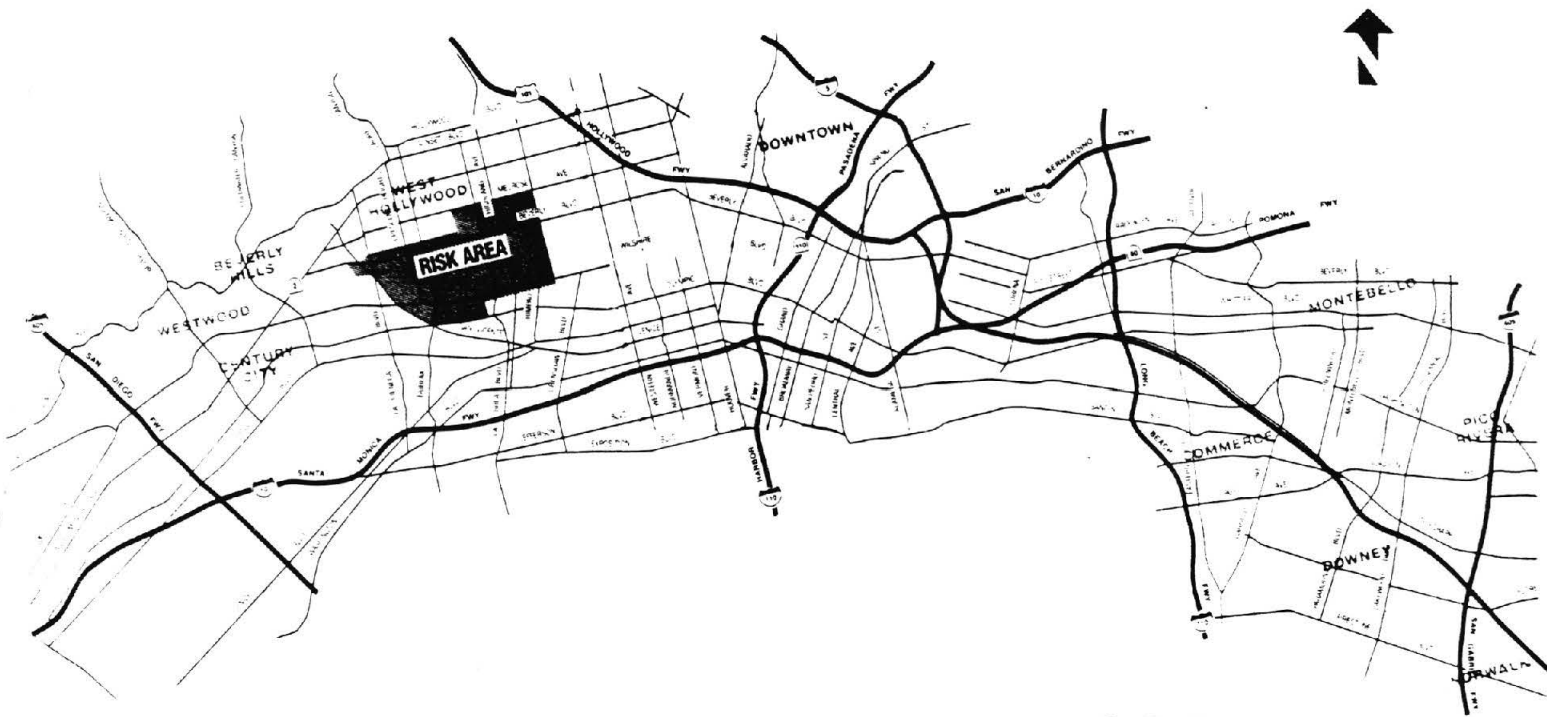


METRO RED LINE EXTENSION SYSTEM PLANNING STUDY

AUGUST 1989



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ASSOCIATION OF GOVERNMENTS

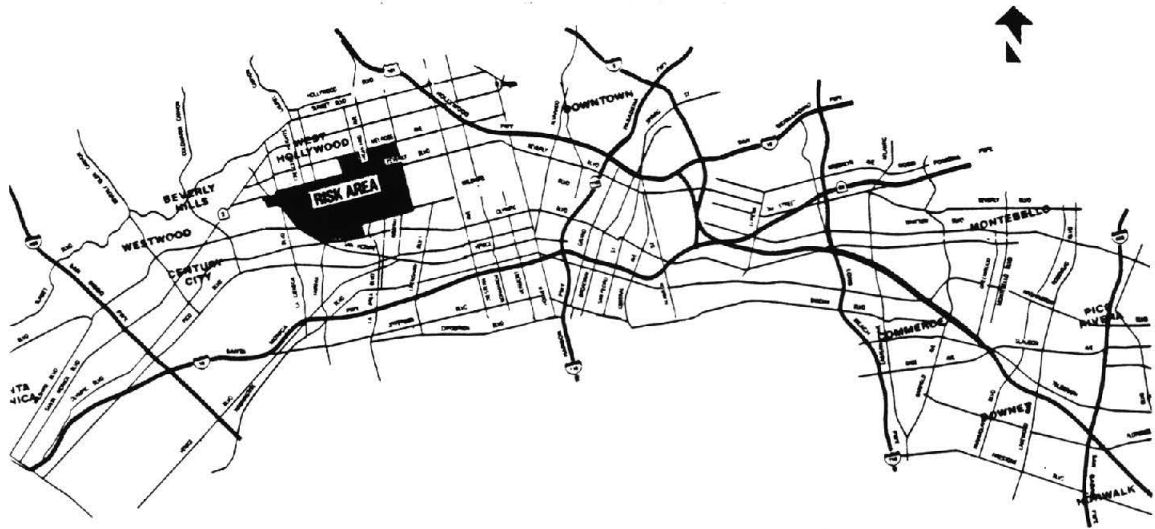
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FREEWAYS	—————	MOS 1	
ARTERIALS	—————	MOS 2	
RISK AREA		STATIONS	

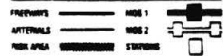


METRO RED LINE EXTENSION SYSTEM PLANNING STUDY

AUGUST 1989



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Prepared for:

The Los Angeles County Transportation Commission

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TABLE OF CONTENTS

CHAPTER I	INTRODUCTION	
	Purpose of the System Planning Study	I-1
	Overview of Evaluation Method	I-2
CHAPTER II	FIXED GUIDEWAY CORRIDOR DEFINITION	
	Characteristics of the Potential Fixed Guideway Corridor	II-1
	Travel Characteristics Within The Potential Fixed Guideway Corridor	II-7
	Conclusions	II-13
CHAPTER III	TRANSIT SERVICE CHARACTERISTICS IN THE PROPOSED FIXED GUIDEWAY CORRIDOR	
	Transit Operations Within the Proposed Corridor	III-1
	Travel Across the Los Angeles Central Business District	III-5
	SCRTD 1983 Origin Destination Survey Results	III-8
	Conclusions	III-11
CHAPTER IV	COMPATIBILITY WITH THE 1989 REGIONAL MOBILITY PLAN	
	Consistency with the Goals, Objectives and Policies of the 1989 Regional Mobility Plan	IV-1
	Consistency with the Action Element's Transit Section of the 1989 Regional Mobility Plan	IV-4
	Consistency with the Financial Element of the 1989 Regional Mobility Plan	IV-8
	Conclusions	IV-8
CHAPTER V	CONCLUSIONS	V-1

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LIST OF FIGURES

II.	FIXED GUIDEWAY CORRIDOR DEFINITION	
II-1	Metro Red Line System Planning Study Area	II-2
II-2	Metro Red Line Extension System Planning Study, 1984 Population Per Square Mile	II-4
II-3	Metro Red Line Extension System Planning System Study, 1984 Employment Per Square Mile	II-5
II-4	Metro Red Line Extension System Planning Study Subarea Analysis Boundaries	II-10
II-5	Metro Red Line Extension System Planning Study, System Planning Corridor	II-13
III.	TRANSIT SERVICE CHARACTERISTICS IN THE PROPOSED FIXED GUIDEWAY CORRIDORS	
III-1	Metro Red Line Extension System Planning Study Transit Operators and Service Corridors	III-2
III-2	Metro Red Line Extension System Planning Study	III-7
IV.	COMPATIBILITY WITH THE REGIONAL MOBILITY PLAN	
IV-1	Transportation Corridors	IV-3
IV-2	Constrained Transit Development	IV-6
IV-3	Unconstrained Transit Development	IV-7

LIST OF TABLES

II.	FIXED GUIDEWAY CORRIDOR DEFINITION	
II-1	1984 SCAG Home-to-Work Transit Trip Distribution	II-11
II-2	1984 SCAG Total Transit Trip Distribution	II-11
II-3	1985 SCRTD Home-Work Transit Trip Distribution	II-12
II-4	1985 SCRTD Total Transit Trip Distribution	II-12
III.	TRANSIT SERVICE CHARACTERISTICS IN THE PROPOSED FIXED GUIDEWAY CORRIDOR	
III-1	Average Daily Ridership of Major East-West Transit Service in the Proposed Corridor	III-3
III-2	Average Daily Ridership of Selected SCRTD Cross Town Bus Lines	III-6
III-3	SCRTD 1983 Origin Destination Survey Home-to-Work Transit Trip Distributions	
III-4	SCRTD 1983 Origin Destination Survey Non-Work Transit Trip Distributions	III-10

CHAPTER I

INTRODUCTION

INTRODUCTION

PURPOSE OF THE SYSTEM PLANNING STUDY

The Los Angeles County Transportation Commission (LACTC) has initiated a system planning study and a transitional analysis for the Metro Red Line project (previously referred to as Metro Rail). The purpose of these two studies is to obtain approval from the Urban Mass Transportation Administration (UMTA) to proceed with an Alternatives Analysis/Draft Environmental Impact Statement (AA/DEIS) for extensions beyond the Locally Preferred Alternative (LPA). The LPA encompasses the portion of the Metro Red Line currently under construction known as MOS-1 and the proposed extension of the Metro Red Line known as MOS-2 and MOS-3. MOS-1 originates at Union Station, extends through the Los Angeles central business district and terminates at a station at Seventh and Alvarado. MOS-2 extends westerly to the intersection of Western Avenue and Wilshire Boulevard, and branches north along Vermont Avenue, Hollywood Boulevard to Vine Street. MOS-3 extends through the Cahuenga Pass and Universal City into the San Fernando Valley. This system planning study identifies a corridor for the evaluation of extensions of these segments of the Metro Red Line.

The Metro Red Line Extension System Planning Study is expected to define the transportation corridor in which a transitional analysis will be conducted in conformance with UMTA criteria set forth in the joint UMTA/FHWA planning regulations (49 CFR Part 613). The LACTC intends to use this system planning study and the transitional analysis to secure UMTA's financial participation both in the planning and construction of a future extension of the system. This system planning study will define a corridor which will meet the UMTA criteria of 15,000 current daily transit riders. Cost effectiveness of additional riders will be determined in the transitional analysis.

UMTA's Draft Procedures and Technical Methods for Transit Project Planning defines a "corridor" as "a part of a metropolitan area that contains both trip attractors and trip generators. It consists of a single travel shed, encompassing not only all the promising alternatives but also the area served by these alternatives. The travel shed should be anchored by a central business district (CBD) or major activity center to which a significant portion of the corridor's travel is destined. Corridors are typically wedge-shaped, with the CBD or activity center at the apex." (UMTA, September 1986) It is the intent of this analysis to define a corridor which recognizes the multicentered nature and diverse trip making behavior of the Los Angeles metropolitan area.

OVERVIEW OF THE EVALUATION METHOD

This system planning study approaches the corridor definition in a three part fashion. The first component is an evaluation of the travel corridor characteristics near and adjacent to the existing Metro Red Line Project's Locally Preferred Alternative. The evaluation uses socio-economic characteristics, physical infrastructure, and jurisdictional characteristics to define a preliminary corridor. The preliminary corridor is further defined by an evaluation of model simulated travel behavior from two model sources. Chapter II concludes with the description of a proposed corridor.

The second component of the system planning study is a review of current transit operations within the proposed corridor to determine if actual ridership information correlates with the model simulated behavior. A general review of transit lines is detailed with a closer look at selected lines linking the eastern and western extremes of the corridor on either side of the Los Angeles central business district. Finally, a review of available onboard origin-destination survey data was made. These sources of information corroborated the proposed corridor boundary.

The third and final component of the system planning study is a review of the proposed corridor for consistency with the adopted Regional Mobility Plan prepared by the Southern California Association of Governments (SCAG), the Metropolitan Planning Organization (MPO) for the region. Consistency with this plan is a critical step in obtaining UMTA approval. The determination of consistency at this system planning stage does not indicate conformity with any specific alternative or alignment. Formal conformity procedures adopted in the 1989 Air Quality Management Plan must be followed during the AA/DEIS stages of this project.

This three-step approach to the system planning study is intended to provide the necessary background information and data to obtain UMTA approval.

CHAPTER II

FIXED GUIDEWAY CORRIDOR DEFINITION

FIXED GUIDEWAY CORRIDOR DEFINITION

The initial step to determine the extent of a possible fixed rail guideway corridor for Metro Red Line extension system planning study is to describe the broad outline of the corridor. Areas which currently have sufficient population and employment densities to support an extension, including activity centers, were identified. In addition to socio-economic considerations, limits suggested by other criteria including topography, jurisdictional boundaries and existing infrastructure are evaluated.

The second step to determine the proposed corridor boundary is an evaluation of transportation model simulations of transit trip patterns within the proposed corridor. Do the travel behavior simulations of trip making support the required UMTA finding of 15,000 current daily transit riders? In this report, two separate modeling efforts were evaluated to develop a potential range of daily ridership: the Regional Urban Transportation Planning System (UTPS), SCAG and the UTPS model operated by the Southern California Rapid Transit District (SCRTD). Home-to-work and non-work transit trips were considered.

The conclusion of this chapter relates findings from the two steps to UMTA requirements for system planning studies. The result is a recommended corridor suitable for a Transitional Analysis.

CHARACTERISTICS OF THE POTENTIAL FIXED GUIDEWAY CORRIDOR

Socio-Economic Considerations in Corridor Definition. The general area considered in this system planning evaluation is shown in Figure II-1. Proposed corridor boundaries should be defined through an analysis of population, housing, and economic characteristics of the area to determine if densities are significant enough to support a fixed guideway corridor. Economic characteristics serve as strong indicators for trip-making potential, allowing the potential corridor to be described and a detailed travel pattern analysis to be made.

SCAG's 1989 Regional Mobility Plan uses a 1984 base year in its analysis of current and future travel behavior. The 1984 base year is therefore used in both the system planning corridor socio-economic analysis and the travel patterns analysis. Population and employment information is mapped at a transportation analysis zone (TAZ) level. Transportation analysis zones are combinations of census tracts within Los Angeles County. Data at the TAZ level may be obtained from the LACTC.

METRO RED LINE EXTENSION SYSTEM PLANNING STUDY

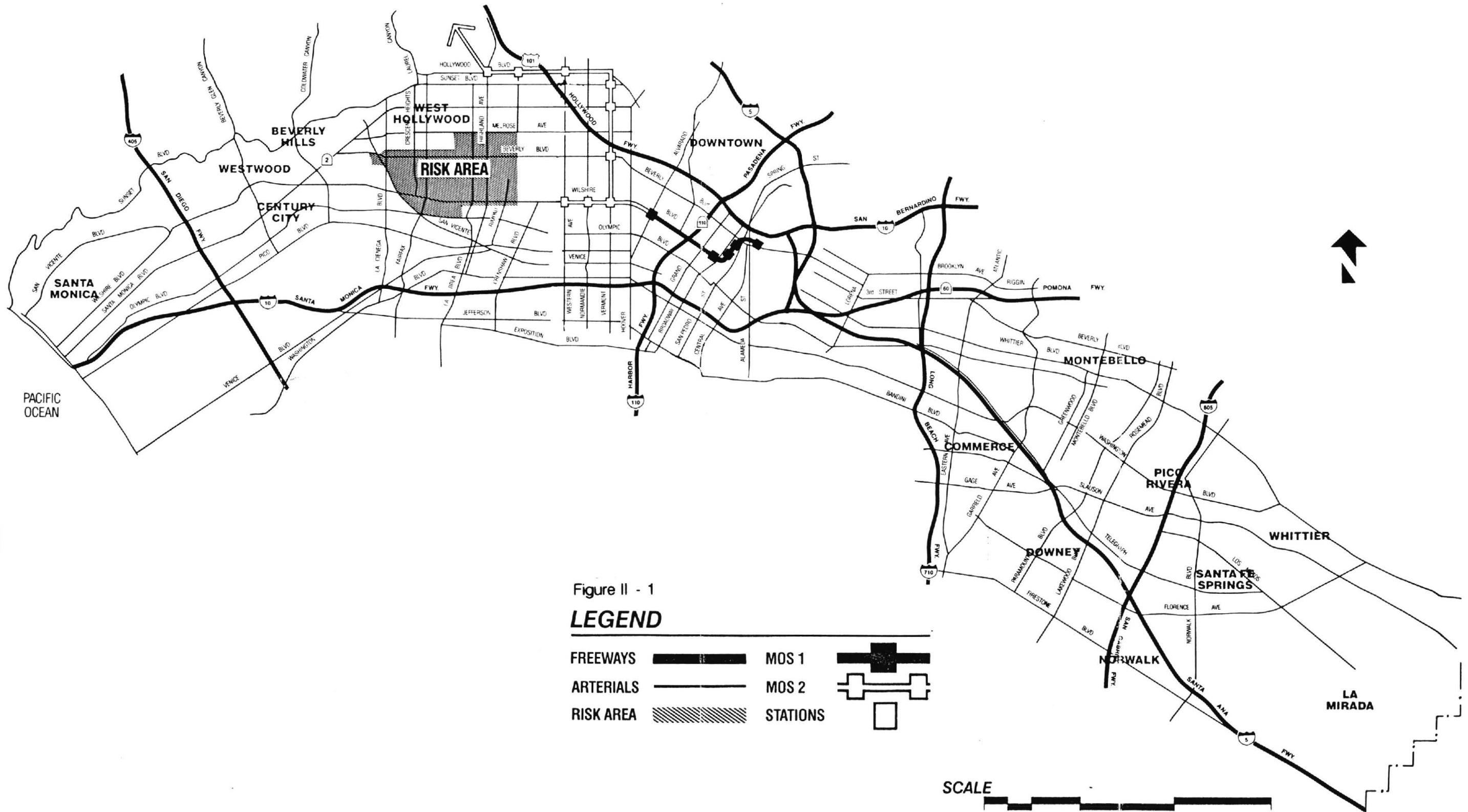


Figure II - 1

LEGEND

- | | | | |
|-----------|--|----------|--|
| FREEWAYS | | MOS 1 | |
| ARTERIALS | | MOS 2 | |
| RISK AREA | | STATIONS | |

SCALE

miles 0 1/2 1 2 4 6

The highest concentrations of population and employment density were determined to be areas where logical extensions from the existing Metro Red Line project could occur. The proposed corridor boundary was designed to include TAZs with densities which could support fixed guideway transit projects. Noncontiguous high density areas expected to be served by other LACTC Rail Transit Program projects are excluded from this corridor. Growth forecasts for the county were not considered in the system planning study as UMTA criteria for corridor definition relies on current transit ridership. Population and employment information in 1984 are described below.

Population Within the Proposed Corridor. The 1984 base year population estimated for the proposed corridor is 1.5 million people. Figure II-2 shows 1984 population densities for all TAZs in Los Angeles County and the proposed corridor boundary. TAZs with densities in excess of 12,000 people per square mile located south of the proposed boundary are expected to be served by projects currently planned or under construction. These are described in the section entitled "Existing Infrastructure Considerations in Corridor Selection."

The greatest concentration of population is located west of the Los Angeles central business district including the cities of West Hollywood, Beverly Hills and Santa Monica. The majority of TAZs west of downtown, particularly between Wilshire and Santa Monica Boulevards, have population densities greater than 12,000 people per square mile. The lower density, large lot, residential areas, which are located along the northern edge of the proposed corridor near Sunset Boulevard on the west side, are in Beverly Hills and Pacific Palisades areas.

Population densities east of the Los Angeles central business district generally decrease closer to the Orange County Line. Areas with densities in excess of 12,000 people per square mile include East Los Angeles, Norwalk and Downey. High rates of trip generation could be expected to result from areas of high population concentration.

Employment Within The Proposed Corridor. Employment concentrations are highest along the Wilshire corridor in the Los Angeles central business district, and in East Los Angeles along the Santa Ana (I-5) corridor. Total employment within the proposed corridor is estimated at nearly 1.3 million jobs in 1984. Figure II-3 shows the distribution of total employment densities at the TAZ level in urbanized portions of Los Angeles County. High rates of trip attractions should be expected from these areas.

The number of jobs in TAZs on the west side of the Los Angeles central business district ranges from a low of 1,500 jobs to a high of 39,000 jobs. The smaller size of the TAZs here and in

METRO RED LINE EXTENSION SYSTEM PLANNING STUDY

1984 EMPLOYMENT PER SQUARE MILE

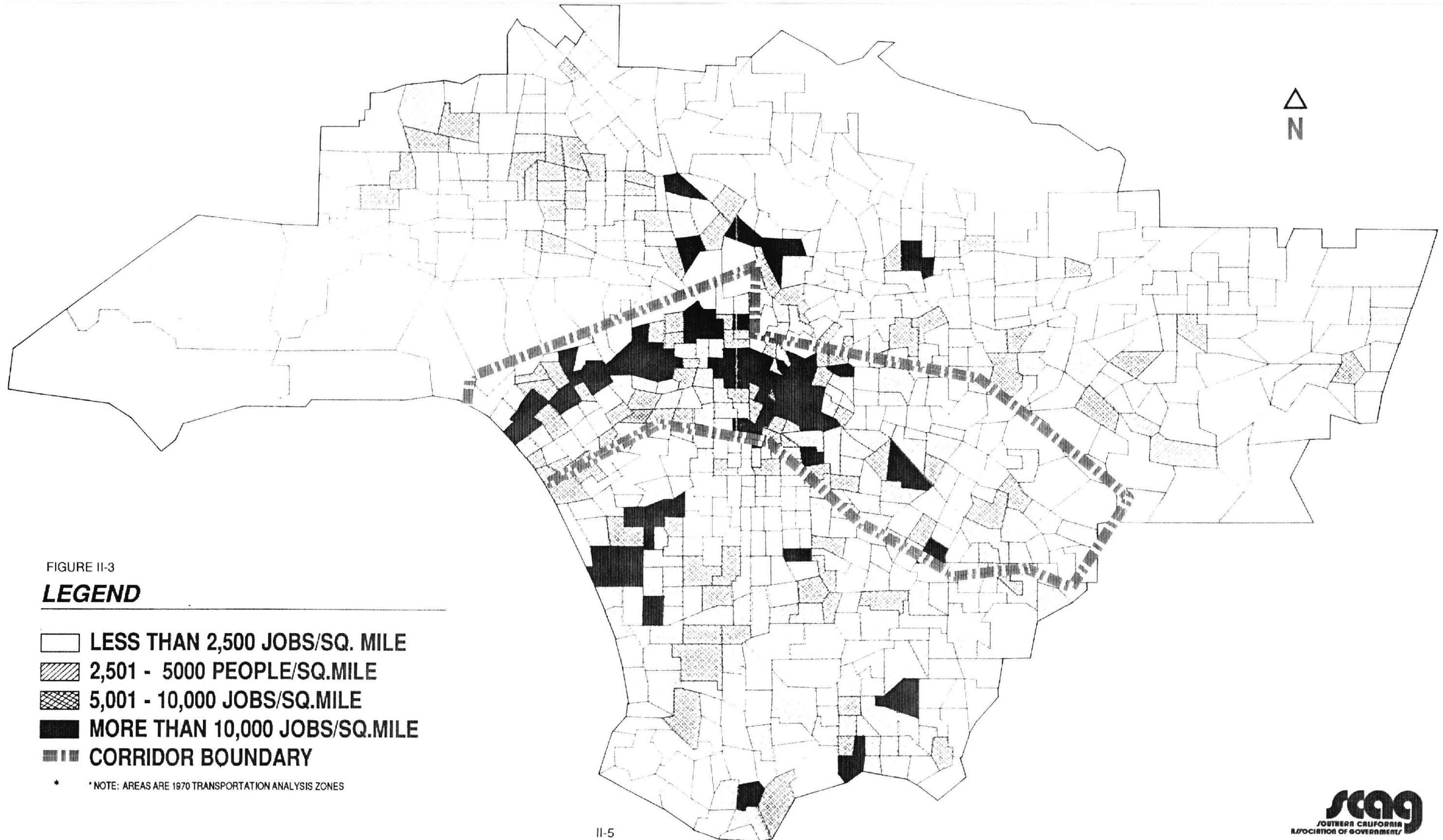


FIGURE II-3

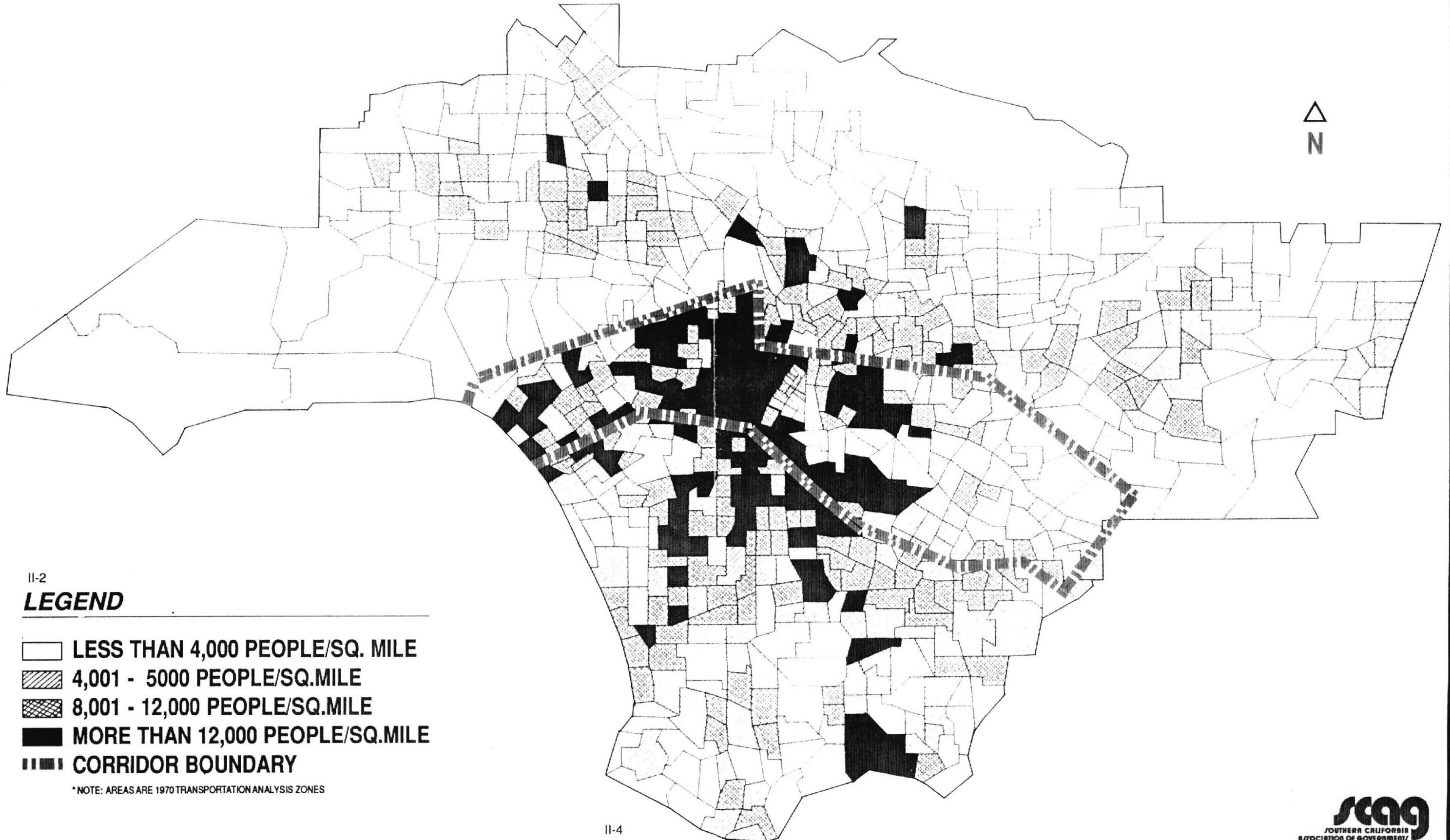
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- LESS THAN 2,500 JOBS/SQ. MILE
- ▨ 2,501 - 5000 PEOPLE/SQ.MILE
- ▩ 5,001 - 10,000 JOBS/SQ.MILE
- MORE THAN 10,000 JOBS/SQ.MILE
- ▤ CORRIDOR BOUNDARY

* NOTE: AREAS ARE 1970 TRANSPORTATION ANALYSIS ZONES

METRO RED LINE EXTENSION SYSTEM PLANNING STUDY

1984 POPULATION PER SQUARE MILE



downtown Los Angeles result from higher densities. The number of jobs in the central business district range from as few as 2,000 in a TAZ to as many as 56,000. The southeastern end of the proposed corridor includes only one TAZ which has an employment greater than 10,000 jobs per square mile, in the City of Commerce.

Existing Infrastructure Considerations in Corridor Selection. One consideration used to define a corridor for alternative analysis is that the corridor must logically extend from the existing fixed guideway facility. This means that the corridor must include the areas which extend from the current Metro Red Line construction (MOS-1), or the construction anticipated as part of MOS-2 and MOS-3 or the Locally Preferred Alternative (LPA). Figure II-1 includes the alignment of the LPA. The Metro Red Line begins at a yard and shop facility located adjacent to Union Station and extends westerly through the Los Angeles central business district to a western terminus at Wilshire Boulevard and Western Avenue. The second phase of the Metro Red Line swings westerly through Hollywood then northerly in the vicinity of Hollywood and Highland Boulevard through the Cahuenga Pass into the San Fernando Valley.

Logical extensions to the east or the west of the LPA could be expected to begin at either the eastern terminus of the line at the yard facility, as the westernmost extent at the corner of Wilshire and Western, or at the northernmost extent in North Hollywood in the San Fernando Valley. The proposed corridor could include areas at all of these extremes. The San Fernando Valley has been excluded from the proposed corridor due to an ongoing Draft Environmental Impact Report (DEIR) by the LACTC for a rail extension proposed as part of its Rail Transit Plan.

Preliminary evaluations for construction of MOS-2 and MOS-3 indicate that it may be possible to extend westerly in the vicinity of the Hollywood-Highland station. The northernmost extent of the proposed corridor should include the area west of this station, in the vicinity of Sunset Boulevard. Extensions to the east of the yard facility may be limited to the north by the San Bernardino (I-10) Freeway. Extensions farther north than this will conflict with possible alignments and trip sheds of the extension to Pasadena of the Long Beach Light Rail facility, a second rail extension proposed as part of the LACTC Rail Transit Plan.

The southern extent of the proposed fixed guideway corridor to the west of the Los Angeles central business district would include Wilshire Boulevard where MOS-2 of the LPA terminates at Western Avenue. There is, however, the potential to use existing railroad right-of-way recently offered for sale by the Southern Pacific Railroad located on Exposition south of the Santa Monica (I-10) Freeway. The Exposition Boulevard right-of-way becomes a logical southern extreme for the corridor on the western side of the Los Angeles central business district. This same right-of-way is not

directly linked to the Metro Red Line and would not be considered as a potential alignment. The western extent of the corridor could terminate at the end of this right-of-way, in the vicinity of Olympic Boulevard. For ease of analysis of socio-economic and transportation forecasting data, the western edge of the corridor was extended to the Pacific Ocean.

Infrastructure planned and under construction also limits the corridor boundaries. The LACTC Rail Transit Program currently has two rail lines under construction. (See Appendix 1) Caltrans' Harbor Freeway (I-110) transit project, and portions of LACTC's Blue Line (Los Angeles-Long Beach) and Green Line (Norwalk-El Segundo) will serve population and employment centers such as Long Beach and El Segundo. These areas are therefore excluded from the proposed corridor boundaries.

Physical Considerations in Corridor Selection. Presently, the only known physical limitation to Metro Red Line extension analysis is the prohibition of tunneling within a gas risk zone delineated in Section 320(b) of HR3244 (99th Congress, Calendar No. 340 Report 99-152). The gas risk zone is defined as an area roughly bounded by Rossmore Avenue of the east, San Vicente on the west, Olympic Boulevard on the south and Melrose Avenue on the north and is indicated in Figure II-1. A southern boundary for the proposed corridor should extend below Olympic Boulevard to allow consideration of tunnel alternatives which may bypass the gas risk zone. The more southerly boundary of Exposition Boulevard, suggested above due to potential right-of-way considerations, provides a large area south of the gas risk zone for alternative alignments. The Congressional prohibition does not preclude the consideration of aerial alignments through the risk zone.

While other topological factors may not pose a direct limitation to a subway type of fixed guideway extension, they do impact existing travel behavior and therefore should serve as logical limits to proposed corridor boundaries. The crest of the Santa Monica Mountains, roughly defined at Mulholland Drive, could serve as a logical northern extent of the proposed corridor on the west side of the Los Angeles central business district. Travel between the San Fernando Valley and the communities on the west side of Los Angeles is limited to canyon roads running in the north-south direction. The alignment of the LPA through the Cahuenga Pass, in the vicinity of the Hollywood Freeway (Route 101), serves one of the two major north-south corridors. The second corridor, the San Diego Freeway (I-405) is within the western most extent of the proposed corridor.

Jurisdictional Considerations in Corridor Selection. The southeastern extent of the proposed fixed guideway corridor is the Los Angeles County Line shared with Orange County. The use of the county line as a boundary for this study is due to the jurisdictional authority of the LACTC to spend transit monies only within the County of Los Angeles.

Initial Corridor Boundaries. The above descriptions of infrastructure, physical, and jurisdictional considerations result in a proposed fixed guideway corridor boundary. The proposed corridor is recommended to extend from the Pacific Ocean on the west to the Los Angeles/Orange County Line on the southeast; from Sunset Boulevard and the San Bernardino (I-10) Freeway to the north, to Exposition Boulevard and Firestone Boulevards to the south. This area includes the cities of Beverly Hills, Los Angeles, Santa Monica, West Hollywood, Montebello, Norwalk, Downey, Commerce, Bell Gardens, Bellflower, Santa Fe Springs, Cerritos and La Mirada.

TRAVEL PATTERNS WITHIN THE POTENTIAL FIXED GUIDEWAY CORRIDOR

In order to assess the consistency of existing travel patterns within the proposed corridor, an evaluation of SCAG and SCRTD travel demand models was made. Travel within the proposed corridor is measured by the results of the distribution portions of each agency's version of the UTPS model. Generation and distribution results from the SCAG model are used by SCRTD to develop the transit travel behavior.

The primary differences between the two models include SCRTD's use of K Factors developed from the 1980 Urban Transportation Planning Package Census information to adjust travel time, and differences in the mode choice models each uses. SCAG's mode choice model is only calibrated and applied to home-to-work trips. SCAG's home-to-work trips are then factored (number of home-to-work trips/.54) to reflect total transit trips. SCRTD's model uses an enhanced mode choice model, calibrated for transit only, which calculates both work and nonwork transit trips. The use of output from both models results in a range of transit trips which could be expected to occur within the proposed corridor.

Evaluation Method. The method of evaluation looks at the distribution of transit person trips within the proposed corridor. TAZs within the proposed corridor are too numerous as to allow convenient analysis of numbers and types of trip productions and attractions made between each pair of zones. To provide greater ease in evaluation, six sub-areas were defined and TAZs were aggregated into these sub-areas. Figure II-4 shows the location and boundaries of the Westside, Mid-Wilshire, Central City, East Los Angeles, Montebello, and Southeast sub-areas. Aggregated trip tables describe travel within and between each of these sub-regions from either model. It is the total aggregation of transit travel from either SCAG's or the SCRTD's model within the corridor which is compared with UMTA's current transit trip requirements for a corridor in this section of the report.

Travel between the Central City sub-area, which includes the Locally Preferred Alternative alignment of the Metro Red Line, and areas outside of the proposed corridor is not considered in this study due to existing projects currently undergoing environmental analysis of alternatives as part of the LACTC Rail Transit Program. The specific areas and projects were described in the infrastructure discussion on page II-6.

SCAG Transit Trip Distributions. Travel behavior within the proposed corridor as simulated by SCAG's 1984 base model indicates highest demand serving the Central City area. Table II-1 shows home-to-work transit travel and Table II-2 shows total transit travel within each sub-area and between each sub-area in the proposed corridor. The total home-to-work daily transit trips, which results from SCAG's mode choice model within the proposed corridor, estimated at 125,000 trips per day. Total transit trips is estimated at 277,000 trips per day. The total corridor clearly has an existing travel demand in excess of 15,000 trips per day. This can be attributed to the high concentration of transit service within the proposed corridor, and to the high concentration of transit service within the proposed corridor, and to the high densities of population and employment which result in high levels of trip production and attraction. The overall demand between the areas, with the exception of the farthest two sub-areas that indicates the corridor boundaries are realistic for transitional analysis purposes.

Highlighted figures in each table indicate the number of trips predicted to cross from either the west side of the Los Angeles central business district to the east side or to travel in the reverse. Home-to-work transit trips are estimated at 3,271 per day and total transit trips are estimated at 6,529 per day. It is clear from these figures that the total ridership across the central business district is less than 15,000 riders per day. Ridership which includes trips within each of these sub-areas, and intrazonal trips (the underscored entries) does, however, exceed the UMTA threshold of 15,000 riders per day.

METRO RED LINE EXTENSION SYSTEM PLANNING STUDY

SUBAREA ANALYSIS BOUNDARIES

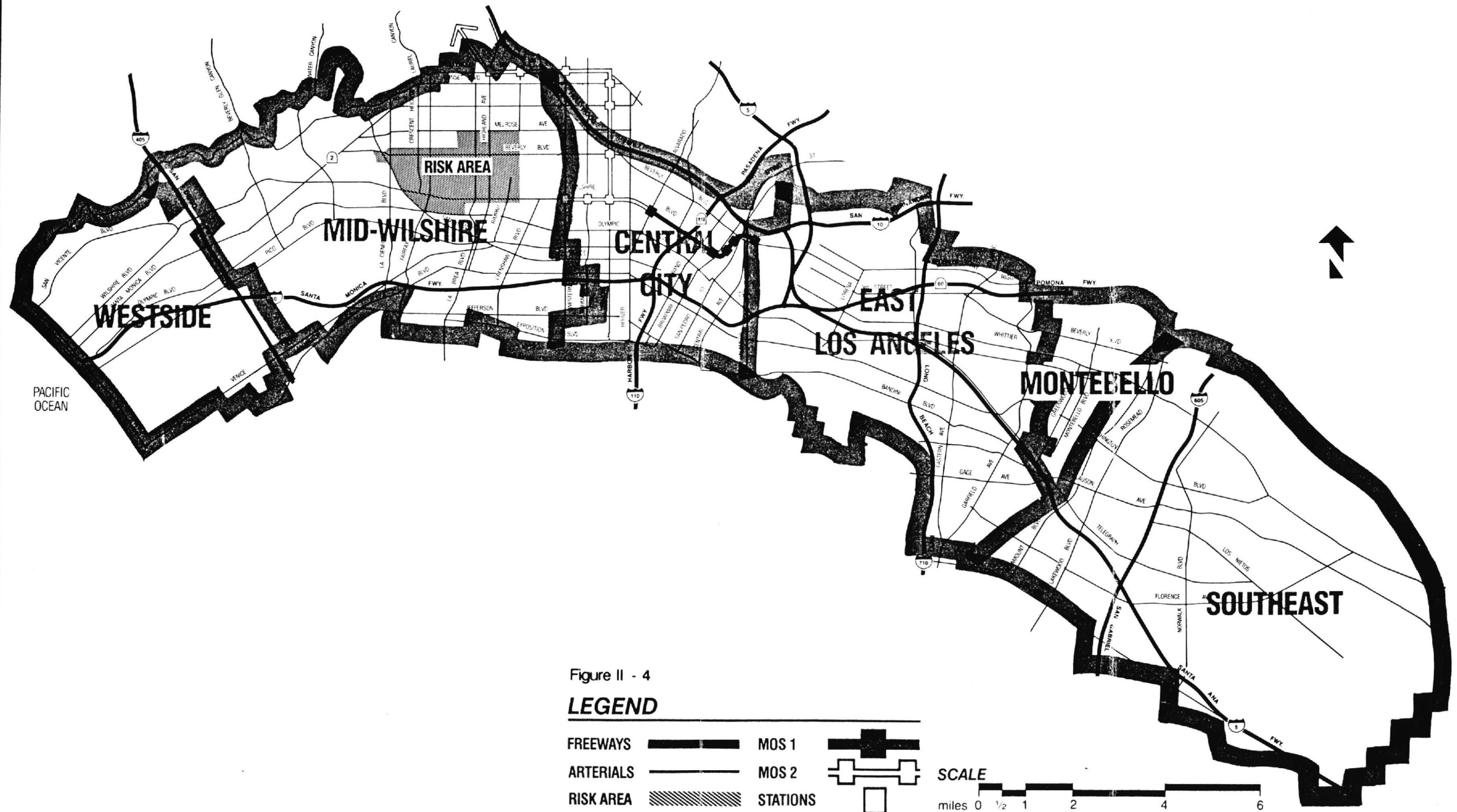


Figure II - 4

LEGEND

FREWAYS		MOS 1	
ARTERIALS		MOS 2	
RISK AREA		STATIONS	
SUBAREA BOUNDARY			

SCALE

miles 0 1/2 1 2 4 6

TABLE II-1
1984 SCAG Home-to-Work Transit Trip Distribution

From/To	Central City	East L.A.	Monte-bello	South east	West-side	Mid-Wilshire	Total Origin
Central City	<u>35,120</u>	1,719	48	129	486	4,907	42,409
East L.A.	11,204	<u>3,732</u>	307	349	184	1,203	16,979
Montebello	869	480	<u>259</u>	234	19	114	1,975
Southeast	3,294	823	353	<u>2,194</u>	57	387	7,108
Westside	2,981	169	6	17	<u>4,493</u>	5,191	12,857
Mid-Wilshire	17,704	993	34	88	1,981	<u>22,724</u>	43,524

TOTAL DESTINATIONS 71,172 7,916 1,007 3,011 7,220 34,526

Source: SCAG 1984 Travel Forecast Atlas and UMFTR Report 4 May 30, 1989 - Home-to-Work Transit Data Set J1.

TABLE II-2
1984 SCAG Total Transit Trip Distribution

From/To	Central City	East L.A.	Monte-bello	South east	West-side	Mid-Wilshire	Total Origin
Central City	<u>77,918</u>	4,301	148	631	1,315	11,364	95,677
East L.A.	24,929	<u>8,407</u>	686	863	465	2,809	38,159
Montebello	1,896	1,043	<u>568</u>	514	43	249	4,313
Southeast	7,100	1,788	773	<u>4,802</u>	143	835	15,441
Westside	6,354	372	21	55	<u>9,825</u>	11,347	27,974
Mid-Wilshire	38,616	2,197	70	270	4,332	<u>49,684</u>	95,169

TOTAL DESTINATIONS 156,813 18,108 2,266 7,135 16,123 76,288

Source: SCAG 1984 Travel Forecast Atlas and UMFTR Report 4 Total Transit Data Set J1.

SCRTD Transit Trip Distributions. Transit travel behavior, as simulated with the SCRTD model, results in comparable transit travel patterns within the corridor. Tables II-3 and II-4 indicate the SCRTD travel patterns within the corridor and between sub-areas. The SCRTD model appears to be less optimistic in predicting long cross-commutes between the far western and eastern ends of the proposed subregions. Total home-to-work transit trips are predicted at 125,000 daily trips and total transit trips are estimated at 286,000 daily trips. These results are very similar to the range of trips estimated by the SCAG model. In either case, the total transit ridership within the corridor is in excess of the 15,000 daily ridership required by UMTA. In several cases, trips within a single sub-area on either side of the central city area exceed the UMTA criterion.

TABLE II-3 - 1985 SCRTD Home-to-Work Transit Trip Distribution

<u>From/To</u>	<u>Central City</u>	<u>East L.A.</u>	<u>Montebello</u>	<u>South east</u>	<u>West side</u>	<u>Mid-Wilshire</u>	<u>Total Origin</u>
Central City	<u>42,276</u>	7,903	323	806	1,036	10,535	62,879
East L.A.	7,880	<u>5,590</u>	319	420	110	934	15,253
Montebello	335	315	<u>149</u>	152	5	35	991
Southeast	801	415	148	<u>1,380</u>	9	85	2,838
Westside	1,024	116	3	7	<u>6,298</u>	3,216	10,664
Mid-Wilshire	10,577	993	42	79	3,217	<u>17,412</u>	32,260
TOTAL							
DESTINATIONS	<u>62,893</u>	<u>15,272</u>	<u>984</u>	<u>2,844</u>	<u>10,675</u>	<u>32,217</u>	

Source: SCRTD 1985 Model Run, August 24, 1989 UMATRIX: Compress 1985 Trips to LACTC/SCAG Transitional Analysis Sub-areas.

TABLE II-4 - 1985 SCRTD Home-to-Work Transit Trip Distribution

<u>From/To</u>	<u>Central City</u>	<u>East L.A.</u>	<u>Montebello</u>	<u>South east</u>	<u>West side</u>	<u>Mid-Wilshire</u>	<u>Total Origin</u>
Central City	<u>76,738</u>	13,882	307	401	3,913	26,450	121,691
East L.A.	27,465	<u>20,695</u>	770	353	590	1,031	50,904
Montebello	189	332	<u>166</u>	282	0	0	969
Southeast	5,404	765	0	<u>2,746</u>	0	191	9,106
Westside	3,219	726	0	0	<u>4,421</u>	5,376	13,742
Mid-Wilshire	42,755	<u>1,888</u>	0	0	7,401	<u>37,169</u>	89,213
TOTAL							
DESTINATIONS	<u>155,770</u>	<u>38,288</u>	<u>1,243</u>	<u>3,782</u>	<u>16,325</u>	<u>70,217</u>	

Source: SCRTD 1985 Model Run, August 24, 1989 UMATRIX: Compress 1985 Trips to LACTC/SCAG Transitional Analysis Sub-areas.

CONCLUSIONS

Initial corridor boundaries, as described through an analysis of socio-economic, physical, jurisdictional characteristics, and infrastructure improvements which are either proposed and are currently in the public review process or under construction result in a preliminary corridor boundary. A review of travel behavior as predicted by both SCAG's and SCRTD's UTPS models results in anywhere from 125,000 to 126,000 daily home-to-work trips and a range of 278,000 to 286,000 total daily transit trips occurring within the proposed corridor. A more limited evaluation of trips across the Central City sub-area from the east side to the west side or the reverse as well as the intra sub-area trips results in a lower range of 79,800 to 83,000 daily transit trips. Both ranges exceed the UMTA criteria of 15,000 riders per day. The recommended corridor is shown in Figure II-5.

METRO RED LINE EXTENSION SYSTEM PLANNING STUDY

SYSTEM PLANNING CORRIDOR

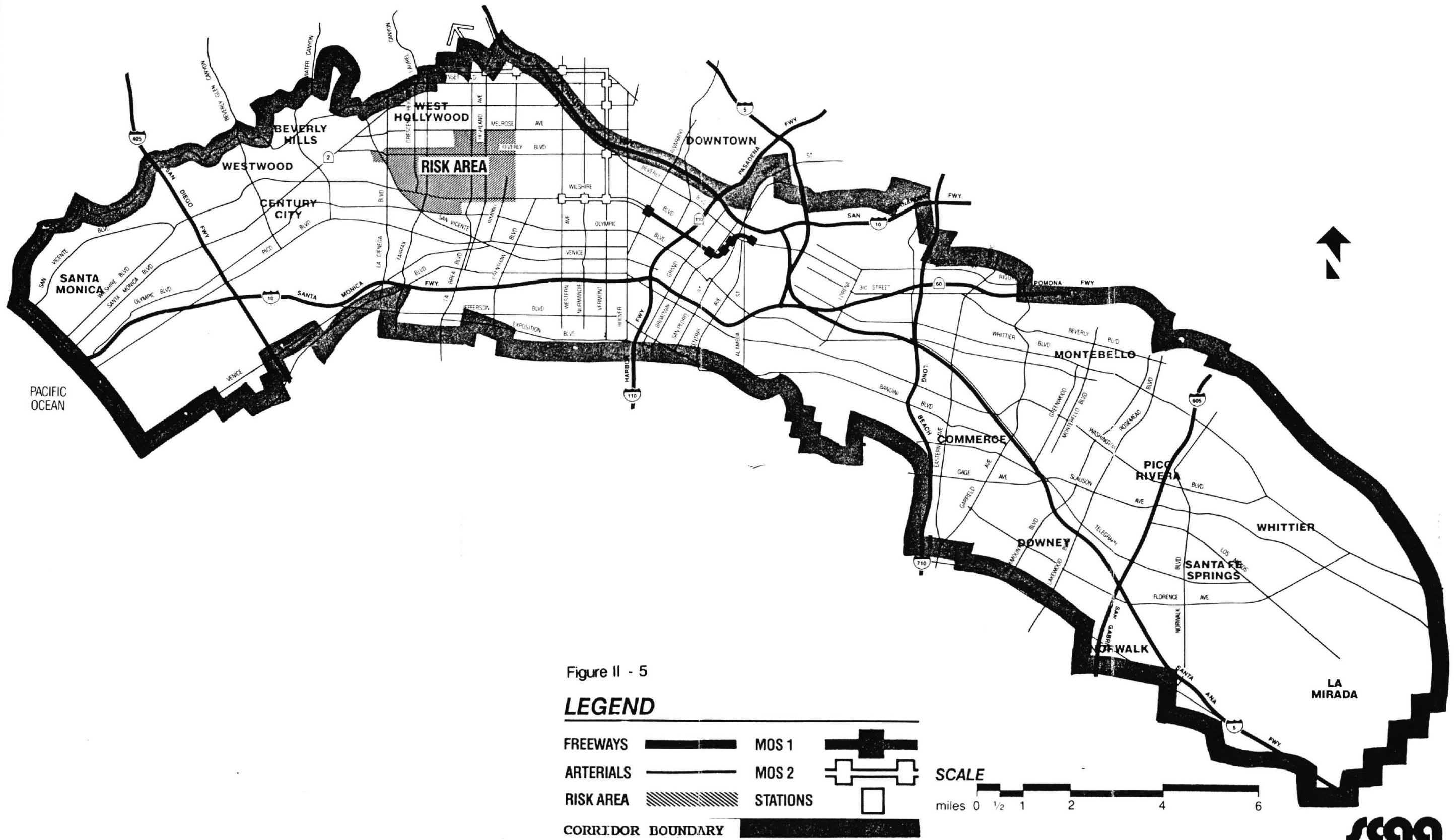
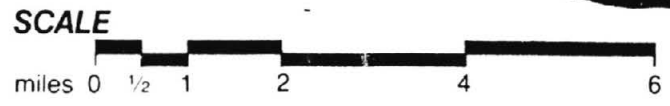


Figure II - 5

LEGEND

FREWAYS		MOS 1	
ARTERIALS		MOS 2	
RISK AREA		STATIONS	
CORRIDOR BOUNDARY			



CHAPTER III

TRANSIT SERVICE CHARACTERISTICS IN THE PROPOSED FIXED GUIDEWAY CORRIDOR

TRANSIT SERVICE CHARACTERISTICS IN THE PROPOSED FIXED GUIDEWAY CORRIDOR

An analysis of existing transit operations within the proposed corridor boundaries was made to support the definition of a fixed guideway corridor extending on either side of the Los Angeles central business district. Rather than rely only on model simulations of transit system performance, an analysis of existing transit ridership within the proposed corridor was made. Daily transit patronage data, including ridership counts from the seven major operators who provide service within the proposed corridor, was examined to further support the corridor definition. An examination of selected transit lines within the corridor was made to determine current ridership levels. These crosstown lines, which pass through the Los Angeles central business district portion of the corridor, were evaluated for total ridership and boarding and alighting patterns. Finally, an examination was made of the SCRTD's 1983 origin-destination survey results for trips within the proposed corridor. The analysis indicates that current transit ridership within and through the proposed corridor meets the UMTA corridor threshold of 15,000 existing transit riders per day.

TRANSIT OPERATIONS WITHIN THE PROPOSED CORRIDOR

The proposed corridor is served by seven transit operators: the SCRTD, City of Los Angeles Department of Transportation (LADOT), Santa Monica Municipal Bus Lines, Montebello Municipal Bus Lines, San Gabriel Valley Transportation Zone, Culver City Municipal Bus Lines, and Orange County Transit District (OCTD). Figure III-1 delineates service boundaries and general service patterns within the corridor. SCRTD provides overlapping services with the San Gabriel Valley Transportation Zone as well as Santa Monica and Montebello municipal operators. LADOT provides only express service **not currently or no longer** provided by SCRTD. Paratransit operations are not included in this analysis as these do not constitute a significant portion of the transit service which would be diverted to fixed guideway service.

Southern California Rapid Transit District. SCRTD, the designated regional transit operator in Southern California, provides the greatest level of service and carries the greatest number of users. The District operates a grid system of transit lines which emphasizes service into the Los Angeles Central Business District. This service pattern is consistent with prevailing travel patterns.

In the Metro Red Line System Planning analysis, only the primarily east/west oriented lines are considered. Lines oriented north/south provide some transfer or access to an east/west fixed guideway extension, and would not be significantly affected

METRO RED LINE EXTENSION SYSTEM PLANNING STUDY

TRANSIT OPERATORS AND SERVICE CORRIDORS

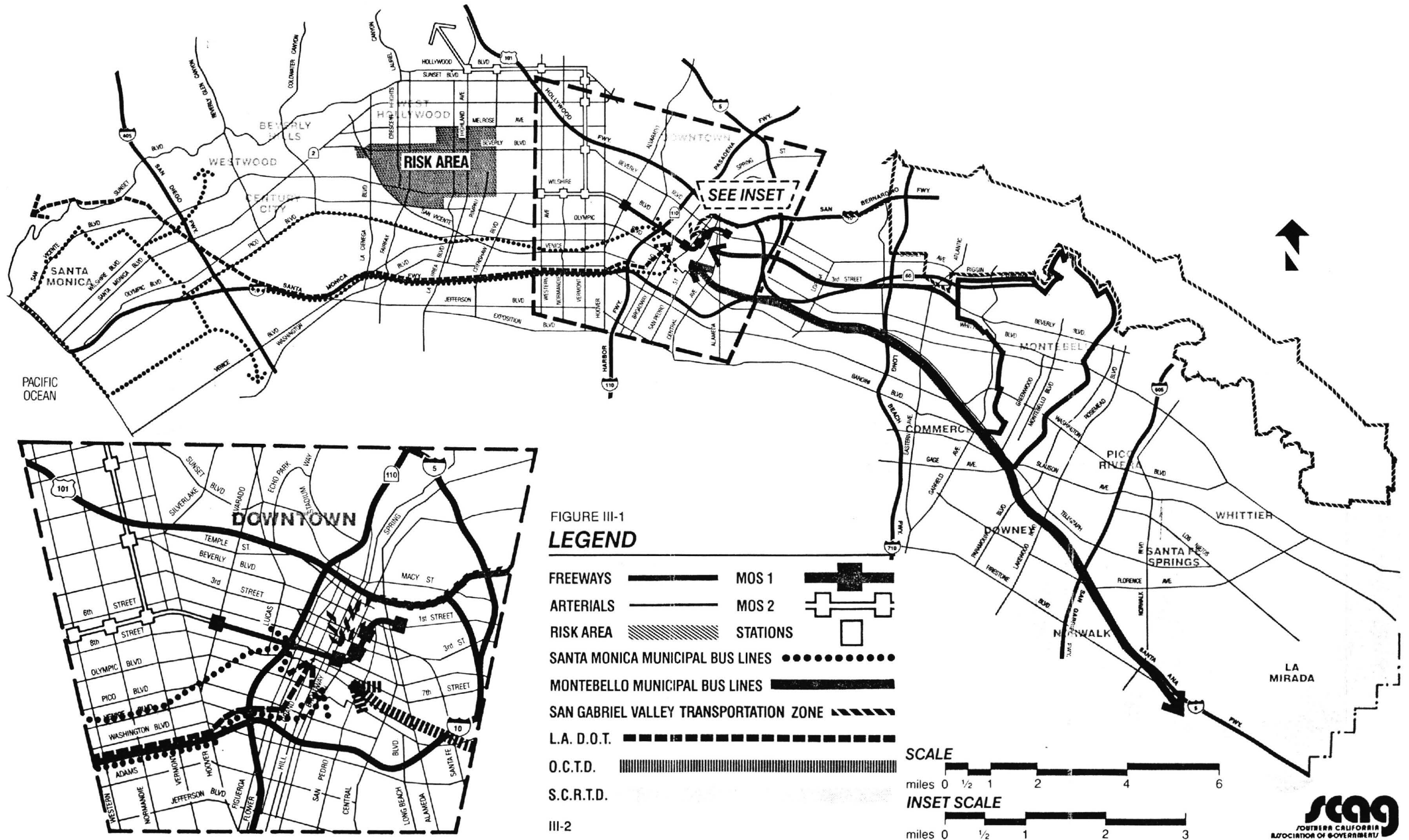


FIGURE III-1

LEGEND

- FREWAYS ———
- ARTERIALS ———
- RISK AREA [Hatched Box]
- SANTA MONICA MUNICIPAL BUS LINES [Dotted Line]
- MONTEBELLO MUNICIPAL BUS LINES [Thick Dashed Line]
- SAN GABRIEL VALLEY TRANSPORTATION ZONE [Diagonal Hatched Box]
- L.A. D.O.T. [Thick Dashed Line]
- O.C.T.D. [Thick Dashed Line]
- S.C.R.T.D. [Thick Dashed Line]
- MOS 1 [Cross Symbol]
- MOS 2 [Square Symbol]
- STATIONS [Small Square]

III-2

SCALE

miles 0 1/2 1 2 4 6

INSET SCALE

miles 0 1/2 1 2 3



TABLE III-1
Average Daily Ridership of Major East-West Transit Service In The Proposed Corridor

OPERATOR/ LINE	TOTAL LINE RIDERSHIP	SERVICE TYPE	STREETS	OPERATOR/ LINE	TOTAL LINE RIDERSHIP	SERVICE TYPE	STREETS
SCRID				OCID			
Local/Limited				701	120	Express	I-405/I-5
				721	950	Express	I-5
2	23,319	Local	Sunset Boulevard	TOTAL	1,070		
4/304	37,756	Local/Limited	Santa Monica Boulevard				
10	20,227	Local	Melrose Street	Culver City			
14	29,733	Local	Beverly/Adams/Temple	1	4,906	Local	Washington Boulevard
16	22,538	Local	3rd Street	2	294	Local	Sunkist Park
18	29,310	Local	W. 6th & Whittier Blvd.	3	2,314	Local	Slauson Boulevard
20/21/22				4	282	Local	Jefferson Boulevard
320/322	57,459	Local/Limited	Wilshire Boulevard	5	459	Local	Washington/Inglewood
26	8,511	Local	7th Street	6	3,529	Local	Sepulveda
28/328	44,396	Local/Limited	Olympic Boulevard				
30/31	38,779	Local	Pico Boulevard	Montebello			
33/333	22,357	Local/Limited	Venice Boulevard				
38	13,555	Local	Jefferson Boulevard	20	1,650	Local	Montebello, Beverly Panama Blvd,4th&6th St.
66/67	24,541	Local	8th Street				
68	20,714	Local	Washington Boulevard				
102	1,589	Local	Exposition Boulevard	Santa Monica			
104	1,233	Local		5	3,147	Local	Olympic/Pico Blvds.
420	21,244	Express	Exposition Boulevard	7	14,899	Local	Pico Boulevard
426	1,903	Express	Wilshire Boulevard	10	2,027	Local	Santa Monica Blvd./I-10
429	1,309	Express	Route 101	12	4,291	Local	Westwood/Robertson Blvds.
429/430	18,508	Express	Sunset Boulevard	13	550	Local	Pico Blvd./Airdrome St.
434	2,112	Express	I-10	TOTAL	24,914		
436	500	Express	I-10				
439	2,914	Local/Express	I-10	GRAND TOTAL:	517,633		
457	354	Express	I-5	Sources:			
460	3,350	Express	I-5	Southern California Rapid Transit District			
462	2,523	Express	Washington Boulevard	Los Angeles Department of Transportation			
464	2,523	Express	I-5	Culver City			
466	318	Express	I-5	Orange County Transit District			
470/471	6,348	Express	Telegraph Avenue	City of Montebello Municipal Bus Lines			
497	1,329	Express	Wilshire Boulevard	City of Santa Monica Municipal Bus Lines			
TOTAL	461,252			San Gabriel Valley Transportation Zone			

by an east/west oriented fixed guideway project. SCRTD operates express, limited stop lines and local service on major arterials and freeways including the Santa Monica/San Bernardino (I-10), Santa Ana (I-5) and Pomona (Rte. 60) Freeways. Table III-1 identifies the line number, location and 1989 daily boarding information of 17 local, four limited stop and 14 express transit service to 20 cities in the San Gabriel Valley. An interim contract, called "Bus Continuation Service", was entered into by SCRTD and SGVTZ. The contract operated on a monthly basis as part of a demonstration project to UMTA by the SGVTZ. The demonstration project started in 1987 and will end in January 1990. It stipulates the continuous operation of the SCRTD lines scheduled for termination until the SGVTZ begins to operate them at the end of the demonstration project. At this time, SCRTD operates 22 lines in the transit zone as part of the contract service. The Superior Court decision on July 19, 1989 upheld funding for the transit zone. Figure III-1 shows the portions of the SGVTZ inside the proposed corridor boundary. Service territory configuration precludes any SGVTZ to the west of the Los Angeles central business district.

Nine lines of the SGVTZ operate within the proposed corridor. SCRTD operates seven of these lines which enter the proposed corridor at the California State University Los Angeles (CSULA) station; Lines 480, 481, 482, 486, 488, 495 and 498. Two of these lines (Line 495 and 498) travel primarily on the San Bernardino Freeway (I-10). Foothill Transit operates Lines 492 and 494. These lines travel primarily on Arrow Highway and Foothill Boulevard but use the San Bernardino Freeway busway, entering the corridor at the CSULA station. The total ridership of the nine SGVTZ lines averages 17,390 daily users.

Santa Monica Municipal Bus Lines. The City of Santa Monica operates a 12-line municipal bus system primarily within its limits. Service is provided outside the city with a single express bus line (10) which operates along the Santa Monica Freeway (I-10) in the Los Angeles central business district, and four local routes (5,7,12,13) which run on major arterials - Olympic and Pico Boulevards and terminate in downtown Los Angeles. Santa Monica Bus Lines provides four bus lines between Santa Monica and the Westwood/UCLA campus area. Line 12 operates between Westwood and Downtown Los Angeles, completely outside the city limits. Total ridership for all Santa Monica Bus service within the proposed corridor is 24,914 riders per day. Individual line daily ridership is detailed in Table III-1.

Culver City Municipal Bus Lines. The City of Culver City operates six lines. Lines 2, 4 and 5 operate mainly within Culver City while Lines 1, 3 and 6 operate routes to outside destinations. Line 1 runs from the Washington-Fairfax Transit Center to Venice Beach, Windward Avenue and Main Street. Line 3 runs from Fox Hills Mall to Westwood and Pico. Line 6 runs from the LAX transit terminal to the UCLA bus terminal.

Montebello Municipal Bus Lines. The City of Montebello operates its bus system almost exclusively within the city's limits, except one line (20) which operates between downtown Montebello and the Los Angeles central business district. Line 20 operates as a limited stop service on Montebello and Beverly Boulevards, originating at the Pico Rivera Terminal.

Orange County Transit District (OCTD). OCTD provides commuter express bus service during the morning and evening peak periods. It operates outside the southeasterly end of the proposed corridor across the Orange County Line, along the Santa Ana (I-5) Freeway and into the Los Angeles central business district. Both lines make no intermediate stops between the Orange County line and downtown Los Angeles. However, they are included in this analysis because they run through the proposed corridor and that their service could potentially be diverted to the eastern terminal of a Metro Red Line extension. Line 701 originates in Huntington Beach, crosses the county line on the Santa Ana Freeway (I-5) and enters Downtown Los Angeles at Whittier Boulevard and 6th Street. Line 721 originates in Fullerton, continues almost exclusively along the Santa Ana Freeway (I-5) and enters Downtown Los Angeles at Whittier Boulevard and 6th Street. Daily ridership for the two lines averages 1,070 boardings.

TRAVEL ACROSS THE LOS ANGELES CENTRAL BUSINESS DISTRICT

SCRTD is the only operator authorized to serve areas both east and west of the Los Angeles central business district. To further support the proposed atypical corridor, a review of transit service which crosses the central business district was made to determine if ridership on these lines would meet UMTA requirements for 15,000 current daily ridership. In addition to simple ridership counts, efforts were made to determine where these riders boarded and alighted and to estimate which lines might duplicate the Metro Red Line locally preferred alternative.

Selected Crosstown SCRTD bus lines. The transit analysis included an assessment of lines crossing the central business district along the corridor. There are five lines that travel in the corridor carrying passengers through the central business district. These five lines -- 18, 30/31, 66/67, 68 and 102, have a total ridership of 114,933 passengers daily. The average individual line ridership ranged from about 1,600 to 39,000 daily riders.

Figure III-2 shows the location of each line along the east-west corridor. Their routes cross such arteries as Wilshire Boulevard, Whittier Boulevard, 6th Street, 5th Street, Washington Boulevard, Exposition Boulevard, Olympic Boulevard and Jefferson Boulevard. These routes cross the highest density zones of employment, housing, population and retail/commerce on the corridor. They provide service to passengers traveling to the central business district as well as riders going beyond downtown. The total daily ridership for each line provides enough users to fulfill UMTA requirements of 15,000 users, with the exception of Line 102 which only carries approximately 1,600 people. Table III-2 provides the average daily ridership of each line.

TABLE III-2

AVERAGE DAILY RIDERSHIP OF SELECTED SCRTD CROSSTOWN BUS LINES

OPERATOR/ LINE	TOTAL LINE RIDERSHIP	SERVICE TYPE	STREETS
Line 18	29,310	Local	W. 6th St./Whittier Blvd.
Line 30/31	38,779	Local	1st St./Pico Blvd.
Line 66/67	24,541	Local	8th & 9th St./Olympic Blvd.
Line 68	20,714	Local	Washington/Broadway/Brooklyn
Line 102	1,589	Local	Exposition/Jefferson/41st St.
TOTAL	114,933		

Source: 1989 SCRTD Daily Ridership Table by Line

Review of Boarding and Alighting Data for Selected Lines. SCRTD maintains records of the number of people who get on and off at each stop along a route. A review of boarding and alighting information was made to determine where riders on these crosstown lines were going. The analysis only showed the points of high boarding and alighting activity. Although the highest number of boardings and alightings occurred in the Los Angeles central business district, there was no way to demonstrate that boardings at either the western or eastern extremes of each line were bound for the central business district beyond it.

Relationship to the Locally Preferred Alternative (LPA) Metro Red Line Alignments. The LPA for the Metro Red Line, currently under construction and awaiting final funding agreements, should be expected to draw ridership from some of these five crosstown lines and other lines primarily on the west side of Downtown Los Angeles. All of the crosstown lines extend farther to either the east or the west than the extent of the LPA. All of these lines are within the proposed corridor boundaries.

METRO RED LINE EXTENSION SYSTEM PLANNING STUDY

SELECTED CROSSTOWN S.C.R.T.D. BUS LINES

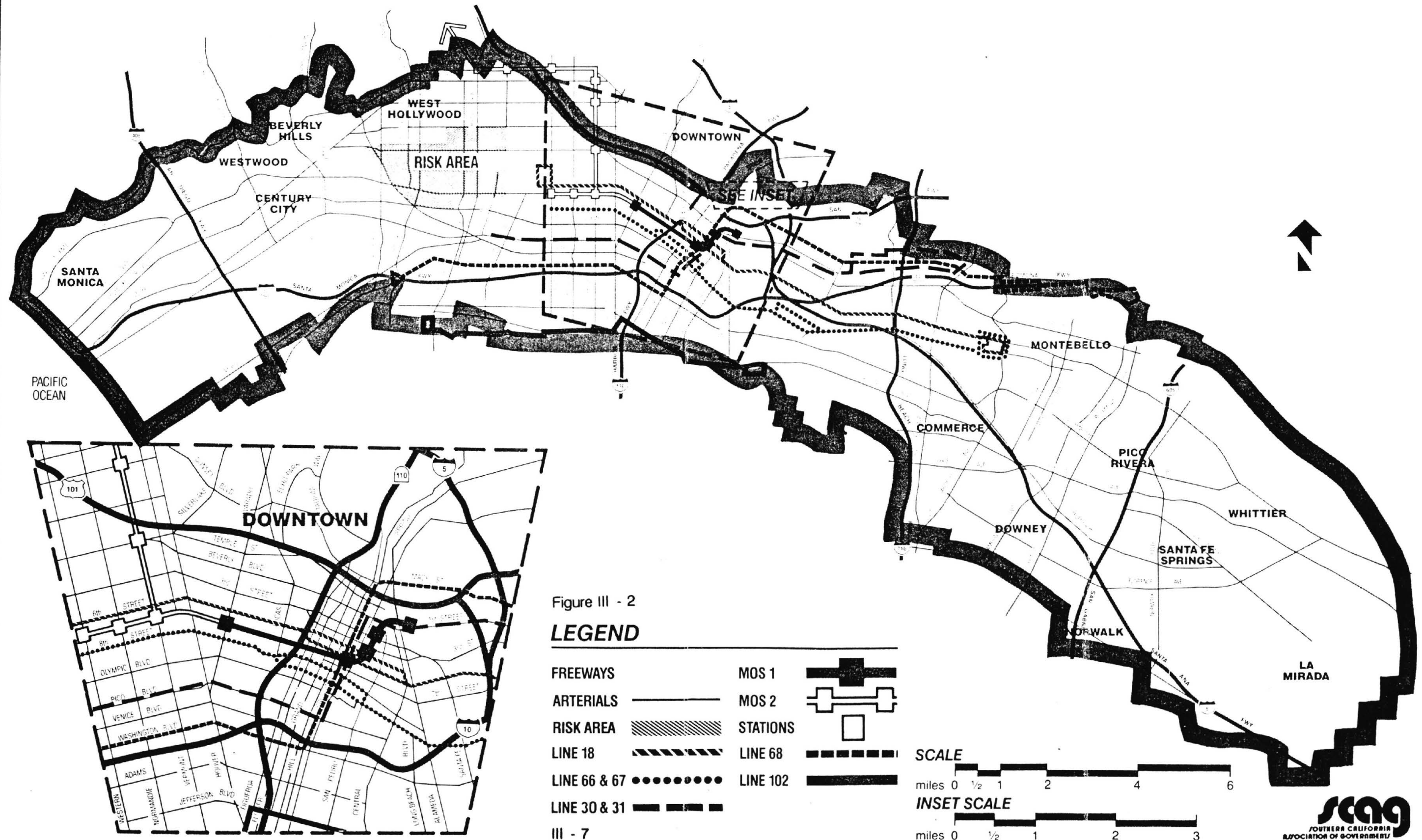


Figure III - 2

LEGEND

- | | | |
|--------------|----------|--|
| FREEWAYS | MOS 1 | |
| ARTERIALS | MOS 2 | |
| RISK AREA | STATIONS | |
| LINE 18 | LINE 68 | |
| LINE 66 & 67 | LINE 102 | |
| LINE 30 & 31 | | |

III - 7

SCALE

miles 0 1/2 1 2 4 6

INSET SCALE

miles 0 1/2 1 2 3

Line 18 most closely parallels the LPA alignment; its western terminus is in the vicinity of the corner of Wilshire Boulevard and Western Avenue. The eastern end of Line 18 extends to the vicinity of the City of Montebello, operating for part of the service along Whittier Boulevard. Line 102, which operates along Exposition Boulevard, is the most removed from the LPA alignments.

Lines 66/67, 30/31 and 68 most closely parallel MOS-1 although only Line 68 operates in the vicinity of Union Station. Each of these lines, however, extends farther east and west than the LPA alignment. Ridership on these lines does indicate an existing demand for transit service suitable for extensions and in excess of the 15,000 rider per day threshold. The corridor designation extending both east and west of the central business district recognizes the additional existing transit demand which the LPA is not serving.

1983 SCRTD ORIGIN-DESTINATION SURVEY ANALYSIS

In 1983 SCRTD conducted origin-destination surveys of all its lines. The surveys included information on work and non-work trips and were geographically coded into the area subgroups whose boundaries are described in Chapter II. This study included only the trips starting and ending within the corridor boundaries. The analysis of this travel behavior assisted in the assessment of the actual travel behavior through the entire corridor and thus in the refinement of the evaluation of travel patterns within the corridor.

Home-to-work transit trip survey data. Table III-3 summarizes the home-to-work trips in the corridor by their origins and destinations. The total number of work trips produced by all areas within this corridor was 136,459. The highest trip generators were the Central City area, Mid-Wilshire and East Los Angeles.

TABLE III-3
1985 SCRTD Home-to-Work Transit Trip Distribution

<u>From/To</u>	<u>Central</u>	<u>East</u>	<u>Monte-</u>	<u>South</u>	<u>West</u>	<u>Mid-</u>	<u>Total</u>	<u>Origin</u>
	<u>City</u>	<u>L.A.</u>	<u>bello</u>	<u>east</u>	<u>side</u>	<u>Wilshire</u>		
Central City	28,630	7,681	238	303	1,578	16,002	54,432	
East L.A.	15,443	7,118	0	215	312	828	23,916	
Montebello	50	263	0	158	0	0	471	
Southeast	4,435	404	0	967	0	73	5,879	
Westside	747	444	0	0	2,330	2,937	6,458	
Mid-Wilshire	24,889	569	0	0	4,339	15,506	45,303	
TOTAL								
DESTINATIONS	74,194	16,479	238	1,643	85595	35,346	136,459	

Source: SCRTD 1983 Origin-Destination surveys.

The Central City subarea originated more than 54,000 daily trips, of which more than half had origins and destinations inside the area. This area also had the highest number of trips attracted from the other six subareas. About 74,000 trips ended in the Central City. The least amount of trip attractions came from the City of Montebello. From Mid-Wilshire a total of 45,303 trips originated whose destination was within the proposed corridor. Of those trips, about a third (15,506) had their destination within the limits of the Mid-Wilshire area. There were no trips to this area from the City of Montebello.

Finally, in East Los Angeles there was a total of 23,916 daily work trips, of which 7,118 started and ended inside East Los Angeles. In turn, East Los Angeles received 16,479 trips from the other areas. The least amount of trips made to East Los Angeles came from the City of Montebello. The highest number of trips came from the Central City area. The two highest "attractors" of trips are Central City and Mid-Wilshire with a combined total of approximately 110,000 trips. Conversely, the lowest number of destination work trips was in the City of Montebello.

Based on the survey data, the highest ridership occurs between the eastern and western areas of the corridor into the Central City and Mid-Wilshire areas. The survey shows that the largest employment centers for the transit users who participated in the survey were in this area and suggests the important role of transit to the entire corridor.

Non-work transit trip data. Table III-4 summarizes the non-work, trip origin-destination pattern within the proposed corridor. The non-work trip survey results have characteristics similar to the work trip results. The total number of non-work trips surveyed inside corridor boundaries was 147,431. The highest generator and attractor of trips is again the Central City sub-area with nearly half of the total trips generated. Almost one-third of the total trips generated in this area occur within the area boundaries. In ranking order, the three largest generator-areas in the surveys were the Central City area, Mid-Wilshire and East Los Angeles. In contrast, the three lowest ranking areas in non-work trip origin and destination are Montebello, Southeast and the Westside in ascending order.

TABLE III-4
SCRTD 1983 Origin-Destination Survey
Non-Work Transit Trips

From/ To	Central City	East L.A.	Monte- bello	South east	West side	Mid- Wilshire	Total
Central City	48,098	6,201	69	98	2,335	10,448	67,249
East L.A.	12,002	13,577	770	138	278	203	26,988
Montebello	139	69	166	124	0	0	498
Southeast	969	361	0	1,779	0	118	3,227
Westside	747	282	0	0	2,091	2,439	5,559
Mid-Wilshire	17,866	1,319	0	0	3,062	21,663	43,910
TOTAL	79,841	21,809	1,005	2,139	7,766	34,871	147,431

Source: SCRTD 1983 Origin-Destination surveys

The Central City generates a total of 67,249 trips to all areas including the trips generating and ending within its perimeter. The majority of these trips, however, were made inside this area. Approximately two-thirds of the trips generated in the Central City stayed inside the area. The rest went to the areas of East Los Angeles, Mid-Wilshire and the Westside. The area of Mid-Wilshire produced about 44,000 trips, of which approximately 17,000 originated and ended inside its boundaries. There were no non-work trips originating in the Mid-Wilshire sub-area that ended in either Montebello or the Southeast area. Finally, East Los Angeles generated almost 27,000 non-work trips, of which 13,500 originating in East Los Angeles ended inside its boundaries, or went to Central City or Montebello, indicating a preference for short work trips.

CONCLUSION

Transit service within the proposed corridor is provided by seven transit operators. Current transit patronage of selected east-west transit operations within the proposed corridor is in excess of 500,000 daily riders. In particular, transit ridership on five lines which serve both sides of the Los Angeles central business district is in excess of 110,000 daily riders. Origin-destination information collected from SCRTD's ridership on home-to-work trips alone indicate more than 130,000 riders traveling within the corridor. These levels of transit demand within the proposed corridor support the nontraditional corridor description and demonstrate its ability to meet the UMTA ridership criteria of 15,000 current transit riders.

CHAPTER IV

COMPATIBILITY WITH THE 1989 REGIONAL MOBILITY PLAN

COMPATIBILITY WITH THE 1989 REGIONAL MOBILITY PLAN

In February 1989 a new regional mobility plan (RMP) was adopted for the SCAG region. The 1989 RMP, developed as part of the ongoing 3-C urban transportation planning process identifies programs and actions and priorities for achieving and maintaining mobility during the next 20 years. The 1989 RMP is based on SCAG's Growth Management Plan and relies on its year 2010 adopted growth forecast for the identification of future needs and recommended program design.

The plan has categorized projects into **constrained** and **unconstrained** to distinguish between two levels of implementation. Those actions and facilities which can be constructed or completed under existing revenue sources constitute the constrained program. Actions and facilities which cannot be implemented without additional revenue are in the unconstrained program. (SCAG 1989)

In order to "set the stage for successfully moving into alternatives analysis" (UMTA 1986), a comparison of the proposed corridor with transit corridors identified in the recently adopted 1989 RMP should be made. Consistency with its goals, policies and objectives can also be demonstrated. This chapter is intended to demonstrate the proposed corridor's consistency with the goals, objectives, recommendations and methodologies used in the adopted 1989 RMP. UMTA's Procedures and Technical Methods for Transit Project Planning (Part I Page 2-2 Draft, September 1986) includes a list of information which should be included in the system planning study. These components are included and may later be used as a basis for subsequent alternatives analysis. This chapter identifies plan components which support the fixed guideway corridor determination.

CONSISTENCY WITH THE GOALS, POLICIES, OBJECTIVES OF THE 1989 REGIONAL MOBILITY PLAN.

Consistency with the 1989 RMP Goals. The goals of the RMP set the directions to be followed in the SCAG region to meet the transportation challenges of 5.5 million additional people and 3 million new jobs predicted for the region by the year 2010. Transit, including fixed guideway development, is recognized and inferred in the following selected goals of the RMP.

- * To provide the capacity necessary to safely and efficiently meet the demand to move people and goods resulting from the overall level of distribution of population, employment, land use and housing growth projected in the adopted growth management forecast.
- * To adapt to and encourage major changes in travel behavior including both reducing the number of home-to-work trips and reducing the use of the single occupant vehicle.

- * To achieve an efficient balance among all modes including automobiles, trucks, buses, vans, rail, non-motorized vehicles and new technologies.

The socio-economic analysis in Chapter II described the proposed corridor as having the highest population and employment densities in the SCAG region. The proposed corridor includes nine identified activity centers as shown on Figure IV-1. In addition to the Los Angeles Central Business District, the Santa Monica, Westwood, Century City, Beverly Hills and Hollywood centers are already the areas of higher density within the corridor. Future growth in both employment and housing is likely to occur in or adjacent to these activity centers to support the job-housing balance programs. The designation of a potential fixed corridor to connect these centers is a logical way to achieve the first goal listed above.

Travel patterns within the proposed corridor described in Chapter III already show high concentrations of transit patronage within the corridor in conformance with UMTA criteria.

Consistency with 1989 RMP Objectives. Fixed guideway projects in high demand corridors will also implement the long term objectives of the adopted plan. Key objectives which would be supported by the construction of a fixed guideway project are listed below.

- * To attain and maintain mobility in an environment of continuing population and economic growth.
- * Achieve a 19 percent transit share of home-to-work trips by the year 1010.
- * Reduce the Mobile Source Emissions in the South Coast Air Basin by the following amounts: Reactive Organic Gases 140 tons/day, Oxides of Nitrogen 220 tons/day, Carbon Monoxide 1,533 tons/day, and PM10 (particulate matter 10 microns or greater in size) 23 tons/day.

The proposed corridor is the most logical place where higher capacity transit investments can lead to a 19 percent transit share of the home-to-work trips. It is not likely that each subregion of the SCAG regional will be able to achieve the 19 percent mode split, which makes it imperative that high density areas will need to achieve a higher mode split goal. Evaluation of the entire mode shift strategy of the 1989 RMP for inclusion in the 1989 Air Quality Management Plan resulted in an estimate of emission reductions of 9.6 tons/day of reactive organic gases and 130 tons/day of carbon monoxide. Although a single fixed guideway project will not result in all of these emission reductions, the improvements are a planned anticipated component of the emission reduction strategy.

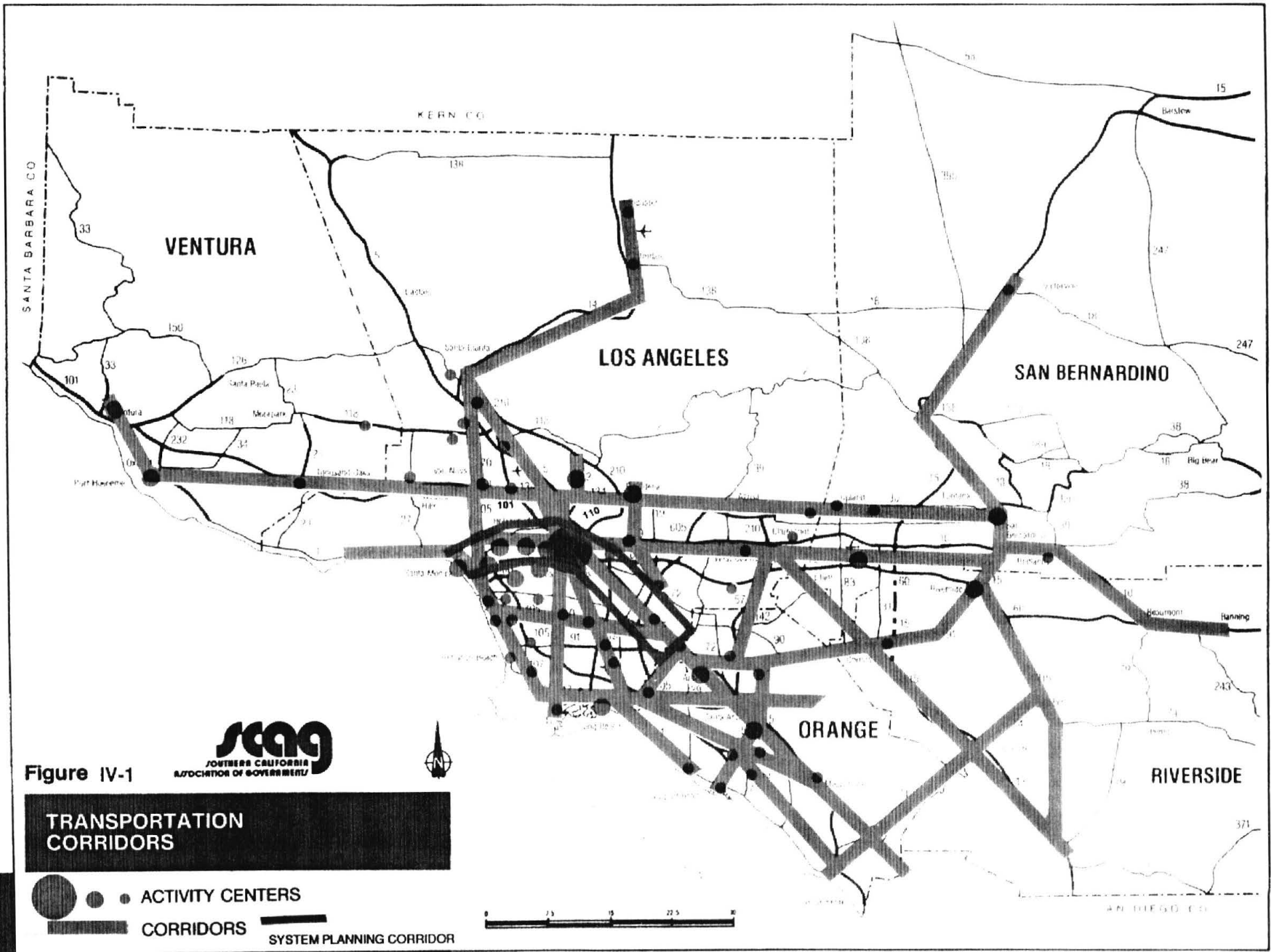


Figure IV-1



TRANSPORTATION CORRIDORS

- ACTIVITY CENTERS
- CORRIDORS
- SYSTEM PLANNING CORRIDOR



Consistency with 1989 RMP Policies

Policies related to Growth Management Goals and Objectives

3. Land use and transportation decisions should be coordinated with and supportive of each other's capacity.
4. Potential rights-of-way for transportation corridors connecting subregions and major activity centers should be identified and protected for future transportation purposes through local government actions.
5. Priority shall be given to transportation facility improvements and system management improvement programs which improve access to and circulation between activity centers.

Policies Related to Meeting Transit Goals and Objectives

18. Development of transportation services should have priority over other possible uses of excess railroad rights-of-way.
21. Regional transportation terminals shall have adequate access systems and be designed to accommodate facility expansion.
22. Regional transfer facilities should be developed to allow transfers between corridors.

The proposed corridor includes railroad right-of-ways identified in Chapter II under infrastructure considerations in corridor definition. The proposed corridor, because it includes numerous activity centers, will be best able to provide adequate access to transportation terminals, although specific design considerations must be made at the AA/DEIS stage. Finally, due to the location of numerous transportation facilities within the proposed corridor, the ability to transfer between corridors should be a consideration in the development of alternatives.

CONSISTENCY WITH THE ACTION ELEMENT'S TRANSIT PROGRAM OF THE 1989 REGIONAL MOBILITY PLAN.

The Transit Program in the RMP's Action Element states: "a primary objective of the Plan, is to establish transit as a basic mode of transportation throughout the region by 2010.....transit will have to function in parallel to the existing network of highways and streets as part of an integrated transportation system. It must move people where they wish to travel, serving the activity centers directly." (SCAG, 1989)

The RMP's Transit Program then identifies the need for a three-level system of transit service to meet predicted increased demand. The plan states,

"The longer distance, line haul network serves the major flows and connects each of the major regional centers. Line haul, higher speed transit service would be provided within each of these transit corridors designed to move concentrated flows quickly and efficiently and interchanging with other lines to enable travel throughout the region. These corridor services will operate on dedicated rights-of-way to maximize the competitiveness of the transit system and eliminate conflicts with surface traffic. The corridors are further identified by the level of service required rather than by a specific mode. Provision of service on these corridors may be either developed incrementally, initially providing a more modest level of service and upgrading as demand warrants, or developed as part of the regional high capacity system where appropriate and feasible.

The first action of the transit program requires SCAG, County Transportation Commissions and transit operators to work with Federal and State Governments to create new funding programs for transit. The initiation of this system planning study by the Los Angeles County Transportation Commission is a first step in implementing this action.

Constrained Transit Program. SCAG's RMP recognizes the need for a fixed guideway within the corridor proposed by this, one which extends from the Metro Red Line Locally Preferred Alternative (LPA). "The plan identifies 9 high-capacity and 16 medium-capacity corridors to receive priority in the establishment of new regional line haul transit services." The need for extensions to the Metro Red Line fixed guideway on either side of the Los Angeles Central Business district is clearly identified in both the constrained portions of the plan's Transit Program. Figure IV-2 is the constrained transit program of the adopted regional plan. The proposed corridor includes two of three areas where initial financial commitment to evaluate transit facilities is committed by the Los Angeles County Transportation Commission. The action to implement the mapped improvements specifically calls upon LACTC and SCRTD to "build 10 additional miles of heavy rail transit." (SCAG 1989)

Unconstrained Transit Program. Figure IV-3 is the 1989 RMP's unconstrained transit program for the metropolitan portions of the region. The proposed corridor includes two of four "high capacity on new facility" corridors identified as needed to achieve plan goals and objectives. Their inclusion on this map is in recognition of the need for additional funding to construct these and other transit corridor improvements in the region. The action to implement these improvements calls for CALTRANS, County Transportation Commissions and Transit Operators to construct the unconstrained extensions to the regional transit system when new revenues are raised. The financial element of the adopted plan addresses means to secure revenue.

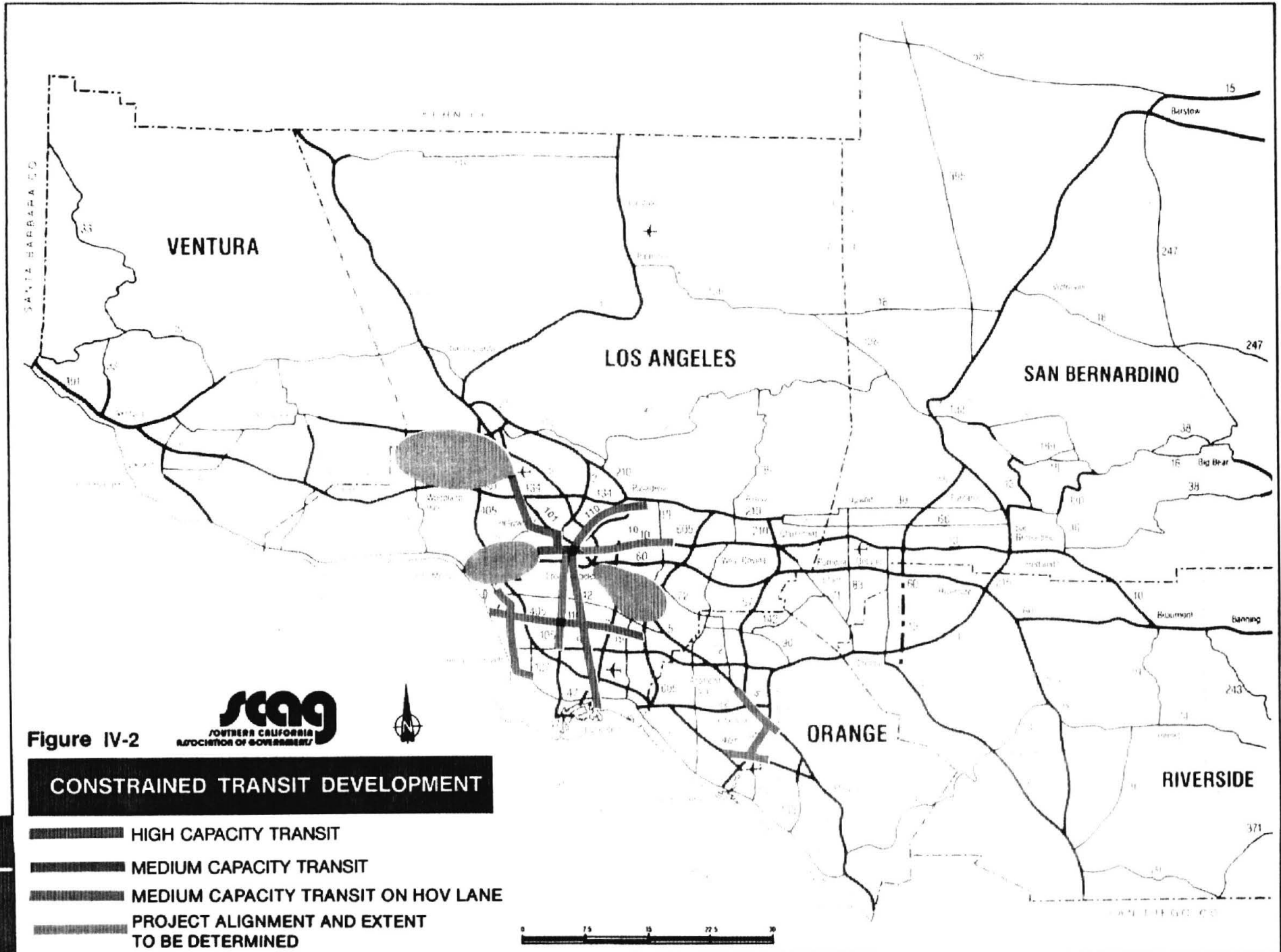






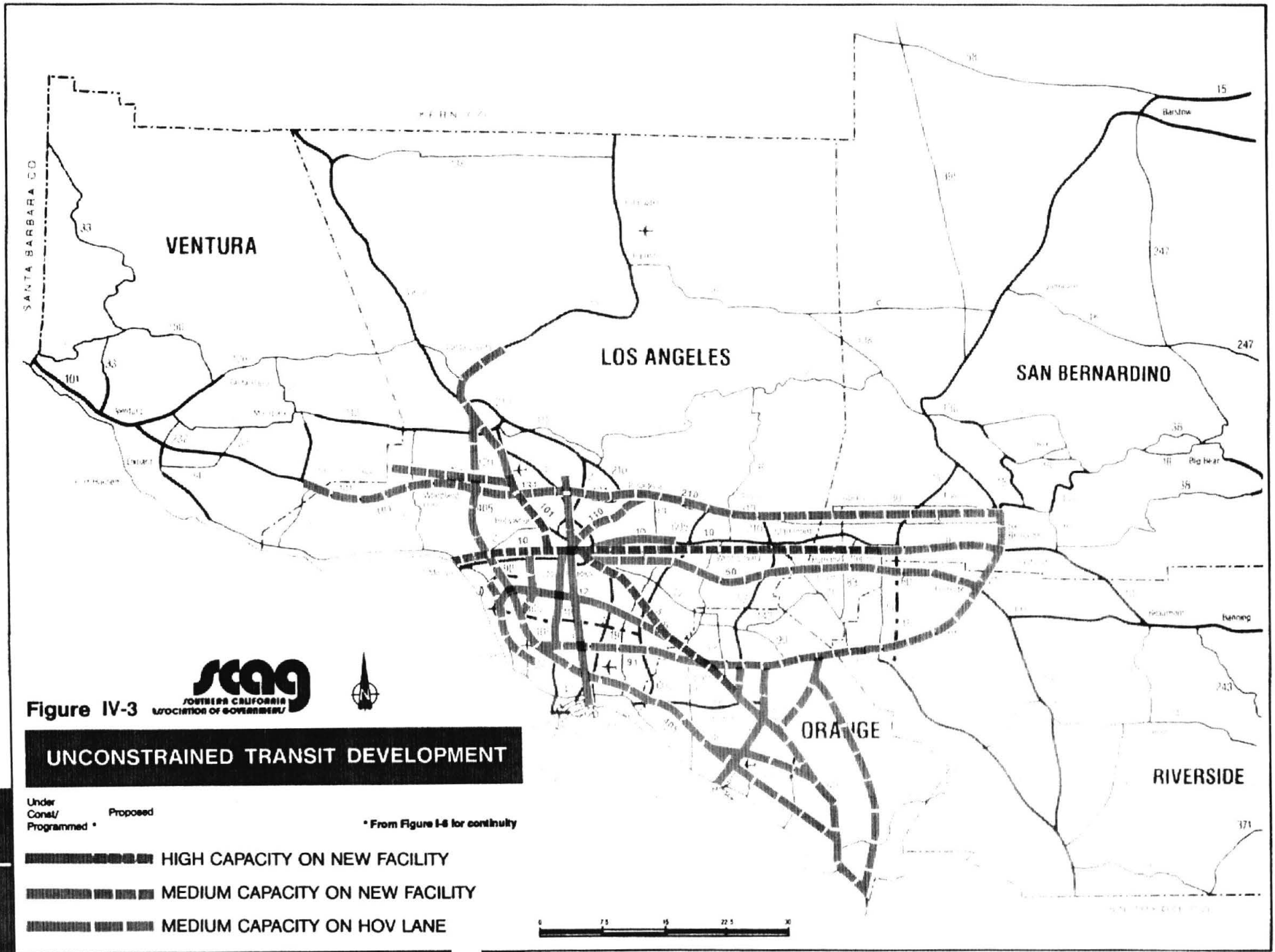
Figure IV-2



CONSTRAINED TRANSIT DEVELOPMENT

-  HIGH CAPACITY TRANSIT
-  MEDIUM CAPACITY TRANSIT
-  MEDIUM CAPACITY TRANSIT ON HOV LANE
-  PROJECT ALIGNMENT AND EXTENT TO BE DETERMINED





VENTURA

LOS ANGELES

SAN BERNARDINO

ORANGE

RIVERSIDE



Figure IV-3

UNCONSTRAINED TRANSIT DEVELOPMENT

Under
Const/
Programmed *

Proposed

* From Figure I-6 for continuity

- HIGH CAPACITY ON NEW FACILITY
- MEDIUM CAPACITY ON NEW FACILITY
- MEDIUM CAPACITY ON HOV LANE



CONSISTENCY WITH THE FINANCIAL ELEMENT OF THE 1989 REGIONAL MOBILITY PLAN.

The RMP recognized the financial commitments to Metro Red Lines MOS 1 and 2 and the intent of the LACTC to use Proposition A monies for portions of the extension evaluation. The 10 miles of constrained high-capacity improvements reflect the local participation in Metro Red Line funding for the locally preferred alternative. Transit capital costs for the entire transit program anticipated within Los Angeles County are estimated in the RMP at \$25.7 billion over the next 20 years. Revenue estimates assumed the continuation of a Federal Gas Tax, which will provide an 85 percent return to source, and existing funding programs at current levels. Estimated revenues for transit capital in the county are estimated at \$11.4 billion over the next 20 years leaving a shortfall of \$14.3 billion in transit alone.

The actions of the financial element seek multiple sources of money to meet projected shortfalls. There is an assumption that Federal sources of revenue will continue to be sought.

CONCLUSION

Extensions of the Metro Red Line beyond the locally preferred alternative are a recognized component of and are consistent with the adopted transportation plan for the SCAG region. The proposed corridor, encompassing the highest density areas of the region including nine designated activity centers, is consistent with the adopted mobility plan goals of serving predicted job, housing and population growth and providing multimodal linkages between activity centers. The plan's objective to achieve a 19 percent transit mode split for home to work trips is supported with the designation of this corridor as the next place to be considered for fixed guideway construction. Regional needs and policies are supported by the proposed corridor boundaries.

The corridor encompasses designated "high capacity on new facility" corridors recognized in the unconstrained transit development program of the RMP. Evaluation of the proposed corridor at this time is consistent with the proposed plan. Financially, the 1989 RMP recognizes a \$14.3 billion dollar shortfall in transit capital. The plan encourages multiple ways to raise the needed revenues.

Finally, UMTA technical guidance asks for an evaluation of promising alternatives to this project. It is important to note that the transit improvements of the 1989 RMP are part of an integrated long range solution to congestion which relies on a mix of land use, demand management, system management and facility actions to achieve and maintain mobility. The plan does not rely solely on facility construction and has identified critical facility needs which can not be met through any of the other components.

CHAPTER V

CONCLUSIONS

CONCLUSIONS

Los Angeles has the beginnings of a fixed guideway transit system, the Metro Red Line, currently under construction. The first phase of the locally preferred alternative, referred to as MOS-1, and the planned second phase including MOS-2 and MOS-3 identify a beginning for the determination of a fixed guideway corridor for future extension evaluations. A nontraditional corridor, one that extends both westerly and southeasterly from the LPA, meets the UMTA-required criteria for corridor definition. It contains 15,000 current transit riders per day and has been defined in this system planning study.

Corridor boundaries are initially determined by an evaluation of existing socio-economic characteristics, with the intent of including appropriate major employment and population centers. A review of existing and proposed rapid transit or transitway infrastructure, including those portions of the LACTC's Rail Transit Program, either under construction or in environmental review, narrowed the potential corridor to areas extending either to the west or the southeast of the Los Angeles central business district. An evaluation of SCAG's and SCRTD's UTPS travel demand models, both identified a range of transit trips within the proposed corridor from 79,800 to 83,000 daily riders.

The system planning study further supports the proposed corridor with a look at the extent of transit ridership served by transit carriers within the proposed corridor. Overall, east-west ridership exceeds 500,000 riders a day. The study takes a more detailed look at five selected transit lines which operate across the Los Angeles central business district. Total ridership on these lines exceeds 110,000 riders per day. UMTA criteria are supported by these ridership figures.

Finally, a system planning study must identify a proposed corridor's consistency with the adopted regional transportation plan which results from the 3-C transportation planning program. The proposed corridor conforms with the goals, policies, objectives and actions of the 1989 Regional Mobility Plan adopted for the SCAG region.

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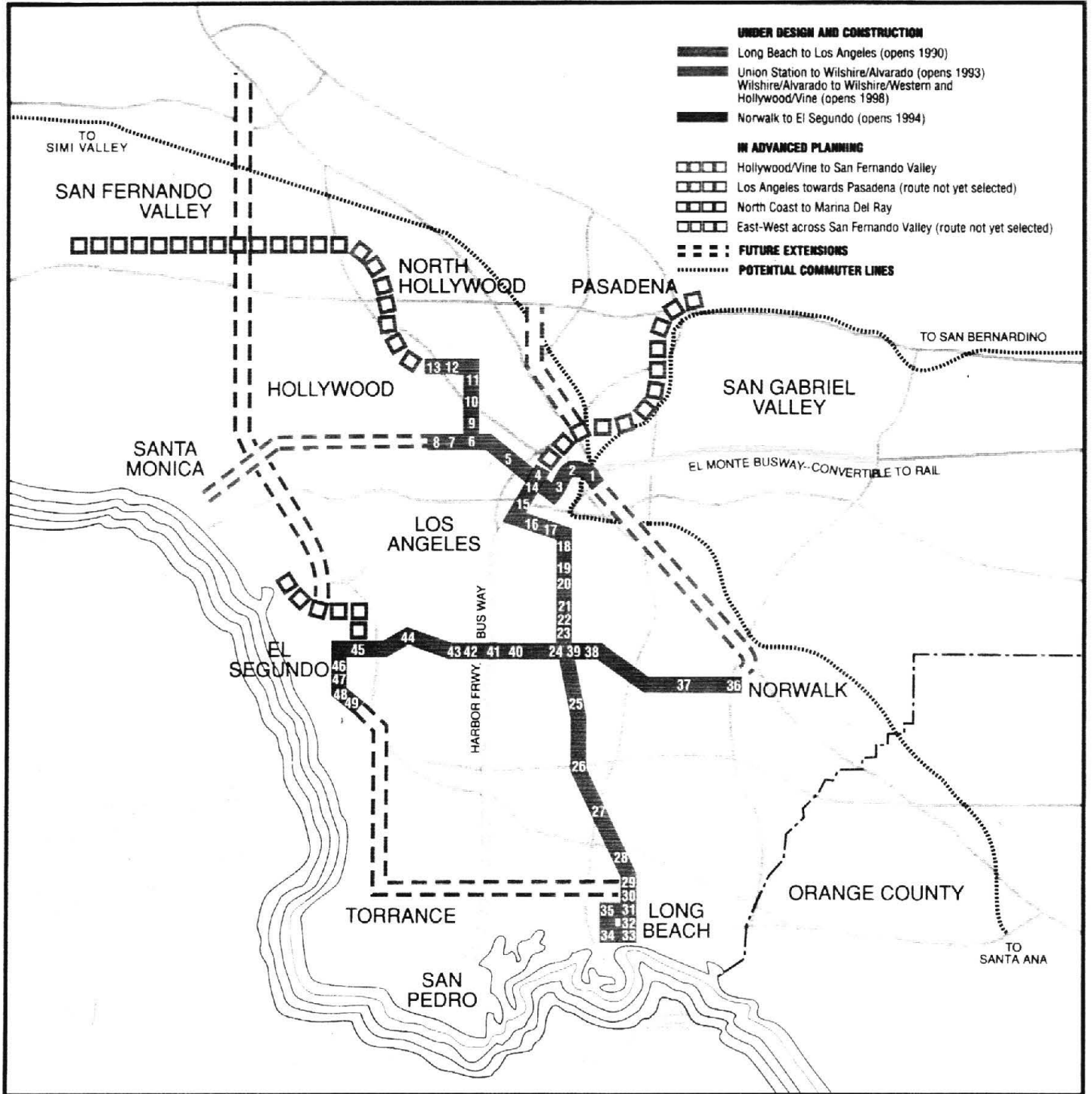
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Los Angeles County Rail Transit Plan



STATION LOCATIONS

Red Line-Union Station to Hollywood/Vine

1. Union Station
2. 1st St./Hill St. (Civic Center)
3. 5th St./Hill St.
4. 7th St./Flower St.
5. Wilshire Blvd./Alvarado St.
6. Wilshire Blvd./Vermont Ave.
7. Wilshire Blvd./Normandie Ave.
8. Wilshire Blvd./Western Ave.
9. Vermont Ave./Beverly Blvd.
10. Vermont Ave./Santa Monica Blvd.
11. Vermont Ave./Sunset Blvd.
12. Hollywood Blvd./Western Ave.

Blue Line-Long Beach to Los Angeles

13. Hollywood Blvd./Vine St.
14. 7th St./Flower St.
15. Pico Blvd./Flower St.
16. Grand Ave./Washington Blvd.
17. San Pedro St./Washington Blvd.
18. Washington Blvd./Long Beach Ave.
19. Vernon Ave./Long Beach Ave.
20. Slauson Ave./Long Beach Ave.
21. Florence Ave./Graham Ave.
22. Firestone Blvd./Graham Ave.
23. 103rd St./Graham Ave.
24. Imperial Hwy./Wilmington Ave.
25. Compton Blvd./Willowbrook Ave.

26. Artesia Blvd./Acacia St.
27. Del Amo Blvd./Santa Fe Ave.
28. Wardlow Rd./Pacific Ave.
29. Willow St./Long Beach Blvd.
30. Pacific Coast Hwy./Long Beach Blvd.
31. Anaheim St./Long Beach Blvd.
32. 5th St./Long Beach Blvd.
33. 1st St./Long Beach Blvd.
34. 1st St./Pine Ave.
35. 5th St./Pacific Ave.

Green Line-Norwalk to El Segundo

36. Studebaker Rd./605 Fwy.
37. Lakewood Blvd./Imperial Hwy.
38. Long Beach Blvd./Imperial Hwy.

39. Imperial Hwy./Wilmington Ave.
40. Avalon Blvd./117th St.
41. 110 Fwy.(Harbor Fwy.)/117th St.
42. Vermont Blvd./117th St.
43. Crenshaw Blvd./119th St.
44. Hawthorne Blvd./111th St.
45. Aviation Blvd./Imperial Hwy.
46. Mariposa Ave./Nash St.
47. El Segundo Blvd./Nash St.
48. Douglas St.
49. Freeman Ave.

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