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San Fernando Valley East/West Rail Transit Project

Initial Alternatives Evaluation Report

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September 1987



Los Angeles County Transportation Commission
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SAN FERNANDO VALLEY
EAST/WEST RAIL TRANSIT PROJECT
INITIAL ALTERNATIVES EVALUATION REPORT

SEPTEMBER 1987

Prepared For
Los Angeles County Transportation Commission

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1.0 INTRODUCTION AND SUMMARY

1.1 Background

In February of 1987 the Los Angeles County Transportation Commission (LACTC) authorized preparation of an Environmental Impact Report (EIR) for a rail transit project connecting the West San Fernando Valley to the Metro Rail subway in either North Hollywood or Universal City. At the same time, the Commission selected five (5) alternative routes to be studied in the EIR in addition to the "no project" alternative. These five routes are indicated in Figure 1 and are listed below:

1. Southern Pacific Coast Mainline Route
2. Southern Pacific Burbank Branch Route
3. Victory Boulevard Route
4. Ventura Freeway Route
5. Los Angeles River Route

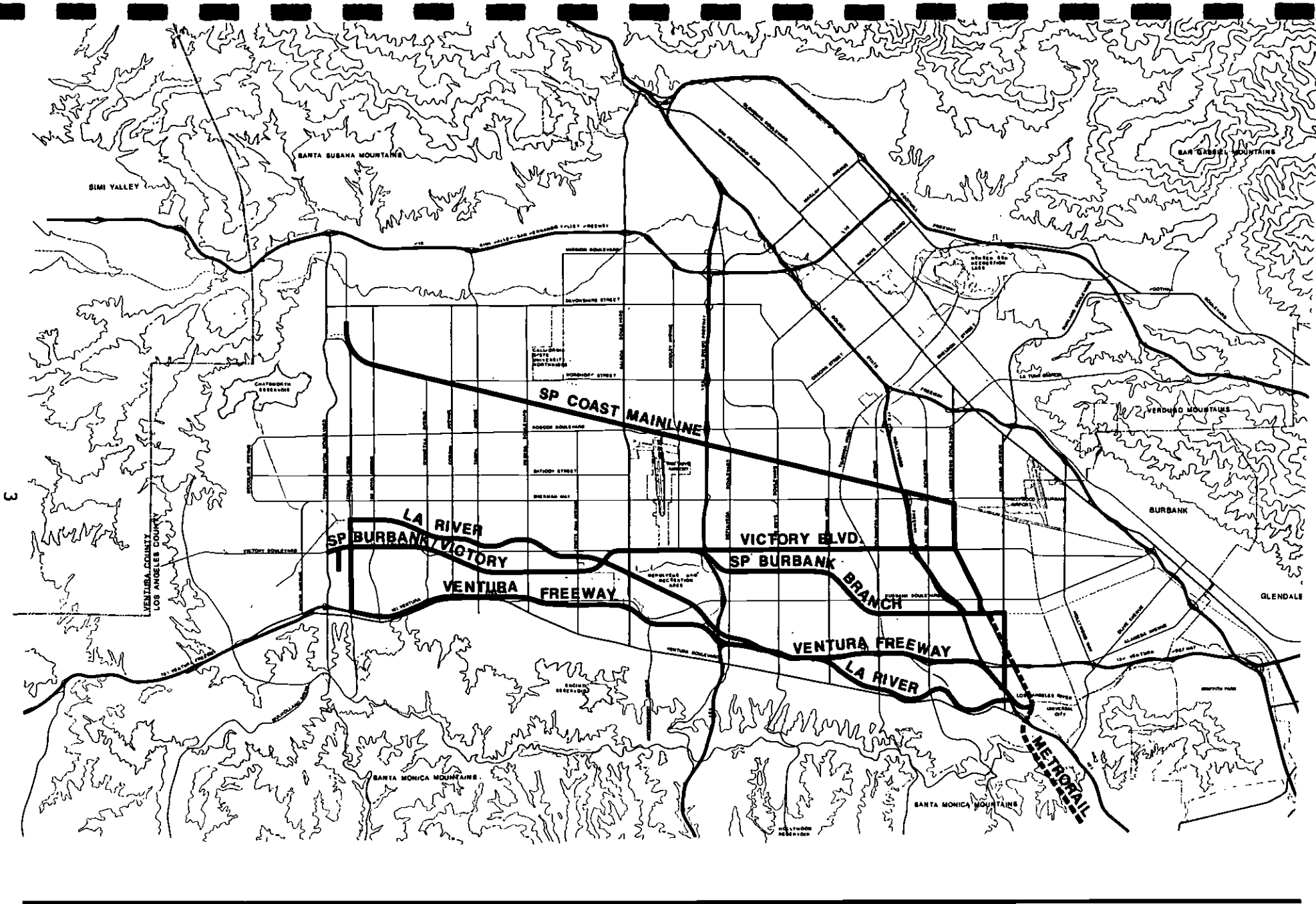
Two other routes: Sherman Way, and Ventura Boulevard, were rejected for further consideration in the EIR process by the Commission, as was an Oxnard Street variation to the SP Burbank Branch. This action by LACTC in February 1987 followed a three-year route refinement process ending in November 1986.

In addition to the five selected routes, the LACTC will conduct a feasibility assessment of a north/south connection between Chatsworth and Warner Center funded by the City of Los Angeles.

1.2 Purpose

In April 1987 a multi-disciplinary consulting team led by Gruen Associates was authorized to commence work on the Environmental Impact Report. The previous route refinement effort had resulted in the preparation of detailed conceptual plans for the SP Burbank Branch Route, thus the first task was to develop the four (4) additional route alternatives to the same level-of-detail. The primary purpose of this Initial Alternatives Evaluation Report is to present findings resulting from initial studies by the consultant team, including consideration of transit engineering, traffic engineering, station site planning, environmental and urban planning feasibility factors.

The results of this report, in conjunction with community input to be received in the second round of public meetings to be held in early October 1987, will be presented to the Commission. A Notice of Preparation (NOP) for an Environmental Impact Report will then be prepared and circulated, thus beginning the formal EIR process for the East/West San Fernando Valley Rail Transit Project.



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San Fernando Valley East/West Rail Transit Project

Figure 1
ROUTE ALTERNATIVES



1.3 Overview of Route Alternatives and Interim Findings

Southern Pacific Coast Mainline Alternative Route

This northernmost of the five route alternatives under consideration would entail construction of a dual track rail transit system within the Southern Pacific Coast Main Line existing right-of-way between Devonshire Street in Chatsworth to either the Hollywood Freeway or Lankershim Boulevard in North Hollywood. Alternative connectors to a North Hollywood Station at Chandler Boulevard and Lankershim would either be along the eastern edge of the Hollywood Freeway and then east on Chandler, or within the medians of Lankershim and Tujunga Avenues.

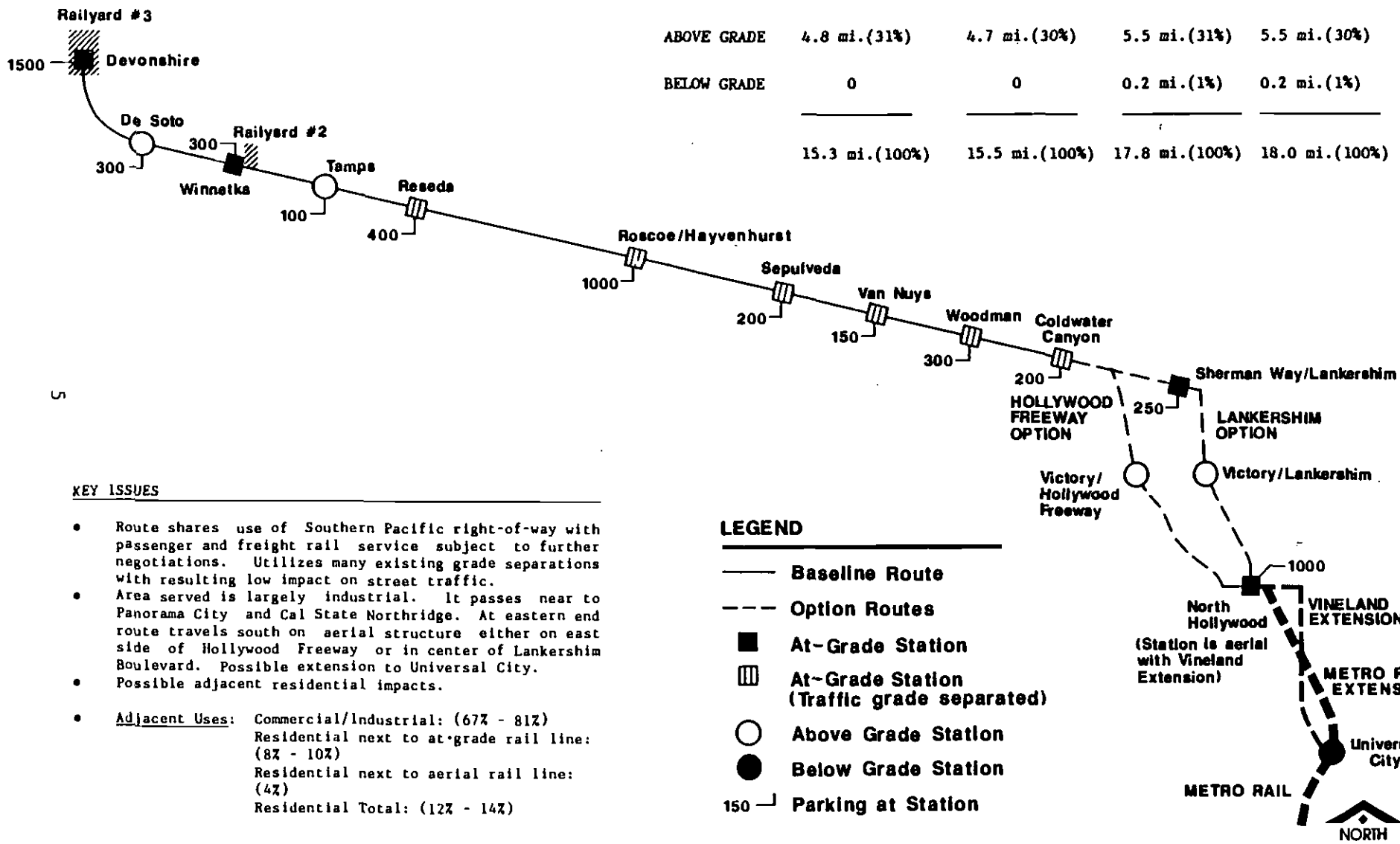
In addition, a Vineland Extension between the North Hollywood Station and the Universal City Metro Rail Station is under consideration as an option to a Metro Rail subway connection between Universal City and North Hollywood. This extension is via the SP right-of-way (within Chandler) to Vineland, south on Vineland to the Hollywood Freeway, and along the edge of the freeway to the Universal City Metro Rail Station.

This line would be predominantly at-grade along the SP Coast Main Line segment, with the exception of new flyovers (traffic grade-separations) which would probably be required at De Soto, Corbin/Nordhoff, Tampa, Balboa and Roscoe. Arterials already grade-separated from the railroad tracks will continue to be grade-separated with the new LACTC rail line. The Hollywood Freeway connector would be an aerial guideway to Chandler, as would the Lankershim/Tujunga connector. There would be a total of 13 or 14 stations on this route, depending on which connector option is selected, with total parking tentatively set at from 5,450-5,700 spaces. Two maintenance yard sites are currently under consideration for this route; the preferred site is located between Lassen and Devonshire and an alternative site is located east of Winnetka.

Figure 2 presents a schematic overview of the elements of this route alternative, as well as tabulations of route length by guideway vertical configuration (at-grade, aerial, below-grade). This route would be adjacent to residential areas for 12-14 percent of its length, and would be adjacent industrial/commercial areas for 67-81 percent of its length depending on the connector option.

Key issues raised during the preliminary engineering of this alignment that will be further addressed during the Environmental Review Process include the shared use of the Southern Pacific right-of-way by two different rail systems. The SP Coast Mainline is currently used for both high speed Amtrak passenger rail service and for freight rail service. Crossings of spur tracks and mainline tracks raise operational and safety issues. The ideal alignment would be on the south side of the mainline tracks; however, available maintenance yard and station sites require an alignment on the north. A possible alignment has been worked out that would locate the rail system on the north of the mainline tracks west of Balboa Boulevard with a grade-separated crossing over Balboa to the south side of the mainline track. This placement is subject to further negotiations with Southern Pacific.

Additionally, in the eastern portion of this route, optional alignments for this route will have traffic impacts on Lankershim Boulevard if that alignment is selected or parkland impacts should the Hollywood Freeway alternative be selected.



San Fernando Valley East/West Rail Transit Project

PRELIMINARY

Figure 2
SUMMARY OF ROUTE CHARACTERISTICS
SP Coast Mainline Alternative

Southern Pacific Burbank Branch Alternative Route

The SP Burbank Branch Route follows the existing railroad right-of-way almost exclusively between Warner Center and the North Hollywood Station, except for a short length along Victory Boulevard west of De Soto Avenue. As described previously, the Vineland Extension would also be considered as an optional North Hollywood to Universal City connection.

This line would be predominantly at-grade along the SP Burbank Branch. Traffic analysis has indicated, however, that grade-separations will probably be required at De Soto, Winnetka, Victory, Reseda, Balboa, Sepulveda, Van Nuys, and Woodman/Oxnard. All would be flyovers with the exception of Woodman/Oxnard, which could possibly be an underpass depending upon a more detailed investigation of underground utility constraints. Within Warner Center an aerial guideway would be employed, thus avoiding north-south traffic conflicts at Canoga and Owensmouth.

There would be a total of 15 stations for this alternative, of which eight would have park-and-ride facilities accommodating an initially assumed total of 4,845 vehicles. Within the Warner Center area two options exist for the end-of-line stations, one at either Oxnard/Owensmouth or at Topanga Canyon/Victory. The proposed maintenance yard to serve this route, and all others under consideration except the SP Coast Main Line, is located just east of Canoga Avenue between Vanowen and Sherman Way.

Figure 3 presents a schematic overview of this route alternative, as well as tabulations of route length by guideway configuration. This route would be adjacent to residential uses for between 42 and 45 percent of its total length, while adjacent to industrial and commercial uses for between 32 and 34 percent.

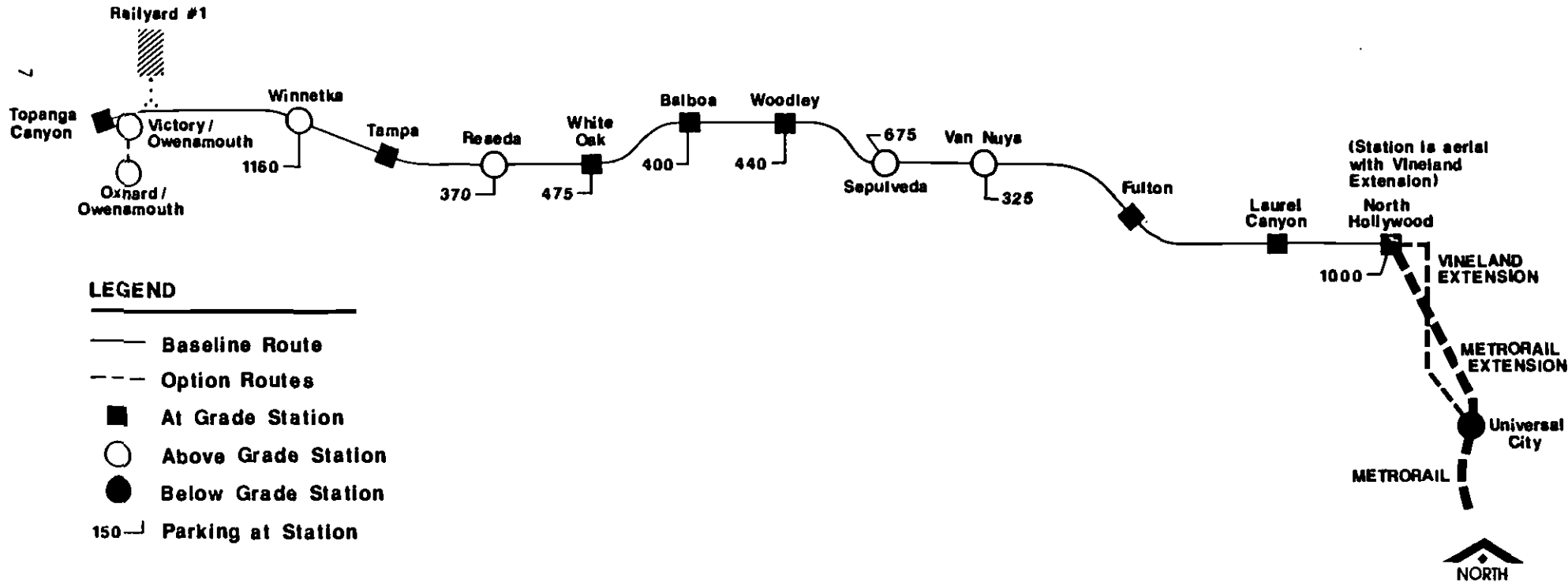
Key issues to be addressed along this route during the Environmental Review Process will include engineering and design improvements that can be made to the alignment to avoid or minimize environmental impacts. As already mentioned, the possibility of an underpass at Woodman/Oxnard is being investigated. Additionally, the route could be depressed with landscaped berms provided along the edges of the right-of-way along Chandler Boulevard, the "diagonal section", between Coldwater and Woodman, and Topham Street/Victory. This will reduce noise levels and obstruct the line-of-sight of passengers looking out of the train toward adjacent residences.

ROUTE DESCRIPTION Preliminary

	North Hollywood	Universal City
AT GRADE	10.7 mi. (77%)	12.3 mi. (76%)
ABOVE GRADE	3.2 mi. (23%)	3.9 mi. (24%)
BELOW GRADE	0	0.2 mi. (1%)
	13.9 mi. (100%)	16.4 mi. (100%)

KEY ISSUES

- Assumes acquisition of Southern Pacific right-of-way with abandonment of freight rail service on that line.
- Previous studies of this route have been modified to provide traffic grade separations at several locations to ease traffic impacts.
- Adjacent residential impacts.
- Buffering of adjacent residential impacts may be possible via partially depressed sections, underpasses and landscaped berms at edge of right-of-way.
- Serves Warner Center, LA Pierce College, Sepulveda Basin Recreation Center, Van Nuys, LA Valley College and North Hollywood. Possible extension to Universal City.
- Adjacent Uses: Residential next to at-grade rail line: (33% - 38%)
Residential next to aerial rail line: (7% - 9%)
Residential Total: (42% - 45%)
Commercial/Industrial: (32% - 34%)



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**Figure 3
SUMMARY OF ROUTE CHARACTERISTICS
SP Burbank Branch Alternative**

Victory Boulevard Alternative Route

The Victory Boulevard Route would be identical to the SP Burbank Branch Route west of the San Diego Freeway. East of the freeway, the alignment would follow Victory Boulevard to either the Hollywood Freeway or Lankershim Boulevard where it would proceed south to the North Hollywood Station.

The portion of this route along Victory Boulevard would be on aerial guideway in the median of the street, as would the Lankershim Boulevard connection to North Hollywood. The optional Hollywood Freeway connector would be an aerial guideway along the eastern edge of the freeway.

Figure 4 presents a schematic overview of this route alternative, including the western segment which is identical to the SP Burbank Branch Route previously described. Overall, the route would have 15 stations with an assumed total of 3,845 park-and-ride spaces. Predominant adjacent land uses along its length include 42-48 percent residential, 28-34 percent commercial/industrial.

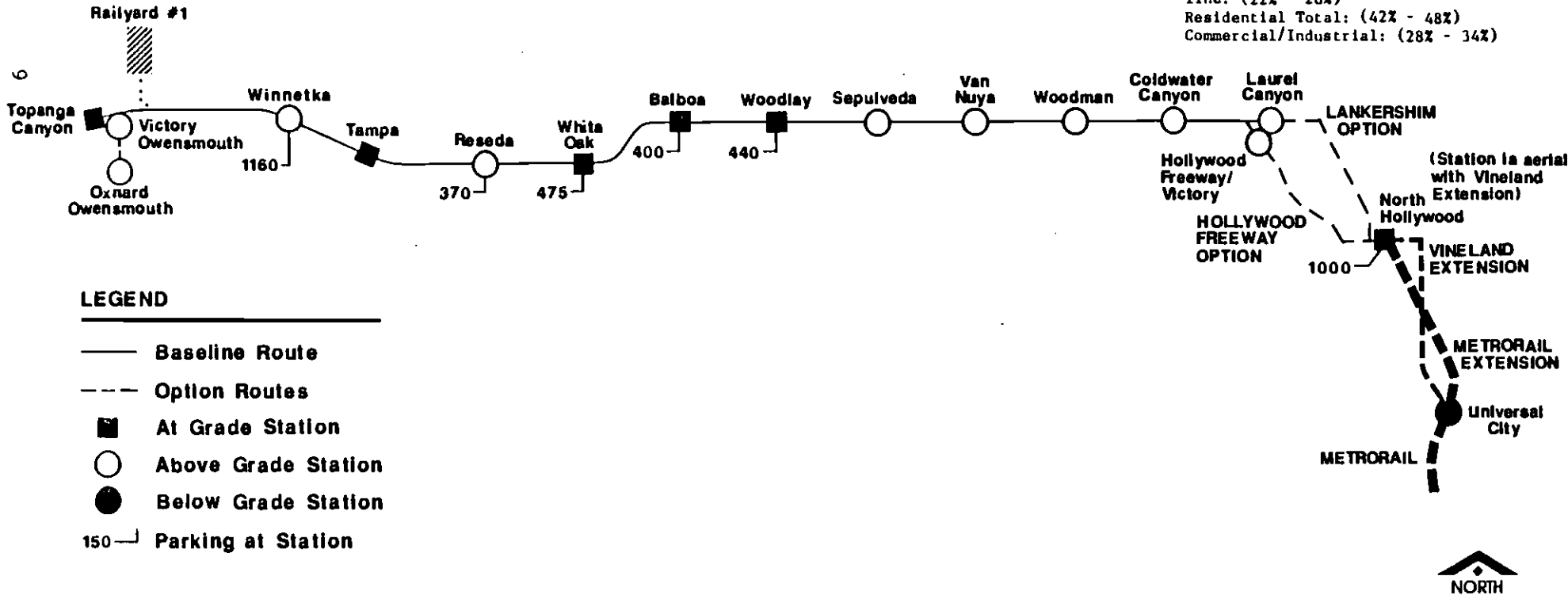
Key issues that have been identified along Victory Boulevard that will be further addressed in the Environmental Review Process include issues raised by the placement of the aerial guideway in the median of Victory Boulevard. The center of the street location was preferable to a side of street location because it placed the guideway further away from adjacent properties. The location in the middle of the street will however result in traffic impacts to Victory Boulevard including the loss of one travel lane from that street and the prohibition of mid-block left turns. Loss of traffic capacity on Victory Boulevard would result in greater traffic on adjacent streets. Additionally, in station areas where the guideway must widen to accommodate waiting platforms, pedestrian overcrossings and vertical circulation elements, some building displacement will occur as insufficient area is available along the existing sidewalks.

KEY ISSUES

- Identical to SP Burbank Branch Route west of San Diego Freeway.
- Travels aerial in median of Victory Boulevard to either Hollywood Freeway or Lankershim Boulevard where aerial guideway travels south on east edge of freeway or in median of Lankershim to North Hollywood Station. Possible extension to Universal City.
- Impacts to Victory Boulevard include the loss of one traffic lane and the required prohibition of mid-block left turns. Some building displacement will be required at major intersections to accommodate aerial stations.
- Adjacent residential impacts.
- Serves Warner Center, LA Pierce College, Sepulveda Basin Recreation Center, Van Nuys, and North Hollywood.
- **Adjacent Uses:** Residential next to at-grade rail line: (20% - 22%)
Residential next to aerial rail line: (22% - 26%)
Residential Total: (42% - 48%)
Commercial/Industrial: (28% - 34%)

ROUTE DESCRIPTION Preliminary

	N.H. Via Hywd. Fwy.	N.H. Via Lankershim	U.C. Via Hywd. Fwy.	U.C. Via Lankershim
AT GRADE	6.2 mi. (44%)	5.6 mi. (39%)	7.8 mi. (47%)	7.2 mi. (43%)
ABOVE GRADE	7.9 mi. (56%)	8.7 mi. (61%)	8.6 mi. (52%)	9.4 mi. (56%)
BELOW GRADE	0	0	0.2 mi. (1%)	0.2 mi. (1%)
	14.1 mi. (100%)	14.3 mi. (100%)	16.6 mi. (100%)	16.8 mi. (100%)



**San Fernando Valley
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PRELIMINARY

SUMMARY OF ROUTE CHARACTERISTICS

Victory Boulevard Alternative



Figure 4

Ventura Freeway Alternative Route

The Ventura Freeway Route Alternative follows the freeway except for the eastern and western sections of the route. The western section follows the median and side of Canoga Avenue from the freeway to Warner Center and the maintenance yard site at the end of the line. The eastern section follows the east edge of the Hollywood Freeway to the Universal City Station.

This route would be served by an all-aerial guideway configuration, with the exception of a short at-grade connection (between Victory and Vanowen) to the maintenance yard. Fourteen stations, accommodating an assumed total of 2,050 park-and-ride spaces, are anticipated for this route, exclusive of the Universal City Metro Rail Station.

Figure 5 summarizes the overall elements of this route alternative. Predominant adjacent land uses along this route include: residential (24 percent) commercial/industrial (22 percent); and freeway (45 percent), since the alignment will be along the edge of the freeways (Ventura and Hollywood).

The key issue raised in the preliminary engineering of a rail transit line along the Ventura Freeway is the extent to which the facility can be jointly used by transit while not reducing existing and committed future freeway capacity. Based on engineering work done to date, an edge-of-freeway location for the aerial guideway has been determined to be more feasible than a middle-of-freeway alternative. This would, however, require that the guideway flare outside of freeway ramps at interchange locations resulting in additional right-of-way acquisition being required in these areas. Furthermore, the placement of the guideway at the edge of the freeway will place the rail line in close proximity to residential land uses along segments of the route. Another important consideration is the effect on freeway operation during the construction phase. It is possible that one traffic lane would be lost for long segments during construction, with up to two lanes lost at major bridge construction sites.

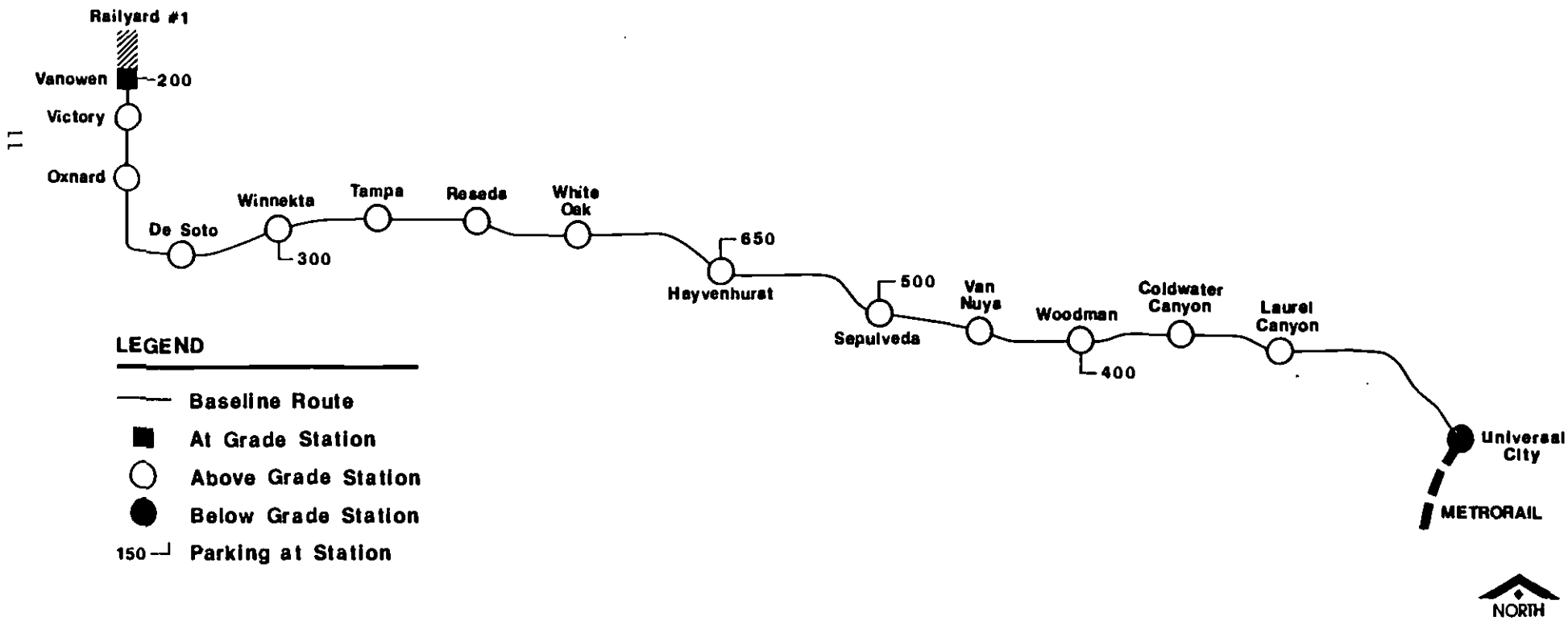
In the Environmental Review Process, both the edge of freeway and the center of freeway alternatives will be further investigated as well as more long-term possibilities that may exist for a joint LACTC/Caltrans transitway-freeway project if this route is ultimately selected for implementation.

ROUTE DESCRIPTION Preliminary

AT GRADE	0.4 mi. (2%)
ABOVE GRADE	15.7 mi. (97%)
BELOW GRADE	0.2 mi. (1%)
	16.3 mi. (100%)

KEY ISSUES

- Assumes shared use of Caltrans' Ventura Freeway right-of-way subject to further negotiations.
- Aerial segment at west end along center and edge of Canoga Avenue. Aerial and subway segment at east end along Hollywood Freeway to Universal City.
- Aerial guideway is located at edge of freeway with all street crossings grade separated. Impacts at major interchanges due to station area requirements and displacements due to need for aerial guideway to flare outside of freeway ramps.
- Adjacent residential impacts.
- Serves Warner Center, western Ventura Boulevard, Encino, Sherman Oaks, and Universal City centers.
- Adjacent Uses: Residential next to at-grade rail line: (0%)
Residential next to aerial rail line: (20.5%)
Residential Total: (20.5%)
Commercial/Industrial: (22%)
Freeway: (50.6%)



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LOS ANGELES COUNTY TRANSPORTATION COMMISSION

PRELIMINARY

SUMMARY OF ROUTE CHARACTERISTICS

Ventura Freeway Alternative

Figure 5

Los Angeles River Alternative Route

The Los Angeles River Route Alternative follows the alignment of the L.A. River Flood Control Channel for most of the distance between the maintenance yard site in Canoga Park to the Universal City Metro Rail Station, except for a short length along the Hollywood Freeway between the channel and Universal City. It would traverse the Sepulveda Basin and go over the dam structure at the Southeastern corner of the basin.

This route is anticipated to be in an all aerial guideway configuration based on the results of this initial evaluation effort. A total of 13 stations are contemplated, seven of which would have park-and-ride facilities with an initially assumed total of 3,100 spaces.

Figure 6 presents a schematic overview of this route alternative. Predominant adjacent land uses include: residential (52 percent); commercial/industrial (17 percent); and parks (24 percent - primarily Sepulveda Basin Recreation Area).

Key issues raised along the LA River Channel that will be further investigated in the Environmental Review Process include the extent to which the LA River channel can be used for transit while maintaining the flood control requirements of that structure. Rail guideway columns will not be allowed to be placed in the channel itself as they would hinder flood water flow and reduce capacity of the channel. The rail transit line must therefore be located outside of the channel, along the edge. In this area, the transit line cannot be allowed to interfere with maintenance service access that is provided on both sides of the channel by existing service roads. This requires that an aerial guideway some 25 feet above grade be constructed in order to allow proper clearances beneath the structure for flood control equipment needed for emergencies and for regular maintenance. Because of this, homes and apartments along the river which make up 53% of the adjacent land uses will be affected. In station areas some displacement of homes would be required. Additionally, many curves in the river alignment will result in speed and other operational constraints on the rail line along this route.

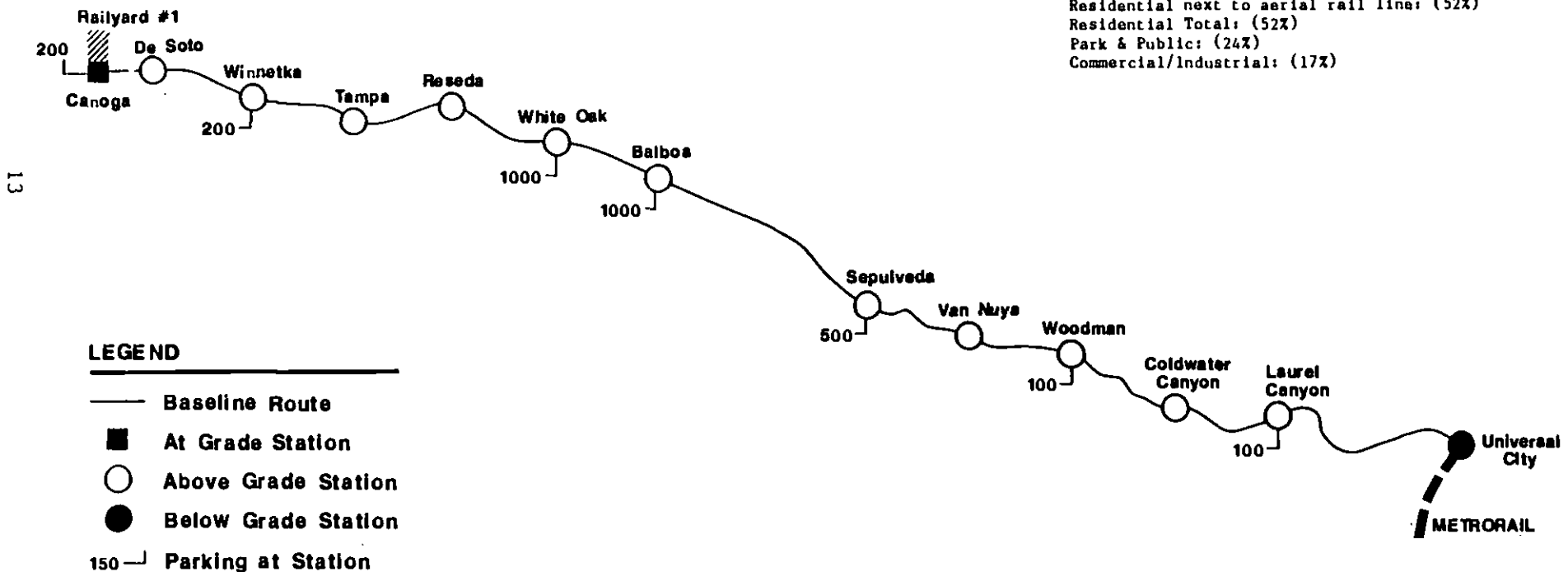
Initial traffic analysis indicates that it may be possible to cross several streets at-grade. Of 27 street crossings, potentially 13 could occur at-grade. In these 13 areas it is possible that the guideway could be lowered in height thus reducing the proximity effects on adjacent residences.

ROUTE DESCRIPTION Preliminary

AT GRADE	0.2 mi. (1%)
ABOVE GRADE	14.7 mi. (98%)
BELOW GRADE	0.2 mi. (1%)
	15.1 mi. (100%)

KEY ISSUES

- Assumes shared use of LA County Flood Channel subject to further negotiations.
- Aerial guideway for almost entire length with aerial and subway segment at east end along Hollywood Freeway to Universal City.
- Flood control constraints prohibit placement of structure within river channel. Alignment must be along edge with resulting speed and operational limits on the rail system due to narrow geometrics and many curves in the river alignment.
- Adjacent residential impacts.
- Serves centers at Sherman Oaks, eastern Ventura Boulevard and Universal City.
- Adjacent Uses: Residential next to at-grade rail line: (0%)
Residential next to aerial rail line: (52%)
Residential Total: (52%)
Park & Public: (24%)
Commercial/Industrial: (17%)



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**Figure 6
SUMMARY OF ROUTE CHARACTERISTICS
LA River Alternative**



1.4 Community Concerns

This past spring a series of meetings were held in the San Fernando Valley to introduce the study and to solicit concerns of the community. Numerous concerns were noted, but a number were frequently cited. They are the following:

Noise/Vibration	Parking Loss in Neighborhoods
Depreciation of Property Values	Construction Impacts
Safety/Security/Vandalism	Proximity Impacts (Visual, Privacy)
Traffic/Gridlock Increase	

The study team concurs that these issues constitute the basic environmental concerns and will focus on these factors during the subsequent environmental impact assessment phase.

The following impacts, as well as others to be identified during the formal environmental process, will also be assessed:

Air Quality	Cultural Resources
Flood Plain	Energy
Recreation/Parks	

1.5 Next Steps

This Initial Alternatives Evaluation Report which provides engineering descriptions (horizontal and vertical alignment, station locations, parking provisions) in addition to some key preliminary traffic and environmental findings will be the focus of the second series of public meetings to be held in early October.

After receiving public input from these meetings, the Commission will be briefed on the latest status of the project. At that time authorization to prepare and distribute the Notice of Preparation for an Environmental Impact Report will be sought and, if granted, the CEQA (California Environmental Quality Act) process for the project would be initiated.

In the formal Environmental Impact Report the routes described in this summary will be further developed and environmental impacts determined. The report will also identify possible mitigation measures for the routes after the environmental impacts have been assessed.

2.0 DEVELOPMENT OF THE ROUTE ALTERNATIVES

The following approach has been followed in refining the preliminary description of the five EIR Route Alternatives:

- Basic design criteria have been followed based on the Long Beach to Los Angeles Rail Transit Project Criteria, as well as route-specific criteria obtained from Southern Pacific Transportation Company, Los Angeles Department of Transportation (LADOT), Caltrans, U.S. Army Corps of Engineers, and the Los Angeles County Flood Control District.
- Controlled aerial photography for the entire study area was accomplished, and 1"=100' topographic base maps were prepared for a corridor along each route alternative and connector option.
- Initial alignment concepts and typical cross-sections were prepared utilizing the input of the entire multi-disciplinary team.
- Potential station sites were identified based on corridor reconnaissance with key locational determinants being:
 1. Accessibility from highways and major arterial streets.
 2. Convenient bus, auto, and pedestrian access and station circulation.
 3. Station spacing appropriate for the Valley's population and employment density (typically one per mile).
 4. Balancing the need for adequate parking to support patronage with a minimum taking of private property. Sites with existing vacant land were preferred. The total parking spaces indicated under each route are tentative and subject to change as engineering and station site planning becomes better defined.
- These initial concepts were then presented to each directly affected agency (LADOT, Caltrans, Southern Pacific, Corps of Engineers, etc.,) and refinements were made, as appropriate, to reflect comments received from these initial review sessions. Reviews are continuing and all alignments are still subject to change.

Based on this process, the following describes the proposed routes to be investigated further in the EIR process. Conceptual plans and profiles for each route alternative will be on display at the second round of community meetings to be held in early October 1987.

2.1 General Route Alignments and System Operations

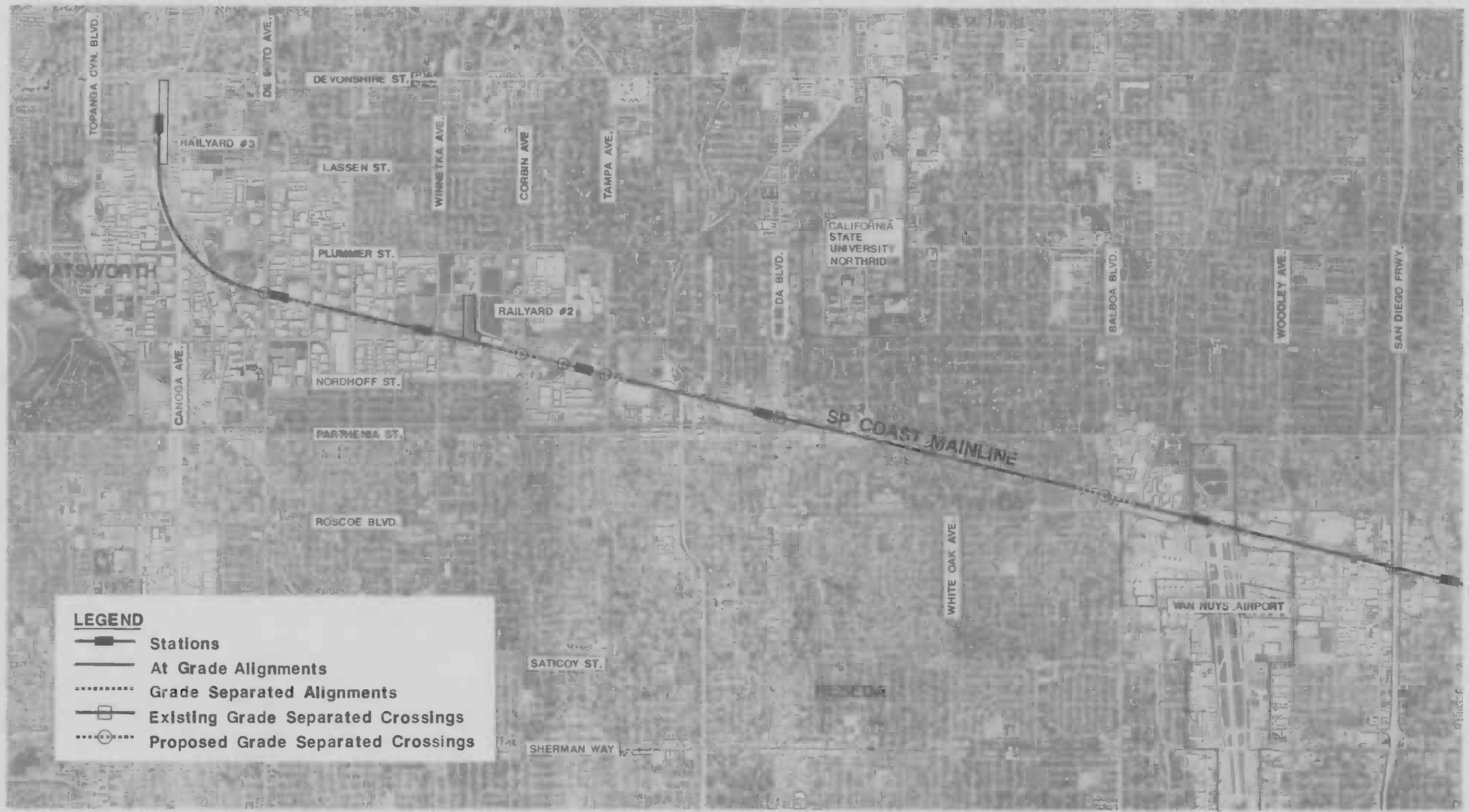
The San Fernando Valley East/West Rail Transit Project is planned to provide service from the West Valley to either North Hollywood or Universal City. From one of these two points, commuters would then transfer to Metro Rail service that would take them to Hollywood, Wilshire Boulevard, Downtown Los Angeles and other points on the rail system currently under development by LACTC.

Four of the five route alternatives under consideration start in Canoga Park. The SP Coast Mainline route starts in Chatsworth. Each route is between 14 and 18 miles. Stations are located approximately one mile apart with a total of 13 to 15 stations for any one of the alignments. Additionally, three alternative rail yard sites for the storage, inspection and maintenance of rail vehicles have been established; two for the SP Coast Mainline Alternative and one site that would serve any one of the other alternative alignments.

Aerial photo maps in Figures 7 through 10 show the rail transit alternative preliminary alignments under study in this report. The aerial mapping is divided into quadrant sheets, each covering a portion of the study area. The maps overlap, with portions of some routes on more than one quadrant. Features shown on the maps include alignments (at-grade and grade-separated), stations, proposed rail yard sites, and grade separated street crossings (existing and proposed). Proposed grade-separated crossings shown reflect initial traffic analysis findings based on current traffic conditions. Other grade separations may become necessary as further studies are made which reflect year 2010 traffic conditions.

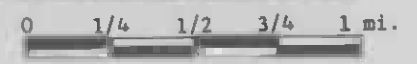
Basic operational characteristics for maximum ridership demand of the rail transit line expected in the year 2010 include the following:

- Vehicles: Articulated rail cars 90 feet in length, with an overhead catenary power system, which will be linked into a maximum 3-car train configuration operating on dual tracks.
- Frequency: Seven days per week with 7-minute headways during peak hours and 20 minutes in the off-peak hours.
- Hours of Operation: Approximately 5:30 a.m. to 1:30 a.m.
- Access: All stations will have high-level, 300 foot long platforms for direct access into the rail vehicles.
- Average Speed: 25-35 mph. (More precise average speeds for each route will be determined after patronage projections and operations plans are completed.)
- Maximum Speed: 55 mph (where appropriate).
- Capacity (three car train): 228 seated passengers (up to 456 including standees).



see Figure 8

Alignments, Stations and Grade Separations shown are preliminary and subject to further refinement and change.



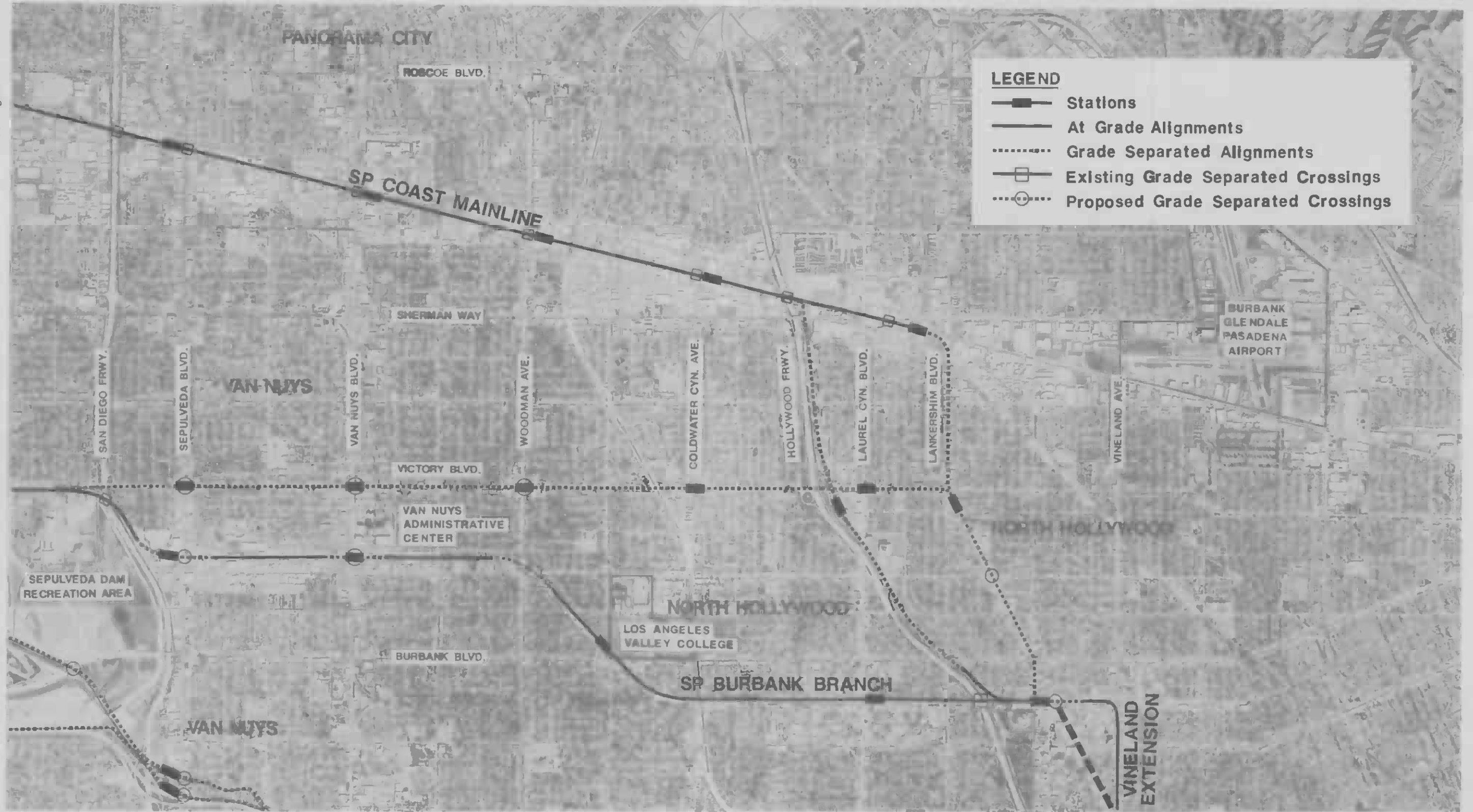
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Figure 7
AERIAL MAPPING &
ROUTE ALTERNATIVES
-Northwest Valley

see Figure 7

see Figure 9



Alignments, Stations and Grade Separations shown are preliminary and subject to further refinement and changes.

see Figure 10



San Fernando Valley East/West Rail Transit Project

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**Figure 8
AERIAL MAPPING &
ROUTE ALTERNATIVES
-Northeast Valley**





see Figure 10

Alignments, Stations and Grade Separations shown are preliminary and subject to further refinement and change.

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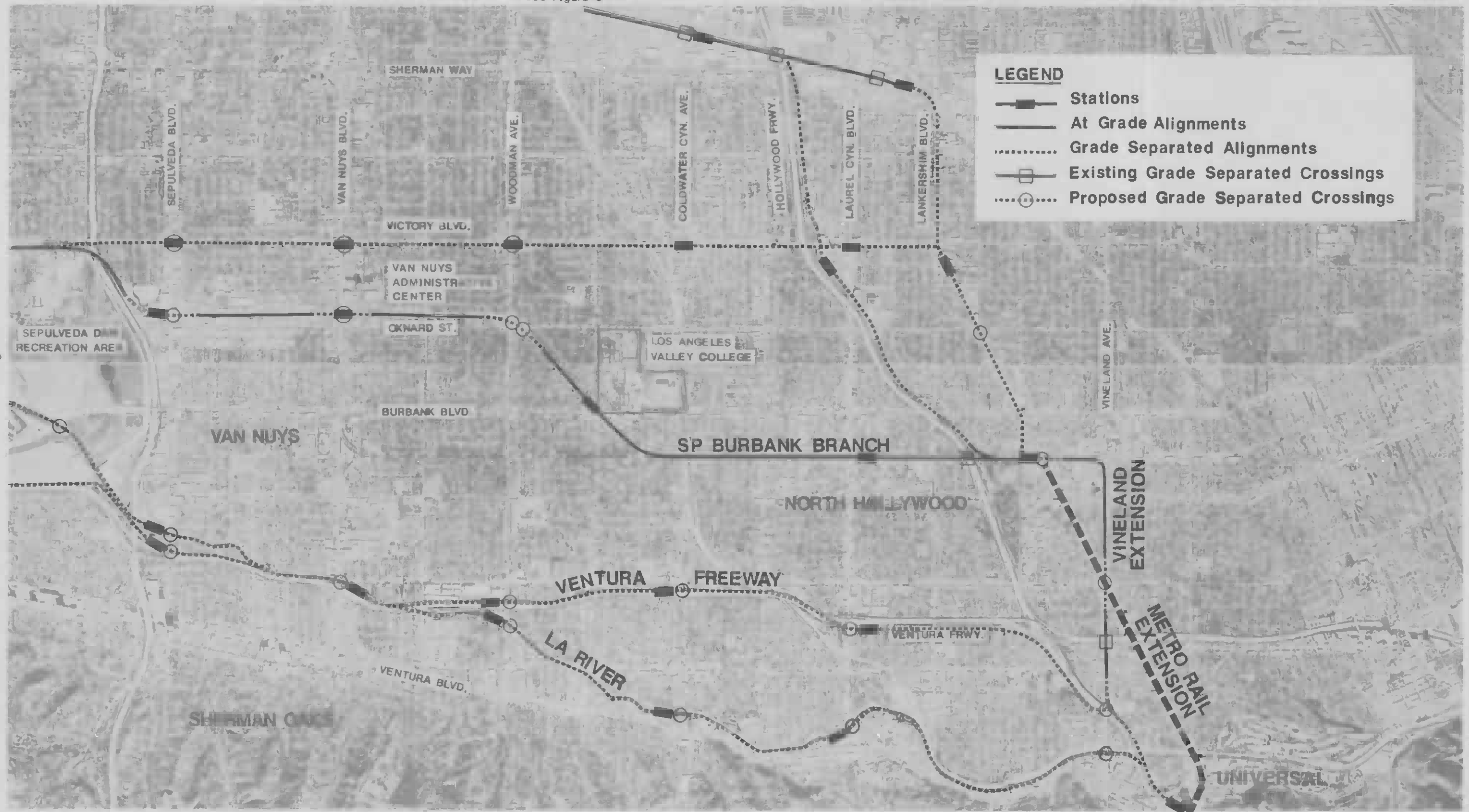
PRELIMINARY

Figure 9
AERIAL MAPPING &
ROUTE ALTERNATIVES
-Southwest Valley



LOS ANGELES COUNTY TRANSPORTATION COMMISSION

See Figure 8

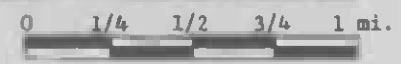


See Figure 9

LEGEND

- Stations
- At Grade Alignments
- Grade Separated Alignments
- Existing Grade Separated Crossings
- Proposed Grade Separated Crossings

Alignments, Stations and Grade Separations shown are preliminary and subject to further refinement and change.



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**Figure 10
AERIAL MAPPING &
ROUTE ALTERNATIVES
-Southeast Valley**

2.2 SP Coast Mainline Route Description

The Southern Pacific (SP) Coast Mainline is the northernmost of the proposed preliminary alignments. It is approximately 15.3 miles long to the North Hollywood Station and 17.8 miles long to the Universal City Station. Of this total distance, between 12.2 and 13.1 miles would be in the SP right-of-way, depending on whether the route follows the Hollywood Freeway or the Lankershim Boulevard alignment.

Basis for Design

The major issue in the design of this route is to construct and operate a second rail line in the Southern Pacific right-of-way while minimizing conflicts and interference with freight service.

The most desirable alignment would be for the rail line to be located on the south side of the SP Coast Mainline tracks. This would require no crossings of the two systems resulting in minimal interference. However, due to the location of the two proposed rail yard sites and the terminal station between Lassen and Devonshire, the transit line will have to be on the north side at the western end of the route. There will be ample space for two new tracks on the north side of the mainline from Devonshire Station to Balboa, with no SP relocation necessary. East of Balboa, the transit line can run on the south side of the SP Mainline. This location will avoid operational problems that would be encountered on the north side by spur crossings of the Anheuser-Busch and General Motors rail yards.

Between Woodley and Van Nuys the SP Mainline will need to be shifted northward in order to provide the proper clearance between the piers of the I-405 overpass. A gradual shift utilizing a long reverse curve with a degree of curvature less than 1 degree, is satisfactory for SP operations.

Throughout the route many sidings are crossed; in instances where sidings will need to be maintained, crossing diamonds will be installed. For better riding quality, less noise, and less maintenance it would be preferable to eliminate as many diamonds as possible. At this time in the study all sidings have been assumed to remain. Ultimately, it is anticipated that not all of these diamonds will be required. It may also be found necessary to grade-separate some sidings.

Route Description

Figure 11 shows the typical condition along the SP Coast Mainline right-of-way with the rail transit in place. Both an at-grade station and line condition are illustrated. Only ten at-grade street crossings exist on this alignment due to the fact that most of the major street crossings have already been grade separated by the railroad. Of these ten, five would probably require grade separation due to high traffic volumes (De Soto, Corbin/Nordhoff, Tampa, Balboa and Roscoe), while five could possibly remain at-grade (Lassen, Winnetka, Lindley, Woodley and Coldwater Canyon). Further traffic analyses to be performed during the environmental impact assessment will determine if these grade crossings require separation from auto traffic. Some of the existing railroad bridges would require reconstruction

and/or widening to accommodate the project while a total of 13 spur track sidings would require crossing diamonds.

Starting from the western (terminal) end of this line and proceeding eastward, the route begins at Devonshire Station located on the east side of the existing SP Mainline track. The proposed rail maintenance yard and inspection facility (Rail Yard #3) would be located east of the station while a park and ride facility would be constructed on the west side of the SP Mainline. The platform and parking lot would be connected by a pedestrian tunnel under the SP Mainline.

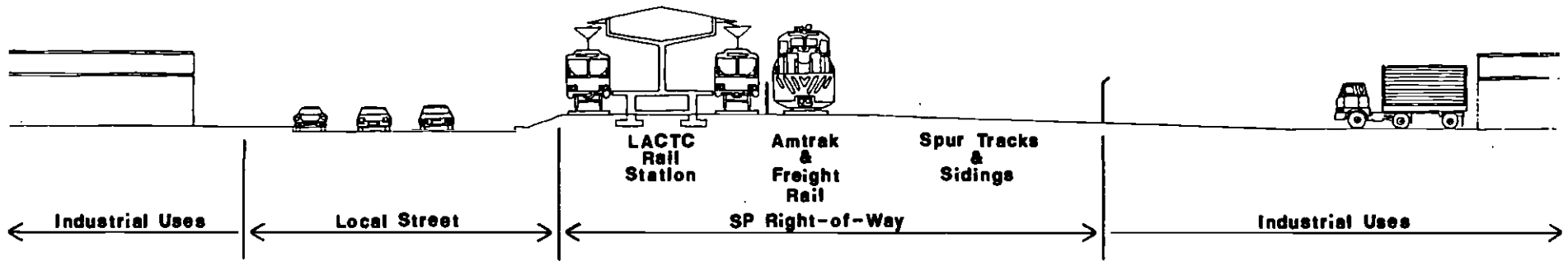
Proceeding southward and curving toward the east, the line would be grade-separated at De Soto Avenue with an aerial station and at-grade station at Winnetka Avenue. Proceeding eastward an important rail siding serving the LA Times is crossed. However, two street crossings at Corbin and Tampa would have to be grade-separated due to high traffic volumes. Thus, the elevated guideway will continue over the LA Times siding and a siding serving Best Products and will eliminate the need for a crossing diamond. The elevated structure would cross over Tampa and gradually return to grade. The next station, Reseda, is at-grade and on the northwest corner.

Continuing at-grade on the northern side of the SP Mainline to a point approximately 1,000 feet west of Balboa, an elevated structure would begin, spanning Balboa and at the same time crossing over the SP Mainline, returning to grade just before the flood channel. A new bridge would need to span the flood channel. After traversing the channel, a gradual downward grade would be utilized so that when the rail line is opposite the end of Van Nuys Airport the rail transit track would be 4 feet lower than the SP Mainline. This is needed so that the catenary poles will not penetrate the Federal Aviation Administration clear zone requirements.

At Roscoe, grade-separation would be necessary. At this location the rail line would be at-grade and Roscoe Boulevard would pass underneath all three tracks. This is the least costly solution to separating Roscoe from both the freight and passenger trains. Just east of Roscoe Boulevard there would be a station with a large park and ride facility at the existing "sod" farm. Now that the transit tracks are on the south side of the SP, direct access to the station cannot be accomplished due to the need for pedestrians to cross the Mainline track. A pedestrian tunnel similar to that at the terminal station would link the parking lot to the center-loading platform. From this point eastward the rail transit tracks would be at-grade and on the south side of the SP Mainline.

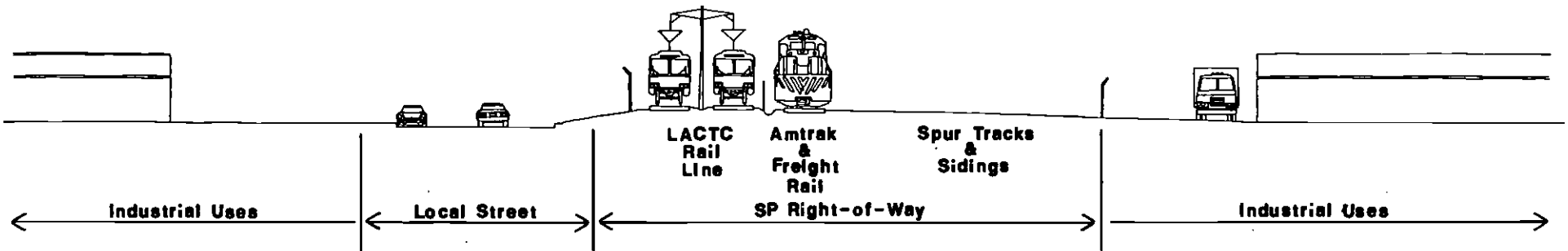
At the San Diego Freeway (I-405) SP tracks would need to be shifted about 19 feet northward in order to accommodate a total of four tracks between the piers of the freeway overpass. The realignment would start at Woodley, 3,000 feet away in order to provide for a gradual transition. A small Anheuser-Busch rail yard would need to be rebuilt as a result of this shift.

The next station to the east would be at Sepulveda. In this area, the rail yard serving the General Motors plant could remain intact with no modifications. Van Nuys station is located on the southeast corner, with an existing parking lot. Continuing eastward, a crossing diamond is necessary



TYPICAL STATION ALONG SP COAST MAINLINE

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TYPICAL CONDITION ALONG SP COAST MAINLINE

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**Figure 11
SP COAST MAINLINE ALTERNATIVE
-Typical SP ROW Conditions**

to provide service into the Department of Water and Power. Similarly, another would need to be provided into Stroh's Brewery. Between Woodman and Coldwater stations the bridge spanning the Tujunga Wash Flood Control Channel would need to be widened.

A major new bridge structure spanning the Hollywood Freeway would be required. Between Laurel Canyon and Sherman Way, an existing siding paralleling the SP Mainline on the south side would be removed to allow room for the rail transit. The tracks would be shifted 17 feet northward by the time they reach Laurel Canyon. Hence, a gradual shift of the SP and rail transit tracks would start just east of the Hollywood Freeway bridge and continue for a transition distance of 2,200 feet. Within this area, two crossing diamonds would be installed to provide access to two industries. In addition two bridges at Laurel Canyon and Sherman Way would have to be widened to carry both the freight and passenger trains.

At Lankershim Boulevard the final station along the SP Mainline, the two rail transit tracks would turn south and run in an aerial configuration down Lankershim Boulevard. The SP Mainline would gradually return to its original alignment, transitioning back from 17 feet over a distance of 2,200 feet. This segment of the SP Coast Mainline east of the Hollywood Freeway is applicable to the Lankershim Boulevard option only. The Hollywood Freeway option, described below, extends south on the freeway and does not include this portion of the Mainline.

Hollywood Freeway/Lankershim Boulevard Options - There are two connector options between the SP Coast Mainline right-of-way and the North Hollywood Station. The Hollywood Freeway Option would run on elevated guideway along the east side of the Hollywood Freeway to Chandler Boulevard where it would turn east to enter the station. The Lankershim Boulevard Option would run on elevated guideway in the center of Lankershim Boulevard to Tujunga Avenue where it would turn south before entering the North Hollywood Station.

- The Hollywood Freeway Option would be located on the east side of the freeway for two reasons. First, there is generally more distance between the freeway and adjacent buildings on the east side and therefore less land acquisition/property demolition would be required. Secondly, in the vicinity of Chandler Boulevard a freeway crossing would be required from a west side alignment, necessitating a very high 60 foot structure over the Hollywood Freeway. The route along the east side of the freeway would cross the freeway at the existing SP Mainline crossing without the need for such a high structure. A tunnel crossing under the freeway was also investigated, however this was ruled out because of required displacements of townhouses and residences along West Park Drive.

The line would be elevated at the west end of the Hollywood Freeway bridge. While crossing the freeway, it ascends and curves south. Once on the east side of the freeway and past Sherman Way the alignment would parallel the freeway and level off. Continuing south, the dual guideway would run between the freeway and the adjacent Valley Plaza Park until it reaches Victory Boulevard, a station site. This is the only station on this option.

The alignment would cross many streets. Some would necessitate long spans. The most difficult of these spans would occur at Burbank Boulevard. Here, the combination of a freeway interchange, Burbank Boulevard, and nearby townhouses, would make the box girder sections very long and exact placement of concrete piers would need to be carefully examined. South of Burbank, the line would run between the flood channel, North Hollywood Park and the eastern bank of the Hollywood Freeway. This condition would prevail until Chandler. At Chandler, the tracks would curve east and gradually descend to meet the existing at-grade alignment of the SP Burbank Branch.

The Lankershim Boulevard Option would necessitate an elevated guideway support structure set within a 12 foot median in Lankershim Boulevard. This would require the removal of on-street parking and the prohibition of mid-block left turns. At intersections, narrower lane widths would be necessary, as well as conversion of right-turn lanes to shared through/right lanes. These intersection modifications would cause a reduction in intersection capacity at Vanowen, Victory, Oxnard and Burbank. An aerial station on this optional alignment would be located at Lankershim and Victory Boulevards.

The line would proceed south in the middle of Lankershim until the intersection of Burbank and Tujunga. At this point the line would turn south on Tujunga and gradually descend to become at-grade before reaching Chandler. Once it crosses Chandler Boulevard, the route would curve eastward and aligns with the existing SP Burbank tracks to reach its destination at North Hollywood.

During construction up to two traffic lanes could be lost along Lankershim Boulevard.

Vineland Extension Alternative - This Extension would connect the SP Mainline, Victory Boulevard, and SP Burbank Branch Route Alternatives from their termination at North Hollywood to the proposed Metro Rail Universal City Station only if the Metro Rail project were not extended between Universal City and North Hollywood. The alignment is a total of 2.5 miles long, of which 0.3 miles would be in the SP right-of-way between Lankershim and Vineland, 1.5 miles would be along Vineland between Chandler and the Hollywood Freeway, and 0.7 miles would be along the Hollywood Freeway between Vineland and the Universal City Station. This alignment would not have any stations, but it would connect the North Hollywood and Universal City Stations. Of the seven total existing traffic crossings, two would probably need to be grade separated. These are at Lankershim/Chandler and at Lankershim/Camarillo. The Weddington and McCormick intersections will also be evaluated to assess the impact of rail transit on traffic circulation with the planned North Hollywood Redevelopment projects.

The route would begin in an aerial configuration at the North Hollywood Station to allow for a grade-separated crossing of Lankershim Boulevard. Proceeding eastbound within the existing SP Burbank Branch right-of-way to Vineland, the line would make a 90 degree turn and continue southward along Vineland Avenue. The rail line would remain at-grade on the west side of

Vineland within an existing utility corridor until approximately 1,000 feet north of Camarillo. Here an overpass utilizing long spans would be necessary to cross the Camarillo/Lankershim/Vineland intersection. While still aerial, the line will cross into the center of Vineland Avenue and transition back to grade in the middle of that street where the existing median is located.

Proceeding south, the rail transit tracks would pass on the east side of the piers under the Ventura Freeway (134). Proceeding at-grade the route would continue southward in the median, until Whipple, where it would turn eastward and runs aerial between the flood channel and the Hollywood Freeway (101). Spanning the LA River, the line would run for a very short distance at-grade behind Weddington Park before tunneling beneath Bluffside Drive and entering Universal City Station.

The aerial structure from Whipple to the LA River, could be relatively low in height in order to reduce costs, impacts and lessen the slope differential for descent into Universal City Subway Station.

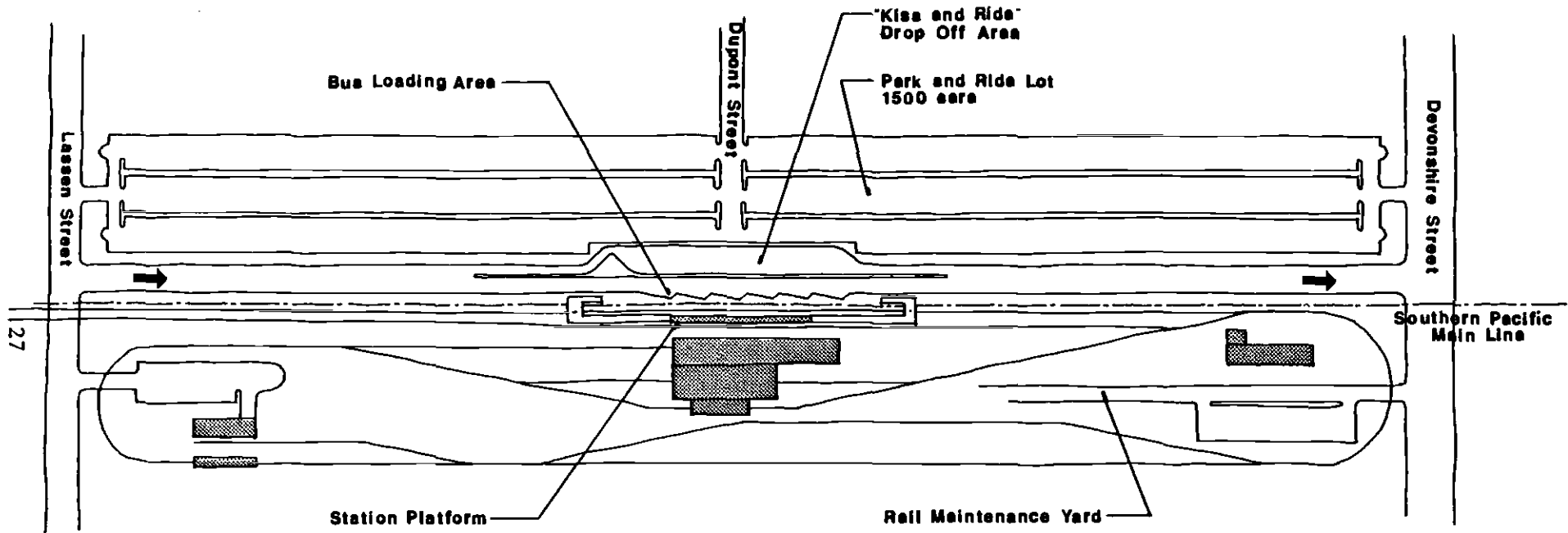
Stations - There would be a total of 13 or 14 stations on this alignment depending on whether the Hollywood Freeway or the Lankershim Boulevard connection options are selected. The following lists the stations on this alignment and proposed parking:

<u>Station</u>	<u>Tentative Parking Spaces</u>
Devonshire	1,500 cars
De Soto	300 cars
Winnetka	300 cars
Tampa	100 cars
Reseda	400 cars
Roscoe/Hayvenhurst	1,000 cars
Sepulveda	200 cars
Van Nuys	150 cars
Woodman	300 cars
Coldwater Canyon	200 cars
Sherman Way/Lankershim	250 cars
Victory	0 cars
North Hollywood	1,000 cars

A total of about 5,450 and 5,700 parking spaces would be provided for the Hollywood Freeway and Lankershim Boulevard options respectively. Figure 11 shows a typical at-grade station cross section for the SP Coast Mainline alternative.

Maintenance Yard

Figure 12 shows the preferred rail yard site for the SP Coast Mainline Route. This site is approximately 12 acres in size, located between Lassen



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Figure 12

SP COAST MAINLINE

Devonshire Station / Railyard #3

and Devonshire Streets. It borders the SP Mainline on the west and the LA River Flood Channel on the east. The land is flat and no major building displacements would be required. There is ample room at this location for all yard functions and an excellent geometrical layout can be accomplished to maximize operational efficiency and minimize maintenance. This proposed end of the line site is also very efficient since minimal travel time would be required from the terminal station to the yard.

Maintenance Yard Alternative

Figure 13 shows an alternative rail yard site for the SP Coast Mainline Route. This yard is approximately 8 acres in size and is situated adjacent to the L.A. Times building east of Winnetka Avenue. Due to the limited space available, dead end tracks would have to be utilized, which are not the most desirable configuration from a functional standpoint.

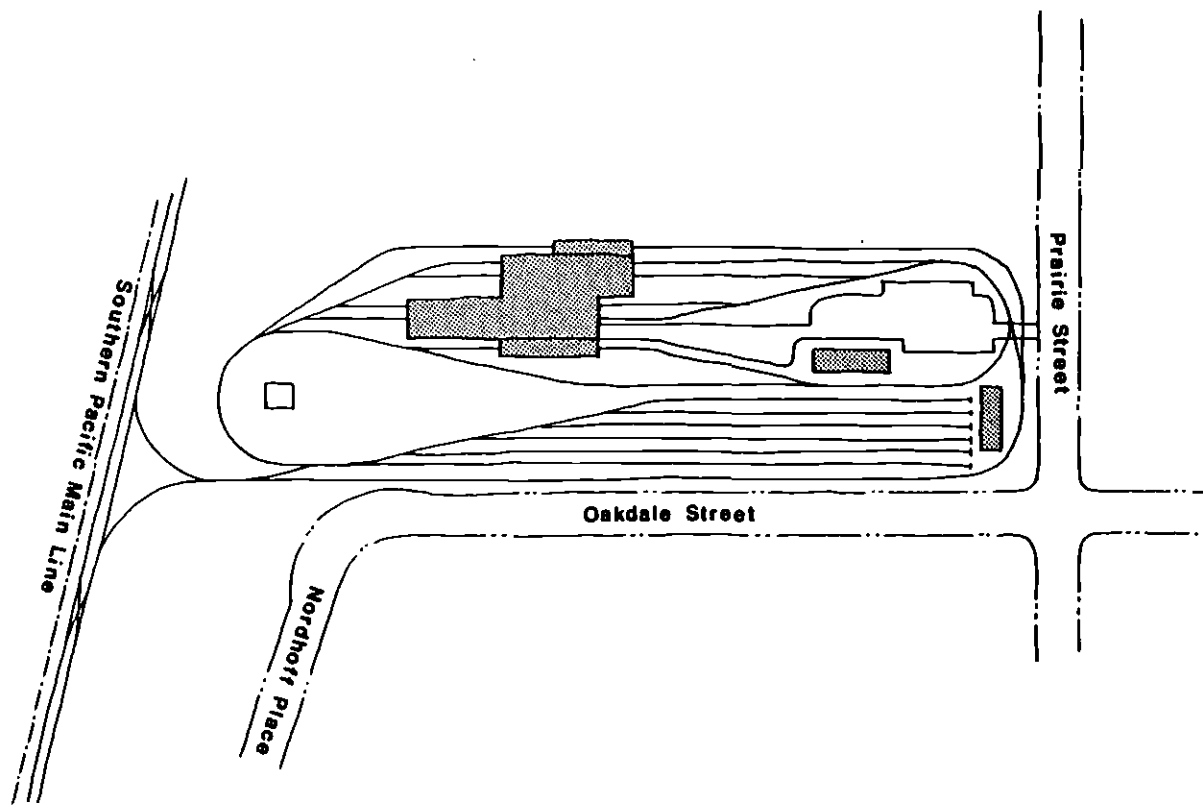
Should this yard site be selected, the SP Coast Mainline Alternative would begin with the Winnetka Station and the line would not include stations or trackage at the De Soto and Devonshire Stations. This would be necessary due to the extreme operational inefficiency that would occur if the rail yard were not located in close proximity to the beginning or end of the line. Within the yard layout itself, very tight curvatures have been utilized (almost minimum radii), which would cause rail wear and increase maintenance costs.

2.3 SP Burbank Branch Route Description

The Southern Pacific (SP) Burbank Branch Alternative would follow the existing railroad right-of-way almost exclusively between Warner Center and the North Hollywood Station, except for a short length along Victory Boulevard west of De Soto Avenue. The route would extend for 13.9 miles to the North Hollywood Station and 16.4 miles to the Universal City Station. About 13.5 miles would be within the SP right-of-way.

Basis for Design

Criteria for this route alternative are based upon LACTC's design standards, and Los Angeles Department of Transportation guidelines. This route has previously been studied and developed to a conceptual design level. This previous work has therefore been incorporated but modified when required based on new information developed for this study. It is assumed that the existing SP freight service would be abandoned and that the right-of-way would be acquired.



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**Figure 13
SP COAST MAINLINE
Alternate Railyard #2**

Key issues raised in the review of prior conceptual designs for this alternative include traffic conflicts and residential impacts. In response to these community concerns, efforts have been made to modify the previous concept to lessen such impacts. Modifications made to date in response to traffic conflicts include proposed grade separations at 11 intersections. Modifications made in response to neighborhood impacts include a partially depressed rail transit line within or adjacent to residential areas. The depressed route would also utilize a landscaped berm to screen the rail line from view and to reduce noise generated by the operation of the rail transit vehicles.

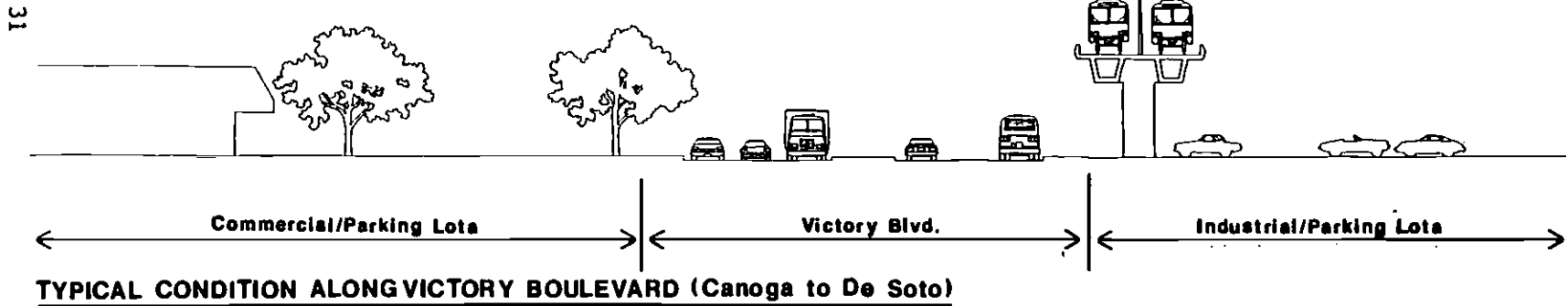
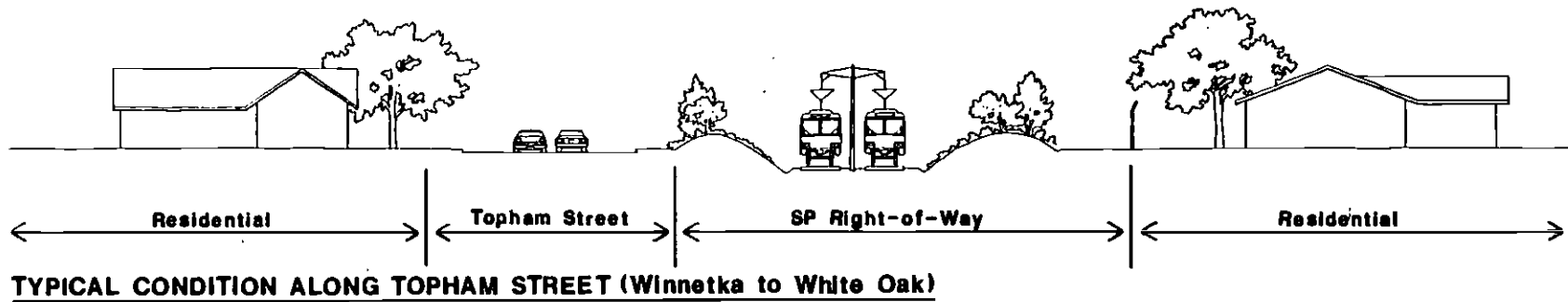
Route Description

Topanga Canyon/Owensmouth Options - Within the Warner Center area two options exist for the end-of-line station. The Owensmouth Option would extend from an aerial station on the northwest corner of Oxnard Avenue and Owensmouth Avenue northward on aerial guideway in the median of that street to a station on the southeast corner of Victory Boulevard and Owensmouth Avenue. From that point the line would proceed east along the northern side of Victory Boulevard to join the SP Burbank Branch ROW near De Soto Avenue. The Topanga Canyon Option would extend from an at-grade station on the northeast corner of Victory Boulevard and Topanga Canyon Boulevard eastward on aerial guideway along the northern side of Victory Boulevard. This route would pass through existing privately owned parking lots to join the SP Burbank Branch near De Soto Avenue. Both of these options would have yard leads to the maintenance yard that would branch off of the mainline track east of Canoga Avenue.

The route would be aerial along the north side of Victory Boulevard from just east of Topanga Canyon Boulevard or Owensmouth Avenue to 600 ft. east of De Soto. The route would be grade-separated due to high volumes of vehicular traffic at De Soto Avenue, Winnetka Avenue and over Victory Blvd. The wye configuration (spur track) at De Soto from the mainline to the yard site may require taking of some commercial buildings. The yard lead structure would descend to an at-grade crossing at Vanowen before entering the rail yard. The rail line would traverse the property of Rocketdyne and may affect operations at that facility.

Of the two options, the Owensmouth Option would provide more direct service to the employment concentrations in Warner Center as well as providing an additional station location for this densely developed area. It would, however, require 12 feet of street right-of-way in Owensmouth Avenue for the aerial guideway supporting piers. This would require either the removal of a traffic lane or the widening of that street.

SP Burbank Branch ROW - From approximately De Soto Avenue to Lankershim Boulevard, the route would run within the existing railroad right-of-way. The rail line would cross 27 arterial roadways of which 15 are major arterials and 12 are secondary arterials. It is projected that the introduction of passenger rail service on this line would require several grade-separated crossings due to high traffic volumes on cross streets.



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**Figure 14
SP BURBANK BRANCH ALTERNATIVE
- Typical Sections / Victory and Topham**

They would be located at De Soto, Winnetka, Victory, Reseda, Balboa, Sepulveda, Van Nuys, Woodman and Oxnard. The crossings at Woodman and Oxnard could perhaps be below grade in order to reduce impacts to the residences in that area. Other crossings, however, would be above grade. The three westernmost crossings at De Soto, Winnetka and Victory have major underground utility constraints requiring the rail to flyover the street. The other four stations are in non-residential areas, adjacent to industrial and commercial uses.

Because the SP Burbank Branch passes through several residential areas, a modified design concept has been developed for the project (see Figures 14, 15, and 16). The concept utilizes a landscaped berm to block views of the rail transit cars from surrounding areas. The berm would also create a landscaped environment along the railroad right-of-way and would considerably reduce noise from the transit vehicles. This typical berm section would be used within or adjacent to residential areas along the route.

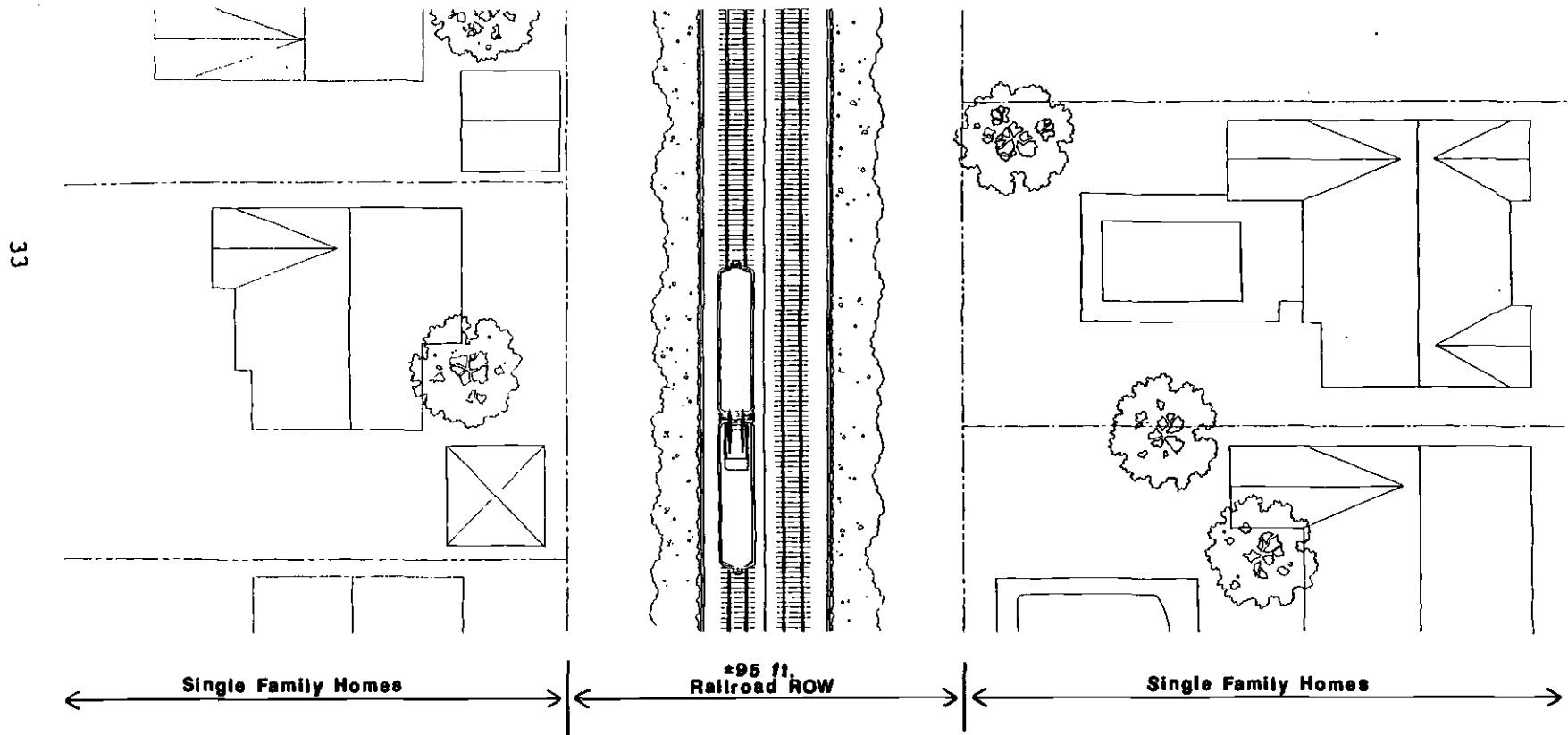
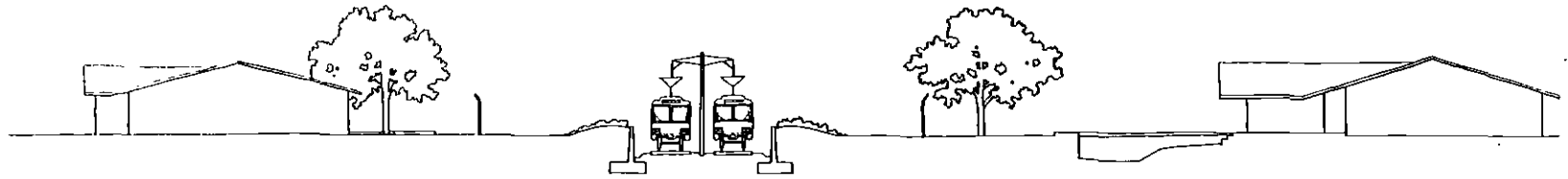
Proceeding east from Winnetka to White Oak a typical depressed/berm section would be used along Topham Street (see Figure 14). Above-grade stations would be located at Winnetka Avenue and Reseda Boulevard while an at-grade station would be located at Tampa and White Oak Avenues. The next two stations would be at Balboa Boulevard and Woodley Avenue. The Balboa Station would be situated approximately 2' to 3' above existing ground level in order to cross over Bull Creek. The Woodley Station would be at-grade.

Passing along the northern edge of the Sepulveda Basin Recreation Area, the route would cross under the San Diego Freeway in an existing underpass and enter the Sepulveda Station. The line would then transition to an aerial alignment to cross over Sepulveda and Van Nuys Boulevards with an at-grade section for the distance between the two stations.

Proceeding east, the line would return to grade but must be grade-separated at the Woodman/Oxnard street crossings. Possibilities exist for an underground (cut and cover) structure at this location, but both have complications due to a major 27" sanitary sewer line along Woodman, 17 feet below existing ground. East of Woodman/Oxnard along the "diagonal segment", the typical depressed/berm section would be employed (see Figure 15). Within this segment, the Fulton Station would be at-grade and the line would cross Fulton Avenue and Burbank Boulevard at-grade.

Once the line has crossed Coldwater Canyon Boulevard, proceeding easterly, the alignment would enter the typical depressed/berm section shown in Figure 16 to the Hollywood Freeway. In between major crossings the profile would be approximately 4' below existing ground level, (slightly depressed). It would gradually ascend to the same level as major crossings. East of the Hollywood Freeway Bridge a typical at-grade section would be used.

Vineland Extension - This optional connection between North Hollywood Station and Universal City Station is identical to the route described in Section 2.2.



Note: Diagonal Segment is between Coldwater Cyn. & Woodman Ave.

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Figure 15
SP BURBANK BRANCH ALTERNATIVE
-Typical Sections / Diagonal Segment

Stations - There would be a total of 15 stations for this alternative of which eight would have park-and-ride facilities. A total of about 4,845 parking spaces would be provided at these facilities. The proposed stations on this alignment are indicated below:

<u>Station</u>	<u>Tentative Parking Spaces</u>
Topanga Canyon*	-
Oxnard/Owensmouth*	-
Victory/Owensmouth*	-
Winnetka	1,160 cars
Tampa	-
Reseda	370 cars
White Oak	475 cars
Balboa	400 cars
Woodley	440 cars
Sepulveda	675 cars
Van Nuys	325 cars
Fulton	-
Laurel Canyon	-
North Hollywood	1,000 cars

*Indicates alternate station; see text for explanation.

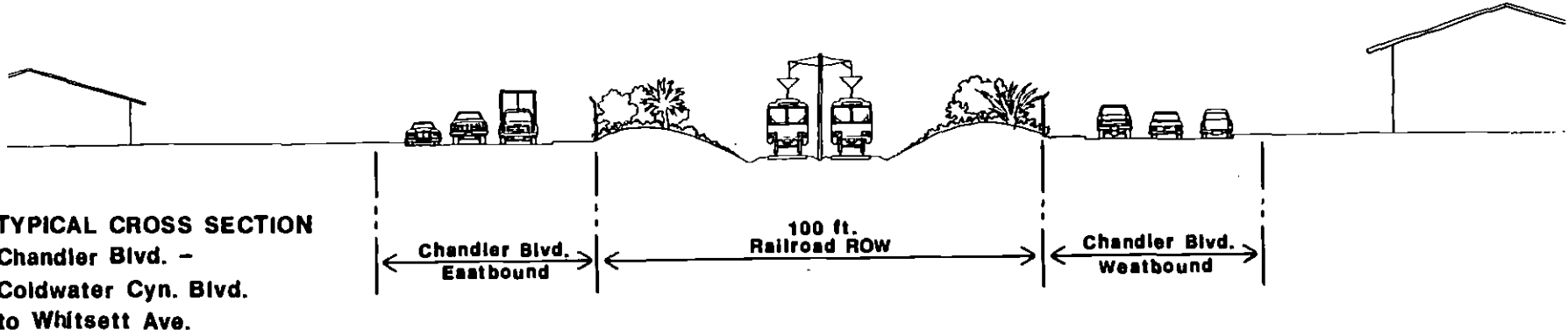
Maintenance Yard

Each of the route alternatives under study except for the SP Coast Mainline Route could be served by the yard site shown in Figure 17.

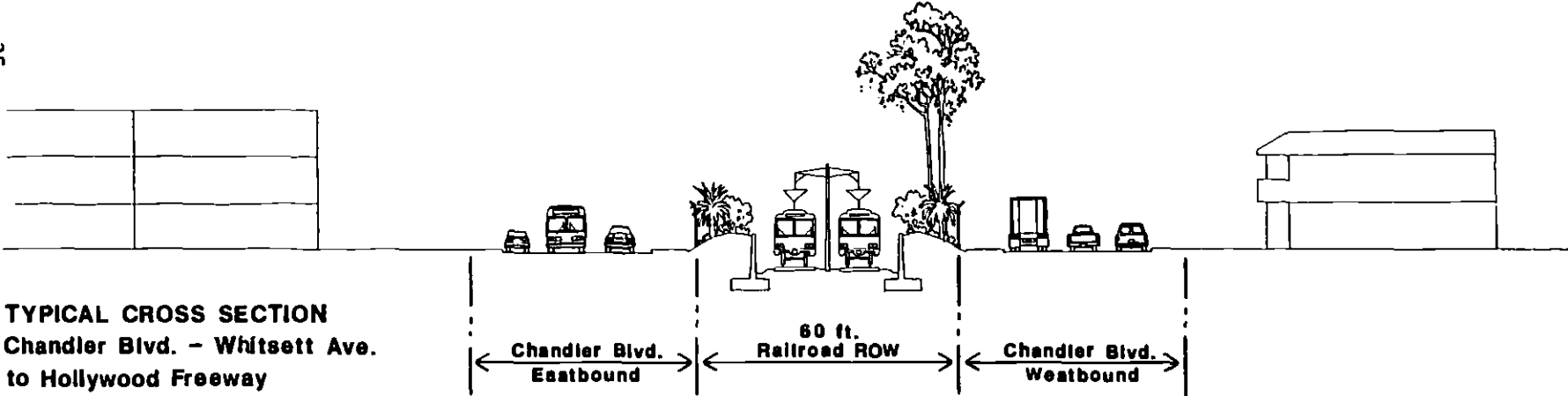
This yard is approximately 12 acres in size and is located just east of Canoga Avenue between Vanowen and Sherman Way. Presently the land is occupied by a concrete batch plant and a few other smaller businesses. The site is level and could functionally accommodate the operations of the rail yard. The immediate surrounding land uses are generally small industry. The location of the yard to the end of the proposed route makes this alternative a very feasible one.

2.4 Victory Boulevard Route Description

The alignment of this alternative is the same as that of the SP Burbank Branch route west of Woodley Avenue. From this point the route leaves the SP Burbank Branch right-of-way and proceeds by elevated guideway in the middle of Victory Blvd. The alignment is approximately 14.1 miles long from Warner Center to the North Hollywood Station and approximately 16.6 miles long to the Universal City Station. About 7.0 miles are in the SP Burbank Branch right-of-way, 4.0 miles are along Victory Boulevard and approximately 1.8 and 1.4 miles are along either the Hollywood Freeway on Lankershim Boulevard options, respectively.



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**Figure 16
SP BURBANK BRANCH ALTERNATIVE
-Typical Sections / Chandler Blvd.**



Basis for Design

The guidelines utilized for this alignment were the LA City Department of Transportation (LADOT) standards, and LACTC's rail transit design criteria. Also, meetings with city transportation engineers were held to determine minimum lane widths, traffic patterns, sight distances, and other design criteria.

The key issue in the route location along Victory Boulevard would be the design of an aerial guideway that would minimize impacts to homes and businesses along that street while at the same time maximizing the traffic carrying capacity of this major arterial street.

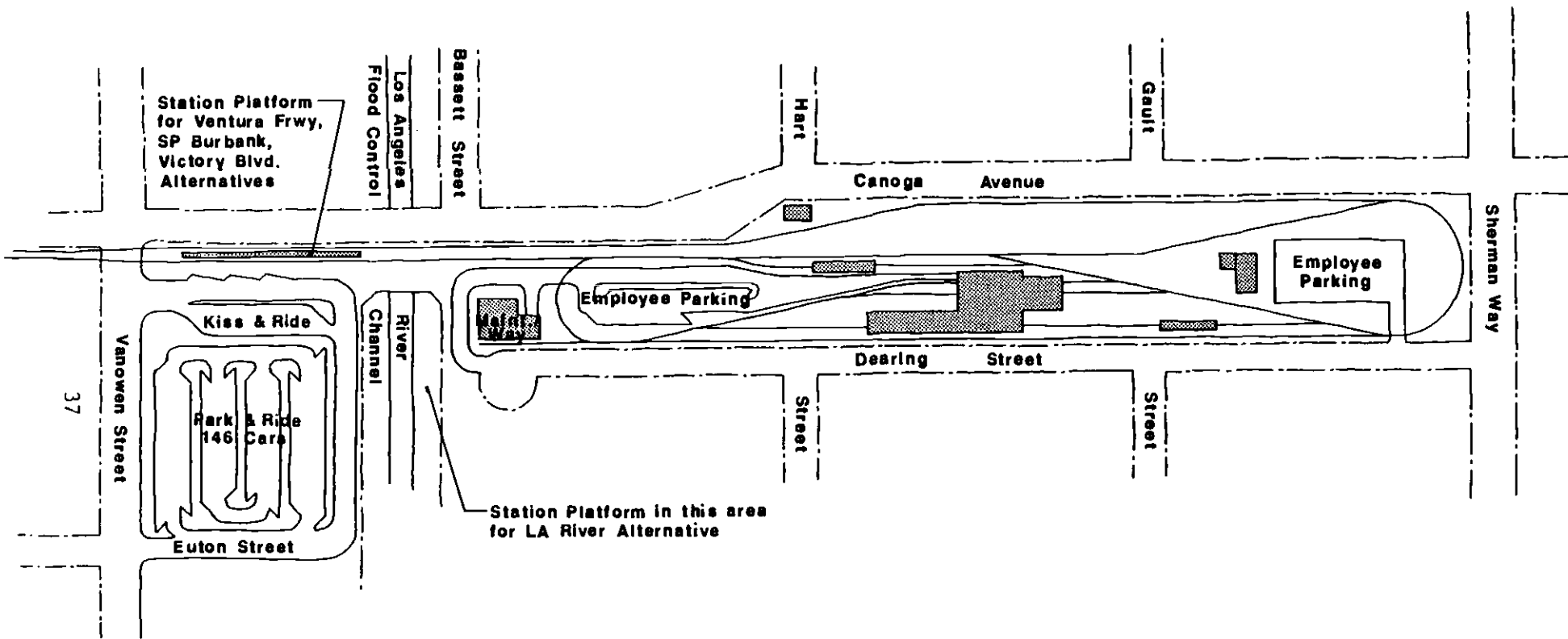
At-grade alignments along Victory Boulevard were not considered feasible because they would require the loss of at least two traffic lanes from this six lane street. This would reduce Victory Boulevard's carrying capacity by one third. Thus a large volume of auto traffic would be diverted to parallel streets significantly increasing traffic congestion in those areas.

For an aerial guideway, the median location was considered preferable to a side of Victory Boulevard alignment because it placed the aerial guideway further away from homes and businesses. Because these adjacent structures are without setbacks in many locations, an alignment along the side would have required displacement of the majority of uses along one side of the street.

Route Description

Sections of this route west of the San Diego Freeway are described in Section 2.3 as they are identical to that portion of the SP Burbank Branch line. The Hollywood Freeway and Lankershim Boulevard Options are described in Section 2.2 as they are identical to these portions of the SP Coast Mainline Alternative.

Victory Boulevard - This 4.0 mile route segment would be on elevated guideway in the center of Victory Boulevard. Figures 18 and 19 show typical conditions for the aerial guideway along Victory Boulevard at both a mid-block location and at a station area. The structure shown utilizes a single, 7 foot column width to support the guideway and station structure. At least one traffic lane would be lost and mid-block left turns would need to be prohibited due to columns and traffic barriers in the center of the street. At major intersections where stations will be located (Van Nuys, Woodman, Coldwater Canyon, Laurel Canyon) a long span structure of 125-150 feet would have to be constructed to span the 100 foot wide cross streets. Requirements for stairways or other vertical circulation elements would require additional property acquisition at the intersections. On the guideway structure itself, side platforms have been utilized which although less convenient than a center platform, are required by the single column structural support. Center platform stations are not considered feasible as they would require a double-column structural support system with a consequent loss of at least 2 traffic lanes.

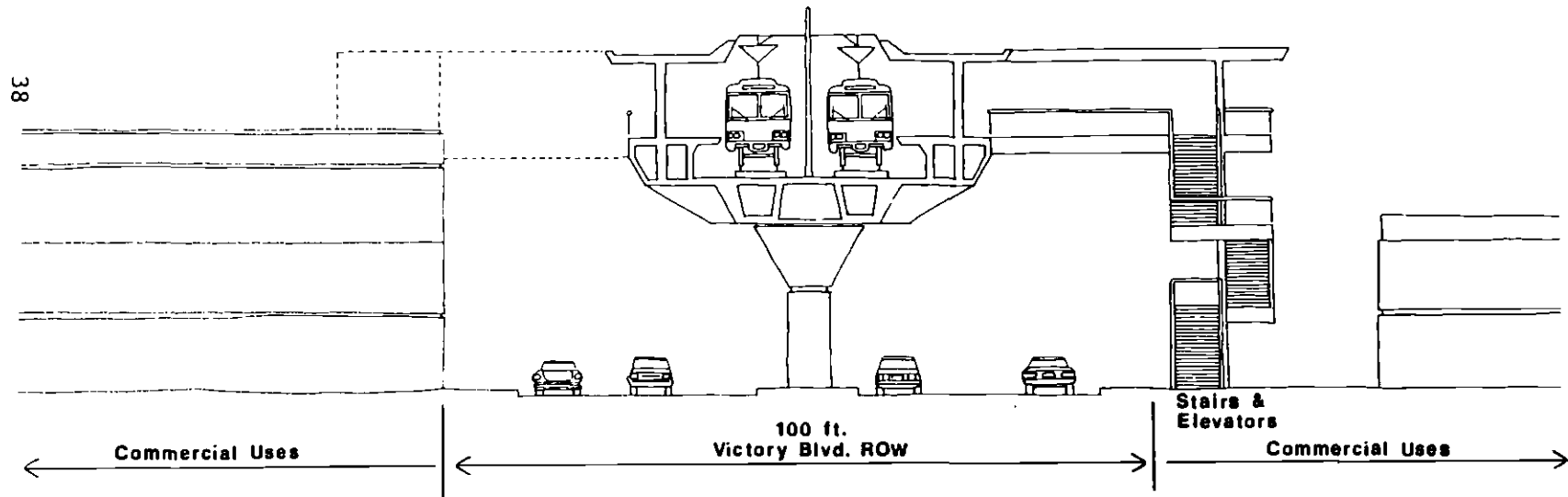
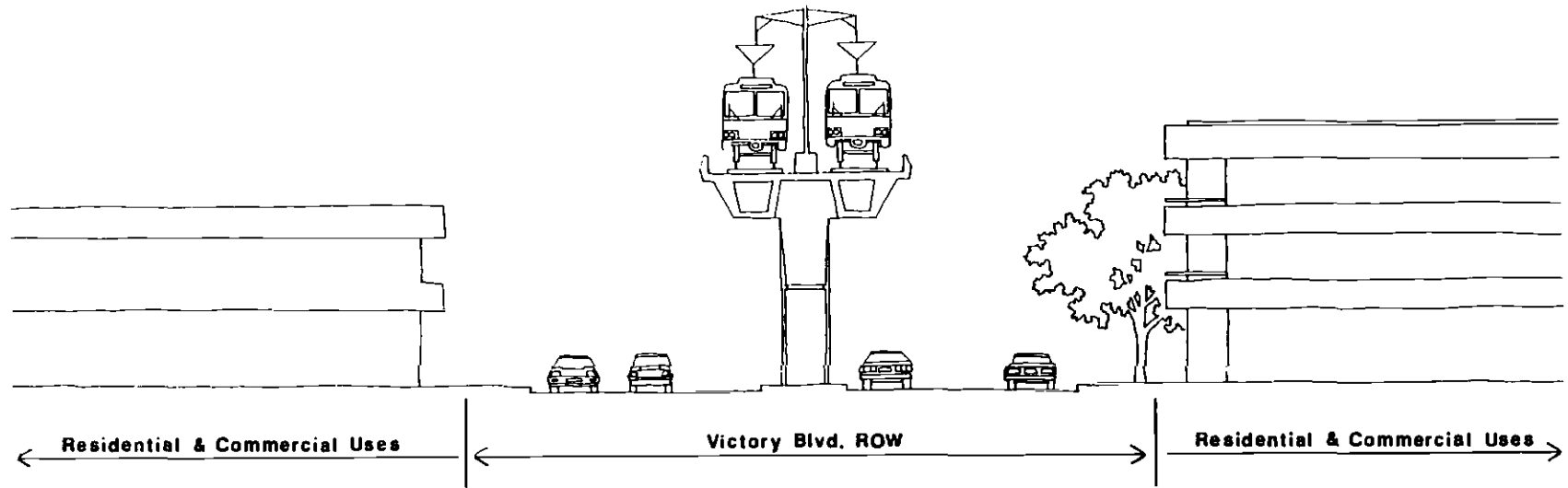


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**Figure 17
Proposed Rallyard #1
(Services all Routes Except
SP Coast Mainline Alternative)**





**San Fernando Valley
East/West Rail Transit Project**

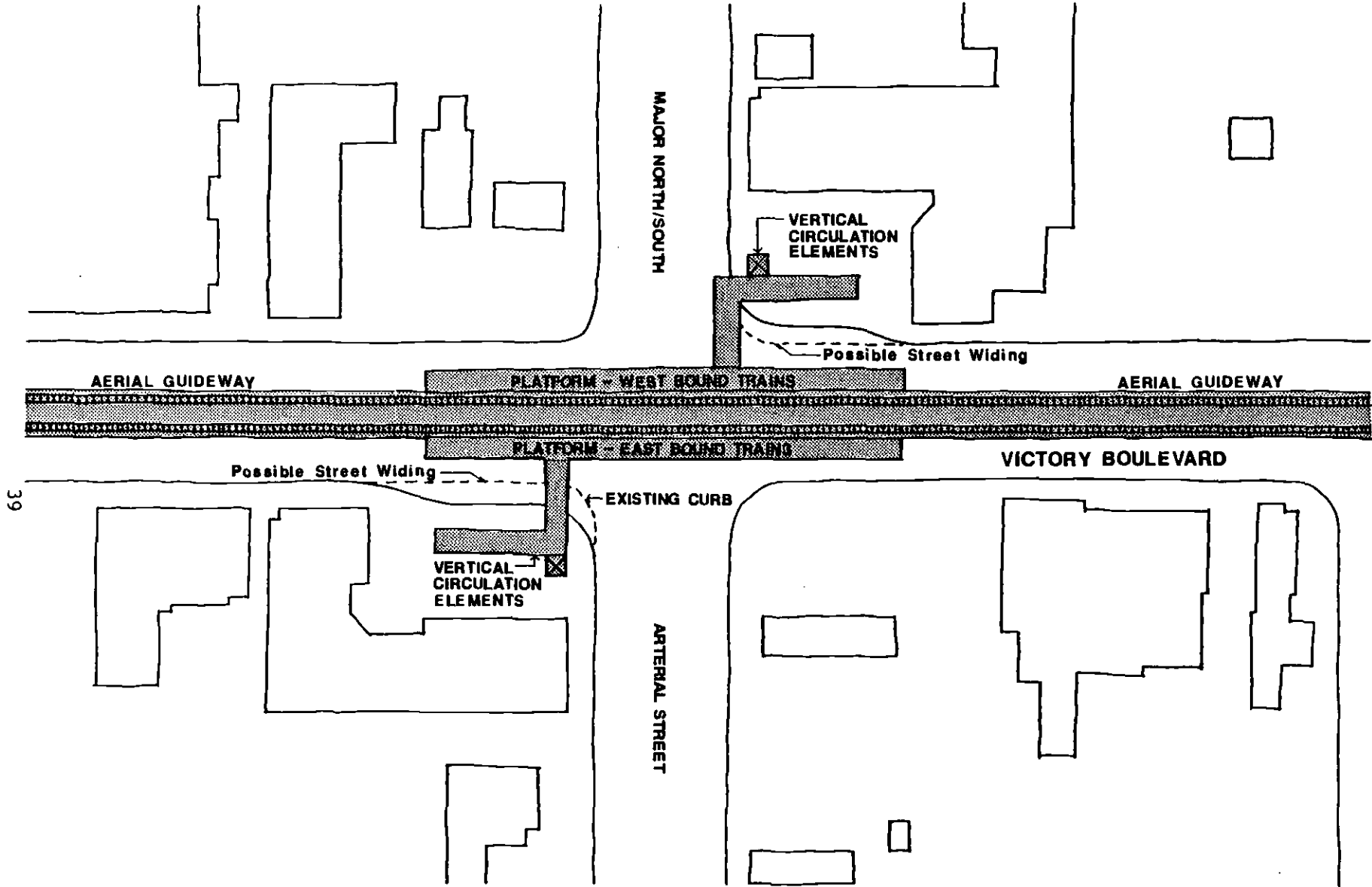


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**Figure 18
VICTORY BOULEVARD ALTERNATIVE
-Typical Sections**





**San Fernando Valley
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**Figure 19
VICTORY BOULEVARD ALTERNATIVE
- Typical Station Plan**



Between the San Diego and Hollywood Freeways the Victory Boulevard aerial guideway would be elevated approximately 20 feet above the existing street level. At each freeway crossing, the guideway would climb to approximately 50 feet in height in order to allow proper clearances beneath the guideway for Victory Boulevard and the freeway lanes. During construction up to two traffic lanes could be lost along the freeway.

Stations - The following stations would be proposed for the Victory Boulevard alignment:

<u>Station</u>	<u>Tentative Parking Spaces</u>
Topanga Canyon*	-
Oxnard/Owensmouth*	-
Victory/Owensmouth*	-
Winnetka	1,160 cars
Tampa	-
Reseda	370 cars
White Oak	475 cars
Balboa	400 cars
Woodley	440 cars
Sepulveda	-
Van Nuys	-
Woodman	-
Coldwater Canyon	-
Laurel Canyon	-
Hollywood Freeway/Victory*	-
North Hollywood	1,000 cars

*Indicates alternate station; see text for explanation.

East of the San Diego Freeway the alignment would have elevated stations spanning over intersections at Sepulveda, Van Nuys, Woodman and Coldwater Canyon. The Hollywood Freeway Connector Option would have a station located within the Valley Plaza Shopping Center parking lot, while the Lankershim Boulevard Option would provide an elevated station in the center of Victory Boulevard. The total parking for the Victory Boulevard Route Alternative is about 3,845.

2.5 Ventura Freeway Route Description

The Ventura Freeway alignment would follow the freeway except for the two end sections. At the west end the route would run north/south along Canoga Avenue passing through Warner Center. At the east end, the alignment would leave the Ventura Freeway to travel south to Universal City along the edge of the Hollywood Freeway. The alignment is 16.3 miles long, of which 13.0 miles are along the Ventura Freeway, 1.8 miles are through Warner Center, and 1.3 miles are along the Hollywood Freeway.

Basis for Design

Based on investigation conducted to date and discussions with Caltrans, the recommended route description assumes an edge-of-freeway placement for the aerial guideway based on the following considerations:

- It is assumed that no existing freeway capacity can be removed in order to accommodate the aerial guideway.
- Once Caltrans' currently committed widening program is completed, the nominal remaining median width will be ± 4 feet.
- Provision of a freeway median aerial guideway could be accomplished by widening one side of the freeway by ± 6 -feet. However, the structural requirements for a center-platform aerial transit station would require widening the freeway by at least 17 feet at station locations, with transition areas of $\pm 1,000$ -feet in either direction for freeway lanes. Major business and residential displacement is necessary to accommodate this widening. Further, provision of transit patron access (including the handicapped) to such freeway-median locations would require major structures providing vertical access up to a concourse to traverse over the freeway lanes, and a second vertical access mode (including elevators) to the center platform.
- In conclusion, the freeway-adjacent guideway placement appears to be the most feasible location for the purposes of this study. However, it should be noted that this location represents a competition with Caltrans for the minimal remaining unused right-of-way. Further, the freeway-adjacent alignment would likely represent serious design constraints and need for additional right-of-way acquisition by Caltrans if a partial or full freeway double decking, currently under study by Caltrans, were to occur in the future. In the final analysis, the facility that would provide the greatest transportation capacity may be the result of a joint LACTC/Caltrans transitway-freeway project if this is the route ultimately selected for implementation.

In general, as the majority of the ridership for this route alternative would be coming from the north, it would be preferable to locate the alignment on the north side of the freeway. However, to facilitate traffic operations, reduce residential impacts and enhance station access on the western portion of the route, the alignment has been preliminarily located on the south side of the freeway between Canoga Avenue and Reseda Avenue. This area is adjacent to Ventura Boulevard and is predominantly commercial, whereas the north side of the freeway in this area is predominantly residential.

Route Description

Canoga Avenue Segment - This segment would run from the rail yard at Vanowen Street along Canoga Avenue to the Ventura Freeway at the south. Between

Vanowen and Victory Boulevard the line would run at-grade on the east side of the street. At Victory Boulevard the line would become elevated in the center of Canoga Avenue to Burbank Boulevard where it would cross back to the east side of Canoga before crossing over the Ventura Freeway. Figure 20 shows the typical conditions along Canoga Avenue.

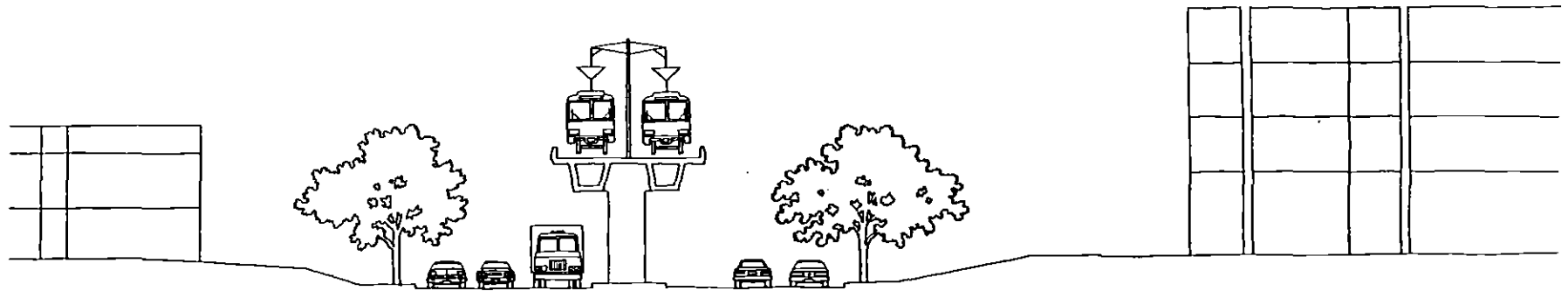
The support structures for an elevated guideway would occupy about 12 feet of street width in Canoga Avenue and thus would cause several impacts to Canoga Avenue. There are two geometric concepts along Canoga Avenue for elevated in-street rail service within the existing right-of-way. Concept one would require prohibiting the mid-block left turns while maintaining the existing three through lanes in each direction. Concept two would require the reduction of one through lane from 3 to 2 in each direction while allowing left-turn movements from the third lane at mid-block sections. These modifications for both concepts would cause a reduction in intersection capacity at street crossings.

An option to the above location would be to keep the aerial guideway on the east side of Canoga Avenue and not cross into the street median. This would eliminate traffic impacts to that street; however, it would place the guideway structure immediately adjacent to several mid-rise office structures. Such a location would cause significant impacts to those properties as well as affecting the design of transit stations along this route segment.

Stations along this route segment are proposed at Vanowen, Victory and Oxnard Streets. The Vanowen Station would be at-grade on the east side of Canoga Avenue. The stations at Victory and Oxnard would be aerial structures in the center median of Canoga Avenue. Side platforms would be necessitated by the single-column support structure used for the guideway. The guideway for the structure would be a dual track box girder system set on single piers spaced 90 to 120 feet apart.

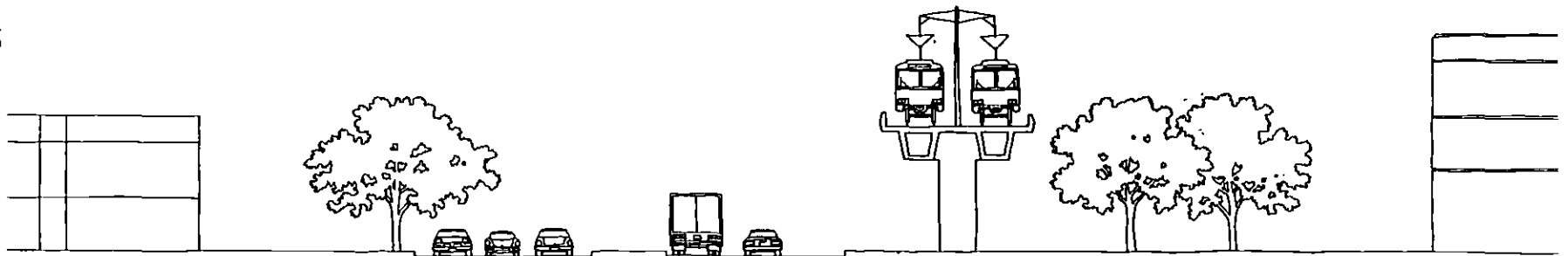
South of Burbank Boulevard the aerial rail line would travel along the east side of Canoga Avenue passing through private parking lots. As the rail line approaches the Ventura Freeway, the elevation of the guideway would increase to cross over the freeway. Starting from Burbank Boulevard, the line would gradually rise and curve slightly as it passes through the Litton parking lot. Passing over the freeway, the structure would decrease in height and parallel the freeway before entering the De Soto Station. During construction up to two traffic lanes could be lost along Canoga Avenue.

Ventura Freeway Route Segment - Because the Ventura Freeway is almost entirely above existing grade no overcrossings would be required and the rail transit line would be able to travel along the edge of the freeway



CANOGA AVENUE TYPICAL CONDITION - Victory Blvd. to Burbank Blvd.

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CANOGA AVENUE TYPICAL CONDITION - Burbank Blvd. to Ventura Freeway

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**Figure 20
VENTURA FREEWAY ALTERNATIVE
-Typical Sections / Canoga Ave.**

without encountering freeway overpasses. Figure 21 illustrates the typical edge-of-freeway condition for this route. Generally, an aerial guideway would be located on the side slope embankment between the freeway lanes and the edge of right-of-way. Between De Soto and Winnetka Avenues, the freeway is in a cut section requiring that the alignment be located at the bottom of the existing side slope. Retaining walls would be required along this route segment.

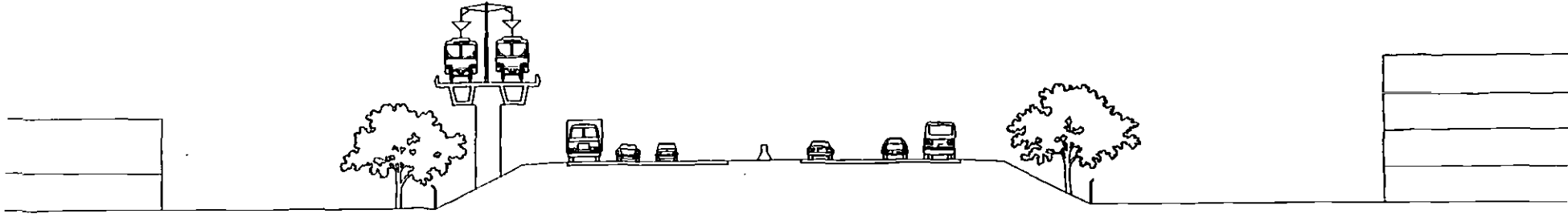
Figure 22 illustrates the typical condition at a station site located at any of the major north/south arterial street interchanges. As shown, the guideway would have to flare out to avoid conflict with existing freeway ramps. This would necessitate the taking of property outside of the Caltrans right-of-way with building displacement required at most interchange locations.

The De Soto, Winnetka, Tampa and Reseda Stations would be aerial structures located on the south side of the freeway. The aerial guideway would run along the freeway sideslope in this area and would require additional right-of-way at station areas and at freeway interchanges. Near where Burbank Boulevard passes beneath the Ventura Freeway the aerial guideway would cross the freeway to its northern side, then parallel it eastward to the White Oak Station. Continuing eastward along the northern right-of-way limits of the Ventura Freeway, the next station would be located within the Sepulveda Basin Recreation Area at Hayvenhurst. The route would then run on top of the berm of the Sepulveda Basin to the spillway area and come off the berm onto very high piers and cross I-405 to the station at Sepulveda Boulevard. The aerial structure would continue between the flood channel and the north side of the freeway to Van Nuys Station where it would follow the flood channel and freeway embankment to Woodman Station. Near Hazeltine Avenue a long span structure would be required to cross the LA River Flood Channel.

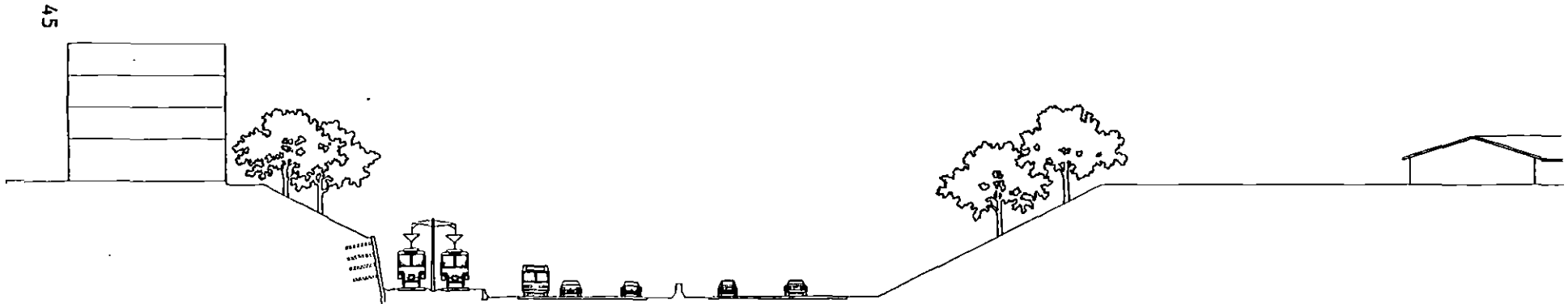
Approximately 2,000' feet west of Laurel Canyon Boulevard the alignment would cross over the Ventura Freeway. The station at Laurel Canyon would be on the south side situated on a large parcel between the LA River and the freeway. From this point eastward the route would remain on the south side. There are two reasons for this: one, there is more room on this side for the aerial structure; and two, crossing the Ventura and Hollywood Freeways and the on/off ramps from the north would require a huge structure 40-50 feet high. Hence, a much simpler and cost-effective method of crossing the Hollywood Freeway could be accomplished by traversing it just south of this interchange.

Construction of the Ventura Freeway Route Segment would be difficult with several impacts to be expected including the following:

- As there are few freeway frontage roads, most of the construction would have to be done from the shoulder of the existing highway.
- Due to the size and operational requirements of the heavy construction equipment, at least one traffic lane would be lost for the duration of the construction period.



TYPICAL EDGE OF FREEWAY CONDITION - Canoga Ave. to Universal City



TYPICAL CONDITION ALONG DEPRESSED FREEWAY SECTION - Between De Soto Ave. & Winnetka Ave.

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**Figure 21
VENTURA FREEWAY ALTERNATIVE
Typical Sections**

- Night time construction could probably not take place as construction would be extended in long segments that would be hard to adequately light. In residential areas, such noise and lighting at night would be unacceptable.
- At the Canoga Avenue, Burbank Boulevard, San Diego Freeway, Laurel Canyon and the Hollywood Freeway overcrossings, cast in place long span box girder structures would be required. The resulting shoring and form work would occupy at least two travel lanes for the duration of construction.

Hollywood Freeway Route Segment - This route alternative joins the Vineland Extension route at Vineland Avenue. The elevated guideway would connect from the west side of the Hollywood Freeway to the east side of the Hollywood Freeway.

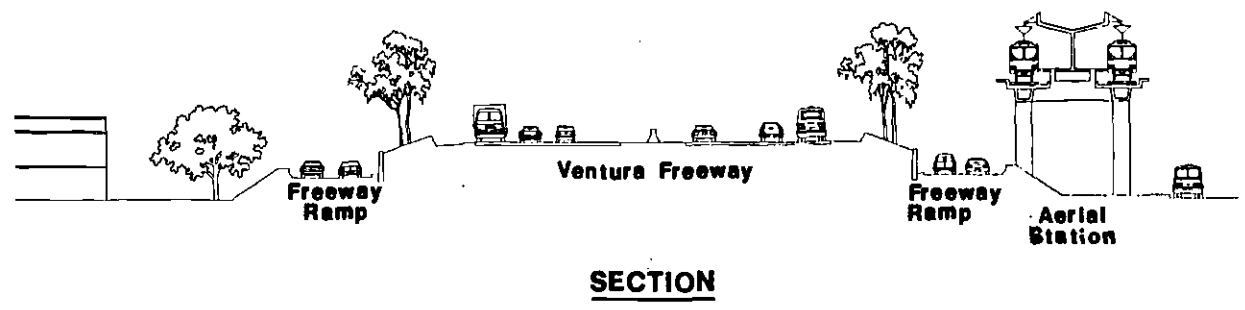
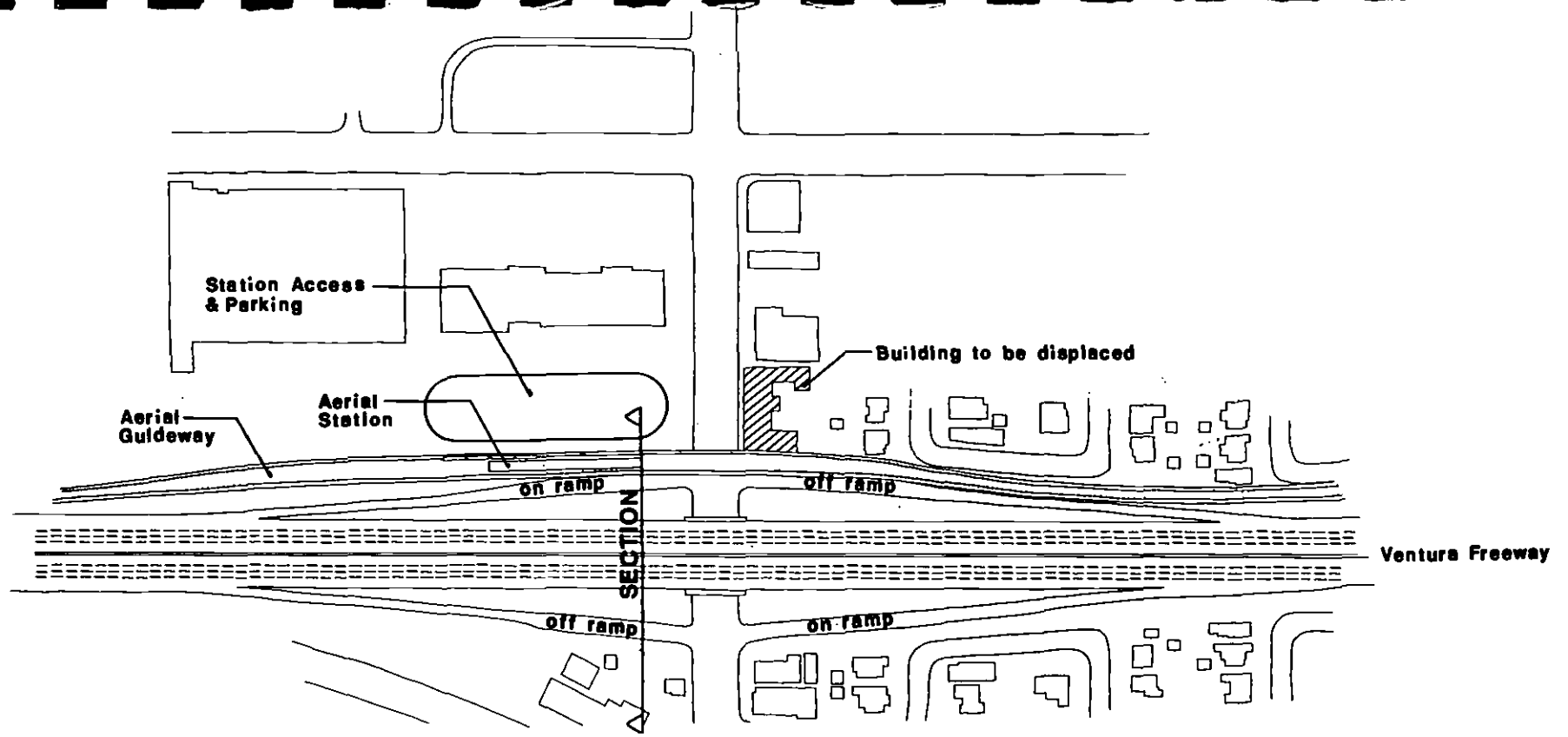
Proceeding southward along the east side of the Hollywood Freeway, after clearing Vineland Avenue the aerial structure would gradually decline, winding its way between the flood channel and highway embankment. The guideway would pass over the LA River, come down at-grade behind Weddington Park, and continue downward onto a cut section and further downward tunnelling underneath Bluffside Drive to join the Metro Rail's Universal City station.

Stations - There would be a total of 15 stations along this alignment of which five would have park-and-ride facilities (excluding the park-and-ride facility at the Universal City Metro Rail Station). The following stations and parking would be proposed with this alignment:

<u>Station</u>	<u>Tentative Parking Spaces</u>
Vanowen	200 cars
Victory	-
Oxnard	-
De Soto	-
Winnetka	300 cars
Tampa	-
Reseda	-
White Oak	-
Hayvenhurst	650 cars
Sepulveda	500 cars
Van Nuys	-
Woodman	400 cars
Coldwater Canyon	-
Laurel Canyon	-

A total of about 2,050 spaces would be provided for this alignment. In general, station access along this alignment would be difficult due to geometric complexities and proximity to freeway ramps at the stations.

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**Figure 22
VENTURA FREEWAY ALTERNATIVE
- Typical Station**



2.6 Los Angeles River Route Description

The Los Angeles River Route Alternative would follow the alignment of the Los Angeles Flood Control Channel except for a segment along the Hollywood Freeway near Universal City. The alignment is a total of 15.1 miles long, of which 14.7 miles are in the flood control channel right-of-way and 0.4 miles are along the Hollywood Freeway.

Basis for Design

Criteria used in the design of this route, in addition to LACTC standards were provided by the Los Angeles County Flood Control District and the US Army Corps of Engineers. In consultation with these agencies, the following specific guidelines were developed for a rail line along the river:

- Any structure built above the existing channel could not decrease the hydraulic capacity or obstruct the flow of water in the channel.
- Existing service/maintenance roads on the banks of the river channel would need to be maintained with sufficient overhead clearance to allow Flood Control District maintenance equipment to clearly pass and operate. This would require a minimum of 15 feet of clearance from the top of such equipment to the underside of an overhead guideway structure. Allowing 10 feet of height for such equipment, a total clearance of approximately 25 feet above grade would be required.
- Flood storage capacity within the Sepulveda Basin would need to be maintained; i.e., volume lost to new structures within the basin would need to be recaptured elsewhere. As the rail line would need to be elevated above 100-year flood water levels within the Sepulveda Basin, an aerial guideway supported on piers or columns would minimize such flood capacity displacement.

Based on the above design criteria and discussions with affected agencies, a recommended route configuration was developed utilizing an aerial guideway along the edge of the river channel. In this position the rail line could generally be contained within existing public rights-of-way without interfering with the capacities of the flood control structure. At station areas where the rail line would require greater width to accommodate station platforms and circulation requirements, additional right-of-way would be required.

An entirely at-grade system along the banks of the river channel was not considered feasible as the greater width required would have resulted in residential property takings along extended segments of the route.

Route Description

Between Canoga Avenue and the Sepulveda Basin, the alignment would run on the north side of the river channel. Land uses are predominantly single family residential along both sides of the flood channel in this area, but a

north side alignment better serves transit patrons coming to stations from north of the line. East of the Sepulveda Basin Dam the alignment would be predominantly on the south side of the channel in order to pass adjacent to more non-residential areas located near Ventura Boulevard.

This alignment crosses a total of 27 arterial roadways, of which 13 are major arterials and 14 are secondary arterials. At this point in the study, it is assumed that all rail crossings will be above the bridges provided for street crossings of the river channel.

It is possible that some of these bridge crossings could be rebuilt to provide at-grade rail transit crossings. This would allow portions of the alignment to run at-grade at the side of the flood channel, thus reducing costs and impacts from aerial guideway sections on adjacent properties. Of the 27 total existing crossings, 14 would probably need to be grade-separated and 13 could potentially be at-grade.

Western Project Area - Between Canoga Avenue and the Sepulveda Basin the LA River Flood Control Channel is configured in a concrete lined trapezoidal section. Figure 23 shows the proposed aerial guideway configuration in this area. It is proposed that the channel wall be reconstructed into a vertical wall on the north side and that guideway support piers be incorporated into the new construction. The LA County Flood Control District requires that existing flood capacities be maintained and such a configuration would provide equal or greater flood control capacity in this channel section. Additionally required service/maintenance road access to the channel would dictate that the elevated guideway provide 15 feet of clear space over service vehicles. The elevated guideway would thus be approximately 25 feet above existing grades, and very high above the flood channel and adjacent residences.

Construction of the aerial guideway in the trapezoidal section of the river channel between De Soto Avenue and Balboa Boulevard would require demolition of the northern concrete side followed by excavation, shoring and forming of the vertical wall and guideway support structure. The construction would necessitate working in the channel itself, thus it is imperative that work be performed during the dry summer months. A cofferdam would be necessary to protect the construction site and to prevent undermining of the existing channel in the event of flooding.

Eastern Project Area - East of the San Diego Freeway, the Flood Channel widens from a trapezoidal section to a vertical wall configuration. The alignment would run on aerial guideway beside the channel through this area. In some sections, property taking would be required due to station requirements and right-of-way constraints. Speed limitations on the rail vehicles would limit operational efficiencies of the line in this section due to tight curves along the river channel. A design speed as low as 25 miles per hour would be required at some of the curves in this section with an average speed of 32 miles per hour for the five mile section between Sepulveda Boulevard and the Tujunga Wash (excluding station stops). This would be significantly lower than the 55 mph design speed used for other alignments.

In general, since the river channel has many curves, it would be preferable to straighten the alignment by crossing back and forth from one side to the other. This was found to be infeasible however, as it would require spans of between 160-200 feet for the diagonal crossings, which are too long for conventional construction techniques.

Within the Sepulveda Basin itself, the aerial structure would be very high in order to stay over the 725 foot elevation above sea level required for a 100 year flood level. A very large pier/box girder is necessary in order to pass over the earth berm adjacent to the Sepulveda Dam. This structure would continue on the southwest side of the dam spillway, cross over the San Diego Freeway and enter the Sepulveda Station on the south side of the vertical walled flood channel.

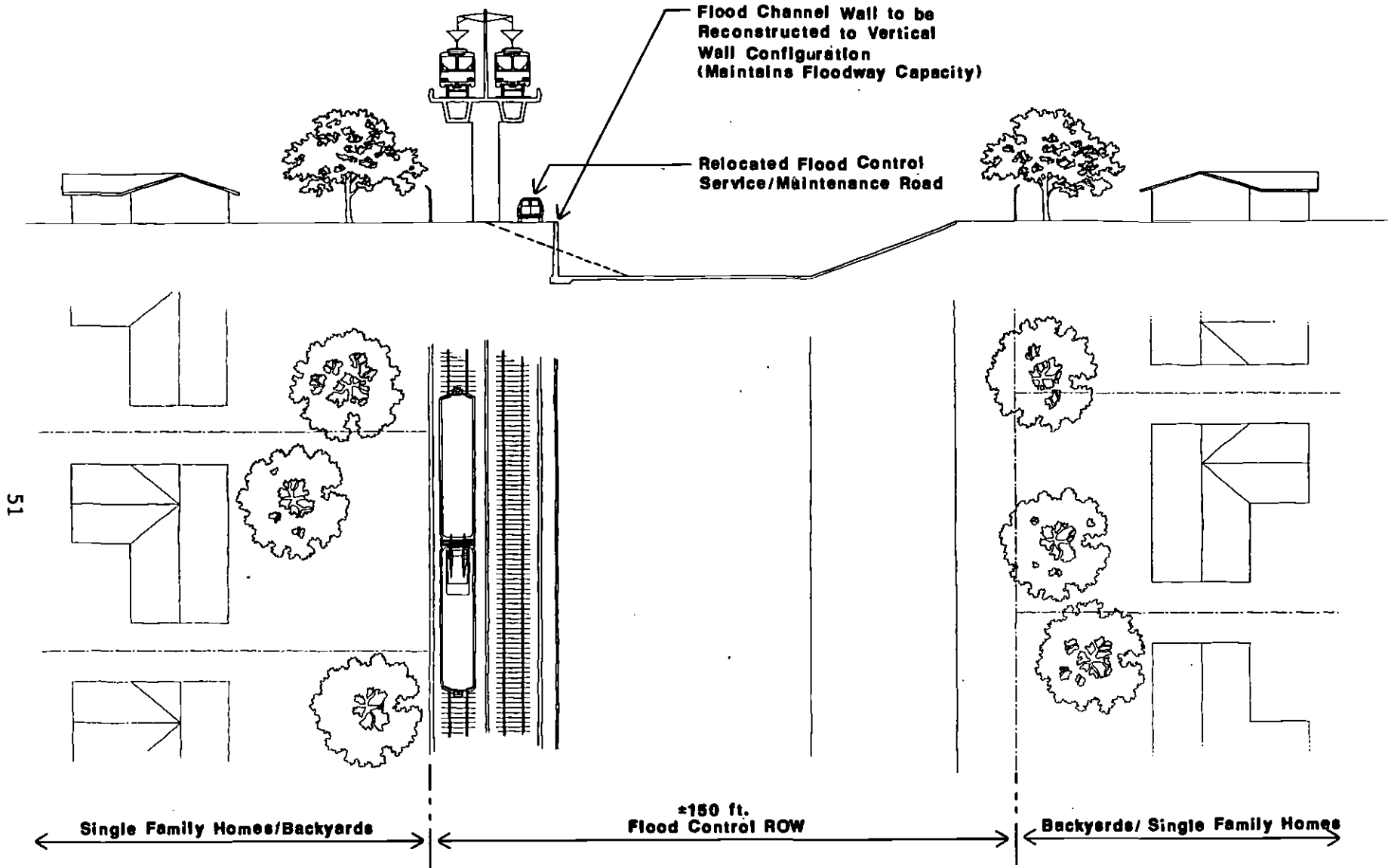
From Sepulveda Station to Hazeltine Avenue the alignment would continue on the south side of the channel. At this point, the aerial guideway would cross to the north side, span over Hazeltine and the Ventura Freeway. A structure 320 feet long and 50 feet high would be required, necessitating the placement of a structural support in the median of the freeway, with consequent widening of the freeway required to accommodate necessary lane transitions around the widened median. After crossing the freeway, the alignment would follow the north side of the river channel, through the station site at Woodman Avenue, and then cross to the south side at Laurel Grove Avenue for the remainder of the route. At the Hollywood Freeway, another extensive flyover structure would be required such as the one described for the Ventura Freeway Crossing.

Construction access to the river channel for construction of the rail transit would be difficult. A construction easement would need to be created which would most likely pass through private properties. At Hazeltine Avenue and Laurel Grove Avenue, construction within the river channel would be required to accommodate rail crossings, with consequent requirements for summertime construction, to minimize flood hazard. Closure of at least two traffic lanes on the Ventura and Hollywood Freeways would be required for the construction of rail crossings.

Hollywood Freeway Segment - This route alternative joins the Vineland Extension route at the crossing of the flood channel and the Hollywood Freeway. The aerial guideway would cross over Vineland Avenue in this area, fly over the Hollywood Freeway on aerial guideway and turn south to join the Vineland route along the east side of the Freeway where it would run for 1500 ft. to enter the Universal City Station.

Stations

There would be a total of 13 stations for this alternative of which seven would have park-and-ride facilities. A total of about 3,100 parking spaces would be provided at these facilities. The proposed stations and parking on this alignment are as follows:



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**Figure 23
LA RIVER ALTERNATIVE
Typical Plan / Section**



<u>Station</u>	<u>Tentative Parking Spaces</u>
Canoga	200 cars
De Soto	-
Winnetka	200 cars
Tampa	-
Reseda	-
White Oak	1,000 cars
Balboa	1,000 cars
Sepulveda	500 cars
Van Nuys	-
Woodman	100 cars
Coldwater Canyon	-
Laurel Canyon	100 cars

In general, kiss-and-ride and bus drop-off opportunities would be easier to provide at stations located along the western segment of the alignment. In this area stations would be located more at mid-block locations which facilitates auto and bus circulation. However, potential problems include poor sight distance at locations where the roadway bridge is slightly elevated over the flood control channel and where the bridges are narrower than the roadway segments on either side creating potential bottlenecks at these locations. East of the San Diego Freeway, the alignment would be very close to either the Ventura Freeway or to Ventura Boulevard. Access would be far more difficult in this segment due to complex geometrics, high traffic volumes and proximity to freeway ramps.

3.0 KEY ISSUES AND INITIAL FINDINGS

This section is divided into three parts. The first points out any particular engineering issue that requires clarification in the subsequent phase of the environmental study. The second reviews the types of land uses and activity centers adjacent to the routes, and the third illustrates the environmental impact potential of the alternatives. The environmental discussion is focused on the impact potential of rail lines adjacent to residential land uses. It describes the number of residences within a 100-foot distance from the guideway as an indicator of potential proximity impacts. These impacts may include noise, vibration, visual, and others. It does not mean, however, that the potential impacts would necessarily be significant, or insignificant, at this distance from the guideway. More precise assessments will be performed as part of the EIR preparation. The 100-foot distance is a general parameter that was used to focus the initial environmental review on some of the concerns the community has raised during public meetings. A discussion of the concerns is presented in Section 3.6. At this early phase in the study, cost estimates (right-of-way, construction, and operations) and patronage projections have not yet been prepared.

3.1 Southern Pacific Coast Mainline Alternative

Engineering Issue

As described in Section 2.0, the east-west segment of this route alternative can be constructed predominantly at-grade. In addition, by providing six new grade-separations (De Soto, Corbin/Nordhoff, Tampa, Balboa and Roscoe) and up to 13 crossing diamonds, conflicts with north-south vehicular traffic and existing freight rail service can be largely avoided along the SP Mainline portion of this route alternative.

No extraordinary engineering solutions are required. However, construction and/or reconstruction of 13 flood control and railroad bridges; relocation of 3.2 miles of SP Mainline tracks; and construction of a major bridge spanning the Hollywood Freeway would be required.

The critical element determining the engineering feasibility of this line is the cooperation of the Southern Pacific Transportation Company (SPTC), or its successor. The Santa Fe Southern Pacific Company has announced that it will divest itself of the SPTC subsidiary. The feasibility of building rail transit within the existing SP Coast Mainline is therefore uncertain until discussions with the railroad can be pursued in earnest.

The important factors requiring further discussion with the railroad companys include:

- Ability to grade separate freight traffic at the rail transit grade separations;
- Non-interference of passenger operations with the through freight service and service to local customers along the entire length of the right-of-way;

- Liability insurance to protect the railroad against claims for possible freight and/or passenger accidents; and
- Impacts to freight service during construction of passenger line.

The Hollywood Freeway option that connects the Mainline right-of-way with the Metro Rail North Hollywood Station is located on the perimeter of several parks. Therefore, parkland displacement and the potential activation of environmental processes must be investigated in more detail. The Lankershim/Tujunga connector route would cause significant traffic circulation impacts, both during construction and once the rail line is operational, since up to 12 feet of street width would be required for the aerial guideway piers.

Land Uses Adjacent to SP Coast Mainline

The predominant land use in this corridor is industrial/commercial (67%-81% depending on connector route option). Residential uses total only 12 to 14 percent (see Table 1 and Figure 24). From a valley wide land use perspective, the SP Mainline Route would not directly connect adopted activity centers, but would serve North Hollywood and would pass near Panorama City and California State University at Northridge (see Figure 25.).¹

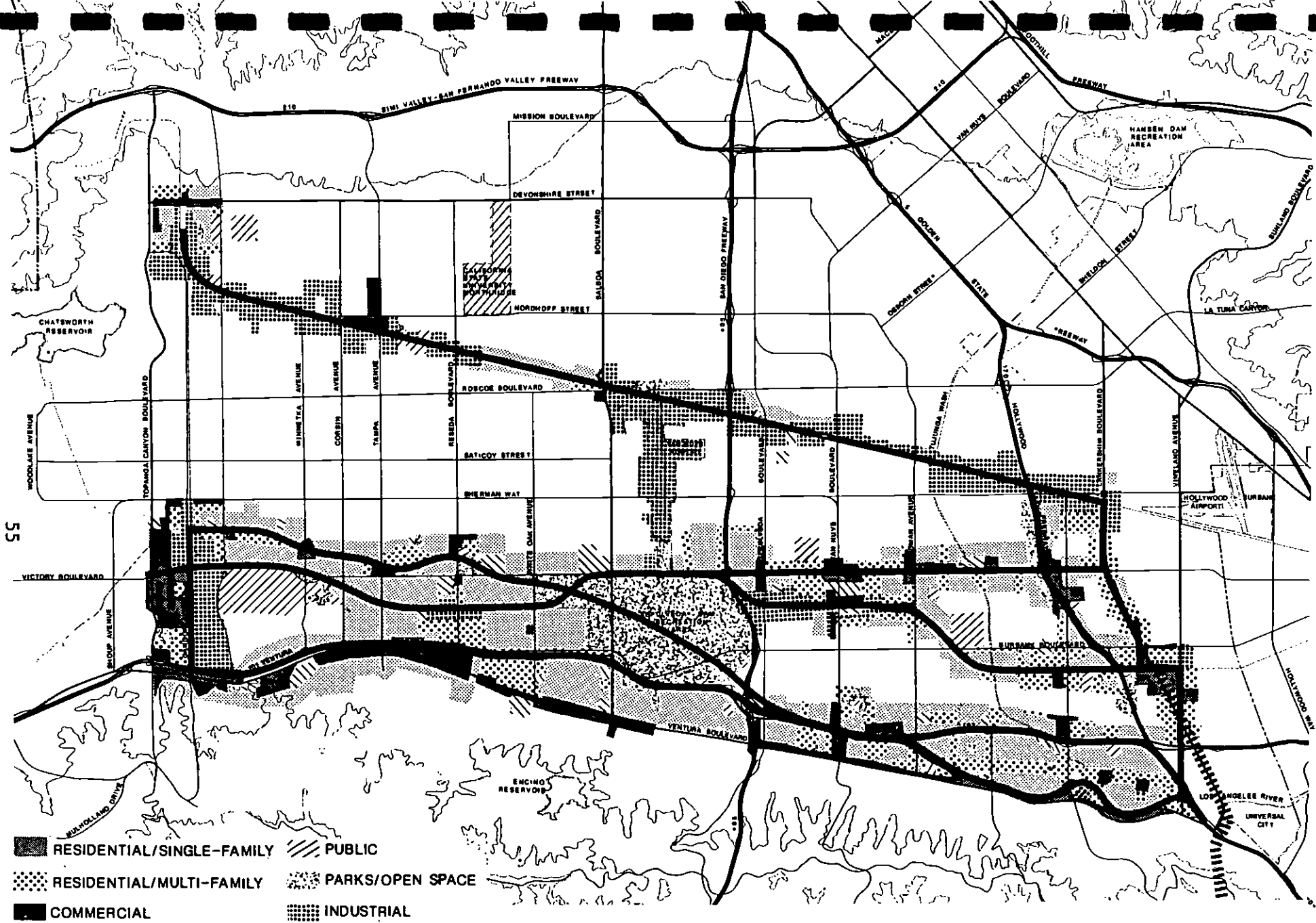
Impact Potential

The SP Coast Mainline Route has 12-14 percent of its length adjacent to residential uses. In general, all things being equal, an aerial guideway adjacent to residential uses would generate more significant impacts than an at-grade guideway. Given these assumptions, the following information can be summarized from Tables 2 and 3, depending on connector option to North Hollywood or Universal City:

- An at-grade configuration would be adjacent to residential areas for 8-10 percent of the route length and would be within 100 feet of 95 residential structures.
- An aerial guideway would be adjacent to residential land uses for roughly 4 percent of the total length and within 100 feet of 0-50 residential structures (depending on the connector option).

Table 3 also indicates that this alternative would contain 1 to 2 stations in residential areas, one of which may be elevated. Transit stations are frequently the focus of significant activity and are thus an important early indicator of potential residential area impacts which must be carefully assessed.

¹ Adopted centers are shown in the City of Los Angeles Ordinance No. 161684 effective 11/3/86.



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Figure 24
PLANNED LAND USES



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Table 1

PRELIMINARY

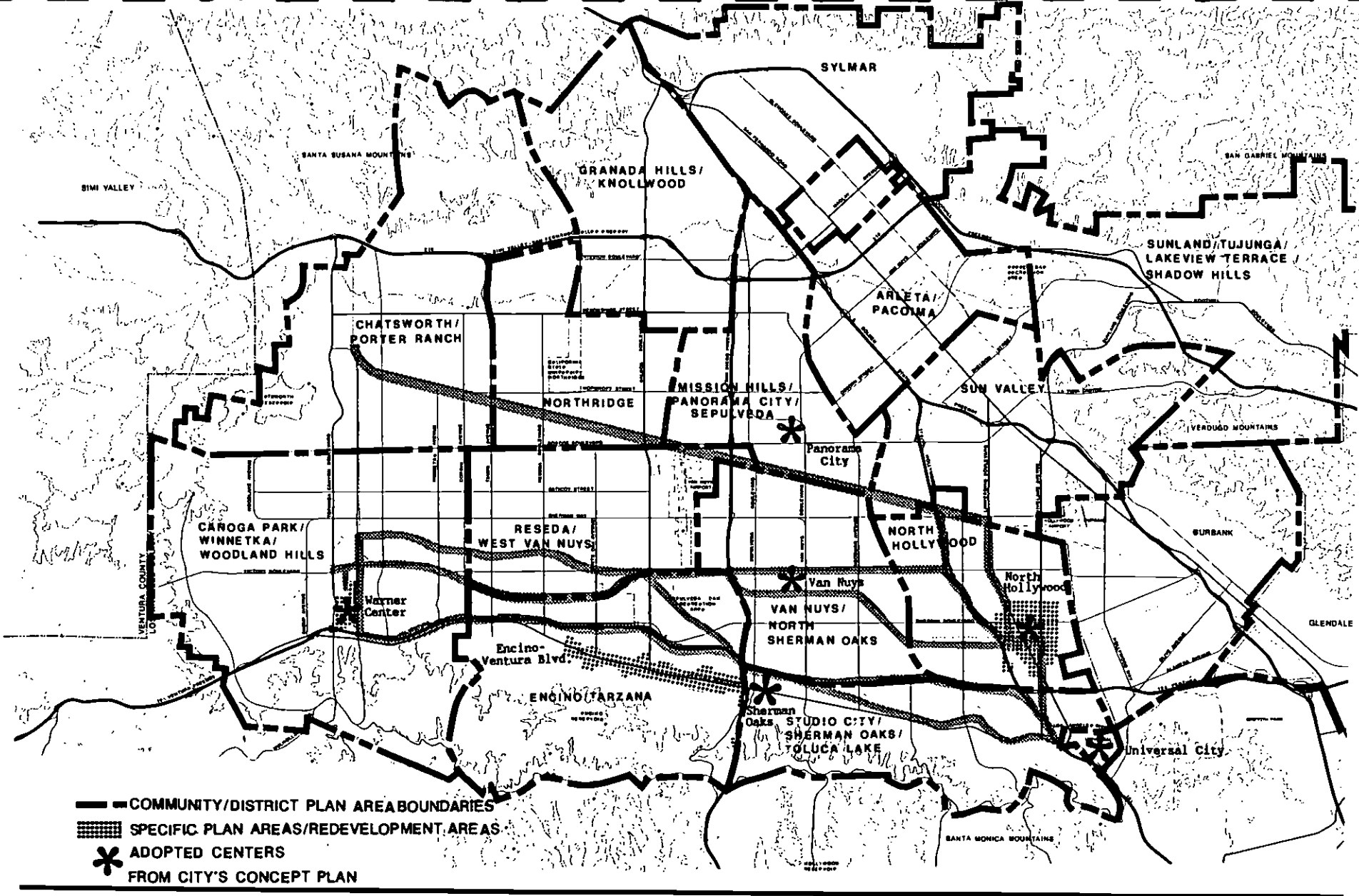
LENGTH OF PLANNED LAND USES ADJACENT TO ROUTE ALTERNATIVES
(In Miles)

PLANNED USES	SP COAST MAINLINE				VICTORY BOULEVARD				SP BURBANK BRANCH		LA RIVER	VENTURA FWY.*
	to North Hollywood via Lankershim	to North Hollywood via Hywd. Fwy.	to Universal City via Lankershim	to Universal City via Hywd. Fwy.	to North Hollywood via Lankershim	to North Hollywood via Hywd. Fwy.	to Universal City via Lankershim	to Universal City via Hywd. Fwy.	to North Hollywood	to Universal City	to Universal City	to Universal City
Residential	3.70 (11.7%)	3.90 (12.7%)	4.70 (13.2%)	4.90 (13.8%)	13.62 (47.5%)	13.00 (46.1%)	14.63 (43.5%)	13.97 (42.2%)	12.47 (45.0%)	13.61 (41.5%)	15.79 (52.3%)	6.67 (20.5%)
Public+	2.02 (6.5%)	3.30 (10.6%)	2.70 (7.3%)	3.80 (10.8%)	5.70 (20.0%)	6.20 (22.0%)	6.30 (18.7%)	6.80 (20.5%)	6.10 (21.9%)	6.80 (20.8%)	7.20 (23.8%)	2.25 (6.9%)
Commercial	3.50 (11.3%)	1.90 (6.3%)	5.90 (16.4%)	4.30 (12.0%)	5.56 (19.6%)	4.33 (15.2%)	7.95 (23.5%)	6.70 (20.2%)	3.04 (10.9%)	5.34 (16.2%)	3.13 (10.3%)	5.58 (17.1%)
Industrial	21.60 (70%)	19.30 (63.0%)	21.70 (60.3%)	19.50 (54.7%)	3.40 (11.9%)	3.60 (12.8%)	3.70 (11.0%)	3.70 (11.1%)	5.90 (21.2%)	5.80 (17.7%)	1.90 (6.3%)	1.61 (4.9%)
Freeway Adjacent	0.20 (.6%)	2.20 (.2%)	1.00 (2.8%)	3.10 (8.7%)	0.30 (1.0%)	1.12 (3.9%)	1.16 (3.3%)	2.03 (6.0%)	0.28 (1.0%)	1.25 (3.8%)	2.24 (7.3%)	16.49 (50.6%)
TOTAL (Both Sides)	31.00 (100%)	30.60 (100%)	36.00 (100%)	35.60 (100%)	28.60 (100%)	28.20 (100%)	33.60 (100%)	33.20 (100%)	27.80 (100%)	32.80 (100%)	30.20 (100%)	32.60 (100%)

* Note: Assumed "buffering" by freeway for this alternative.

+ Public uses include schools, religious institutions, and parks.

Source: Canoga Park, Chatsworth, Encino, Mission Hills, Reseda, Sherman Oaks, North Hollywood, and van Nuys Community and District Plans.



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0 4000 12000
Scale in feet



Table 2

ADJACENT RESIDENTIAL LAND USES BY GUIDEWAY CONFIGURATION
(Percentage of Total Length of Alternative Routes)

ALTERNATIVE	Length of Adjacent Residential - Both Sides Miles & Percent of Total			Total Length of Alternative Route (Both Sides)
	At-Grade	Aerial	TOTAL	
<u>SP COAST MAINLINE</u>				
1. No. Hollywood Via Fwy	2.74 (9%)	1.16 (4%)	3.90 (13%)	30.60
2. No. Hollywood Via Lankershim	2.42 (8%)	1.28 (4%)	3.70 (12%)	31.00
3. Universal City Via Fwy/Vineland	3.43 (10%)	1.47 (4%)	4.90 (14%)	35.60
4. Universal City Via Lankershim/Vineland	3.10 (9%)	1.60 (4%)	4.70 (13%)	36.00
<u>VICTORY BLVD.</u>				
5. No. Hollywood Via Fwy	5.96 (21%)	7.04 (25%)	13.00 (46%)	28.20
6. No. Hollywood Via Lankershim	6.33 (22%)	7.29 (26%)	13.62 (48%)	28.60
7. Universal City Via Fwy/Vineland	6.53 (20%)	7.44 (22%)	13.97 (42%)	33.20
8. Universal City Via Lankershim/Vineland	6.93 (21%)	7.70 (23%)	14.63 (44%)	33.60
<u>SP BURBANK BRANCH</u>				
9. North Hollywood	10.56 (38%)	1.91 (7%)	12.47 (45%)	27.80
10. Universal City	10.68 (33%)	2.93 (9%)	13.61 (42%)	32.80
<u>L.A. RIVER FLOOD CHANNEL</u>				
11. Universal City	0.00 (0%)	15.79 (52%)	15.79 (52%)	30.20
<u>VENTURA FREEWAY</u>				
12. Universal City	0.00 (0%)	6.67 (20%)	6.67 (20%)	32.60

Table 3

PRELIMINARY

INDICATORS OF RESIDENTIAL PROXIMITY IMPACTS

ALTERNATIVE	Length Adjacent To Residential - Both Sides, Miles			Number of Residential Structures Within 100 Feet (Distance from edge of guideway)						Number of Stations in Residential Areas		
	At-Grade	Aerial	TOTAL	At-Grade			Aerial			At-Grade	Aerial	Total
				SF+	MF*	Total	SF	MF	Total			
<u>SP COAST MAINLINE</u>												
1. No. Hollywood Via Fwy	2.74	1.16	3.90	87	8	95	-	-	0	1	0	1
2. No. Hollywood Via Lankershim	2.42	1.28	3.70	87	8	95	1	22	23	1	1	2
3. Universal City Via Fwy/Vineland	3.43	1.47	4.90	87	8	95	5	22	27	1	0	1
4. Universal City Via Lankershim/Vineland	3.10	1.60	4.70	87	8	95	6	44	50	1	1	2
<u>VICTORY BLVD.</u>												
5. No. Hollywood Via Fwy	5.96	7.04	13.00	182	5	187	107	140	247	3	4	7
6. No. Hollywood Via Lankershim	6.33	7.29	13.62	182	5	187	107	162	269	3	5	8
7. Universal City Via Fwy/Vineland	6.53	7.44	13.97	182	5	187	112	162	274	3	5	8
8. Universal City Via Lankershim/Vineland	6.93	7.70	14.63	182	5	187	112	184	296	3	6	8
<u>SP BURBANK BRANCH</u>												
9. North Hollywood	10.56	1.91	12.47	300	68	368	47	3	50	5	2	7
10. Universal City	10.68	2.93	13.61	300	68	368	52	25	77	5	2	7
<u>L.A. RIVER FLOOD CHANNEL</u>												
11. Universal City	0.00	15.79	15.79	1	0	1	342	43	385	0	8	8
<u>VENTURA FREEWAY</u>												
12. Universal City	0.00	7.86	7.86	NA	NA	NA	85	39	124	0	5	5

+SF = Single Family Residential (includes mobile homes)

*MF = Multi-Family Residential

3.2 Southern Pacific Burbank Branch Alternative

Engineering Issue

The existing SP right-of-way varies from 60-100 feet wide and would be assumed to be fully dedicated for rail transit purposes. Due to the relatively wide existing right-of-way, construction-related impacts (particularly to traffic flow) would be relatively insignificant, with the exception of the possible Owensmouth Avenue aerial guideway option.

Land Uses Adjacent to SP Burbank Branch

As shown on Figure 24 and Table 1, the predominant land use adjacent to this route is residential (42-45 percent), followed by public (21-22 percent), industrial (18-21 percent), commercial (11-16 percent), and freeway-adjacent (1-4 percent). This route would directly connect three adopted activity centers (Warner Center, Van Nuys and North Hollywood), as well as serving Los Angeles Pierce College, Los Angeles Valley College, and Sepulveda Basin Recreation Center.

Impact Potential

The proximity impact potential for the SP Burbank Branch Route can be summarized as follows from the information contained in Tables 2 and 3:

- An at-grade guideway configuration would be adjacent to residential uses for 33-38 percent of its length, and within 100 feet of 368 residential structures.
- An aerial guideway configuration would be adjacent to residential uses for 7-9 percent of its length, and within 100 feet of 50-77 residential structures (depending on Universal City connector option).

As shown in Figures 14, 15, and 16, design concepts are possible to mitigate potential proximity impacts for the residential areas adjacent to an at-grade guideway. Further study of possible mitigation measures for the aerial guideway condition are required. Table 3 shows that the SP Burbank Branch would have 7 stations in residential areas, 2 of which would be elevated.

The community has strongly expressed concerns and opposition to this route alternative. Noise, vibration, decreasing property values, traffic conflicts, crime, safety, privacy and general neighborhood disruption are some of the impacts more frequently mentioned by the property owners living along this route. The EIR analysis will be focused to clearly address these issues as well as others considered appropriate by the consultant team and agencies responding to the EIR Notice of Preparation.

3.3 Victory Boulevard Alternative

Engineering Issue

The most significant feasibility factor for this route would be the construction of the proposed aerial guideway within the median of Victory Boulevard. Construction of this segment would require the temporary closure of at least two traffic lanes during construction, and the permanent loss of at least one traffic lane and prohibition of mid-block left-turn lanes. Further, provision of aerial transit stations along Victory would require private property takings in order to provide necessary patron access to these stations, none of which are proposed to have park-and-ride facilities. An additional engineering problem and environmental issue would be the large transit bridge structure required to cross over the Hollywood and San Diego Freeways from Victory Boulevard.

Land Uses Adjacent to Victory Boulevard Alternative

As shown in Table 1 and Figure 24, the predominant land use adjacent to this route is residential (42-48 percent), followed by public (19-21 percent), commercial (15-24 percent), industrial (11-13 percent), and freeway-adjacent (1-6 percent). Like the SP Burbank Branch Route, this alternative would also directly connect Warner Center and North Hollywood, as well as serving Van Nuys, Los Angeles Pierce College, and the Sepulveda Basin Recreation Center. An additional issue relative to land uses would be the potential effect of an aerial structure adjacent to commercial buildings. Specifically, the elevated guideway may potentially block visibility of and access to commercial uses.

Impact Potential

As shown on Tables 2 and 3, proximity impact indicators for this route include the following:

- An at-grade guideway configuration would be adjacent to residential uses for 20-22 percent of its length, and within 100 feet of 187 residential structures.
- An aerial guideway configuration would be adjacent to residential uses for 22-26 percent of its length, and within 100 feet of 247-296 residential structures (depending on connector options to North Hollywood and Universal City).

The most significant proximity impact issue for this route is the presence of an aerial guideway immediately adjacent to residential structures along Victory Boulevard (see Figure 18). Further study of ways in which this situation can be mitigated will be undertaken during preparation of the EIR; however, in general, this represents a very difficult condition to effectively mitigate. Table 3 indicates that this alternative would contain 7 to 8 stations in residential areas, 4 to 6 of which would be elevated.

This route is identical to the SP Burbank Branch Route west of the San Diego Freeway, thus concerns raised with regard to residential neighborhood impacts in the western segment of that route apply here. The critical issues pertaining to this route alternative are: (1) the traffic circulation impacts created by placing an aerial guideway in the median of this major east-west arterial; and (2) the proximity impacts upon adjacent residential and commercial uses created by the presence of the guideway and the transit stations along Victory Boulevard.

Property owners on the portion of the route along Victory Boulevard have expressed similar concerns as the owners along the entire SP Burbank Branch Line alternative.

3.4 Ventura Freeway Alternative

Engineering Issue

The most significant engineering issue for this route would appear to be the effect of the construction activities on freeway operations and traffic, since such construction activities could require temporary loss of one lane for long segments and localized losses of up to two lanes for major transit bridge structures.

Another construction difficulty is building stations near freeway on- and off-ramps. Construction activity at the station sites would severely disrupt already congested traffic conditions at these locations. Congestion at station sites would also be a problem after transit operations begin.

A construction phasing program would need to be developed to address construction-related impacts on freeway operations and traffic circulation at and around off-ramps. The program would need to consider methods of maintaining traffic flow on the freeway and arterials feeding the ramps, given the potential temporary loss of 1-2 freeway lanes and additional arterial lanes during construction. This temporary loss of lanes could prove to be of major significance. Another significant issue is the fact that introduction of the guideway transit system would effectively preclude Caltrans from ever developing a partial or full double decking of this freeway. If this route is ultimately selected for implementation, the most likely outcome would be the formulation of a joint Caltrans-LACTC freeway-transitway improvement program.

Land Uses Adjacent to Ventura Freeway Alternative

With the Canoga Avenue connector, this route would directly connect Warner Center and Universal City and would serve Sherman Oaks (see Figure 25). The predominant adjacent land use for this route as shown on Table 1 is freeway-adjacent (51 percent), due to the proposed side of freeway guideway placement. Other land use adjacencies include residential (21 percent), commercial (17 percent), public (7 percent), and industrial (5 percent).

Impact Potential

Impact indicators for this route include the following:

- Aerial guideway adjacent to residential uses for 24 percent of route length (Table 2).
- Within 100 feet of the aerial guideway, some 124 residential structures would be potentially affected (Table 3).

While every attempt has been made to minimize required property acquisitions adjacent to the freeway, some acquisition would be required, particularly at freeway ramps and transit stations. Further, even when no direct takings are required, close attention will be paid to develop measures to mitigate impacts when the guideway is in close proximity to residential structures as indicated above. Table 3 indicates that this route would have 5 elevated stations in residential areas.

Other important environmental considerations are traffic, noise, and impacts related to auto and bus access at station sites.

3.5 Los Angeles River Alternative

Engineering Issue

Cooperation with the Army Corps of Engineers and L.A. County Flood Control District, especially in the reconstruction of the channel west of Balboa, is the most crucial engineering aspect of this line. Construction phasing would be necessary to build the line in this area to maintain channel operations during the unlikely event of a heavy summer storm. Another construction related impact would be access to the channel in the residential areas to lay pier foundations and place girders for the aerial structures.

Land Uses Adjacent to Los Angeles River Alternative

This route, as currently defined, would directly connect to Universal City and would serve Sherman Oaks (Figure 25). Unless a connector link along Canoga were provided, this line would not directly serve Warner Center.

The predominant land use adjacent to this route is residential (52 percent) as shown in Table 1, followed by public (24 percent), commercial (10 percent), freeway-adjacent (7 percent), and industrial (6 percent).

Impact Potential

This all-aerial guideway alternative would have the following proximity impact potential:

- Aerial guideway adjacent to residential uses for 52 percent of its length (Table 2).

- Approximately 385 residential structures would be within 100 feet of the aerial guideway (Table 3).

Figure 23 graphically presents the typical condition for an aerial guideway adjacent to single-family residences, which would represent significant potential for noise/vibration, visual, privacy, and other proximity impacts. These impacts would be predominant in the segment west of Balboa, but would also exist in other portions of the route that pass through residential areas.

From Table 3, it can be seen that this route would have 8 elevated stations in residential areas. Construction of these stations may require displacement in some areas. The relatively quiet existing conditions would also be disrupted with autos and buses accessing these stations.

Section 3.6 Community Concerns

During the preparation of the Initial Alternatives Evaluation Report, the LACTC staff held six public meetings in the San Fernando Valley to introduce residents adjacent to the five transit routes, to the concept of light rail, and to the EIR study scope and process. More than 2,000 residents submitted comments and over 725 attended the six meetings.

Numerous questions were raised during the process. LACTC staff and consultants developed a written summary of answers to the questions. The summary was mailed in September to everyone on the mailing list.

The significant issues raised at the meetings and in writing are summarized below:

<u>Issue</u>	<u>Number of Times Mentioned</u>
1. Noise/vibration	89
2. Depreciation of Property Value	74
3. Safety/security/vandalism	61
4. Traffic/gridlock increase	38
5. Minimize/avoid residential routes	38
6. Benefit assessment/property tax gain	34
7. EIR process/public participation	22
8. Parking loss in neighborhoods	22
9. Government waste	17
10. Construction impacts	16
11. Route predetermined by developers	14
12. Lack of ridership surveys	9
13. Loss of privacy	9
14. Create EIR citizen's advisory committee	7
15. Property value-loss compensation	7
16. Visual impact (elevated lines/wires)	5
17. Graffiti/weeds/cleanliness	5