too costly to justify. When compared in terms of both the annualized, capital plus operating cost per passenger mile (as shown in the second part of the same Figure), which is a more accurate measure of efficiency, the rail/bus alternatives are at par with the all-bus alternatives. This shows that the greater operating efficiency of rail rapid transit offsets its higher capital cost.

Energy and air quality improvements are minor, as observed. However, an 18-mile rapid transit line cannot be expected to provide significant improvements in the entire Los Angeles region. The reduction in VMT is considered small.

The reduction of 3-1/2% of the automobile trips and the replacement of the buses on the surface streets by a rapid transit subway system will provide significant congestion relief in the project corridor.

59. Comment

It was suggested that Olympic Boulevard or Venice Boulevard be used to travel east-west rather than Wilshire Boulevard.

Reference

Oral Testimony - Ms. Ione Buie, Session A, p. 68

Response

Wilshire Boulevard has the employment density necessary to support a rail system. Neither Olympic or Venice Boulevards have anywhere near the comparable employment densities.

60. Comment

The Miracle Mile is not a Center today. Thus it is more prudent to turn north at Wilshire Boulevard and Vermont Avenue rather than to extend from the Wilshire Center to the Miracle Mile Center.

Reference

Letter No. 88

Response

The City Planning Department considers the Miracle Mile to be one of the major centers in Los Angeles today. It is officially recognized in the Centers Concept adopted by the Mayor and Council in 1974.

A review of 1973 employment statistics, indicates that there are approximately 31,000 employees in the Miracle Mile Center. In the Wilshire Center there are approximately 77,000, in Hollywood about 50,000, in North Hollywood 25,000 and in Westwood 29,000.

In addition to the office space and commercial establishments in the Miracle Mile, two of the County's most important museums are located in Hancock Park. Thousands of visitors to both of these institutions would use a rapid transit system on a regular basis.

Also, the Miracle Mile has a significant concentration of small and medium size shops, as well as three major department stores on Wilshire Boulevard. These factors indicate that the Miracle Mile is a major center in Los Angeles today.

The decision to select one alternative instead of another, however, is based upon many factors, not just the number of employees within centers. The rationale for selecting Alternative II is provided in Chapter II. Additional discussion is also contained in Comment Response No. 1.

61. Comment

Several concerns were expressed regarding the Regional Core Rapid Transit Project, as follows:

- Item 1. Land use and zoning around stations should be coordinated. BART did not do well in this regard.
- Item 2. "Local government" should identify sources of income to offset any unexpected inflation.
- Item 3. Lead time for permits such as historical preservation clearance may not be adequate.

Reference

Letter 87

Response

- Item 1. SCRTD had involved the City Planning Department of Los Angeles in the Alternatives Analysis study. Rapid Transit's relationship to Community Plans was examined early in a report dated October, 1977. More importantly, it is the intent of SCRTD to work closely with the City of Los Angeles during Preliminary Engineering on these and other issues.
- Item 2. The State legislature has recently enacted AB 1429 which provides approximately \$300 million dollars, three-fourths of the 20% local share of the capital cost of the system. In addition the Los Angeles County Transportation Commission has voted to commit to this project \$100 million of the "spillover" funds, allocated to this area by AB 620, approved on June 28, 1979. This will complete the 20% local share.
- Item 3. Considerable early involvement has already occurred with SHPO. As indicated in previous written agreements with representatives of the State Office of Historic Preservation, more detailed historic-cultural facility studies will be completed during Preliminary Engineering. During this two year period there will be adequate lead time to process any necessary permit.



62. Comment

The Hollywood Chamber of Commerce feels the patronage analysis either undercounts or excludes the ridership generators along the route of Alternative III.

Reference

Letter No. 5, 65

Response

The Hollywood Chamber of Commerce's concern was investigated last December in response to their letter of November 14, 1978. A detailed explanation was sent to them on January 4, 1979 (copies attached).

In our letter of January 4, 1979 clarifying patronage projections for Alternative III, we outlined reasons why we felt that these projections did include all travel generated in Hollywood, including the entertainment and tourist travel, the medical/hospital complex, and the Los Angeles City College trips. Similarly, we also explained that the projections for the other alternatives such as Alternative I and II included the travel generated by the Farmers Market, businesses along the Wilshire Miracle Mile, CBS Television City, the Page Museum and the Los Angeles County Museum. Since Alternatives I and II both have a station in Hollywood, they also provide access to the entertainment and tourist attractions in Hollywood in the Highland Avenue area, including eight theaters and the Roosevelt Hotel and the new Holiday Inn Hotel.

Based upon an examination of all relevant factors, the SCRTD Board has selected Alternative II as the Preferred Alternative. For a detailed discussion of the rationale for this selection see Chapter II of this report.

The Los Angeles Transportation Commission has also examined the issues raised by the Hollywood Chamber of Commerce, and had conducted a detailed study comparing Alternatives I, II, and III. They have concluded that Alternative II is the best alternative. Their report entitled "Regional Core Rapid Transit Route Selection Report" dated November 14, 1979 can be obtained for review from the Commission offices.

Following are SCRTD's specific responses to the specific comments in the Chamber's letter of August 10, 1979.

1. The LARTS data was originally compiled in 1967 but was revised and updated as recently as 1976. Since the travel data in the regional core included trips along the route of Alternative III as well as those along the route of the other alternatives, the ridership potential was developed in the same manner for all alternatives.

2. The 9,000 trips per day represents the estimated total (in and out) passenger volume at the Vermont/Sunset rapid transit station, not the total trips generated in this area. All trips in this area would include travel on the bus system as well as the trips made by automobile. Transit travel in the regional core today represents about 12% of all regional core auto and transit trips. A canvass of the several hospitals in the area indicates a total daily employee and visitor population of 15,000. This would mean 30,000 daily trips to and from this area. The 9,000 on and off passenger volume at that station represents about 30% of all of the hospital trips - over twice as many as the normal transit percentage! The hospital complex attracts patients and staff from all parts of Los Angeles and by no means would all of them use the rail system. Therefore, the 9,000 volume at this station appears to be reasonable - if not a little excessive as it does not include the many trips that are, and would still be, made by bus.

3. The Los Angeles City College does have a more than usual usage of public transit. A recent survey taken by Dr. Ben Gould of the LACC Administration shows that of the full-time students, 38% use buses and over 50% use their cars or carpool. Students number about 20,000 and there are about 500 faculty members. However, only approximately two-thirds are full-time, day students, while the rest are mostly part-time students attending evening classes. All full-time students do not attend classes daily - most are three days a week.

We also understand from the school, that a large portion of the student population comes from the area along Vermont, south of Wilshire. If there were a transit line up Vermont, those students, using buses for this trip, would not save appreciable travel time over the bus mode by transferring for the short trip from Vermont/Wilshire to the college. The current bus ridership at the Los Angeles City College in terms of the daily on-off movements at the bus stop shows 2,041 "on's" and 2,223 "off's" for a total of about 4,300.

The average total daily trips to and from the College would be  $(20,000 \times 1/2 + 500) \times 2 = 21,000$ . Our estimate of 7,000 on and off movements at a transit station there is 33% of total trips - almost three times the normal mode split - (not considering the appreciable number of trips that would still be made on buses). Therefore, the 7,000 is a more than reasonable number in this instance, too. A letter from the City College to UMTA states, "The District anticipates minimal impact on student enrollment or traffic patterns as a result of any of the transit system alternatives. Thank you for circulating the document to us."

4. In response to their comment that the entertainment travel is severely undercounted, both Alternatives I and II provide a station at Las Palmas/Selma while Alternative III includes a station at Hollywood/Vine. All of these alternatives serve entertainment trips. While Alternative III serves the trips better in the vicinity of Vine and Cahuenga, Alternative I and II serve better the considerable entertainment trips in the Las Palmas and Highland/Hollywood vicinity.

The computer was not programmed to consider the trips to and from the entertainment center near Highland Avenue for Alternative I and II and neglect those around Vine Street in Alternative III!

Alternative III is projected to carry 71 million annual rail passengers and serve a total rail/bus annual ridership of 191 million. The 1.25 million trips attracted by the Pantages (according to the Chamber of Commerce) represent less than 2% of this alternative's projected ridership, therefore, although entertainment trips are included, their inclusion or exclusion in the total travel estimates is not enough to make any appreciable difference in the analysis.

5. The same response made for Item 4 above applies to their concern on tourist trips in Hollywood.
6. In response to their comment on development activity, see our response on the Las Palmas/Selma vs. Cahuenga Boulevard Station location issue in our response No. 2.
7. While it is true that Alternative III would better serve the new hotel development with a station at Hollywood and Vine, Alternative I and II would serve better the existing hotels in the vicinity of Highland - The Roosevelt Hotel and the new Holiday Inn.
8. Although Prudential Insurance Company has announced plans to move their operations from their Wilshire Boulevard building to suburban Westlake Village, the building they will vacate has already been purchased and continued use will be made of the structure as an office building. The new owners expect to have the building completely leased upon Prudential's departure. With the current shortage of office space there is no reason to expect this major office building to be vacant.

9. The Broadway has a department store at Wilshire/Hauser. A much larger May Company department store exists at Wilshire/Fairfax. The Broadway's management has considered the possibility of vacating their building on Hauser when they open a new store in the new shopping complex in the La Cienega/Beverly vicinity, about a mile west of the Beverly Station on the Fairfax alignment. Not only will this new shopping center attract considerable additional trips to Alternative II, the store space that may be vacated on Wilshire/Hauser may also provide considerable travel, because this space is considered "prime" and several real estate developers have already shown interest in this property and have proposed plans ranging from another retail store to a 30-story office building.

10. In response to their comment on technical deficiencies in the report, we refer to the answers given herein.
11. In response to the Chamber's support of Alternative III, see attached discussion, Item #1, between the Vermont, La Brea and Fairfax alignments, in our responses to the public hearing comments.
12. They suggest construction of Alternative III, but with the continuance of the line on Wilshire out to Fairfax - which would result in a "Y" junction, and:
  - a. A total length of line of 20 miles - 2 miles longer than Alternative II, resulting in our increase in capital cost of about \$125 million in 1977 dollars (\$223M in escalated dollars).
  - b. The ability to operate at minimum headways of only 4 minutes on Wilshire west of Vermont and only 4 minutes minimum headways out through Hollywood and into the Valley. It is essential that we be able to run trains on 2 minute headways on both lines in the future as patronage builds up. If there is a "Y" junction at Vermont that would not be possible - for if trains run at 2-minute intervals east of Vermont, the headways on each branch to the west must be 4 minutes. And there is not the justification to run a line on down Vermont because the major destination from South Central Los Angeles is the CBD and a line up Vermont would force a transfer of the majority of riders to get to the CBD.

- c. In the future, a line from the San Fernando Valley down through the west side to LAX and on down Hawthorne Boulevard to Pacific Coast Highway (serving LAX and South Bay commuters) is essential. And the portion of the Starter Line northerly of Wilshire can become a part of that future line. This will result in a future cross (over/under) track arrangement on Wilshire so that both lines will be able to operate independently at 2-minute headways. Experience of other properties has shown the advantages of completely separate line operation. If a line is located on Vermont down to Wilshire, it would also force a future duplicate parallel line on the west side. Any future line running the length of Hollywood should go on into the CBD via Sunset and serve the Silverlake and Echo Park communities, and go across the CBD on First Street and out into East Los Angeles via Whittier Boulevard.

63. Comment

The State Historic Preservation Officer expressed support for the efforts made to date in regard to 4(f) 106 issues. However, they expressed concern that their office be fully involved as preliminary and final engineering plans are prepared and that adequate studies be conducted.

Reference

Letter No. 90

Response

SCRTD management and staff are fully aware of the federal and state regulations in this area, and will perform the tasks necessary to meet these requirements during additional environmental work.

64. Comment

Combine Alternatives III and V.

Reference

Letter No. 65

Response

A combination of Alternative III and Alternative V would create a permanent "Y" junction on the rapid transit system at Vermont and Wilshire. This would mean that with two-minute headways on the portion of the line east of Vermont, the branches north on Vermont and west on Wilshire could not operate at less than four-minute headways. This would severely restrict the capacity of an ultimate Wilshire line which will require two-minute service.

With 6-car trains carrying 165 per car or approximately 1000 per train, the peak period capacity at 4-minute headways is 15,000/hr. in one direction (our 1990 estimated peak demand load in one direction is approximately 14,000). At two-minute headways, we would have the capacity for 30,000 per hour. This will enable a passenger growth of 100% in future years. (Both London and Toronto Transit people have advised us that if and when any line load approaches 30,000 per hour, it is time for a parallel line in order to better serve the community.

Suppose we were to use 8-car trains; 8-car trains at 165 per car will carry 1320/train, and at 4-minute headways, the capacity would be about 20,000 per hour. That could not be increased if there was a permanent "Y" at Wilshire and Vermont. This would permit a passenger growth of only 33-1/3% -- a serious restriction in the future.

Further, the cost of stations for 6-car trains would be significantly less than for 8-car trains -- the larger the station and the larger the length of platform, the greater the cost -- at least 10 - 15% more.

The future South-Central Line should go through the CBD, serving the Occidental/Garment area, the Broadway shopping area and the Civic Center complex - where most of the destinations are. If Alternative III were to be extended south on Vermont from Wilshire, it would force the majority of people coming up Vermont to transfer at Wilshire to go east to the CBD.

It is, therefore, concluded that operational problems, capacity limitations and accessibility factors make a combination of Alternatives III and V totally undesirable.

65. Comments

If finances are depleted before the project (Alternative II) is completed, would the Valley be left out?

Reference

Letter No. 68

Response

UMTA has built into its grants provision for adjustment of funding if the rate of inflation varies. Therefore, it is only for cost overruns that finances would be depleted. In this event, cost reduction measures would be uniformly adopted. There is no reason to assume that the Valley would be left out in order to complete other portions of the System. In fact, because their funding would be intended for the entire project, UMTA would strongly resist any attempt to by-pass a segment for which funds were committed.

66. Comment

Low-cost parking should be provided at rapid transit stations and at central transfer points, to offer additional incentives to commuters.

Reference

Letter No. 20

Response

Transit parking will be provided at the two stations in the San Fernando Valley, and at other stations along the transit line, depending upon availability of space and the projected parking demand. SCRTD presently provides parking facilities to serve bus patrons at several major origin and transfer points.

67. Comment

In the Report Summary the word "insignificant" used to describe the power load growth forecast for Los Angeles resulting from the Starter Line, should be changed to "inconsiderable".

Reference

Letter No. 58

Response

This change is a good suggestion and has been made in the report.

## F. INDIVIDUAL AND AGENCY STATEMENTS OF ALTERNATIVE PREFERENCE

In terms of an Alternative preference, the written and oral comments received were both general and specific. The general comments primarily reduced themselves to a question of "rail" or "no rail" options. Relative to the oral testimony, 28 persons supported rail transit development in general, while only four persons were against it. Relative to the written comments, 19 persons supported rail transit development in general, while only one person was against it.

The specific comments were significant in that Alternative II (the SCRTD Board Preferred Alternative) was overwhelmingly favored over all other alternatives, with 80 oral and 37 written "votes" in favor of it. The second most favored option was Alternative III, with 10 oral and 15 written supporters. Next in line was Alternative I with only one oral and one written comment in its favor. The remaining rail alternatives (IV and V) did not receive any support (except that Alternative V was favored by one group as an option in case Alternative II received inadequate funding). Finally, the All-Bus Alternatives received absolutely no support from any of the oral testifiers, while in terms of written support, only one group supported the All-Bus Alternatives.

What follows is a detailed listing of written and oral comments by preference.

## Individuals and Agencies Statements of Alternative Preference Listed by Alternative Preference

### A. ORAL TESTIMONY

#### Alternative I

1. J. T. Spencer

#### Alternative II

1. Mayor Tom Bradley
2. Citizens for Rail California - George Falcon - 400 members
3. Coalition for Rapid Transit - Abe Falick
4. Attorney Byron Cook
5. Congressman Barry Goldwater, Jr.
6. Los Angeles Urban League - John Mack
7. Dr. Alice Thurston - President of Los Angeles Valley College
8. MCA/Universal - Larry Spungin
9. North Hollywood Chamber - Richard Luehrs
10. Councilwoman Joy Picus
11. Councilwoman Pat Russell - L.A. City Council
12. Valley Wide Streets, Highway & Transportation Committee - Roger Stanard
13. West L.A. County Resource Conservation District - Glenn Bailey
14. James B. McKenna - AM-CAL Realty, Inc.
15. Kurt Colicchio - Student
16. Patrick Moser - L. A. County Democratic Central Committee
17. Dorothy Downing
18. David Downing - L. A. City & County Area Agency on Aging Committee
19. Richard Cowsill - L. A. Valley College Student Body President - 26,000 students
20. Bill Steward - Mayor's San Fernando Valley Advisory Committee
21. Guy McCreary
22. Phyllis Roberts - President, North Holly Chamber of Commerce
23. North Hollywood Project Area Committee - Bruce Miller
24. United Chambers of San Fernando Valley - Frank Pine - Representing 24 Chambers of Commerce
25. Sheldon Walter
26. Dwight Winegar - Student
27. Winnetka Chamber of Commerce - Gordon Clint
28. Barry Ader
29. Lazear Israel
30. L. A. County Museum of Arts - Mrs. Daniel Frost - 100,000 people

31. L. A. County Transportation Commission Chairman - Edmund Russ
32. Bo Young - Representing L. A. City Councilwoman Peggy Stevenson
33. American Institute of Architects - Richard Thompson
34. American Association of University Women - Evelyn Ghormley
35. California Federal Savings & Loan - Jim Butler
36. Carhay Circle Homeowners Association - Louis Korn
37. Century City Chamber of Commerce - Warren Martin
38. Ecology Center of Southern California - Nancy Pearlman
39. Future of Los Angeles - John Touchet
40. Bob Geoghegan - Representing Supervisor Edmund Edelman
41. Jewish Legal Services - Sandra Spitzer
42. May Company Department Stores - Phil Schmidt
43. National Council of Jewish Women - Karen Labinger - 4000
44. Al Nyberg - UCLA
45. West Hollywood Advisory Council - Elliot Harmer
46. West Hollywood Citizens Advisory Committee - Bud Siegal
47. West Hollywood Citizens Advisory Sub-Committee - Girard Spencer
48. Air Resources Board - Lawrence S. Caretto
49. Bullock's Department Stores - Frank Rice
50. Don Muchmore - California Federal Savings & Loan
51. Carpenter's Union - Tom Benson - 3000
52. Countwide Citizen's Planning Council, Transportation Committee - Meda Rosado
53. Coast Federal Savings - David Blaney
54. Computer Learning Center - Lloyd DesMarais
55. Craft & Folk Art Museum - Patrick Ela
56. East Los Angeles Area Aging Advisory Council - Joe Vazuez
57. East Los Angeles Interagency Coalition - Tomas Pompa
58. Los Angeles Area Chamber of Commerce - Jim Gordon - 2800 member firms
59. L. A. County Federation of Labor, AFL/CIO - Bill Robertson
60. Los Angeles Grand Jury - Marvey Chapman
61. L. A. County Medical Association - Dr. Stanley Rokaw
62. Park La Brea Associates - Glen Bennett - 14,000 people
63. SCAG - Councilman Robert Farrell
64. Fred Terrell - Representing L. A. City Council President - John Ferraro
65. Whittier Boulevard Merchants' Association - David Gonzales
66. Wilshire Chamber of Commerce - John McKay
67. Wilshire Temple - Rabbi Wolf - 7000 members
68. Richard Workman
69. American Lung Association - Honora Wilson
70. American Planning Association - Ken Gregory - 900 members
71. American Society of Civil Engineers - Jack Hallen
72. California Department of Transportation - Robert Datel
73. L. A. City Planning Department - Arch D. Crouch
74. L. A. County Planning Department - Norm Murdoch
75. Los Angeles NAACP - Dave Waters
76. Jim McDermott, Representing Assemblyman Michael Roos
77. Sierra Club - Stan Hart
78. Sutro Company - Evelyn Kieffer
79. Rex Links - Wilshire Chamber of Commerce
80. Los Angeles County League of Women Voters - Gloria Schmidt

Alternative III

1. Do It Now Foundation (Hospitals) - Joyce Snyder
2. Hollywood Chamber of Commerce - Sheldon Davidow
3. Hollywood Revitalization Committee - Bob DiPietro
4. Bill Sisson
5. Children's Hospital - Warren Thorpe
6. Jim Gagnon
7. L. A. City College Chancellor's Committee on Transportation - Dr. James Cox
8. L. A. City College Student Council - Elizabeth Bell - 20,000 members
9. Michael Rosen
10. John Welbourne

Alternative IV

None

Alternative V

League of Women Voters (In case of inadequate funding for Alt. II).

All-Bus Alternatives

None

Support Concept of Immediate Rail Transit Development

1. Ben Bogartz
2. California Retired Teacher's Association - Reba Roebuck
3. Dennis Cannon
4. Fair Housing Council, San Fernando Valley - Charlotte Saldick
5. Beverly Garland - Honorary Mayor of North Hollywood
6. North Hollywood Project Area Committee - Leo Potucek
7. Bryan Allen
8. J. Crawford
9. North Hollywood Redevelopment Committee - Leon Opseth
10. Rick Rofman
11. Fred Valentine
12. Hollywood Bowl - Tim Creedon
13. L. A. Philharmonic & Music Center - Sherrill Corwin, Director
14. Peter Stoner
15. West Hollywood Chamber - L. J. Durphy
16. California Association of Physically Handicapped - Gale Williams, President - 300,000 members.
17. Retail Clerks Union - Rod Diamond - 26,000 members

18. Aames Bureau of Employment - Earnest Weber
19. ARCO - Thornton Bradshaw/John Gendron
20. East L. A. Senior Citizen's Committee - Toni Rini
21. Japanese American Citizen's League - John Saito - 9000 members
22. Greater Los Angeles Council on Deafness - Marge Klugman
23. Los Angeles Mayor's Office for Handicapped - Lou Nau
24. Mrs. A. Mellon
25. Marge Webb
26. Ted Mauritzen
27. National Fight Back Organization - James Seal
28. Joseph Rocco

Other

1. Joseph Dunn - Student
2. San Fernando Valley Sierra Club - Ione Buie
3. Robert Richmond
4. Greg Roberts
5. Art Schneider
6. Nancy Burns - Representing State Senator David Roberti
7. Rose Heller
8. Eugene Henning
9. Hollywood Coordinating Council - Leonard Reeg
10. Oscar Singer
11. Howard Watts
12. Ethel Blackwell
13. Earnest L. Crawford
14. Ecology Legislative Action - Michael Clements
15. Pat Gibbs
16. Studio City Chamber of Commerce - Peggy Schade

Against Proposed Transit Improvements

1. Norris Dabbs
2. Mrs. O. Hicks
3. David Learn
4. Theodore Zier

B. WRITTEN COMMENTS

Alternative I

1. James B. Rives

Alternative II

1. Dorothy Beffman
2. Congressman Anthony Beilenson
3. KNBC
- \*4. L. A. City Council
5. Alden Nash
- \*6. North Hollywood Project Area Committee
7. Valley Wide Committee on Streets, Highways & Transportation
8. Sheldon Walter
9. Larry Wartel
10. Donald & Roberta Whitney
11. Trinity Community Presbyterian Church
12. Taft High School Community Advisory Council
13. Wilshire Chamber of Commerce
14. L. A. City Board of Transportation Commissioners
15. Building Industries Association of Southern California, Inc.
16. Arturo Stephens
17. United Chambers of Commerce of the San Fernando Valley, Inc.
18. Alice E. McLaury
19. SCAG Metropolitan Clearing House
20. Institute of Electrical & Electronics Engineers
21. Power Engineering Society
22. Joint Council of Teamsters No. 42
23. T. A. Nelson - Professional Engineer
- \*24. Century City Chamber of Commerce
25. Silverman, Katz, Fram & Company
26. Beverly Hills Chamber of Commerce
27. Office of the Chancellor - UCLA
28. San Fernando Chamber of Commerce
29. Santa Monica Area Chamber of Commerce
30. Tishman Construction Corporation
- \*31. California Department of Transportation
32. L. A. County Federation of Labor
33. Tract No. 7260 Homeowners Association, Inc.
34. Holmby-Westwood Property Owners Association, Inc.
- \*35. Jewish Legal Services
- \*36. Coalition for Rapid Transit
- \*37. Los Angeles Branch NAACP

Public Hearing Comments - Written

Alternative III

1. Hollywood Arts Council
2. Hollywood Coordinating Council
- \*3. Hollywood Revitalization Committee, Inc.
4. Masquers Club
5. Ted H. Smith and Son Realtors
6. USO-Los Angeles Area
- \*7. Councilwoman Peggy Stevenson
8. Ramsey-Schilling Company
9. Church of the Blessed Sacrament
- \*10. Associated Students - Los Angeles City College - Elizabeth Bell
11. Associated Students - Los Angeles City College - Geraldine Brooks
- \*12. Los Angeles City College - James Cox
13. Assistance League of Southern California
- \*14. Hollywood Chamber of Commerce
15. Associated Students - Los Angeles City College - Leslie Spates  
Sample - Form Letter (744 Received)

Alternatives IV and V

None

All-Bus Alternatives

1. David Grayson - Automobile Club of Southern California

Support Concept of Immediate Rail Transit Development

1. Assemblyman Howard L. Berman
2. Beneficial Standard Properties, Inc.
3. National Society of Professional Engineers
4. City of San Fernando - City Council
5. Mental Health Association
6. Edgar D. Cahn
7. L. A. City Board of Building & Safety Commissioners
8. John Pignataro
9. Central City Association
10. Assemblyman Tom Bane

Public Hearing Comments - Written

11. Citizens Bicycle Advisory Committee
12. Hospital of the Good Samaritan
13. Fred Valentine
14. Western Los Angeles Regional Chamber of Commerce
15. Los Angeles Police Department
- \*16. California Retired Teacher's Association
17. Westside Community for Independent Living, Inc.
18. Hollywood Revitalization Committee, Inc. - August 8, 1979
19. George C. Page Museum

Not Applicable for Identifying Preference

1. L. A. County Flood Control District
2. UMTA
3. Office of Planning and Research (State Clearing House)
4. South Coast Air Quality Management District
5. L. A. City Department of Transportation
6. U. S. Department of the Interior
7. U. S. Environmental Protection Agency
8. U. S. Department of Transportation - FHWA Region Nine
9. U. S. DOT - Office of Environment and Safety
10. The Los Angeles Conservancy
11. Office of the Chancellor - Los Angeles Community Colleges

Against All Proposed Transit Improvements

1. William G. Thompson

\*Duplicates Oral Testimony



# **ACKNOWLEDGEMENTS AND CREDITS**



## ACKNOWLEDGEMENTS AND CREDITS

This Final Alternatives Analysis/Environmental Impact Statement/Environmental Impact Report (AA/EIS/EIR), evaluating transit improvement alternatives in the Los Angeles Regional Core, is the joint effort of the staffs of the Southern California Rapid Transit District (SCRTD) and the Urban Mass Transportation Administration (UMTA) of the United States Department of Transportation. Its preparation has been under the immediate direction of the SCRTD Rapid Transit Department and the UMTA Office of Planning Assistance. Funding for the study effort has been 80 percent Federal, from UMTA Section 9 grants; 18 percent State, from California Department of Transportation (CalTrans) Proposition 5 fixed guideway funds; and the balance supplied by the Southern California Rapid Transit District.

Under a contract with the SCRTD, the City of Los Angeles Planning and Traffic Departments and Engineering Bureau have been involved in the project from its beginning, providing staff assistance in their respective disciplines. Two other governmental entities which have played important parts are the Southern California Association of Governments (SCAG), which is responsible for general regional transportation planning and administration of Federal grant monies in the Los Angeles region; and the Los Angeles County Transportation Commission (LACTC), which has the responsibility for approving the use of Federal and State funding for transportation projects in Los Angeles County.

Major technical assistance in patronage forecasting was provided by the LARTS branch of CalTrans, and in other engineering and environmental fields by six private consulting firms. Additional technical help came from various other private firms and public agencies.

Figure A-1 at the end of this section depicts the project management organization and identifies those in each area of responsibility, all of whom have performed individually, and as a team, so as to bring about a product of the highest professional standards.

There has been continuous outside agency review of the project work by the Interagency Technical Committee (ITC), which is composed of the technical representatives from all concerned Federal, State and local transportation agencies. This committee reports to a policy group called the Inter-Agency Coordinating Committee (IACC). The membership of both of these committees is shown below:

Interagency Coordinating Committee (IACC)

City of Los Angeles

Mayor Tom Bradley

Deputy Mayor Ray Remy

Chairperson, City Council Transportation Committee

Councilwoman Pat Russell

Councilman John Ferraro

California Department of Transportation (CalTrans)

District Director - Robert Datel

Chief, Div. of Transportation Planning - W.E. Schaefer

Southern California Rapid Transit District (SCRTD)

President, Board of Directors - Marvin Holen/Byron Cook

Chairman, Rapid Transit Committee - Gerald Leonard/

Thomas Neusom

Urban Mass Transportation Administration (UMTA)

Regional Director - Dee Jacobs

Federal Highway Administration (FHWA)

Division Administrator - O.L. Homme

Southern California Association of Governments (SCAG)

Executive Director: Mark Pisano

Los Angeles County Transportation Commission (LACTC)

Executive Director: Jerome Premo

Interagency Technical Committee

Southern California Rapid Transit District (SCRTD)

Gallagher, Taylor

Community Redevelopment Agency (CRA)

Townsend, Perdon

California Department of Transportation (CalTrans)

Baxter, Sanchez

Southern California Association of Governments (SCAG)

Ackermann, Wells

Urban Mass Transportation Administration (UMTA)

Eurman, Kennedy

Federal Highway Administration (FHWA)

Gallardo

Los Angeles County Transportation Commission (LACTC)

Premo, Richmond

City of Los Angeles Departments of - Planning, Public Works and

Transportation (Engineering Bureau), and Traffic

Hamilton, Sizemore, Rowe

County of Los Angeles, Regional Planning and Road Departments

Murdock, Royce

A number of civic and community organizations and Los Angeles City and County Boards and Commissions have provided input and feedback as the project advanced. Of great value has been the cooperation of the Los Angeles City Council members and their staffs. A complete documentation of the public participation effort is given in Chapter XII.

Figure A-1

REGIONAL CORE TRANSIT ALTERNATIVES ANALYSIS  
PROJECT ORGANIZATION CHART

