LOS ANGELES RAIL RAPID TRANSIT PROJECT
"METRO RAIL"
CORE STUDY

DRAFT SUBSEQUENT ENVIRONMENTAL IMPACT REPORT

TECHNICAL REPORT: TRAFFIC AND PARKING

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BACKGROUND

In December 1983, the U.S. Department of Transportation/Urban Mass Transportation Administration (UMTA) and the Southern California Rapid Transit District (SCRTD) published a Final Environmental Impact Statement (FEIS) on the Los Angeles Rail Rapid Transit Project, Metro Rail. In compliance with California Environmental Quality Act (CEQA) requirements, a Final Environmental Impact Report (FEIR) was published in November 1983. These documents provide detailed analyses of the Metro Rail Locally Preferred Alternative (LPA). the LPA is a major component of a 150-mile regional rapid transit system to be developed in Los Angeles County in accordance with Proposition A, which authorized the collection of a one-half of one percent retail sales tax to fund the improvement of public transit in the County.

In August 1984, UMTA and SCRTD completed an Environmental Assessment (EA) for a 4.4-mile, five-station Minimum Operable Segment (MOS-1) extending from a yard and shop facility south of Union Station to the Wilshire/Alvarado Station, as an initial segment fro funding purposes. On December 19, 1985, the President signed legislation requiring that the Secretary of Transportation enter into a full funding contract with SCRTD for the construction of MOS-1. That full finding contract was signed on August 27, 1986; and construction of MOS-1 is underway.

In December 1985, as a result of concerns associated with the subsurface presence of methane gas, the U.S. Congress passed a resolution stipulating that the SCRTD could not tunnel in any of the risk zones identified as a "potential risk" or "potential high-risk" of encountering methane gas during subsurface excavations. The U.S. Congress also stipulated that the SCRTD should identify and study candidate alignments that would avoid these risk zones.

In compliance with the Congressional mandate, the SCRTD initiated the Congressionally Ordered Re-Engineering (CORE) Study. The CORE Study includes the identification and evaluation of candidate alignments, the investigation of subsurface conditions, and the assessment of environmental impacts. The goal of the CORE Study is to identify an appropriate alignment to link the San Fernando Valley, the Wilshire Corridor, and MOS-1 segments of the LPA. This alignment should provide service to the Los Angeles Regional Core comparable to the service that would have been provided by the 18.6-mile LPA, while avoiding tunneling through any portion of the risk zones identified in the Task Force Report. The Draft Subsequent Environmental Impact Report (SEIR) contains a discussion of the anticipated impacts of five candidate alignments identified by the SCRTD for detailed analysis. All five candidate alignments include two unchanged segments of the LPA, the MOS-1 segment from the Metro Rail yard and shop site near Union Station to the Wilshire/Alvarado Station, and the San Fernando Valley segment.

1. INTRODUCTION

This report describes the analysis of traffic and parking impacts of the five candidate alignments included for consideration in the Draft SEIR. It is one of a series of technical reports prepared in support of the Draft SEIR. The purpose of this report is to describe in detail the analysis approach used and results of the study of traffic and parking impacts conducted during development of the Draft SEIS/SEIR. The description of the analysis approach includes a discussion of methodology, data sources, and assumptions underlying the analysis of traffic and parking impacts. Results of the analysis are reported for both existing and year 2000 conditions and for each of the candidate alignments.

2. ANALYSIS APPROACH

This chapter describes the approach used for the analysis of the traffic and parking impacts of the candidate alignments. Included in the description of approach is information on methodology, data sources, and assumptions underlying the analysis of traffic and parking impacts.

2.1 TRAFFIC

During operation of the rail system, travel by automobile will decrease systemwide; however, there will be localized traffic increases near station areas, especially those with parking or bus loading/unloading facilities, or those expected to be major points for access by park-and-ride and kiss-and-ride patrons. These increases in traffic volumes could have an effect on traffic flow at intersections critical to transit station access. At intersections where effects have been determined to be significant, measures may be needed to mitigate expected impacts.

This section describes the approach or methods used in the analysis of traffic impacts of the candidate Metro Rail alignments. The analysis focused on five major areas:

- o Establishment of base traffic volumes.
- o Development of station area traffic volumes.
- o Identification of intersections critical to station access.
- o Analysis of traffic volumes and capacities of critical intersections.
- o Assessment of impact of station traffic on critical intersections.

2.1.1 Base Traffic Volumes

Traffic impacts of rail systems result from reduction of roadway capacity due to placement of structures in street rights-of-way and from increased localized traffic brought about by transit station location and new development in the surrounding area. To provide a base for comparison of the traffic impacts of the alternative alignments, traffic volumes were established for year 2000 without the rail system. The base year (2000) traffic volumes were obtained from plottings of network traffic volumes output from the auto assignments performed for the original FEIS, as reported in the Working Paper. Revised 2000 base condition Traffic volumes, prepared by the Department of Transportation, City of Los Angeles, October, 1982.

2.1.1.1 Traffic Assignment Validation

Before the year 2000 traffic assignments were used for analysis of traffic impacts, a validation was performed to evaluate the accuracy of the model assignments relative to actual 1985 traffic, as determined from LADOT ground counts. The traffic counts were obtained for all intersections on the highway network within a one-half mile radius of each Metro Rail station. The ground counts were compared against predicted volumes for the same year as determined from interpolation of assigned volumes from the 1980 and 2000 assignments. The deviation between the ground counts and predicted volumes was evaluated by computing the percent root mean square (%RMS). The %RMS is calculated by the following equation:

$$RMS = \frac{\Sigma (X_{gc} - X_{ta})^2}{N}$$

where

X - Ground count on observation group
X - Volume assigned to intersection approach
N - Number of observations

The %RMS is derived by dividing the RMS by the average ground count for the observation group. A %RMS was calculated for each intersection approach, the total intersection, and all intersections in the station area. A %RMS also was calculated for all station areas. The results of the validations for each station area are presented in Appendix A. Overall, the accuracy of LADOT's traffic assignment was found to be within the acceptable range of error for simulated traffic forecasts.

2.1.1.2 Auto to Transit Mode Shift

Changes in auto trips between the 2000 base condition and the operation of the candidate alignments were examined in terms of the diversion from auto to transit. Four screenlines were established to measure changes in auto trips in both the east-west and north-south directions within the Regional Core. Changes in the number of auto trips across the screenlines were obtained from mode choice model output generated by the SCRTD from total person trip projections generated by the Southern California Association of Governments (SCAG) for the region. The screenline analysis revealed a 2.1 percent average reduction in auto trips in the east-west direction under the "with-project" condition. For the north-south screenlines, a 1.25 percent average reduction in auto trips was calculated. The overall reduction in auto trips from the 2000 base condition was calculated to be 1.6 percent for the Regional Core. This estimated decrease in auto trips within the Regional Core should be manifested in reduced congestion.

The analysis of traffic impacts of the candidate alignments at critical intersections did not include an adjustment of traffic volumes to reflect the expected shift to transit. More extensive analysis of previous work by LADOT may show a traffic decrease of five percent due to Metro Rail at intersection along the alignments. Additional effort would be required to support such a determination. The use of unadjusted traffic volumes represents in effect a "worst case" analysis.

2.1.2 Station Traffic Volumes

The year 2000 base volumes, as obtained from the traffic assignments, represent "background" volumes exclusive of station mode-of-access traffic. To determine traffic impacts associated with the candidate alignments and operable segments, the background traffic volumes were modified to include mode-of-access traffic generated by the Metro Rail stations. The mode-of-access traffic included park-and-ride and kiss-and-ride auto traffic. Figure 2-1 illustrates the process used to develop total traffic for critical intersections under the candidate alignments and operable segments.

2.1.2.1 Candidate Alignment Traffic

The number of park-and-ride and kiss-and-ride vehicle trips by station for each candidate alignment were derived from SCRTD mode of access computer reports "Constrained Demand for PM Peak Hours." Information on the distribution of park-and-ride and kiss-and-ride vehicle trips by traffic zone were obtained from the VASSIGN computer output. The output listed the number of access trips between traffic zones and stations. The origins and destinations of these vehicle trips were then plotted by traffic zone as a guide to establishing the direction of all vehicular trips accessing the transit station. The direction distribution of trips by mode of access was subsequently used to assign station access park-and-ride and kiss-and-ride trips to the background traffic volumes.

After distributing of the mode of access vehicle trips to stations by direction and mode of access, the next step was to assign the park-and-ride and kiss-and-ride trips to the highway network and combine the trips with the volumes of background traffic. The number of vehicle trips accessing the station were adjusted to account for the fact that kiss-and-ride arrival trips also include a return trip for the vehicle bringing the patron to the station; the same is true for kiss-and-ride departure trips (i.e., return of the patron to the station). The trips were assigned on the basis of the most appropriate routes of station ingress and egress. All trips were brought to the intersection nearest the station location and assigned to the straight-through movement. For each intersection critical to station access, the percentage of total mode of access vehicle trips assigned to the intersection was calculated for each approach and traffic movement. These percentages were then applied to mode of access output by station for each candidate alignment to determine the assignment of traffic to the critical intersections within each station area. The park-and-ride and kiss-and-ride trips were then combined with background traffic to establish total traffic for intersections critical to station areas.

2.1.2.2 Operable Segment Traffic

Kiss-and-ride vehicle trips for the alternative operable segments were obtained from the constrained mode of access model output for the p.m. peak hour. For park-and-ride vehicle trips the constrained model output could not be used to identify peak hour trips, because no park-and-ride trips were forecast for temporary terminal stations without parking facilities. No park-and-ride traffic is expected to be associated with these temporary terminal stations when operating as intermediate line stations under the full alignment. However, some park-and-ride traffic can be expected when the stations operate as a terminal even though no stations' parking facilities would be provided. To account for the temporary park-and-ride traffic, a manual procedure was developed to forecast unconstrained daily park-and-ride vehicle trips. These trips were converted to p.m. peak hour trips using factors devised by dividing constrained p.m. peak hour park-and-ride mode of access for daily constrained park-and-ride mode of access for all stations in the full alignments. The trips were assigned to critical intersections based on the most appropriate routes of ingress/egress.

2.1.3 Critical Intersections

The analysis of impacts of station access traffic was performed for critical intersections along the rail alignment and in the vicinity of each transit station. Critical intersections were identified for each candidate alignment based on a review of existing traffic volumes within the station areas and the directional distribution of the station access trips. Generally, a one-half mile radius around each station was used as the basis for selection of critical intersection. All intersections on the arterial street networks within the one-half mile radius were identified. These intersections were then examined in relation to the distribution of station access trips to determine those that would be impacted by station access traffic. The intersections analyzed by LADOT in the traffic study of the original rail alignment were also reviewed to ensure as much continuity with the previous work as possible. In the selection of critical intersections for analysis, consideration was also given to the availability of data for the intersections.

2.1.4 Capacity Analysis

Traffic volumes and street capacities were analyzed to determine impacts of station access traffic on critical intersections. The method used for calculation of capacity was based on procedures for planning applications as described in Transportation Research Circular 212, "Interim Materials on Highway Capacity," published by the Transportation Research Board (TRB). the capacity procedures described in the referenced report are referred to as "critical movement analysis." Critical movement analysis is a procedure which permits for capacity and level of service determinations for signalized intersections. The analysis incorporates the effects of intersection geometry and traffic signal operation and results in a level of service determination of the intersection as an operating unit.

A capacity analysis was performed for each critical intersection of each candidate alignment using base traffic volumes for the year 2000, as modified to account for the effects of station access traffic. Turning movement percentages determined from the most recent traffic counts were applied to the modified volumes to establish traffic movements for each critical intersection. The existing traffic counts used in this analysis were obtained from capacity analysis worksheets prepared by the City of Los Angeles Department of Transportation (LADOT) for the Metro Rail EIS and from files of traffic counts maintained by LADOT. Intersection geometrics (i.e., number and width of lanes and lane utilization) were derived from striping plans obtained from LADOT. Additional capacity analyses were performed using 2000 base traffic volumes without the transit station access traffic. Impacts on traffic due to the operation of the rail system were determined by comparing the change in critical volume and level of service between the alignment alternative and the base condition. Similarly, for aerial segments of a candidate alignment, analyses were performed on the street sections where the aerial facility would be constructed to determine the reduction in capacity and restrictions on turning movements.

2.1.5 Impact of Station Traffic on Critical Intersections

Levels of service and critical volume were determined from the capacity analyses and used to make judgments about traffic flow. Level of service (LOS) is a concept often used to describe traffic flow. A scale of A to F is used, with level of service "A" representing optimum flow conditions and "F" representing stop-and-go congestion. Operating characteristics of these levels of service, as defined in the Highway Capacity Manual are presented in Table 2-1.

Using the assignment of station access traffic to background volumes, expected changes in levels of service were identified for critical intersections affected by each candidate alignment. Level of Service D was considered to be acceptable. Service levels below LOS D (i.e., LOS E or F) were considered an indication of the need for improvements. At these service levels, severe congestion will occur.

The impact of station access traffic on critical intersections was qualitatively stated as being minor, moderate, or major. If the change in critical volume was calculated to be 75 vehicles per hour or less, the impact was determined to be minor. Moderate traffic impacts would occur where the change in critical volume was calculated to be more than 75 and less than 150 vehicles per hour. A change in critical volume greater than 150 vehicles per hour was determined to be a major impact on traffic flow at the intersection. This rating of traffic impacts based on changes in critical volumes was derived from threshold levels of critical volumes for

TABLE 2-1

LEVEL OF SERVICE DEFINITIONS

Level of Service	Interpretation
A & B	Uncongested operations: all vehicles clear intersection in a single signal cycle.
C	Light congestion; occasional backups on critical approaches to intersection.
D	Congestion on critical approaches, but intersection is functional. Vehicles required to wait through more than one cycle during short peaks. No long standing lines formed.
E	Severe congestion at intersection with some long standing lines on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements.
F	Total breakdown with stop-and-go operation.

levels of service A through F for planning applications as described in Transportation Research Circular 212. A review of the critical volumes by level of service revealed that a change in critical volume of 150 vehicles per hour would produce a change from one service level to the next. This represents the maximum number of vehicles that can be added to the critical volume without changing the level of service of the intersection.

Following the identification of the potential impacts of station access traffic at each of the critical intersections under each of the candidate alignments, the number of critical intersections by degree of potential impact or level of traffic flow with station access traffic was next determined for each alternative. This was accomplished by summing the number of critical intersections with traffic impacts identified as being minor, moderate, or major. A comparison of the number of critical intersections under each candidate alignment by degree of traffic impact provided information on the effect of station access traffic on traffic flow at intersections critical to transit station access and the magnitude of street improvements required to accommodate the rail system.

2.2 PARKING

The demand for parking in the CBD would be decreased by the number of automobile trips eliminated through diversion of travel to transit. At stations where the demand for park-and-ride spaces is greater than the number of spaces provided, a potential would exist for negative impacts. Therefore, parking is relevant to the Metro Rail Project in two ways identified below.

- o The rail project could reduce the need for parking facilities in the Los Angeles Central Business District (CBD) and other regional centers.
- o Rail patrons driving to and from parking at a station will create a demand for parking near stations.

The parking analysis focused on the proposed station areas, where the demand for parking will increase and, consequently, impact the surrounding area. Project areas not associated with station locations could experience a parking demand decrease concurrent with decreased automobile trips resulting from the diversion of travel by trips to ridership on Metro Rail.

Paramount to this parking impact analysis was the establishment of current parking inventory and usage according to the various land uses surrounding the proposed station areas. From this inventory of current conditions, added supply and demand projections of expected growth--with and without Metro Rail--and parking deficiencies, if any, can be determined. The following section discusses the approach, methodology, and data required to determine parking deficiencies within proposed station areas.

2.2.1 Inventory of Current Conditions

To measure current conditions, a comprehensive inventory of parking spaces, usage, and costs in station areas was undertaken by SCRTD in August, 1986. This study updated the original parking survey conducted in 1981 and referenced in the FEIS. Each station area survey was conducted within a one-quarter mile walking distance radius from each station. The same study areas were maintained for stations previously studied in the 1981 parking survey.

From the field surveys the following type of information was collected and tabulated:

- o Number and usage of on-street, curbside parking spaces tabulated by land use zoning for one hour, two hour, and all day periods;

- o Number and usage of off-street parking spaces tabulated by land use zoning and classified as public commercial or public patron/private;

- o Identification of any applicable parking restrictions; and,

- o Identification of any associated parking costs.

2.2.2 Projection of Year 2000 Parking Conditions

As a basis for year 2000 projected parking supply and usage, expected growth through new development was described in square footage and tabulated according to type of development: major office, community office, employee retail, regional retail, community retail, and hotel. Each type of development was examined in the context of three growth scenarios. The source of the information for the expected development activity and anticipated growth scenarios was the SCRTD publication, "Projected Commercial Development 1980-2000 Under Three Growth Scenarios." For each type of development, the appropriate minimum parking space requirement required by the Department of Building and Safety was identified.

The year 2000 base parking supply was calculated by multiplying the square footage of new development by the minimum parking space requirement for each land use type and then adding the resulting amount to the supply to existing spaces. Year 2000 base parking usage was calculated by adding the expected utilization associated with new development (is assumed to be equal to capacity) to the use of existing spaces determined during the inventory of current conditions. Parking deficiencies in year 2000 under base conditions were then determined by comparing the expected supply of spaces to the estimated usage of the spaces. Capacity is calculated at ninety percent of supply because of the inefficients associated with the turnover of spaces. The number of spaces required in excess of ninety percent of supply is assumed to represent the parking deficiency.

The key assumptions underlying this analysis include the following. First, the analysis assumes that the occupancy rate of existing development in each station area will remain the same in year 2000. The implication of this assumption is that the demand placed on the existing parking supply by this existing development also will remain the same in the future. However, if the rate of occupancy of existing development increases in the future, the utilization of the parking supply by the existing development also will increase. This will result in fewer spaces being available to meet any parking deficiency of future development, or any deficiency created by location of the Metro Rail station.

Second, the analysis assumes that new development added to the station area between now and year 2000 will be fully occupied. In station areas where the existing occupancy of development is low and a parking surplus currently exists because of this low occupancy, it was assumed that this surplus of spaces will be a available in the future to meet any parking deficiency created by the new development. However, it is likely that, if the station area is attractive enough to attract new development in the future, the station will also attract additional occupants into existing vacant development. Therefore, the spaces that are projected to be available for meeting a possible parking deficiency created by new development in the future may not be available. Consequently, the use of these assumptions may result in conservative estimates of parking deficiencies.

Finally, the analysis assumes that new development added to the station area represents "new" development, not a displacement of existing development. This new development is assumed not to require the removal of any existing parking in the station area.

2.2.3 Projection of Parking Conditions with Metro Rail

Projections of parking demand in the year 2000 with Metro Rail were developed for each candidate alignment. These projections represent total parking demand by station area and include both rail patron parking demand and demand generated by both existing and future development.

Parking demand by rail patrons at stations is a function of the number of park-and-ride and kiss-and-ride vehicle trips predicted for the particular station and the expected duration of parking by these patrons. Park-and-ride and kiss-and-ride vehicle trips by station for each candidate alignment were derived from "unconstrained" mode of access model computer runs. The park-and-ride vehicle trips from the computer reports represented total daily vehicle trips. These trips were then divided by a turnover rate to determine parking demand by park-and-ride patrons or the peak accumulation of park-and-ride vehicles at the stations. Turnover refers to the average number of vehicles using a given parking space within a specified period of time. The turnover rate for park-and-ride patrons is calculated on a daily basis. Information on park-and-ride facility capacities and accumulation rates at stations where SCRTD plans to provide parking was used to calculate turnover rates. Because these rates were found to vary only slightly among the alternatives, the same turnover rates were used for all alternatives.

Parking deficiencies in each station area attributed to parking demand by park-and-ride patrons were determined by subtracting the estimated peak accumulation of park-and-ride patrons (daily demand/turnover rate) from the number of spaces provided at the stations for parking by rail patrons. If sufficient parking is not available to meet the projected demand, a parking deficiency could result.

Kiss-and-ride vehicle trips to and from the stations were not used in the projection of parking deficiencies. Vehicle trips to the station to drop off a passenger would not require a parking space. For this reason, it can be expected that most kiss-and-ride departing passengers would be dropped off at the curb, and that any occupancy of spaces at the station would be for only a short duration. Kiss-and-ride parking at the station to pick up an arriving passenger can be expected to park no longer than twice the frequency of trains during the peak hour. Thus, with the five-minute train frequencies during peak periods, parking durations of up to ten minutes could occur. This results in a turnover of six vehicles per space during the peak hour. If sufficient parking is not provided at the station to meet the demand, a theoretical parking deficiency exists resulting in spillover into the surrounding area. However, persons arriving at the station kiss-and-ride area and finding all spaces occupied probably would double park or circle the block rather than try to find a space on-street or in an off-street parking facility. It is unlikely that the driver of the kiss-and-ride vehicle would park in an off-street parking facility for such a short duration and walk to the station to meet his/her arriving passenger. Also, for the same reason, any on-street space would have to be directly in front of the station before a kiss-and-ride vehicle arriving at the station to pick up a passenger would utilize the spaces. Consequently, any spillover parking impact of kiss-and-ride vehicle demand at stations would likely be small and of a temporary duration.

Final analysis of parking impacts under the with-project condition assumes that there will be no shift in travel from automobile to transit. This assumption has been made because the Null Alternative has been modeled to determine changes in auto trips to a station area and the effects of the shift on parking demand. It is expected that Metro Rail would result in a shift from automobile to transit and, thus, reduce the demand for parking attendant with existing development, because fewer auto trips will be generated by this development.

3. DETAILED ANALYSIS RESULTS

This chapter discusses the results of the analysis of existing and year 2000 traffic and parking conditions in the Regional Core and expected impacts of the candidate alignments.

3.1 TRAFFIC

The analysis of traffic impacts focused on the establishment of traffic flow for existing and year 2000 conditions under the null alternative and the impacts on traffic flow associated with the candidate alignments and operable segments. Impacts on traffic flow are described in terms of changes in level of service and critical volumes.

3.1.1 Existing Traffic Conditions

Freeways that serve the Regional Core are loaded to capacity and severely congested during peak commuter periods. In spite of present congested conditions, the demand for daily travel on freeways in the Regional Core is projected to increase approximately twenty percent by the year 2000. Without major improvement in transit service, traffic congestion will become significantly worse.

Given the absence of convenient freeways and capacity constraints on those that exist, most travel between major destinations within the Regional Core occurs on arterial streets. The projected growth in residential and job development will further burden a traffic circulation system ill-equipped to handle current demand. By the year 2000, demand on the Regional Core's arterial system will increase by nearly two million vehicle miles daily; such an increase will result in severe delays. Assuming that no major new facility capacity is added and that only currently planned intersection and roadway improvements are implemented, it is projected that the number of severely congested key intersections will increase significantly by year 2000. Thus, projected travel demand indicates the freeway and arterial street system serving the Regional Core simply will not function efficiently in the year 2000.

3.1.2 Null Alternative

To provide a base for comparison of the traffic impacts of the candidate alignments, traffic conditions were established for the year 200 under the Null Alternative.

The Null Alternative includes a 4.4 mile rail transit system serving the CBD and Westlake area. Projected residential and employment growth in the Regional Core, which includes the area to be served by this segment of Metro Rail, will further burden a traffic circulation system inadequate for current demand. By the Year 2000, demand on the Regional Core's arterial system will increase by nearly two million vehicle miles daily; such an increase will result in severe delays. It is projected that the number of severely congested key intersections will increase significantly by Year 2000, despite currently planned intersection and roadway improvements and service provided by MOS-1. Thus, under the Null Alternative, the freeway and arterial street system serving the Regional Core simply will not function efficiently.

Traffic volumes and street capacities were analyzed to determine levels of service at selected intersections in the Year 2000. Level of service is a measure of the capacity of the roadway system to accommodate traffic flow. The calculation of capacity assumed the existence of street improvements included in the City's Capital Improvement Program, Community Redevelopment Agency (CRA)projects, and private development projects. In addition, possible operational improvements normally implemented by LADOT were identified for intersections expected to be operating at LOS E or F in the Year 2000. MOS-1 would provide limited service in relation to the CBD and Westlake areas. It was concluded that traffic flow conditions would not be significantly altered outside the MOS-1 service area. Traffic volumes projected under the Year 2000 base condition, therefore, represent the Null Condition within the Regional Core outside the MOS-1 service area. And, traffic impacts of MOS-1 reported in the EA remain as a valid assessment of effects in the CBD and Westlake areas.

Traffic conditions for the Null Alternative were established for a total of 58 selected intersections. The selection of intersections was guided by the routes of the candidate alignments and traffic access requirements related to the location of stations. The selected intersections associated with each station were identified through a review of existing traffic volumes within the station areas and the directional distribution of the projected station access trips. The previous work performed by LADOT in support of the FEIS and EA also was incorporated in the process to select intersections for traffic analysis. This selection process facilitated establishing impacts related to the availability of rail service in corridors examined. Selected intersections generally lie within a one-half mile radius of proposed station locations in the San Fernando Valley and a one-half mile corridor along each of the candidate alignments outside of the Valley.

The results of the analysis of volume and capacity at selected intersections under conditions defining the Null Alternative are presented in Table 3-1. Intersections operating at LOS E or F during the p.m. peak hour are displayed graphically in Figure 3-1. Of the 58 intersections analyzed for traffic impacts, a total of 43 would operate at LOS E or F. The remaining fifteen intersections would operate at LOS D or better.

The most severe traffic congestion under the Null Alternative would occur south of the Hollywood Hills area as a result of increasing population and employment densities. In contrast, traffic congestion in the North Hollywood area is expected to be relieved somewhat by street improvements. These include a new Universal City access bridge across the Hollywood Freeway and the recent reconstruction of the complex, six-way intersection at Camarillo, Lankershim, and Vineland. Other improvements, programmed to accompany redevelopment in the North Hollywood Commercial Core (Lankershim between Magnolia and Chandler), are expected to improve traffic flow, even when the traffic from planned new developments is included. Only in the vicinity of Universal City along Lankershim Boulevard would traffic delays in North Hollywood appear likely to worsen. The Universal Place on-ramp to the Hollywood Freeway is expected to become a particular problem area. Level of service E or F is expected to be commonplace on the Hollywood and Ventura Freeways during peak commute periods.

Overall, traffic impacts in the Central Business District would be positive under the Null Alternative. A slight improvement in traffic flow in the CBD would occur with this option as a result of the availability of high speed transit service. However, a deteriorated level of service would be expected at the Alameda/Macy intersection in the p.m. peak hour, due to traffic at the Metro Rail's Union Station. The level of service at the First/Hill, Fifth/Hill, Seventh/Flower, and Wilshire/Alvarado intersections would improve or be unchanged. More detail concerning traffic impacts at these intersections may be found in the EA.

3.1.3 Traffic Impacts of Candidate Alignments and Operable Segments

Traffic flow associated with each of the candidate alignments would be expected to differ from the Null Alternative. Travel diverted to an extended rapid rail transit system would reduce the number of auto trips in the Regional Core. However, auto trips also would be associated with travel to and from Metro Rail stations. Thus, there will be localized traffic increases in station areas, especially those with parking facilities offering high levels of access for park-and-ride and kiss-and-ride patrons. Increases in traffic volumes on streets in station areas could have an effect on traffic flow at intersections critical to transit station access. Other traffic impacts could result from a reduction of roadway capacity and/or restriction of traffic movements, due to placement of the aerial guideway structure in street rights-of-way. Impacts associated with operable segments were of special concern, because the potential traffic effects at temporary terminal stations could be greater than at line stations or terminal stations with planned accommodations for parking. Because most of the intersections examined would be operating at levels-of-service E and F without the Metro Rail system, the evaluation of traffic impacts focused on those intersections that would be affected by station generated traffic.

TABLE 3-1

TRAFFIC CONDITIONS AT SELECTED INTERSECTIONS: NULL ALTERNATIVE

Intersection	Critical Volume (Veh./Hour)	Level-of-Service
Beverly @ Normandie	2,208	F
Beverly @ Virgil	1,975	F
Chandler @ Tujunga (N)	678	A
Chandler @ Tujunga (S)	476	A
Crenshaw @ Olympic	1,595	F
Crenshaw @ Pico	2,532	F
Fairfax @ Beverly	1,558	F
Fairfax @ Olympic	1,799	F
Fairfax @ Santa Monica	1,386	F
Fountain @ Vine	1,705	F
Highland @ Odin (E)	1,488	D
Highland @ Odin (W)	1,264	C
Hollywood @ Cahuenga	1,712	F
Hollywood @ Highland	1,401	E
Hollywood @ Vine	1,271	D
Hollywood @ Western	1,546	F
La Brea @ Fountain	1,363	E
La Brea @ Hollywood	2,172	F
La Brea @ Pico	1,698	F
La Brea @ Venice	3,523	F
Lankershim @ Burbank/Tujunga	1,168	D
Lankershim @ Cahuenga	1,170	C
Lankershim @ Chandler	797	A
Lankershim @ Ventura/Cahuenga	1,320	E
Normandie @ Olympic	1,484	E
Normandie @ Sixth	1,816	F
Pico @ San Vicente	1,314	E
San Vicente @ La Brea	1,433	D
San Vicente @ Venice	1,427	D
San Vicente @ Wilshire	2,222	F
Santa Monica @ Normandie	1,342	D
Santa Monica @ Vermont	1,351	E
Santa Monica @ Virgil	1,301	E
Santa Monica @ Western	1,558	F
Sunset @ Cahuenga	1,179	C
Sunset @ Fairfax	1,294	E
Sunset @ Gardner	1,487	E
Sunset @ Highland	1,678	F
Sunset @ La Brea	1,470	F
Sunset @ Vermont	1,515	F
Sunset @ Vine	1,634	F
Sunset @ Western	1,737	F
Vermont @ Beverly	1,499	F
Vermont @ Fountain	1,314	D
Vermont @ Melrose	1,303	D
Vermont @ Olympic	1,616	F
Vermont @ Sixth	1,609	F
Vermont @ Third	2,564	F
Vermont @ Wilshire	1,483	F
Western @ Beverly	1,487	E
Western @ Melrose	1,390	F
Western @ Olympic	1,668	F
Western @ Third	1,909	F
Wilshire @ Crenshaw	1,553	F
Wilshire @ Fairfax	1,687	F
Wilshire @ La Brea	1,496	F
Wilshire @ Normandie	1,102	D
Wilshire @ Western	1,809	F

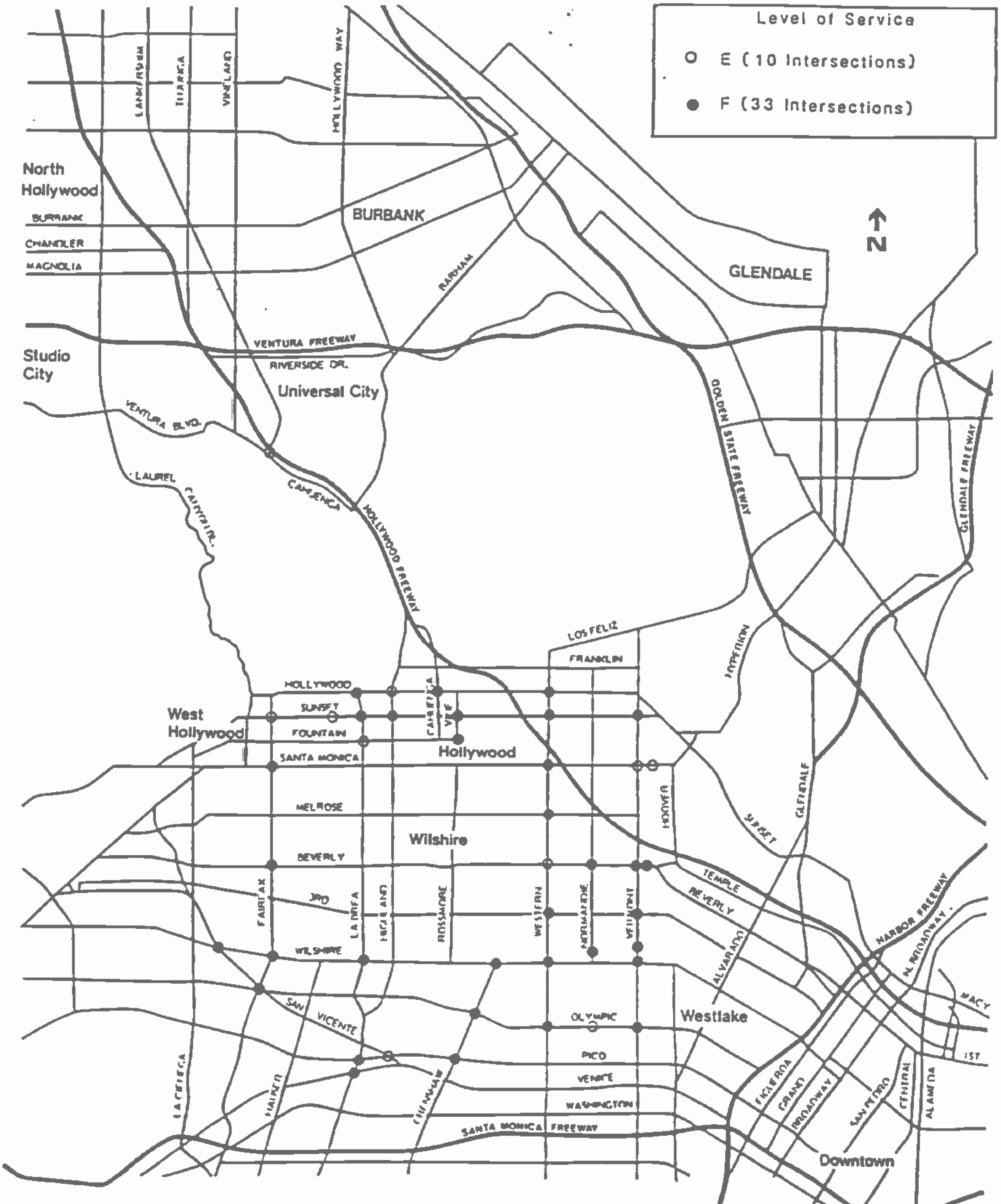
SUMMARY--

Number of Intersections:	LOS D or better	15
	LOS E	10
	LOS F	33
	TOTAL	58

Source:
General Planning Consultant, 1987

FIGURE 3-1

LEVEL OF SERVICE AT SELECTED INTERSECTIONS: NULL ALTERNATIVE



Source General Planning Consultant, Traffic and Parking Report, 1987

3.1.3.1 Candidate Alignment 1

System Traffic Impacts

Table 3-2 summarizes the impacts of station access traffic on critical volumes and levels of service at critical intersections for Alignment 1. Figure 3-2 shows the location of these intersections. Analysis of the Null Alternative data revealed that 16 of 33 intersections affected by Alignment 1 would be operating at LOS F in year 2000 (see Table 3-2). Five intersections would operate at LOS E, and the remaining twelve intersections would operate at LOS D or better. With the addition of station access traffic, the number of intersections at LOS F would increase by three to nineteen, and the number at LOS E would decrease to four. The remaining ten intersections would operate at LOS D or better. Station traffic impacts on critical volumes at these intersections were rated as major for six intersections, moderate for five intersections, and minor for 22 intersections (see Table 3-2).

If patronage on Alignment 1 is lower than SCRTD projections, the traffic impacts described above would be less severe. Thus, some of the traffic control measures discussed later in this Chapter may not be necessary.

Operable Segment (OS) Impacts

Traffic impacts of the operable segments identified for Alignment 1 would not be significantly different from the full system, except at the temporary terminal stations. At these stations. Increased kiss-and-ride and park-and-ride auto activity could occur as a result of the larger travel sheds that the stations would serve. Because they are temporary terminals, no additional facilities are planned to accommodate the increased auto access. This increased auto activity, combined with the station serving as a major destination for feeder buses, could result in increased volumes of traffic at critical intersections.

MOS-2 for Alignment 1 would have temporary terminal stations at Wilshire/Western and Sunset/Vermont. Table 3-3 summarizes the results of the analysis of station access traffic on critical volumes and levels of service at critical intersections in the vicinity of these temporary terminal stations. Increased auto traffic generated by the Wilshire/Western station as a temporary terminal would result in a major impact on two of four intersections critical to station access. The impacts at the other intersections were rated as moderate for one intersection and minor at one intersection. Traffic would be operating at LOS F at the four intersections in the year 2000.

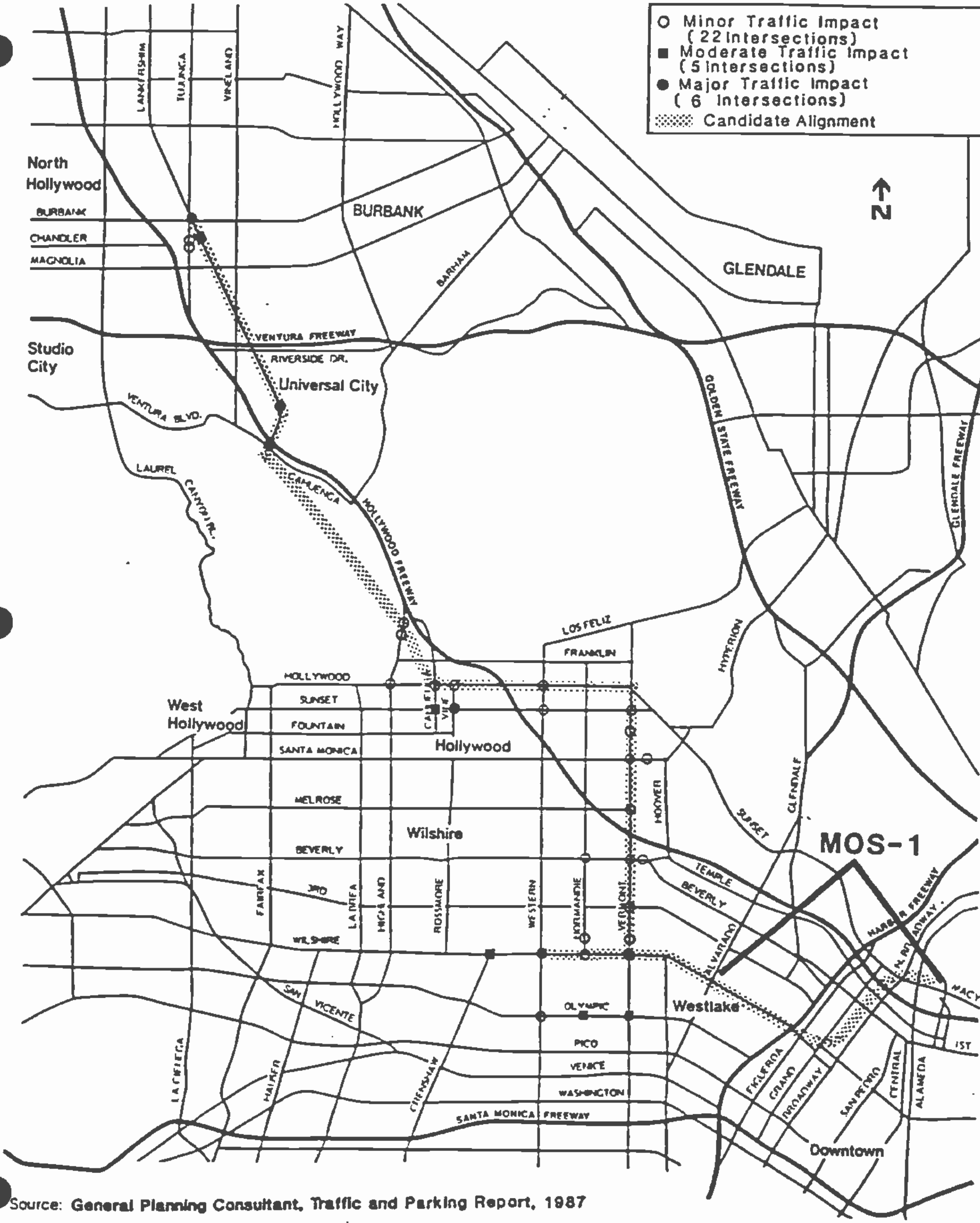
TABLE 3-2

IMPACT OF YEAR 2000 STATION ACCESS TRAFFIC:
CANDIDATE ALIGNMENT 1
(YEAR 2000, WITHOUT MITIGATION MEASURES)

Intersection	NULL ALTERNATIVE Critical Volume (Vehicle Per Hour)	LOS	ALIGNMENT 1 Critical Volume (Vehicle Per Hour)	LOS	Absolute Change in Critical Volume	Expected Impact
Beverly @ Normandie	2,208	F	2,208	F	0	Minor
Highland @ Odin (W)	1,264	C	1,264	C	0	Minor
Wilshire @ Normandie	1,102	D	1,102	D	0	Minor
Vermont @ Fountain	1,314	D	1,317	D	3	Minor
Highland @ Odin (E)	1,488	D	1,492	D	4	Minor
Vermont @ Third	2,564	F	2,569	F	5	Minor
Hollywood @ Highland	1,401	E	1,401	E	6	Minor
Santa Monica @ Virgil	1,343	D	1,347	D	4	Minor
Vermont @ Melrose	1,303	D	1,313	D	10	Minor
Chandler @ Tujunga (S)	476	A	487	A	11	Minor
Hollywood @ Vine	1,271	D	1,286	D	15	Minor
Santa Monica @ Vermont	1,351	E	1,367	E	16	Minor
Vermont @ Beverly	1,499	F	1,518	F	19	Minor
Western @ Sunset	1,737	F	1,758	F	21	Minor
Beverly @ Virgil	1,975	F	2,003	F	28	Minor
Sunset @ Vermont	1,515	F	1,544	F	29	Minor
Chandler @ Tujunga (N)	678	A	718	A	40	Minor
Normandie @ Sixth	1,816	F	1,876	F	60	Minor
Hollywood @ Cahuenga	1,712	F	1,775	F	63	Minor
Hollywood @ Western	1,546	F	1,611	F	65	Minor
Vermont @ Sixth	1,609	F	1,675	F	66	Minor
Western @ Olympic	1,668	F	1,738	F	70	Minor
Normandie @ Olympic	1,484	E	1,568	F	84	Moderate
Lankershim @ Chandler	767	A	901	D	104	Moderate
Sunset @ Cahuenga	1,179	E	1,289	E	110	Moderate
Vermont @ Olympic	1,616	F	1,729	F	113	Moderate
Wilshire @ Crenshaw	1,553	F	1,679	F	126	Moderate
Wilshire @ Western	1,809	F	1,984	F	175	Major
Lankershim @ Cahuenga	1,170	C	1,425	E	255	Major
Vermont @ Wilshire	1,483	F	1,752	F	269	Major
Sunset @ Vine	1,634	F	1,927	F	293	Major
Lankershim @ Ventura/ Cahuenga	1,320	E	1,636	F	316	Major
Lankershim @ Burbank	1,168	D	1,767	F	599	Major

Source: General Planning Consultant.

IMPACT OF STATION ACCESS TRAFFIC: CANDIDATE ALIGNMENT 1



Source: **General Planning Consultant, Traffic and Parking Report, 1987**

TABLE 3-3

IMPACT OF STATION ACCESS TRAFFIC: CANDIDATE ALIGNMENT 1
(YEAR 2000, WITHOUT MITIGATION MEASURES)

Intersection	NULL ALTERNATIVE Critical Volume (Vehicle Per Hour)	LOS	ALIGNMENT 1 Critical Volume (Vehicle Per Hour)	LOS	Absolute Change in Critical Volume	Expected Impact Expected Impact
MOS-2						
Wilshire/Western						
Western @ Third	1,909	F	1,945	F	36	Minor
Western @ Olympic	1,668	F	1,817	F	149	Moderate
Wilshire @ Crenshaw	1,553	F	1,768	F	215	Major
Wilshire @ Western	1,809	F	2,155	F	346	Major
Sunset/Vermont						
Sunset @ Western	1,737	F	1,751	F	14	Minor
Vermont @ Hollywood	1,012	C	1,037	C	25	Minor
Sunset @ Normandie	1,277	D	1,313	D	36	Minor
Vermont @ Sunset	1,515	F	1,563	F	48	Minor
MOS-2A						
Vermont/Santa Monica						
Santa Monica @ Western	1,588	F	1,636	F	48	Minor
Vermont @ Sunset	1,515	F	1,557	F	42	Minor
Vermont @ Fountain	1,314	D	1,333	E	19	Minor
Santa Monica @ Normandie	1,342	D	1,464	F	122	Moderate
Santa Monica @ Vermont	1,351	E	1,519	F	168	Major
Santa Monica @ Virgil	1,343	D	1,360	E	17	Minor
Wilshire/Western						
Same as MOS-2						
MOS-2B						
Wilshire Vermont						
Vermont @ Sixth	1,609	F	1,760	F	97	Moderate
Vermont @ Olympic	1,616	F	1,790	F	174	Major
Wilshire @ Western	1,809	F	2,176	F	367	Major
Wilshire @ Normandie	1,102	D	1,273	E	171	Major
Wilshire @ Vermont	1,483	F	1,878	F	395	Major
Universal City						
Lankershim @ Ventura/ Cahuenga	1.320	E	1,362	E	42	Minor
Lankershim @ Cahuenga	1,170	C	1,401	E	231	Major

Source: General Planning Consultant.

The increased auto traffic generated by the Sunset/Vermont station as a temporary terminal would likely result in a minor impact at all four of the intersections critical to station access. Two of the four intersections would operate at LOS F, one at LOS D, and one at LOS C. Although the traffic at these intersections would increase, no change in the level of service would occur.

Two alternative operable segments for Alignment 1 also have been considered. Alternative operable segment MOS-2A would have temporary terminal stations at Wilshire/Western and Vermont/Santa Monica. MOS-2B would have temporary terminal stations at Wilshire/Vermont and Universal City. Table 3-3 also summarizes the impact assessment for these temporary terminal stations.

With Wilshire/Western as a temporary terminal station under MOS-2A, the impacts of station access traffic on critical intersections would be same as MOS-2. Increased auto traffic generated by the Vermont/Santa Monica station as a temporary terminal would likely result in a minor impact at three of six intersections critical to station access. Impacts at the other two intersections were rated as moderate at one intersection and major at two intersections. Due to the increase in station access traffic, the level of service would decline at four of the six intersections such that four intersections would be operating at LOS F and the remaining two at LOS E.

Under MOS-2B, with Wilshire/Vermont as a temporary terminal station, traffic impacts were rated as major for four of five intersections identified as critical for station access traffic. Due to the increase in traffic, the level of service would continue at LOS F at four intersections, and would decline to LOS E for the remaining one. The increased auto traffic generated by the Universal City station as a temporary terminal would likely result in a major impact at one intersection and a minor impact at the other. Due to the increase in traffic, the level of service would decline at one of the two intersections, with both operating at LOS E.

3.1.3.2 Candidate Alignment 2

System Impacts

Candidate Alignment 2 would include both aerial and subsurface sections. The traffic impacts of this alignment would occur at station locations and along aerial sections, where placement of guideway columns in the center of the street would produce changes in traffic patterns and increased traffic volumes. Table 3-4 summarizes the results of the analysis of impacts of station access traffic on critical volumes and level of service at critical intersections for Alignment 2, the degree of traffic impact (i.e., minor, moderate, and major) is shown for the critical intersections of Alignment 2 in Figure 3-3.

In the Year 2000, assuming the Null Alternative, 24 out of 41 intersections critical to access to Alignment 2 stations would be operating at LOS F and five would operate at LOS E. The remaining twelve intersections would operate at LOS D or better. With the addition of station access traffic, the number of intersections at LOS F would increase to 27, while the number at LOS E would remain at five. Only nine intersections would operate at LOS D or better with

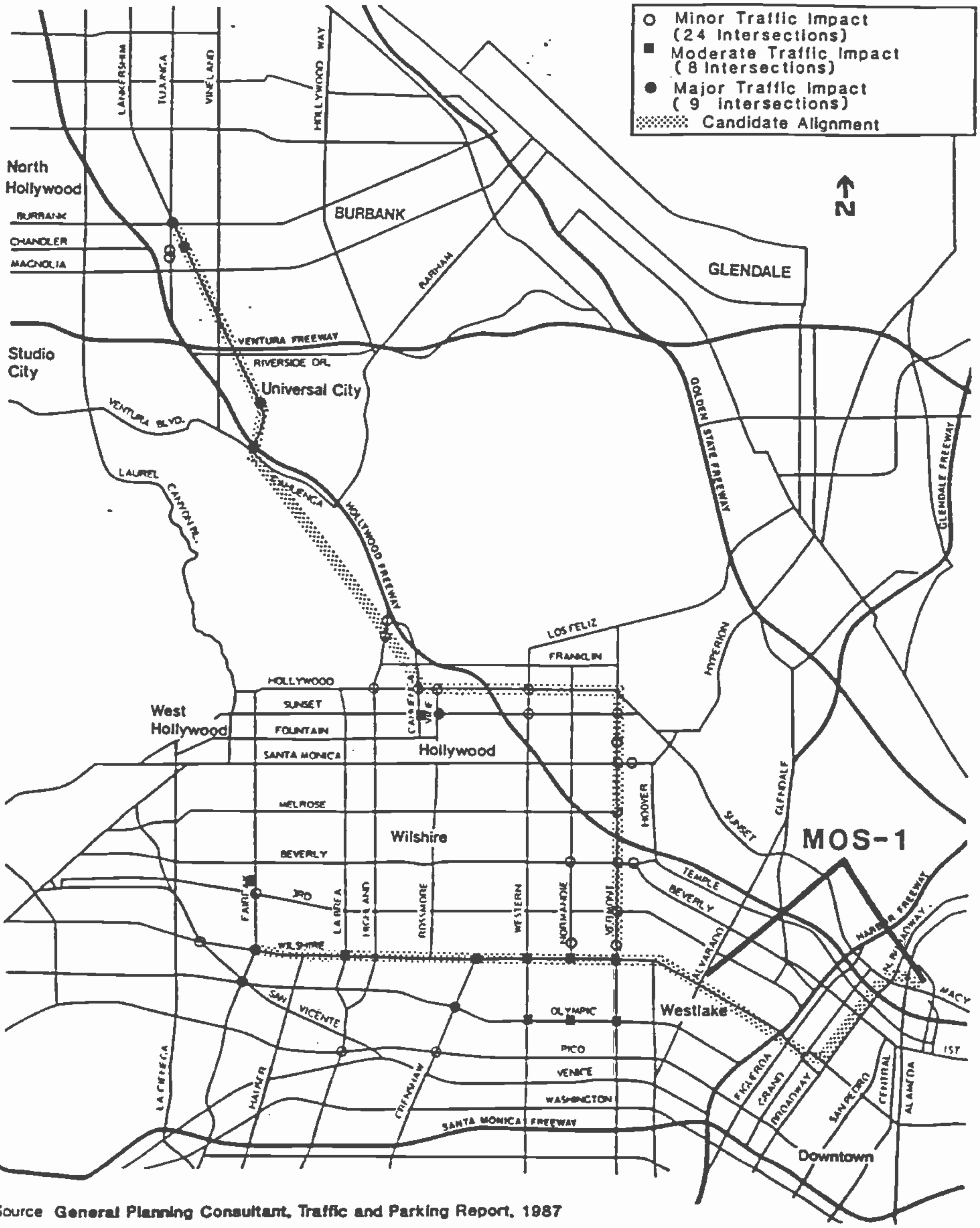
TABLE 3-4
IMPACT OF YEAR 2000 STATION ACCESS TRAFFIC:
CANDIDATE ALIGNMENT 2
(YEAR 2000, WITHOUT MITIGATION MEASURES)

Intersection	NULL ALTERNATIVE Critical Volume (Vehicle Per Hour)	LOS	ALIGNMENT 2 Critical Volume (Vehicle Per Hour)	LOS	Absolute Change in Critical Volume	Expected Impact
Beverly @ Normandie	2,208	F	2,208	F	0	Minor
Highland @ Odin (W)	1,264	C	1,264	C	0	Minor
Vermont @ Fountain	1,314	D	1,317	D	3	Minor
Highland @ Odin (E)	1,488	D	1,492	D	4	Minor
Vermont @ Third	2,564	F	2,569	F	5	Minor
Hollywood @ Highland	1,401	E	1,401	E	6	Minor
Santa Monica @ Virgil	1,343	D	1,347	D	4	Minor
Vermont @ Melrose	1,303	D	1,313	D	10	Minor
Chandler @ Tujunga (S)	476	A	487	A	11	Minor
Hollywood @ Vine	1,271	D	1,286	D	15	Minor
Santa Monica @ Vermont	1,351	E	1,367	E	16	Minor
Vermont @ Beverly	1,499	F	1,518	F	19	Minor
Western @ Sunset	1,737	F	1,758	F	21	Minor
San Vicente @ Wilshire	2,222	F	2,249	F	27	Minor
Beverly @ Virgil	1,975	F	2,003	F	28	Minor
Crenshaw @ Pico	2,532	F	2,560	F	28	Minor
Fairfax @ Beverly	1,588	F	1,586	F	28	Minor
Sunset @ Vermont	1,515	F	1,544	F	29	Minor
La Brea @ Pico	1,698	F	1,729	F	31	Minor
Chandler @ Tujunga (N)	678	A	718	A	40	Minor
Normandie @ Sixth	1,816	F	1,876	F	60	Minor
Hollywood @ Cahuenga	1,712	F	1,775	F	63	Minor
Hollywood @ Western	1,546	F	1,611	F	65	Minor
Vermont @ Sixth	1,609	F	1,675	F	66	Minor
Normandie @ Olympic	1,484	E	1,568	F	84	Moderate
Western @ Olympic	1,668	F	1,769	F	101	Moderate
Lankershim @ Chandler	797	A	901	B	104	Moderate
Wilshire @ La Brea	1,495	F	1,602	F	106	Moderate
Sunset @ Cahuenga	1,179	E	1,289	E	110	Moderate
Vermont @ Olympic	1,616	F	1,729	F	113	Moderate
Wilshire @ Normandie	1,102	D	1,238	E	136	Moderate
Wilshire @ Western	1,809	F	1,954	F	145	Moderate
Crenshaw @ Olympic	1,595	F	1,783	F	188	Major
Lankershim @ Cahuenga	1,170	C	1,425	E	255	Major
Vermont @ Wilshire	1,483	F	1,752	F	269	Major
Wilshire @ Fairfax	1,687	F	1,956	F	269	Major
Sunset @ Vine	1,634	F	1,927	F	293	Major
Fairfax @ Olympic	1,799	F	2,095	F	296	Major
Lankershim @ Ventura/ Cahuenga	1,320	E	1,636	F	316	Major
Wilshire @ Crenshaw	1,553	F	2,033	F	480	Major
Lankershim @ Burbank	1,168	D	1,767	F	599	Major

Source: General Planning Consultant

FIGURE 3-3

IMPACT OF STATION ACCESS TRAFFIC: CANDIDATE ALIGNMENT 2



Source General Planning Consultant, Traffic and Parking Report, 1987 station traffic. Station traffic impacts on critical volumes at these intersections were rated as major for nine intersections, moderate for eight intersections, and minor for 24 intersections.

In addition to traffic impacts at stations due to access by park-and-ride and kiss-and-ride patrons, Alignment 2 would produce changes in traffic flow due to placement of guideway columns in the center of the street in the aerial sections of the alignment. Under Alignment 2, an aerial guideway would be constructed along Vermont Avenue, and Wilshire and Hollywood Boulevards. Guideway columns would be located on a twelve-foot traffic island along the centerline of the street. The traffic island would form a continuous median between signalized intersections. Left turns would be restricted to signalized intersections on streets with the aerial guideway.

The twelve-foot wide traffic island could be constructed on Wilshire Boulevard and Vermont Avenue where the center left-turn lane and median now exists on these streets. The 100-foot right-of-way of these streets would accommodate the aerial guideway and traffic island with sufficient remaining right-of-way and to maintain the existing number of through-traffic lanes and on-street parking without modification. Left-turn lanes at signalized intersections would require reducing the sidewalk widths and widening the street.

On Hollywood Boulevard, the aerial alignment would extend just west of Vermont Avenue to Bronson Avenue. The street right-of-way is eighty feet. Parking and loading activities would have to be eliminated during peak periods, and the width of the sidewalks would have to be reduced in order to accommodate the aerial guideway in the center of the street and maintain traffic lanes. The existing two lanes of traffic in each direction would be maintained during peak periods. However, there would be a reduction in the capacity of these lanes because of bus loading/unloading and illegal stopping of vehicles in the curb lane. These activities currently are accommodated in the parking lane. Businesses along this segment of Hollywood Boulevard relying on street parking and loading may be affected, because the aerial guideway would restrict such activities in the curb lanes. Also, right turns would be made from the curb lane which would be shared with through traffic. this would result in a further loss in capacity.

Traffic desiring to turn left from Vermont Avenue and Wilshire and Hollywood Boulevards at nonsignalized intersections in the aerial sections of the alignment would be diverted to the next signalized intersection in the downstream traffic flow where the desired movement could be accomplished. A combination of left and right turns would have to be completed to accomplish the desired movement. This diversion of left-turn traffic would result in increased traffic volumes at signalized intersections and travel on streets parallel to the alignment. The prohibition of left turns from Vermont Avenue, Wilshire, and Hollywood Boulevards at nonsignalized intersections could improve traffic flow at these locations. However, improvement in flow past minor intersections could be offset by increased congestion at signalized intersections as a result of the increased number of left turns at these locations. The increase in left turns could require installation of a separate left-turn phase. The addition of a third phase would result in a reduction in the capacity for the through movement.

Aside from traffic flow impacts, the placement of guideway columns in the center of the street could pose sight distance problems for left-turn traffic at signalized intersections. The sight distance of the vehicles in the center of the intersection could be obstructed by the guideway support columns. A separate left-turn phase could mitigate this problem.

In addition to the diversion of left-turn traffic to signalized intersections, the restriction of left turns on Vermont Avenue and Wilshire and Hollywood Boulevards in the aerial sections would affect left turns from these streets into driveways of parking facilities and developments. This traffic also would be diverted to the next signalized intersection along the street where a series of two left turns and one right turn would be made to complete the desired movement. Because of this restriction on left turns, accessibility to developments would be reduced along the streets with aerial alignments. Traffic at signalized intersections where left turns are permitted also will increase. The increased number of left turns could further degrade traffic flow at these intersections.

Also, traffic from cross streets and driveways would be restricted to signalized intersections for all but right turns. This would result from the obstruction of sight distance to traffic turning left onto Vermont Avenue and Wilshire and Hollywood Boulevards or crossing these streets at nonsignalized intersections. This cross-street traffic would be diverted to the nearest signalized intersection in the downstream traffic flow. All nonsignalized cross streets restricted to right turns would effectively be converted into "T" intersections. However, certain cross streets may not have to be restricted to right turns if adequate sight distances can be maintained. Diversion of cross-street and fronting-driveway traffic would increase traffic volumes at signalized cross streets. Additional left-turn and/or through-traffic lanes may be required on the cross-street approach at these signalized locations. Increased VMT also would result from the diversion of cross-street and driveway traffic. The increase in VMT would be limited to only through-traffic vehicles crossing Vermont Avenue, Wilshire and Hollywood Boulevards from the cross streets, and all traffic from driveways fronting the alignment. Left-turn vehicles from the cross streets diverted to the next signalized intersection in the downstream traffic flow would continue traveling in the same direction of travel and, consequently, would not incur any increase in VMT.

Traffic impacts also would occur in the vicinity of the proposed portal locations in the center of Wilshire Boulevard, Vermont Avenue, and Hollywood Boulevard. All cross streets at these locations would be restricted to right turns only. Traffic desiring to turn left or cross the street at these locations would be diverted to the nearest signalized intersections where the desired movement could take place. This diversion of traffic also would increase traffic volumes at signalized intersections.

During preparation of this SEIS/SEIR, a special analysis was conducted of the traffic impacts of an aerial alignment on Vermont Avenue. Although the study was concerned with a specific segment of Candidate Alignment 2, implications for aerial segments of the entire alignment can be derived from the study. Specifically, the study found that any increase in VMT from restriction of left turns and cross-street traffic to signalized intersections would be relatively insignificant. The primary impact of the diversion of traffic would be an increase in critical volumes at signalized intersections. This impact was, however, determined to be minor. It should be noted that diverted traffic from driveways fronting Vermont was not included in the analysis because no estimate of this traffic was available. Consequently, the impact of diverted traffic on signalized intersections could be greater than expected.

If patronage on Alignment 2 is lower than SCRTD projections, the traffic impacts described in this section would be less severe. Thus, some of the traffic control measures discussed later in this Chapter may not be necessary.

Operable Segment Impacts

Traffic impacts for the operable segments of Alignment 2 would not be significantly different from the full system, except at temporary terminal stations. Increased kiss-and-ride and park-and-ride auto activity could occur as a result of the larger travel sheds served by these terminal stations. This increased auto activity combined with feeder bus activity could result in increased traffic at critical intersections.

Temporary terminal stations for Alignment 2 Operable Segment MOS-2 would be located at Wilshire/Western and Hollywood/Vine. Table 3-5 summarizes the results of the analysis of impacts of station-access traffic on critical volumes and levels of service at critical intersections in the vicinity of temporary terminal stations. Traffic impacts for Wilshire/Western as a temporary terminal station were rated as minor for one of the four intersections and major for three intersections.

Traffic impacts for Hollywood/Vine as a temporary terminal station for MOS-2 were rated as major for two of six critical intersections, moderate for one intersection, and minor for the remaining three intersections. With Hollywood/Vine as a temporary terminal station, the traffic generated by the station would cause a decline in level of service at three critical intersections such that all six intersections would be operating at a LOS F.

Three alternative operable segment arrangements for Alignment 2 are also being considered. MOS-2A would have temporary terminal stations at Universal City and Wilshire/Western. MOS-2B would have temporary terminal stations at Wilshire/Vermont and Universal City. MOS-3A consists of the full alignment with terminal stations at North Hollywood and Wilshire/La Brea. Table 3-5 summarizes the results for the operable segments for Alignment 2.

TABLE 3-5

IMPACT OF STATION ACCESS TRAFFIC: CANDIDATE ALIGNMENT 2
(YEAR 2000 WITHOUT MITIGATION MEASURES)

Intersection	NULL ALTERNATIVE Critical Volume (Vehicle Per Hour)	LOS	ALIGNMENT 2 Critical Volume (Vehicle Per Hour)	LOS	Absolute Change in Critical Volume	Expected Impact
MOS-2						
Wilshire/Western						
Western @ Third	1,909	F	1,946	F	37	Minor
Western @ Olympic	1,668	F	1,840	F	172	Major
Wilshire @ Crenshaw	1,553	F	1,794	F	241	Major
Wilshire @ Western	1,809	F	2,193	F	384	Major
Hollywood/Vine						
Fountain @ Vine	1,705	F	1,733	F	28	Minor
Hollywood @ Highland	1,401	E	1,441	F	40	Minor
Hollywood @ Cahuenga	1,712	F	1,776	F	64	Minor
Cahuenga @ Sunset	1,179	C	1,287	F	108	Moderate
Hollywood @ Vine	1,271	D	1,423	F	152	Major
Sunset @ Vine	1,634	F	1,829	F	195	Major
MOS-2A						
Universal City						
Lankershim @ Cahuenga	1,170	C	1,782	E	612	Major
Lankershim @ Ventura/ Cahuenga	1,412	E	1,412	E	92	Moderate
Wilshire/Western						
Western @ Third	1,909	F	1,949	F	40	Minor
Western @ Olympic	1,668	F	1,845	F	177	Major
Wilshire @ Crenshaw	1,553	F	1,803	F	250	Major
Wilshire @ Western	1,809	F	2,207	F	398	Major
MOS-2B						
Wilshire Vermont						
Same as MOS-2B for Alignment 1						
Universal City						
Same as MOS-2B for Alignment 1						
MOS-3A						
North Hollywood						
Chandler @ Tujunga (S)	476	A	479	A	3	Minor
Chandler @ Tujunga (N)	678	A	688	A	10	Minor
Lankershim @ Chandler	797	A	857	A	60	Minor
Lankershim @ Tujunga/ Burbank	1,168	D	1,272	E	104	Moderate
Wilshire/La Brea						
San Vicente @ La Brea	1,433	E	1,602	F	169	Major
La Brea @ Sixth	1,567	F	1,640	F	73	Moderate
La Brea @ Olympic	1,605	F	1,619	F	14	Minor
Fairfax @ Wilshire	1,687	F	1,724	F	37	Minor
Wilshire @ La Brea	1,496	F	1,571	F	75	Minor

Source: General Planning Consultant

With Wilshire/Western as a temporary terminal station under MOS-2A, the impacts of station access traffic on critical intersections in this station area would be the same as MOS-2. With Universal City as a temporary terminal station under MOS-2A, the increased auto traffic generated by the station would likely result in a major impact at one of two intersections critical to station access. A moderate impact would result at the other intersection. Due to the increase in station access traffic under MOS-2A, the level of service would decline at one of the two intersections to LOS E.

Under MOS-2B with temporary terminal stations at Wilshire/Vermont and Universal City, the impacts would be the same as MOS-2B for Alignment 1.

With Wilshire/La Brea as a terminal station under MOS-3A, the increased auto traffic generated by the station would result in a major impact on one of the five intersections critical to station access. The impacts at the other intersections were rated as minor at three intersections and moderate at the remaining intersection. Traffic would be operating at LOS F for all five intersections stations when station-access traffic is included.

With North Hollywood as a terminal station under MOS-3A, the increased auto traffic generated by the station would result in a moderate impact at one of the four intersections critical to station access, and in a minor impact at the remaining three intersections. Due to the increase in station-access traffic under MOS-3A, the level of service would decline to LOS E at one of the four intersections. The remaining three intersections would continue to operate at LOS A.

3.1.3.3 Candidate Alignment 3

System Impacts

Candidate Alignment 3 also includes both aerial and subsurface stations. The traffic impacts of this alignment would occur at station locations and along the aerial sections of the alignment on Vermont Avenue and Hollywood Boulevard, where placement of guideway columns in the center of the street would produce changes in traffic patterns and increased traffic volumes. Table 3-6 summarizes the results of the analysis of impacts of station access traffic on critical volumes and level of service at critical intersections for Alignment 3. The degree of traffic impact (i.e., minor, moderate, and major) at these intersections is shown in Figure 3-4.

The analysis of the Null Alternative traffic volumes and street capacity at intersections near each of the station locations reveals that 21 of 38 intersections critical to access Alignment 3 stations would be operating at LOS F during the afternoon peak hour. Four intersections would operate at LOS E, and the remaining thirteen intersections would operate at LOS D or above. With the addition of station access traffic, the number of intersections at

TABLE 3-6

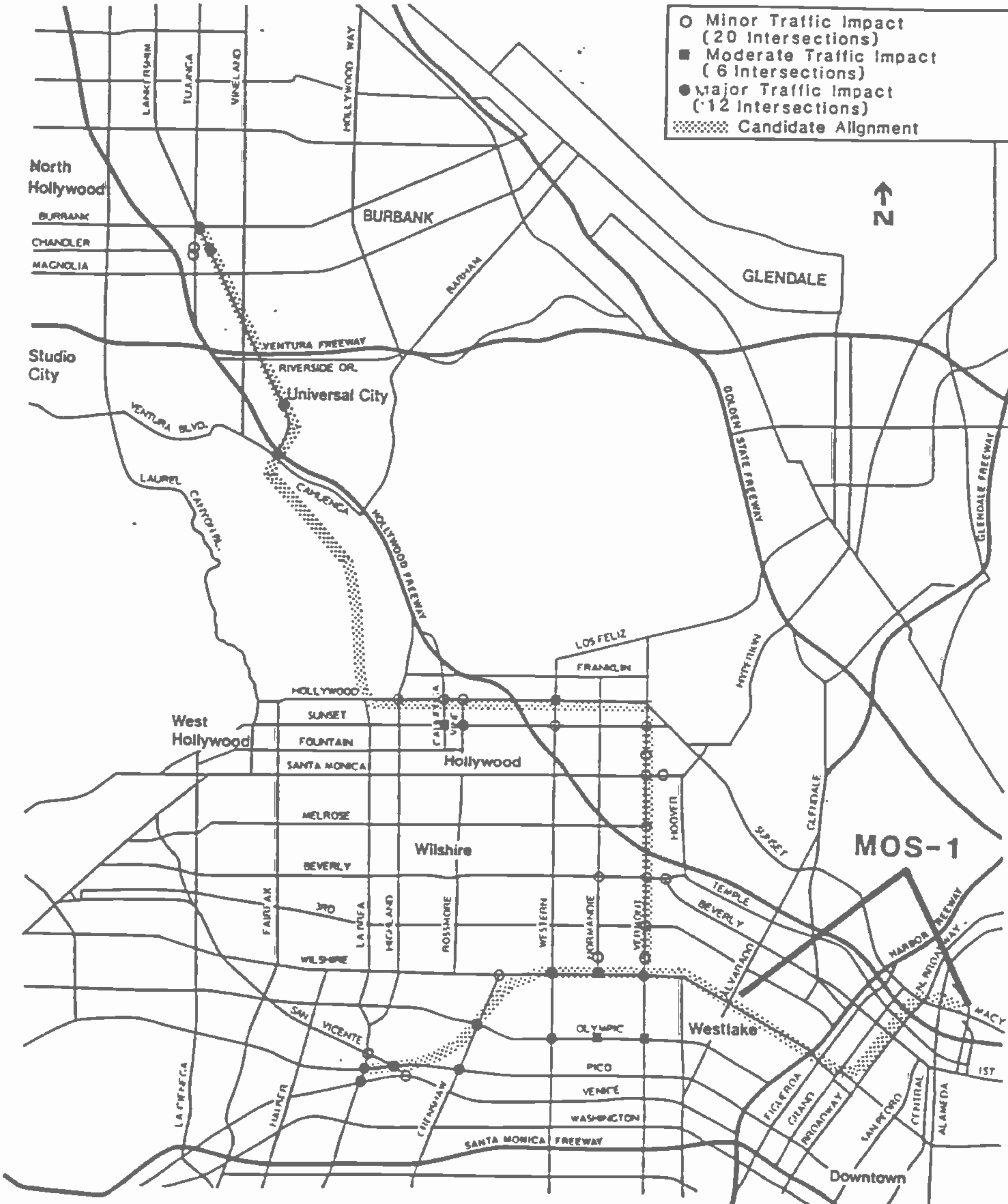
IMPACT OF YEAR 2000 STATION ACCESS TRAFFIC:
CANDIDATE ALIGNMENT 3
(YEAR 2000, WITHOUT MITIGATION MEASURES)

	NULL ALTERNATIVE		ALIGNMENT 3			
Intersection	Critical Volume (Vehicle Per Hour)	LOS	Critical Volume (Vehicle Per Hour)	LOS	Absolute Change in Critical Volume	Expected Impact
Beverly @ Normandie	2,208	F	2,208	F	0	Minor
Vermont @ Fountain	1,314	D	1,317	D	3	Minor
San Vicente @ Venice	1,427	D	1,430	D	3	Minor
Vermont @ Third	2,564	F	2,569	F	5	Minor
Santa Monica @ Virgil	1,343	D	1,349	D	6	Minor
Wilshire @ Crenshaw	1,553	F	1,562	F	9	Minor
Chandler @ Tujunga (S)	476	A	487	A	11	Minor
Vermont @ Melrose	1,303	D	1,316	D	13	Minor
Hollywood @ Highland	1,401	E	1,416	F	15	Minor
Vermont @ Beverly	1,499	F	1,518	F	19	Minor
Santa Monica @ Vermont	1,351	E	1,372	E	21	Minor
Western @ Sunset	1,737	F	1,762	F	25	Minor
Hollywood @ Vine	1,271	D	1,298	D	27	Minor
Beverly @ Virgil	1,975	F	2,003	F	28	Minor
Sunset @ Vermont	1,515	F	1,544	F	29	Minor
Chandler @ Tujunga (N)	678	A	719	A	41	Minor
Normandie @ Sixth	1,816	F	1,876	F	60	Minor
Vermont @ Sixth	1,609	F	1,682	F	73	Minor
San Vicente @ La Brea	1,433	D	1,507	F	74	Minor
Hollywood @ Cahuenga	1,712	F	1,787	F	75	Minor
Hollywood @ Western	1,546	F	1,623	F	77	Moderate
Normandie @ Olympic	1,484	E	1,568	F	84	Moderate
Lankershim @ Chandler	797	A	903	C	106	Moderate
Vermont @ Olympic	1,616	F	1,740	F	124	Moderate
Wilshire @ Normandie	1,102	D	1,238	E	136	Moderate
Sunset @ Cahuenga	1,179	C	1,328	E	149	Moderate
Western @ Olympic	1,668	F	1,831	F	163	Major
Olympic @ Crenshaw	1,595	F	1,787	F	192	Major
Wilshire @ Western	1,809	F	2,043	F	234	Major
Lankershim @ Cahuenga	1,170	C	1,424	E	254	Major
Crenshaw @ Pico	2,532	F	2,820	F	288	Major
Sunset @ Vine	1,634	F	1,933	F	299	Major
Vermont @ Wilshire	1,483	F	1,782	F	299	Major
Lankershim @ Ventura/ Cahuenga	1,320	F	1,634	F	314	Major
Pico @ San Vicente	1,314	E	1,653	F	339	Major
Pico @ La Brea	1,698	F	2,173	F	475	Major
La Brea @ Venice	3,523	F	4,058	F	535	Major
Lankershim @ Burbank	1,168	D	1,769	F	601	Major

Source: General Planning Consultant

FIGURE 3-4

IMPACT OF STATION ACCESS TRAFFIC: CANDIDATE ALIGNMENT 3



Source: **General Planning Consultant, Traffic and Parking Report, 1987**

LOS F would increase by five to 26, and the number at LOS E would remain at four. Station traffic impacts on critical volumes at these intersections were rated as major for twelve intersections, moderate for six intersections, and minor for twenty intersections (see Table 3-6).

In addition to traffic impacts at stations due to access by park-and-ride and kiss-and-ride patrons, Alignment 3 would produce changes in traffic flow due to placement of guideway columns in the center of the street in the aerial sections of the alignment. Under Alignment 3 the aerial guideway would be located along the sections of the alignment on Vermont Avenue and Hollywood Boulevard. The traffic impacts of an aerial guideway on these streets are discussed under Alignment 2.

If patronage on Alignment 3 is lower than SCRTD projections, the traffic impacts would be less severe than described above. Thus, some of the traffic control measures described later in this Chapter may not be necessary.

Operable Segment Impacts

Traffic impacts of the identified operable segments comprising Alignment 3 would not be significantly different from the full system, except at the temporary terminal stations. At these stations, increased kiss-and-ride and park-and-ride auto activity could occur as a result of the larger travel sheds that the stations would serve. Because they are temporary termini, no additional facilities are planned to accommodate the increased auto access. This increased auto activity combined with the station serving as a major destination for feeder buses could result in increased volumes of traffic at critical intersections.

Temporary terminal stations for MOS-2 would be located at Wilshire/Western and Hollywood/Vine. These are the same temporary terminal stations specified for MOS-2 for Alignment 2. Refer to Table 3-5, MOS-2 and the associated discussion for an understanding of Alignment 3 impacts.

An alternative operable segment is also being considered for Alignment 3. MOS-2A would have temporary terminal stations located at Wilshire/Vermont and Universal City. The impacts of this operable segment would be the same as MOS-2B under Alignment 1. Refer to Table 3-3 and Section 3.1.3.1 for an understanding of the impacts of this operable segment.

3.1.3.4 Candidate Alignment 4

System Impacts

Alignment 4 also includes both aerial and subsurface sections. The traffic impacts of this alignment would occur at stations and along the aerial sections of the alignment on Wilshire Boulevard, Vermont Avenue, Sunset Boulevard and Highland Avenue where placement of the guideway columns in the center of the street would produce changes in traffic patterns and increased traffic volumes. Table 3-7 summarizes the results of the analysis of impacts of station access traffic on critical volumes and level of service at critical intersections for Alignment 4. The degree of traffic impact (i.e., minor, moderate, and major) for these intersections is shown in Figure 3-5.

TABLE 3-7

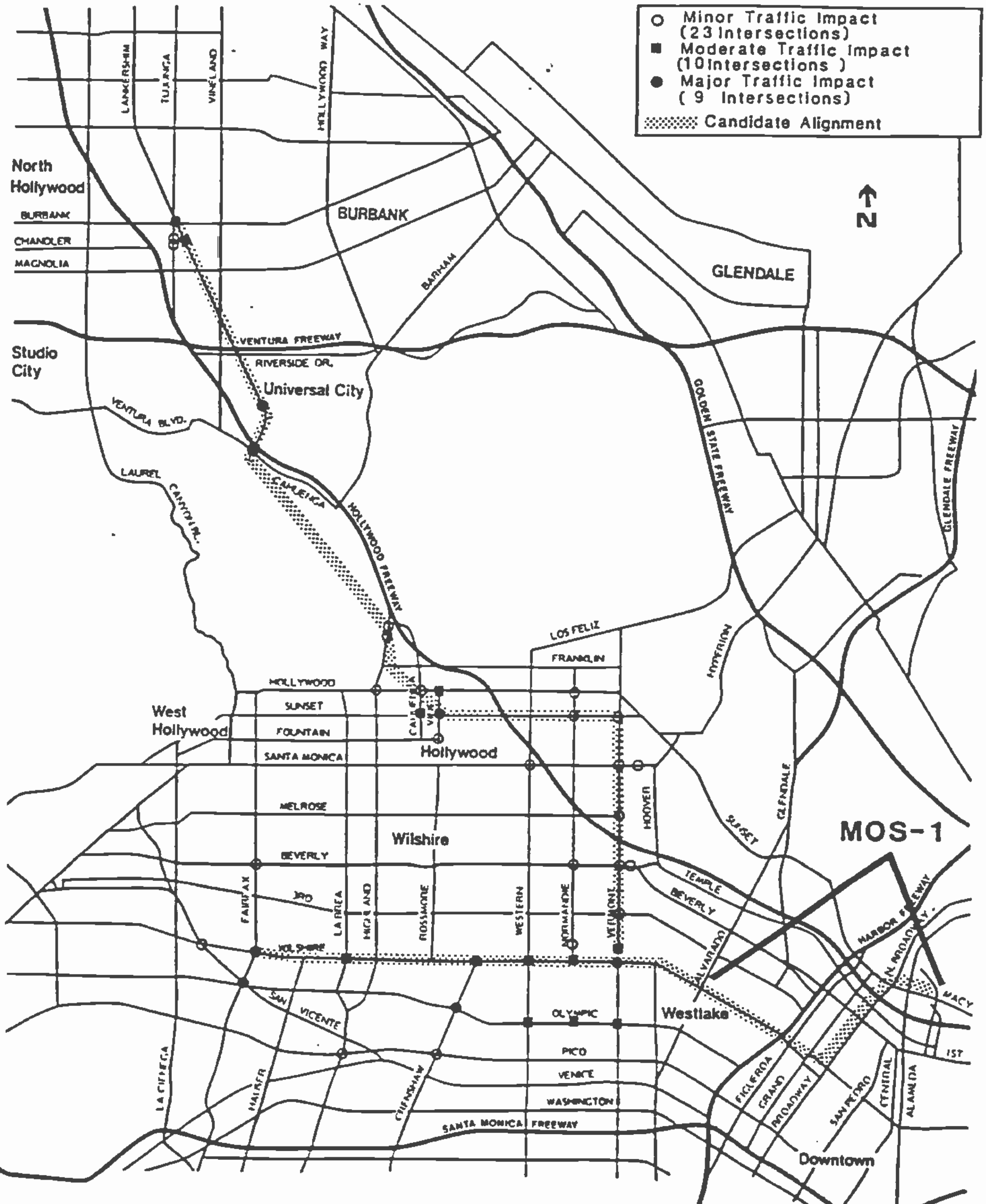
IMPACT OF YEAR 2000 STATION ACCESS TRAFFIC:
CANDIDATE ALIGNMENT 4
(YEAR 2000, WITHOUT MITIGATION MEASURES)

Intersection	NULL ALTERNATIVE Critical Volume (Vehicle Per Hour)	NULL ALTERNATIVE LOS	ALIGNMENT 4 Critical Volume (Vehicle Per Hour)	ALIGNMENT 4 LOS	Absolute Change in Critical Volume	Expected Impact
Beverly @ Normandie	2,208	F	2,208	F	0	Minor
Hollywood @ Highland	1,401	E	1,405	E	4	Minor
Fountain @ Vine	1,705	F	1,710	F	5	Minor
Vermont @ Third	2,564	F	2,569	F	5	Minor
Santa Monica @ Virgil	1,343	D	1,349	E	6	Minor
Highland @ Odin (E)	1,488	D	1,494	D	6	Minor
Highland @ Odin (W)	1,264	C	1,272	C	8	Minor
Chandler @ Tujunga (S)	476	A	487	A	11	Minor
Vermont @ Melrose	1,303	D	1,316	D	13	Minor
Western @ Santa Monica	1,588	F	1,603	F	15	Minor
Vermont @ Beverly	1,499	F	1,519	F	20	Minor
Santa Monica @ Vermont	1,351	E	1,372	E	21	Minor
San Vicente @ Wilshire	2,222	F	2,248	F	26	Minor
Hollywood @ Cahuenga	1,712	F	1,739	F	27	Minor
Fairfax @ Beverly	1,558	F	1,586	F	28	Minor
Crenshaw @ Pico	2,532	F	2,560	F	28	Minor
Western @ Hollywood	1,546	F	1,575	F	29	Minor
Beverly @ Virgil	1,975	F	2,004	F	29	Minor
La Brea @ Pico	1,698	F	1,729	F	31	Minor
Chandler @ Tujunga (N)	678	A	718	A	40	Minor
Sunset @ Western	1,737	F	1,786	F	49	Minor
Normandie @ Sixth	1,816	F	1,876	F	60	Minor
Sunset @ Vermont	1,515	F	1,582	F	67	Minor
Vermont @ Sixth	1,609	F	1,693	F	84	Moderate
Normandie @ Olympic	1,484	E	1,568	F	84	Moderate
Western @ Olympic	1,668	F	1,769	F	101	Moderate
Lankershim @ Chandler	797	A	901	B	104	Moderate
Wilshire @ La Brea	1,496	F	1,602	F	106	Moderate
Sunset @ Cahuenga	1,179	C	1,288	E	109	Moderate
Hollywood @ Vine	1,271	D	1,397	E	126	Moderate
Wilshire @ Normandie	1,102	D	1,238	E	136	Moderate
Vermont @ Olympic	1,616	F	1,758	F	142	Moderate
Wilshire @ Western	1,809	F	1,954	F	145	Moderate
Crenshaw @ Olympic	1,595	F	1,783	F	188	Major
Wilshire @ Fairfax	1,687	F	1,945	F	258	Major
Lankershim @ Cahuenga	1,170	C	1,431	E	261	Major
Fairfax @ Olympic	1,799	F	2,092	F	293	Major
Lankershim @ Ventura/ Cahuenga	1,320	E	1,642	F	322	Major
Vermont @ Wilshire	1,483	F	1,833	F	350	Major
Sunset @ Vine	1,634	F	2,034	F	400	Major
Wilshire @ Crenshaw	1,553	F	2,033	F	480	Major
Lankershim @ Burbank	1,168	D	1,767	F	599	Major

Source: General Planning Consultant

FIGURE 3-5

IMPACT OF STATION ACCESS TRAFFIC: CANDIDATE ALIGNMENT 4



Source: **General Planning Consultant, Traffic and Parking Report, 1987**

Under the Null Alternative, 26 out of 42 intersections critical to access to Alignment 4 stations would be operating at LOS F, and four would operate at LOS E with Year 2000 base traffic. The remaining twelve intersections would operate at LOS D and above. With the addition of station access traffic, the number of intersections at LOS F would increase to 29 while the number at LOS E would increase to seven. The remaining six intersections would operate at LOS D or above with station traffic. Station traffic impacts on critical volumes at these intersections were rated as major for nine intersections, moderate for ten intersections, and minor for 23 intersections.

In addition to traffic impacts at stations due to access by park-and-ride and kiss-and-ride patrons, Alignment 4 would produce changes in traffic flow due to placement of guideway columns in the center of the street in the aerial sections of the alignment. Aerial guideway segments would be located on Wilshire Boulevard, Vermont Avenue, and Sunset Boulevard. The guideway columns would be located on a twelve-foot traffic island in the center of the street. The traffic island would form a continuous median between signalized intersections.

The twelve-foot width for the traffic island could be accommodated on Wilshire Boulevard, Vermont Avenue, and Sunset Boulevard by removing the center left-turn lane and median that now exist on these streets. The 100-foot right-of-way existing on these streets would provide sufficient space to accommodate the aerial guideway and to maintain the existing number of through-traffic lanes and on-street parking without modification. Left-turn lanes at signalized intersections would have to be provided by reducing the sidewalk widths and widening the street at the intersections. Traffic desiring to turn left from Vermont Avenue and Wilshire and Sunset Boulevards at non-signalized intersections in the aerial sections of the alignment would be diverted to the next signalized intersection in the downstream traffic flow where the desired movement could be accomplished. A series of two left turns and a right turn would have to be completed to accomplish the desired movement. This diversion of left-turn traffic would result in increased traffic volumes at signalized intersections and travel on streets parallel to the alignment. The prohibition of left turns on Vermont Avenue and Wilshire and Sunset Boulevards at non-signalized intersections could improve traffic flow at these locations. However, improvement in flow past minor intersections could be offset by increased congestion at signalized intersections as a result of the increased number of left turns at these locations. The increase in left turns could require installation of a separate left-turn phase. The addition of a third phase would result in a reduction in the capacity for the through movement.

Aside from traffic flow impacts, the placement of guideway columns in the center of the street could pose sight distance problems for left-turn traffic at signalized intersections. The sight distance problems could occur when left-turn vehicles pull out in the center of the intersection to wait for a gap in the opposing traffic flow. With the vehicles in the center of the intersection, their sight distance could be obstructed by the guideway support columns. Therefore, left-turns would be restricted to signalized intersections, where movements are regulated and not subject to driver judgement.

In addition to the diversion of left-turn traffic to signalized intersections, the restriction of left turns on Vermont Avenue and Wilshire and Sunset Boulevards in the aerial sections would affect left turns from these streets into driveways of parking facilities and developments. This traffic also would be diverted to the next signalized intersection along the street where a series of two left turns and one right turn would be made to complete the desired movement. Because of this restriction on left turns, accessibility to developments would be reduced along the streets with aerial alignments. Traffic at signalized intersections where left turns are permitted also would increase. The increased number of left turns could further degrade traffic flow at these intersections.

Also, traffic from cross streets and driveways would be restricted to signalized intersections for all but right turns. This would result from the obstruction of sight distance to traffic turning left onto Vermont Avenue and Wilshire and Sunset Boulevards or crossing these streets at non-signalized intersections. This cross street traffic would be diverted to the nearest signalized intersection in the downstream traffic flow. All non-signalized cross streets restricted to right turns would effectively be converted into "T" intersections. However, certain cross streets may not have to be restricted to right turns if adequate sight distances can be maintained. Diversion of cross street and fronting driveway traffic would increase traffic volumes at signalized cross streets. Additional left-turn and/or through traffic lanes may be required on the cross-street approach at these signalized locations. Increased vehicle miles of travel (VMT) also would result from the diversion of cross street and driveway traffic. The increase in VMT would be limited to only through traffic vehicles crossing Vermont Avenue and Wilshire and Sunset Boulevards from the cross streets and all traffic from driveways fronting the alignment. Left-turn vehicles from the cross streets diverted to the next signalized intersection in the downstream traffic flow would continue traveling in the same direction of travel and, consequently, would not increase the VMT.

Traffic impacts also would occur in the vicinity of the proposed portal locations in the center of Wilshire Boulevard, and possibly Sunset (depending on the location of the transition back to subway) and Vermont. All cross streets at these locations would be restricted to right turns only. Traffic desiring to turn left or cross the street at these locations would be diverted to the nearest signalized intersection where the desired movement could take place. This diversion of traffic also would increase traffic volumes at signalized intersections.

If patronage on Alignment 4 is lower than SCRTD projections, the traffic impacts would be less severe than described above. Thus, some of the traffic control measures described later in this Chapter may not be necessary.

Operable Segment Impacts

Traffic impacts for the operable segments of Alignment 4 would not be significantly different from the full system, except at temporary terminal stations. Increased kiss-and-ride and park-and-ride auto activity could occur as a result of the larger travel sheds served by these terminal stations. This increased auto activity combined with feeder bus activity could result in increased traffic at critical intersections.

Temporary terminal stations for Alignment 4 Operable Segment MOS-2 would be located at Wilshire/Western and Sunset/Vine. Table 3-10 summarizes the results of the analysis of impacts of station access traffic on critical volumes and levels of service at critical intersections in the vicinity of temporary terminal stations. Traffic impacts for Wilshire/Western as a temporary terminal station were rated as major for two of the four intersections, moderate for one intersection and minor for the remaining intersection. All four intersections would operate at LOS F with the station traffic.

With Sunset/Vine as a temporary terminal station, the increased auto traffic generated by the station likely would result in a major impact on two of the six intersections critical to station access, a moderate impact for one intersection, and in a minor impact at the other three intersections. Station access traffic would produce a decline in the level of service at two intersections such that five intersections would be operating at a LOS F and one at LOS E.

Another optional operable segment MOS-2A for Alignment 4 would have temporary terminal stations at Wilshire/Western and Universal City. Table 3-10 summarizes the results for these temporary terminal stations. With Wilshire/Western as a temporary terminal station for MOS-2A, the impacts of the station access traffic on critical intersections in the station area would be the same as MOS-2. With Universal City as a temporary terminal station under MOS-2A, the increased auto traffic generated by the station would likely result in a major impact at one intersection critical to station access traffic and a moderate impact at the other, and result in a level of service E at both intersections.

Temporary terminal stations for alternative operable segment MOS-2B would be located at Wilshire/Vermont and Universal City. Table 3-8 summarizes the results of the analysis of impacts of station access traffic on critical volumes and levels of service at intersections in the vicinity of temporary terminal stations. Traffic impacts for Wilshire/Vermont as a temporary terminal station were rated as major for four of the five intersections and moderate for one intersection. All affected intersections would operate below LOS D. Traffic impacts for Universal City as a temporary terminal station would be the same as those for MOS-2A, although actual changes in volume would differ slightly.

TABLE 3-8

IMPACT OF YEAR 2000 STATION ACCESS TRAFFIC:
CANDIDATE ALIGNMENT 4 (YEAR 2000 WITHOUT MITIGATION MEASURES)

Intersection	NULL ALTERNATIVE Critical Volume (Vehicle Per Hour)	LOS	ALIGNMENT 4 Critical Volume (Vehicle Per Hour)	LOS	Absolute Change in Critical Volume	Expected Impact
MOS-2						
Wilshire/Western						
Western @ Third	1,909	F	1,945	F	36	Minor
Western @ Olympic	1,668	F	1,814	F	146	Moderate
Wilshire @ Crenshaw	1,553	F	1,765	F	212	Major
Wilshire @ Western	1,809	F	2,151	F	342	Major
Sunset/Vine						
Hollywood @ Cahuenga	1,712	F	1,726	F	14	Minor
Sunset @ Highland	1,678	F	1,699	F	21	Minor
Vine @ Fountain	1,705	F	1,712	F	7	Minor
Hollywood @ Vine	1,271	D	1,375	E	104	Moderate
Cahuenga @ Sunset	1,179	C	1,423	F	244	Major
Sunset @ Vine	1,634	F	2,117	F	483	Major
MOS-2A						
Wilshire/Western						
Western @ Third	1,909	F	1,945	F	36	Minor
Western @ Olympic	1,668	F	1,815	F	147	Moderate
Wilshire @ Crenshaw	1,553	F	1,765	F	212	Major
Wilshire @ Western	1,809	F	2,151	F	342	Major
Universal City						
Lankershim @ Ventura/ Cahuenga	1,320	E	1,412	E	92	Moderate
Lankershim @ Cahuenga Tujunga	1,170	C	1,566	E	396	Major
MOS-2B						
Universal City						
Lankershim @ Ventura/ Cahuenga	1,320	E	1,412	E	92	Moderate
Lankershim @ Cahuenga	1,170	C	1,691	F	521	Major
Wilshire/Vermont						
Vermont @ Sixth	1,609	F	1,706	F	97	Moderate
Vermont @ Olympic	1,616	F	1,790	F	174	Major
Wilshire @ Western	1,809	F	2,176	F	367	Major
Wilshire @ Normandie	1,102	D	1,273	E	171	Major
Wilshire @ Vermont	1,483	F	1,878	F	395	Major

Source: General Planning Consultant

3.1.3.5 Candidate Alignment 5

System Impacts

Alignment 5 also contains both aerial and subsurface sections. The traffic impacts of this alignment would occur at station locations and along the aerial section of the alignment on Wilshire Boulevard where placement of guideway columns in the center of the street would produce changes in traffic patterns and increased traffic volumes. Table 3-11 summarizes the results of the analysis of impacts of station access traffic on critical volumes and level of service at critical intersections for Alignment 5. The degree of traffic impact (i.e., minor, moderate, and major) for these intersections is shown in Figure 3-6.

Under the Null Alternative, 22 of 35 intersections critical to access for Alignment 5 stations would be operating at LOS F during the afternoon peak hour. Three intersections would operate at LOS E, and the remaining ten intersections would operate at LOS D or above.

With the addition of station access traffic, a decrease in level of service would be expected at nine intersections. As a result, the number of intersections at LOS F would increase by five to 27. Station traffic impacts on critical volumes at these intersections were rated as major for eleven intersections, moderate for five intersections, and minor for nineteen intersections (see Table 3-9).

In addition to traffic impacts at stations due to access by park-and-ride and kiss-and-ride patrons, Alignment 5 would produce changes in traffic flow due to placement of guideway columns in the center of the street in the aerial sections of the alignment. Under Alignment 5, aerial guideway would be limited to the section of Wilshire Boulevard between Wilton Place and Fairfax Avenue. The traffic impacts of an aerial guideway on Wilshire Boulevard were discussed under Alignment 2.

If patronage on Alignment 5 is lower than SCRTD projections, the traffic impacts would be less than described above. Thus, some of the traffic control measures discussed later in this Chapter may not be necessary.

Operable Segment Impacts

Traffic impacts of the identified operable segments would not be significantly different from the full system, except at the temporary terminal stations. At these stations, increased kiss-and-ride and park-and-ride auto activity could occur as a result of the larger travel sheds that the stations would serve. Because they are temporary terminals, no additional facilities are planned to accommodate the increased auto access. This increased auto activity combined with the station serving as a major destination for feeder buses could result in increased volumes of traffic at critical intersections.

MOS-2 for Alignment 5 would have temporary terminal stations at Wilshire/Western and Sunset/Vine. Table 3-10 summarizes the results of the analysis of impacts of station access traffic on critical volumes and levels of

TABLE 3-9

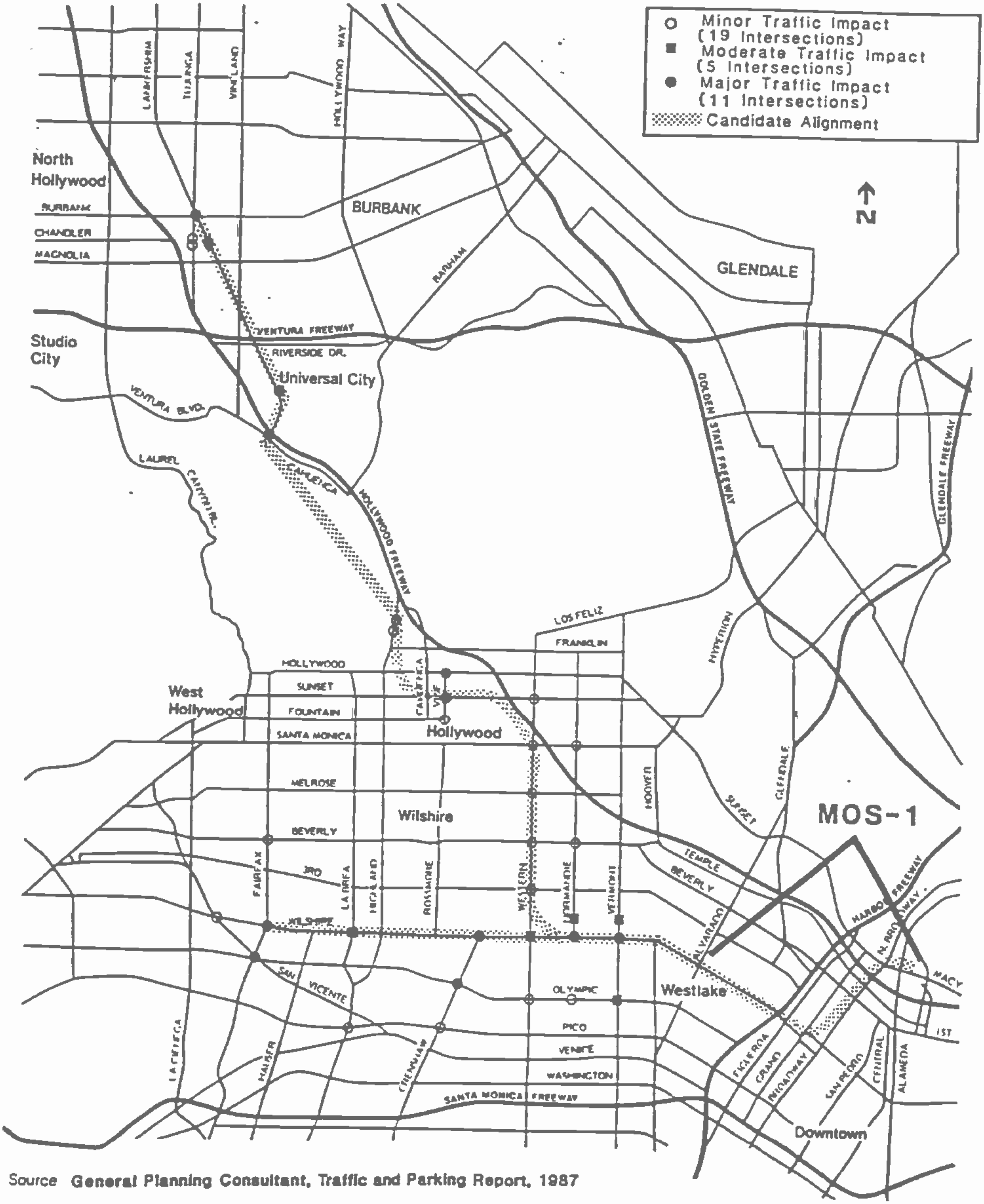
IMPACT OF YEAR 2000 STATION ACCESS TRAFFIC:
CANDIDATE ALIGNMENT 5
(YEAR 2000, WITHOUT MITIGATION MEASURES)

Intersection	NULL ALTERNATIVE Critical Volume (Vehicle Per Hour)	LOS	ALIGNMENT 5 Critical Volume (Vehicle Per Hour)	LOS	Absolute Change in Critical Volume	Expected Impact
Crenshaw @ Pico	2,532	F	2,532	F	0	Minor
Western @ Melrose	1,390	F	1,390	F	0	Minor
Western @ Third	1,909	F	1,910	F	1	Minor
Highland @ Odin (E)	1,488	D	1,494	D	6	Minor
Fountain @ Vine	1,705	F	1,712	F	7	Minor
Highland @ Odin (W)	1,264	C	1,272	C	8	Minor
Beverly @ Normandie	2,208	F	2,217	F	9	Minor
Santa Monica @ Normandie	1,342	D	1,353	E	11	Minor
Sunset @ Western	1,737	F	1,748	F	11	Minor
Chandler @ Tujunga (S)	476	A	491	A	15	Minor
Western @ Beverly	1,487	E	1,507	F	20	Minor
San Vicente @ Wilshire	2,222	F	2,247	F	25	Minor
Fairfax @ Beverly	1,558	F	1,586	F	28	Minor
La Brea @ Pico	1,698	F	1,727	F	29	Minor
Chandler @ Tujunga (N)	678	A	720	A	42	Minor
Lankershim @ Cahuenga	1,170	C	1,218	D	48	Minor
Santa Monica @ Western	1,588	F	1,643	F	55	Minor
Western @ Olympic	1,668	F	1,727	F	59	Minor
Normandie @ Olympic	1,484	E	1,553	F	69	Minor
Vermont @ Sixth	1,609	F	1,686	F	77	Moderate
Normandie @ Sixth	1,816	F	1,895	F	79	Moderate
Wilshire @ Western	1,809	F	1,895	F	86	Moderate
Lankershim @ Chandler	797	A	893	D	96	Moderate
Wilshire @ La Brea	1,496	F	1,596	F	100	Moderate
Vermont @ Olympic	1,616	F	1,746	F	130	Moderate
Wilshire @ Normandie	1,102	D	1,281	E	179	Major
Crenshaw @ Olympic	1,595	F	1,775	F	180	Major
Hollywood @ Vine	1,271	D	1,465	F	194	Major
Fairfax @ Olympic	1,799	F	2,040	F	241	Major
Wilshire @ Fairfax	1,687	F	1,945	F	258	Major
Vermont @ Wilshire	1,483	F	1,798	F	315	Major
Lankershim @ Ventura/ Cahuenga	1,320	E	1,655	F	335	Major
Wilshire @ Crenshaw	1,553	F	2,012	F	459	Major
Sunset @ Vine	1,634	F	2,095	F	461	Major
Lankershim @ Burbank/ Tujunga	1,168	D	1,786	F	618	Major

Source: General Planning Consultant

FIGURE 3-6

IMPACT OF STATION ACCESS TRAFFIC: CANDIDATE ALIGNMENT 5



Source: General Planning Consultant, Traffic and Parking Report, 1987

TABLE 3-10

IMPACT OF YEAR 2000 STATION ACCESS TRAFFIC: CANDIDATE ALIGNMENT
(YEAR 2000, WITHOUT MITIGATION MEASURES)

Intersection	NULL ALTERNATIVE Critical Volume (Vehicle Per Hour)	LOS	ALIGNMENT 5 Critical Volume (Vehicle Per Hour)	LOS	Absolute Change in Critical Volume	Expected Impact
MOS-2						
Wilshire/Western						
Western @ Third	1,909	F	1,953	F	49	Minor
Western @ Olympic	1,668	F	1,849	F	181	Major
Wilshire @ Crenshaw	1,553	F	1,814	F	261	Major
Wilshire @ Western	1,809	F	2,233	F	424	Major
Sunset/Vine						
Hollywood @ Cahuenga	1,712	F	1,721	F	9	Minor
Sunset @ Highland	1,678	F	1,690	F	12	Minor
Vine @ Fountain	1,705	F	1,739	F	34	Minor
Hollywood @ Vine	1,271	D	1,329	E	58	Minor
Cahuenga @ Sunset	1,179	C	1,406	F	227	Major
Sunset @ Vine	1,634	F	2,034	F	400	Major
MOS-2A						
Western/Santa Monica						
Western @ Melrose	1,390	F	1,399	F	9	Minor
Western @ Sunset	1,737	F	1,779	F	42	Minor
Santa Monica @ Vine	1,556	F	1,705	F	149	Moderate
Santa Monica @ Western	1,588	F	1,863	F	275	Major
Wilshire/Western						
Western @ Third	1,909	F	1,951	F	42	Minor
Western @ Olympic	1,668	F	1,842	F	174	Major
Wilshire @ Crenshaw	1,553	F	1,803	F	250	Major
Wilshire @ Western	1,809	F	2,214	F	405	Major

Source: General Planning Consultant

service at critical intersections in the vicinity of temporary stations. The degree of impact (i.e., minor, moderate, and major) is also identified. Traffic impacts for Wilshire/Western as a temporary terminal station were rated as major for three of the four intersections. All four of the intersections would be operating at LOS F. Although traffic at the critical intersections would increase, no change in level of service was identified. Nevertheless, with an increase in traffic, congestion would spill over into neighboring intersections causing a decline in the level of service in the station area.

With Sunset/Vine as a temporary terminal station, the increased auto traffic generated by the station likely would result in a major impact at two of the six intersections, and a minor impact at the remaining four intersections critical to station access. The increase in auto traffic would result in a decline in the level of service at two intersections such that five intersections would be operating at LOS F and the remaining intersection at LOS E with station access traffic.

An alternative operable segment MOS-2A for Alignment 5 would have temporary terminal stations at Wilshire/Western and Western/Santa Monica. Table 3-10 summarizes the results for the alternative temporary terminal stations. Traffic impacts for Wilshire/Western as an alternative temporary terminal station would be the same as for MOS-2.

With Western/Santa Monica as an alternative temporary terminal station, the increased auto traffic generated by the station would likely result in a major impact at one of the four intersections critical to station access, a moderate impact at one intersection, and a minor impact at the other two intersections. Although traffic at the critical intersections would increase, no change in level of service at any of the four intersections is expected.

3.1.4 Mitigation of Traffic Impacts

The analysis of traffic impacts of the candidate alignments and operable segments indicates that certain traffic mitigation measures will be needed in the vicinity of Metro Rail stations, particularly those with park-and-ride facilities or those expected to be major points of access for park-and-ride and kiss-and-ride patrons. Measures that may be used to mitigate expected impacts on critical intersections include:

- Increasing intersection approach capacities through establishment of parking restrictions.
- Restriping intersection approaches to provide additional through traffic and/or turn lanes.
- Instituting left-turn restrictions/prohibitions.
- Adding or revising traffic signal phases to accommodate projected traffic movements.
- Widening intersection approaches to provide for additional through-traffic and/or left turns.
- Providing reversible lanes, if peak period traffic is highly directional.
- Constructing bus turnout lanes and loading/unloading areas.

Factors to be considered in the selection of appropriate mitigation measures include costs, public acceptance, effectiveness, and responsibility for funding and/or enforcement. SCRTD will be responsible for mitigation measures primarily within the immediate vicinity of stations or along aerial segments, and these will be implemented as part of Metro Rail construction. Other measures not applicable in the immediate vicinity of aerial segments or stations would probably not qualify for project funding. These measures could be implemented by the Los Angeles City Capital Improvement Program and the Proposition A Program. Due to limitations on available funds, the Capital Improvement Program presently is limited to such projects as resurfacing and maintenance of roadway. Implementation of such measures would be subject to availability of adequate City capital improvement and Proposition A funds. Mitigation measures and responsibility will be the subject of an agreement between LADOT and SCRTD. Additionally, final roadway design related to the project will be developed in consultation with the LADOT.

For the Universal City Station, specific solutions have already been identified as the result of an extensive evaluation of traffic demands to be associated with Metro Rail. The FEIS contains a plan to integrate station access requirements through construction of a two-lane facility bridging the Hollywood Freeway and connecting surface parking to the station. Facilities provided by the original FEIS site plan include:

1. Two-lane station service road.
2. Two-lane freeway overpass.
3. Two-lane station area road.
4. Single-lane extension of Universal Place Road.
5. Parking for 950 vehicles.

Facilities to be provided by the adopted plan include the following items not covered by the original plan:

1. Removal of the existing Riverton Avenue off-ramp.
2. Six-lane (in lieu of two-lane) station access road.
3. Six-lane (in lieu of two-lane) freeway overpass.
4. Six-lane (in lieu of two-lane) station area road.
5. Two-lane Frontage Road along Bluffside Drive.
6. Two new freeway on-ramps.
7. Widening of certain streets and intersections.
8. Parking structure which will bring the total parking spaces to 1,410.

Table 3-11 lists those intersections requiring the implementation of some form of mitigation for each candidate alignment based on the impact analysis presented in Section 3.1.3 above. The specific measure to be applied at each intersection will be identified during final design of the Metro Rail Project.

TABLE 3-11

INTERSECTIONS REQUIRING MITIGATION MEASURES

Intersections	Candidate Alignment 1	2	3	4	5
Fairfax/Olympic		X		X	X
Crenshaw/Olympic		X	X	X	X
Western/Olympic			X		
Crenshaw/Pico			X		
Wilshire/Western			X		
Pico/San Vicente			X		
Vermont/Wilshire	X	X	X	X	X
Pico/La Brea			X		
Lankershim/Ventura	X	X	X	X	X
La Brea/Venice			X		
Lankershim/Burbank	X	X	X	X	X
Wilshire/Fairfax		X		X	X
Wilshire/Crenshaw		X		X	X
Wilshire/Normandie					X
Sunset/Vine	X	X	X	X	X
Hollywood/Vine					X

Source: General Planning Consultant

Additional measures may be needed to mitigate the impacts of the aerial alignments. These measures include:

- Off-setting the guideway support columns at signalized intersections. The columns as planned would be located centerline on a twelve-foot wide traffic island.

- Construction of the island in the center of the street will require the removal of the center left-turn lane where existing, or the parking lane on each side of the street in sections where the street right-of-way is less than 100 feet. At signalized intersections, the sidewalks on each side of the street will have to be reduced in order to provide for left-turn lanes. With the columns offset at the left-turn lanes, additional space would be available for the left-turn lanes. This would reduce the amount of sidewalk width that would have to be taken.

- Reducing lateral clearance between the guideway support columns at intersections. With the columns offset at intersections, the clearance between the columns and left-turn lane could be reduced because operating speeds will be lower for vehicles in the left-turn lanes than in the through-movement lanes. This reduction in clearance will further reduce the need to widen the street.

3.2 PARKING

Parking demand in the CBD would be expected to decrease by the number of automobile trips diverted to transit. At stations where the demand for park-and-ride spaces is greater than the number of spaces provided, the potential for negative impacts would exist. Therefore, parking is relevant to the Metro Rail Project in two ways:

- The rail project could reduce the need for parking facilities in the Los Angeles CBD and other regional centers.

- Rail patrons driving to and parking at a station will demand increased parking in the immediate vicinity of a station.

To measure current conditions, a comprehensive survey of parking spaces, usage, and costs was undertaken in August 1986. This study updated the original parking survey conducted in 1981 and referenced in the FEIS. The survey covered an area within a one-quarter mile radius of each station. The same study areas were defined for stations in the previous 1981 parking survey. Information about the number of parking spaces, parking restrictions, and the cost for one hour of curbside parking was gathered. For off-street facilities, all parking was classified as commercial, patron, or other parking, and the cost to park for one hour and all day was noted. Based on these data and anticipated development plans, future conditions at each station area were projected for the project options.

3.2.1 Existing Parking Conditions

A summary of existing parking supply in each station area by type of parking is presented in Table 3-12. Information on parking usage and percent of usage by station area is presented in Table 3-13.

There are a total of 55,560 spaces in the CBD station areas. Average usage in these areas exceeds eighty percent of supply. In the original parking study conducted in 1981 and discussed on page 3-27 of the FEIS, 1983, the same areas had a total of 50,869 spaces. Thus, there was an eight percent increase in parking spaces in the past five years (less than 2% per year). Usage has increased proportionately.

Station areas along Wilshire Boulevard have more parking spaces and higher usage levels than other station areas along the candidate alignments outside the CBD. Approximately seventy percent of the parking supply in the Wilshire/Vermont, Wilshire/La Brea, and Wilshire/Fairfax station areas is used. The Olympic/Crenshaw and Pico/San Vicente station areas have considerably less parking spaces and lower levels of usage. Usage in these two station areas is less than forty percent of supply.

Station areas along Vermont and Western Avenues have a limited number of parking spaces, similar to Olympic/Crenshaw and Pico/San Vicente. However, usage along these major avenues ranges from 45 percent at Western/Beverly to 62 percent at

Vermont/Santa Monica. The Vermont/Sunset and Sunset/Edgemont station areas have a greater supply of parking, but usage is very high (82% at Vermont/Sunset and 75% at Sunset/Edgemont). High usage is due to the concentration of surrounding schools, hospitals and businesses.

Station areas in the Hollywood area (Hollywood/Vine, Sunset/Vine, and Hollywood/Highland) each have approximately a third more parking spaces than are used daily. Many of these parking facilities are tied to the theaters and tourist activities in the area, and usage fluctuates greatly with the type of business, time of day, and time of year. A prime example is the Hollywood Bowl Station area which has a large number of off-street parking spaces, primarily reserved for Bowl guests.

Parking usage at the Universal City and North Hollywood station is 75 percent and 52 percent, respectively. Parking supply has decreased by eighteen percent (less than 4% per year) since the 1981 parking study. Parking usage has increased by less than three percent over this same time period.

TABLE 3-12

EXISTING PARKING SUPPLY BY STATION AREA

STATION	ON-STREET PARKING 1 HOUR	2 HOUR	ALL DAY	TOTAL	OFF-STREET PARKING PUBLIC COMM.	PATRON & PRVT.	TOTAL	TOTAL PARKING
UNION STATION	160	17	256	433	1,931	2,617	4,548	4,981
CIVIC CENTER	179	95	0	274	6,018	6,451	12,469	12,743
FIFTH/HILL	17	0	0	17	11,713	1,621	13,334	13,351
SEVENTH/FLOWER	249	40	0	289	20,929	3,904	24,833	25,122
WILSHIRE/ALVARDO	659	406	658	1,723	1,493	2,649	4,142	5,865
WILSHIRE/VERMONT	615	332	676	1,623	6,342	7,658	14,000	15,623
WILSHIRE/NORMANDIE	253	609	283	1,145	8,714	1,397	10,111	11,256
WILSHIRE/WESTERN	531	419	839	1,789	4,347	4,051	8,398	10,187
WILSHIRE/CRENSHAW	52	257	828	1,137	683	2,358	3,041	4,178
WILSHIRE/LA BREA	171	493	1,065	1,729	1,543	2,189	3,732	5,461
WILSHIRE/FAIRFAX	138	435	394	967	8,088	2,723	10,811	11,778
OLYMPIC/CRENSHAW	180	60	1,595	1,835	0	659	659	2,494
PICO/SAN VINCETE	83	66	2,056	2,205	0	1,932	1,932	4,137
VERMONT/BEVERLY	127	176	1,302	1,605	381	993	1,374	2,979
VERMONT/SANTA MONICA	201	269	1,681	2,151	21	1,789	1,810	3,961
VERMONT/SUNSET	223	279	780	1,282	0	8,697	8,697	9,979
WESTERN/BEVERLY	339	37	2,310	2,686	0	852	852	3,538
WESTERN/SANTA MONICA	353	53	2,020	2,426	399	982	1,381	3,807
SUNSET/EDGEMONT	191	208	1,154	1,553	0	6,001	6,001	7,554
SUNSET/WESTERN	304	0	1,326	1,630	35	1,592	1,627	3,257
SUNSET/VINE	822	25	545	1,392	3,841	4,003	7,844	9,236
HOLLYWOOD/WESTERN	374	0	1,449	1,823	35	1,565	1,600	3,423
HOLLYWOOD/VINE	975	253	290	1,518	5,359	2,552	7,911	9,429
HOLLYWOOD/HIGHLAND	478	43	442	963	2,715	3,295	6,010	6,973
HOLLYWOOD BOWL	0	0	244	244	0	2,115	2,115	2,359
UNIVERSAL CITY	8	113	516	637	0	4,287	4,287	4,924
NORTH HOLLYWOOD	379	403	813	1,595	359	799	1,158	2,753
TOTAL	8,061	5,088	23,522	36,671	84,946	79,731	164,677	201,348

SOURCE: SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

TABLE 3-13

1986 EXISTING PARKING SUPPLY AND USAGE BY STATION AREA

STATION	PARKING SUPPLY	PARKING USAGE TOTAL	PARKING USAGE PERCENT
UNION STATION	4,981	4,259	0%
CIVIC CENTER	12,743	10,562	0%
FIFTH/HILL	13,351	11,785	0%
SEVENTH/FLOWER	25,122	18,239	0%
WILSHIRE/ALVARDO	5,865	3,583	0%
WILSHIRE/VERMONT	15,623	11,297	0%
WILSHIRE/NORMANDIE	11,256	7,014	0%
WILSHIRE/WESTERN	10,187	6,066	0%
WILSHIRE/CRENSHAW	4,178	2,307	0%
WILSHIRE/LA BREA	5,461	3,782	0%
WILSHIRE/FAIRFAX	11,778	8,400	0%
OLYMPIC/CRENSHAW	2,494	907	0%
PICO/SAN VICENTE	4,137	1,351	0%
VERMONT/BEVERLY	2,979	1,481	0%
VERMONT/SANTA MONICA	3,961	2,442	0%
VERMONT/SUNSET	9,979	8,199	0%
WESTERN/BEVERLY	3,538	1,580	0%
WESTERN/SANTA MONICA	3,807	1,921	0%
SUNSET/EDGEMONT	7,554	5,666	0%
SUNSET/WESTERN	3,257	1,824	0%
SUNSET/VINE	9,236	6,235	0%
HOLLYWOOD/WESTERN	3,423	1,931	0%
HOLLYWOOD/VINE	9,429	6,161	0%
HOLLYWOOD/HIGHLAND	6,973	4,574	0%
HOLLYWOOD BOWL	2,359	164	0%
UNIVERSAL CITY	4,924	3,709	0%
NORTH HOLLYWOOD	2,753	1,435	0%
TOTAL	201,348	0	0%

SOURCE: SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

3.2.2 Future Parking Conditions

A discussion of the potential of parking impacts associated with the Null Alternative and the five candidate alignments follows. A summary of the analysis results is presented in Table 3-14.

3.2.2.1 Null Alternative

The demand for parking in the CBD will continue to increase as new development occurs. However, parking supply will grow concurrently with demand as new development is expected to conform to parking requirements contained in zoning laws. The parking supply is expected to increase in almost all station areas examined between the years 1986 and 2000. Table 3-15 shows a breakdown of expected development type and spaces added based on minimum parking requirements under the zoning ordinance. The areas around Union Station, Olympic/Crenshaw, Pico/San Vicente and Hollywood Bowl Stations are expected to show almost no increase in supply. The station areas expected to have the greatest increase in parking supply, due to new development, include Civic Center, Fifth/Hill, Seventh/Flower, Wilshire/Normandie, Wilshire/Western, Wilshire/Fairfax, Hollywood/Highland, Universal City, and North Hollywood. The expected increase in parking supply between 1986 and 2000 at each of these nine station areas exceeds twenty percent. The overall increase in the total parking supply in all station areas is estimated at 28 percent. However, the median (50% above and 50% below) increase in parking supply in the station areas is expected to be only seven percent.

TABLE 3-14

TOTAL PARKING SUPPLY AND USAGE BY STATION AREA

PARKING SUPPLY

TATION	1986 EXISTING	2000 BASE	PERCENT CHANGE 1986-2000	STATION P/R PARKING	2000 TOTAL PARKING
NION STATION	4,981	4,997	0.32%	2,500	7,497
IVIC CENTER	12,743	16,330	28.15%	0	16,330
IFTH/HILL	13,351	27,908	109.03%	0	27,908
EVENTH/FLOWER	25,122	36,182	44.03%	0	36,182
ILSHIRE/ALVARADO	5,865	6,183	5.42%	0	6,183
ILSHIRE/VERMONT	15,623	17,357	11.10%	0	17,357
ILSHIRE/NORMANDIE	11,256	14,808	31.56%	0	14,808
ILSHIRE/WESTERN	10,187	14,139	38.79%	0	14,139
ILSHIRE/CRENSHAW	4,178	4,966	18.86%	0	4,966
ILSHIRE/LA BREA	5,461	5,863	7.36%	0	5,863
ILSHIRE/FAIRFAX	11,778	15,474	31.38%	1,000	16,474
LYMPIC/CRENSHAW	2,494	2,514	0.80%	0	2,514
ICO/SAN VICENTE	4,137	4,159	0.53%	1,000	5,159
ERMONT/BEVERLY	2,979	3,323	11.56%	0	3,323
ERMONT/SANTA MONICA	3,961	4,021	1.51%	0	4,021
ERMONT/SUNSET	9,979	10,329	3.51%	0	10,329
ESTERN/BEVERLY	3,538	3,576	1.07%	0	3,576
ESTERN/SANTA MONICA	3,807	3,861	1.42%	0	3,861
UNSET/EDGEMONT	7,554	8,022	6.20%	0	8,022
UNSET/WESTERN	3,257	3,313	1.72%	0	3,313
UNSET/VINE	9,236	10,344	12.00%	0	10,344
OLLYWOOD/WESTERN	3,423	3,477	1.58%	0	3,477
OLLYWOOD/VINE	9,429	10,543	11.81%	0	10,543
OLLYWOOD/HIGHLAND	6,973	8,397	20.42%	0	8,397
OLLYWOOD BOWL	2,359	2,371	0.51%	0	2,371
NIVERSAL CITY	4,924	10,540	114.05%	2,500	13,040
ORTH HOLLYWOOD	2,753	4,687	70.25%	2,500	7,187
TOTAL	201,348	257,684	27.98%	9,500	267,184

PARKING USAGE

TATION	1986 EXISTING TOTAL	1986 EXISTING %	2000 BASE TOTAL	2000 BASE %	PERCENT CHANGE 1986-2000	CA1 TOTAL	CA1 %	CA2 TOTAL	CA2 %	CA3 TOTAL	CA3 %	CA4 TOTAL	CA4 %	CA5 TOTAL	CA5 %
NION STATION	4,259	86%	4,273	86%	0.34%	8,353	111%	7,945	106%	7,906	105%	7,891	105%	7,929	106%
IVIC CENTER	10,582	83%	13,811	85%	30.51%	13,811	85%	13,811	85%	13,811	85%	13,811	85%	13,811	85%
IFTH/HILL	11,785	88%	24,886	89%	111.17%	24,886	89%	24,886	89%	24,886	89%	24,886	89%	24,886	89%
EVENTH/FLOWER	18,299	73%	28,253	78%	54.40%	28,253	78%	28,253	78%	28,253	78%	28,253	78%	28,253	78%
ILSHIRE/ALVARADO	3,583	61%	3,869	63%	7.99%	10,830	175%	10,122	164%	10,084	163%	9,732	157%	10,506	170%
ILSHIRE/VERMONT	11,297	72%	12,858	74%	13.81%	16,255	94%	15,891	92%	16,008	92%	15,743	91%	16,378	94%
ILSHIRE/NORMANDIE	7,014	62%	10,211	69%	45.58%	12,121	82%	11,928	81%	11,900	80%	11,758	79%	12,067	81%
ILSHIRE/WESTERN	6,066	60%	9,623	68%	58.64%	13,120	93%	11,525	82%	11,383	81%	11,320	80%	10,900	77%
ILSHIRE/CRENSHAW	2,307	55%	3,016	61%	30.74%	--	--	5,258	106%	9,623	68%	5,400	109%	4,880	98%
ILSHIRE/LA BREA	3,782	69%	4,144	71%	9.57%	--	--	5,085	87%	--	--	5,357	91%	4,945	84%
ILSHIRE/FAIRFAX	8,400	71%	11,726	76%	39.60%	--	--	14,028	85%	--	--	14,202	86%	14,033	85%
LYMPIC/CRENSHAW	907	36%	925	37%	1.98%	--	--	--	--	--	--	--	--	--	--
ICO/SAN VICENTE	1,351	33%	1,371	33%	1.47%	--	--	--	--	3,983	77%	--	--	--	--
ERMONT/BEVERLY	1,481	50%	1,791	54%	20.93%	2,236	67%	2,192	66%	2,211	67%	2,342	70%	--	--
ERMONT/SANTA MONICA	2,442	62%	2,496	62%	2.21%	2,758	69%	2,731	68%	2,755	69%	2,776	69%	--	--
ERMONT/SUNSET	8,199	82%	8,514	82%	3.84%	9,146	89%	9,081	88%	9,057	88%	--	--	--	--
ESTERN/BEVERLY	1,580	45%	1,614	45%	2.16%	--	--	--	--	--	--	--	--	1,943	54%
ESTERN/SANTA MONICA	1,921	50%	1,970	51%	2.53%	--	--	--	--	--	--	--	--	3,157	82%
UNSET/EDGEMONT	5,666	75%	6,087	76%	7.43%	--	--	--	--	--	--	6,533	81%	--	--
UNSET/WESTERN	1,824	56%	1,874	57%	2.76%	--	--	--	--	--	--	2,575	78%	--	--
UNSET/VINE	6,235	68%	7,232	70%	15.99%	--	--	--	--	--	--	7,706	74%	8,362	81%
OLLYWOOD/WESTERN	1,931	56%	1,980	57%	2.52%	2,483	71%	2,436	70%	2,488	72%	--	--	--	--
OLLYWOOD/VINE	6,161	65%	7,164	68%	16.27%	9,001	85%	8,203	78%	7,964	76%	--	--	--	--
OLLYWOOD/HIGHLAND	4,574	66%	5,055	70%	28.01%	--	--	--	--	7,357	88%	6,457	77%	--	--
OLLYWOOD BOWL	164	7%	175	7%	6.59%	863	36%	808	34%	--	--	740	31%	974	41%
NIVERSAL CITY	3,709	75%	8,763	83%	136.27%	10,833	83%	10,672	82%	10,709	82%	10,349	79%	10,690	82%
ORTH HOLLYWOOD	1,435	52%	3,176	68%	121.30%	5,004	70%	4,851	67%	4,810	67%	4,838	67%	4,857	68%
TOTAL	136,954	68%	187,656	73%	37.02%	169,952	87%	189,706	85%	185,186	88%	192,667	85%	178,571	86%

OURCE: SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
GENERAL PLANNING CONSULTANT

TABLE 3-15

YEAR 2000 BASE PARKING SUPPLY BY STATION AREA

STATION	TOTAL EXISTING PARKING	PROJECTED NUMBER OF PARKING SPACES FOR NEW DEVELOPMENT												TOTAL ADDED SPACES	YEAR 2000 BASE
		MAJOR OFFICE	SPACES	COMMUNITY OFFICE	SPACES	EMPLOYEE RETAIL	SPACES	REGIONAL RETAIL	SPACES	COMMUNITY RETAIL	SPACES	HOTEL	SPACES		
UNION STATION	4,981	0	0	0	0	0	0	0	0	8	16	0	0	16	4,997
CIVIC CENTER	12,743	1,600	3,200	0	0	80	160	50	100	7	14	180	113	3,587	16,330
FIFTH/HILL	13,351	6,690	13,380	0	0	335	670	50	100	8	16	620	391	14,557	27,908
SEVENTH/FLOWER	25,122	4,755	9,510	0	0	237	474	400	800	12	24	400	252	11,060	36,182
WILSHIRE/ALVARADO	5,865	150	300	0	0	0	0	0	0	9	18	0	0	318	6,183
WILSHIRE/VERMONT	15,623	750	1,500	0	0	38	76	50	100	29	58	0	0	1,734	17,357
WILSHIRE/NORMANDIE	11,256	1,620	3,240	0	0	80	160	50	100	26	52	0	0	3,552	14,808
WILSHIRE/WESTERN	10,187	1,850	3,700	0	0	90	180	0	0	36	72	0	0	3,952	14,139
WILSHIRE/CRENSHAW	4,178	0	0	380	760	0	0	0	0	14	28	0	0	788	4,966
WILSHIRE/LA BREA	5,461	0	0	180	360	9	18	0	0	12	24	0	0	402	5,863
WILSHIRE/FAIRFAX	11,778	1,750	3,500	0	0	88	176	0	0	10	20	0	0	3,696	15,474
OLYMPIC/CRENSHAW	2,494	0	0	0	0	0	0	0	0	10	20	0	0	20	2,514
PICO/SAN VINCETE	4,137	0	0	0	0	0	0	0	0	11	22	0	0	22	4,159
VERMONT/BEVERLY	2,979	0	0	2	4	0	0	0	0	19	38	480	302	344	3,323
VERMONT/SANTA MONICA	3,961	0	0	20	40	0	0	0	0	10	20	0	0	60	4,021
VERMONT/SUNSET	9,979	120	240	40	80	6	12	0	0	9	18	0	0	350	10,329
WESTERN/BEVERLY	3,538	0	0	0	0	0	0	0	0	19	38	0	0	38	3,576
WESTERN/SANTA MONICA	3,807	0	0	20	40	0	0	0	0	7	14	0	0	54	3,861
SUNSET/EDGEMONT	7,554	180	360	40	80	9	18	0	0	5	10	0	0	468	8,022
SUNSET/WESTERN	3,257	0	0	20	40	0	0	0	0	8	16	0	0	56	3,313
SUNSET/VINE	9,236	380	760	40	80	20	40	100	200	14	28	0	0	1,108	10,344
HOLLYWOOD/WESTERN	3,423	0	0	20	40	0	0	0	0	7	14	0	0	54	3,477
HOLLYWOOD/VINE	9,429	380	760	40	80	20	40	100	200	17	34	0	0	1,114	10,543
HOLLYWOOD/HIGHLAND	6,973	500	1,000	20	40	25	50	50	100	16	32	320	202	1,424	8,397
HOLLYWOOD BOWL	2,359	0	0	0	0	0	0	0	0	6	12	0	0	12	2,371
UNIVERSAL CITY	4,924	2,500	5,000	0	0	125	250	50	100	7	14	400	252	5,616	10,540
NORTH HOLLYWOOD	2,753	920	1,840	0	0	46	92	0	0	1	2	0	0	1,934	4,687
TOTAL	201,348	24,145	48,290	822	1,644	1,208	2,416	900	1,800	337	674	2,400	1,512	56,336	257,684

SOURCE: SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
GENERAL PLANNING CONSULTANTS

Parking demand is projected to increase even more than supply by the year 2000: 37 percent overall, with a median increase of 25 percent. Overall, the Null Alternative would have a negligible effect on parking demand near downtown stations and little or no effect on parking outside the CBD and Westlake Areas. Metro Rail related automobile trips generated by the very limited "commuter shed" of the Wilshire/Alvarado Station (Westlake area) would result in the use of a small portion of an existing parking surplus, which is expected to continue after MOS-1 becomes fully operational.

The EA identified a potential for spillover parking to areas that surround Union Station. This potential was not considered serious, because the surrounding land area was dedicated to commercial and industrial land uses. A total of 2,500 park-and-ride spaces ultimately would be provided at Union Station. The combined rail and non-rail demand for parking at Union Station for MOS-1 was estimated to be 4,599 (if there were unlimited parking capacity). The 1986 parking survey indicates that non-rail demand was underestimated during preparation of the EA. The new estimated non-rail demand at Union Station yields a combined demand of 5,789 vehicles at peak accumulation. Available parking spaces projected to be available in the area of Union Station in the year 2000 is 6,747, assuming 90 percent effective utilization. Therefore, a surplus of almost 1,000 spaces would be expected (Table 3-15).

The Wilshire/Alvarado Station would have no provision for the automobiles of park-and-ride patrons, because this station would not serve the main park-and-ride commuter sheds of the San Fernando Valley, Hollywood, and the West Los Angeles areas of Century City, Beverly Hills, Westwood, and Culver City. Furthermore, a surplus in excess of 2,000 commercial spaces is projected to be available in this station area in the year 2000. Any latent park-and-ride demand from a very limited commuter shed is estimated to be a small percentage of the parking surplus which exists and is projected to continue.

Twenty-six kiss-and-ride spaces would be provided at the Wilshire/Alvarado station. There are 3,670 kiss-and-ride patrons expected to arrive at and leave this station daily. During the afternoon peak hour, 865 patrons would exit the station to be picked up. Assuming that each driver would wait an average of three minutes to pick up their passengers, the 26 kiss-and-ride spaces would handle 520 of the passengers leaving the station during the peak hour. The remaining 345 automobiles in the peak hour would add to the traffic stream around the station block, but would not be expected to change the Level of Service E projected for the Wilshire/Alvarado intersection. There is additional project land east of Westlake that could be converted to kiss-and-ride spaces, if operating experience shows the need. The most recent inventory by the City of Los Angeles Department of Transportation indicates a parking supply in the vicinity of the Wilshire/Alvarado station of 5,865 spaces with usage of 3,583.

3.2.2.2 Candidate Alignments

Impacts on station area parking can result from the "spillover" of rail patron parking into the surrounding neighborhood. Spillover may result from a shortage of parking at the stations and/or elimination of existing on-street parking caused by the placement of Metro Rail facilities from subway to aerial within street rights-of-ways (e.g., aerial guideway support columns and transition portals). Parking impacts were identified for each station with auto access and streets directly affected by the siting of Metro Rail facilities. Parking impacts at temporary terminal stations associated with operable segments also were assessed. Parking impacts presented below represent a "worst case" scenario. The travel simulation model results used for this analysis did not include any constraints on park-and-ride access relative to available parking spaces. Also, estimated parking demand does not account for the effect of Metro Rail, i.e., converting former auto riders to transit users. Therefore, parking impacts identified here are greater than those that would occur. All values have been derived from a common base permitting comparison among project options.

Candidate Alignments

Projections of parking demand in the year 2000 include three components: (1) total parking demand in each station area; (2) Metro Rail patron parking demand; and, (3) demand generated by existing and future development. If the estimated parking supply is not expected to meet the projected demand, a parking deficiency is predicted. The potential for negative impacts then must be considered and mitigated, if possible. Estimates of parking deficiencies to be expected under each project option are presented in Table 3-16.

Parking deficiencies were identified at stations where usage is expected to exceed ninety percent of the practical capacity. Parking usage is expected to exceed capacity in five station areas under Alignment 4. Station areas with parking deficiencies under the other alignments total three under Alignment 3 and four each under Alignments 1, 2, and 5.

The greatest parking deficiencies would be expected to occur at Union Station and the Wilshire/Alvarado Station. Parking usage at Union Station is expected to result in a deficiency of 1,605 spaces under Alignment 1. Deficiencies under the other Alignments range from 1,144 spaces under Alignment 4 to 1,198 spaces under Alignment 2. The Wilshire/Alvarado Station is expected to have the greatest parking deficiency, with deficiencies ranging from 5,265 spaces under Alignment 1 to 4,167 spaces under Alignment 4.

Outside the CBD, station areas common to all candidate alignments are: Wilshire/Vermont, Wilshire Normandie, Wilshire/Western, Universal City, and North Hollywood. Of these stations, only Wilshire/Vermont is expected to have a parking deficiency under all alignments, with shortages ranging from 122 spaces under Alignments 4 to 757 spaces under Alignment 5.

The overall parking supply deficiency for each of the five candidate alignments ranges from 7,900 spaces under Alignment 1 to 6,064 spaces under Alignment 3. Alignment 5 would have a deficiency of 7,291 spaces. The supply deficiency for Alignments 2 and 4 would be similar at 6,813 and 6,443 spaces, respectively.

TABLE 3-16

EXPECTED PARKING DEFICIENCY BY STATION AREA (1)

STATION AREA	NULL ALT	CANDIDATE ALIGNMENT 1	2	3	4	5
UNION STATION	0	1,605	1,198	1,159	1,144	1,182
CIVIC CENTER	0	0	0	0	0	0
FIFTH/HILL	0	0	0	0	0	0
SEVENTH/FLOWER	0	0	0	0	0	0
WILSHIRE/ALVARDO	1,561	5,265	4,557	4,519	4,167	4,941
WILSHIRE/VERMONT	--	634	270	386	122	757
WILSHIRE/NORMANDIE	--	0	0	0	0	0
WILSHIRE/WESTERN	--	395	0	0	0	0
WILSHIRE/CRENSHAW	--	--	788	--	931	411
WILSHIRE/LA BREA	--	--	0	--	80	0
WILSHIRE/FAIRFAX	--	--	0	--	0	0
OLYMPIC/CRENSHAW	--	--	--	ERR	--	--
PICO/SAN VICENTE	--	--	--	0	--	--
VERMONT/BEVERLY	--	0	0	0	0	--
VERMONT/SANTA MONICA	--	0	0	0	0	--
VERMONT/SUNSET	--	0	0	0	--	--
WESTERN/BEVERLY	--	--	--	--	--	0
WESTERN/SANTA MONICA	--	--	--	--	--	0
SUNSET/EDGEMONT	--	--	--	--	0	--
SUNSET/WESTERN	--	--	--	--	0	--
SUNSET/VINE	--	--	--	--	0	0
HOLLYWOOD/WESTERN	--	0	0	0	--	--
HOLLYWOOD/VINE	--	0	0	0	--	--
HOLLYWOOD/HIGHLAND	--	--	--	0	0	--
HOLLYWOOD BOWL	--	0	0	--	0	0
UNIVERSAL CITY	--	0	0	0	0	0
NORTH HOLLYWOOD	--	0	0	0	0	0
TOTAL	1,561	7,900	6,813	ERR	6,443	7,291

(1) A parking deficiency is assumed when usage exceeds ninety percent of available or estimated supply.

SOURCE: SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
GENERAL PLANNING CONSULTANT

The potential for spillover parking impacts in each station area was estimated by evaluating (1) the availability of station parking facilities, (2) the estimated additional demand attributable to park-and-ride patrons, and (3) the estimated parking supply in year 2000. Table 3-16 identifies the number of parking spaces proposed for each station. Union Station, Universal City, and North Hollywood, which are stations common to each candidate alignment, ultimately would each have 2,500 spaces each. The Pico/San Vicente and Wilshire/Fairfax stations would have 1,000 park-and-ride spaces each. In addition to estimated demand, the number of parking spaces for these stations was determined by a policy to reflect maximum reliance on the bus system and other modes not requiring parking (e.g., taxi, kiss-and-ride) and to minimize costs.

Table 3-17 shows that station parking demand is expected to exceed the number of spaces provided at Union Station (all project options), the Wilshire/Fairfax Station (Alignments 2, 4, and 5) and the Pico/San Vicente Station (Alignment 3). All other stations would have sufficient capacity.

TABLE 3-17

RAIL ACCESS PARKING SUPPLY AND PEAK DEMAND FOR STATIONS WITH PROPOSED PARKING FACILITIES

Station	Number Of Park and Ride Spaces	Peak Demand by Candidate Alignment*					
		1	2	3	4	5	Null Alt.
Union Station	2,500	4,079	3,672	3,633	3,618	3,656	1,515
Wilshire/Fairfax	1,000	--	2,302	--	2,475	2,336	
Pico/San Vicente	1,000	--	--	2,612	--	--	--
Universal City	2,500	2,069	1,908	1,946	1,586	1,926	
North Hollywood	2,500	1,828	1,675	1,634	1,662	1,682	

* Peak demand was determined by dividing the projected number of daily Park-and-Ride patrons by the turnover rate per space. The turnover rate per space was derived from SCRTD modeling output which identifies parking accumulation by station and the number of spaces to be provided.

Source: SCRTD/General Planning Consultant.

These findings indicate the potential for spillover parking at Union Station, Wilshire/Fairfax Station, and Pico/San Vicente Station. The Wilshire/Fairfax area is 27 percent single-family and would need to absorb a demand for almost 1,500 additional spaces. Pico/San Vicente is multi-family in character and potentially would experience a similar spillover parking impact (about 1,600 spaces). The Union Station area is predominantly occupied by public facilities. The area would need to absorb an excess demand for more than 1,500 spaces under Candidate Alignment 1.

In addition to spillover parking impacts at stations with park-and-ride facilities, Alignments 2 and 3 would displace some on-street parking on Hollywood Boulevard. Specifically, the aerial portion of these alignments on Hollywood Boulevard would require the elimination of 66 on-street spaces between New Hampshire and just west of Western Avenue. This section of Hollywood Boulevard has a narrow street width, and parking on one side of the street must be eliminated to accommodate the aerial guideway while maintaining four lanes of traffic during peak hours. An additional 67 on-street spaces would be eliminated because of the portal location on Hollywood Boulevard between Bronson and Gower Avenues. All affected on-street spaces are available for all-day parking with no restriction during peak hours.

Operable Segments

Parking impacts of the operable segments identified for each candidate alignments would not be significantly different from the full system, except at temporary terminal stations. At these stations, increased kiss-and-ride and park-and-ride parking demand could occur because of the larger travel sheds the stations would serve. Because they are temporary terminals, no additional parking facilities are planned to accommodate the increased demand for parking. At the temporary terminal stations, where the demand for parking by kiss-and-ride and park-and-ride patrons is greater than the number of spaces projected to be available in the station area, a potential parking impact could result.

The potential for parking impacts at each temporary terminal station under the operable segments is based on the availability of station parking facilities and the estimated additional demand for parking by rail patrons compared to the estimated parking supply in the station area in year 2000. Table 3-18 identifies for each operable segment, the temporary terminal stations expected to have a parking deficiency and the magnitude of that deficiency. Parking deficiencies are identified at stations where demand is expected to exceed ninety percent of the supply.

Table 3-18 shows that the potential parking demand would exceed expected supply at the Wilshire/Western Station, when it serves as a temporary terminal. This station is common to nine of the alternate operable segments evaluated and would have the greatest potential parking deficiency. The greatest parking deficiency at the Wilshire/Western Station would occur in association with Candidate Alignment 5 (2,722 spaces for MOS-2 and 2,468 spaces for MOS-2A). Because MOS-2A would produce an additional parking deficiency of 1,022 spaces at the Western/Santa Monica Station, MOS-2 would have less overall impact with respect to parking.

The next largest parking deficiency would occur at the Wilshire/Vermont Station (MOS-2B for Alignment 4), with a deficiency of 1,456 spaces. It is clear from Table 3-18 that parking impacts would be greatest in areas where substantial, intensive development already exists. Thus, parking impacts for MOS-3A, Candidate Alignment 2, with temporary terminal stations at Wilshire/La Brea and North Hollywood, would be insignificant by comparison or absent. Likewise, parking impacts at the Vermont/Sunset, Hollywood/Vine, and Sunset/Vine Stations will be very small compared to those anticipated at the Wilshire/Western and Wilshire/Vermont Stations.

3.2.3 Mitigation of Parking Impacts

Mitigation measures will be needed to control spillover parking from the stations. The difference between the demand for parking spaces and the amount to be supplied does not represent the total number of spillover parkers. Some people would not ride Metro Rail due to the unavailability of readily accessible parking.

TABLE 3-18

TEMPORARY TERMINAL STATION PARKING DEFICIENCIES*

Operable Segment	Temporary Terminal Station	CANDIDATE ALIGNMENT 1	2	3	4	5
MOS-2	Wilshire/Western	1,728				
	Vermont/Sunset	72				
	Wilshire/Western	--	1,376	1,376	--	--
	Hollywood/Vine	--	0	0	--	--
	Wilshire/Western	--	--	--	1,688	2,722
	Sunset/Vine	--	--	--	0	0
MOS-2A	Wilshire/Western	1,688	--	--	--	--
	Vermont/Santa Monica	1,170	--	--	--	--
	Wilshire/Western	--	1,518	--	1,689	--
	Universal City	--	769	--	769	--
	Wilshire/Vermont	--	--	851	--	--
	Universal City	--	--	477	--	--
	Wilshire/Western	--	--	--	--	2,468
	Western/Santa Monica	--	--	--	--	1,022
MOS-2B	Wilshire/Vermont	1,343	1,343	--	1,456	--
	Universal City	115	120	--	767	--
MOS-3A	Wilshire/La Brea	--	124	--	--	--
	North Hollywood	--	0	--	--	--

* Parking deficiency assumed when usage exceeds ninety (90) percent of available or estimated supply.

Source: CORE Study Technical Report, Traffic and Parking.

Possible parking mitigation measures that require the participation of agencies and/or the private sector include:

1. Encouraging or requiring employer-sponsored rideshare or transit incentive programs to reduce potential parking usage.

2. Encouraging developers and employers to take advantage of the City of Los Angeles Parking Management Plan. Application of this plan can effectively reduce both the cost (by allowing off-site facilities) and the need for parking (by encouraging vanpools, ridesharing, and transit). Parking supply increases can be counterproductive to diverting auto trips to the Metro Rail system. Metro Rail itself is a principal parking mitigation measure, since it makes transit a more attractive alternative to the automobile.

3. Establishing preferential parking districts within residential neighborhoods adjacent to station areas. This ongoing program managed by LADOT requires local property owners to prepare petitions and obtain City Council approval. This program has been implemented in 26 districts in Los Angeles. Sixteen of the already established districts are on the densely developed westside in the Metro Rail Core area. It has not been established in the Los Angeles County, but it is under consideration by the West Hollywood Citizens Plan Advisory Committee for application in the Metro Rail station areas. Although parking districts will ensure that parking does not occur on a given street without a permit, parking supply is restricted and may promote increased cruising for available parking. Where parking districts are needed due to Metro Rail, the SCRTD will assist residents in preparing and circulating the necessary petitions.

4. Including more project-provided parking for the Metro Rail Project. This could be the tesponsibility of SCRTD, but current funding sources appear insufficient for this option.

5. Operating an extensive network of feeder bus lines serving the stations, thereby providing an alternative to the park-and-ride mode of station access. SCRTD will provide these bus services as specified in the discussion of transit improvements. Over sixty percent of Metro Rail riders are expected to access stations using feeder buses.

6. Providing more metered curb spaces in commercial areas, effectively reserving these spaces fot short-term use by customers of commetcial establishments. Implementation and enforcement would be the responsibility of the City of Los Angeles and of Los Angeles County in the unincorporated areas.

7. Providing bicycle parking at Metro Rail stations outside the CBD, but including Union Station.

8. Evaluating preferential parking for carpools and vanpools. If not immediately adopted upon opening of Metro Rail, this option should remain available should conditions warrant its adoption.

9. Providing off-street "pocket parking lots" along Hollywood Boulevard between Vermont Avenue and (Bronson Avenue) where parking lanes are removed. (Hollywood Freeway)

As a policy tool, increased parking fees in Downtown Los Angeles and the Wilshire Center would discourage some parking and help mitigate projected parking shortages. People who would otherwise drive to these areas would divert to other Metro Rail stations which have less costly and/or more parking or, in the Wilshire Corridor, would divert to feeder buses.