EXPOSITION PARK BRANCH LINE RAIL TRANSIT CORRIDOR ROUTE

Draft Environmental Impact Report



LOS ANGELES COUNTY TRANSPORTATION COMMISSION

May 1992

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DRAFT ENVIRONMENTAL IMPACT REPORT
EXPOSITION PARK BRANCH LINE RAIL TRANSIT CORRIDOR ROUTE
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CHAPTER 1.0
INTRODUCTION AND SUMMARY

1.1 PURPOSE AND USES OF THE EIR

This Environmental Impact Report (EIR) identifies, describes, analyzes and evaluates the environmental effects of a proposed light rail transit project to be located in an area southwest of downtown Los Angeles. The EIR is intended to: a) provide the lead agency, which is the Los Angeles County Transportation Commission (LACTC), responsible agencies, decision-makers and the general public with detailed information on the environmental effects of the proposed project; and b) to be used as a tool by decision-makers to facilitate decision-making on the proposed project. The EIR has been prepared for the Los Angeles County Transportation Commission (LACTC) in accordance with the California Environmental Quality Act (CEQA) and State CEQA Guidelines, as amended.

The LACTC has determined that the proposed project may have significant environmental impacts upon the environment and has therefore directed that this EIR be prepared. The LACTC prepared an Initial Environmental Study which indicated that those issue areas to be analyzed in this EIR. Following the completion of the Initial Study, a Notice of Preparation was submitted to all identified responsible agencies, and a project summary was distributed to the general public and those on the project mailing list. The Initial Study and the Notice of Preparation are included in Appendix A. Responses to the Notice of Preparation are included in Appendix B. The mailing list is included in Appendix C.

Public Review

Public officials, affected agencies and the general public have the opportunity for reviewing and commenting on the Draft Environmental Impact Report (DEIR) through a 45-day review period established by the State Office of Planning Research. During this review period, the LACTC will also conduct a public hearing at which time public testimony will be taken concerning the project and the EIR. The preparers of the DEIR are required to respond, in writing, to relevant comments on the DEIR received from both citizens and public agencies. The comments and the responses to comments will be included in the Final EIR (FEIR) to be prepared after the public circulation period for the DEIR has ended.

Project Selection

After state and local governments and the general public have commented on the DEIR, LACTC will select a project from the options under study for final environmental clearance. Project decisions include:

- Selection of route design and alignment
- Selection of station locations

These decisions will be based largely on information contained in this report and public comment.

Permits and Approvals

Implementation of the project will require a number of discretionary actions to be taken by the LACTC and other responsible agencies. The following agencies may use the EIR as part of the process of issuing permits, approvals or cooperative agreements required to construct the project:

- City of Los Angeles
- California State Department of Transportation
- Public Utilities Commission
- South Coast Air Quality Management District
- Southern California Rapid Transit District
- Los Angeles Department of Water and Power

1.2 HISTORY OF THE PROJECT

Representatives of major institutions along the proposed light rail line approached LACTC staff in July, 1990 to discuss the feasibility of study efforts to extend service to the USC/Exposition Park area. At an initial meeting, area representatives expressed their strong support for the rail project and their willingness to provide private sector funding for the study process. An USC/Exposition Park Blue Line Task Force was formed with representatives from local institutions, elected officials, community organizations, public agencies and property owners to organize and fund the study effort.

Conceptual level planning completed as part of the Central Los Angeles Year 1995 Multi-Modal Transit Study, prepared for the Commission, evaluated six basic rail/busway alternatives for providing service between downtown Los Angeles and the Exposition Park area. The consultant identified the strong viability of a branch light rail line from the Metro Blue Line at Washington Boulevard and Flower Street, two miles to the south to serve Exposition Park, USC and the surrounding community.

In May 1991, the Commission solicited professional assistance to perform route refinement work including conceptual engineering refinement and costing evaluation of the proposed alignment and station locations for at-grade, aerial and subway alternatives. In addition an Environmental Impact Report (EIR) following the California Environmental Quality Act (CEQA) Guidelines was deemed necessary for the proposed Light Rail Transit (LRT) project.

1.3 DESCRIPTION OF PROJECT ALTERNATIVES

As shown in **Figure 1.3-1** the proposed Exposition Park Branch Line would operate as a branch of the Metro Blue Line. **Figure 1.3-2** shows the proposed local route which would extend along Flower Street from the point where the existing Blue Line alignment turns at Washington Boulevard. The proposed alignment would extend south along Flower Street and continue on to the Exposition Boulevard median right-of-way to the proposed terminus at Vermont Avenue. The length of the proposed extension would total about 1.8 miles.

The proposed rail route has been divided into two segments for purposes of clearly identifying each alternative option along the segment (see **Figure 1.3-3**). The first segment, hereafter referred to as the northern segment, extends along Flower Street from Washington Boulevard to approximately 29th Street (the approximate location of the future California Department of Transportation's Harbor Freeway Transitway project). The second segment, hereafter referred to as the western segment, extends from 29th Street south on Flower Street and west on Exposition Boulevard to the proposed route terminus at Vermont Avenue. There are two basic alternatives for the northern segment of the line and three basic alternatives for the western segment of the line. The alternatives have been designed such that either of the options for the northern segment could be combined with any of the options for the western segment of the line. The following summarizes each alternative for the northern and western segments of the line:

Northern Segment

Alternative 1a. Washington Boulevard to 29th Street (Shared Bridge): The segment proposes a light rail transit (LRT) alignment with an at-grade profile between Washington Boulevard and approximately 29th Street. This alternative would be located on the east side of Flower Street within the existing right-of-way utilizing the existing Flower Street bridge between Adams Boulevard and 23rd Street, opposite the Orthopaedic Hospital.

Alternative 1b. Washington Boulevard to 29th Street (Separate Bridge): This alternative includes the same route as discussed in 1a. above, however, this alternative would require a separate LRT bridge parallel to the existing Flower Street bridge between Adams Boulevard and 23rd Street. The separate LRT bridge would be located on the west side of Flower Street. The alignment would therefore traverse from the east side just south of Orthopaedic Hospital to the west side of Flower, across the Harbor Freeway on the separate LRT bridge to 29th Street, where it would traverse back to the east side of Flower Street.

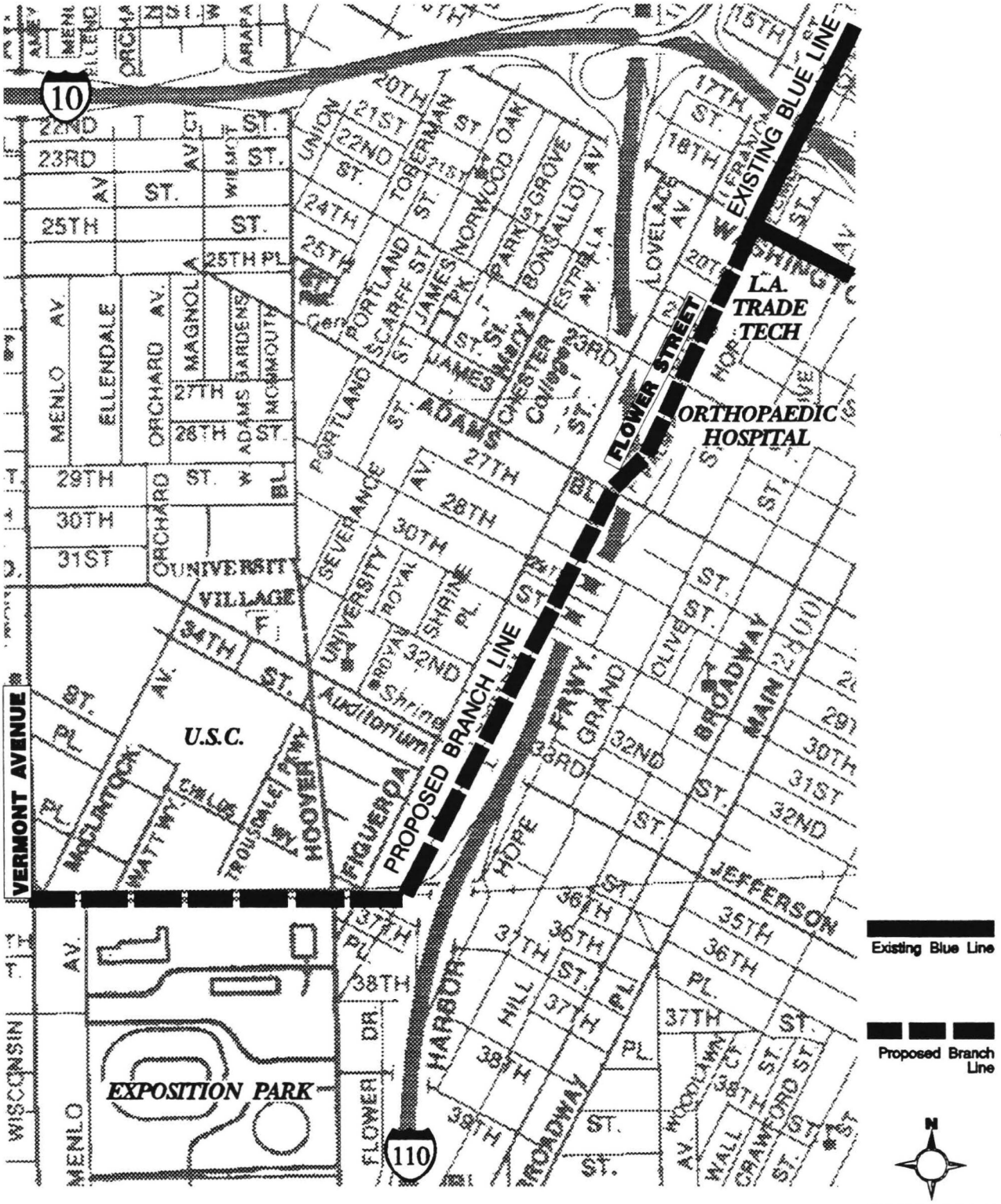


Source: Los Angeles County Transportation Commission

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 1.3-1

REGIONAL LOCATION



Source: Los Angeles County Transportation Commission

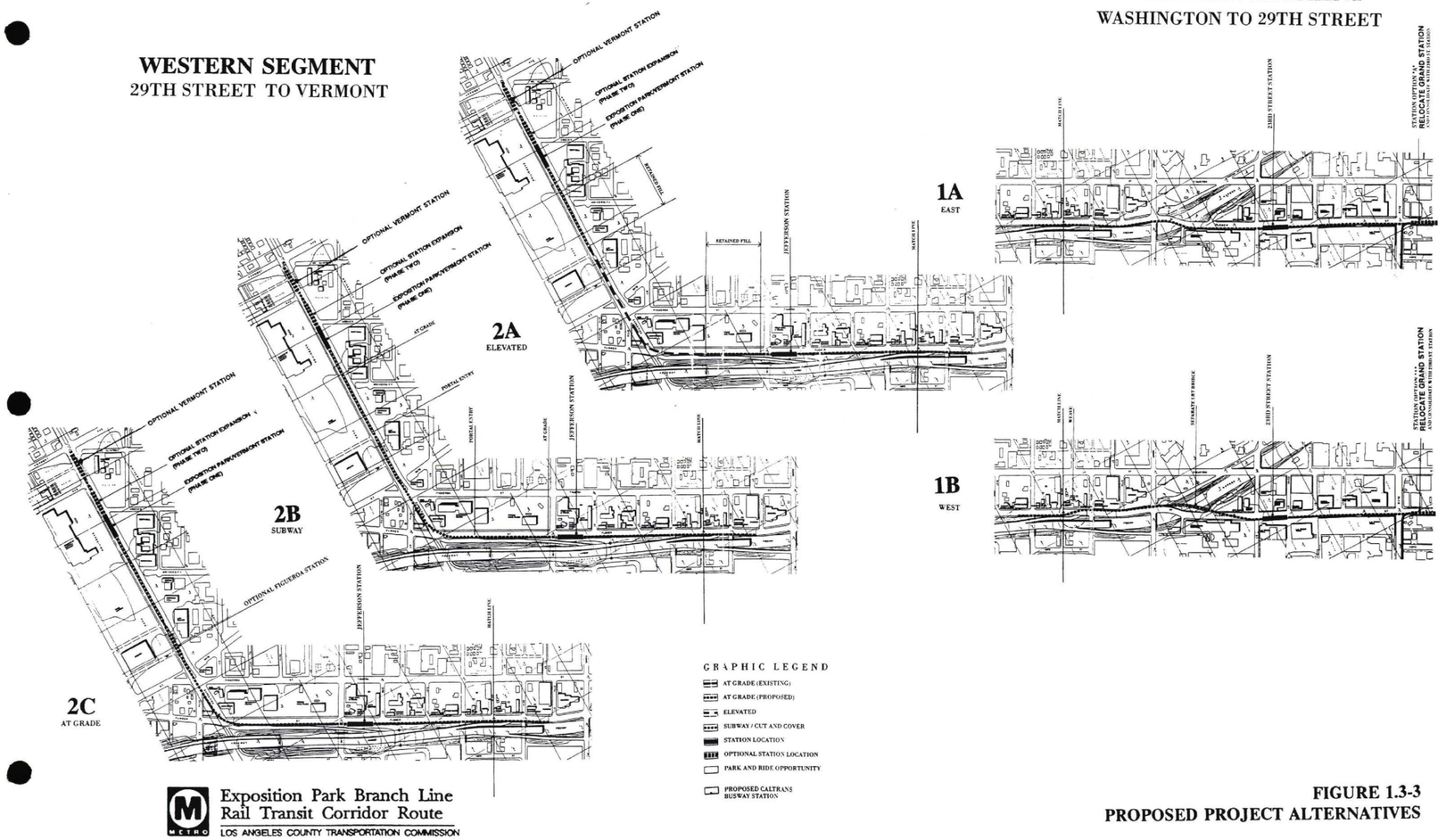
Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 1.3-2

PROJECT LOCATION

WESTERN SEGMENT
29TH STREET TO VERMONT

NORTHERN SEGMENT
WASHINGTON TO 29TH STREET



Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 1.3-3
PROPOSED PROJECT ALTERNATIVES

TABLE 1.4-1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Category	Alternative 1a (Shared Bridge)	Alternative 1b (Separate Bridge)	Alternative 2a (Part Aerial)	Alternative 2b (Part Subway)	Alternative 2c (All At-Grade)	Proposed Rail Stations
Land Use	Closure of two LA Trade Tech driveways off Flower Street. Reduction in sidewalk width from 15 feet to 8 feet in front of Orthopedic Hospital. Acquisition of 4 to 8 feet of St. John's parking lot resulting in re-striping and loss of some center tandem parking spaces. **Mitigation**: LACTC would work with affected property owners regarding compensation for property specific impacts.	Closure of two LA Trade Tech driveways off Flower Street. The track would be about 75 ft. away from Orthopaedic Hospital. At the hospital the line would cross over Flower Street and result in a mid-block signal which would also assist in traffic access into and out of the hospital. Possible closure of the exit driveway of McDonald's Restaurant just south of 28th St. Same effects on St. John's Church parking lot as Alternative 1a. **Mitigation:** Same as Alternative 1a.	Property acquisitions would not impact the Hilton driveway or the commercial property south of the Hilton because the line would be aerial at this location and would not require additional right-of-way from these properties. **Mitigation:** Same as Alternative 1a.	Property acquisitions would not impact the Hilton driveway or the commercial property south of the Hilton because the line would be below grade at this location and would not require additional right-of-way from these properties. **Mitigation:** Same as Alternative 1a.	Closure of one of Hilton Hotel's driveways due to the widening required on Flower Street to allow two additional turn lanes onto Exposition Blvd. Loss of 8 parking spaces at the commercial center on northwest corner of Flower and Exposition also from the widening of Flower Street. **Mitigation:** Same as 1a.	Optional Washington Street Station would result in acquisition of 7 buildings and one business. The optional Vermont Avenue station would result in the acquisition of about 8 feet of right-of-way on the south side of Exposition Blvd. between Vermont Ave. and Wisconsin to accommodate the width needed on Exposition Blvd. for the tail tracks. **Mitigation:** Same as 1a.
Compatibility with Local Area Plans	Generally consistent with local area plans and the project would assist in the revitalization of the area which would help to achieve the goals of the Hoover Redevelopment Plan.	Generally consistent with local area plans and the project would assist in the revitalization of the area which would help to achieve the goals of the Hoover Redevelopment Plan.	Inconsistent with Exposition Park Master Plan which includes a station at Figueroa and an additional pedestrian crossing of Exposition Boulevard opposite the Rose Garden.	Inconsistent with Exposition Park Master Plan which includes a station at Figueroa and an additional pedestrian crossing of Exposition Boulevard opposite the Rose Garden.	Consistent with Exposition Park Master Plan with a proposed Figueroa Street Station; however, would not allow for pedestrian crossing of Exposition Boulevard opposite the Rose Garden.	Generally consistent. Optional Figueroa Station would be consistent with Exposition Park Master Plan. The optional Vermont station would be consistent with the proposed location of this station in the Exposition Park Master Plan.

TABLE 1.4-1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (continued)

Environmental Category	Alternative 1a (Shared Bridge)	Alternative 1b (Separate Bridge)	Alternative 2a (Part Aerial)	Alternative 2b (Part Subway)	Alternative 2c (All At-Grade)	Proposed Rail Stations
Population and Housing	Residential units opposite Orthopaedic Hospital and above commercial buildings on Flower Street would experience increased noise levels but they would not be significant. See also pedestrian safety, aesthetics impacts.	Same as Alternative 1a.	There are no residential units along this segment of the line.	There are no residential units along this segment of the line.	There are no residential units along this segment of the line.	There are no residential units located adjacent the proposed stations.
	Mitigation: A railing along the curb on Flower Street in front of the residential building for pedestrian safety. See also aesthetics.	**Mitigation:** Same as Alternative 1a.	**Mitigation:** None required.	**Mitigation:** None required.	**Mitigation:** None required.	**Mitigation:** None required.
Transportation and Circulation	Significant impact during a.m. peak hour at Figueroa/Exposition; during p.m. peak hour at Flower/ Jefferson, Flower/ Exposition, Flower/Adams.	Significant impact during a.m. peak hour at Figueroa/Exposition; during p.m. peak hour at Flower/Jefferson, Flower/ Exposition, Flower/Adams, Flower/28th.	Significant impact during a.m. peak hour at Figueroa/Exposition; during p.m. peak hour at Flower/Jefferson, Flower/Adams, Flower/28th.	Significant impact during p.m. peak hour at Flower/Jefferson, Flower/Adams.	Same as Alternative 1a.	Included in Alternative 1a to 2c.
	Elimination of 49 parking spaces on the east side of Flower Street. Elimination of 77 parking spaces on the west side of Flower Street during the evening peak hour.	Elimination of 49 parking spaces on the east side of Flower Street and 16 on the west side of Flower. Elimination of 77 parking spaces on the west side of Flower during the evening peak hour.	Elimination of 9 parking spaces on the east side of Flower Street.	Same as Alternative 2a.	Elimination of 9 parking spaces on the east side of Flower and 76 parking spaces on the north and south side of Exposition between Figueroa and Vermont.	Access would be provided via pedestrian signalized cross walks adjacent to each station.
	Elimination of the existing pedestrian crosswalks on 21st Street and mid-block opposite Orthopaedic Hospital.	Same as Alternative 1a.	Pedestrian under-crossing of the Harbor Freeway remains open. The support columns would reduce sidewalk width adjacent to this aerial segment by 2 feet (from existing 8 feet to 6 feet). Grade separated crossings at Figueroa/Exposition and Flower/Exposition enhances pedestrian safety concerns.	Pedestrian under-crossing of the Harbor Freeway remains open. The grade separated line enhances pedestrian safety concerns at Figueroa/Exposition and Flower/Exposition.	Elimination of the existing mid-block crosswalk between Jefferson and Exposition serving pedestrian under-crossing of the Harbor Freeway.	

Western Segment

Alternative 2a. Flower Street and 29th Street to Vermont Avenue - Part Aerial: This segment of the alignment would extend from approximately 29th Street, on the east side of Flower Street to Exposition Boulevard where it would then turn west, along the center median right-of-way of Exposition Boulevard to approximately Vermont Avenue. The majority of this profile would be at-grade with an elevated segment between approximately Jefferson Boulevard to approximately 1,000 feet east of Menlo Avenue.

Alternative 2b. Flower Street and 29th Street to Vermont Avenue - Part Subway: This alternative includes the same alignment as described for 2a, however, a portion of this segment would be below grade (subway) while the majority would be at-grade. The at-grade portion would extend along the east side of Flower Street to about Jefferson Boulevard where a the subway entry would be located. The line would then extend below grade under the Exposition Boulevard right-of-way to approximately 200 feet west of Armory Drive, where another subway entry would be located. This alignment would transition to an at-grade profile to the Vermont Avenue terminus.

Alternative 2c. Flower Street and 29th Street to Vermont Avenue - All At-Grade: This alternative includes the same alignment as described for 2a and 2b, however, this entire profile would be at-grade.

There are three proposed stations which would be located in the same location for all of the alternatives as follows:

23rd Street Station: This station would be located approximately between 21st and 23rd Streets on Flower Street.

Jefferson Station: This station would be located between 33rd street and Jefferson Boulevard on Flower Street.

Exposition Park/Vermont Station: This station would be located approximately 800 feet east of Vermont Avenue on Exposition Boulevard. This station is currently designed as a single station with loading access for three trains. There is an option to expand this station to the west (towards Vermont Avenue) in the future to a double station capable of handling access for six cars.

In addition, there are three optional station locations as follows:

Washington Station: This station would be an optional station which would take the place of the 23rd Street Station. The station would be located between 18th Street and Washington Boulevard on Flower Street and would include a relocation of the Grand station and consolidation with this station.

Figueroa Station: This optional station would be located at approximately Figueroa Street on Exposition Boulevard. This station is only included for the at-grade Alternative 2c and would not be an option for the subway or aerial alternatives.

Vermont Station: An option for all alternatives (2a, 2b, and 2c) would be to locate this station further west on Exposition Boulevard, closer to Vermont Avenue. This option would include a two-car station with tail tracks extending west of Vermont Avenue to accommodate up to nine, two-car trains each (for storage in support of special events only). It should be noted that this optional station would limit operations on the Branch Line to two-car platforms at all stations. While 3-car platforms are proposed for all other stations, early year operations are anticipated to require only 2-car trains.

1.4 ENVIRONMENTAL IMPACT SUMMARY

Table 1.4-1 summarizes environmental impacts and mitigation measures for the alternatives. Impacts that would remain after mitigation are noted in the summary as "unavoidable adverse impacts" if the project is approved as proposed (CEQA Section 21081).

1.5 AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

During the public workshops that have been held to discuss the project, numerous environmental concerns have been raised by the community as well as public and private agencies. The most frequently raised issues include: pedestrian safety, noise and vibration, particularly in relationship to sensitive land uses adjacent to the alignment alternative; station locations; overall traffic circulation and traffic congestion, traffic/circulation along Exposition Boulevard during special events at Exposition Park; and the relationship of the proposed light rail line to interface with future transit extensions (i.e., extension of the line east of the Harbor Freeway and west of Vermont Avenue). These issues are addressed in the land use, noise, and transportation/circulation sections of this EIR.

The primary decision to be made is how to select the preferred profile or vertical alignment. Alternatives range from an all at-grade alignment to an at-grade alignment with selected subway or elevated portions.

TABLE 1.4-1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (continued)

Environmental Category	Alternative 1a (At-Grade Shared Bridge)	Alternative 1b (At-Grade Separate Bridge)	Alternative 2a (Part Aerial)	Alternative 2b (Part Subway)	Alternative 2c (At-Grade)	Proposed Rail Stations
Transportation and Circulation (continued)	Pedestrian crossings would be prohibited at "T" intersections along Flower at 20th, 21st, 22nd, 27th, 29th, 31st, 33rd and 35th Streets.	Same as Alternative 1a.			Pedestrian crossings would be provided along Exposition at Figueroa, mid-block opposite the Rose Garden at Watt Way and Vermont Avenue.	
	Mitigation: Implementation of the following: additional southbound lane on Flower St. at Adams; widen Flower at Jefferson to 4 southbound lanes; additional westbound through lane on Exposition Blvd. to Flower; re-stripe southbound Harbor Freeway off-ramp to 2 through and a shared through/left; re-stripe eastbound 37th St. at Flower to five lanes; add southbound right turn lane on Flower at 37th Pl.; add westbound right turn lane on 37th Pl. at Flower; add westbound right turn lane on 37th Pl. at Figueroa and signalize intersection; redirect eastbound left turning vehicles at Figueroa via 37th St.; add left turn signal display on Flower at 23rd, 28th, 30th and Jefferson; signalize 28th St.;install warning signs along all driveways on Flower Street; movements at Armory Drive and driveways to California Museum of Science and Industry should be right-in and right-out only; time signal at Hoover St/Watt Way to accommodate pedestrian traffic to Exposition Park/Vermont station.	**Mitigation:** Same as Alternative 1a plus the following: add signal at Adams; mid-block signals at 23rd north and south of tracks; cul-de-sac 27th Street; signal at 28th Street and prohibit left turns at 30th Street.	**Mitigation:** Implementation of the following: add southbound lane on Flower St. at Adams; widen Flower at Jefferson to 4 southbound lanes; add left turn signal display on Flower at 23rd, 28th, 30th and Jefferson; signalize 28th St.;install warning signs along all driveways on Flower Street; movements at Armory Drive and driveways to California Museum of Science and Industry should be right-in and right-out only; time signal at Hoover St/Watt Way to accommodate pedestrian traffic to Exposition Park/ Vermont station; widen eastbound Exposition by 2 feet to allow 12 feet curb lanes.	**Mitigation:** Implementation of the following: add southbound lane on Flower St. at Adams; widen Flower at Jefferson to 4 southbound lanes; add left turn signal display on Flower at 23rd, 28th, 30th and Jefferson; signalize 28th St.;install warning signs along all driveways on Flower Street; movements at Armory Drive and driveways to California Museum of Science and Industry should be right-in and right-out only; time signal at Hoover St/Watt Way to accommodate pedestrian traffic to Exposition Park/Vermont station.	**Mitigation:** Implementation of mitigation measures for Alternative 1a.	**Mitigation:** At Optional Figueroa and Vermont stations, a railing would be installed at the opposite end of the platform from the access walkway to prevent pedestrian access from mid-block opposite the Rose Garden.
	A railing would be provided along the curb on Flower Street to prevent pedestrians from stepping off curb onto track and mid-block crossings. Proposed traffic signal at 28th street would include pedestrian signal.	Same as Alternative 1a.	Provide a railing along both sides of the Exposition Blvd. where the LRT is at grade. Grade seperation at aerial portion enhances pedestrian safety.	Provide a railing along both sides of Exposition Blvd. where the LRT is at-grade. Grade seperation at subway segment enhances pedestrian safety.	A rail would be provided along both sides of the Exposition St. rail track to enhance pedestrian safety.	

TABLE 1.4-1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (continued)

Environmental Category	Alternative 1a (At-Grade Shared Bridge)	Alternative 1b (At-Grade Separate Bridge)	Alternative 2a (Part Aerial)	Alternative 2b (Part Subway)	Alternative 2c (At-Grade)	Proposed Rail Stations
Air Quality	The 1-hr and 8-hr carbon monoxide thresholds would be exceeded at three receptor locations along this segment of the line. **Mitigation:** Reduce vehicle delays at Adams/Flower resulting from traffic signal pre-emption afforded to light rail.	The 1-hr and 8-hr carbon monoxide thresholds would be exceeded at three receptor locations along this segment of the line. **Mitigation:** Same as Alternative 1a.	The 1-hr and 8-hr carbon monoxide thresholds would not be exceeded at receptor locations along this segment of the line. **Mitigation:** None required.	The 1-hr and 8-hr carbon monoxide thresholds would not be exceeded at receptor locations along this segment of the line. **Mitigation:** None required.	The 1-hr and 8-hr carbon monoxide thresholds would be exceeded at one receptor location along this segment of the line. **Mitigation:** Reduce vehicle delays at Adams/Flower resulting from traffic signal pre-emption afforded to light rail.	At the 23rd Street Station the 1-hr and 8-hr carbon monoxide thresholds would be exceeded. **Mitigation:** None proposed.
Noise/Vibration	Significant impact at L.A. Trade Tech classrooms on Flower Street. Potential vibration impacts at Orthopaedic Hospital. **Mitigation:** Reduce train speeds to 30 mph opposite L.A. Trade Tech classrooms or retrofit building to achieve acceptable interior noise level. Determine sensitivity of interior uses to vibration at Orthopaedic Hospital.	Same as Alternative 1a. No vibration impacts on adjacent properties. **Mitigation:** Same as Alternative 1a.	No significant noise impact on adjacent properties. No vibration impacts on adjacent properties. **Mitigation:** None required.	No significant noise impact on adjacent properties. No vibration impacts on adjacent properties. **Mitigation:** None required.	No significant noise impact on adjacent properties. No vibration impacts on adjacent properties. **Mitigation:** None required.	No significant noise impacts on adjacent properties. No vibration impacts on adjacent properties. **Mitigation:** None required.

TABLE 1.4-1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (continued)

Environmental Category	Alternative 1a (Shared Bridge)	Alternative 1b (Separate Bridge)	Alternative 2a (Part Aerial)	Alternative 2b (Part Subway)	Alternative 2c (All At-Grade)	Proposed Rail Stations
Geology/Hydrology	No impacts anticipated. **Mitigation:** Design all structures to withstand maximum probable earthquake. Complete detailed geotechnical studies prior to permit approvals.	No impacts anticipated. **Mitigation:** Same as Alternative 1a.	No impacts anticipated. **Mitigation:** Same as Alternative 1a.	No impacts anticipated. **Mitigation:** Same as Alternative 1a.	No impacts anticipated. **Mitigation:** Same as Alternative 1a.	No impacts anticipated. **Mitigation:** Same as Alternative 1a.
Construction	Construction would be the shortest duration; about 6 to 8 months. Relocation of about 2,940 feet of sewer and water lines. Short-term air quality, light and glare and noise impacts from the construction period.	Construction estimated to take about 8 to 12 months. Relocation of about 3,007 feet of sewer and water lines. Same as Alternative 1a.	Construction would take from 10 to 12 months. Relocation of 3,215 feet of sewer, water, storm drain, gas and Pacific Bell lines. Same as Alternative 1a but greater noise and vibration impacts for setting of the piles for the aerial guideway.	Construction would take from 14 to 16 months. Relocation of 3,365 feet of sewer, water, storm drain, gas, and Pacific Bell lines. Deep bore trenching would result in significant noise impacts over a longer time period than any other Alternative.	Construction would take about 8 to 10 months. Relocation of 3,215 feet of sewer, water, storm drains and Pacific Bell lines. Same as Alternative 1a or 1b.	Same as whichever Alternative is selected. Relocation of utilities at all stations except the Exposition Park/Vermont Station. Same as Alternative 1a or 1b.

TABLE 1.4-1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (continued)

Environmental Category	Alternative 1a (Shared Bridge)	Alternative 1b (Separate Bridge)	Alternative 2a (Part Aerial)	Alternative 2b (Part Subway)	Alternative 2c (All At-Grade)	Proposed Rail Stations
Construction (continued)	**Mitigation:** Develop a construction management plan. - Coordinate construction timing with adjacent uses and with LADOT and CALTRANS regarding traffic operations. - Provide for pedestrian access to major institutions in the area. - Construction shall be stopped during stage 2 & 3 smog alerts. - Coordinated construction sequencing with local officials to minimize conflicts. - Compliance with SCAQMD rule 403, (site wetting). - Timing of noisy construction activities coordinated with institutions to minimize adverse effects. - The relocation and support of utilities with affected service providers. - Noise barriers used to minimize effects. - Barriers used to keep nighttime lighting on-site.	**Mitigation:** Same as Alternative 1a.	**Mitigation:** Same as Alternative 1a and consider the use of caissons in lieu of pile driving equipment.	**Mitigation:** Same as Alternative 1a.	**Mitigation:** Same as Alternative 1a.	**Mitigation:** Same as Alternative 1a.

TABLE 1.4-1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (continued)

Environmental Category	Alternative 1a (Shared Bridge)	Alternative 1b (Separate Bridge)	Alternative 2a (Part Aerial)	Alternative 2b (Part Subway)	Alternative 2c (All At-Grade)	Proposed Rail Stations
Public Services	**Schools:** See Land Use, Transportation/Circulation, Air Quality and Noise.	**Schools:** Same as Alternative 1a.	**Schools:** Same as Alternative 1a.	**Schools:** Same as Alternative 1a.	**Schools:** Same as Alternative 1a.	**Schools:** Same as Alternative 1a.
	Mitigation: See Land Use, Transportation/Circulation, Air Quality, Noise and construction.	**Mitigation:** Same as Alternative 1a.	**Mitigation:** Same as Alternative 1a.	**Mitigation:** Same as Alternative 1a.	**Mitigation:** Same as Alternative 1a.	**Mitigation:** Same as Alternative 1a.
	Police and Law Enforcement: Potential increase for police protection services.	**Police and Law Enforcement:** Same as Alternative 1a.	**Police and Law Enforcement:** Same as Alternative 1a.	**Police and Law Enforcement:** Same as Alternative 1a.	**Police and Law Enforcement:** Same as Alternative 1a.	**Police and Law Enforcement:** Same as Alternative 1a.
	Mitigation: Two-way voice communication on board trains. - Closed circuit cameras at stations. - Alarm system at stations. - Design shelter stops with open, unbroken lines of sight. - Where practical rights-of-way shall be protected from encroachment of people, thrown objects or unauthorized vehicles. - At-grade street crossings to provide access for emergency vehicles. -Interior finish of rail cars to be of vandal resistent materials. - A silent alarm on cars.	**Mitigation:** Same as Alternative 1a.	**Mitigation:** Same as Alternative 1a.	**Mitigation:** Same as Alternative 1a.	**Mitigation:** Same as Alternative 1a.	**Mitigation:** Same as Alternative 1a.
	Fire Protection: Potential for increased fire protection and emergency response services.	**Fire Protection:** Same as Alternative 1a.	**Fire Protection:** Same as Alternative 1a.	**Fire Protection:** Same as Alternative 1a.	**Fire Protection:** Same as Alternative 1a.	**Fire Protection:** Same as Alternative 1a.
	Mitigation: Final engineering design to be reviewed by the Los Angeles Fire Department. -Access for fire equipment at all times during the construction phase.	**Mitigation:** Same as Alternative 1a.	**Mitigation:** Same as Alternative 1a.	**Mitigation:** Same as Alternative 1a.	**Mitigation:** Same as Alternative 1a.	**Mitigation:** Same as Alternative 1a.

TABLE 1.4-1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (continued)

Environmental Category	Alternative 1a (Shared Bridge)	Alternative 1b (Separate Bridge)	Alternative 2a (Part Aerial)	Alternative 2b (Part Subway)	Alternative 2c (All At-Grade)	Proposed Rail Stations
Public Services (Cont.)	**Fire Protection, Mitigation (Cont.):** - Adequate public and private fire hydrants. - Smoke detectors, fire alarms in stations, on trains and at power stations. -Install automatic sprinkler system and hand held fire extinguishers at stations and on trains. - Clear access to telephones. - An approved turning area for 27th St. at Flower.	**Fire Protection, Mitigation (Cont.):** Same as Alternative 1a.	**Fire Protection, Mitigation (Cont.):** Same as Alternative 1a.	**Fire Protection, Mitigation (Cont.):** Same as Alternative 1a.	**Fire Protection, Mitigation (Cont.):** Same as Alternative 1a.	**Fire Protection, Mitigation (Cont.):** Same as Alternative 1a.
Energy Conservation	Consumption of about 2,250 Kwh of electricity per year for traction usage.	Consumption of the same energy as Alternative 1a.	Same energy consumption as Alternative 1a.	Same energy consumption as Alternative 1a.	Same energy consumption as Alternative 1a.	Consumption of 239,355 Kwh per year for proposed stations and 1,59,570 per year for optional stations.
	Mitigation: Use of regenerative braking. - Coordination of traffic and rail signal systems. - Separate electric meters at stations.	**Mitigation:** Same as Alternative 1a.	**Mitigation:** Same as Alternative 1a.	**Mitigation:** Same as Alternative 1a.	**Mitigation:** Same as Alternative 1a.	**Mitigation:** Implement station design features to exceed Title 24.
Biological Resources	Removal of 75 Palms from the east side of Flower Street from Washington Blvd. to Exposition Blvd.	Similar to Alternative 1a, however some of the 75 palms removed on Flower Street would be on the west side of Flower where the train crosses from east to west and back again.	Removal of about 26 palms and 17 Italian Cypress along Exposition Blvd.	Same as Alternative 2a.	Same as Alternative 2a.	The Jefferson Street Station would result in the loss of about another 10 palms and several Eucalyptus trees.
	Mitigation: Landscaping with drought tolerant plants and re-use of palms along the rail right-of-way. - Retain a licensed landscape architect to determine the maximum number of palms that can be relocated.	**Mitigation:** Same as Alternative 1a.	**Mitigation:** Same as Alternative 1a.	**Mitigation:** Same as Alternative 1a.	**Mitigation:** Same as Alternative 1a.	**Mitigation:** Same as Alternative 1a.

TABLE 1.4-1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (continued)

Environmental Category	Alternative 1a (Shared Bridge)	Alternative 1b (Separate Bridge)	Alternative 2a (Part Aerial)	Alternative 2b (Part Subway)	Alternative 2c (All At-Grade)	Proposed Rail Stations
Risk of Upset	Low to moderate risk potential. **Mitigation:** Subsurface geotechnical studies prior to permit approval. - Contact the California Department of Conservation, Division of Oil and Gas if oil wells are found during construction for remedial procedures.	Same as Alternative 1a. **Mitigation:** Same as Alternative 1a.	Same as Alternative 1a. **Mitigation:** Same as Alternative 1a and design underground structures with adequate ventilation. Employ relief wells and gas sensing systems as necessary.	Same as Alternative 1a. **Mitigation:** Same as Alternative 1a.	Same as Alternative 1a. **Mitigation:** Same as Alternative 1a.	Same as Alternative 1a. **Mitigation:** Same as Alternative 1a.
Aesthetics	Creation of a visual barrier from east to west down Flower Street while trains are passing. **Mitigation:** Re-landscaping with palms along Flower Street along the rail line right-of-way.	Same as Alternative 1a, however the rail line would be closer to St. John's Church for this alternative. **Mitigation:** Same as Alternative 1a.	Five to 7 foot diameter piers would support the aerial guideway with catenary poles at 120 foot intervals and overhead wires 25 feet above the guideways creating the most dominant visual element of all alternatives. **Mitigation:** Same as Alternative 1a.	Rail line not visible along this segment with the subway alternative. **Mitigation:** Same as Alternative 1a.	No significant change to the visual character of Exposition Blvd. **Mitigation:** Same as Alternative 1a.	Station lighting would not be adjacent to sensitive land uses. **Mitigation:** Provide directional shielded lighting at stations to avoid spill over onto adjacent areas.
Cultural Resources	Loss of circa 1932 street lights along the west side of Flower Street. **Mitigation:** Coordinate removal and remediation plan for street lights with the Los Angeles Bureau of Street Lighting and attempt to reuse these lights along the route and/or at stations. -Coordinate the rail route adjacent to St. John's Church with the church to assure safe and efficient circulation and replacement of on- and off-street parking.	Same as Alternative 1a. **Mitigation:** Same as Alternative 1a.	Same as Alternative 1a. **Mitigation:** Same as Alternative 1a.	Same as Alternative 1a. **Mitigation:** Same as Alternative 1a.	Same as Alternative 1a. **Mitigation:** Same as Alternative 1a.	Same as Alternative 1a. **Mitigation:** Same as Alternative 1a.

CHAPTER 2.0
PROJECT PURPOSE AND HISTORY

2.1 PROJECT DESCRIPTION

The proposed project examined by this report is a light rail transit (LRT) facility which will operate as a branch of the Metro Blue Line which is part of the larger 150-mile regional rail transit system being developed in Los Angeles, California. The light rail transit facility extensions studied in this document is intended to link and serve the employment, residential, educational, and cultural centers downtown Los Angeles to the Exposition, USC Campus area and Vermont business area. This extension is shown in the context of the existing Blue Line Transit route (see **Figures 1.1-1** and **1.1-2**).

The proposed Exposition Park Branch Line would extend along Flower Street from the junction with the existing Blue Line at Washington Boulevard to the Exposition Boulevard right-of-way, to the proposed terminus at Vermont Avenue. This 1.8-mile route would likely have a total of three stations along this segment. There is also an optional Figueroa Street station and an optional Washington Boulevard station. The optional Washington Boulevard station would be a substitute for the 23rd Street station. In addition, an optional Vermont Avenue station is examined which would place this two-car station right at the corner of Vermont Avenue and Exposition Boulevard with tail tracks for special event trains storage just west of Vermont Avenue.

2.2 PROJECT PURPOSE

The overriding goal of the process is to refine the proposed LRT project to ensure the improvement of both regional and local transit service and to either avoid or successfully mitigate negative impacts within budgeting constraints. In addition the LACTC and Task Force members have developed the following goals for the proposed project:

1. Provide improved regional and local access to the educational, cultural, and recreational facilities of the USC/Exposition Park area;

2. Support and enhance area revitalization and redevelopment efforts such as those planned for the Figueroa Corridor and surrounding neighborhoods;

3. Provide opportunities to integrate station facilities into future station area development such as currently proposed development projects or potential joint development projects;

4. Identify methods to encourage pedestrian circulation and access; new and existing small businesses; and residential development;

5. Design and integrate the light rail project into existing urban neighborhoods primarily as an urban design element given optimum operational engineering parameters;

6. Encourage interface with existing transportation systems and planned improvements currently underway including interface with SCRTD bus system and the Harbor Freeway Transitway project;

7. Facilitate patron transfer between rail and bus service;

8. Provide parking at proposed stations for adjacent neighborhoods not within walking distance of a rail station;

9. Encourage improved access to health care facilities and other public services in the extended rail corridor;

10. Encourage an attempt to keep the alignment within the existing Flower Street right-of-way. The use of excess CALTRANS right-of-way where it runs parallel to Flower Street adjacent to the Harbor Freeway or south of Jefferson Boulevard will be considered. However, at station sites and possibly at some other specific locations along the alignment, track constraints and additional station site amenities such as park and ride facilities and bus transfer areas may require some private property acquisitions.

2.3 PLANNING HISTORY

July 1990: Representatives of major institutions including L.A. Trade Tech along the proposed light rail line approached LACTC staff to discuss the feasibility of study efforts to extend light rail service to the USC/Exposition Park area. At an initial meeting, area representatives expressed their strong support for the light rail extension and their willingness to provide private sector funding for the study process. A USC/Exposition Park Blue Line Task Force was formed with representatives from local institutions, elected officials, community organizations, public agencies and property owners to organize and fund the study effort.

January 1990: The Central Los Angeles Year 1995 Multi-Modal Transit Study, identified the viability of the extension of a branch line from the Metro Blue Line two miles south to serve the USC/Exposition Park area and adjacent neighborhoods.

May 1991: The Commission solicited professional assistance to preform route refinement work including conceptual engineering and cost evaluation of the proposed alignment and station locations for at-grade, aerial and subway profile alternatives.

September 1991: The Notice of Preparation and Initial Study was released. The comment period for the Notice of Preparation ended on November 6, 1991 and comments were received from interested agencies and groups.

CHAPTER 3
PROJECT ALTERNATIVES

3.1 LIGHT RAIL TECHNOLOGY

The light rail technology to be used for the proposed project would be identical to the vehicles currently being used on the Long Beach to Los Angeles light rail transit line (the Blue Line). The individual rail cars are made of welded steel, span 90 feet in length, stand 11 feet 6 inches in height, and are about 9 feet wide. Power for the vehicles would be provided by two 195 horsepower DC electric motors. A photo of a typical Blue Line Light Rail train vehicle in operation is illustrated in **Figure 3.1-1**

The two car trains are articulated with an accordion connection. Four double-ended doors are located on each side to provide direct access from the high level platforms directly into the vehicle. Each car provides 76 seats, with two seats located at each end of the car that can be folded to provide space for one wheelchair passenger. The maximum capacity is 237 passengers (76 seated, 161 standing). At full capacity, the vehicle weighs 131,000 pounds; when empty, it weighs 94,000 pounds. With an acceleration rate of 3 miles per hour (mph) per second, the Blue Line trains can achieve a maximum speed of 55 mph reaching top speed in less than 45 seconds. The trains that would run along the proposed Exposition Park Branch line would not exceed a maximum speed of 35 mph and would cross Adams, Jefferson Boulevard and Figueroa Street at about 25 mph and 15 mph at the curve from Flower Street to Exposition Boulevard. The estimated overall time to travel the route from 7th Street and Flower Street to Vermont Avenue and Exposition Boulevard would be about 11 minutes.

3.2 RIDERSHIP AND OPERATIONS

It is anticipated that the proposed rail line would have operation characteristics similar to the existing Blue Line including hours of operation and frequency of service. It is expected that the trains would operate every 6 minutes during the peak hours. The Proposed 30 Year Transportation Plan, prepared by the Los Angeles County Transportation Commission, estimates a daily ridership of 15,000 upon project completion.

3.3 ROUTE DESIGN ALTERNATIVES

The proposed rail route has been divided into two segments for purposes of clearly identifying each alternative option along the segment. The first segment, hereafter referred to as the northern segment, extends along Flower Street from Washington Boulevard to approximately 29th Street (the approximate location of the future California Department of Transportation's Harbor Freeway Transitway project).



Source: Gruen Associates

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 3.1-1
EXISTING BLUE LINE TRAIN

The second segment, hereafter referred to as the western segment, extends from 29th Street south on Flower Street and west on Exposition Boulevard to the proposed route terminus at Vermont Avenue. There are two basic alternatives for the northern segment of the line and three basic alternatives for the western segment of the line. The alternatives have been designed such that either of the options for the northern segment could be combined with any of the options for the western segment of the line. The following summarizes each alternative for the northern and western segments of the line:

Northern Segment

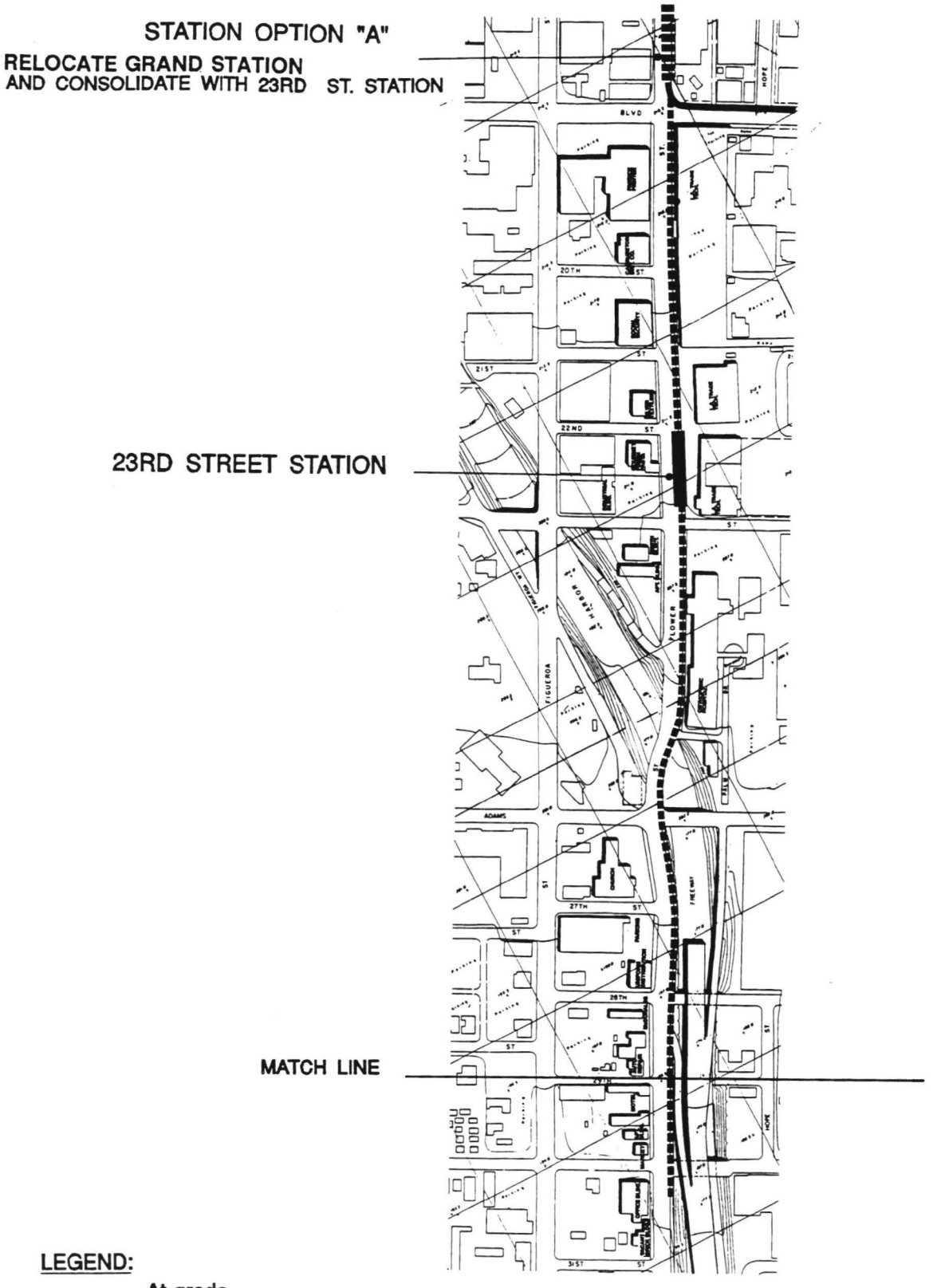
Alternative 1a Washington Boulevard to 29th Street (Shared Bridge): An at-grade, light rail transit (LRT) facility between Washington Boulevard and approximately 29th Street (or the future High Occupancy Vehicle (HOV) ramp from the Harbor Freeway at approximately 29th Street) (**Figure 3.3-1**): This alternative would be located on the east side of Flower Street with the existing joint CALTRANS/LACTC bridge between Adams Boulevard and 23rd Street, opposite the Orthopaedic Hospital.

Alternative 1b Washington Boulevard to 29th Street (Separate Bridge): This alternative includes the same route as discussed in 1a above, however, this alternative would include a separate LRT bridge parallel to the future CALTRANS bridge between Adams Boulevard and 23rd Street. (**Figure 3.3-2**) The separate bridge would be located on the west side of Flower Street, thus the line would curve just south of Orthopaedic Hospital to the west side of Flower Street, across the Freeway overpass to about 28th Street where it would curve again back to the east side of Flower Street.

Western Segment

Alternative 2a Flower Street and 29th Street to Vermont Avenue - Part Aerial: This segment of the line would extend from approximately 29th Street south, on the east side of Flower Street to Exposition Boulevard where it would then extend east, along the center right-of-way of Exposition Boulevard to approximately Vermont Avenue (**Figure 3.3-3**). The majority of this line would be at-grade with an elevated segment between approximately Jefferson Boulevard to approximately 1,000 feet east of Menlo Avenue.

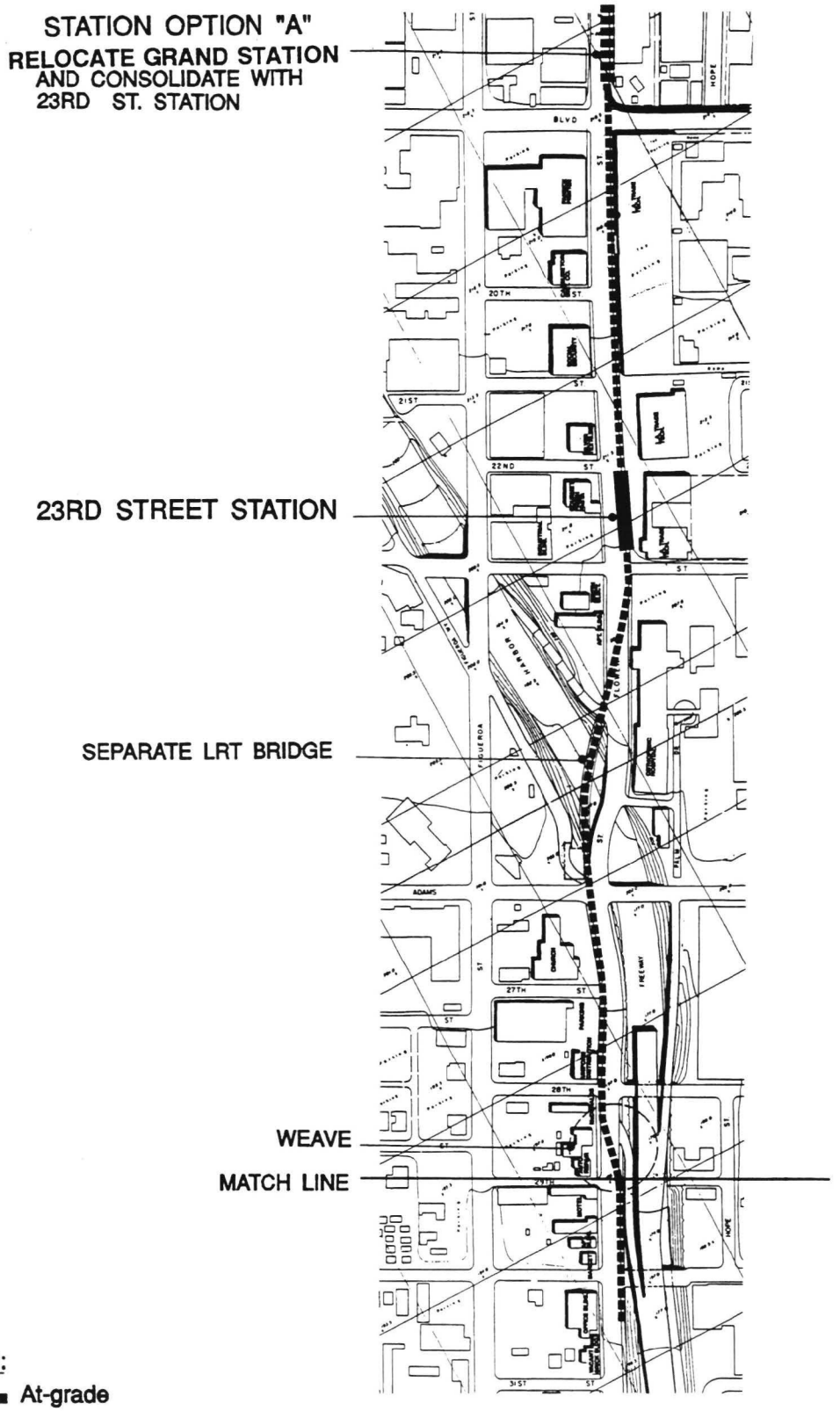
Alternative 2b Flower Street and 29th Street to Vermont Avenue - Part Subway: This alternative includes the same segment of the line as described for 2a above, however, a portion of this segment would be below grade (subway) while the majority would be at-grade (**Figure 3.3-4**). The at-grade portion would extend along the east side of Flower Street to about Jefferson Boulevard where a portal entry would be located . The line would then extend underground south to Exposition Boulevard and west underneath the Exposition Boulevard right-of-way to approximately 200 feet west of Armory Drive where another portal entry would be



Source: Gruen Associates

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

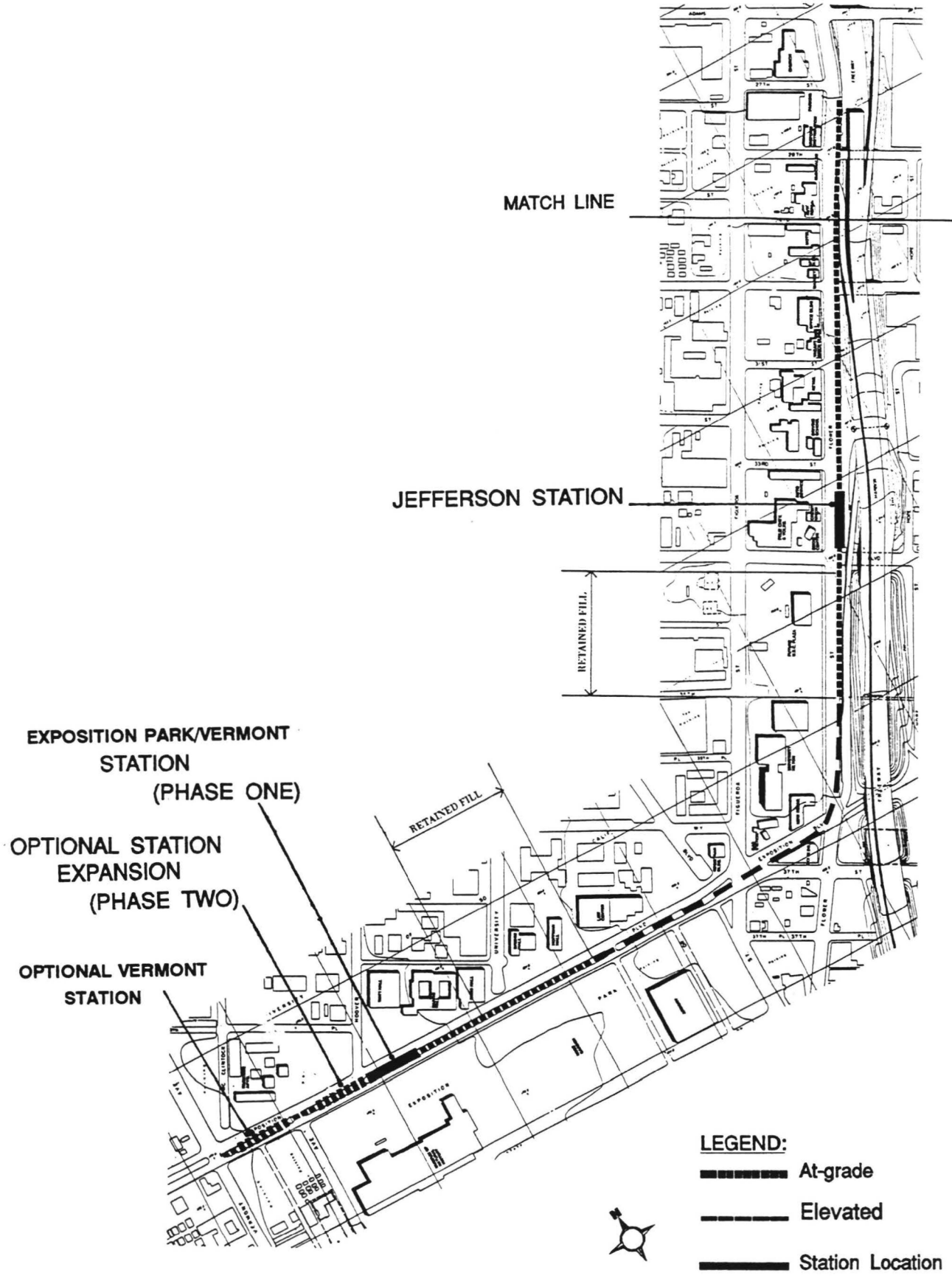
FIGURE 3.3-1
NORTHERN SEGMENT
ALTERNATIVE 1a
Shared-Bridge



Source: Gruen Associates

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

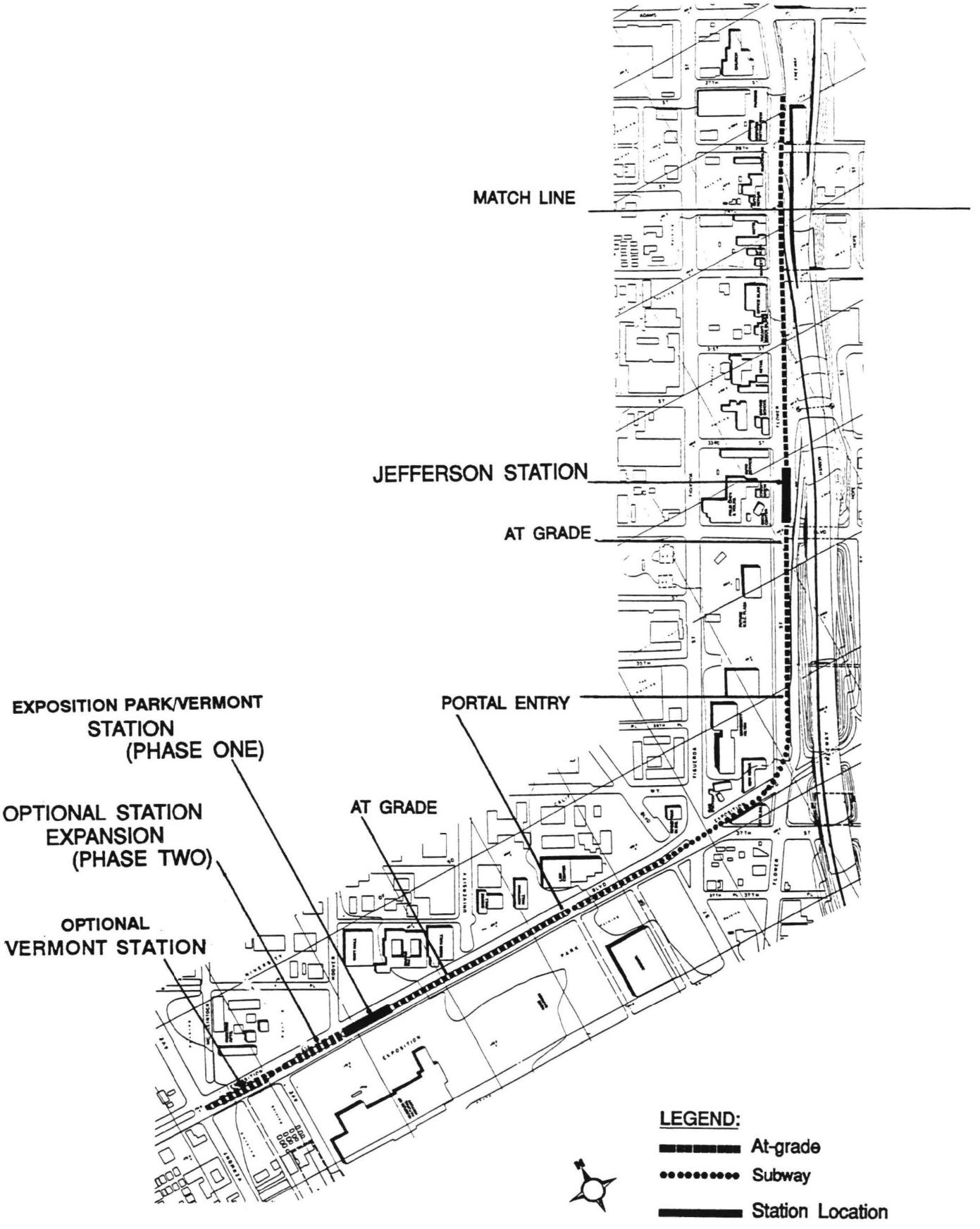
FIGURE 3.3-2
NORTHERN SEGMENT
ALTERNATIVE 1b
Separate-Bridge



Source: Gruen Associates

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 3.3-3
WESTERN SEGMENT
ALTERNATIVE 2a
Elevated-Portion



Source: Gruen Associates

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 3.3-4
WESTERN SEGMENT
ALTENATIVE 2b
Subway Portion

located. The line would continue above grade to the Vermont Avenue terminus.

Alternative 2c Flower Street and 29th Street to Vermont Avenue - All At-Grade: This alternative includes the same segment of line as described for 2a and 2b above, however, this entire segment would be at-grade. (**Figure 3.3-5**)

3.4 STATION ALTERNATIVES

The proposed rail route would be located primarily on public and LACTC rights-of-way along both Flower Street and Exposition Boulevard. The issue of pedestrian access to platforms is an important consideration in the design of stations and includes the following considerations:

- Levels of existing pedestrian activity
- Ease and safety of pedestrian access
- Concerns related to pedestrian track crossings
- Passenger interchange at multi-modal interchanges.

A typical station platform and track alignment design is illustrated in **Figure 3.4-1**. The stations would all be platforms with center-loading designs. There are three proposed stations which would be located in the same location for all of the alternatives as follows:

23rd Street Station: This station would be located approximately between 21st and 23rd Streets on Flower Street.

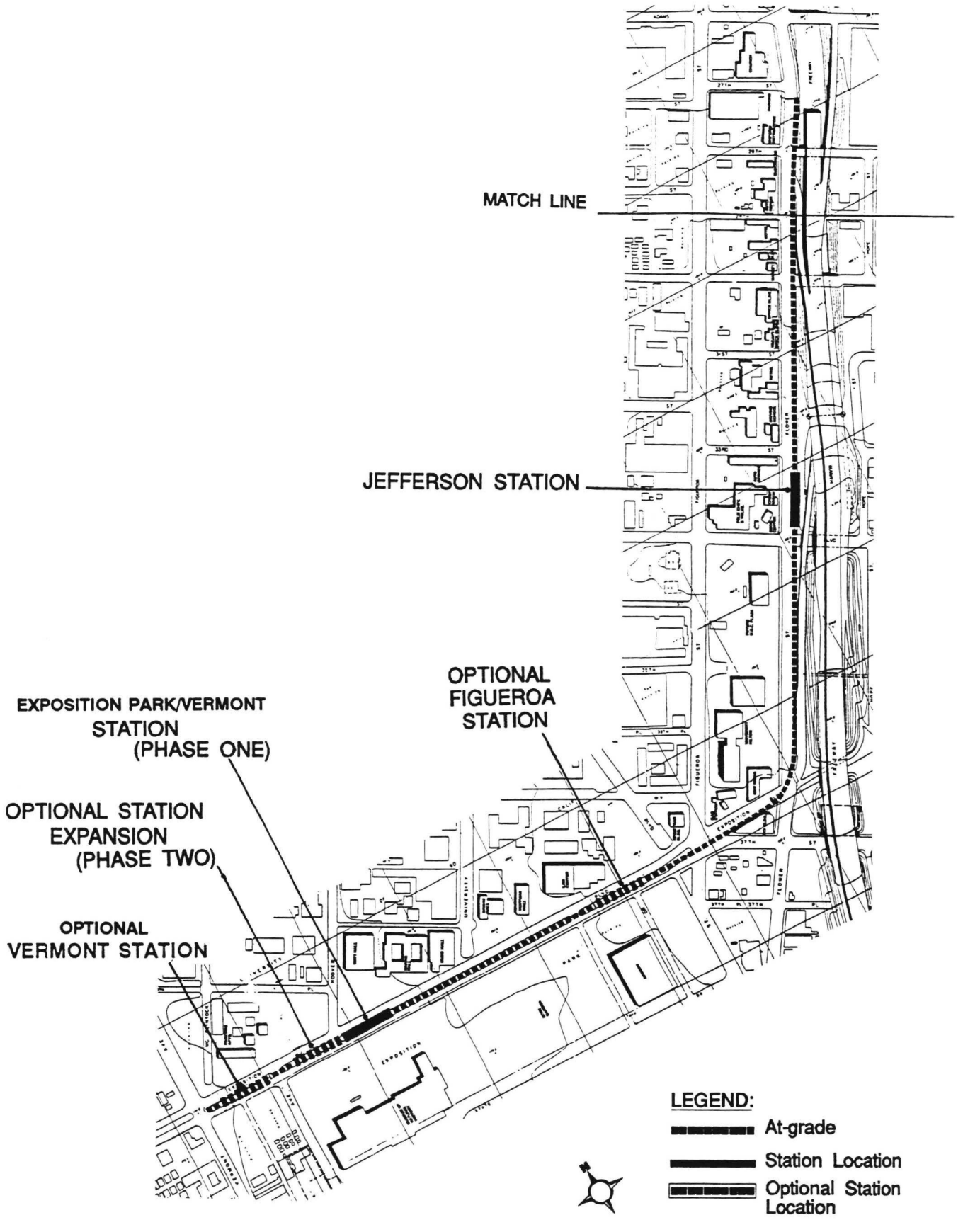
Jefferson Station: This station would be located between 33rd street and Jefferson Boulevard on Flower Street.

Exposition Park/Vermont Station: This station would be located approximately 800 feet east of Vermont Avenue on Exposition Boulevard. This station is currently designed as a single station with loading access for three trains. There is an option to expand this station to the west (towards Vermont Avenue) in the future to a double station capable of handling access for six cars.

In addition there are three optional station locations as follows:

Washington Station: This station would be an optional station which would take the place of the 23rd Street Station. The station would be located between 18th Street and Washington Boulevard on Flower Street and would include a relocation of the Grand station and consolidation with this station.

Figueroa Station: This optional station would be located at approximately Figueroa Street on Exposition Boulevard. This station is only included for the at-grade Alternative 2c and would not be an option for the subway or aerial alternatives.



Source: Gruen Associates

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 3.3-5
WESTERN SEGMENT
ALTERNATIVE 2c
At-Grade



View from north sidewalk of Exposition Boulevard looking southeast toward Figueroa Street.

SOURCE: Gruen Associates

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 3.4-1
TYPICAL STATION DESIGN
(Optional Figueroa Station)

Vermont Station: An option for all alternatives (2a, 2b, and 2c) would be to locate this station further west on Exposition Boulevard, closer to Vermont Avenue. This option would include a two-car station with tail tracks extending west of Vermont Avenue to accommodate up to nine, two-car trains each (for storage in support of special events only). It should be noted that this optional station would limit operations on the Branch Line to two-car platforms at all stations. While 3-car platforms are proposed for all other stations, early year operations are anticipated to require only 2-car trains.

CHAPTER 4.0
ENVIRONMENTAL SETTING

4.1 REGIONAL CONTEXT

The proposed Exposition Branch line will form a part of the Metro Rail system. This system encompasses a 300-mile transit network to be built in the next 30 years that includes light rail, heavy rail and commuter rail. The transit segment studied in this report would be a 1.8-mile light rail extension of the Metro Blue Line route which serves the area from Downtown Los Angeles to Downtown Long Beach. The main Blue Line route connects with the subway portion of the Metro Red Line (currently under construction) at the Seventh Street and Flower Street Station. In addition to this connection, the proposed Blue Line Extension will also intersect with the Harbor Freeway Transitway near 23rd Street--just north of Adams Boulevard. In addition, the proposed Blue Line Extension would be located near the Exposition Boulevard Transitway Station being developed by the California Department of Transportation (CALTRANS).

4.1.1 Geotechnical and Seismic Character

The proposed rail route can be characterized by relatively flat terrain with elevations ranging from approximately 90 feet to 225 feet above sea level. The general topography slopes from northwest to southeast. There are no major hills or landforms in the vicinity of the proposed rail line. Soils in the project vicinity are classified as the Hanford Association. These alluvial deposits are high in sand concentration, have good drainage and permeability and pose no engineering constraints to development. There are no areas with a high potential for liquefaction or subsidence in the project vicinity. There are no Alquist-Priolo Special Fault Studies Zones in the project vicinity nor are there City of Los Angeles designated Detail Study Areas--which require special geotechnical reports prior to development. Although the Los Angeles basin is seismically active, the closest known potentially active faults to the proposed project are the Santa Monica-Hollywood fault which lies approximately 5 miles north of the project and the Newport-Inglewood fault which is located approximately 5 miles west of the project. According to Wildcat Maps available from the California Department of Conservation, Division of Oil and Gas, the northern part of the rail line, along Flower Street to approximately 20th Street and from 20th Street to about 28th Street is within the Los Angeles Downtown Oil Field and the Las Cienega's Oil Field respectively.[1]

4.1.2 Hydrologic Character

There are no major surface water bodies within the vicinity of the proposed rail line. Surface water bodies outside of the project vicinity include the Los Angeles River--located 3 miles to the east, the Dominguez Channel located 10 miles to the southeast and Ballona Creek located 5 miles to the west. Generally, the project vicinity is not in area subject to flooding. The Federal Emergency Management Agency (FEMA)--when evaluating the 100-year and 500-year flood frequency--has classified the project vicinity as Zone C which has

[1]California Department of Conservation, Division of Mines and Geology, Wildcat Maps, W1-5, 1988.

little or no flood hazard potential.[2] The nearest area susceptible to flood is just west of Vermont Avenue on the north and south side of Exposition Boulevard where FEMA has designated the 500-year flood hazard boundary. Groundwater does not pose an engineering constraint to development within the project vicinity. The depth of the groundwater is approximately 60 to 80 feet below the ground surface.[3]

4.2 LAND USE

The project area is highly urbanized. The project area is located approximately two miles south of Downtown Los Angeles. It is about one-half mile south of the Los Angeles Convention Center. The project alignment is located just east and south of the University of Southern California (USC) campus. The project alignment along Exposition Boulevard divides Exposition Park (with its complex of museums and sports facilities) from the USC campus.

In general, the project vicinity is characterized as a transitional area between the Los Angeles Central Business District and Exposition Park with its surrounding institutional uses and residential neighborhoods (including historic homes in the North University Park area). With respect to land use character, the project vicinity can be divided into generally into the following three distinct areas (see **Figure 4.2-1**):

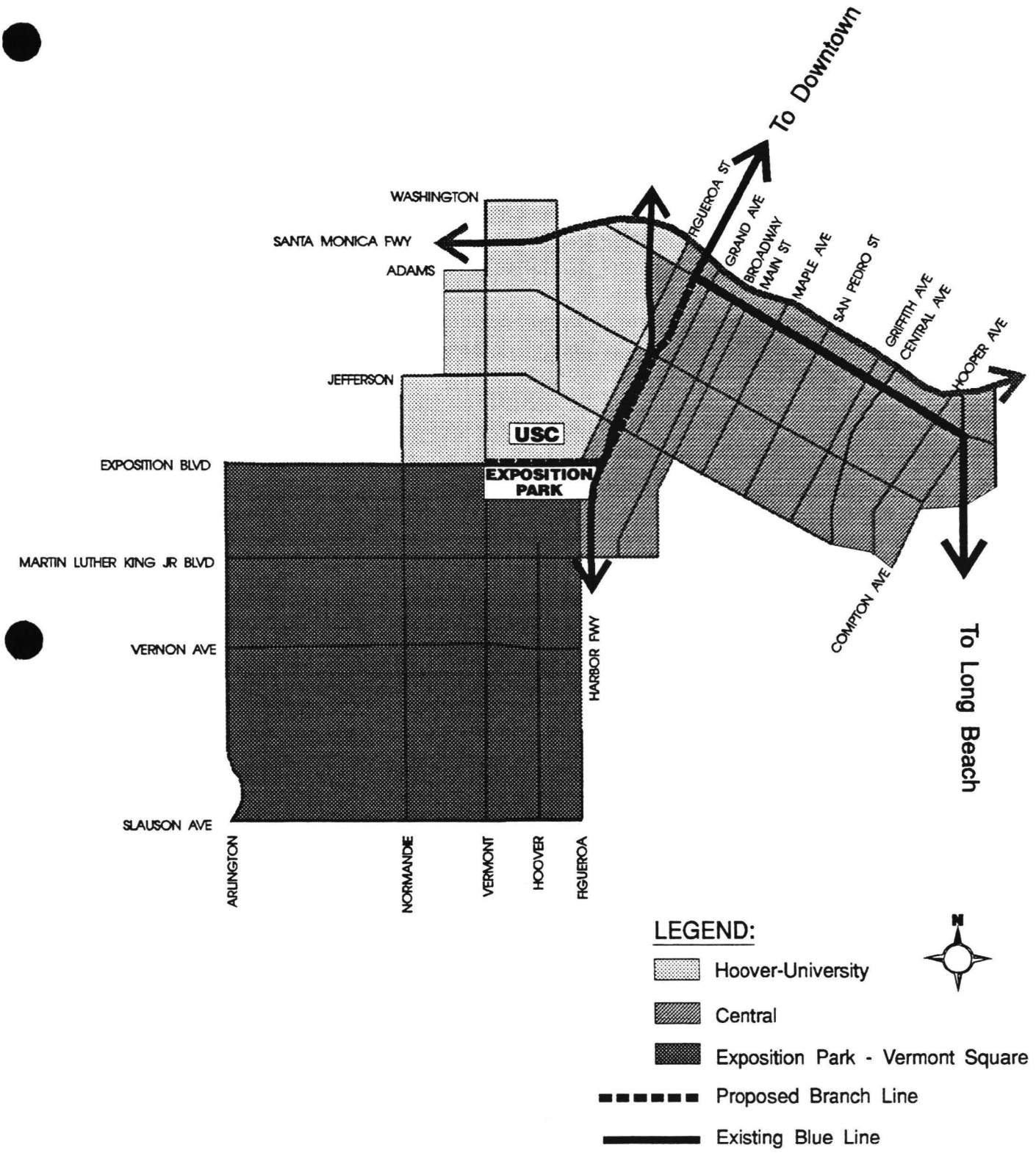
- **Hoover-University**. The University of Southern California (USC) and the University Village Shopping Center serve as a major focal point in the subarea. The subarea is bisected by the Harbor Freeway (I-110). The western part features a concentrated stock of historic homes in North University Park area. The eastern part is predominantly an industrial and warehouse area.

- **Central**. Includes a minor concentration of strip commercial at Adams and Central. The subarea is largely a residential island surrounded by industrial and warehouse uses.

- **Exposition Park-Vermont Square**. Includes Exposition Park, State and County Museums, Los Angeles Coliseum/Sports Arena. The northwest, southwest and southeast portions of the subarea are largely single-family in character. The northeast portion adjacent to the Exposition Park area is multi-family in character.

[2]Federal Emergency Management Agency, Flood Insurance Rate Map(s) for the City of Los Angeles, 1987.

[3]State of California Department of Water Resources, "Planned Utilization of the Groundwater Basins of the Coastal Plain of Los Angeles County", Appendix A, May 1990.



Source: City of Los Angeles Community Development Department

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 4.2-1
COMMUNITIES ADJACENT TO PROPOSED RAIL LINE

Community Planning Areas (CPA) as formally designated by the City of Los Angeles Department of City Planning. Specifically, the project vicinity encompasses the northern portion of the South Central Community Plan Area and the northern portion of the Southeast Community Plan Area. In themselves, these CPA's are cover an extensive 30-square mile area commonly referred to as South Los Angeles.

In addition to the CPA's, the Hoover Redevelopment Project area is located along and west of Flower Street (see Section 5.1). Land uses along the proposed route are primarily a mixture of commercial, industrial and institutional.

The route would begin at Washington Boulevard and Flower Street where the Los Angeles Trade Technical School (Trade Tech) is located. South, along Flower Street to the Harbor Freeway is mostly light industrial uses on the west side of Flower. Orthopaedic Hospital is located on the east side between 23rd Street and the Harbor Freeway over pass. South of the Freeway along the east side of Flower is the freeway right-of-way. There are no developed uses immediately adjacent to Flower all the way to Exposition Boulevard. Along the west side of Flower between the freeway and Jefferson there are a mixture of older warehouse buildings and fast food restaurants. On the southwest corner of Jefferson and Flower is the vacant site of the proposed USC Plaza, a mixed-use office/hotel project.

The former Southern Pacific railroad right-of-way, now owned by LACTC, runs down the center of Exposition Boulevard between Figueroa and westerly past the route terminus at Vermont. Exposition Park is located along the south side of Exposition Boulevard between Figueroa and Vermont. Uses within the park include museums and a rose garden. The University of Southern California (USC) is located along the north side of Exposition Boulevard between Figueroa and Vermont. West of Vermont, on the north side of Exposition, there is an Islamic Temple under construction and west of that are single-family homes. On the south side of Exposition, west of Vermont, there is a gas station, a multi-family housing development and further west, single-family homes.

4.3 DEMOGRAPHIC CHARACTERISTICS

Based on the 1990 preliminary data from the Census of Population and Housing, the three areas adjacent to the proposed rail line have increased in growth between 7 and 36 percent from 1980 to 1990. Over the decade, the County's population increased by 18.5 percent and the City of Los Angeles' population by 17.5 percent. The Hoover-University area witnessed the smallest rate of population growth (7.2 percent) while the Central area had growth rates which exceeded those of the County and the City (see **Table 4.3-1**). Further demographic characteristics such as ethnicity and income levels is presented in section 5.2, Population and Housing.

TABLE 4.3-1: POPULATION TRENDS IN COMMUNITIES ADJACENT TO THE RAIL LINE (1980 to 1990)

Areas	1980(1) Population	1990(2) Population	# Change	% Change
Hoover-University	31,590	33,856	2,266	7.2
Central	27,733	37,778	10,045	36.2
Exposition Park-Vermont Square	57,444	69,360	11,916	20.7

Sources:
(1) U.S. Department of Commerce, 1980 Census of Population and Housing, Table P-1
(2) U.S. Department of Commerce, 1990 Census of Population and Housing, PL94-171 Data.

The population density in the areas adjacent to the proposed rail line is more than twice that of the City average of 12 persons per acre and almost 7 times the County average of 3 persons per acre. The areas adjacent to the proposed rail line have an average of 22 to 34 persons per acre (see **Table 4.3-2**).

TABLE 4.3-2: POPULATION DENSITIES IN THE AREAS ADJACENT TO THE RAIL LINE

Area	Acres	Hectares	Persons per Acre	Persons Per Hectare
Hoover-University	998	404	34	84
Central	1,750	709	22	55
Exposition Park-Vermont Square	2,646	1,071	26	65

Sources:
(1) U.S. Department of Commerce Bureau of the Census, 1983 County and City Data Book, Table B.
(2) City of Los Angeles Department of City Planning-Jeff Beckerman.
(3) U.S Department of Commerce, 1990 Census of Population and Housing, Table P-1.

4.4 TRANSPORTATION

The proposed rail route area is served by main freeways: the Santa Monica Freeway (I-10) and the Harbor Freeway (I-110). These facilities provide major connections to the Los Angeles metropolitan area.

During peak travel hours and occasionally during non-peak periods, the freeway system serving the downtown area experiences extreme congestion. Both the Harbor and Santa Monica Freeways operate at level of service F during congested peak hours. The situation has become so aggravated that freeway traffic spills over onto local streets during peak periods, causing disruption of residential neighborhoods.

The proposed I-110 Transitway project located in the vicinity of the proposed rail line is intended to improve service to automobile commuters and those using public transportation because the existing freeway cannot adequately move people and goods during peak hour congestion. The plan includes a northbound High-Occupancy-Vehicle (HOV) off-ramp to Adams Boulevard and southbound on-ramp from Flower Street, south of 28th Street (with new HOV frontage road). In addition, Figueroa and Flower Streets would become one-way arterials to accommodate the Traffic System Management (TSM) Plan of the City of Los Angeles. Figueroa Street would be one-way northbound, with two contra-flow lanes; and Flower Street would be one-way southbound, with one northbound contra-flow lane between Adams Boulevard and 23rd Street. The Figueroa/Flower one-way couplet would extend from Washington Boulevard south to where the two streets converge near Exposition Park, south of Exposition Boulevard. This project is discussed further in Section 4.6, Related Projects.

4.5 AIR QUALITY

The rail corridor is located within the South Coast Air Basin (SCAB). The SCAB consists of the non-desert portions of Los Angeles, Riverside, and San Bernardino counties and all of Orange County. Its area is approximately 6,600 square miles. The Los Angeles County portion encompasses approximately 40 percent of the basin area (2,400 square miles).

Under the provisions of the Clean Air Act (CAA), areas are classified by the U.S. Environmental Protection Agency as either attainment or non-attainment areas for pollutants such as carbon monoxide, sulfur dioxide, nitrogen oxides, ozone, hydrocarbons and total suspended particulates and lead. Attainment is based on whether or not the National Air Quality Standards (NAAQS) are being met.

Ambient pollution concentrations recorded in Los Angeles County are among the highest of the four counties comprising the SCAB. Winter air quality problems are due to early and late evening emissions of carbon monoxide and nitrogen oxides. Summer air quality problems result from the formation of photochemical smog, as hydrocarbons and nitrogen dioxide react under strong sunlight. On the basis of regional monitoring data, Los Angeles County has been designated as a non-attainment area by the U.S. Environmental Protection

Agency, under the provisions of the CAA, for ozone, carbon monoxide, nitrogen oxides and total suspended particulates. The County is designated as an attainment area for sulfur dioxide.

As shown in **Figure 4.5-1** the proposed rail line route lies primarily within the area where the State standard for Carbon Monoxide was exceeded between 20 to 40 days and ozone standard was exceeded between 25 to 50 days in 1990. Nitrogen dioxide levels did not exceed state standards, however particulate matter levels ranged between 40 to 60 micrograms/cubic meter or exceeding the state standard of 50 micrograms/cubic meter in part of the site vicinity (see **Figure 4.5-2**).

4.6 RELATED PROJECTS

The CEQA Guidelines require a discussion of cumulative impacts defined as the impacts a project development is likely to have when assessed together with the impacts of closely related past, present or reasonably foreseeable projects. Past and present projects are accounted for in the existing conditions discussions. Reasonably foreseeable projects in the proposed site vicinity are included in **Table 4.6-1** and shown on **Figure 4.6-1.** There are a total of 27 projects in the site vicinity which have either been approved, are under construction, or are proposed by the City of Los Angeles, USC or Exposition Park.

The following summarizes the related projects:

City of Los Angeles Projects:

573,215 square feet commercial/office/retail/service
137 housing units
3,735 parking spaces
299 fixed-seat conference room

USC Projects:

1,260,500 square feet office/retail/research/classroom
library/arena/laboratory
250 hotel rooms
126 condominium units
2,130 parking spaces

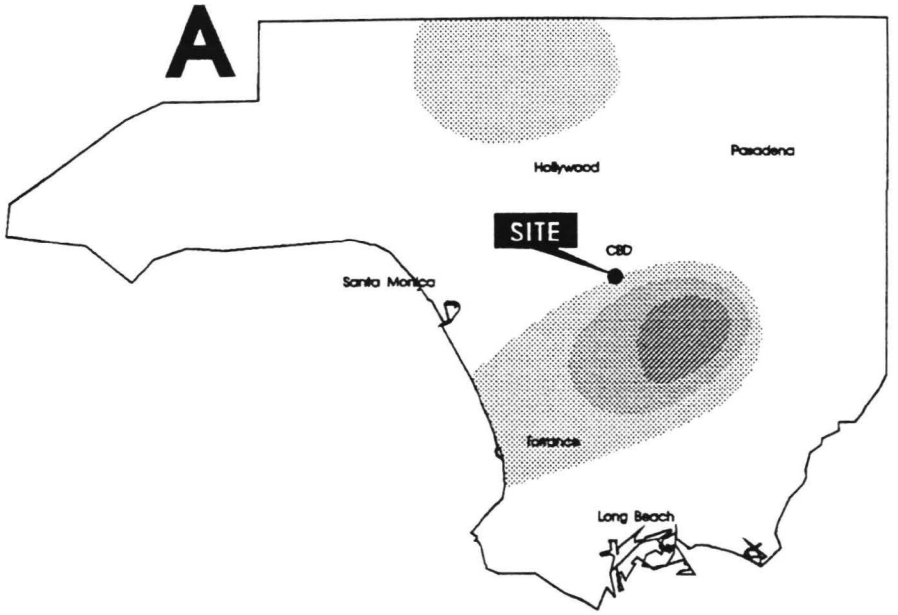
Exposition Park Projects:

260,000 square feet of museum/elementary school/community center space
6,368 parking spaces (approx. net gain)

Total:

1,833,715 square feet commercial/offic/retail service etc.
236 housing untis/condominiums
260 hotel rooms
299 fixed seat conference room
12,233 parking spaces
260,000 square feet museum/elementary school, etc.

1990 CARBON MONOXIDE LEVELS



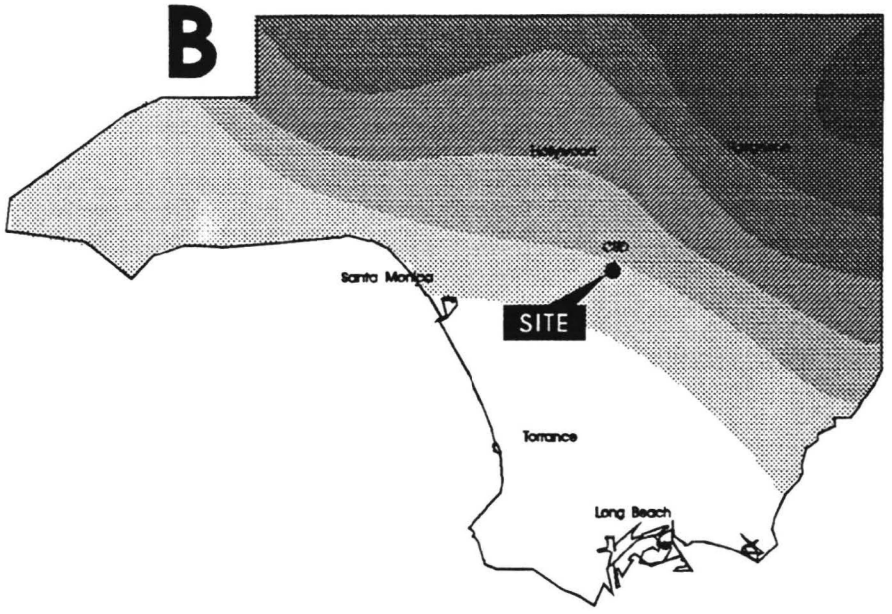
LEGEND:

# of Days State Standard Was Exceeded

- <20
- 20 to 40
- 40 to 60
- >60

A

1990 OZONE LEVELS



# of Days State Standard Was Exceeded

- 0 to 25
- 25 to 50
- 50 to 75
- 75 to 100
- 100 to 125
- 125 to 150
- >150

B

N

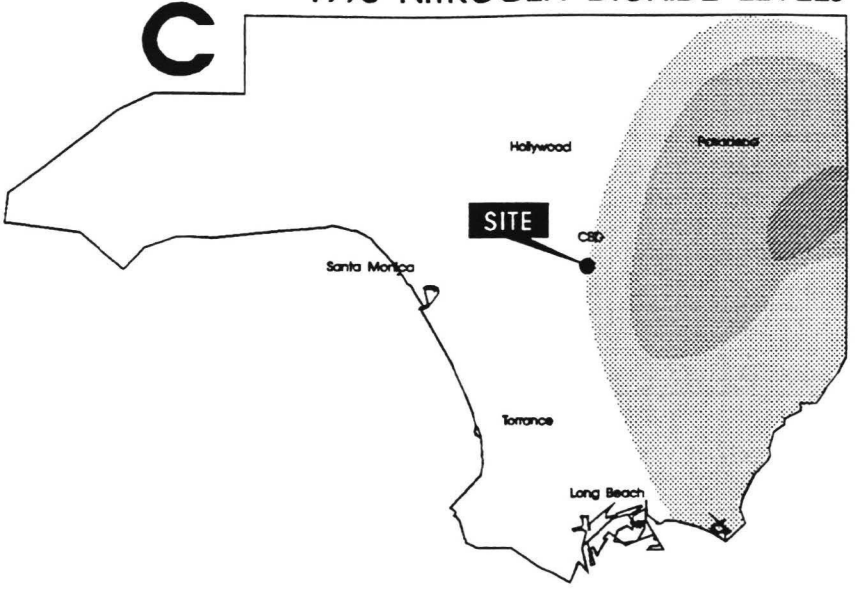
1" = 16 miles

SOURCE: South Coast Air Quality Management District, "Air Quality Management Plan" (1991)

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 4.5-1
OZONE AND CARBON MONOXIDE LEVELS IN SITE VICINITY

1990 NITROGEN DIOXIDE LEVELS



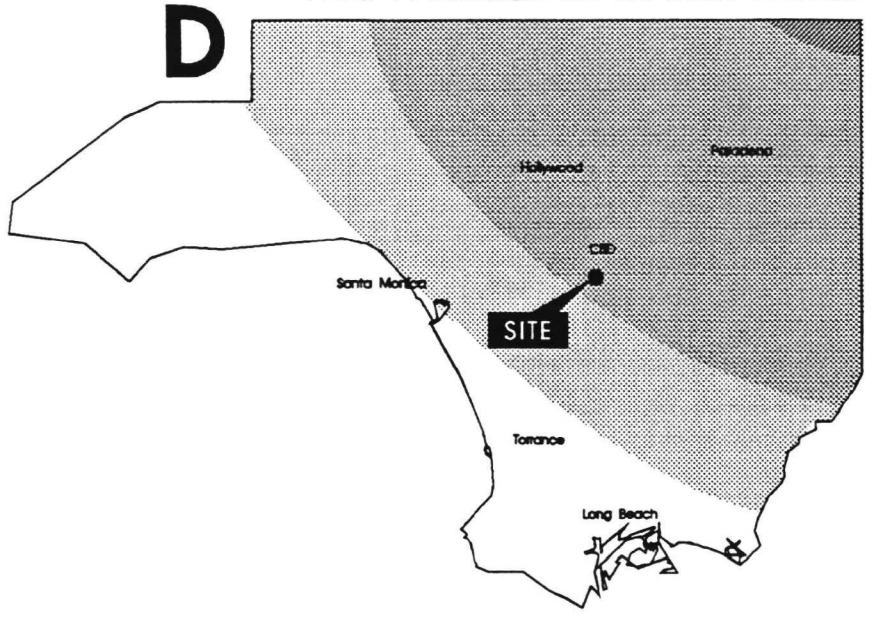
LEGEND:

# of Days State Standard Was Exceeded

- 0
- 1
- 2
- 3

C

1990 PARTICULATE MATTER LEVELS



Annual Average Concentration (micrograms/cubic meter)

- <40
- 40 to 50
- 50 to 60
- 60 to 70

D

N

1" = 16 miles

SOURCE: South Coast Air Quality Management District, "Air Quality Management Plan" (1991)

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 4.5-2
NITROGEN DIOXIDE AND PARTICULATE MATTER LEVELS IN SITE VICINITY

TABLE 4.6-1: RELATED PROJECTS

No.	Project	Location	Size	Type	Status	Source
City of Los Angeles Projects						
1.	86-0238-ZV (SUB)	1916 Oak Street	17,920 s.f.	Commercial	P	3
2.	88-358-PP	441 Exposition Boulevard	9,745 s.f.	Retail/ Commercial	C/P	3,5
3.	88-519	614-672 Martin Luther King Blvd.	27,000 s.f.	Shopping Center	P	3,5
4.	90-212-ZC	Oak St. NE of Washington Blvd.	44,850 s.f.	Warehouse/ Office/2/	P	1
5.	Villa de Coliseo	600 Martin Luther King Jr. Blvd.	137 units	Family Housing	UC	2,5
6.	89-701-AV BL Shrine Auditorium	3208 Royal Street	935 parking spaces	Parking Structure	UC	1,2,5
7.	Omar Ibn Al-Khattab Islamic Foundation Mosque	1025 W. Exposition Boulevard	35,000 s.f.	Church and Admin. Offices	UC	13
8.	LA Convention Center Expansion	1201 South Figueroa Street	A: 346,000 s.f. B: 86,000 s.f. C: 2,800 spaces D: 299 fixed seats	A:Exhibit Space B:Meeting Rooms C:Parking Spaces D:Confer. Room	UC	2,9
9.	Coliseum Plaza Phase II	West Side of Vermont Avenue South of Exposition Blvd.	6,700 s.f.	Retail	UC	2,5

SUBTOTAL CITY OF LOS ANGELES PROJECTS: **573,215 s.f. commercial/office/retail/service**
137 housing units
3,735 parking spaces
299 fixed seat conference room

A = Approved; C/P = Constructed/Partially Occupied; P = Proposed; UC = Under Construction

TABLE 4.6-1: RELATED PROJECTS (Continued)

No.	Project	Location	Size	Type	Status	Source
University of Southern California Projects						
10.	USC Plaza	South of Jefferson Boulevard between Figueroa Street and Flower Street	Phase I: A: 168,000 s.f. B: 10,000 s.f. Phase II: A: 335,000 s.f. B: 10,000 s.f. Phase III: C: 250 rooms Phase IV: A: 252,000 s.f. B; 10,000 s.f.	A:Office B:Retail C:Hotel Rooms	P	2,5
11.	Faculty Housing Phase II	Southeast Corner of Hoover Street and 30th Street	126 units	Condo. Units	P	2
12.	USC Parking Center	3401 Grand Avenue	2,130 parking spaces	Parking Structure	A	6,8
13.	Electrical Engineering Building	Northeast Corner of McClintock Avenue and 37th Place	60,000 s.f.	Office	P	8
14.	Loker Hydrocarbon Addition	Northeast Corner of Watt Way and 37th Street	12,000 s.f.	Chemistry Labs	P	8
15.	Center for Photenic Technology	Watt Way and 37th Street	6,000 s.f.	Research	U/C	8
16.	Heritage Hall Addition	South of Watt Way and 35th Street	13,500 s.f.	Classroom	P	8
17.	Watt/Harris Hall Ground Level Project	North Side of Exposition Blvd. 1/2 Block East of Watt Way	A: 2,333 s.f. B: 2,333 s.f. C: 2,333 s.f.	A:Cafe B:Light Industrial C:Class room	P	8

TABLE 4.6-1: RELATED PROJECTS (Continued)

No.	Project	Location	Size	Type	Status	Source
University of Southern California Projects (Continued)						
18.	University Events Center	Northwest Corner of McClintock Avenue and Childs Way	200,000 s.f. (10,000 fixed seats)	Basketball and Performing Arts Arena	P	8
19.	Teaching Library	Southeast Corner of Hoover Street and 34th Place	85,000 s.f.	Library	P	8
20.	Chemistry Building	Northwest Corner of McClintock Avenue and 36th Place	A: 46,000 s.f. B: 46,000 s.f.	A:Research B:Office/3/	P	8
SUBTOTAL USC PROJECTS:			**1,260,500 square feet office/retail/research/classroom library/arena/laboratory 250 hotel rooms 126 condominium units 2,130 parking spaces**			
Exposition Park Projects						
21.	90-334-LAMCC	3771-3783 3783,3789,3977, 3987,3991-3995 Menlo Avenue	Approx. 336 surface parking spaces	Parking Development	P	3,7
22.	New LA Swim Stadium/ Menlo Community Center(City of LA Dept. of Recreation and Parks)	Probable Location within or adjacent to Exposition Park	A: 20,200 s.f. B: 1,800 s.f.	A: Indoor Swimming Pool, Handball Courts, Double Gymnasium, Locker and Shower Facilities B: Meeting Rooms	P	10
23.	CMSI/LAMCC Parking Structures	Tentative Locations in Northwestern and Southern Portions of Park	A: Approx. 2,000 parking spaces B: Approx. 4,232 parking spaces (net gain of 3,232 spaces)	A: Museum-Related Parking Structure B: Event-Related Parking Structure	P	1

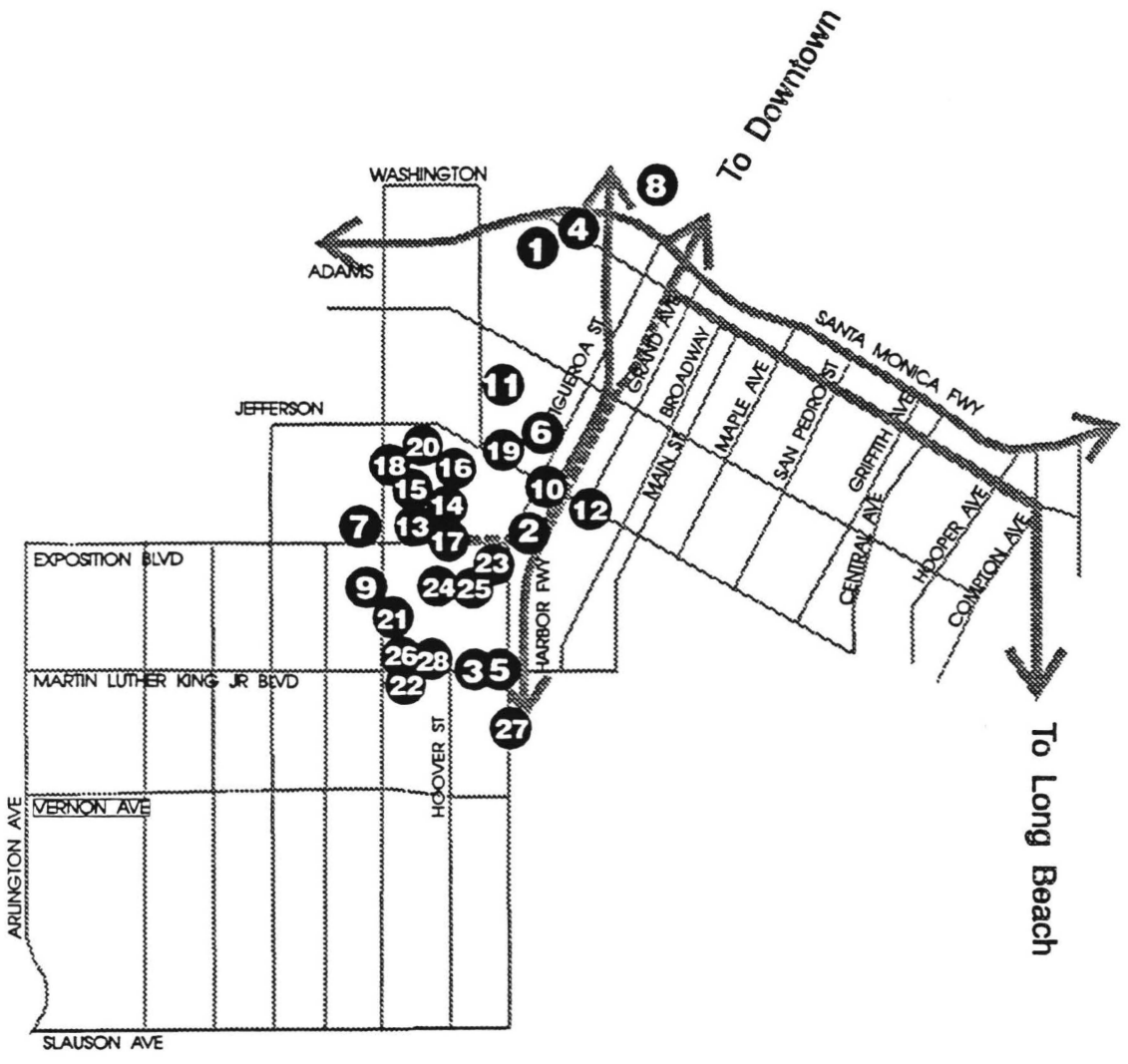
TABLE 4.6-1: RELATED PROJECTS (Continued)

No.	Project	Location	Size	Type	Status	Source
24.	CMSI/LAUSD Science-Focused Elementary School	Adjacent to Central Building of Museum of Science and Industry	Approx. 53,000 s.f. (968 students,26 classrooms)	Science-Focused Elementary School	P	12
25.	CMSI Expansion/ Renovation	Adjacent to Existing Museum of Science and Industry	Approx. 185,000 s.f. net addition	Additions and Renovations to Museum	P	12
26.	LAMCC/CMSI Street Vacation	Menlo Avenue between Exposition Boulevard and the Leighton Avenue Park extension.	Approx. 800 surface parking spaces	Surface Parking Development	P	11
Subtotal Exposition Projects:		**260,000 square feet of museum/elementary school/community center space, 6,368 parking spaces (approx.net gain)**				
Other Regional Projects						
27.	CalTrans Harbor Freeway (I-110) Transitway	Along center divider of Harbor Freeway (Interstate 110) between Adams Boulevard and the Redondo Beach Freeway (California 91) (current phase only)	Approx. 10-mile long bus/transitway	Elevated and separated bus and transit lanes, with associated Park and Ride lots and stations.	UC	3

Sources:

1. City of Los Angeles, Department of City Planning, Environmental Review Section
2. Community Redevelopment Agency
3. City of Los Angeles, Department of Transportation
4. City of Los Angeles, Department of Building and Safety
5. Terry A. Hayes Associates
6. USC Real Estate Development
7. Los Angeles Memorial Coliseum Commission
8. Mark M. Jones, USC Architectural Services
9. Los Angeles Convention Center, Chris Simons, Administrative Offices
10. Frank Catania, City of Los Angeles, Department of Recreation and Parks
11. Charles Isgar, Los Angeles Memorial Coliseum Commission
12. Jeff Rudolph, California Museum of Science and Industry
13. Salah Abdul-Wabid, Omar Ibn Al-Khattab Foundation

/1/ Square Feet
/2/ Assumes 80% warehouse, 20% office.
/3/ Assumes 50% research, 50% office.



Source: City of Los Angeles Community Development Department

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 4.6-1

RELATED PROJECTS

CHAPTER 5.0
ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

5.1 LAND USE

The construction of the rail transit facility could create certain land use impacts including: incompatibilities with adopted local area plans and policies and the taking or displacement of existing properties or uses. This section provides a description of existing land uses along the proposed route and then discusses impacts in the two areas noted above. Mitigation measures are then proposed to alleviate anticipated negative impacts.

Existing Uses

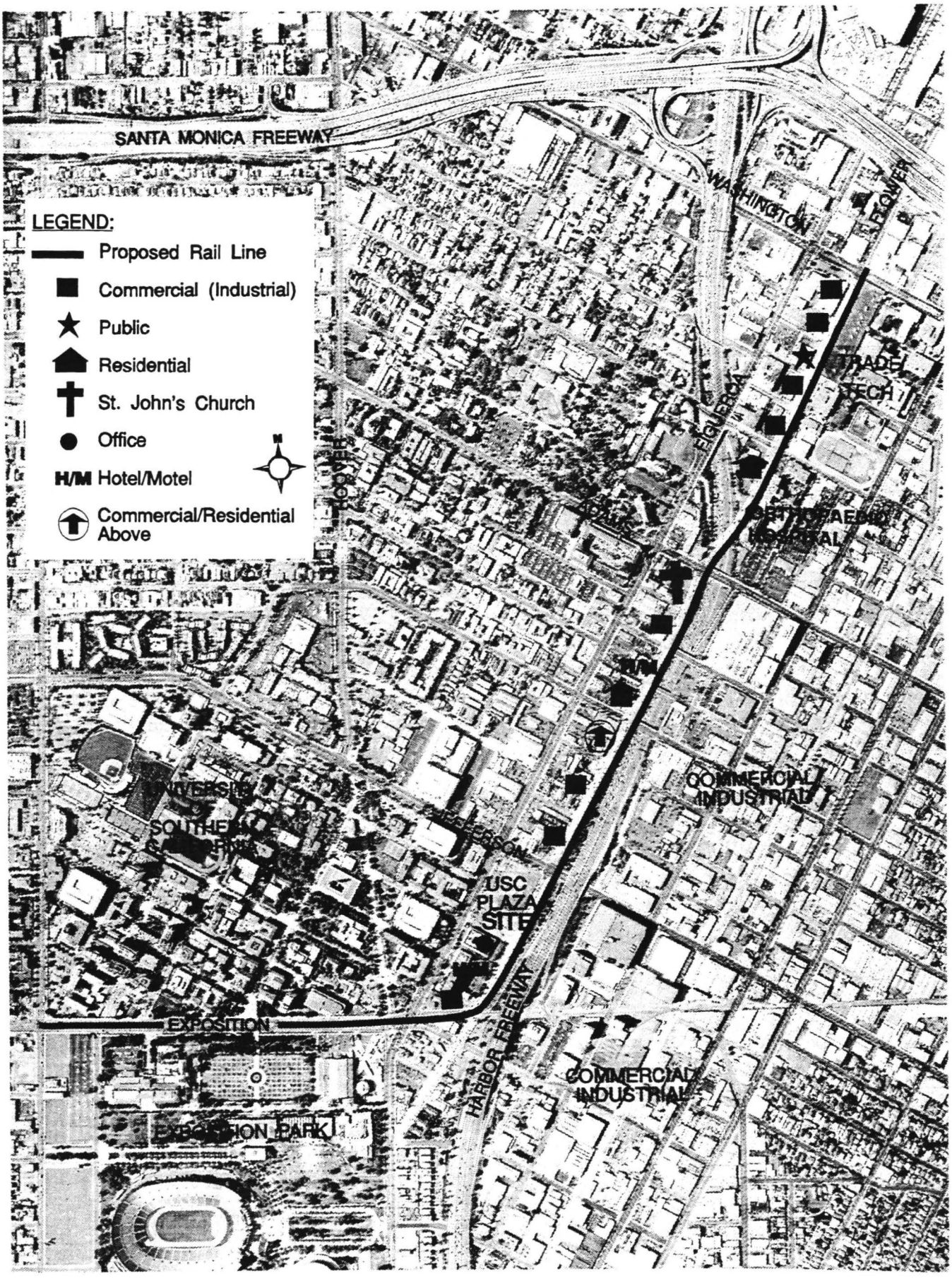
Land uses along the proposed route are primarily a mixture of commercial, industrial and institutional. **Figure 5.1-1** shows the existing land uses along the proposed alignment and is described as follows:

- **Flower Street (east side)**: At the southeast corner of Washington Boulevard and Flower Street is the Los Angeles Trade Technical School (Trade Tech). Photo 1 of **Figure 5.1-2** shows the classrooms of Trade Tech located at about 22nd Street on Flower Street. South of the Trade Tech along Flower Street is Orthopaedic Hospital located just north of the Harbor Freeway overpass (See Photo 2 of **Figure 5.1-2**). South of the Freeway overpass is the freeway right-of-way with no developed uses along this portion of the east side of Flower to Exposition Boulevard.

- **Flower Street (west side)**: Between Washington Boulevard and the Harbor Freeway overpass are seven buildings including five commercial businesses, a government office (social security office) and one apartment building (see Photo 3, **Figure 5.1-3**). Between the freeway overpass and Exposition Boulevard there are about sixteen buildings with various uses including industrial and retail businesses, St. John's Church, (see Photo 4, **Figure 5.1-3**) and a motel at the northwest corner of Flower and 29th Street (see Photo 5, **Figure 5.1-4**). There are residential apartments located above two commercial buildings south of the motel on the west side of Flower Street (See Photo 6, **Figure 5.1-4**). The proposed USC Plaza (a mixed use, office hotel project) is also located along this stretch between Jefferson Boulevard and 35th Street.

- **Exposition Boulevard (north side)**: Along most of this portion of the route are various USC Campus buildings. The only exception is between Flower and Figueroa where the is a retail building, mini-mall and a gas station. The Hilton Hotel is also located north of these uses on the east side of Figueroa Street.

- **Exposition Boulevard (south side)**: Exposition Park is located along the south side of Exposition Boulevard between Figueroa and Vermont.



Source: Terry A. Hayes Associates

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 5.1-1
EXISTING LAND USES

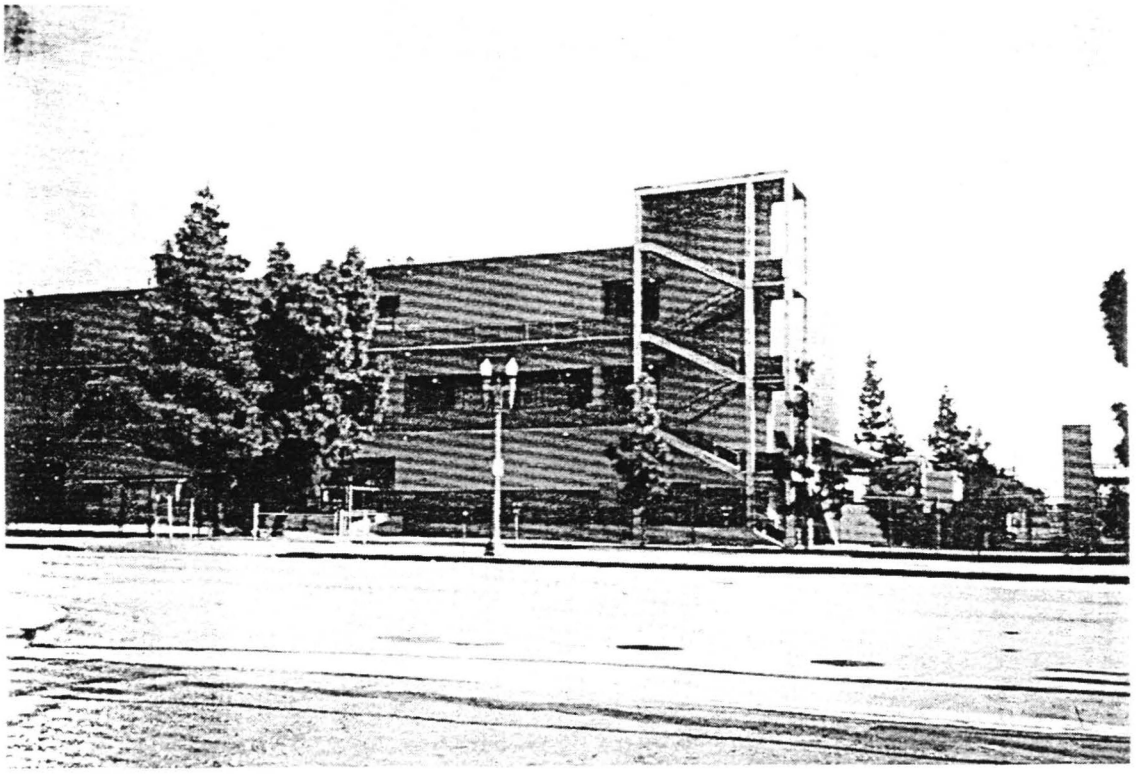


Photo 1: Classrooms of Los Angeles Trade Tech on Flower Street looking east.



Photo 2: Orthopaedic Hospital looking northeast on Flower Street.

Source: Terry A. Hayes Associates

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 5.1-2
LAND USE
PHOTOS 1 and 2



Photo 3: Apartment building on Flower Street north of the Harbor Freeway overpass.

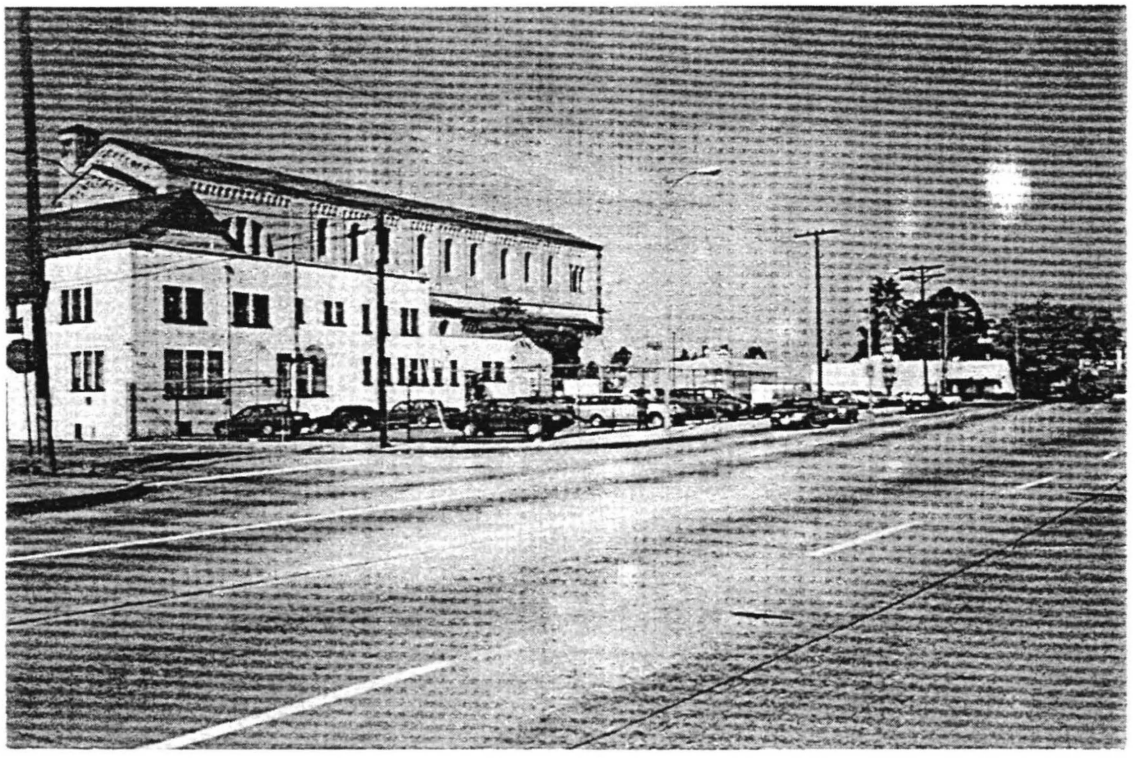


Photo 4: St. John's Church and parking lot on the west side of Flower Street south of the Harbor Freeway overpass.

Source: Terry A. Hayes Associates

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 5.1-3
LAND USE
PHOTOS 3 and 4

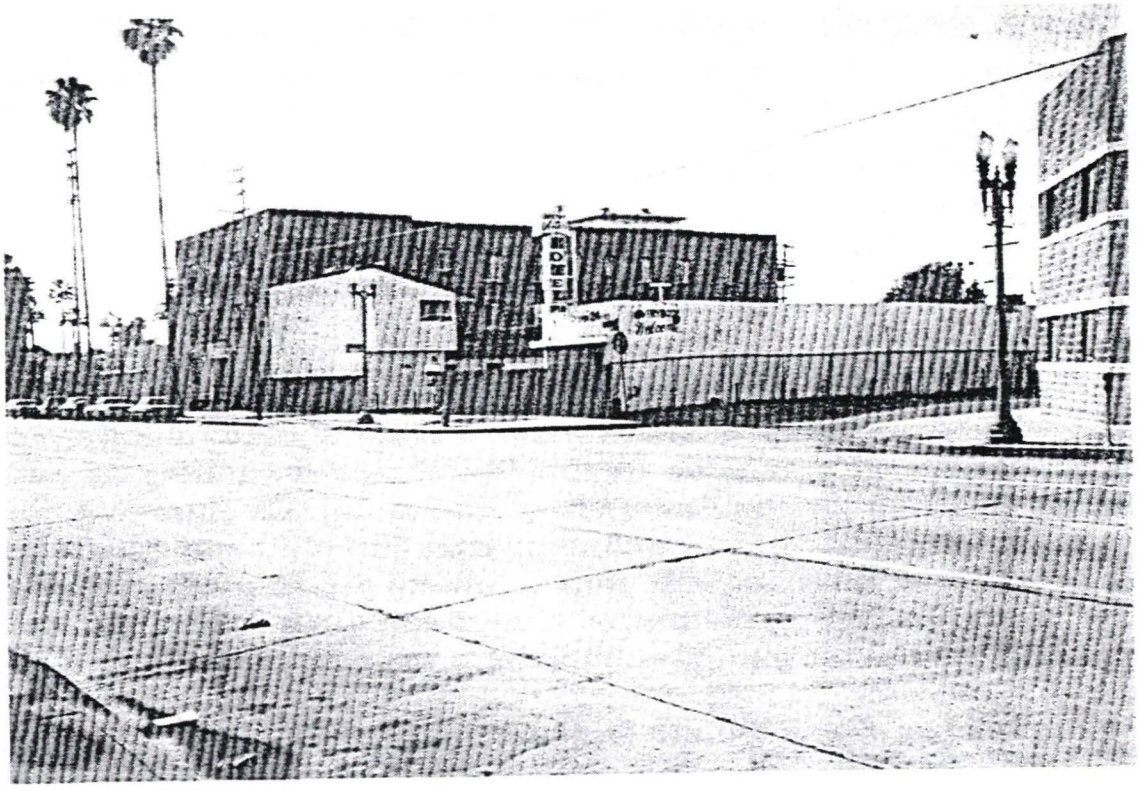


Photo 5: Motel and Commercial building (upper floor residential uses) on the southwest corner of Flower Street and 29th Street.



Photo 6: Commercial building (upper floor residential uses) on west side of Flower Street.

Source: Terry A. Hayes Associates

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 5.1-4
LAND USE
PHOTOS 5 and 6

The former Southern Pacific railroad right-of-way, now owned by LACTC, runs down the center of Exposition Boulevard westerly past the proposed rail terminus at Vermont Avenue. West of the proposed rail terminus is an Islamic Temple (under construction), a gas station, a multi-family development and west of that are single-family homes.

IMPACTS

The proposed alternatives have been laid out to take advantage of publicly-owned corridors such as the Flower Street right-of-way, the CALTRANS right-of-way along the Harbor Freeway, and the former Southern Pacific railroad right-of-way. The alternatives would, however involve some private property acquisitions in the form of driveway closures along the east side of Flower Street, and some property adjacent to Orthopaedic Hospital and St. John's Church. The following describes the property acquisitions involved with each of the proposed alternatives and the subsequent access to properties effects:

- **Rail Line Effects Northern Segment:**

  Alternative 1a (Shared Bridge): Would require the closure of two of the seven driveways along the L.A. Trade Tech frontage on the east side of Flower Street (see **Figure 5.1-5**). The five driveways to remain open would require signalized warning devices placed adjacent to them to prevent vehicles turning from southbound Flower Street across the tracks into the driveways when a train is approaching. These signalized devices would mitigate potential safety concerns at these locations. The two driveways to be closed are: the second driveway south of Washington Boulevard and the exit driveway from the parking lot north of 23rd Street, adjacent to the 23rd Street Station. The first of these driveways is an old driveway no longer in use. The parking lot exit driveway would need to be closed to accommodate the 23rd Street Station. If the Optional Washington Street Station were constructed then this driveway could remain open. The impact of closing the exit driveway would require Trade Tech to redesign this parking lot to accommodate two-way travel in the single aisle and both entry and exit via the driveway on 23rd Street. This could be accomplished by converting the current diagonal parking to 90-degree parking on one side only, so the loss of the Flower Street driveway should not create a significant impact on access or parking for L.A. Trade Tech.

  This alternative would require the acquisition of about 7 feet of the existing sidewalk in front of Orthopaedic Hospital which would bring the rail line to within about 8 feet of the Hospital driveway entrance and about 50 feet from the hospital building. Access to the Hospital driveways would remain via the contra flow lane to be located adjacent to the hospital. (See Section 5.5 regarding noise and vibration impacts.) The two driveways on Flower Street which provide access to the hospital entrance would remain open and would have signalized warning devices as described above.

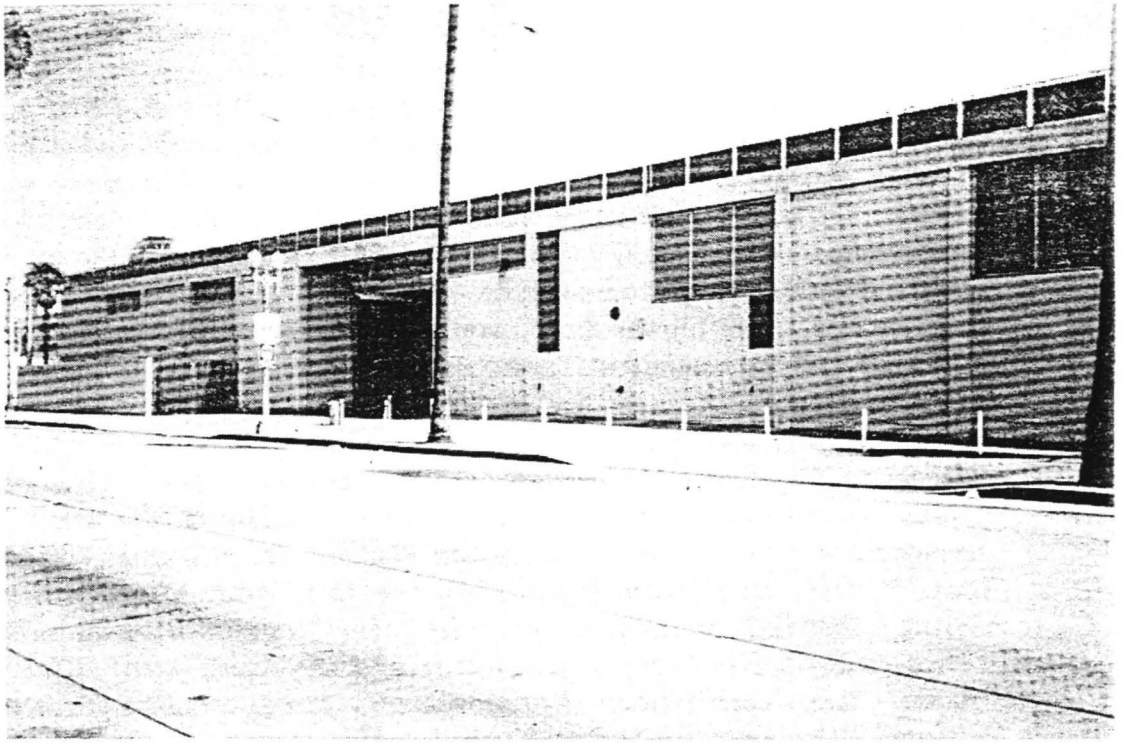


Photo 7: L.A. Trade Tech driveways on the east side of Flower Street south of Washington Boulevard. Light rail operations on the east side of Flower Street could require either closure of the driveways or the installation of warning devices.

Source: Terry A. Hayes Associates

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 5.1-5
LAND USE
PHOTO 7

South of Adams Boulevard, this alternative would require the acquisition of additional right-of-way from St. John's Church parking lot. The lot is currently striped for 90-degree parking with a wide center aisle (see Photo 8, **Figure 5.1-6**). The narrowing of the lot by 4 to 8 feet would still leave the lot large enough to accommodate the same number of parking spaces, however, the center aisle would have to be reduced thereby reducing the number of cars which could be tandem parked in the middle of the lot. This would not cause a negative impact on parking during peak church activities. Curb parking along Flower Street would be eliminated during the evening peak hour (4-6pm) weekdays. Therefore, curb parking would not be affected on the weekends.

Alternative 1b (Separate Bridge): This alternative would have similar impacts to Alternative 1a at LA Trade Tech, the Hilton, the commercial development at the corner of Flower and Washington, and along Exposition Blvd. It would be different from Alternative 1a in front of the Orthopedic Hospital; the track would be about 75 feet away from the hospital building. This alternative would include installation of a mid-block signal at the train crossing which would also control movements into and out of the hospital driveway. This would not cause a negative impact on hospital accessibility, but as discussed in the Transportation Impact section this would negatively impact traffic on Flower Street.

The alignment of the tracks along the west side of Flower, between Adams Blvd. and 29th Street, would require that advance warning devices be located adjacent to each driveway along these three blocks to control southbound vehicles turning right across the tracks into driveways. This should not cause a significant impact on any of these properties, nor require the closure of any of the driveways. It might be feasible to close the Flower Street driveway to the McDonalds restaurant south of 28th Street. This driveway is supposed to function as an exit only, but vehicles do frequently turn into it and then have a difficult time maneuvering into the drive through aisle.

- **Rail Line Effects Western Segment:**

Alternatives 2a (Part Aerial) and 2b (Part Subway): These alternatives would not require the widening of Flower Street from 29th Street to Exposition Boulevard. Thus, there wold be no negative property acquisition effects. No private land acquisitions would be involved along the Exposition Boulevard segment.

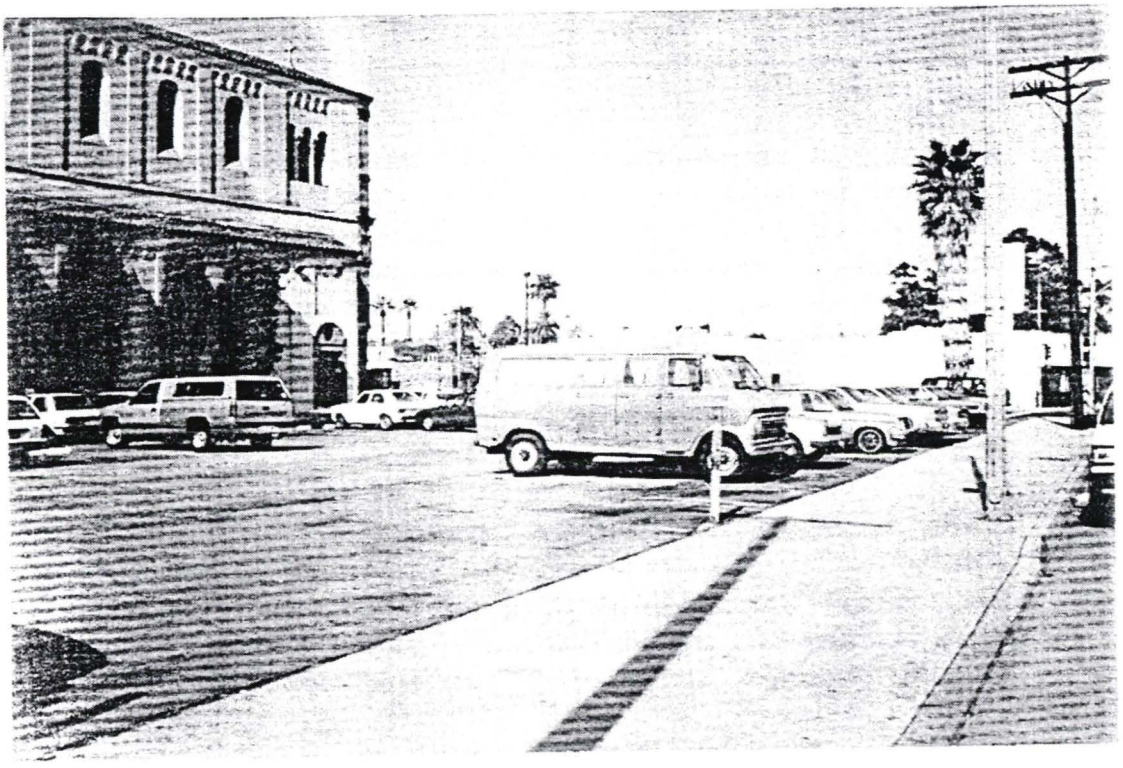


Photo 8: Parking lot at St. John's Church affected by proposed rail line on Flower Street..

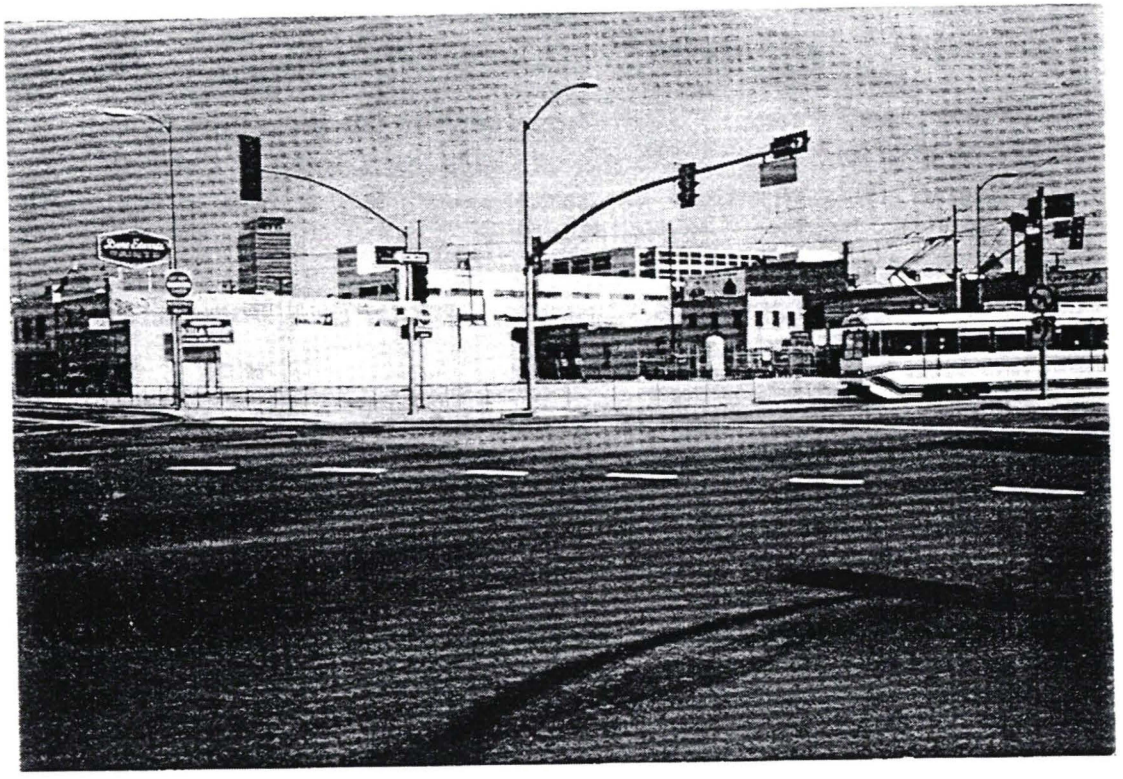


Photo 9: Businesses on the northeast corner of Washington Boulevard and Flower Street potentially affected by optional Washington Station.

Source: Terry A. Hayes Associates

Exposition Park Branch Line
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FIGURE 5.1-6
LAND USE
PHOTOS 8 and 9

Alternative 2c (All At-Grade): This alternative would require the widening of Flower Street from the Hilton Hotel property to the corner of Flower Street and Exposition Boulevard. This widening would result in the elimination of the second Hilton driveway, which is gated off at most times and thus would not result in a significant impact on Hilton operations. The parking lot on the corner of Flower and Exposition, south of the Hilton, would lose about eight of its existing 22 spaces due to the widening of Flower Street. This is considered a significant impact on this property. No negative property access effects on Exposition Boulevard.

- **Station Location Effects Northern Segment**:

  The optional Washington Street Station would require the acquisition of seven buildings and one business located on the east side of Flower Street between Washington Boulevard and 18th Street (See Photo 9, **Figure 5.1-6**).

- **Station Location Effects Western Segment**:

  None of the stations proposed for the western segment would require the acquisition of private property.

- **Optional Station Location Effects Western Segment**:

  The optional Vermont Station would require the acquisition of about 8 feet of right of way on the south side of Exposition Boulevard between Vermont Avenue and Wisconsin to accommodate the needed street width of Exposition Boulevard for the tail tracks.

See also the Transportation/Circulation Section of this EIR for a discussion of parking impacts along Flower Street and adjacent to the station locations.

Since some of the parcels along the west side of Flower Street, adjacent to the rail line, are currently developed under capacity, (less dense than allowed by the existing Community Plans and Zoning Code) it is likely that the rail line could induce redevelopment of some of these under utilized parcels (see Section 6.0, Growth Inducement for a further detailed discussion of the potential growth inducing effects of the proposed rail line).

MITIGATION MEASURES

In the acquisition of real property by a public agency, California state law and LACTC policy requires those agencies to: 1) ensure consistent and fair treatment for owners of real property; 2) encourage and expedite acquisition by agreement in order to avoid litigation and relieve congestion in the courts, and; 3) promote confidence in public land acquisition.

LACTC would work with affected property owners, once the design alternative has been selected, to develop plans for compensating property acquisitions and the lost driveway access along the east side of Flower Street and the loss of parking at St. John's Church.

UNAVOIDABLE ADVERSE IMPACTS

The loss of 8 parking spaces at the commercial property at the northwest corner of Flower and Exposition Boulevard is considered an unavoidable adverse impact of Alternative 2c.

Compatibility with Local Area Plans

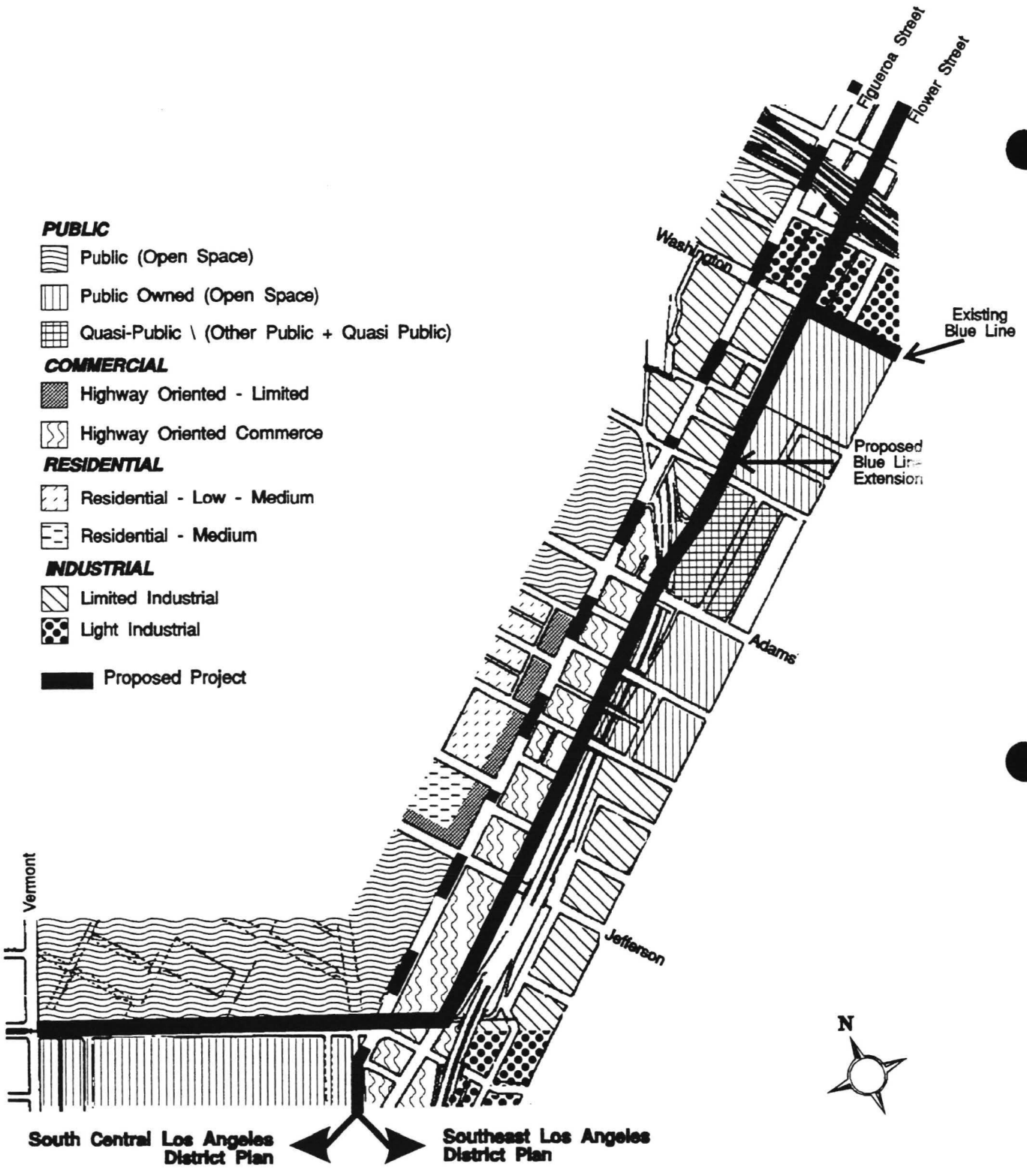
As noted earlier the proposed rail route traverses two community planning areas including the Southeast Los Angeles Community (that portion of the line along Flower Street between Washington Boulevard and Exposition Boulevard) and the South Central Los Angeles Community (that portion of the line along Exposition Boulevard from Figueroa to Vermont).

The community plans each have established land uses and accompanying policies and implementation programs. Both Plans are currently under revision by the City of Los Angeles Department of City Planning. The project area also traverses part of the Hoover Redevelopment Area under the development jurisdiction of the Community Redevelopment Agency of the City of Los Angeles. In addition to the community plans for the area, USC has on-going plans for their campus, Exposition Park is in the process of developing a master plan and the California Department of Transportation (CALTRANS) has plans for the Harbor Freeway. The following describes each of these plans and the relationship of the proposed route alignment with each plan.

Los Angeles Community Plans and Zoning. Figure 5.1-7 shows the land use designations of both community planning areas in the vicinity of the proposed rail route. As shown, most of the land in the vicinity of the proposed route is designated as highway-oriented commerce or public, quasi-public. The closest residential land use designations are one-half block west of Figueroa Street and one-half block west of Vermont Avenue.

Most of the zoning along the proposed rail route is commercial or manufacturing (C2-1, CM-2 and M1-2) with the exception of Exposition Park which is zoned residential (RD2-1 and RD1.5-1). All of the project alternatives would be consistent with both the highway-oriented commerce, public and quasi-public land use designations and the commercial and manufacturing zoning of the adjacent properties as designated in the community plans and zoning ordinance.

Hoover Redevelopment Project. As shown on **Figure 5.1-8**, the western side of Flower Street from Washington Boulevard to Jefferson Boulevard are within the amended Hoover Redevelopment Project area (March 1989) and are designated for commercial use including, but not limited to, office, retail, service businesses, churches, schools, ancillary



SOURCE: South Central Los Angeles District Plan and Southeast Los Angeles District Plan

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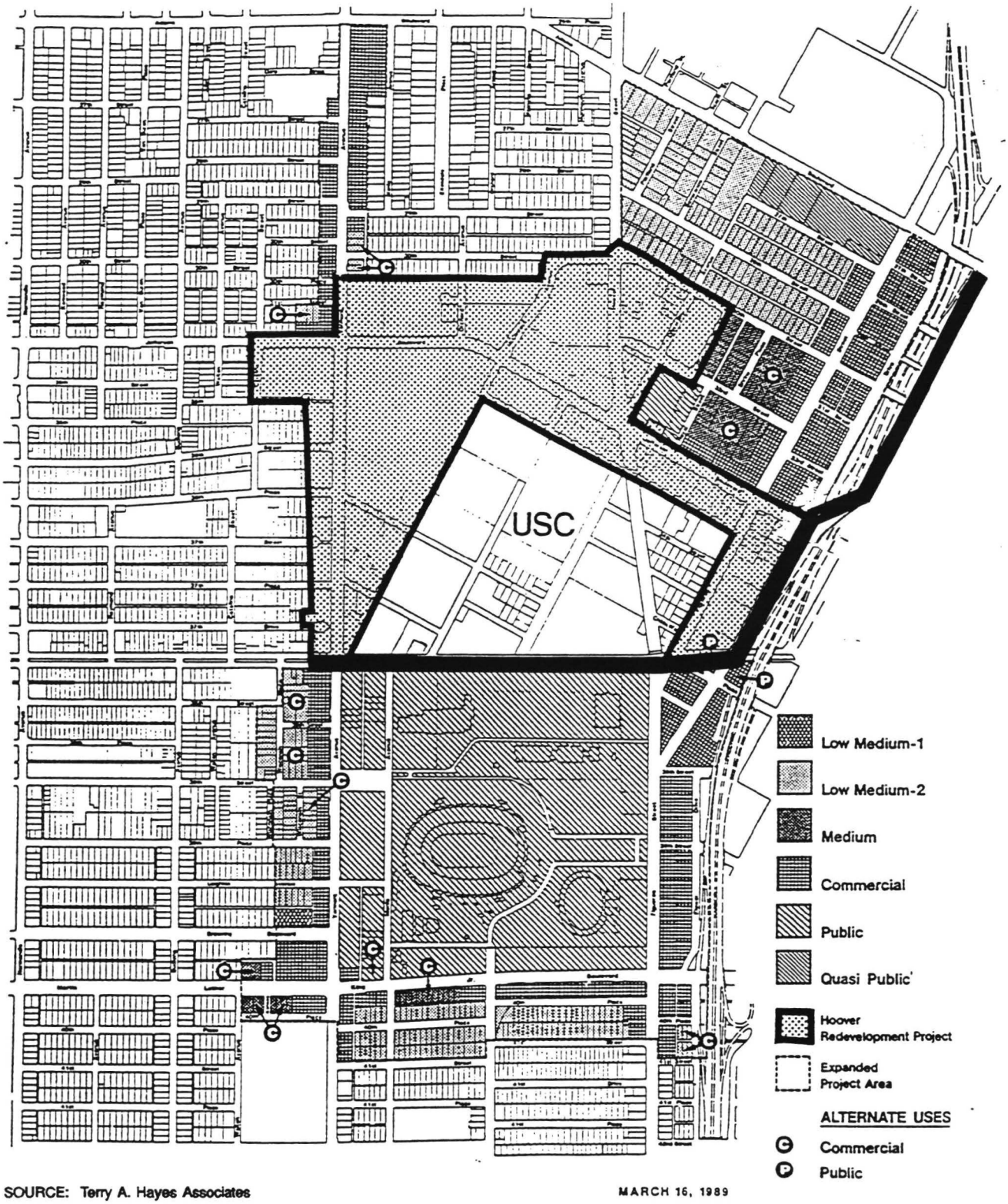
FIGURE 5.1-7
DISTRICT PLANNING DESIGNATIONS



SOURCE: Terry A. Hayes Associates

MARCH 16, 1989

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FIGURE 5.1-8

HOOVER REDEVELOPMENT AREA

parking and parking structures and limited manufacturing. The area south of Jefferson Boulevard is within the original Hoover Redevelopment Plan (adopted in 1966) and is also designated for commercial uses with a primary orientation toward transient housing accommodations in hotel-motel establishments with related uses such as eating. All of Exposition Park is designated as public use in the Plan. All of the proposed rail line alternatives are generally consistent with the goals of the redevelopment plan as the plan encourages reinvestment and redevelopment along the rail corridor.

Exposition Park Master Plan. The Exposition Park Master Plan includes expansions and renovations to park buildings and open space, new construction, and roadway and parking improvements. The plan also identifies pedestrian connections into and out of the park along its perimeter. The plan identifies five pedestrian connections from the north side to the south side of Exposition Boulevard into the park. The plan identifies two light rail station locations; one at the corner of Exposition Boulevard and Vermont Avenue and one at the corner of Figueroa and Exposition Boulevard. The northern rail segments (alternatives 1a and 1b) are not located adjacent to the Master Plan and are therefore not applicable in relationship to the Master Plan. The western rail segments are adjacent to the Master Plan. The following describes the consistency of each of the western segment alternatives with the Park Master Plan stations and the pedestrian connections:

> **Alternative 2a (Part Aerial) and 2b (Part Subway)** These alternatives would not include a station at Figueroa Street and would therefore not be consistent with the Park Master Plan for this station location. These alternatives would include four signalized pedestrian cross walks along the Exposition Boulevard segment; at Figueroa Street, at the mid-block signal opposite the Rose Garden, at Watt Way and at Vermont Avenue, west of the proposed rail line. This is one less pedestrian crossing than is shown in the park's master plan; the plan also includes a pedestrian crossing mid-block between Figueroa and the rose garden. The proposed Exposition Park/Vermont station would be located about 1,000 feet west of Vermont Avenue, which is not consistent with the Park Master Plan station location on Exposition Boulevard at Vermont Avenue. The Optional Vermont station would be closer to Vermont Avenue and would be consistent with the Park Master Plan.
>
> **Alternative 2c (All At-Grade)** The all at-grade alternative includes an optional station along Exposition Boulevard just west of Figueroa Street which is consistent with the Park Master Plan for a station at Figueroa Street. This alternative would include four signalized pedestrian cross walks along the Exposition Boulevard segment similar to Alternatives 2a and 2b above. This alternative would include the optional Vermont station as described for alternatives 2a and 2b above.

University of Southern California. Currently, USC has a number of proposed projects in the site vicinity as noted in the related projects Section 4.6. One proposed project would be directly adjacent to the proposed rail route on Flower Street. The USC Plaza project is a proposed mixed use project between Flower and Figueroa Streets, just south of Jefferson. The project would consist of office, retail and hotel uses. Parking for the project would be 7 levels of subsurface spaces underneath the proposed site. All of the proposed project alternatives would be consistent with the type of mixed use proposed for the USC Plaza project.

California Department of Transportation (CALTRANS). CALTRANS has a variety of proposed roadway improvement plans for Flower and Figueroa Streets in the vicinity of the proposed rail route. Specific plans are discussed in the Transportation Section of this EIR (Section 5.3). The Harbor Freeway Transitway Plan proposes an Exposition Boulevard Station at the tunnel located under the Harbor Freeway (at Exposition Boulevard). The plan calls for excavating the tunnel south of the existing right-of-way to allow for bus layovers with a transit station above. Pedestrians leaving the station would be required to cross over the proposed rail line and walk north to Jefferson Street, cross over Flower Street again to access the rail line at the Jefferson Street Station. This would not provide convenient access to the proposed rail line for riders leaving the Transitway Station at Washington Boulevard. LACTC will work with CALTRANS to identify the potential for a bus/rail interface with the Harbor Freeway Transitway at the 23rd Street Station.

MITIGATION MEASURES

Commission staff and consultants have been working to provide a convenient and workable interface with the Harbor Freeway Transitway. Due to a number of technical problems, it is difficult to place a station closer to the Transitway than has been proposed in this report. LACTC would continue to work with CALTRANS to improve pedestrian access between these two transportation modes and identify the potential for a bus rail interface with the Transitway at the 23rd Street Station.

In addition, all the western segments (alternatives 2a, 2b, and 2c) would include four signalized pedestrian crossings along Exposition Boulevard between Flower Street and Vermont Avenue.

UNAVOIDABLE ADVERSE IMPACTS

None are anticipated.

CUMULATIVE IMPACTS

The proposed rail route together with other planned projects in the site vicinity will increase the land use density of the site area and will help to achieve the goals of the redevelopment plan of the area.

5.2 POPULATION AND HOUSING

SETTING

Population

The proposed light rail line traverses two Community planning areas: the Southeast Los Angeles and the South Central Los Angeles Communities. The South Central Planning area had an estimated population of 257,469 in 1990, an increase of 36,500 over the 1980 estimate which represents an annual growth rate of about 1.5 percent. The Southeast Los Angeles Planning area had an estimated population of 234,621 in 1990 which is an increase of 47,637 over the 1980 estimate for an annual growth rate of 2.3 percent. This compares to the Citywide growth rate of 1.6 percent for the same period.

Further detailed information regarding the population of the immediate rail route area is provided by the eight census tracts immediately adjacent to the proposed rail line. As shown in **Table 5.2-1** there were an estimated 39,142 persons residing in the eight census tracts adjacent to the proposed rail line which was an increase of 4,411 from 1980 and an annual growth rate of 1.2 percent per year. Thus, the growth rate in this area was slightly lower than the Citywide average of 1.6 percent for the same period.

Like many other areas throughout the City of Los Angeles, both of the Planning areas have undergone significant changes in demographic composition. As black in-migration has greatly slowed and black out-migration to other areas has begun to accelerate, the area has experienced a rapid in-migration of Hispanic and other residents. The largest ethnic group in the area are Hispanics who represent about 61 percent of the areas population. The black population in the area accounts for another 19 percent of the total population.

Income Levels

The median household income level of the census tracts adjacent to the rail route ranged from $5,529 to $14,312 in 1988 (average of $9,920) which is considerably lower than the median income of the City which was $28,687.

TABLE 5.2-1: DEMOGRAPHIC CHARACTERISTICS				
Census Tracts	**Population 1980**	**Housing 1980**	**Population 1990**	**Housing 1990**
222600	4133	1485	5462	1752
222700	2904	225	2750	218
224000	5104	1417	5189	1417
224400	6762	1990	7216	2134
224600	3470	885	4182	1020
224700	4036	669	4014	1359
231100	2120	569	2080	256
231200	6202	2376	8249	2764
Total	**34,731**	**9,616**	**39,142**	**11,233**
Source: U.S. 1990 Census, STF 1A Tape.				

Housing

There were an estimated 145,951 housing units in 1990 in the two community planning areas in the vicinity of the rail route. This was an increase of 4.4 percent from 1980 when there were an estimated 139,770 units. On the whole the areas gained 91,008 people between 1980 and 1990 or 22.2 percent from 410,376 to 501,384 individuals during the decade. The average household size was 2.9 in 1980 and 3.4 in 1990.

Within the census tracts adjacent to the rail line the housing stock grew from 9,616 units in 1980 to 10,920 in 1990 or an increase of 13.5 percent. The population in these census tracts grew from 34,731 to 39,142 or a 13 percent increase during the last decade. The average household size was 3.0 in 1980 and 3.5 in 1990 which is about the same as for the community planning areas adjacent to the rail line but considerably higher than the averages for the City as a whole which were 2.5 and 2.7 in 1980 and 1990 respectively.

As a result of housing production not keeping up with the population growth in the City or Community planning areas there has been a decrease in the number of available or unoccupied dwelling units throughout the City. In 1990, of the estimated 10,920 housing units in the adjacent census tracts about 1,389 were vacant for a 13 percent vacancy rate. This is considerably higher than the vacancy rate for the City as a whole which had a 4.7 percent vacancy rate in 1990, thus indicating that there is a greater vacancy rate and less demand for units in these census tracts than in the City as a whole.

Within the census tracts adjacent to the rail line the majority of the units are rental with only 8.5 percent of the total units being owner occupied. The average rent paid in the area

was about $450.00 per month ($5,400 per year). This is considerably lower than the Citywide average rent of $690.00 per month ($8,280 per year). The average home value in the area is $157,700 which is considerably less than the Citywide average of $291,160.

The housing cost to income ratio in the surrounding census tracts ranges from 11.1 to 30.1, meaning the cost of buying a home in the area is 11 to 30 times the median income of persons in these census tracts and therefore home purchase for these individuals is not an option. The average rental rate to income ratio ranges from .98 to .38 for the same census tracts.

Housing Affordability

A commonly-used local model can be used to distribute the demand for housing units by cost or value into very low, low, moderate and high price ranges.[1] These ranges are based on median income categories provided by the U.S. Department of Housing and Community Development. The City of Los Angeles uses these figures to determine the income for affordable housing at different family sizes that would classify a household as very low, low, or moderate income. **Table 5.2-2** provides the current income limits for selected family sizes.

TABLE 5.2-2: YEARLY INCOME LIMITS FOR AFFORDABLE HOUSING

Family Size	Very Low	Low	Moderate
1	$ 14,700	$ 23,520	$ 35,280
2	$ 16,800	$ 26,880	$ 40,320
4	$ 21,000	$ 33,600	$ 50,400
6	$ 24,360	$ 40,350	$ 58,464

Source: City of Los Angeles Housing Preservation and Production Department, Housing Division, based on U.S. Department of Housing and Urban Development as of April 1991.

As evidenced from **Table 5.2-2**, the median income of families within the census tracts adjacent to the rail line fall within the very low income category. Distribution of demand for housing in each of these affordable categories, and in the high cost category, can be predicted as provided in **Table 5.2-3**.

As indicated in **Table 5.2-3**, the majority of housing demand in the three affordable categories is for rental units, ranging from 60 percent for moderate income households to 83 percent for very low income.

[1]Kenneth C. Topping, "Proposed Guidelines to Address Jobs/Housing Balance" Memorandum, May 15, 1990.

TABLE 5.2-3: DISTRIBUTION OF HOUSING DEMAND IN THE CITY OF LOS ANGELES				
	Very Low	**Low**	**Moderate**	**High**
Percent of total demand	19%	18%	19%	44%
Percent owner-occupied	17%	33%	40%	67%
Percent renter-occupied	83%	67%	60%	33%
Source: City of Los Angeles, Department of City Planning. Based on "Proposed Guidelines to Address Jobs/Housing Balance," May 15, 1990.				

IMPACTS

Population and Housing

Alternatives 1a and 1b would require that the rail alignment pass in front of the apartment building located at 2315 S. Flower Street, directly across from Orthopaedic Hospital. The building has a total of 63 rental units and one retail tenant. Assuming the average household size of 3.5 persons for the census tracts in this area, it is estimated that up to 221 persons could reside in the building.

As currently designed, the track alignment for Alternative 1a or 1b would not require that the building be displaced. In the case of Alternative 1a the centerline of the rail tracks would be located 65 feet from the edge of the apartment building. For Alternative 1b the centerline of the rail racks would be located 45 feet from the edge of the apartment building. The existing sidewalk in front of the building would be narrowed from 15 feet to 8 feet for either alternative. See also Section 5.5 regarding the noise impacts at these locations.

In addition there are apartment units located above two other commercial buildings along Flower Street. While the proposed light rail line would not result in the displacement of these units they would be affected in terms of noise, pedestrian safety and aesthetics. Please see each respective section of this EIR for a discussion of these effects.

MITIGATION MEASURES

None are proposed.

UNAVOIDABLE ADVERSE IMPACTS

None are anticipated.

CUMULATIVE IMPACTS

Other related projects in the site vicinity would not displace any housing units. Thus, there would be no cumulative displacement impacts.

5.3 TRANSPORTATION AND CIRCULATION

SETTING

A traffic report was prepared by Meyer, Mohaddes Associates which is available for review at the Los Angeles County Transportation Commission.

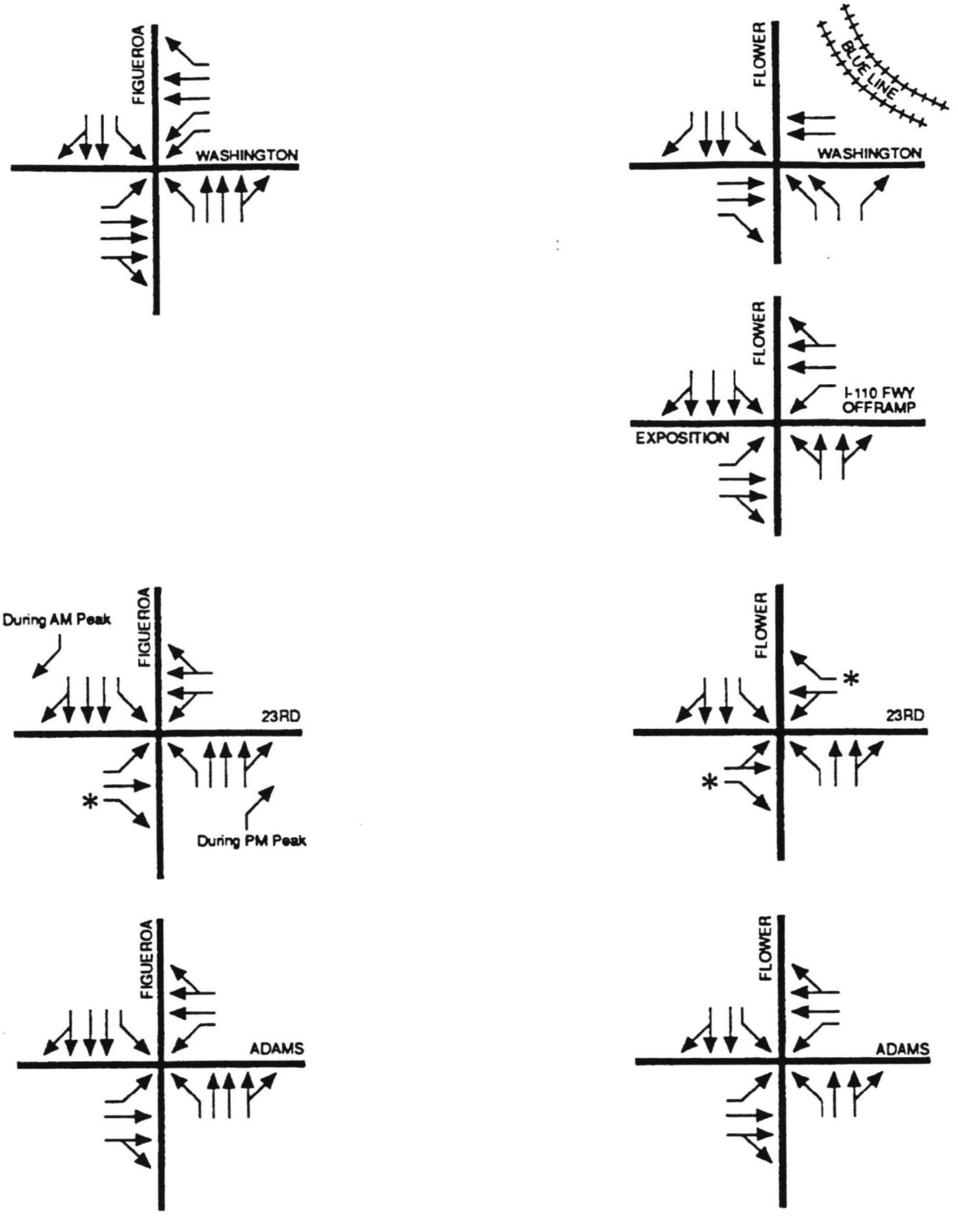
Existing Roadway Network

The existing lane configurations in the site vicinity are shown in **Figures 5.3-1** and **5.3-2.** The following is a description of the freeway, and major road facilities in and near the proposed rail line.

Harbor Freeway. The Harbor Freeway (I-110 and SR 110) is located to the east of the study area. The Harbor Freeway extends from the San Pedro Harbor and continues to the Hollywood Freeway (US 101). North of the Hollywood Freeway, the freeway changes name to the Pasadena Freeway. The Harbor Freeway is an Interstate Highway from its terminus in San Pedro to the Santa Monica Freeway (I-10). North of the Santa Monica Freeway, the freeway becomes a State Highway (SR 110). In the study area, the Harbor Freeway has four lanes in either direction. There are two auxiliary drop lanes on the northbound Harbor Freeway in advance of the Santa Monica Freeway. Traveling northbound towards the Santa Monica Freeway, there is an off-ramp to 37th Street, an on-ramp from Exposition, and an off-ramp to Adams Boulevard. In the southbound direction there is an off-ramp to 23rd Street, an off-ramp to Exposition Boulevard, and an on-ramp from 37th Street. The ADT (Average Daily Traffic) on the Harbor Freeway near Exposition Boulevard is 260,000 vehicles per day. Currently, there is an HOV transitway being constructed in the median of the Harbor Freeway. (This transitway is discussed further in the, Programmed Transportation Improvements discussion and in the Impacts Section.)

Santa Monica Freeway. The Santa Monica Freeway (I-10) is located to the north of the study area. The Santa Monica Freeway extends from the Pacific Coast Highway and continues to the Pomona (SR 60)/Santa Ana (I-5) Freeway split. The Santa Monica Freeway (I-10) is contiguous with the Santa Ana Freeway (I-5) to the north for a little over a mile, where it then splits and becomes the San Bernadino Freeway. There is a full interchange at Vermont Avenue and a partial interchange at Hoover Street . The missing movement at the Hoover Street interchange is the on-ramp to the eastbound freeway. The ADT on the Santa Monica Freeway just west of the Harbor Freeway is 324,000 vehicles per day.

Figueroa Street. Figueroa Street is classified as a major highway. Major highways have rights-of-way that are approximately 100 feet wide with 80 feet curb-to-curb. Figueroa Street has three lanes in both directions throughout the study area, however, parking is allowed in the two curb lanes during non-peak periods, resulting



SOURCE: Meyer, Mohaddes Associates

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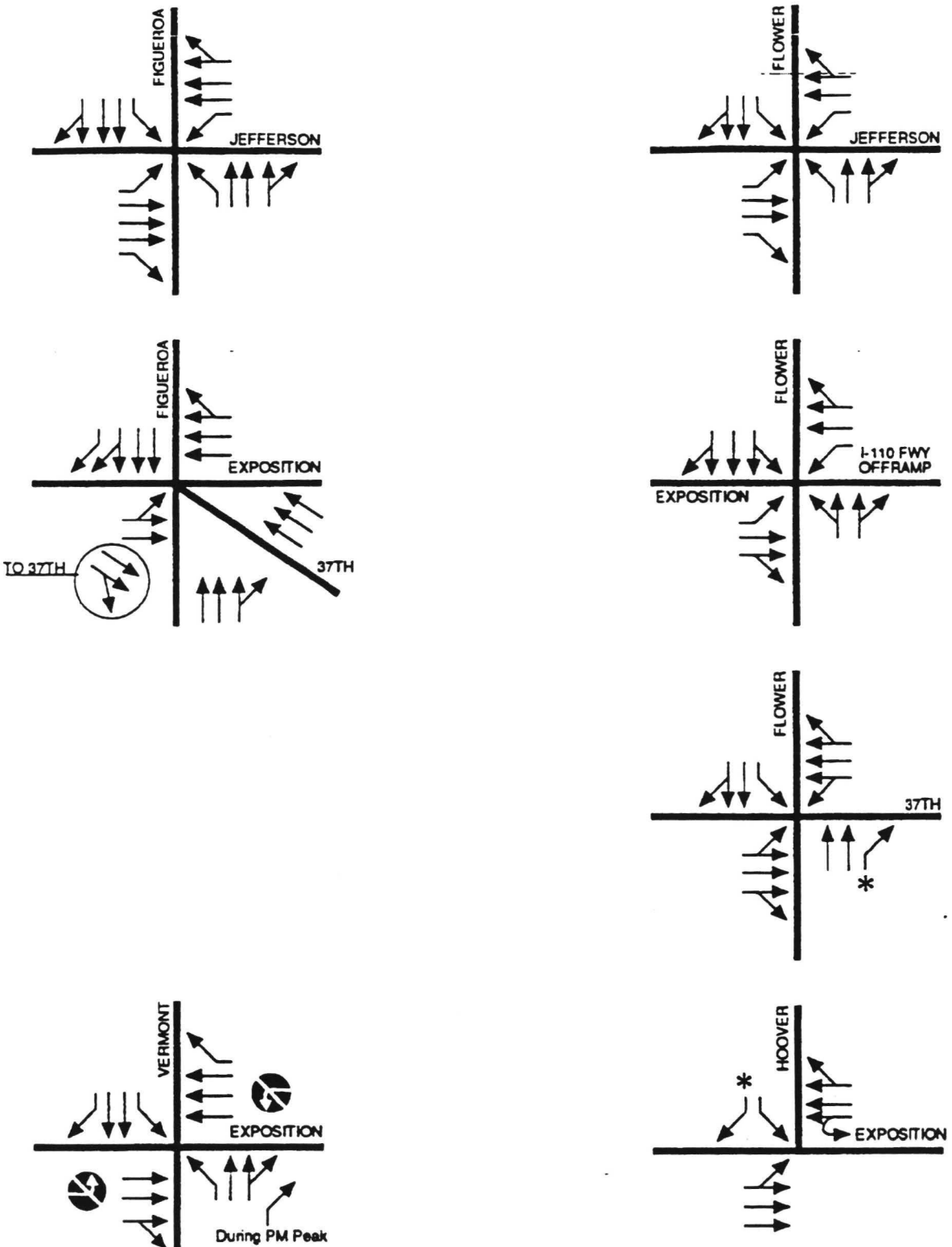
FIGURE 5.3-1

EXISTING LANE CONFIGURATIONS



SOURCE: Meyer, Mohaddes Associates

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 5.3-2

EXISTING LANE CONFIGURATIONS

in two lanes in each direction. Figueroa Street continues north to the Central Business District, where it becomes one-way northbound north of Olympic Boulevard, and south to the San Diego Freeway (I-405). There are two phase traffic signals on Figueroa Street at 23rd Street, Adams Boulevard, 30th Street, Jefferson Boulevard, and 35th Street. There are multi-phases signals at Washington and Exposition Boulevards. The ADT on Figueroa Street between Adams Boulevard and Jefferson Boulevard is 27,100 vehicles per day and 30,300 vehicles per day south of Flower Street.

Flower Street. Flower Street is classified as a secondary highway. Secondary highways have rights-of-way that are approximately 80 feet wide with 60 feet curb-to-curb. Flower Street extends to the study area from the Central Business District as a one-way, southbound street until it reaches Washington Boulevard where it has two lanes in both directions until its terminus at Figueroa Street, south of Exposition. North of Washington Boulevard, the existing Blue Line trains run along Flower Street at-grade along the east curb with three southbound lanes provided on Flower Street. There are two phase traffic signals on Flower Street at 23rd Street, Adams Boulevard, 30th Street, and Jefferson Boulevard. There are multi-phases signals at Washington Boulevard, Exposition Boulevard, and 37th Street. The ADT on Flower Street between Washington Boulevard and 23rd Street is 7,800 vehicles per day and 12,500 vehicles per day south of Adams Boulevard.

Washington Boulevard. Washington Boulevard is classified as a major highway. Washington Boulevard has three lanes in both directions west of Flower Street and two lanes in each direction east of Flower Street. Washington Boulevard extends from Venice to the west to Whittier to the east. The ADT on Washington Boulevard west of Figueroa Street is 27,300 vehicles per day.

23rd Street. 23rd Street is classified as a collector street. 23rd Street has one to two lanes in both directions in the study area. The ADT on 23rd Street west of Figueroa Street is 9,900 vehicles per day and 7,800 vehicles per day east of Flower.

Adams Boulevard. Adams Boulevard is classified as a major highway even though right-of-way constraints limit Adams Boulevard to two lanes in each direction. Adams Boulevard extends from La Cienega Boulevard in the west to the Southern Pacific tracks just west of the City of Vernon. The ADT on Adams Boulevard west of Figueroa Street is 25,700 vehicles per day.

Jefferson Boulevard. Jefferson Boulevard is classified as a secondary highway east of Figueroa Street, and a major highway west of Figueroa Street. Jefferson Boulevard has three lanes in both directions west of Flower Street and two lanes in both directions east of Flower Street. Jefferson Boulevard extends from Playa Vista in the west, east to Central Avenue. The ADT on Jefferson Boulevard west of Figueroa Street is 25,800 vehicles per day and 20,500 vehicles per day east of Flower Street.

Exposition Boulevard. Exposition is classified as a secondary highway between Flower Street and Hoover Street and a modified secondary highway west of Hoover Street . Exposition has three lanes in both directions in the study area. There is a 30 foot wide abandoned railroad right-of-way in the median of Exposition. Exposition extends from La Brea Avenue in the west to Central Avenue. The ADT on Exposition west of Figueroa Street is 26,000 vehicles per day.

Hoover Street. Hoover Street, north of Exposition, is a private street that serves internal access to the USC campus. North of Jefferson Boulevard, Hoover Street becomes a public roadway again.

Vermont Avenue. Vermont Avenue is classified as a major highway. Vermont Avenue has two lanes in both directions at Exposition and extends from Wilmington in the south to Griffith Park in the north. The ADT on Vermont Avenue north of Exposition is 34,300 vehicles per day and 28,000 vehicles per day south of Exposition.

Transit Service

The proposed Exposition Park LRT is to be an extension of the Metro Blue Line. The Blue Line connects Long Beach with downtown Los Angeles. The Blue Line comes from downtown into the study area along the east side of Flower Street, where it turns to the east on Washington Boulevard. There is a station just to the east of Flower Street on Washington Boulevard.

There are also several bus lines which serve the area. On Figueroa Street, there are several express commuter buses which use Figueroa Street to access the downtown area. Local service includes the Expo Park Dash line (Route C), RTD 81, the Figueroa Street line and RTD 102, the East Jefferson-Coliseum Street line. RTD 102 turns onto Exposition at Figueroa Street and continues to the west. On Washington Boulevard, there is the RTD 65, the Washington Boulevard line and RTD 68, the West Washington Boulevard-Brooklyn Avenue line. The RTD 37, West Adams Boulevard line, the RTD 38, and West Jefferson Boulevard line, also serve the area.

Parking Facilities

There are both public and private parking facilities in the study area. During the daytime, there is ample on-street parking available, especially on Flower Street. However, this is probably due to the time restrictions placed on this parking. Many of the long-term off-street lots appear to be quite full. Longer-term metered parking adjacent to the USC campus is also heavily used and occupied. In the areas directly adjacent to the Coliseum and the Sports Arena, where parking is free, parking is heavily utilized. In the public pay lots at Exposition Park, there is parking available for visitors. Parking demand for sporting events held at the Sports Arena and more especially for Coliseum events, is extremely heavy. In many cases, patrons park on or around the USC campus, and walk considerable

distances. There are also several property owners who provide parking at a cost for these events. **Table 5.3-1** shows the parking available in the area for sporting events. Most of the streets in the study area allow on-street parking.

TABLE 5.3-1: PARKING SUPPLY IN AND AROUND THE COLISEUM

Location	Number of Spaces	Percent of Total Spaces
Expo Park/Coliseum Parking	7,890	41%
USC Campus Parking	7,700	40%
Parking in Small Lots or private yards.	3,500	19%
Total Spaces	19,090	100%

Source: Meyer Mohaddes Associates.

Pedestrian Activity

The major weekday pedestrian activities center around the USC campus. Heavy pedestrian traffic crosses Jefferson Boulevard between Figueroa Street and Vermont Avenue to and from the north side of the campus. There is also considerable USC pedestrian traffic across Figueroa Street between Jefferson and Exposition Boulevards. During sporting events, there is a heavy pedestrian demand to and from Exposition Park. Many of these pedestrians crossing Exposition come from parking spaces on the USC campus. There is a mid-block signalized pedestrian crossing of Exposition at the Rose Garden, between Figueroa and Hoover Streets. At this location and at Hoover Street, are the only areas where pedestrians may enter the campus from the Exposition frontage. The remainder of the Exposition frontage is fenced to prohibit pedestrian access. Pedestrian undercrossings crossing Figueroa Street and Exposition in the area of the Figueroa/Exposition intersection also facilitate pedestrian movements.

Existing Traffic Volumes

To analyze the existing traffic conditions within the study area, intersection capacity utilization (ICU) analyses were performed at the study intersections. The intersection capacity utilization method results in a number value (the ICU), representing the theoretical percentage of signal green time required to accommodate intersection traffic with a given number of lanes at each approach. More simply, the ICU can be thought of as the percent utilization of available capacity. A value exceeding 1.000 indicates that the volume is at theoretical capacity. For the ICU method, capacity of an intersection is defined in terms of vehicles per lane per hour of green time. Capacity of a lane is assumed to be an empirically derived value of 1,500 vehicles per hour (vph) of green time.

The percent utilization (the ICU value) is often associated with level of service (LOS). LOS ranges from "A" through "F" representing the traffic quality; from good operating conditions with no delay to motorists (LOS A), to (LOS F), in which the arrival of vehicles exceeds the capacity of the intersection, and motorists are faced with excessive delay in

travel. **Table 5.3-2** below shows the relationship between ICU values and LOS designations.

TABLE 5.3-2: ICU VALUES AND CORRESPONDING LOS DESIGNATORS	
Level of Service	**ICU Value**
A	0.600 or less
B	0.601 to 0.700
C	0.701 to 0.800
D	0.801 to 0.900
E	0.901 to 1.000
F	Over 1.000
Source: Meyer Mohaddes Associates.	

The results of these calculations for existing conditions are depicted on **Table 5.3-3**. Some conclusions which can be drawn from include the following:

At the Flower Street and Washington Boulevard intersection where the Blue Line turns from Flower Street to Washington Boulevard, there exists a reasonable level of service (LOS "A" in the a.m. and "B" in the p.m. peak).

Exposition Boulevard is very congested in the morning. All four of the study intersections on Exposition operate at a LOS of "E" or worse during the morning peak. The LOS during the afternoon peak is acceptable.

Adams Boulevard is congested in the afternoon with the Figueroa and Flower Streets intersections operating at a LOS of "E".

The Flower Street and Jefferson Boulevard intersection operates at a LOS of "F" in the afternoon and at a LOS of "A" in the morning. This is due to much heavier afternoon traffic out of the downtown area and from the USC campus to the west during the afternoon peak.

TABLE 5.3-3: EXISTING INTERSECTION LEVELS OF SERVICE

Intersection	A.M. Peak		P.M. Peak	
	V/C	LOS	V/C	LOS
Figueroa Street at Washington Boulevard	0.812	D	0.849	D
Flower Street at Washington Boulevard	0.642	B	0.781	C
Figueroa Street at 23rd Street	0.570	A	0.624	B
Flower Street at 23rd Street	0.573	A	0.870	D
Figueroa Street at Adams Boulevard	0.812	D	0.944	E
Flower Street at Adams Boulevard	0.632	B	0.957	E
Figueroa Street at Jefferson Boulevard	0.679	B	0.839	D
Flower Street at Jefferson Boulevard	0.579	A	1.215	F
Flower Street at Exposition Boulevard	0.980	E	0.693	B
Flower Street at 37th Street	0.960	E	0.740	C
Figueroa Street at Exposition Boulevard	1.229	F	0.829	D
Hoover Street at Exposition Boulevard	0.966	E	0.558	A
Vermont Avenue at Exposition Boulevard	0.957	E	0.761	C

Source: Meyer, Mohaddes Associates.

Programmed Transportation Improvements

The Harbor Freeway Transitway Project is presently being constructed in the median of the Harbor Freeway, and will serve High Occupancy Vehicles (HOV). High Occupancy Vehicles can be either buses or carpools. Both of the freeway's fast lanes are to be blocked during the construction of the support columns. Improvements are needed to the surface streets to handle the diverted traffic and are planned to be constructed by Summer, 1992 to accommodate construction of this portion of the transitway.

LADOT has proposed roadway improvement plans for Flower and Figueroa Streets in the area of the Harbor Freeway Transitway which would essentially expand the Figueroa\Flower couplet which exists in the Central Business District, south to Exposition Boulevard. The current plan for Flower Street is to have Flower Street one-way southbound from Washington Boulevard south to Exposition Boulevard. Flower Street is to be five lanes during peak hours and four lanes with a parking lane during the day. Flower Street will not need to be widened for this to take place. There will be one contra-flow north bound

lane in front of Orthopaedic Hospital on Flower Street. Figueroa Street is to be four lanes northbound and two lanes southbound during the peak hour. The southbound contra-flow lanes are being retained to maintain access to fronting properties. The west side of Figueroa Street is to drop to one lane southbound during the day to allow for parking. The widening of Figueroa Street is to take place within the sidewalk area. There are to be sidewalks on both sides of Figueroa Street, between eight and ten feet wide.

A short, one-way couplet is also proposed for the Exposition and 37th Street undercrossings of the Harbor Freeway with 37th Street one-way eastbound and Exposition one-way westbound. This will be accomplished through the realignment of the northbound I-110 off-ramp.

A large bus terminal is proposed on a block under the Harbor Freeway, between Flower Street, 37th Street and Exposition. This facility is to have direct access to and from the Harbor Freeway Transitway station located above. This will facilitate transfers between the transitway and surface street buses.

IMPACT

Methodology

The first step in the traffic impact analysis is to forecast traffic conditions for the future before the addition of train traffic through the study intersections. Based on discussions with the Los Angeles County Transportation Commission (LACTC) staff and input from the City of Los Angeles staff, the Year 2010 was assumed to be the horizon year for future traffic analysis. The future no-project conditions includes assumptions relative to traffic pattern changes and geometric modifications planned by LADOT and CALTRANS between now and 2010.

The ambient growth rate used in this study is 1.5 percent per year compounded for 19 years to 2010 (a total growth rate of 33 percent). This is a slightly higher rate than is typically used for background growth to account for the other related projects as described in Section 4.6. The traffic generated by the USC Plaza project, described earlier, was explicitly included in the background traffic.

Traffic accessing the Harbor Freeway transitway will also add traffic to the study area roadways. The anticipated transitway traffic volumes were provided by Caltrans and added to the local street volumes for this study. Prior to assigning the traffic from the USC Plaza and transitway project the resulting changes in background traffic patterns due to transportation improvements programmed by LADOT were analyzed and identified.

The primary programmed improvements which affect the background traffic patterns in the study area are modifications to the traffic patterns on Figueroa Street, Flower Street, Exposition Boulevard and 37th Street as previously described in the Planned Transportation Improvements section. These improvements will be implemented within the next year,

prior to the start of construction on the northernmost segments of the transitway project.

The lane configurations assumed for the Figueroa Street/Flower Street one-way couplet were provided by LADOT. The future lane configurations assumed in the No Project analysis are displayed in **Figures 5.3-3** and **5.3-4.**

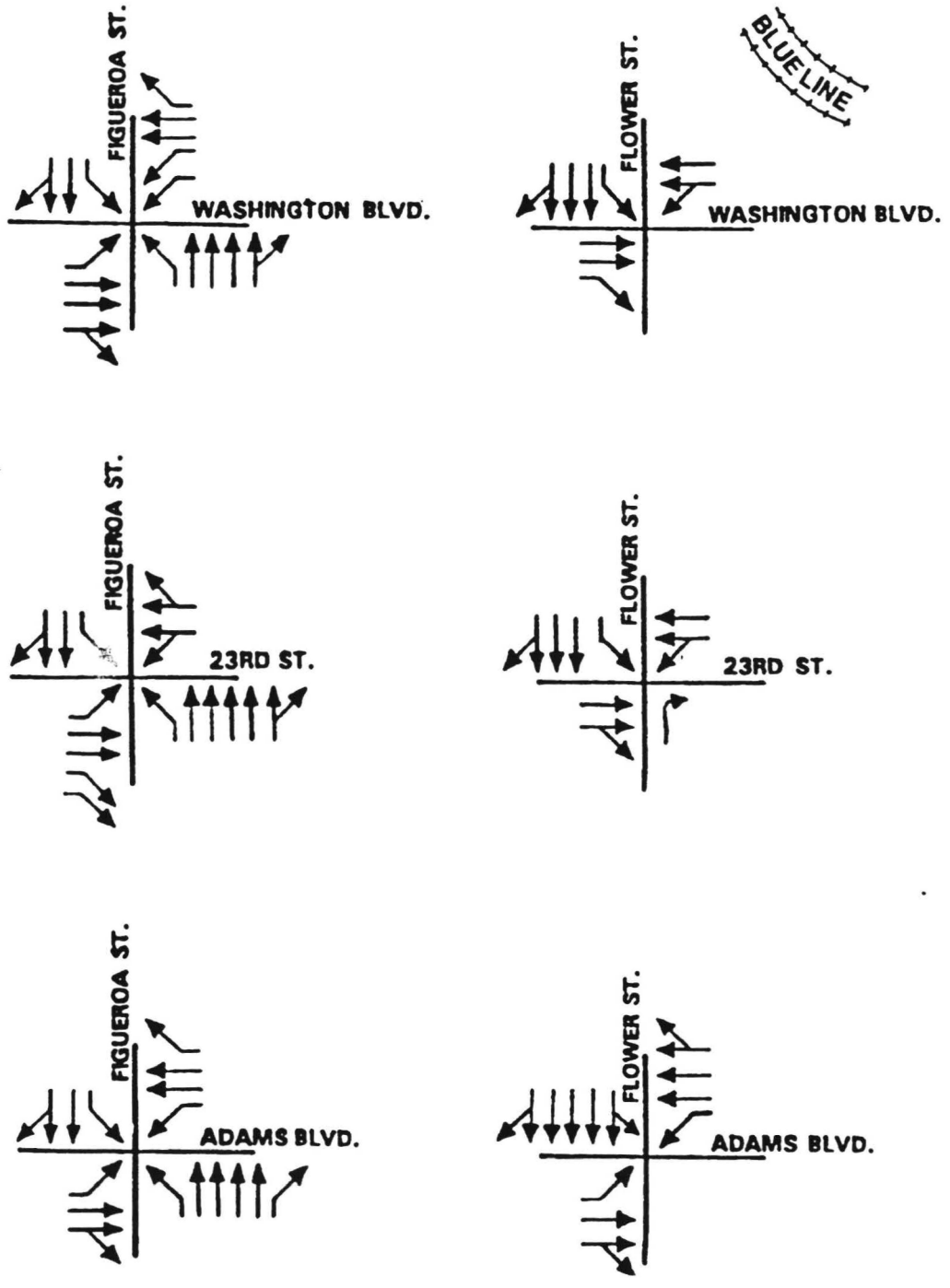
Fifty percent of southbound Figueroa Street traffic was assumed to shift to southbound Flower Street and 100 percent of northbound Flower Street traffic was assumed to shift to Figueroa Street as a result of the one-way couplet.

In conjunction with the Harbor Freeway Transitway and the Figueroa Street/Flower Street one-way couplet LADOT and Caltrans have developed a proposal to create a short one-way couplet on 37th Street and Exposition Boulevard, between Figueroa Street and Hope Street, essentially creating a triangular loop to serve the four Harbor Freeway on/off-ramps. This proposed roadway alignment has also been included in the 2010 No Project analysis.

Future No Project Traffic Conditions

The base 1991 traffic volumes were reassigned and the ambient growth along with traffic volumes from the related projects and the transitway project were added to obtain the future cumulative traffic volumes. **Figures 5.3-5** to **5.3-8** display the total future traffic volumes (2010) without the project during the AM and PM peak hours at the study intersections.

The operations analysis methodology described in the Highway Capacity Manual (Transportation Research Board, SR 209, Washington, D.C., 1985) for signalized intersections was used in analyzing the level of service at the study intersections for all future conditions. The 2010 peak hour intersection levels of service for the No Project scenario are reflected in **Table 5.3-4.** During the AM peak hour, the intersections projected to operate with an estimated LOS E or worse are Figueroa Street/Exposition Boulevard and Vermont Avenue/Exposition Boulevard. During the PM peak hour the intersections of Flower Street/Washington Boulevard, Figueroa Street/Jefferson Boulevard, and Flower Street/Exposition Boulevard are estimated to operate at LOS E or worse. Five of the 13 intersections analyzed would be expected to operate at capacity in either the AM or PM in 2010 under the No Project scenario.

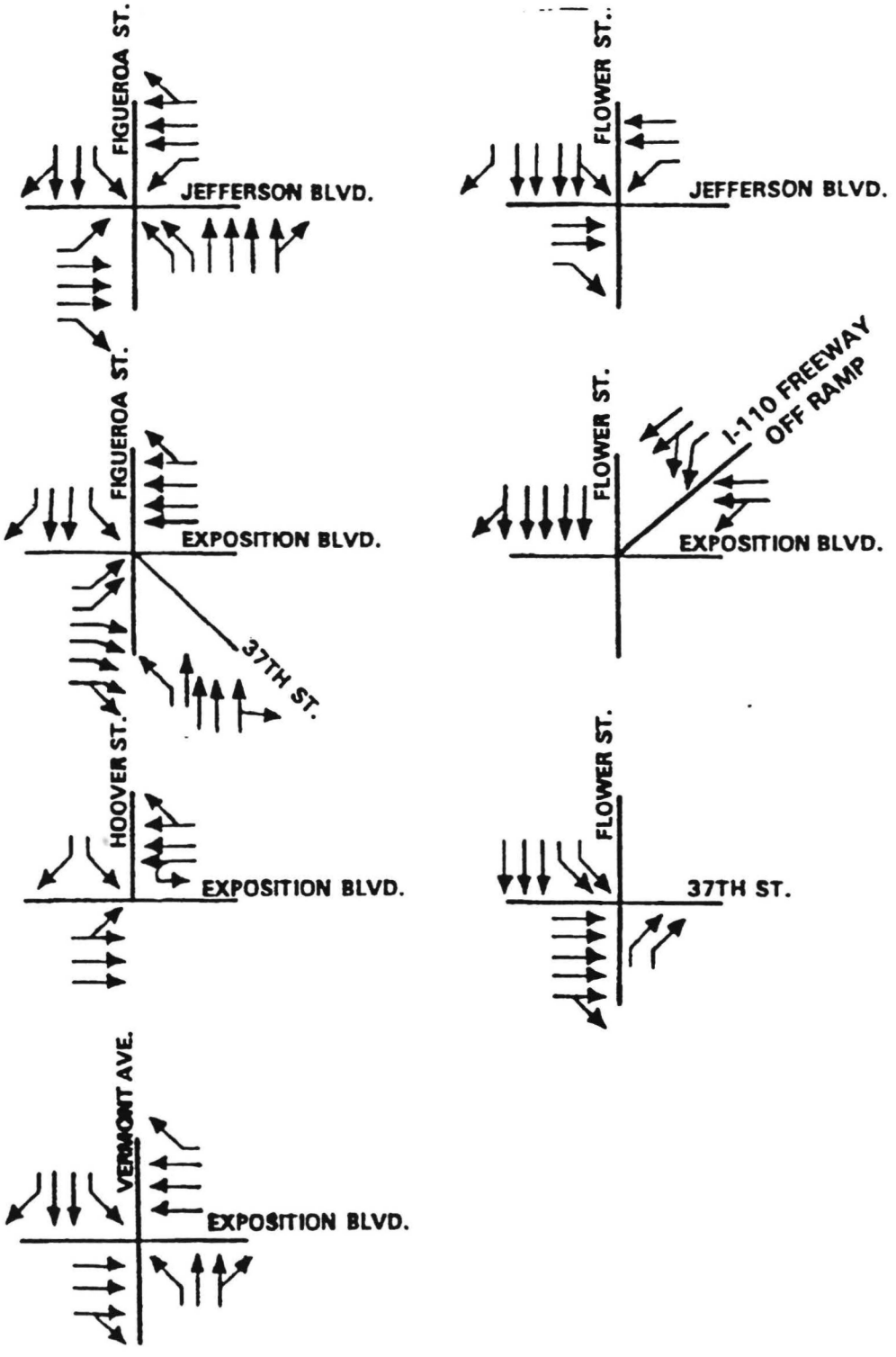


SOURCE: Meyer, Mohaddes Associates

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 5.3-3

NO PROJECT - FUTURE INTERSECTION LANE CONFIGURATIONS

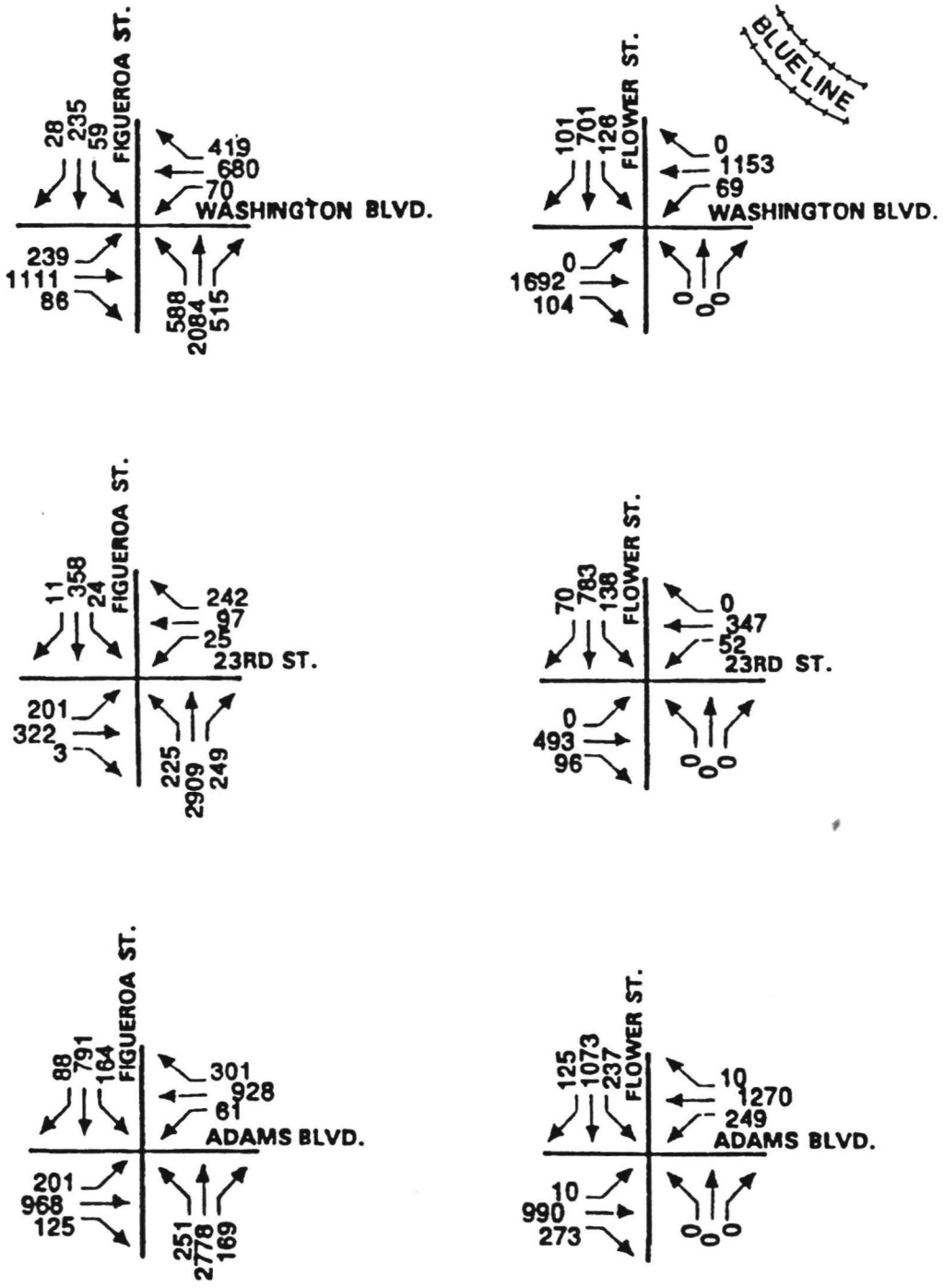


Exclusive turn lane
Through lane
Shared through and turn lane

SOURCE: Meyer, Mohaddes Associates

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 5.3-4
NO PROJECT - FUTURE INTERSECTION LANE CONFIGURATIONS



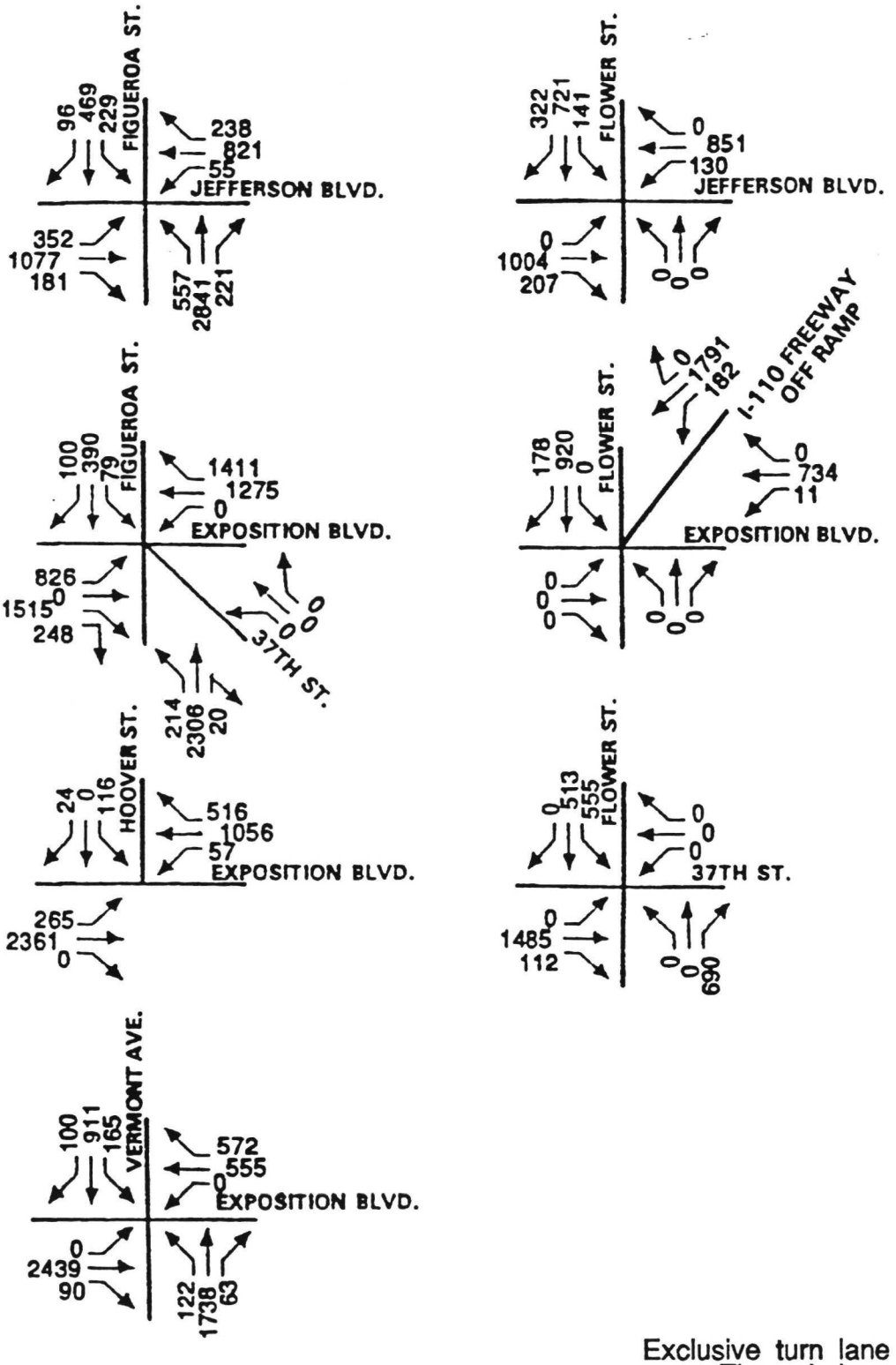
Exclusive turn lane
Through lane
Shared through and turn lane

SOURCE: Meyer, Mohaddes Associates

Exposition Park Branch Line
Rail Transit Corridor Route

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 5.3-5
NO PROJECT - FUTURE A.M. PEAK HOUR TRAFFIC VOLUMES

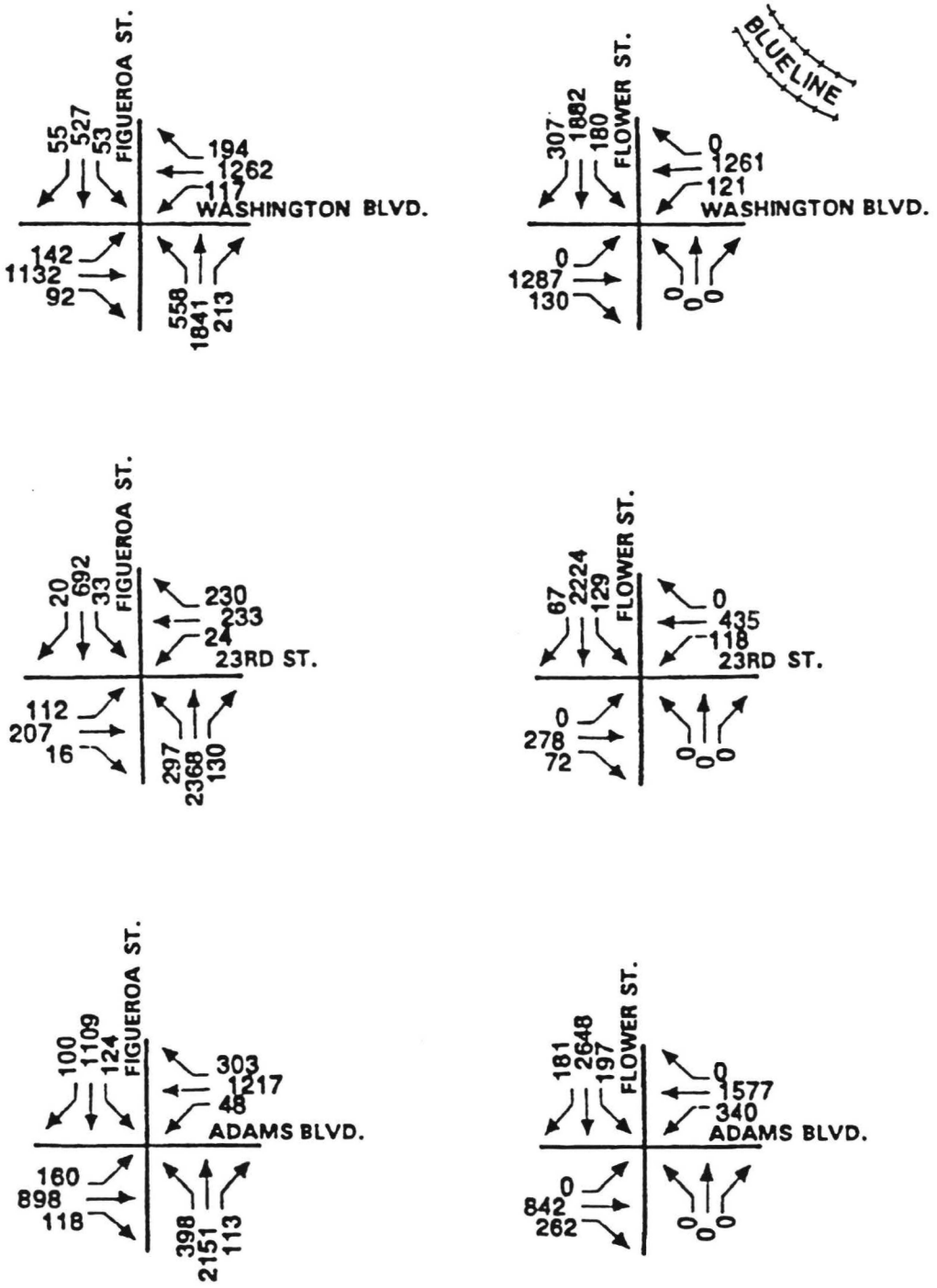


SOURCE: Meyer, Mohaddes Associates

Exclusive turn lane
Through lane
Shared through and turn lane

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

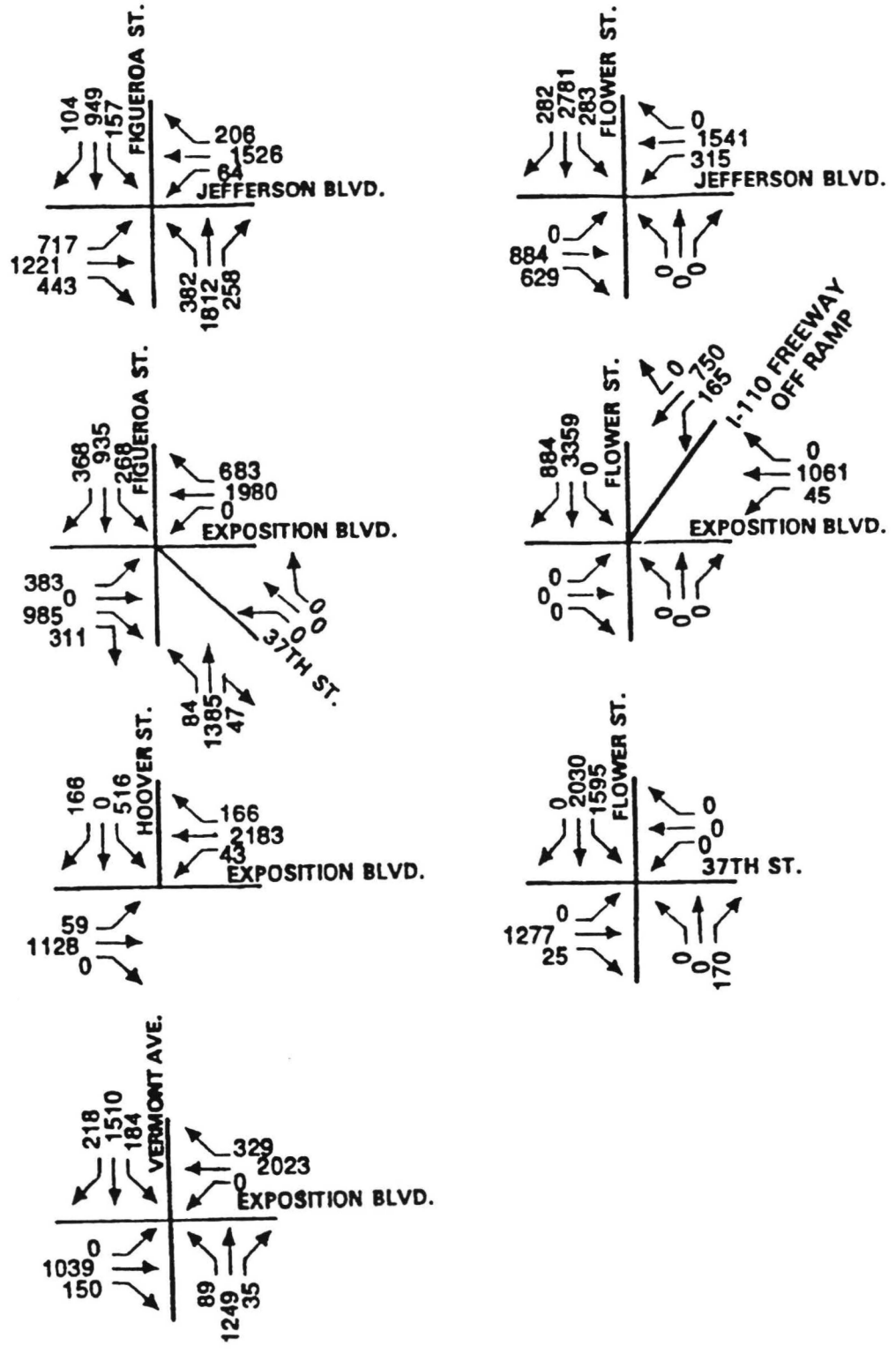
FIGURE 5.3-6
NO PROJECT - FUTURE A.M. PEAK
HOUR TRAFFIC VOLUMES



SOURCE: Meyer, Mohaddes Associates

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 5.3-7
NO PROJECT - FUTURE P.M. PEAK HOUR TRAFFIC VOLUMES



Exclusive turn lane
Through lane
Shared through and turn lane

SOURCE: Meyer, Mohaddes Associates

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 5.3-8

NO PROJECT - FUTURE P.M. PEAK HOUR TRAFFIC VOLUMES

TABLE 5.3-4: NO PROJECT AM AND PM LEVELS OF SERVICE

Intersection	AM Peak		PM Peak	
	Delay/a/	LOS	Delay/a/	LOS
Figueroa at Washington	14.5	B	18.3	C
Flower at Washington	26.8	D	100+ V/C=1.22/b/	F
Figueroa at 23rd	9.7	B	9.8	B
Flower at 23rd	10.1	B	9.2	B
Figueroa at Adams	17.9	C	27.2	D
Flower at Adams	10.4	B	15.7	C
Figueroa at Jefferson	27.9	D	80.6	F
Flower at Jefferson	8.5	B	22.7	C
Flower at Exposition	18.0	C	44.7	E
Flower at 37th	12.8	B	8.3	B
Figueroa at Exposition	100+ V/C=1.42/b/	F	16.6	C
Hoover at Exposition	19.9	C	37.4	D
Vermont at Exposition	58.9	E	15.7	C

/a/ Seconds/Vehicle
/b/ When intersections are forecast to operate at LOS F and delay reaches beyond approximately 100 seconds, the Highway Capacity Manual approach to levels of service calculation no longer reports delay (it exceeds reasonable maximum values). The volume-to-capacity ratio is provided as an alternative measure for comparison of impacts of alternative scenarios where intersections are forecast to operate well into the LOS F range.
Source: Meyer Mohaddes Associates.

Traffic Impacts

Alternative 1a and 2c (All At-Grade Line with a Shared Bridge Crossing the Harbor Freeway)

The all at-grade alternative assumes that the proposed rail line would run at-grade along the east side of Flower Street and along the median of Exposition Boulevard. This alternative includes the assumption that one of the southbound lanes on Flower Street would be displaced by the rail lines. This would result in three southbound lanes on Flower Street and two southbound plus five northbound lanes on Figueroa Street; still providing a balance in north-south capacity. The eastbound double left-turn lane on Exposition Boulevard at Figueroa Street would also be eliminated by the at-grade alignment in the

median of Exposition Boulevard. Left turns at the Figueroa Street/Exposition Boulevard intersection would have to be made from a shared through/left-turn lane and the signal operated on a split phase (eastbound movements separate from westbound) to accommodate at-grade rail operations.

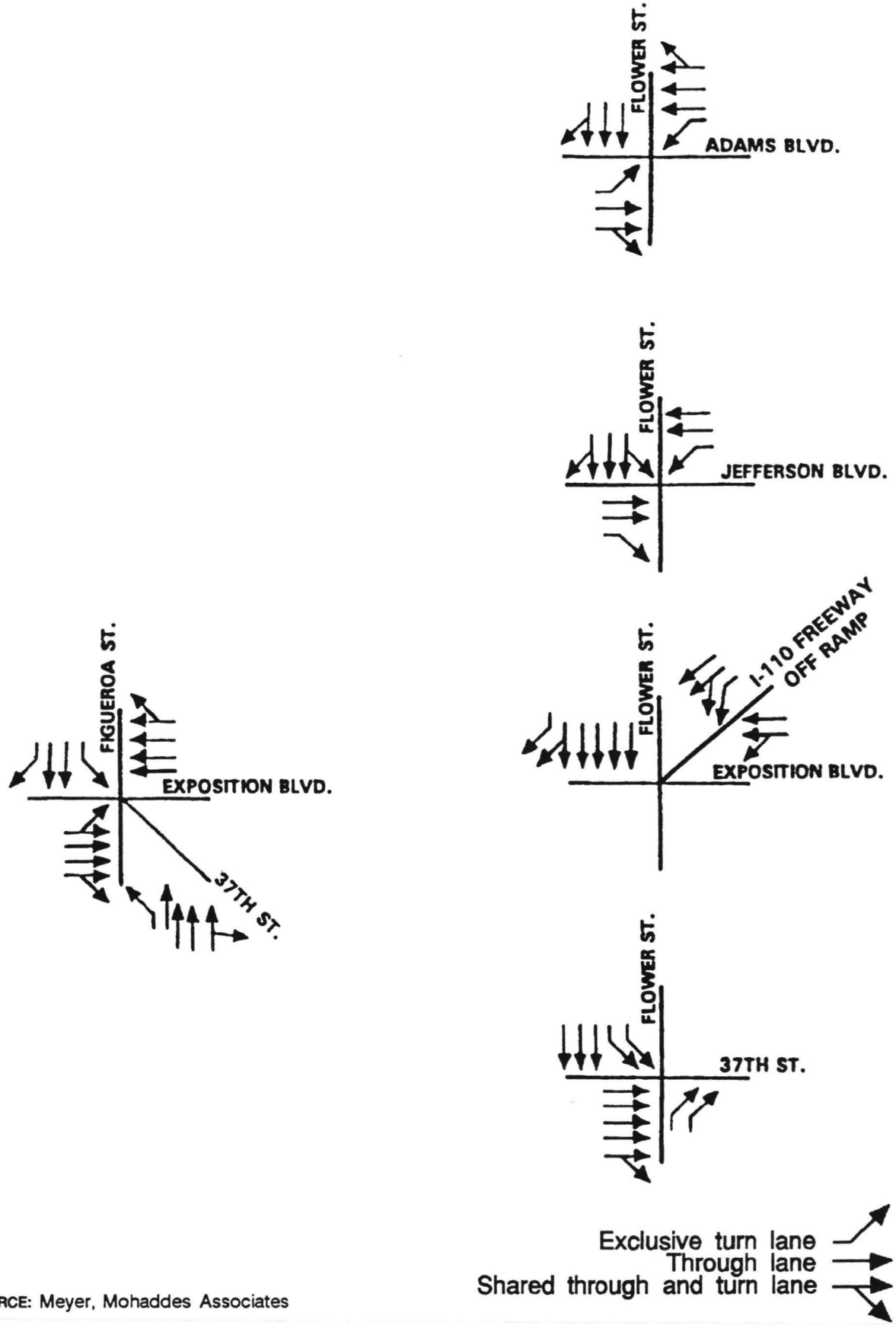
Left turns from southbound Flower Street were assumed to be made from a shared through/left-turn lane in several cases where a left-turn lane is not proposed. During signal cycles when a train is passing through the intersection, southbound traffic would continue to receive a green indication, but the shared lane could potentially be blocked by a left-turning vehicle waiting for a train to pass (see mitigation measures regarding left-turn arrow traffic signal heads to be placed for southbound movements in the shared lane on Flower Street). Trains were assumed to operate at six-minute headways in each direction. Therefore, a train was assumed to cross each intersection along the alignment on average once every three minutes during the peak hour. The traffic volume on the shared lane that could be potentially blocked by a stopped left-turn vehicle was adjusted to reflect the delay due to the passage of trains through the intersection. It was assumed that the lane would be blocked for approximately 30 seconds every three minutes based on the distance to be traveled, train speed, and other factors. Assuming a cycle length of 60 seconds at that intersection, the blockage time is about 10 seconds per cycle length or approximately 17 percent of the cycle time. Therefore, the southbound Flower Street traffic volumes estimated for the shared lane is increased by 17 percent to conservatively reflect the blockage due to train passage.

Levels of services based on the 2010 volumes were reevaluated with these revised lane configurations and operating parameters[1]. The future lane configurations for this alternative are shown in **Figure 5.3-9** for those intersections where the lane configurations would be different from the future without project shown in **Figures 5.3-3 and 5.3-4**. The 2010 levels of service for the All At-Grade Alternative (Alternatives 1a and 2c) in the AM and PM peak hours are shown in **Tables 5.3-5** and **5.3-6**, respectively. Discussion of lane configuration assumptions of the major intersections along the rail line and resulting LOS analysis are described below:

Flower/Washington - The proposed project lane configuration is the same lane configurations as future without project conditions shown in **Figure 5.3-3**. No change in delay was identified for AM peak and the V/C ratio (used for LOS when it is F) remained the same.

At the Flower Street/Washington Boulevard intersection, the trains would travel north-south across Washington Boulevard during the signal phase when the southbound Flower Street traffic is moving. The trains would, therefore, not impact east-west traffic movements and would move simultaneously with the southbound

[1]The 2010 traffic volumes were not adjusted to reflect any shift in mode split toward the train for worst-case analysis purposes. That is, no reduction was made to north-south auto traffic on Figueroa or Flower Streets to reflect the potential shift from auto to light rail.



SOURCE: Meyer, Mohaddes Associates

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 5.3-9
PROPOSED LANE CONFIGURATIONS WITH ALL AT-GRADE ALTERNATIVES (1A & 2C)

TABLE 5.3-5: ALTERNATIVE 1A AND 2C (ALL AT-GRADE WITH SHARED BRIDGE) AM LEVELS OF SERVICE

Intersection	Without Project		With Project		Impact
	Delay/a/	LOS	Delay/a/	LOS	
Figueroa at Washington	14.5	B	14.5	B	N.C.
Flower at Washington	26.8	D	26.8	D	N.C.
Figueroa at 23rd	9.7	B	9.7	B	N.C.
Flower at 23rd	10.1	B	10.1	B	N.C.
Figueroa at Adams	17.9	C	17.9	C	N.C.
Flower at Adams	10.4	B	15.1	C	+
Flower at 28th	N/A	N/A	14.2	B	N/A
Figueroa at Jefferson	27.9	D	27.9	D	N.C.
Flower at Jefferson	8.5	B	9.5	B	+
Flower at Exposition	18.0	C	39.6	D	+
Flower at 37th	12.8	B	12.8	B	N.C.
Figueroa at Exposition	100+ V/C=1.42	F	100+ V/C=1.64	F	*
Hoover at Exposition	19.9	C	19.9	C	N.C.
Vermont at Exposition	58.9	E	58.9	E	N.C.

Key to Symbols:
+ Delay increases, but not a significant impact
* Significant impact
N.C. No change
/a/Seconds/Vehicle
Source: Meyer Mohaddes Associates.

traffic. The southbound left-turning traffic would, on average once every three minutes, be delayed slightly because the left-turn phase would be delayed or shortened as the trains cross Washington Boulevard. This would not affect the level of service at the intersection, however, because the southbound through volume is so much higher than the left-turn volume (701 vs. 126 in the AM and 1882 vs. 180 in the PM) that the southbound signal phase required to accommodate the through volume would be long enough to accommodate simultaneously both the left-turn phase and the train phase. The proposed project therefore does not have a significant impact at the Flower Street/Washington Boulevard intersection.

TABLE 5.3-6: ALTERNATIVE 1A AND 2C (ALL AT-GRADE WITH SHARED BRIDGE) PM LEVELS OF SERVICE

Intersection	Without Project		With Project		Impact
	Delay/a/	LOS	Delay/a/	LOS	
Figueroa at Washington	18.3	C	18.3	C	N.C.
Flower at Washington	100+ V/C=1.22	F	100+ V/C=1.22	F	N.C.
Figueroa at 23rd	9.8	B	9.8	B	N.C.
Flower at 23rd	9.8	B	10.0	B	+
Figueroa at Adams	27.2	D	27.2	D	N.C.
Flower at Adams	15.7	C	100+ V/C=1.21	F	*
Flower at 28th	N/A	N/A	29.3	D	N/A
Figueroa at Jefferson	80.6	F	79.9	F	N.C.
Flower at Jefferson	22.7	C	100+ V/C=1.23	F	*
Flower at Exposition	44.7	E	81.5	F	*
Flower at 37th	8.3	B	8.3	B	N.C.
Figueroa at Exposition	16.6	C	37.8	D	+
Hoover at Exposition	37.4	D	37.4	D	N.C.
Vermont at Exposition	15.7	C	15.7	C	N.C.

Key to Symbols:
+ Delay increases, but not a significant impact
* Significant impact
N.C. No Change
/a/Seconds/Vehicle
Source: Meyer Mohaddes Associates.

Flower/23rd - The project is proposed to have the same as the future without the project (see **Figure 5.3-3**). At this intersection there would be a northbound contra flow lane turning right. No change of delay was found for AM peak and during the PM peak period delay slightly increased from 9.8 to 10.0 seconds, which is not a significant impact.

Flower/Adams - Due to geometric configuration constraints, the project is proposed to have three southbound lanes (two through, one shared though/right turn) and a northbound contra flow lane (see **Figure 5.3-9**), which is two lanes less than future

without project. Southbound left turns are prohibited to reduce the significant increase in delay. Under future without the project, southbound left turns would be permitted. During the AM peak, the intersection level of service with project increases from B to LOS C and from C to F during the PM peak period. This constitutes a significant impact.

Flower/28th - Because of HOV on-ramps proposed just south of this intersection and the need to control conflicting rail and vehicular traffic volumes, this intersection has been analyzed as a signalized intersection. The geometric configuration includes a dedicated lane for left turns as well as HOV on-ramp, two through lanes and one shared through/right lane. Level of service for the 2010 AM and PM peak is projected to be B and D respectively, which is not a significant impact.

Flower/Jefferson - The proposed project includes three southbound lanes (shared right/through, through and shared through/left, see **Figure 5.3-9**) which is two less lanes than would occur under the future without project scenario. The LOS stayed the same for the AM peak and significantly increased during the PM peak period (from C to F). This constitutes a significant impact.

Exposition/Flower - The proposed geometric configuration for southbound Flower includes an exclusive right-turn lane, a shared right/through lane and four through lanes (total of 6 lanes, see **Figure 5.3-9**) which is one more lane than under the future without project scenario. The level of service during AM peak increases from C to D and from E to F during the PM peak period. This constitutes a significant impact.

Exposition/Figueroa - The proposed lane geometry for Figueroa includes a southbound exclusive right, two through and an exclusive left-turn lane (total of four lanes), and northbound exclusive left lane, three through, and one shared through/right lane (total of 5 lanes); the same as future without project. For Exposition Boulevard the proposed lane configurations include eastbound shared left/through, two through and one shared through/right lane (total of four lanes, two less than future without project), and westbound three through lanes and one shared through/right lane (total of 4 lanes, the same as future without project). LOS stayed the same during the AM peak (F) although V/C ratio increased significantly. The level of service increased from C to D during the PM peak period. The project therefore results in a significant impact during the AM peak hour.

Hoover/Watt Way - The proposed geometry at this intersection would be identical to the existing conditions; three lanes in each direction on Exposition Boulevard. The LOS is therefore not changed at the intersection due to the project.

The locations where at-grade operations of the proposed rail line would cause traffic impacts requiring mitigation include the following:

AM Peak Hour

- Figueroa Street/Exposition Boulevard

PM Peak Hour

- Flower Street/Jefferson Boulevard
- Flower Street/Exposition Boulevard
- Flower Street/Adams Boulevard

At these locations, the project results in increased delay at intersections where the resulting level of service is either E or F. At four other intersections, the project causes some increases in delay but the intersections would still operate at LOS D or better and therefore mitigation is not required. The threshold for identification of a significant impact was an increase in delay that caused an intersection to move from better than LOS E to either LOS E or F, or where delay increased by more than 4 seconds at an intersection already at LOS E or F (equivalent of change in V/C ratio of 0.02 or more, LADOT's threshold of significant impact).

Alternative 1b and 2c (All At-Grade with Separate Bridge over the Harbor Freeway)

Alternative 1b and 2c is an all at-grade alternative with the trains assumed to run along the east side of Flower Street between Washington Boulevard and the proposed station at 23rd Street. Just south of 23rd Street, the alignment would cross Flower Street and run along the west side curving back across Flower Street to the east side between 28th and 30th Streets to accommodate a separate rail bridge crossing over the Harbor Freeway. Then it would run along the east side of Flower Street and along the median of Exposition Boulevard to its terminus. This alternative would have the same lane configurations as Alternative 1a and 2c (All At-Grade with Shared Bridge).

Tables 5.3-7 and **5.3-8** illustrate the level of service analysis for this alternative. An all red phase has been assumed for the intersection of 23rd at Flower Street during the train crossing.

The primary impacts along this alignment are similar to those resulting from Alternative 1a and 2c, except at the mid-block crossings of the rail line when it traverses from east side to west side and vice versa on Flower Street and at selected intersections along Flower Street. The impact of train crossings at these two mid-block locations were analyzed to supplement Alternative 1a and 2c. Signalization is suggested as a safety and control measure to prevent the conflicts between vehicular traffic and trains. A new mid-block signal would be required in front of Orthopaedic Hospital where the trains would cross not only southbound Flower Street, but also the contra flow lane along the hospital frontage. This signal would have to be coordinated with signals at adjacent intersections to prevent traffic backups into adjacent intersections. At the second cross over point, south of 28th

TABLE 5.3-7: ALTERNATIVE 1B AND 2C (ALL AT-GRADE WITH SEPARATE BRIDGE) AM LEVELS OF SERVICE

Intersection	Without Project		With Project		Impact
	Delay/a/	LOS	Delay/a/	LOS	
Figueroa at Washington	14.5	B	14.5	B	N.C.
Flower at Washington	26.8	D	26.8	D	N.C.
Figueroa at 23rd	9.7	B	9.7	B	N.C.
Flower at 23rd	10.1	B	14.4	B	N.C.
Figueroa at Adams	17.9	C	17.9	C	N.C.
Flower at Adams	10.4	B	15.3	C	+
Flower at 28th	N/A	N/A	27.7	D	N/A
Figueroa at Jefferson	27.9	D	27.9	D	N.C.
Flower at Jefferson	8.5	B	9.5	B	+
Flower at Exposition	18.0	C	39.6	D	+
Flower at 37th	12.8	B	12.8	B	N.C.
Figueroa at Exposition	100+ V/C=1.42	F	100+ V/C=1.64	F	*
Hoover at Exposition	19.9	C	19.9	C	N.C.
Vermont at Exposition	58.9	E	58.9	E	N.C.

Key to Symbols:
+ Delay increases, but not a significant impact
* Significant impact
N.C. No change
/a/ Seconds/Vehicle
Source: Meyer Mohaddes Associates.

TABLE 5.3-8: ALTERNATIVE 1B AND 2C (ALL AT-GRADE WITH SEPARATE BRIDGE) PM LEVELS OF SERVICE

Intersection	Without Project		With Project		Impact
	Delay/a/	LOS	Delay/a/	LOS	
Figueroa at Washington	18.3	C	18.3	C	N.C.
Flower at Washington	100+ V/C=1.22	F	100+ V/C=1.22	F	N.C.
Figueroa at 23rd	9.8	B	9.8	B	N.C.
Flower at 23rd	9.8	B	31.0	D	+
Figueroa at Adams	27.2	D	27.2	D	N.C.
Flower at Adams	15.7	C	100+ V/C=1.22	F	*
Flower at 28th	N/A	N/A	54.0	E	N/A
Figueroa at Jefferson	80.6	F	79.9	F	N.C.
Flower at Jefferson	22.7	C	100+ V/C=1.23	F	*
Flower at Exposition	44.7	E	81.5	F	*
Flower at 37th	8.3	B	8.3	B	N.C.
Figueroa at Exposition	16.6	C	37.8	D	+
Hoover at Exposition	37.4	D	37.4	D	N.C.
Vermont at Exposition	15.7	C	15.7	C	N.C.

Key to Symbols:
+ Delay increases, but not a significant impact
* Significant impact
N.C. No Change
/a/ Seconds/Vehicle
Source: Meyer Mohaddes Associates.

Street, where the trains would transition back to the east side of Flower, the 28th Street signal would control the traffic during train movements. The impact of the all-red phase that would have to be added to the 28th Street signal would be to change the levels of service to E in the PM peak hour. This Alternative would have significant impacts at the following locations:

AM Peak Hour

- Figueroa Street/Exposition Boulevard

PM Peak Hour

- Flower Street/Adams Boulevard
- Flower Street/28th Street
- Flower Street/Jefferson Boulevard
- Flower Street/Exposition Boulevard

Alternative 2a Partial Aerial Segment

The aerial alternative is anticipated to have reduced impacts on street traffic compared to both the All At-Grade Alternatives. It would follow the proposed at-grade alignments with at-grade operations until south of Jefferson Street. It would eliminate the at-grade crossings of the Flower/Exposition and Figueroa/Exposition intersections. Therefore, the levels of service at intersections for this alternative would be the same as the proposed project everywhere except at these two intersections. At the Flower/ Exposition intersection, the LOS would be the same as the No-Project Alternative (or future without project conditions) and therefore would have no impact at Flower/Exposition. At Figueroa/Exposition, however, the placement of the column supporting the aerial structure on the Exposition Boulevard median would require additional right-of-way (3 to 5 feet), reduction of sidewalks (from existing 7 and 9 feet to 5 and 8 feet) and also narrowing the vehicular lanes to 10 feet. This would then allow double left turns from westbound Exposition to Figueroa as in the no project scenario. The narrow lanes would result in operations at LOS F in the AM (V/C = 1.53) and LOS C in the PM (delay = 20.7). This would create a significant impact during the AM peak hour because without the project, the AM peak V/C is 1.42. The No Project PM peak delay is 16.6 seconds/vehicle. This alternative would therefore impact the following intersections:

AM Peak Hour

- Figueroa Street/Exposition Boulevard

PM Peak Hour

- Flower Street/Adams Boulevard
- Flower Street/Jefferson Boulevard

For the aerial alternative, column placement required to support the grade separation of the alignment may affect the roadway capacity and sight distance. Those impacts would have to be evaluated in detail during the design phase of the project if the aerial alternative is selected as the preferred alternative.

Alternative 2b Partial Subway Segment

The subway alternative would be similar to Alternative 2a (aerial), in that it would follow the At-Grade Alternative alignment to south of Jefferson and would then enter a subway,

resurfacing in the median of Exposition Boulevard, west of Figueroa Street. The subway alignment would eliminate the potential impacts at the Flower/Exposition and Figueroa/Exposition intersections. Each would operate at the same levels of service as in the No Project scenario.

This alternative would impact the following intersections:

PM Peak Hour

- Flower Street/Adams Boulevard
- Flower Street/Jefferson Boulevard

Weekend Traffic

The proposed project would serve Exposition Park, the Coliseum, the Sports Arena, USC and other facilities which attract major sporting events and recreational activities on weekends. The facilities along the extension host a variety of major entertainment events throughout the year and most of the events are scheduled during weekends. These events are generally scheduled to avoid overlapping of event times to reduce the impact on traffic, congestion, and parking.

Congestion on streets and highways surrounding these facilities prior to and following events is due to large number of patrons desiring access to the area in a concentrated time period and does not generally affect peak hour commuting travel patterns. Most events are on weekends or after the evening commute. Intersections operate at capacity and require the presence of traffic control officers to manage the traffic. The nature of event traffic is such that it tends to result in similar levels of congestion for all events; the congestion just lasts longer for higher-attendance events than lower-attendance events. There is currently no regularly scheduled special RTD bus service provided for event days.

The Harbor Freeway Transitway in conjunction with the proposed rail line could facilitate dedicated special event service from outlying park and ride lots upon its completion. Implementation of this rail extension would also aid in effective utilization of downtown parking spaces that are generally not in use at the time of these events and should be considered to disperse the impacts of event traffic and parking in the Exposition Park area.

In summary, implementation of the branch line would help alleviate some of the weekend traffic and parking impacts in the Exposition Park area associated with events at facilities in the area.

PARKING IMPACTS

Parking is not proposed to be provided at any of the stations as part of the project. The primary modes of access at these stations would be walk-ins, bus transfer, kiss-and-ride (drop offs), or parking in available parking provided by others.

23rd Street Station - At the 23rd Street Station, minimal demand for parking is anticipated. The demand would be lower at this station compared to the other two because of its proximity to downtown (it's too close to serve as a park-and-ride station). The majority of trips made to/from this station would be walking trips (i.e., to LA Trade Tech College, Orthopaedic Hospital, or adjacent commercial and residential areas) or bus transfer trips from east-west bus routes.

Jefferson Station - At the Jefferson Station, sufficient nearby public parking spaces are expected to be available for use at the new 2130-space USC parking structure. The USC parking structure is located east of Harbor Freeway in close proximity to this station. The parking structure has recently begun its operations and the number of public parking spaces available are anticipated to be adequate to serve parking demand at this station.

Exposition Park/Vermont Station - Currently, there are approximately 19,000 spaces in the vicinity of this station available through various sources such as Coliseum/Exposition Park parking lots, USC Campus parking lots, private parking lots located primarily along Vermont Avenue, Hoover Street, Figueroa Street, Martin Luther King Boulevard, and on-street curb parking in nearby residential areas.

Within about two to three blocks from the intersection of Exposition Boulevard and Vermont Avenue, there are approximately 1,800 spaces available on these parking lots. These parking lots primarily serve events at the Los Angeles Coliseum, Sports Arena, and the Exposition Park. The nature of events and schedule are such that they do not conflict with peak workday parking demand (or hours). Thus, these parking spaces can be assumed to be available for rail commuters on weekdays. Among the three stations, this station near Exposition Park is the most logical one to be promoted as a park-and-ride station based on its proximity to adequate parking supply as well as being far enough away from downtown to serve as intercept parking.

Conversely, downtown parking spaces that are generally not in use at the time of Coliseum/Sports Arena events can be utilized to accommodate some of the parking demand at these events.

Alternative 1a and 2c (All At-Grade with Shared Bridge)

Table 5.3-9 illustrates the impact of Alternative 1a (Shared Bridge) along Flower Street. A total of 49 on-street parking spaces on the east side of Flower Street would be eliminated (between Washington Boulevard to 29th Street). Most of these spaces are currently designated for long-term (more than two hour) parking, indicating that there is not a great deal of demand for short-term on-street parking to serve business patrons needs. Only in front of Orthopaedic Hospital is there currently short-term (two hour) parking. On the west side of Flower Street, there are currently 77 parking spaces. These spaces would be retained, but parking would have to be prohibited during peak hours so that the curb lane could be utilized as a travel lane.

TABLE 5.3-9: ALTERNATIVE 1A AND 2C (ALL AT-GRADE WITH SHARED BRIDGE) PARKING IMPACTS ON FLOWER STREET

	Eastside		Westside	
Block	**Currently**	**With Project**	**Currently**	**With Project**
Washington-20th	3:6 Hr. Pkg.	NPAT	6:6 Hr. Pkg.	6:NP 4-6 PM
20th-21st	7:6 Hr. Pkg.	NPAT	6:6 Hr. Pkg.	6:NP 4-6 PM
21st-22nd	6:6 Hr. Pkg.	NPAT	6:6 Hr. Pkg.	6:NP 4-6 PM
22nd-23rd	5:6 Hr. Pkg.	NPAT	6:6 Hr. Pkg.	6:NP 4-6 PM
23rd-Adams	14:2 Hr. Pkg.	NPAT	2:2 Hr. Pkg.	2:NP 4-6 PM
Adams-27th	NPAT	NPAT	4:2 Hr. Pkg.	4:NP 4-6 PM
27th-29th	14:unrestricted	NPAT	6:2 Hr. Pkg.	6:NP 4-6 PM
29th-30th	NPAT	NPAT	4:unrestricted	4:NP 4-6 PM
30th-Jefferson	NPAT	NPAT	37:2 Hr. Pkg.	37:NP 4-6 PM
Jefferson-Exposition	9:4 Hr. Pkg.	NPAT	NPAT	NPAT
TOTAL	58	0	77	77:NP 4-6 PM

NPAT = No parking at any time;
Source: Meyer Mohaddes Associates.

Due to the availability of nearby off-street parking, the proposed project is not expected to have a significant impact on parking along its alignment. No parking mitigation measures are required.

Alternative 1b (Separate Bridge)

Along the blocks of Flower Street between 23rd Street and 30th Street, where the tracks would be transitioning to/from the east side of Flower and running along the west side, under this alternative, on-street parking would be prohibited. This would result in the loss of an additional 16 parking spaces along Flower Street, in addition to the 49 lost due to the All At-Grade Alternative 1a. This alternative would not cause a significant impact on parking.

Alternative 2a (Part Aerial)

This alternative would result in the elimination of 9 parking spaces on the east side of Flower Street. This alternative would not require any parking mitigation measures.

Alternative 2b (Part Subway)

This alternative would result in the same parking impacts as Alternative 2b and would therefore not require any parking mitigation measures.

Alternative 2c (All At-Grade)

Along Exposition Boulevard there are currently 96 on-street parking spaces, 48 on the north side along the USC Campus and 48 on the south side along Exposition Park, in the center of the block between Figueroa and Menlo Avenue. These spaces are all designated for four hour parking. Approximately 76 spaces would be displaced along the north side and south side of Exposition Boulevard for the optional Figueroa station and the Vermont station. About 20 spaces would potentially be retained near the center of the block.

PEDESTRIAN IMPACTS

Alternative 1a and 2c (All At-Grade with Shared Bridge)

There are three issues with regard to pedestrian circulation that need to be evaluated with respect to impacts due to the proposed rail line: (1) locations where pedestrians cross the light rail tracks, (2) locations where the project causes changes in pedestrian travel patterns and (3) pedestrian access routes to the transit stations.

Crossings - A railing would be provided along the curb on Flower Street to prevent pedestrians from stepping off the sidewalk onto the tracks and to prevent mid-block crossings of the tracks by pedestrians. Along Exposition Boulevard fencing would be provided on either side of the tracks to prohibit mid-block pedestrian crossings of the tracks.

Crossings of the tracks would be accommodated at marked crosswalks at signalized intersections where the pedestrian signals would regulate pedestrian movements. This would result in the elimination of three existing crosswalks, one at the unsignalized 21st Street intersection, the mid-block crosswalk opposite Orthopaedic Hospital and the mid-block crosswalk between Jefferson and Exposition, serving the pedestrian undercrossing of the Harbor Freeway.

At the Washington Boulevard/Flower Street intersection the existing pedestrian crosswalk would be redesigned to accommodate the proposed line to the south. The pedestrian crossing phase on the eastern leg of the intersection, across Washington Boulevard, would be timed to coincide with the southbound Flower Street traffic, but would be preempted when the trains to/from Long Beach are turning the corner simultaneously with the Flower Street traffic signal phase, approximately once every three minutes. This would cause minor delays to some pedestrians waiting to cross Washington Boulevard, but would not be a significant impact.

At the Flower Street/Exposition Boulevard intersection, pedestrians would be restricted to crossing the intersection only on the west and south legs. This is due to the redesign of the intersection planned by CALTRANS and LADOT, however, not as a result of the proposed project.

Pedestrian crossings would be prohibited at "T" intersections along Flower Street, at 20th, 21st, 22nd, 27th, 29th, 31st, 33rd, and 35th Streets. At these locations, railings would be installed with signs directing pedestrians to use the crosswalk at the closest nearby signalized intersection. This would cause some pedestrians to have to walk up to about 350 feet out of their way to reach a crossing. Given the relatively light volumes of pedestrian activity along Flower Street, this would not be considered a significant impact.

At the currently unsignalized intersection at 28th Street, a traffic signal is proposed to be installed to control vehicular movements across the tracks. This signal would also include pedestrian signals, thereby improving conditions for pedestrians crossing Flower Street at 28th Street.

On Exposition Boulevard, pedestrian crossings would be provided at signalized intersections at Figueroa Street, at the mid-block signal opposite the Rose Garden, at Watt Way, and at Vermont Avenue, west of the proposed rail line terminus.

Changes in Pedestrian Travel Patterns -In addition to Trade Tech students, Orthopaedic Hospital visitors/employees who park on the west side of Flower Street in Lot G would have to walk to 23rd Street to cross Flower Street, rather than crossing mid block. This would add approximately 250' to the distance walked between the hospital entrance and Lot G and should not cause a significant negative impact.

The sidewalk on the east side of Flower Street would be eliminated along the tracks from a point just south of Orthopaedic Hospital, where a new pedestrian walkway connecting Flower Street to Adams Boulevard would be provided to replace the existing sidewalk on the freeway overcrossing, to Exposition Boulevard. There are no land uses along the east side of Flower Street in this area which require access other than the Jefferson Street transit station, which is discussed below, so this should not cause a significant impact on pedestrians.

The elimination of the mid-block crosswalk between Jefferson and Exposition which currently serves the Harbor Freeway undercrossing would require pedestrians to utilize either the Jefferson or Exposition Boulevard pedestrian crossings instead. This would increase the walking distance from the east side of the freeway to the west side by 500'.

Station Access - Pedestrian access to each station would be provided by a handicapped-accessible walkway located at one end of the station platform. At the 23rd Street Station, the walkway would be accessed via the crosswalk at 23rd Street. The Jefferson Station would be accessed from the south via the crosswalk on Jefferson Street. The Figueroa Station would be accessed from the east end via a walkway to the Figueroa Street

crosswalk. The Exposition Park/Vermont Station would be accessed from the west via a walkway to the Watt Way signalized crosswalk. If in the future this station is extended to the west, the access point would be relocated to a new signal at Menlo Avenue.

At the Figueroa and Exposition Park/Vermont Stations, a railing would be installed at the opposite end of the platform from the access walkway to prevent patrons from attempting to access the station via the mid-block pedestrian signal opposite the Rose Garden.

Special Event Pedestrian Traffic - When special events are held in Exposition Park, either at the Coliseum or the Sports Arena, the volume of pedestrians crossing the tracks and accessing the stations would be significantly higher than on typical days. The peak event, in terms of pedestrian volumes crossing Exposition Boulevard, would be USC football games. For USC games 60-70 percent of the spectators may cross Exposition Boulevard, either to/from parking or residences or pre/post game meeting locations on or near the USC campus. For professional sporting events or other activities at Exposition Park, a larger percentage of the attendees park at Exposition Park or in surrounding parking locations to the south, thereby reducing the pedestrian volume crossing Exposition Boulevard.

The number of spectators crossing the tracks prior to and after a sold out USC football game could be expected to range from 55,000 to 65,000 persons, spread over a several hour period. Average attendance at USC games approximates 65,000, which would result in 40,000 to 45,000 crossings of Exposition Boulevard. The proposed rail line design should be planned to accommodate peak pedestrian flows associated with sold out events. It has been estimated that 20 percent of the attendees at sporting events at the Coliseum arrive by transit (public bus or charters). It would be reasonable to assume that as many as 10 percent of the Coliseum event attendees might ride the proposed rail line to the games. This would mean that as many as 9,000 riders might utilize the two stations and associated crosswalks along Exposition Boulevard.

During special events, City of Los Angeles traffic control officers and police are assigned to the Exposition Park area to assist in the management of traffic and pedestrian flows. The pedestrian signals at the four signalized intersections along the park would be adjusted to respond to special event conditions, either through the Automated Traffic Surveillance and Control (ATSAC) computerized signal system or by manual control in the field.

The capacity of the crosswalks to accommodate the peak pedestrian flows is a function of the crosswalk widths and the amount of walk time provided for the pedestrian phase. Based on an estimate of the likely distribution of pedestrians to the crosswalks, it was determined that approximately 16,000 pedestrians would cross at the mid-block crosswalk opposite the Rose Garden in the peak hour before or after a sold out game. At the two crosswalks adjacent to the stations (Figueroa and Watt Way) it was estimated that 8,700 pedestrians would cross in the peak hour. The green time at each traffic signal which can be allocated to the pedestrian walk phase is approximately 19 minutes per hour, based on the capacity analysis conducted at the Figueroa/Exposition intersection. Based on that

amount of available crossing time, these crosswalks would need to be 35 feet wide at the mid-block location and 20 feet wide at the two stations in order to accommodate the peak pedestrian flows.

Alternative 1b and 2c (All At-Grade with Separate Bridge)

In the section of Flower Street between 23rd and 30th, where the trains would transition to/from the west side of the street, pedestrian traffic would be effected in the following ways.

The new mid-block signal that would be required in front of Orthopaedic Hospital to control both southbound traffic and traffic in the northbound contra flow lane where the trains cross the street, could potentially also be utilized as a mid-block pedestrian signal to preserve the existing crosswalk in that location. This would however further impact traffic flows on Flower Street at this location by delaying Flower Street traffic not only when trains cross the street, but also when pedestrians do so. It would therefore be preferable to require pedestrians to walk to 23rd Street to cross at the signalized intersection, resulting in the same impact on pedestrians as in Alternative 1a and 2c.

This alternative would retain the pedestrian sidewalks on the existing bridge across the Harbor Freeway. This would eliminate the need for some pedestrians to walk out of there way several hundred feet to reach the new walkway proposed on the east side of the Harbor Freeway under the proposed project. Pedestrians walking on the west side of Flower Street between 23rd Street and Adams Boulevard would however, be required to cross the tracks twice under this alternative, which would cause pedestrian safety concerns. Pedestrian signals would be provided at each of these crossings in conjunction with the traffic signals.

Between Adams Boulevard and 29th Street, a railing would be provided along the sidewalk on the west side of Flower Street to prevent pedestrians from stepping of the curb onto the tracks. This would not negatively impact pedestrian traffic.

At all other locations along the alignment, this alternative would have the same impact on pedestrian travel patterns as Alternative 1a and 2c.

Alternative 2a (Part Aerial)

This alternative would have the same impacts on pedestrians as Alternative 1a and 2c except that the placement of columns to support the aerial structure could impede pedestrian flows to a minor degree along the block of Exposition Boulevard between Flower Street and Figueroa Street. Six columns would be located in the sidewalk and could reduce the sidewalk width adjacent to the columns to six feet from its current eight feet unless additional right of way were purchased to allow placement of the columns behind the existing sidewalks.

This alternative would not result in the elimination of the existing pedestrian undercrossing of the Harbor Freeway between Jefferson and Exposition Boulevards. The mid-block pedestrian crosswalk across Flower Street in this location would also be retained in this alternative.

This alternative would eliminate the need for pedestrians to cross the tracks at both the Flower/Exposition and Figueroa/Exposition intersections because the trains would be grade separated above the crosswalks. This would enhance pedestrian safety concerns at these two locations.

This alternative does not include the provision of an optional station at Figueroa Street. Without such a station, the volumes of pedestrians accessing the Exposition Park/Vermont Station would be increased. This would not cause a significant impact on a typical day, but would cause some delays on days when a special event were taking place at Exposition Park. The concentration of pedestrians at this one station would require enhanced pedestrian facilities at the Exposition Park/Vermont Station. These would include wider sidewalks crossing Exposition Boulevard to access the station and an expanded staging area on the sidewalk along Exposition Park to accommodate the queues of event attendees waiting to access the station after an event.

Alternative 2b (Part Subway)

Alternative 2b would have similar impacts to Alternative 2a in all areas except along the sidewalks on Exposition Boulevard where this alternative would not result in the placement of columns in the sidewalk. The pedestrian undercrossing of the Harbor Freeway and the mid-block crosswalk on Flower Street between Jefferson and Exposition Boulevards would be retained. The need for pedestrians to cross the tracks at the Flower/Exposition and Figueroa/Exposition intersections would be eliminated. The elimination of the optional Figueroa Station would require enhanced pedestrian handling facilities at the Exposition Park/Vermont Station.

Optional Vermont Station

The optional Vermont Station would provide a two-car station and this would have two parallel tail tracks on the west side of Vermont, on Exposition Boulevard to accommodate 2 three car trains each for storage in support of special events only.

Operation Overview

At present, the Blue Line service operates between downtown Los Angeles and the City of Long Beach at a six-minute peak headway. In addition to the proposed Exposition Park branch line, future plans call for the Blue Line to be extended through downtown Los Angeles to Pasadena. With the Pasadena Line in operation, headways on the Blue Line through downtown are projected to be just under four minutes during peak hours. Addition of the proposed branch line to the Exposition Park would require an additional

train service. Also, there is an existing rail road corridor in the median of Exposition Boulevard, which extends west as far as Santa Monica and is being considered as a potential transit corridor. The proposed branch line would provide the necessary regional connection to the Santa Monica corridor transit service.

Bus Service

The widening of the Harbor Freeway to accommodate a Transitway is currently under construction. The plan is to provide a HOV/bus facility in the median of the Harbor Freeway from Artesia Boulevard to Adams Boulevard. The proposed operating plan for the Harbor Freeway Transitway by Southern California Rapid Transit District (SCRTD) is a line-haul plan. Most existing bus routes in the southern portion of the Harbor Freeway corridor would be converted to feeder routes for the two new line-haul routes that would be operated on the Transitway.

HOV/Bus Transfer to Rail Service and Intercept Opportunities

There are several options available for HOV/buses at the northern terminus of the Transitway to reach downtown. These vehicles could continue on the Harbor Freeway and access downtown. Under the other option, these vehicles would exit at northbound HOV off-ramp at Adams Boulevard. The existing northbound off-ramp at Adams Boulevard is planned to be modified to accommodate an HOV lane. These vehicles would then turn left onto Adams Boulevard and will utilize a new HOV frontage road for buses and carpools that would begin at the northwest corner of Adams Boulevard and Flower Street and goes in a diagonal fashion to join Figueroa Street. Figueroa Street would provide convenient access to Los Angeles Central Business District. A bus lay-over area may be possible on the HOV frontage road between Adams Boulevard and Figueroa Street or at another located in close proximity. This bus lay-over area provides excellent opportunities for bus passengers to transfer to the Blue Line at the nearby 23rd Street Station, which is within a short walking distance. Also, there are plans to terminate some of the Transitway buses at this juncture and they would turn back onto the Transitway. The passengers of these buses would utilize Blue Line service to reach downtown and other destinations. There are opportunities for HOV auto (car pools) intercept through park-n-ride facilities (see Parking Impacts section for more discussion) near the Exposition Park/Vermont Station which can be reached from the Transitway via 37th Street exit.

Traffic Impacts due to These Transfer/Intercept Opportunities

The two primary advantages through interface of the proposed rail line with the transitway vehicles are reduction in downtown bus trips and reduction in auto trips. Some of the benefit of reduced bus operations could be achieved by turning back the Transitway buses at the northern terminus. The proposed rail line should also allow a slight reduction in the frequency of bus routes operating along Vermont Avenue, Figueroa Street, and Jefferson Boulevard, as some existing patrons would switch to the rail lines. Also, any increase in transit use should be accompanied by a reduction in auto trips. The Exposition

Park/Vermont Station could attract considerable park-n-ride patronage. These cars would therefore be removed from freeways and arterials between Exposition Park area and downtown, including Figueroa Street, Flower Street, Vermont Avenue, and the Harbor Freeway. Another possible impact would be the diversion of much of the special-event traffic from auto to transit.

MITIGATION MEASURES

ALTERNATIVE 1a and 2c (All At-Grade with Shared Bridge)

In order to fully mitigate the impacts of the proposed rail line on the intersections of Flower Street/ Exposition Boulevard and Figueroa Street/Exposition Boulevard, without right-of-way purchase, the rail line would have to be grade separated.

In summary, assuming that the base line roadway alignments discussed earlier (Figueroa/Flower one-way couplet and Exposition/37th one-way couplet) are implemented, the impacts of the at-grade alternative on the east side of Flower Street can be mitigated by the following measures:

1. An additional southbound lane at Flower Street and Adams Boulevard is required. This could be accomplished either by widening the overcrossing to provide additional lanes when the Harbor Freeway Transitway is extended, or eliminate the contra flow lane, perhaps if the Orthopaedic Hospital ever expands or remodels and can relocate its entrance from Flower Street.

2. Widen Flower Street at Jefferson Boulevard to provide four southbound through lanes.

3. Add an additional westbound through lane on Exposition Boulevard under the Harbor Freeway at Flower Street.

4. Restripe the southbound Harbor Freeway off-ramp to two through lanes and a shared through/left lane.

5. Restripe eastbound 37th Street at Flower Street to provide one right turn lane, one shared through/right lane, and three through lanes.

6. Add a southbound right turn lane on Flower Street at 37th Place.

7. Add a westbound right turn lane on 37th Place at Figueroa Street and signalize this intersection.

8. The eastbound left turning vehicles on Exposition Boulevard at Figueroa Street would be redirected to travel via 37th Street and right turn around the

block surrounded by 37th Street, Flower Street, 37th Place and Figueroa Street.

Figure 5.3-10 illustrates the lane configurations required to mitigate the impacts of at-grade train operations at the intersections of Flower Street/Exposition Boulevard, Flower Street/Figueroa Street, and Flower Street/37th Street. **Tables 5.3-10** and **5.3-11** summarize the mitigated LOS for AM and PM peak hours.

In order to mitigate the potential impacts of the proposed rail line on traffic operations, a number of modifications are recommended at intersections and roadways along the proposed alignments. The modifications include the following elements:

- Locations of turn restrictions, parking, and/or lane restrictions.
- Placement of permanent signs to direct traffic.
- Traffic signal timing or phasing modifications.
- Location and type of traffic control.

The traffic operations modifications to mitigate Alternative 1a and 2c are listed below:

- Along Flower Street:

9. At 23rd Street, 28th Street, 30th Street, and Jefferson Boulevard, add left-turn signal display (for the shared through/left lane) to prohibit left turns from southbound Flower for the duration of a train crossing.

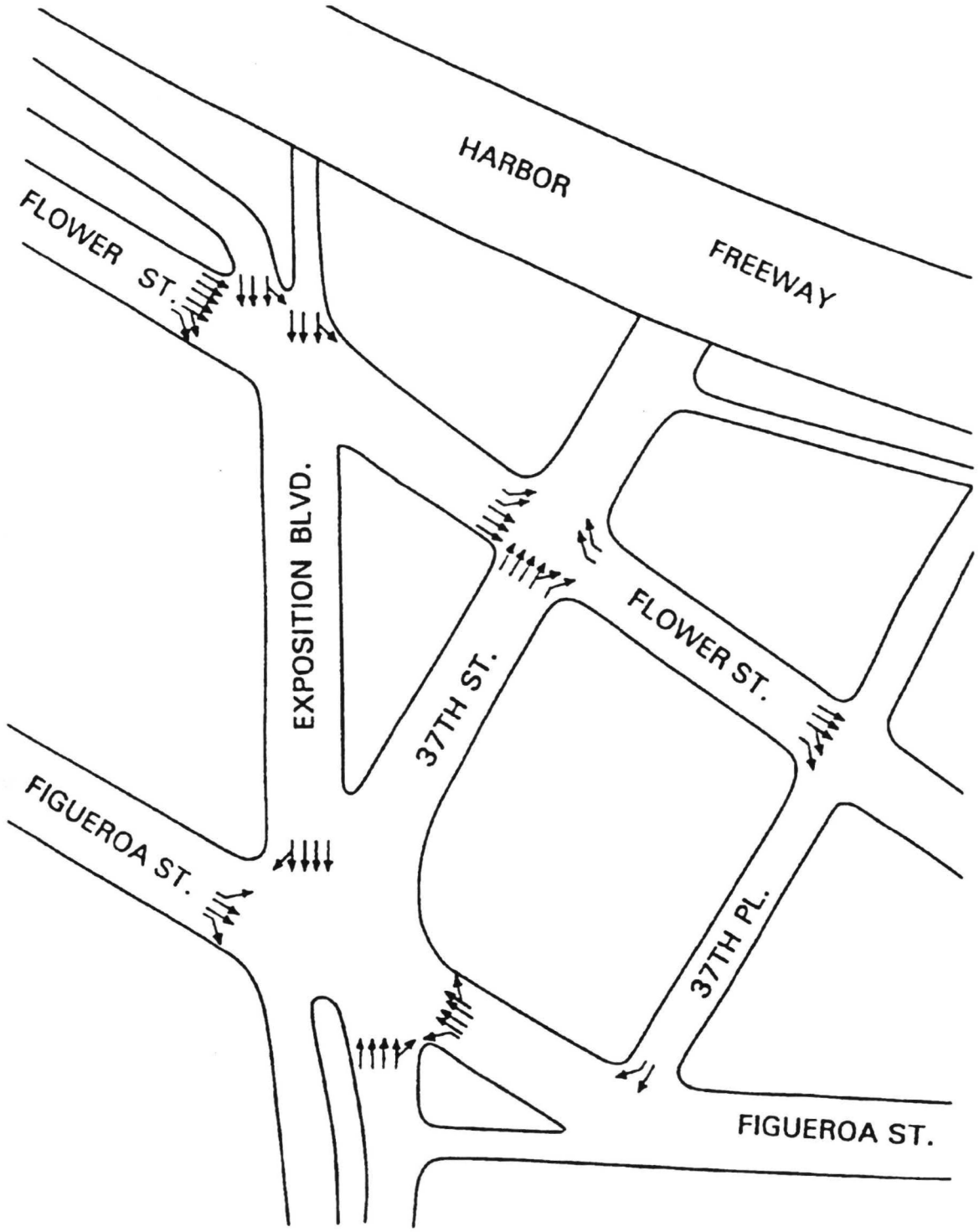
10. The intersection at 28th Street should be signalized. The southbound Flower left turns onto 28th Street would be permitted from the east side curb lane on Flower which would also accommodate traffic accessing the HOV on-ramp south of 28th Street. This intersection should be signalized to control the HOV traffic and 28th Street traffic while a train passes by.

11. Illuminate warning signs, similar to existing Blue Line warning signs on Flower Street north of Washington Boulevard, should be installed on all driveways to restrict traffic from the driveways while trains are crossing that section.

- Along Exposition Boulevard:

12. At Armory Drive and driveways to California Museum of Science and Industry, the movements should be limited to right-in and right-out only.

13. At Hoover Street/Watt Way, which is the main entrance to the USC Campus, traffic signal timing should be modified to accommodate increased pedestrian access to the proposed Exposition Park/Vermont Station. Southbound left turns from Watt Way should be precluded by the signal when LRT trains are



SOURCE: Meyer, Mohaddes Associates

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Exposition Park Branch Line
Rail Transit Corridor Route

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 5.3-10

RECOMMENDED LANE CONFIGURATIONS

TABLE 5.3-10: ALTERNATIVE 1A AND 2C (ALL AT-GRADE WITH SHARED BRIDGE) AM LEVELS OF SERVICE WITH MITIGATION

Intersection	Without Project		With Project		Impact	W/Mitigation	
	Delay/a/	LOS	Delay/a/	LOS		Delay	LOS
Figueroa at Washington	14.5	B	14.5	B	N.C.		
Flower at Washington	26.8	D	26.8	D	N.C.		
Figueroa at 23rd	9.7	B	9.7	B	N.C.		
Flower at 23rd	10.1	B	10.1	B	N.C.		
Figueroa at Adams	17.9	C	17.9	C	N.C.		
Flower at Adams	10.4	B	15.1	C	+	12.2/b/	B/b/
Flower at 28th	N/A	N/A	27.7	D	N/A		
Figueroa at Jefferson	27.9	D	27.9	D	N.C.		
Flower at Jefferson	8.5	B	9.5	B	+	8.82/b/	B/b/
Flower at Exposition	18.0	C	39.6	D	*	23.8/c/	C/c/
Flower at 37th	12.8	B	12.8	B	N.C.	12.5/d/	B/d/
Figueroa at Exposition	100+ V/C=1.42	F	100+ V/C=1.64	F	*	100+ V/C=1.28 /e/	F/e/
Hoover at Exposition	19.9	C	19.9	C	N.C.		
Vermont at Exposition	58.9	E	58.9	E	N.C.		

Key: + = Delay increases, but not a significant impact
* = Significant impact
N.C. = No change
/a/ Seconds/Vehicle
/b/ With mitigation measure required to mitigate PM peak hour impact: additional southbound lane through the intersection.
/c/ With mitigation measure: additional westbound (Exposition) lane through lane; restripe the southbound 110 off-ramp to accommodate two through lanes and a shared through/left-turn lane
/d/ With mitigation measure: restripe the eastbound 37th St. to accommodate three through lanes, one shared through/right-turn lane, and one right-turn lane
/e/ With mitigation measure: remove the eastbound Exposition left-turn lanes; the left-turn vehicular traffic is accommodated via 37th St./Flower St./37th Pl./Figueroa St. circulation.
Source: Meyer Mohaddes Associates.

TABLE 5.3-11: ALTERNATIVE 1A AND 2C (ALL AT-GRADE WITH SHARED BRIDGE) PM LEVELS OF SERVICE WITH MITIGATION

Intersection	Without Project		With Project		Impact	W/Mitigation	
	Delay/a/	LOS	Delay/a/	LOS		Delay	LOS
Figueroa at Washington	18.3	C	18.3	C	N.C.		
Flower at Washington	100+ V/C=1.22	F	100+ V/C=1.22	F	N.C.		
Figueroa at 23rd	9.8	B	9.8	B	N.C.		
Flower at 23rd	9.2	B	10.0	B	+		
Figueroa at Adams	27.2	D	27.2	D	N.C.		
Flower at Adams	15.7	C	100+ V/C=1.21	F	*	39.0/b/	D/b/
Flower at 28th	N/A	N/A	54.0	E	N/A		
Figueroa at Jefferson	80.6	F	79.9	F	N.C.		
Flower at Jefferson	22.7	C	100+ V/C=1.23	F	*	37.7/b/	D/b/
Flower at Exposition	44.7	E	81.5	F	*	35.2/c/	D/c/
Flower at 37th	8.3	B	8.3	B	N.C.	9.3/d/	B/d/
Figueroa at Exposition	16.6	C	37.8	D	+	12.7/e/	B/e/
Hoover at Exposition	37.4	D	37.4	D	N.C.		
Vermont at Exposition	15.7	C	15.7	C	N.C.		

Key to Symbols:
+ Delay increases, but not a significant impact
* Significant impact
N.C. No Change
/a/ Seconds/Vehicle
/b/ With mitigation measure required to mitigate PM peak hour impact: additional southbound lane through the intersection.
/c/ With mitigation measure: additional westbound (Exposition) lane through lane; restripe the southbound 110 off-ramp to accommodate two through lanes and a shared through/left-turn lane
/d/ With mitigation measure: restripe the eastbound 37th St. to accommodate three through lanes, one shared through/right-turn lane, and one right-turn lane
/e/ With mitigation measure: remove the eastbound Exposition left-turn lanes; the left-turn vehicular traffic is accommodated via 37th St./Flower St./37th Pl./Figueroa St. circulation.
Source: Meyer Mohaddes Associates.

traveling west of the Exposition Park/Vermont Station to the storage area.

14. In conjunction with the potential Phase 2 expansion of the Exposition Park/Vermont Station area, pedestrian access to the Station will be relocated from Watt Way. Also according to the USC master plan, the main entrance to the USC Campus may be relocated from Watt Way, potentially to align with Menlo Avenue. At that time, a traffic signal should be installed at Menlo Avenue to control pedestrian access and to prohibit vehicular movements that are in conflict with train movements.

ALTERNATIVE 1b and 2c (All At-Grade with Separate Bridge)

The mitigations required for this alignment are similar to the mitigations required for Alternative 1a and 2c except at Adams Boulevard, 27th Street, 28th Street, the HOV on-ramp, and 30th Street along Flower Street.

- At Adams Boulevard, add right-turn signalization and prohibit right-turns while trains are crossing that section. An additional (fourth) southbound lane is also needed.

- South of 23rd Street, mid-block signalization should be added both north and south of the LRT tracks crossover from east side to west side of Flower Street. The north side signal would control the southbound Flower traffic and the south side signal would control the northbound contra flow lane traffic.

- 27th Street should be closed at Flower Street and converted to a cul-de-sac.

- For the HOV on-ramp, a traffic signal is recommended at Flower Street and 28th Street. The traffic signal would aid in blocking traffic on 28th Street and southbound Flower through traffic when trains cross that section. An all red phase should be added to adequately control the southbound traffic relative to the trains cross over south of this intersection. Also the cycle length should be increased to 120 seconds as found to be optimum for this intersection.

- Southbound Flower Street left turns should be prohibited at 30th Street to prevent left turn queues from extending onto the rail tracks.

ALTERNATIVE 2a (Part Aerial)

- Mitigation measures 1, 2, 9, 10, 11, 12, 13, and 14 of alternative 1a and 2c (All At-Grade With Shared Bridge).

- Widen the eastbound Exposition cross section to allow 12 feet lanes for the curb lanes (2 feet on each side in addition to proposed 10 feet curb lanes).

ALTERNATIVE 2b (Part Subway)

- Mitigation measures 1, 2, 9, 10, 11, 12, 13, and 14 of alternative 1a and 2c (All At-Grade With Shared Bridge).

Pedestrian Mitigation Measures (All Alternatives)

In order to accommodate peak pedestaian flows from events at the Coliseum that the crosswalks would need to be 35 feet wide at the mid-block location and 20 feet wide at the two stations in on Exposition Boulevard in order to accommodate the peak pedestrian flows.

Between Adams Boulevard and 29th Street, a railing would be provided along the sidewalk on the west side of Flower Street to prevent pedestrians from stepping of the curb onto the tracks.

Along Washington Boulevard a railing would be provided along the entire length of the line, except at designated pedestrian crossings, to discourage mid-block crossings and enhance pedestrian safety.

LACTC will work with other public agencies and the institutions within the park to improve the pedestrian connections between the Harbor Freeway Transitway Station and the LRT station along Exposition Boulevard and to develop a potential bus/rail interface with the Harbor Freeway Transitway at the 23rd Street Station.

Parking Mitigation Measures (All Alternatives)

LACTC will identify potential parking for rail users at the Exposition Park/Vermont and Jefferson Stations. Once these spaces are defined they should be identified through maps and directional signs at the stations. LACTC will work with St. John's Church and the owner of the commercial lot on the northwest corner of Flower/Exposition Boulevard to develop adequate mitigation for the loss of parking spaces.

UNAVOIDABLE ADVERSE IMPACTS

The loss of about eight parking spaces from the commercial property just south of the Hilton on the east side of Flower Street.

The additional right-of-way required along the west side of Flower Street adjacent to St. John's Church, for all alternatives, would require redesign of the lot and would reduce the number of cars which could be tandem parked in the middle of the lot.

CUMULATIVE IMPACTS

The cumulative effects of the proposed project together with other planned and/or approved projects in the site area has been included in the previous analysis.

5.4 AIR QUALITY

SETTING

The proposed project is located within Source Receptor Area No.1 as designated by the South Coast Air Quality Management District (SCAQMD). The air quality in this Source Receptor Area is represented by measurements taken at the North Main Street monitoring station located approximately 3.6 miles to the northeast. Air quality measurements taken at this location in 1990 (the last full year with a complete data set) indicate:

- Carbon Monoxide - The maximum 1-hour concentration was 13 ppm. The maximum 8-hour concentration was 9.9 ppm. The State 1-hour standard was not exceeded. The State 8-hour standard was exceed on one day.

- Ozone - The maximum 1-hour concentration was 0.20 ppm. The State standard of 0.09 ppm was exceeded for 70 days during 1990.

- Nitrogen Dioxide - The maximum 1-hour concentration was 0.28 ppm. The State standard of 0.25 ppm was exceed for 3 days during 1990.

- Sulfur Dioxide - The maximum 24-hour concentration was 0.013 ppm. The State standard was not exceeded in 1990.

- Suspended Particulates PM10 - The maximum 24-hour concentration was 152 micrograms per cubic meter. 51.7 percent of the samples taken at this location exceeded the State standard of 50 micrograms per cubic meter.

- Particulates - The maximum 24-hour concentration was 211 micrograms per cubic meter.

- Lead - The maximum monthly concentration was 0.09 micrograms per cubic meter. The State standard of 1.5 micrograms per cubic meter was not exceeded in 1990.

- Sulfate - The maximum 24-hour concentration was 25.3 micrograms per cubic meter. 1.7 percent of the samples taken at this location exceeded the State standard of 25 micrograms per cubic meter.

Table 5.4-1 illustrates existing carbon monoxide levels for sensitive land uses adjacent to the proposed light rail route. The existing carbon monoxide levels were estimated using the CALINE4 carbon monoxide dispersion model developed by the California Department of Transportation in conjunction with existing traffic volumes and existing intersection operation characteristics. It can be seen that of the 10 locations studied, four locations exceed the 1-hour State standard of 20 ppm. All 10 locations exceed the 8-hour State standard of 9 ppm.

TABLE 5.4-1: EXISTING ONE-HOUR AND EIGHT-HOUR CARBON MONOXIDE CONCENTRATIONS

Receptor Location and Description	1-Hour (8-Hour) Parts Per Million
LA Trade Tech Campus North East Corner: Flower at 23rd	15.8 (10.8*)
Flower St. Entrance to Orthopaedic Hospital South of Flower and 23rd Sts.	17.1 (11.6*)
Apartment Building South West Corner of Flower St and 23rd St.	16.9 (11.5*)
St. John's Church Flower St. at Adams	26.9* (18.3*)
Apartment Building: Flower at 30th St.	22.4* (15.2*)
USC Hilton Exterior Walkway on East Side.	20.1* (13.7*)
USC Campus - Mudd Hall	16.9 (11.5*)
Exposition Park Rose Garden	18.7 (12.7*)
USC Parkside Apartments North East Corner of Vermont at Exposition Blvd.	22.4* (15.2*)
Islamic Center on North West Corner of Vermont at Exposition	19.4 (13.2*)

Note:

* = Exceeds State Ambient Air Quality Standard
a. 1-hour CO concentrations include an assumed ambient of 13.8 ppm based on the average of 2nd highest 8-hour measurements from the SCAQMD North Main Street Monitoring Station between 1986 and 1990. 8-hour concentrations include an assumed ambient of 9.4 ppm.

Source: Terry A. Hayes Associates

IMPACTS

It is anticipated that the proposed rail transit project would have regional air quality benefits because automobile trips to the Exposition Park area --particularly from downtown Los Angeles would be reduced. The preliminary 30-Year Plan estimate of 15,000 daily riders using the Blue Line extension, suggests that 7,500 to 8,500 daily vehicle trips may be eliminated in the region. Based on regional trip length averages, this level of reduction for the proposed Blue Line extension would convert into a reduction of 61,500-69,700 vehicle miles traveled. Year 2010 mobile emissions would be reduced by approximately 0.06 tons per day of Total Organic Gas (TOG); 0.05 tons per day of Reactive Organic Gas (ROG); 0.6 tons per day of Carbon Monoxide (CO); 0.1 tons per day of Nitrogen Oxides (NOX); and 0.02 tons per day of particulate matter (PM).

The proposed rail transit project would be consistent with the Air Quality Management Plan prepared by the South Coast Air Quality Management District, as well as with the Regional Mobility Plan prepared by the Southern California Association of Governments(SCAG). Specifically, the proposed project would implement Control Measure 2g (Tier I Transit Improvements)[1]. The SCAG Air Quality Management Plan Conformity Procedures explicitly exempt rail transit projects. The procedures indicate that it is the intent of the Regional Mobility Plan (RMP) to give priority to all transit and ridesharing projects over highway capacity expansion projects. SCAG further indicates that transit and ridesharing facilities are exempt from conformity review.[2]

Northern Segment

Alternative 1a and 2c

While the proposed project would have regional benefits, it is anticipated that there may be localized air quality impacts at intersections where light rail operations may cause additional delays at intersections --where there are at grade crossings-- as well as adjacent to station areas where vehicles may be attracted to drop off or pickup passengers. **Table 5.4-2 and Table 5.4-3** illustrate the affect of at grade light rail operations on sensitive land uses adjacent to intersections in the Exposition Park area in the Year 2010. As can be seen, the changes attributable to light rail operations are generally not discernible, with the exception of increased carbon monoxide concentrations in the vicinity of St. John's Church where the existing 1-hour concentration is 26.9 ppm and the 8-hour is 18.3 ppm. Future levels with the project are estimated to be 28.4 ppm and 19.3 ppm for the 1-hour and 8-hour concentrations, respectively. For both the 1-hour and the 8-hour period, the changes in carbon monoxide concentration from daily weekday traffic would exceed the incremental change thresholds of 1.0 ppm for 1-hour and 0.45 ppm for 8-hour periods established by the SCAQMD in the New Source Review Rule (No. 1303). As a result, a significant adverse impact is anticipated.

Alternative 1b - Separate Bridge

The new light rail bridge alternative would continue to require that the light rail vehicle cross the Flower and Adams intersection at grade. As a result, the predicted impact at St. John's Church would remain.

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[1]South Coast Air Quality Management District and Southern California Association of Governments, Air Quality Management Plan, South Coast Air Basin, March 1989, page 6-14.

[2]Southern California Association of Governments, Guidance for Implementation of 1989 AQMP Conformity Procedures, March 1990.

TABLE 5.4-2: YEAR 2010 ONE-HOUR CARBON MONOXIDE CONCENTRATIONS FOR ALTERNATIVE 1a AND 2c (Parts Per Million)

Receptor Location and Description	Future Without Project	Future With Project	Change Future Without Project to Future With Project
LA Trade Tech Campus North East Corner: Flower at 23rd	15.4	15.3	-0.1
Flower St. Entrance to Orthopaedic Hospital South of Flower and 23rd Sts.	16.4	16.6	+0.2
Apartment Building South West Corner of Flower St and 23rd St.	16.6	16.8	+0.2
St. John's Church Flower St. at Adams	26.7*	28.4*	+1.7
Apartment Building: Flower at 30th St.	23.1*	23.1*	0.0
USC Hilton Exterior Walkway on East Side.	18.0	18.6	+0.6
USC Campus - Mudd Hall	16.9	16.9	0.0
Exposition Park Rose Garden	18.7	18.7	0.0
USC Parkside Apartments North East Corner of Vermont at Exposition Blvd.	21.7*	21.7*	0.0
Islamic Center on North West Corner of Vermont at Exposition	19.0	19.0	0.0

Note:
* = Exceeds State Ambient Air Quality Standard of 20 ppm.
a. 1-hour CO concentrations include an assumed ambient of 13.8 ppm based on the average of 2nd highest 8-hour measurements from the SCAQMD North Main Street Monitoring Station between 1986 and 1990.
Source: Terry A. Hayes Associates

TABLE 5.4-3: YEAR 2010 EIGHT-HOUR CARBON MONOXIDE CONCENTRATIONS FOR ALTERNATIVE 1a AND 2c (Parts Per Million)/a/

Receptor Location and Description	Future Without Project	Future With Project	Change Future Without Project to Future With Project
LA Trade Tech Campus North East Corner: Flower at 23rd	10.5	10.4	-0.1
Flower St. Entrance to Orthopaedic Hospital South of Flower and 23rd Sts.	11.2	11.3	+0.1
Apartment Building South West Corner of Flower St and 23rd St.	11.3	11.4	+0.1
St. John's Church Flower St. at Adams	18.2	19.3	+1.1
Apartment Building: Flower at 30th St.	15.7	15.7	0.0
USC Hilton Exterior Walkway on East Side.	12.3	12.7	+0.4
USC Campus - Mudd Hall	11.5	11.5	0.0
Exposition Park Rose Garden	12.7	12.7	0.0
USC Parkside Apartments North East Corner of Vermont at Exposition Blvd.	14.8	14.8	0.0
Islamic Center on North West Corner of Vermont at Exposition	12.9	12.9	0.0

Note:
a. 8-hour CO concentrations include an assumed ambient of 9.4 ppm based on the average of 2nd highest 8-hour measurements from the SCAQMD North Main Street Monitoring Station between 1986 and 1990. This ambient conditions currently exceeds the State 8-hour ambient air quality standard.
Source: Terry A. Hayes Associates

Western Segment

Alternative 2a - Part Aerial

The aerial alignment would beneficially affect the Flower and Exposition intersection. As a result, the 0.6 1-hour increase in carbon monoxide and the 0.4 8-hour increase for the USC Hilton receptor along this alignment would be eliminated. There would be no adverse air quality impacts along this segment of the route under this alternative.

Alternative 2b - Part Subway

The subway alignment would beneficially affect the Flower and Exposition intersection. As a result, the 0.6 1-hour increase in carbon monoxide and the 0.4 8-hour increase for the USC Hilton receptor along this alignment would be eliminated. There would be no adverse air quality impacts along this segment of the route under this alternative.

MITIGATION MEASURES

Short-term dust emissions would be controlled in compliance with SCAQMD Rule 403; construction equipment would be maintained to reduce emissions; grading operations would be halted during first and second stage smog alerts.

At-grade light rail operations at the Adams and Flower intersection for both alternatives 1a and 1b shall be re-evaluated to ensure that delays and disruptions at this intersection are minimized. To achieve this, the degree of traffic signal pre-emption afforded to the light rail vehicle may need to be significantly reduced or eliminated. If reductions in vehicle delays cannot be achieved in this manner, consideration shall be given to the feasibility of grade separating light rail operations at this location. It should be noted from an aesthetic impact perspective, that an elevated structure for light rail may adversely conflict with the site setting of St. John's Church which is on the National Register of Historic Places.

UNAVOIDABLE ADVERSE IMPACTS

Air quality impacts at the St. John's Church may be unavoidable.

CUMULATIVE IMPACTS

None anticipated.

5.5 NOISE

SETTING

The predominant source of noise in the project vicinity is vehicular traffic --including buses and trucks. Noise levels for major arterials such as Figueroa Street and Flower range from 65-70 decibels. These traffic sounds are further accentuated by traffic using the Harbor Freeway. Freeway traffic is clearly discernible in the project vicinity particularly in the segment of Flower Street from just north of Adams Boulevard to Exposition Boulevard. At locations where there is a direct line of sight to the freeway, ambient noise levels may reach 72-73 decibels. Based on existing surface street and freeway daily traffic volumes, existing Community Noise Equivalent Levels (CNEL) were computed using the Federal Highway Administration's Highway Traffic Noise Prediction Model at various sensitive locations along the route (see **Table 5.5-1**). The CNEL is a 24-hour noise measure that places special emphasis on noise levels during the evening (7:00 p.m. to 10:00 p.m.) and nighttime periods (10:00 p.m. to 7:00 a.m.).

TABLE 5.5-1: EXISTING NOISE LEVELS (CNEL estimate)

No.	Location and Land Use Description	CNEL in decibels(a)
1	Los Angeles Trade Tech Classrooms north of 23rd Street	62
2	Orthopaedic Hospital	67
3	Apartments south of Flower Street and 23rd Street	69
4	St. John's Church	67
5	Apartments north of 30th Street at Flower St.	70
6	USC Hilton	68
7	Exposition Park Armory Site	65
8	Exposition Park Rose Garden	69
9	USC Mudd Hall	70
10	County Museum of Natural History	65
11	USC Parkside Apartments	67
12	Islamic Center	68

(a) Community Noise Equivalent Levels (CNEL) based on existing daily surface street and freeway traffic volumes using the Federal Highway Administration Highway Traffic Noise Prediction Model.
Source: Terry A. Hayes Associates.

IMPACTS

Noise

The assessment focuses on the noise impacts resulting from light rail operations. For a discussion of construction-related impacts see Section 5.7. The criteria used to assess the potential significance of noise impacts is the level of change in the Community Noise Equivalent Level (CNEL). The CNEL is a weighted 24-hour noise measure that places a 5 decibel penalty on noise during the 7:00 p.m. to 10:00 p.m. period and a 10 decibel penalty on noise during the 10:00 p.m. to 7:00 a.m. period when additional sound has been demonstrated to more intrusive and annoying.

The basic premise of the noise evaluation criteria used by the Los Angeles County Transportation Commission is that the allowable incremental change in additional noise levels decreases as the ambient noise level increases. Thus, when the ambient noise level is 55 decibels a 5 decibel change or more is considered a significant impact. However, when the ambient noise level is 65 decibels an incremental change of not more than one decibel would be considered significant. This relationship is best illustrated in **Figure 5.5-1** which shows the Draft Urban Mass Transportation Administration (UMTA) noise guidelines.

Using **Figure 5.5-1** as a guide, **Tables 5.5-2** through **5.5-6** illustrates the estimated change in ambient noise levels at sensitive land use locations along the proposed Blue Line Extension route as a result of rail transit operations for each of the alternatives. According to vehicle specifications developed by the Los Angeles County Transportation Commission, the allowable noise from a light rail vehicle is specified to be 77 decibels at distance of 50 feet at a speed of 50 miles per hour. Changes in the overall CNEL at land uses along the route result from a combination factors associated with rail transit operations, including the fact that automobile traffic lanes have been shifted to one side of the right-of-way to accommodate light rail tracks. Specific details regarding the alternatives are as follows:

Northern Segment

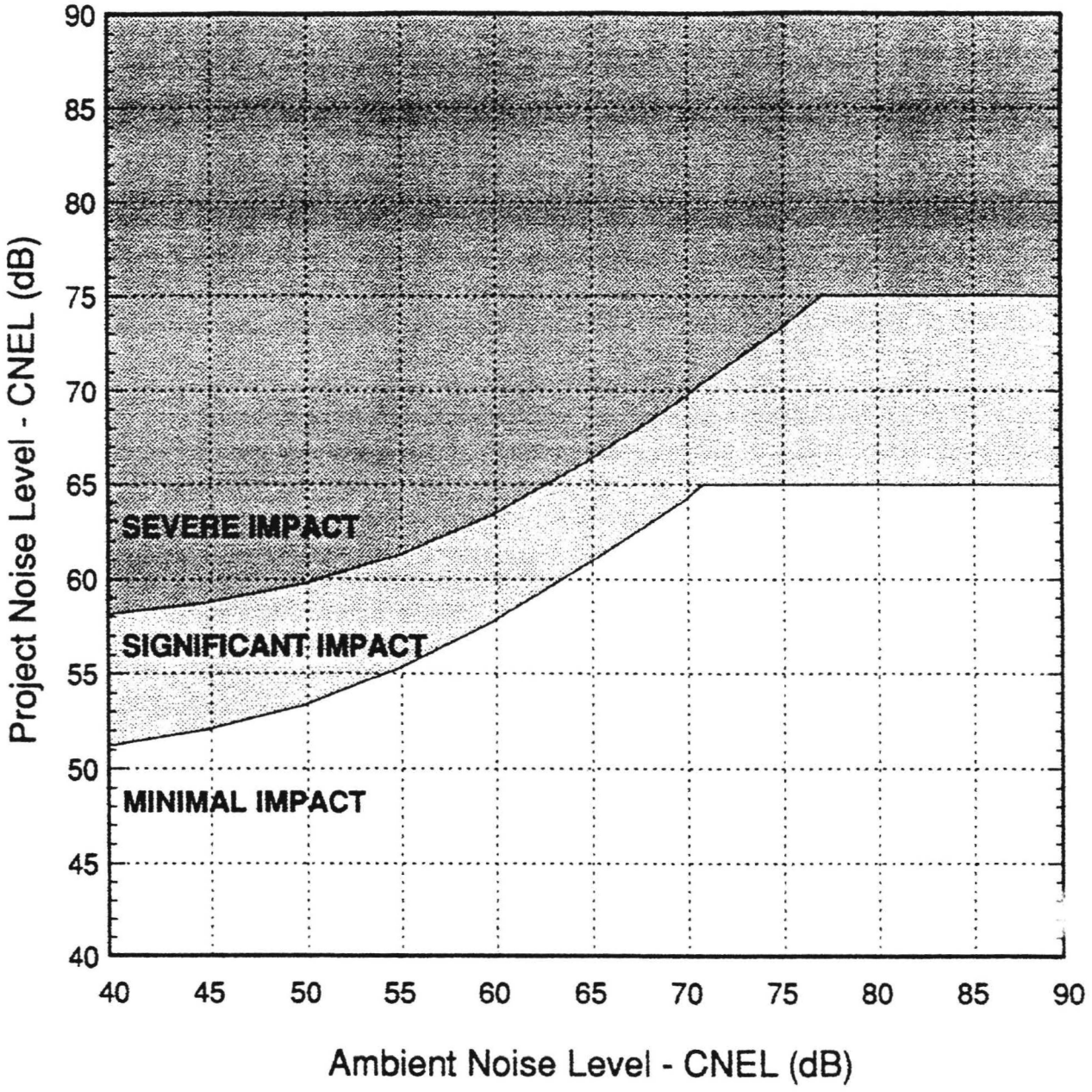
Alternative 1a - Shared Bridge

The ambient CNEL level along the route ranges from 62 to 70 decibels. The increase in the CNEL resulting from this option would not exceed 2 decibels. Based on the evaluation criteria discussed above, the classroom building at Trade Tech would be adversely affected. The CNEL increase at this location would be from 62 to 64 decibels.

Alternative 1b - Separate Bridge

The ambient CNEL level along the route ranges from 62 to 70 decibels. The increase in the CNEL resulting from this option would not exceed 2 decibels. Based on the evaluation criteria discussed above, the classroom building at Trade Tech

Draft UMTA Noise Impact Criteria
Based on Project vs Ambient CNEL



SOURCE: Urban Mass Transportation Administration

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 5.5-1
PROPOSED UMTA
NOISE IMPACT CRITERIA

would be adversely affected. The CNEL increase at Trade Tech would be the same as Alternative 1a (2 decibels). The CNEL increase at St. John's Church would be from 67 to 68 decibels (a 1 decibel change) which is not considered significant.

There would be a noise increase at the church under this option because the Shared Bridge Alternative would shift the light rail alignment further to the west as the route crosses Adams Boulevard. However, it should be noted that this change would occur during the weekdays when the trains are running about every 6 minutes. During the weekend the trains would run less frequently (about every 20 minutes). The estimated light rail CNEL on sundays would be less than 50 decibels and as a result there would be no measurable change in the CNEL on sundays.

TABLE 5.5-2: ALTERNATIVE 1A-SHARED BRIDGE NOISE IMPACTS

No.	Receptor Description	Existing CNEL	Light Rail CNEL	Combined CNEL	Change in CNEL	Impact Evaluation
1	LA Trade Tech Classrooms north of 23rd St.	62	59	64	2	Significant
2	Orthopaedic Hospital	67	62	68	1	Minimal
3	Apartments south of 23rd St.	69	60	70	1	Minimal
4	St. John's Church	67	51	67	0	Minimal
5	Apartments north of 30th St.	70	59	70	0	Minimal
	Maximum	70	62	70	2	NA
	Minimum	62	51	64	0	NA
	Average	67	58	68	1	NA

Source: Terry A. Hayes Associates.

TABLE 5.5-3: ALTERNATIVE 1B - SEPARATE BRIDGE NOISE IMPACTS

No.	Receptor Description	Existing CNEL	Light Rail CNEL	Combined CNEL	Change in CNEL	Impact Evaluation
1	LA Trade Tech Classrooms north of 23rd St.	62	59	64	2	Significant
2	Orthopaedic Hospital	67	58	68	1	Minimal
3	Apartments south of 23rd St.	69	61	70	1	Minimal
4	St. John's Church	67	58	68	1	Minimal
5	Apartments north of 30th St.	70	61	71	1	Minimal
	Maximum CNEL	70	68	71	4	
	Minimum CNEL	62	58	64	1	
	Average CNEL	67	61	68	1	

Source: Terry A. Hayes Associate.

TABLE 5.5-4: ALTERNATIVE 2A - PART AERIAL NOISE IMPACTS

No.	Receptor Description	Existing CNEL	Light Rail CNEL	Combined CNEL	Change in CNEL	Impact Evaluation
6	USC Hilton	68	58	68	0	Minimal
7	Exposition Park Armory Site	65	56	66	1	Minimal
8	Exposition Park Rose Garden	69	60	70	1	Minimal
9	USC Mudd Hall	70	60	70	0	Minimal
10	County Museum of Natural History	65	51	65	0	Minimal
11	USC Parkside Apartments	67	50	67	0	Minimal
12	Islamic Center	68	42	68	0	Minimal
	Maximum CNEL	70	60	70	1	
	Minimum CNEL	65	42	65	0	
	Average CNEL	67	54	68	0	

Source: Terry A. Hayes Associates.

TABLE 5.5-5: ALTERNATIVE 2B - PART SUBWAY NOISE IMPACTS

No.	Receptor Description	Existing CNEL	Light Rail CNEL	Combined CNEL	Change in CNEL	Impact Evaluation
6	USC Hilton	68	0	68	0	Minimal
7	Exposition Park Armory Site	65	0	65	0	Minimal
8	Exposition Park Rose Garden	69	53	69	0	Minimal
9	USC Mudd Hall	70	53	70	0	Minimal
10	County Museum of Natural History	65	51	65	0	Minimal
11	USC Parkside Apartments	67	50	67	0	Minimal
12	Islamic Center	68	42	68	0	Minimal
	Maximum CNEL	70	53	70	0	
	Minimum CNEL	65	0	65	0	
	Average CNEL	67	36	67	0	

Source: Terry A. Hayes Associates.

TABLE 5.5-6: ALTERNATIVE 2C - ALL AT-GRADE NOISE IMPACTS

No.	Receptor Description	Existing CNEL	Light Rail CNEL	Combined CNEL	Change in CNEL	Impact Evaluation
6	USC Hilton	68	53	68	0	Minimal
7	Exposition Park Armory Site	65	54	65	0	Minimal
8	Exposition Park Rose Garden	69	58	69	0	Minimal
9	USC Mudd Hall	70	59	70	0	Minimal
10	County Museum of Natural History	65	51	65	0	Minimal
11	USC Parkside Apartments	67	50	67	0	Minimal
12	Islamic Center	68	42	68	0	Minimal
	Maximum CNEL	70	59	70	0	
	Minimum CNEL	65	42	65	0	
	Average CNEL	67	52	68	0	

Source: Terry A. Hayes Associates.

Western Segment

Alternative 2a - Part Aerial

The ambient CNEL level along the route ranges from 65 to 70 decibels. The maximum light rail-related CNEL would be approximately 60 decibels. The increase in the CNEL resulting from this option would not exceed 1 decibels. Based on the evaluation criteria discussed above, no sensitive adjacent land uses would be affected, as existing noise levels would essentially mask over the sound of the light rail operations.

Alternative 2b - Part Subway

This option would also not result in significant impacts. The maximum light rail-related CNEL would be approximately 53 decibels. This noise level combined ambient noise levels would not measurably increase noise levels at adjacent sensitive receptor.

Alternative 2c - All At-Grade

This option would also not result in significant impacts. The maximum light rail-related CNEL would be approximately 59 decibels. This noise level combined ambient noise levels would not measurably increase noise levels at adjacent sensitive receptor.

Vibration

The assessment of ground-borne vibration impacts is based on the basic impact relationships identified for the San Fernando Valley Rail Project. The San Fernando Valley Assessment was based on measurements at existing transit properties and tests of several different transit vehicles at the Transportation Test Center in Pueblo, Colorado.[1] Typical ranges of ground-borne vibration from a light rail vehicle traveling at a speed of 35 mph are shown in **Table 5.5-7**. The characterization of the potential significance of ground-borne vibration impacts is based on the following criteria:

- Buildings where low ambient vibration is an important element in their intended purpose. This category would include buildings such as research facilities and or hospitals with highly specialized vibration-sensitive equipment. 65 dB.
- Residences and buildings where people normally sleep. 72 dB.
- Institutional land uses with primarily daytime use. 75 dB.

[1]Harris Miller & Hansen,Inc, Noise and Vibration Impact Assessment, San Fernando Valley Rail Project, October 21, 1989

- Churches, Auditoriums and Theaters. 72 dB.

TABLE 5.5-7: LIGHT RAIL GROUND-BORNE VIBRATION AS A FUNCTION OF SPEED AND DISTANCE

Distance from Track Centerline (feet)	Reference Vibration Level at 50 mph (Velocity level, dB re 1 micro in./sec.	Adjusted Vibration Level at 35 mph (Velocity level, dB re 1 micro in./sec.
10	77 - 82	74 - 79
20	73 - 78	70 - 75
30	71 - 76	68 - 73
40	69 - 74	66 - 71
50	68 - 73	65 - 70
60	66 - 71	63 - 68
80	64 - 69	61 - 66
100	62 - 67	59 - 64
150	58 - 63	55 - 60
200	55 - 60	52 - 57
400	51 - 56	48 - 53

Note:
Adjustment based on 20log(35mph/50mph) as discussed by Harris Miller Miller & Hansen, 1989.
Source: Harris Miller Miller & Hansen, Inc., Noise and Vibration Impact Assessment, San Fernando Valley Rail Project, October 21, 1989.

Based on the land use and building criteria cited above, the assessment of potential ground-borne vibration impacts is based on the following characterizations:

- Impact Unlikely. The upper level of the light rail related vibration range does not exceed the criterion.

- Impact Possible. The upper level of the light rail related vibration range exceeds the impact criterion but the lower level below the criterion. More detailed projections of the vibration levels should be performed during the final design to ensure that the impact criterion will not be exceeded.

- Impact Probable. The lower limit of the light rail related vibration range exceeds the impact criterion. Although more detailed projections should be performed during the final design, adverse impact from ground-borne vibration is likely unless

vibration mitigation is incorporated into the final track work design.

Alternative 1a and 2c

Table 5.5-8 illustrates the findings for the all at-grade alternative (1a and 2c). Here it can be seen that the potential for vibration impacts is limited. The only possible location for vibration impacts may be at the Orthopaedic Hospital (see **Figure 5.5-2**). Typically a hospital would have a criterion level of 72 decibels and as a result impacts from the proposed light rail would be unlikely. However, it is possible that sensitive equipment may be used and until further detailed study of hospital operations are conducted, it is possible that impacts may occur.

It should be noted that preliminary discussions with hospital personnel during the scoping phase of this project did not indicate that there was sensitive equipment in use. However, it should be noted that the hospital raised concerns in the past pertaining to vibration with respect to various CALTRANS proposals for the Harbor Freeway Transitway in the vicinity of the hospital.

Alternative 1b

Alternative 1b would require construction of a new light rail bridge across the Harbor Freeway. This alignment would move the light rail track centerline closer to the apartment building (Receptor Location No. 3) and further away from Orthopaedic Hospital (Receptor Location No. 2). The alignment would also be brought closer to St. John's Church (Receptor No. 4) and the apartment building near Flower St and 30th St (Receptor No. 5). **Table 5.5-9** illustrates that the change in track alignment would not result in adverse impacts on adjacent properties although the predicted vibration velocity would increase slightly. The predicted vibration level at Orthopaedic Hospital would decrease from 66-71 decibels to 62 to 67 decibels, however, the issue of effects on sensitive equipment/activities would remain.

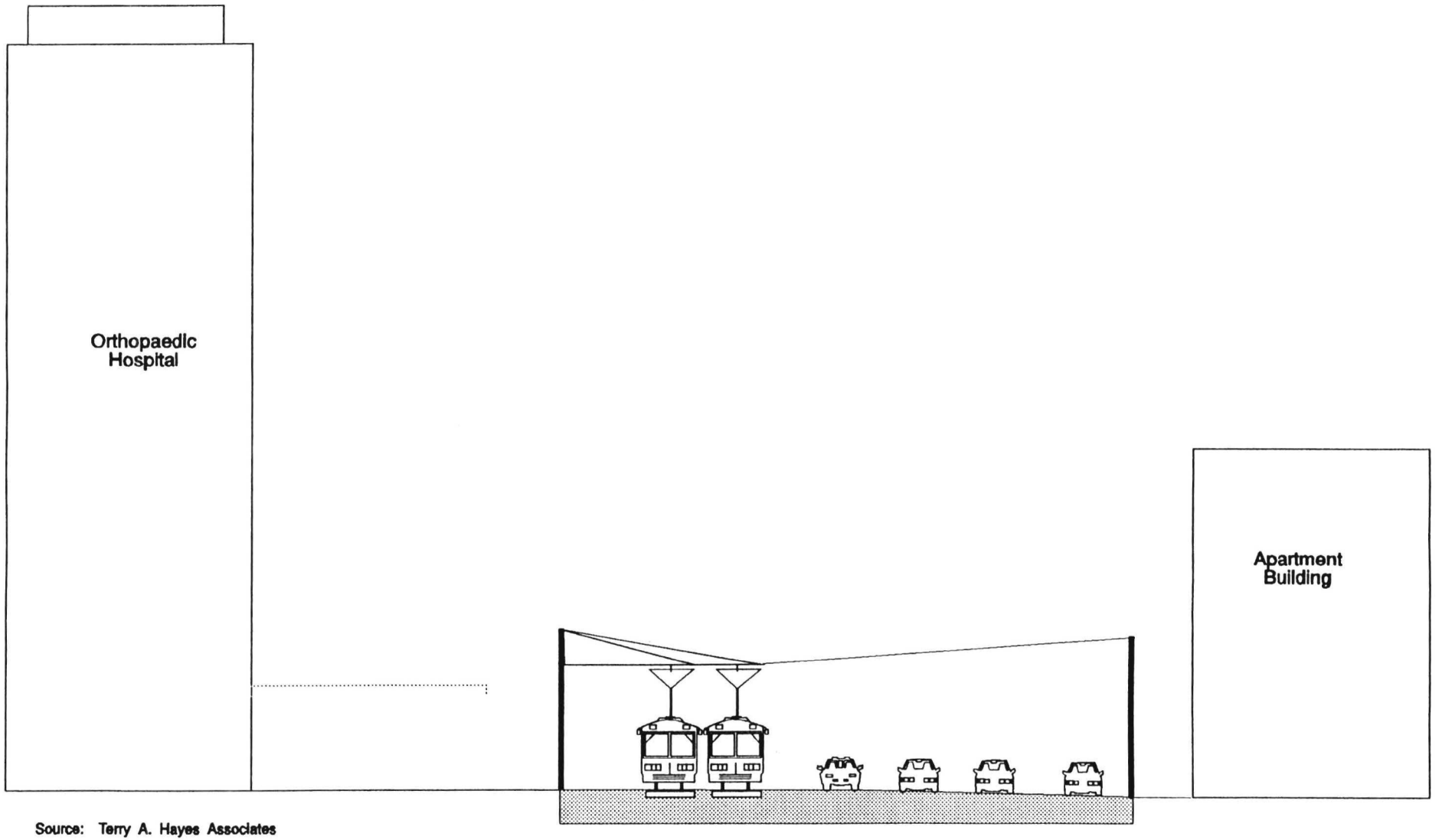
Alternative 2a

The aerial portion of Alternative 2a would be located adjacent to Receptor Nos. 6 and 7 (see **Table 5.5-10**). The elevated structure in general would produce ground-borne vibration approximately 10 decibels less than an at-grade track alignment. When compared to the applicable criterion, impacts from this alternative would be unlikely.

TABLE 5.5-8: PREDICTED LIGHT RAIL VIBRATION RANGES FOR ALTERNATIVES 1A AND 2C

No.	Location and Land Use Description	Criterion	Estimated Distance from Track Centerline (feet)	Predicted Ground-Borne Vibration (Velocity level, dB re 1 micro in./sec.	Impact Assessment
1	Los Angeles Trade Tech Classrooms north of 23rd Street	75	90	60-65	Impact Unlikely
2	Orthopaedic Hospital	65-72	45	66-71	Impact Possible if sensitive equipment in use, otherwise impact is unlikely.
3	Apartments south of Flower Street and 23rd Street	72	65	63-68	Impact Unlikely
4	St. John's Church	72	110	59-65	Impact Unlikely
5	Apartments north of 30th Street at Flower St.	72	75	62-67	Impact Unlikely
6	USC Hilton	72	170	55-60	Impact Unlikely
7	Exposition Park Armory Site	75	240	51-56	Impact Unlikely
8	Exposition Park Rose Garden	Not Applicable	100	Not Applicable	Not Applicable
9	USC Mudd Hall	75	75	62-67	Impact Unlikely
10	County Museum of Natural History	75	240	51-56	Impact Unlikely
11	USC Parkside Apartments	72	110	59-65	Impact Unlikely
12	Islamic Center	72	750/a/	44-49	Impact Unlikely

Note:
There would be no active light rail tracks directly in front of the center on the west side of Vermont Avenue.
Source: Terry A. Hayes Associates.



Source: Terry A. Hayes Associates

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 5.5-2
PROXIMITY OF ORTHOPAEDIC HOSPITAL AND
APARTMENT BUILDING TO THE PROPOSED RAIL LINE

TABLE 5.5-9: PREDICTED LIGHT RAIL VIBRATION RANGES FOR ALTERNATIVE 1B

No.	Location and Land Use Description	Criterion	Estimated Distance from Track Centerline (feet)	Predicted Ground-Borne Vibration (Velocity level, dB re 1 micro in./sec.	Impact Assessment
2	Orthopaedic Hospital	65-72	70	62-67	Impact Unlikely under normal circumstances.
3	Apartments south of Flower Street and 23rd Street	72	50	65-70	Impact Unlikely
4	St. John's Church	72	80	61-66	Impact Unlikely
5	Apartments north of 30th Street at Flower St.	72	50	65-70	Impact Unlikely

Source: Terry A. Hayes Associates.

TABLE 5.5-10: PREDICTED LIGHT RAIL VIBRATION RANGES FOR ALTERNATIVE 2A

No.	Location and Land Use Description	Criterion	Estimated Distance from Track Centerline (feet)	Predicted Ground-Borne Vibration (Velocity level, dB re 1 micro in./sec.	Impact Assessment
6	USC Hilton	72	170	45-50	Impact Unlikely
7	Exposition Park Armory Site	75	240	41-46	Impact Unlikely

Source: Terry A. Hayes Associates.

Alternative 2b

The subway portion of Alternation 2b would be located adjacent to Receptor Nos. 6 and 7. It is not anticipated that vibration levels would be significantly different from that of an at-grade track alignment.

MITIGATION MEASURES

Mitigation of construction noise would be required of contractors to comply with local noise ordinances. A set of guidelines for the planning and operation of construction machinery will be provided by the contractor. To minimize or avoid operational noise impacts to Trade Tech classrooms north of 23rd and Flower (Alternatives 1a and 1b), the following measures would be implemented:

- Reduce the speed of light rail operations to 30 mph or less within 200 feet of the affected receptor locations such as Trade Tech classrooms.

- Should operational changes not be possible, then architectural retrofit measures should be considered to ensure that interior classroom noise levels are acceptable. According to City of Los Angeles EIR Manual Guidelines, an exterior CNEL less than 65 decibels would be acceptable for a school use.

- Orthopaedic Hospital operations shall be reviewed in detail to determine whether there is any vibration-sensitive equipment in use, or hospital activities that would be unusually sensitive to vibration.

UNAVOIDABLE ADVERSE IMPACTS

None anticipated.

CUMULATIVE IMPACTS

None anticipated.

5.6 GEOLOGY AND HYDROLOGY

SETTING

The proposed light rail route lies within the Los Angeles Basin. The basin is bounded on the north by the Santa Monica Mountains and Puente Hills, on the east by the Santa Ana Mountains and San Joaquin Hills, and on the west and south by the Palos Verdes Hills and the Pacific Ocean. The basin is made up of a great thickness of sediments that was deposited on an ancient sea floor. The rail route is underlain by Pleistocene era alluvium and sedimentary rocks.

The light rail route is characterized by generally flat terrain with elevations ranging from approximately 170 to 260 feet above sea level. There are no major hills or land forms along or adjacent to the proposed rail route.

The predominant soil type along the proposed light rail route is the Hanford Association. Soil properties that present a constraint to development include high shrink-swell potential, high corrosivity, high erosion potential and load limitations. The Hanford Association has high sand concentrations and good drainage and permeability. These soils have a low shrink-swell potential, low corrosivity, slight erosion potential, and moderate pressure load limitations. In general, this soil association is highly suitable for urban development.

Seismicity

The entire Los Angeles basin is seismically active. The closest known potentially active faults to the proposed alignment are the Santa Monica-Hollywood fault which lies approximately 5 miles to the north and the Newport-Inglewood fault which is located approximately 5 miles to the west of the route.

The Earthquake Planning Scenario for the Newport-Inglewood Fault Zone prepared by the California Department of Conservation, Division of Mines and Geology, indicates groundshaking estimates for a maximum credible earthquake to range between 7 to 9 on the Modified Mercalli scale.

In areas estimated to have groundshaking of 8 magnitude, the damage is estimated to be slight in structures (brick) built especially to withstand earthquakes. Considerable damage is expected in ordinary substantial buildings with partial collapse, racked, tumbled down, wooden houses in some case, and falling of walls, chimneys, columns, monuments, factory stacks, and towers. Those areas expected to experience groundshaking of intensity 9 would result in considerable damage in masonry and wood built structures especially designed to withstand earthquakes, great damage in substantial masonry buildings, some collapse in large part or wholly shifted frame buildings off foundations, racked frames, and sometimes broken underground pipelines.

There are no Alquist-Priolo Special Studies Zones in the site vicinity.

Liquefaction is a process by which water-saturated sediment temporarily loses strength, usually because of strong shaking, and behaves as a fluid. There is a low potential for liquefaction in the vicinity of the rail route.

Hydrology

There are no major surface water bodies near the proposed rail route Surface drainage flows easterly from Flower Street to the Los Angeles River. Surface drainage north of Exposition Boulevard flows in a northeasterly pattern towards Ballona Creek. South of Exposition Boulevard it flows in a western and southern pattern towards Dominguez Channel.

The rate of surface flow is heavily influenced by the impervious character of the underlying land where there is little opportunity for percolation down to the groundwater tables. Most of the Flower Street portion of the route is covered by paved streets and buildings. The Exposition Boulevard portion of the route has a greater percentage of pervious services due to Exposition Park.

The Federal Emergency Management Agency (FEMA) has identified areas affected by both the 100-year storm frequency flood and the 500-year storm frequency flood. The proposed rail route lies in an area identified as having little to no flooding potential.

Groundwater in the proposed light rail route vicinity is estimated between 60 to 80 feet below the surface.

IMPACTS

The soils in the site vicinity as noted earlier are highly suitable for urban development and therefore, there are no anticipated site engineering constraints related to soil suitability. (see also Section 5.7, Construction in this report regarding construction impacts related to grading).

While the proposed route does not cross any known major fault, seismic activity could affect construction or operation of the rail transit line. Recent experience in San Francisco with an earthquake of 7.1 magnitude, provides support for the contention that transit systems can be designed to withstand major earthquake impacts. The BART System in the Bay Area continued running on a 24-hour basis following an earthquake that closed the San Francisco-Oakland Bay Bridge, and Interstate freeways in Alameda County.

The proposed light rail project is not anticipated to have an adverse effect on local drainage patterns or ground water quantity or quality.

MITIGATION MEASURES

All Alternatives

Measures to reduce the potential for adverse impacts in the event of a major earthquake include the following:

- All structures above and below grade shall be designed and constructed to withstand the maximum probable earthquake predicted for the area (maximum magnitude estimated at 9).
- All structures and facilities must conform to the City of Los Angeles Seismic Safety Plan.
- A transit excavation plan will be prepared.
- Detailed geotechnical studies will be preformed prior to the final design and the issuance of building permits for the project.

UNAVOIDABLE ADVERSE IMPACTS

None are anticipated.

CUMULATIVE IMPACTS

None are expected.

5.7 CONSTRUCTION

This section examines the impacts that can be expected to occur as a result of the construction of the light rail transit project. Key impact areas include traffic and access disruptions, circulation detours, noise and vibration, pollutant emissions, utility relocation, business disruption and visual impacts. It should be stressed that construction impacts will not occur simultaneously throughout the transit corridor, but would occur on a phased or sequential basis.

Construction Activities and Duration

The method of construction would differ between the alternatives considered. In general. at-grade construction is least disruptive while aerial and subway/cut and cover construction is the most disruptive. Specific construction phases/activities associated with each alternative are discussed below.

Northern Segment

Alternative 1a - Shared Bridge

This alternative would require that the street surface, curb, gutter and sidewalk along the east side of Flower Street be removed and replaced. Tracks and stations would be constructed. The surface of Flower Street would be repaved and lane markings repainted. In addition to these at-grade construction activities, the existing Flower Street overpass above the Harbor Freeway would have to be reconstructed to accommodate light rail tracks on the east side of the bridge. Bridge work would thus involve demolition of pavement surface, curb, gutter, sidewalk and railings. It is estimated that the maximum duration of construction along this segment would be 6-8 months. The rehabilitation of the bridge alone is estimated to take 5-6 months.

Alternative 1b - Separate Bridge

This alternative would have construction requirements similar to Alternative 1a. The primary exception would be that a new separate LRT bridge would be constructed across the Harbor Freeway. The duration of this construction is estimated to be 6-8 months. Work along the entire route is estimated to take 8-12 months.

Western Segment

Alternative 2a - Part Aerial

This alternative would include construction of an aerial segment as well as at-grade segments. The at-grade segment along Flower Street would be constructed in a manner similar to that discussed under Alternative 1a. The aerial segment would

require the construction of flyover type structures. These structures generally carry both tracks together on a cast-in-place or a precast, prestressed concrete box, which are in turn supported by cast in place reinforced concrete piers. The pier foundations consist of caissons, or spread footings on piles, depending on the loads and soil conditions. A typical construction sequence for aerial guideways would involve import of fill material, installation of foundations, installation of guideway supports and installation of guideway sections. It is estimated that the construction of the aerial portion would take 8-10 months. Installation of the at-grade portions of the alignment in the median of Exposition Boulevard is expected to proceed quickly, with the exception of the Exposition Park/Vermont station construction. The overall duration of construction in this segment would take about 10-12 months.

Alternative 2b - Part Subway

This alternative would include construction of a subway segment as well as at-grade segments. The at-grade segment along Flower Street would be constructed in a manner similar to that discussed under Alternative 1a. The subway segment would be constructed using a cut-and-cover technique. Boring is not economically feasible for the length of subway route to be constructed. Cut-and-cover would mean that existing street surface would be removed and a trench would be excavated and shored. Approximately 48,000 cubic yards of material would need to be exported. Following this process, a cast-in-place concrete box would be placed inside the excavated area and the tracks laid. The structure would be covered and the street repaved. It is estimated that the construction of the subway portion would take 12-14 months. Installation of the at-grade portions of the alignment in the median of Exposition Boulevard is expected to proceed quickly, with the exception of the Exposition Park/Vermont station construction. The overall duration of construction in this segment would take 14-16 months.

Alternative 2c - All At-Grade

This alternative would involve the construction of the rail facility at-grade along the east side of Flower Street and in the median of Exposition Boulevard. The Flower Street construction would follow the same sequence of activities as described for Alternative 1a. The Exposition Boulevard construction would require the removal of existing track and the laying of track for the light rail. Construction within the Exposition median is expected to proceed quickly with the exception of the Exposition Park/Vermont station. The duration of construction on this segment would take 8-10 months.

Overall, if there were no overlap between construction in the northern and western segments of the route, construction of this alignment would occur over a maximum of approximately 22-28 months.

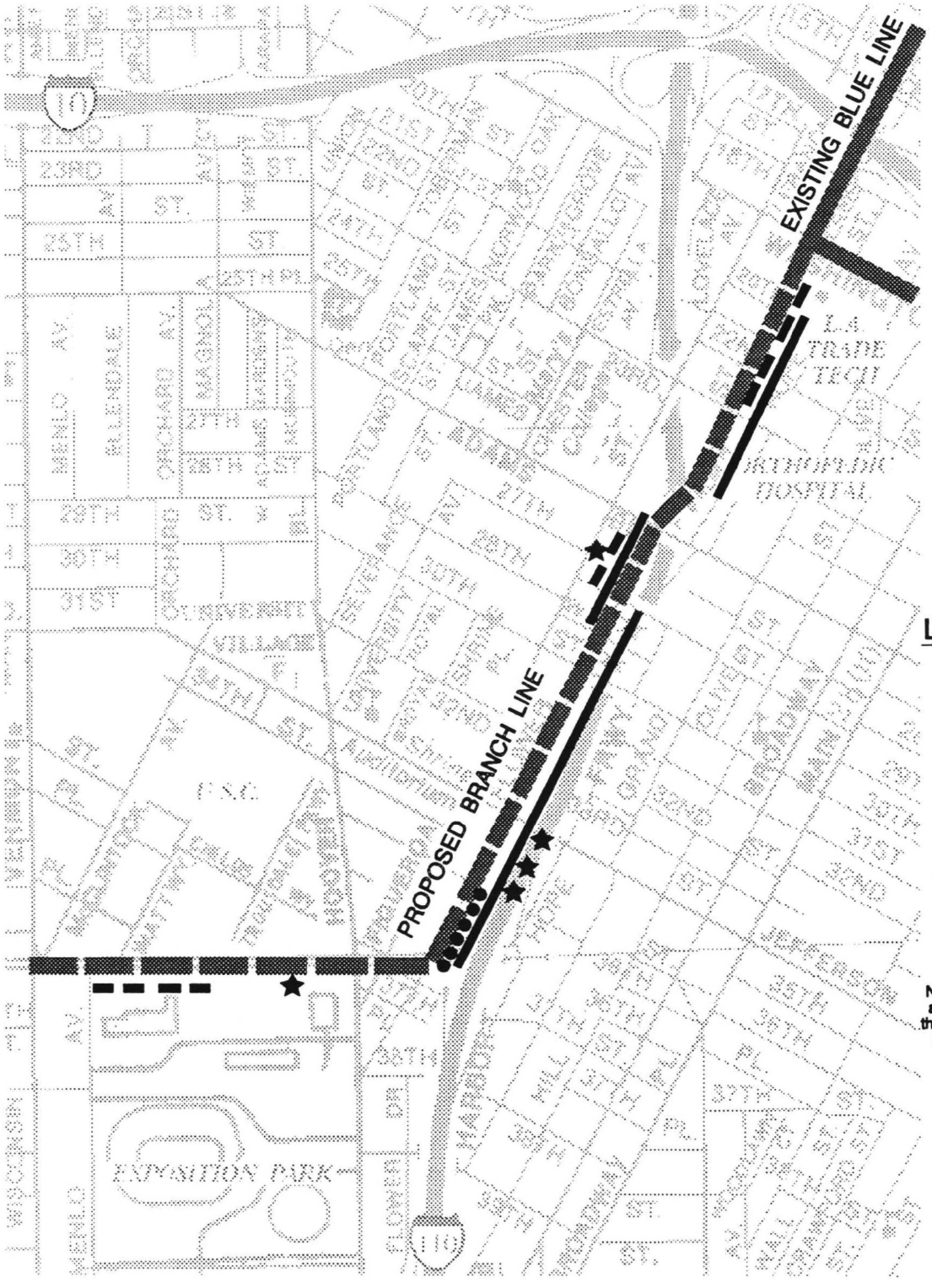
IMPACTS

Utility Relocation: Existing utilities likely to be impacted were identified during the Concept Engineering phase of this study. **Table 5.7-1** identifies the utility relocations that would be required for each of the alternatives. The various alternatives would result in the necessary relocation of storm drains, sanitary sewers, water lines, natural gas lines, and communication lines, although each alternative would require the relocation of a different combination of utilities. **Figure 5.7-1** shows the approximate location of the utility line segments that would be impacted by the proposed rail route.

TABLE 5.7-1: UTILITY LINES REQUIRING RELOCATION

Alternatives		Feet of Line Affected				
		Storm Drain (size)	Sanitary Sewer (size)	Water Line (size)	Gas Line (size)	Pacific Bell
I	1a Shared Bridge	725 ft. (28-inch)/1/2/	815 ft. (12-inch)	2,125 ft. (8-inch)	--	--
	1b Separate Bridge	725 ft. (28-inch)/1/2/	1,015 ft. (12-inch)	1,300 ft.(8-inch) 550 ft.(16-inch)	--	142 ft. (2-ducts)
II	2a Part Aerial	383 ft. (24-inch) 32 ft. (51-inch)/3/	1,100 ft. (44-inch)/4/	2,300 ft (8-inch)	--	500 ft. (1-duct)
	2b Part Subway	375 ft. (24-inch) 40 ft. (51-inch)/3/	1,100 (44-inch)/4/	2,300 ft (8-inch)	--	500 ft. (1-duct) 150 ft. (4-duct)
	2c All At-Grade	382 ft. (24-inch) 33 ft. (51-inch)/3/	1,100 (44-inch)/4/	2,300 ft (8-inch)	--	500 ft. (1-duct)

I = Northern Segment: Washington Boulevard to 30th Street
II = Western Segment: 30th Street to Vermont Avenue
/1/ 725 feet existing 28-inch storm drain to remain in place per Blue Line example.
/2/ Modifications to existing storm drain catch basins and collector drains required along Flower Street at Washington Boulevard, 20th Street, 21st Street, 22nd Street, 23rd Street, and 30th Street.
/3/ Modifications to existing storm drain catch basins and collector drains required along Flower Street at Jefferson Boulevard and Exposition Boulevard.
/4/ Existing 44-inch outfall sewer to remain in place with protective concrete slab placed over it.
Source: Benito A. Sinclair and Associates.



Source: Los Angeles County Transportation Commission

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 5.7-1

AFFECTED UTILITIES

The following is a summary of utility relocation impacts:

Northern Segment

Alternative 1a (Shared Bridge) would require the relocation of approximately 2,940 feet of sewer and water lines, and modification to existing storm drain catch basins and collector drains.

Alternative 1b (Separate Bridge) would result in the relocation of 3,007 feet of sewer, water lines, and Pacific Bell lines, and modification to existing storm drain catch basins and collector drains.

Western Segment

Alternatives 2a (Part Aerial) would result in the relocation of 3,215 feet of sewer, water, storm drainage, Pacific Bell lines, protection to 1,100 feet of existing sewer lines and modification to existing storm drain catch basins and collector drains.

Alternative 2b (Part Subway) would result in the relocation of 3,365 feet of sewer, water, storm drain, Pacific Bell lines, protection to 1,100 feet of existing sewer lines and modification to existing storm drain catch basins and collector drains.

Alternative 2c (All At-Grade) would result in the relocation of 3,215 feet of sewer, water, storm drainage, and Pacific Bell lines, protection to 1,100 feet of existing sewer lines and modification to existing storm drain catch basins and collector drains.

Traffic Impacts: Alternatives 1a, 1b, and 2c would require the temporary closure of up to two lanes of traffic along Flower Street for short periods of time, while roadways are widened, tracks are laid, and platforms are constructed. Alternative 1a could also require the closure of one lane across the Adams Boulevard freeway overcrossing to facilitate the widening of the bridge. Both Alternatives 1a and 1b would likely require the nighttime closure of one lane of Interstate 110 to complete either the bridge widening, as in Alternative 1a, or the separate bridge, as in Alternative 1b.

Alternative 2a would require the temporary closure of up to two traffic lanes along Exposition Boulevard for construction of the aerial guideway. In addition, aerial spans over Flower and Figueroa Streets would have to be phased and traffic phased, requiring some temporary re-routing of traffic during periods when guideway beams are placed on the guideway supports at these intersections. Temporary closures could also be required for the operation of construction equipment during difficult phases of construction.

Alternative 2b could require the temporary closure of one lane of traffic at various times to provide access for equipment to and from the subway excavation. Additionally, temporary closures could also be required for the operation of construction equipment

during difficult phases of construction.

A significant impact would be anticipated from each of these alternatives, due to the closure of traffic lanes to facilitate construction.

Air Quality Impacts: The construction process would result in the generation of fugitive emissions from removal of pavement, exposure and grading of soil, running of construction equipment, and the use of haul trucks and deliver trucks, as well as employee vehicles to the construction zone. Air quality emissions would be potentially significant for those construction areas adjacent to sensitive locations such as Orthopaedic Hospital, the St. John's clinic, apartment buildings, USC dormitories and areas around LA Trade Tech and USC where there is an extensive amount of daytime sidewalk pedestrian traffic. For Alternatives 1a, 1b, 2a and 2c the air quality impacts are anticipated to be quite similar. Pollutants generated by construction equipment would consist primarily of nitrogen oxides. Alternative 2b, however, is expected to generate an extensive amount of additional emissions due to the amount of soil to be excavated, stockpiled and exported. The export of soil is expected to generate additional emissions from haul trucks. The 48,000[1] cubic yards to be removed would likely require approximately 3,200 truck loads, which would result in added vehicle emissions.

Light and Glare Impacts: Alternative 1b could result in impacts due to nighttime lighting during those periods requiring nighttime closure of portions of Interstate 110. It is anticipated that these construction periods would be of short duration. No impacts due to light and glare are anticipated with implementation of the remaining alternatives, since construction activities would occur during daylight hours.

Noise and Vibration: Construction of the light rail system would produce a variety of noise sources, including pneumatic drills, pavement brakers, pavers, dozers, backhoes and pile drivers. It is expected that construction noise would be discernible and would exceed the 5 decibels noise change limits established in the City of Los Angeles Noise Regulations. Typical public works construction noise ranges around 85-90 decibels at a distance of 50 feet. Noise from construction activities could be particularly problematic at sensitive locations, including areas adjacent to Trade Tech classrooms, Orthopaedic Hospital, St. John's Clinic, apartment buildings, Hilton, USC classrooms, theaters and dormitories adjacent to Exposition Boulevard, and to various uses within the Exposition Park area such as museums and the Rose Garden.

Significant temporary noise and vibration impacts would be experienced during the construction of any of the alternatives. At-grade segments would require the use of pneumatic hammers and pavement brakers. Aerial segments would require pile driving and significant numbers of heavy concrete mixer trucks. The subway portions would require the use of heavy excavating equipment as well as an extensive number of 15-25 ton diesel

[1]Approximately 80,000 cubic feet would be excavated. However, about 40% of this would be returned as cover.

engine haul trucks. It is anticipated that the most disruptive activity would be the driving of piles necessary for support structures for an aerial guideway or for the construction or expansion of the bridge over the Harbor Freeway near Adams on Flower. In both areas, noise could affect sensitive uses. Along Exposition Boulevard, this work could adversely affect museum and USC classroom activities. Near Flower and Adams, bridge construction/rehabilitation could adversely affect Orthopaedic Hospital. The apartment building across from the hospital and St. John's Church.

MITIGATION MEASURES

- A construction management plan shall be developed. This plan shall include provisions for prior public notification of construction activities, particularly those that will be disruptive or annoying. In addition, the plan shall address the location of construction worker parking areas, the location and maintenance of spoil and staging areas, security, signage to businesses, the maintenance of circulation and on-street parking spaces.

- The construction management plan shall be coordinated with the California Department of Transportation and the City of Los Angeles Department of Transportation to minimize traffic disruptions and reduce lane closures.

- Given the number of pedestrians in the area, the construction management plan shall clearly provide for pedestrian access to major institutions in the area, including but not limited to LA Trade Tech, Orthopaedic Hospital, St. John's Church, USC, and Exposition Park. Construction sequencing shall be coordinated with local community officials (including USC, LA Board of Education, SCRTD, etc.) in order to minimize conflicts with student walk routes, and bus service.

- The emissions of fugitive dust and other pollutants shall be minimize by undertaking measures to reduce equipment idling while the equipment is not in use. Fugitive dust shall be reduced by implementing dust control measures consistent with SCAQMD Rule 403, including but not limited to periodic site wetting, and the covering or replanting of exposed or excavated areas.

- Construction shall be stopped during stage 2 and 3 smog alerts.

- The timing of noisy construction activities, particularly pile driving in the vicinity of Orthopaedic Hospital, apartment buildings, or USC shall be coordinated with this institutions to minimize adverse effects on their operations. To the extent feasible alternatives to pile driving shall be pursued including the drilling of piles. In the vicinity of sensitive land uses, temporary noise barriers shall be used to attenuate the noise from pneumatic hammers and pavement breakers.

- All construction equipment shall be maintained in proper tune to reduce operating emissions.
- The relocation and support of utilities shall require coordination with affected service providers to identify specific mitigation measures.
- Road signs will be provided to facilitate traffic detours or rerouting.
- Noise barriers should be used, where possible to minimize the effects of construction noise.
- Construction of the separate bridge at Adams Boulevard (Alternative 1b) would require nighttime lighting on I-110 indicating lane closures. Barriers could be used to help reduce spillover from the freeway lighting.

UNAVOIDABLE ADVERSE IMPACTS

Mitigation measures would reduce, but not eliminate adverse impacts on traffic, air quality, noise, and vibration. These impacts would be temporary and of a reasonably short duration.

CUMULATIVE IMPACTS

No cumulative impacts are anticipated.

5.8 PUBLIC SERVICES

SCHOOLS

SETTING

There are two major educational facilities located immediately adjacent to the proposed rail route; Los Angeles Trade Technical College located at the southeast corner of Flower Street and Washington Boulevard and the University of Southern California (USC) located on the north side of Exposition Boulevard between Vermont Avenue and Figueroa Street. Mt. Saint Mary's Doheny Campus, located at Adams Boulevard and Figueroa Street and St. Vincent's grammar school is located at Adams Boulevard and Figueroa Street. There are no other public or private schools located within one-quarter mile of the proposed rail line.

Los Angeles Trade Technical College has an estimated 1991-1992 enrollment of 14,000 students. It is estimated that about 700 students and teachers currently use the Blue Line to and from school.[2]

USC currently has an estimated enrollment of about 29,000 students.[3] The University of Southern California, School of Business Administration, completed a study in May of 1991, which analyzed the student ridership of the DASH program. The DASH program is a shuttle between downtown Los Angeles and Exposition Boulevard, serving USC and residents in the area. The study found that 38 percent of the respondents to the survey do not use public transportation. The survey sample included people in the Hoover Redevelopment area, USC Area, and downtown commuters. The respondents are sensitive to the timelines of the route and 68 percent of the commuters would be lost if the length of the trip were extended from the current 23 minute schedule to an estimated 24.5 minute schedule. Thus, this survey indicates the importance of timing from the commuters view.

Mt. Saint Mary's Doheny Campus currently has an estimated enrollment of 300 students.[4] There is no current estimate of the number of these who use public transportation to and from the campus.

A new school is being developed in Exposition Park in conjunction with the museum. An

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[2]Telephone Conversation, Jerry Potras, Administrative Analyst, Los Angeles, Trade-Technical College, January 1992.

[3]Telephone conversation, Chris Lowe, Administrative Assistant, Department of External Affairs, University of Southern California, January 1992.

[4]Mount St. Mary's College, Admissions Office, Telephone conversation, January 1992.

exact location has not as yet been determined.[5]

IMPACTS

Impacts of the proposed rail line on pedestrian access to LA Trade Tech and USC are discussed in the Transportation/Circulation Section 5.3 of this EIR. Impacts of the proposed rail line on vehicular access to these properties is discussed in the Land Use section 5.1 of this EIR. It is anticipated that the proposed rail line would be used by the same students and teachers as those who currently use the Blue Line. Students currently using the Blue Line would likely exit at either the Washington or 23rd Street station.

It is not possible to estimate the number of students at Mt. St. Mary's, USC or the new school to be located in Exposition Park who might take the proposed rail, however it is anticipated that at least some of the students at these schools would use the future facility.

The safety of students and faculty is a concern in identifying impacts of the proposed route on school campus boundaries. The proposed rail line would have designated, signalized pedestrian crosswalks across Flower Street and Exposition Boulevard which would assist in pedestrian safety (see the Transportation/Circulation section of this EIR).

MITIGATION MEASURES

LACTC has developed safety criteria designed to protect students in rial transit project areas from rail lines, substations and construction activities. These criteria should be made available to schools adjacent to the light rail project for distribution to students and teachers. In addition, several other safety measures can be taken to protect students during the construction and operation of the rail system as follow:

- Construction sequencing should be coordinated with local community officials in order to minimize conflicts with student walk routes, school buses and carpools.

- Pedestrian rights-of-way near the rail line should be clearly demarcated by the use of landscaping, fences, walks and curbing to help define clear routes and minimize trespass and shortcut attractions.

- Barriers and security guards should secure maintenance areas during construction to prevent accents from trespassing and vandalism.

- Conspicuously posted warnings and barriers should be erected near overhead power sources, power substations, crossing areas and

[5]Sue Glad, Deputy Director For External Affairs, California Museum of Science and Industry, letter, September 17,1991.

construction sites to deter unauthorized access.

UNAVOIDABLE ADVERSE IMPACTS

None are anticipated.

CUMULATIVE IMPACTS

It is anticipated that the rail line would serve many of the proposed project sites. There would be no taking of any school properties listed as related projects. No cumulative adverse effects are anticipated.

POLICE AND LAW ENFORCEMENT

SETTING

The rail route is primarily within the Police Department's Southwest Area. The Southwest Area Station of the LAPD, which is located at 1546 W. Martin Luther King Boulevard is approximately 1.5 miles southwest of the portion of the line on Exposition Boulevard. The Southwest Area has an estimated 248 officers which patrol the area's 9.8 square miles. The current average response time to emergency calls in the Southwest area is 6.9 minutes.[6] Predominant crimes in the area are auto theft and burglary from motor vehicles.

IMPACTS

The rail line would maintain a separate transit police network. However, the Los Angeles Police Department (LAPD) would be called upon, as required, to respond to emergencies and to perform related activities. Increased commuter and pedestrian traffic may result in an increased number of crimes or accidents and transit police may require backup from the LAPD.

Transit police would be responsible for overall security along the rail line. Specific security responsibilities would involve insuring the safety of riders, attendants, and fare patrons.

During off-peak travel hours and evenings, trains would consist of single car configurations with an operator at the front. Passenger assistance telephones located in each rail car would allow direct communication between passengers and the operator. The operator would be in radio contact with the central control facility at all times and would have access to a silent alarm which sets off flashing lights on top of the rail car roof. These lights would be readily visible to police on the ground and to helicopters above.

Fare inspectors riding the lines and monitoring station platforms would have walkie-talkies

[6]Final Environmental Impact Report, USC Plaza Development, Community Redevelopment Agency of the City of Los Angeles, 1990.

at all times and would be able to report problems to central control from any location along the route. Closed circuit cameras would monitor train platform access at station locations and relay images back to central control. Local LAPD would be called upon only when back-up support is required. The provision of a separate rail transit police force and the implementation of general safety and security measures for the rail line should keep external law enforcement services and intervention to a minimum. Therefore, potential impacts to the local LAPD is not anticipated to be significant.

MITIGATION MEASURES

Security of the LRT should be incorporated into the design features of the system. These design features should enhance the perceived, as well as the actual security of the buildings, equipment and patrons. In addition, the following mitigation measures should be implemented:

- Two-way voice communication on-board the trains between the passengers and the train operator should be installed.
- Closed-circuit television should be provided at high-risk and security areas throughout the system.
- An alarm system shall be installed to prevent unauthorized entry and tampering with equipment, such as fare vending machines.
- In order to eliminate dark or obscured areas, the design of all passenger stations and shelter stops should be open with long, unbroken lines of sight.
- Where practical, rights-of-way shall be protected from encroachment of people, objects thrown, or unauthorized vehicles.
- At-grade street crossings provide access for emergency vehicles.
- Interior finish of the vehicles shall be of vandal-resistant materials.
- A "silent alarm" device shall be installed so the car operator may summon police or alert the central control to a problem on the train.

UNAVOIDABLE ADVERSE IMPACTS

None are anticipated.

CUMULATIVE IMPACTS

The proposed project in combination with other planned projects in the site area would result in the potential for increased police protection services from the Southwest Area.

However, because the proposed rail project would have its own security force and because many of the related projects are within the University of Southern California, which has it's own security, it is not anticipated that related projects would result in a significant cumulative effect on LAPD services in the area.

FIRE PROTECTION

SETTING

Fire protection for the City is provided by the Los Angeles City Fire Department (LAFD). The LAFD is responsible for fire suppression, fire protection, design consultation, inspection, planning and review. In addition, the Fire Department responds to certain medical emergences. The nearest fire station in the vicinity of the proposed rail route is Station No. 15, located at 915 W. Jefferson Boulevard. This is a Task Force Station with an engine and truck company, and a paramedic ambulance. Current staff at the station is about 12 and the response time to incidents is one minute or less between the time an emergency call is received and when the fire team leaves the station.

IMPACTS

The Los Angeles Fire Department continually evaluates fire station placement and overall department services for the entire city. Implementation of the proposed rail project could effect fire protection, emergency medical services, with increased inspection loads and potential incidents of false alarms.

Increased concentrations of pedestrian and vehicular traffic within the proximity of the transit stations during commuter rush hours may lengthen response times by interfering with the movement of emergency fire vehicles. This impact would be heightened at street/track intersections for the at-grade alternatives (Alternatives 1a, 1b and 2c). Of primary concern would be riders exiting the trains and stations as well as emergency access to all areas of the rail system.

The adequacy of fire protection for the rail system is based on required fire-flow response, distance from existing fire stations and the LAFD's judgement regarding the needs in the area. Fire-flow, or the quantity of water necessary for fire protection, would vary with the type of land use adjacencies, life hazard potential, occupancy and the degree of fire hazard. Equipment and personnel needs would be determined by the LAFD upon the selection of the rail alternative and operations plan for the project.

MITIGATION MEASURES

From the outset, fire/life/safety criteria shall be established and used during the preliminary engineering, final design, construction and operation of the rail transit system. Transit stations and power substations shall be designed and constructed in accordance with all applicable fire codes. Final plans would be reviewed by the fire department and inspections

would be scheduled during construction and operation.

In addition, the following mitigation measures shall be incorporated into the final design of the rail transit route:

- Access for fire equipment must be maintained at all times during construction and operation of the rail system.
- Use of fire retardant materials on trains and in stations.
- Adequate public and private fire hydrants shall be required and improvements made to provide the required fire flow along the route.
- Smoke detectors, fire alarms and fire retardant materials shall be used in the stations, on trains and at power substations.
- Installation of automatic sprinkler systems and the availability of hand held fire extinguishers would be at all stations and on all trains along the route.
- Clear access to telephones in stations to report emergencies to the Fire Department.
- The Fire Department recommends there be continuous, through streets. If a cul-de-sac is created, such as proposed for 27th Street at Flower Street, all fire lanes or dead-ending streets shall terminate in an approved turning area.
- When required access is provided by an improved street, fire lane or combination of both which results in a dead-end in excess of 700 feet in length from the nearest cross street, at least one additional ingress-egress roadway shall be provided in such a manner that an alternative means of ingress-egress is accomplished.

UNAVOIDABLE ADVERSE IMPACTS

None are anticipated.

CUMULATIVE IMPACTS

The proposed project in combination with other planned projects in the site area would result in the potential for increased fire protection services in the vicinity of the cumulative projects. Each station would be required to meet its own fire flow requirements and the LAFD would review each project's design and fire prevention suppression mitigation measures.

UNAVOIDABLE ADVERSE IMPACTS

None are anticipated.

CUMULATIVE IMPACTS

Development of other related projects would result in the incremental use of energy resources in the region.

5.10 BIOLOGICAL RESOURCES

SETTING

The project route is located in a highly urbanized area and therefore biological resources are limited to urban tolerant species of plants and animals.

Flower Street is lined on both sides with palm trees at about 30 foot intervals. There are also some small shrubs and grass along the sidewalk between the roadway and the sidewalk on both sides of the street.

The Exposition Boulevard median, the former Southern Pacific Railroad right-of-way, is limited in plant species to small shrubs, grasses, palms and Italian Cypress trees.

Animal species in the site area are limited to urban tolerant species including small mammals and birds. There are no Federally listed endangered or threatened species in the project area.

IMPACTS

All Alternatives

The proposed light rail project would result in the removal and elimination of 75 palm trees along the east side of Flower Street between Washington Boulevard and Exposition Boulevard. Along the Exposition Boulevard median about 26 palms and 17 Italian Cypress would be eliminated.

The Jefferson Street Station, proposed at the northeast corner of Jefferson and Flower Street would result in the removal of about another 10 palm trees and several Eucalyptus trees (see **Figure 5.10-1**). These trees are located along the Harbor Freeway right-of-way.

Due to the existing urban nature and traffic volumes along both Flower Street and Exposition Boulevard it is not anticipated that the proposed project would effect any animal habitat or migratory patterns of either small rodents or birds in the site area.

MITIGATION MEASURES

- The proposed light rail line shall include landscaping along the entire route. Landscaping shall consist of native California draught tolerant plant species and as many relocated palms as feasible (see **Figure 5.10-2** which is a rendering of the proposed rail line looking north on Flower Street).

5.9 ENERGY CONSERVATION

SETTING

CEQA defines energy impacts as project characteristics that result in substantial additional use of existing energy sources.

Transportation is a major consumer of energy in the Los Angeles region. Vehicle trips within the region are estimated to involve over 234 million miles of travel per day.[7] Fuel consumption from vehicle trips with origins or destinations in the region amount to about 4.9 billion gallons of fuel per year.[8] About 89 percent of the fuel is gasoline and 11 percent is diesel.[9] Transportation energy consumption is equivalent to about 739 trillion Btu per year, or about 126 million barrels of oil.

IMPACTS

Based on projections by the Southern California Association of Governments, there would be 310.2 million miles of daily vehicle travel by the year 2010 in the Los Angeles region. This would result in the consumption of approximately 14.2 million gallons of fuel, equivalent to 2,030 billion Btu's. As noted earlier, in the Transportation, Circulation section, implementation of the rail line would reduce vehicle miles traveled and result in energy savings. It is difficult to estimate the number of miles which would be saved due to the development of this 1.8 mile segment; it is estimated that about 15,000 persons would ride this segment per day and not all of these would be new riders.[10] Thus, there would be some transportation energy savings which would result from those persons who would be new to public transit; those switching from private cars to public transit, as well as those switching from diesel buses to electric trains.

Energy requirements for the rail transit system and associated stations is estimated in **Table 5.9-1**. Energy Consumption for Stations and Traction Power illustrates that the overall increase in consumption would be approximately 0.24 billion Btu's regardless of the alternative considered. It should be recognized that there would also be additional energy consumption at power plants in the region that would be supplying the needed electrical energy. It is anticipated that this type of increase would be negligible.

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[7]South Coast Air Quality Management District, Air Quality Management Plan 1988 Revision, Draft Appendix III-A, 1985 Emissions Inventory South Coast Air Basin, March 1988, Table IV-32.

[8]A fuel consumption rate of 17 miles per gallon is assumed.

[9]South Coast Air Quality Management District, AQMP, Appendix III-A, Table IV-32.

[10]Los Angeles County Transportation Commission, "Proposed 30-Year Integrated Transportation Plan, (Revised)", August 26, 1991.

The energy requirements for operation of the line and the stations would be off-set by transportation energy savings created by those persons who would switch from private automobile to public transit and thus the energy requirements of the proposed project are not anticipated to be significant.

TABLE 5.9-1: ENERGY CONSUMPTION RELATED TO STATIONS AND TRACTION POWER

All Alternatives	Traction Usage/1/	Station Usage/2/	Billion Btu Equivalent
Rail Line 1.8 miles	2,250	---	0.0002
Stations			
23rd Street	---	79,785	0.0797
Jefferson	---	79,785	0.0797
Exposition Park/ Vermont	---	79,785	0.0797
Subtotal	2,250	239,355	0.2393
Optional Stations			
Washington	---	79,785	0.0797
Figueroa	---	79,785	0.0797
TOTAL	2,250	398,925	0.3987

/1/ Consumption rate is assumed to be 1,250 kilowatt hours per mile per year of track based on factors presented in the Pasadena Light Rail Alternatives EIR prepared by LACTC.
/2/ Consumption assumes 19.7 kwh/sf/year for at-grade stations.
Source: LACTC and Terry A. Hayes Associates.

MITIGATION MEASURES

The light rail transit would result in an overall benefit in energy conservation for the region. Examples of energy conservation measures which will be incorporated into the system design include:

- Regenerative braking
- Coordination of traffic and rail signal systems.

The following measures should be employed to further limit the energy demands of the rail transit system:

- Implement station design features that would meet or exceed the requirements of Title 24.
- Separate electric meters at stations.

- A licensed landscape architect shall be retained to assess how many of the existing trees to be removed can be retained and incorporated into the project landscaping plan for the rail corridor as well as at the Jefferson Street station.

UNAVOIDABLE ADVERSE IMPACTS

The proposed project would result in the removal and relocation of 111 palms, 17 Italian Spruce and several Eucalyptus trees along the entire 1.8 mile route. The greater number of trees which could be relocated along the rail line or at the stations would reduce this negative impact.

CUMULATIVE IMPACTS

Other projects in the site vicinity could result in the loss of urban plant species at each respective site. Due to the highly urbanized nature of the site area it is not anticipated that there would be a negative cumulative effect on plant or animal species as a result of related projects.

5.11 RISK OF UPSET

Risk of upset is defined by CEQA as any risk of explosion or the release of hazardous substances in the event of an accident or natural disaster.

SETTING

Most of the proposed light rail route would be constructed entirely within the public right-of-way and therefore, it is unlikely that there would exist hazardous substances or sites underneath the public right-of-way. Within 500 feet of the rail route there are no known or reported underground tanks cited by the California Department of Health Services for the release (or possible release if the case is still under investigation) of hazardous materials. There are also no known or listed sites in the project vicinity listed with the EPA Superfund Program.

Other sources of hazardous substances include gas supply lines, and sewage lines. Major gas supply lines and sewage lines are depicted in **Figure 5.11-1**. Damage to any of these facilities by natural disasters such as earthquakes, or by accidents such as subsurface rupture could cause the release of hazardous substances.

Other safety hazards are associated with oil fields and oil wells. The proposed rail route extends through the La Cienega oil field. However, there are no recorded active or abandoned wells in proximity to the project.

As the proposed light rail line turns westward on Exposition Boulevard, it is lined by the University of Southern California to the north and Exposition Park to the south. Since most of the proposed rail line is to be constructed with the public right-of-way along Flower Street and Exposition Boulevard, it is unlikely that any hazardous materials or hazardous waste sites exist within the boundaries of the rail line. However, several potential sources of off-site contamination exist near the rail line. These sites consist of existing and former gas stations and an auto dealership which exist along Figueroa Street one block west of Flower Street and at the intersection of Exposition Boulevard and Vermont Avenue. The potential sources of contamination along Figueroa Street are the Chevron gas station at the northeast corner of Washington Boulevard and Figueroa; the Mobil gas station at the southeast corner of Adams Boulevard and Figueroa Street and the Felix Chevrolet auto dealership at the northeast corner of Jefferson Boulevard and Figueroa Street. The potential sources of contamination along Exposition Boulevard are the Chevron gas station at the northeast corner of Exposition Boulevard and Figueroa Street; the Arco gas station at the southeast corner of Exposition Boulevard and Vermont Avenue and a former gas station site (which is currently vacant) at the northwest corner of Exposition Boulevard and Vermont Avenue.

Although these sites are not located directly within the boundaries of the proposed rail line, any leakage from existing underground storage tanks (USTs) at these facilities could have migrated underneath the proposed rail line. A subsurface investigation would have to be

devised and implemented to determine if the rail line has been impacted by the leakage of hazardous materials form these existing USTs. However, such an investigation is not recommended at this time based on information obtained from pertinent hazardous waste databases to be discussed below.

Hazardous Waste Regulations and Identified Sites

Regulatory compliance is a primary element of an environmental investigation. Failure to comply with governmental regulations can result in expensive fines and can expose businesses or individuals to liabilities from which the law would otherwise shield them. Certain land uses may also be restricted by the presence on-site, or at neighboring sites, of hazardous wastes or hazardous materials.

The information provided below is a summary of relevant regulatory databases which relate to the proposed light rail line and the identification of any hazardous waste sites located within or along the proposed light rail line.

1. The Federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), also known as the Superfund Act, protects the victims and the environment in the event of a hazardous materials spill. This act primarily addresses cleanup of designated Superfund hazardous waste sites. to achieve its stated purpose, CERCLA established a Hazardous Substances Trust Fund, the Emergency Response Trust Fund, and the Post-Closure liability Trust fund. These funds compensate the victims and provide money necessary for the decontamination of the environment.

   A list of known contaminated sites that are under consideration for the Superfund list is compiles by the Environmental Protection Agency (EPA); it is known as the CERCLIS database. A review of the July 15, 1991 version of that document indicates that no known contaminated sites which require action by the EPA exist within a quarter mile radius of the site.

2. The EPA maintains the National Priority List (NPL) under CERCLA 42 U.S.C. Section 9601 (1985). Once a site has been designated on the CERCLIS, the EPA ranks it to determine the potential risks to human health and the environment. Only those CERCLIS sites which present the greatest risk are added to the NPL, which qualifies the sites to receive CERCLA remedial funding. A review of the April 24, 1991 edition of this document indicates that no such sites exist within a quarter mile radius of the site.

3. The EPA also has the authority under Section 107(l) of CERCLA 42 U.S.C. Section 9607(1) to file Federal Superfund Liens against real property to receive cleanup, response, and any other expenditures made by the EPA under the CERCLA program. The March 1, 1991 edition of the Federal Superfund Liens list does not indicate that any such sites exist within a

quarter mile radius of the subject property.

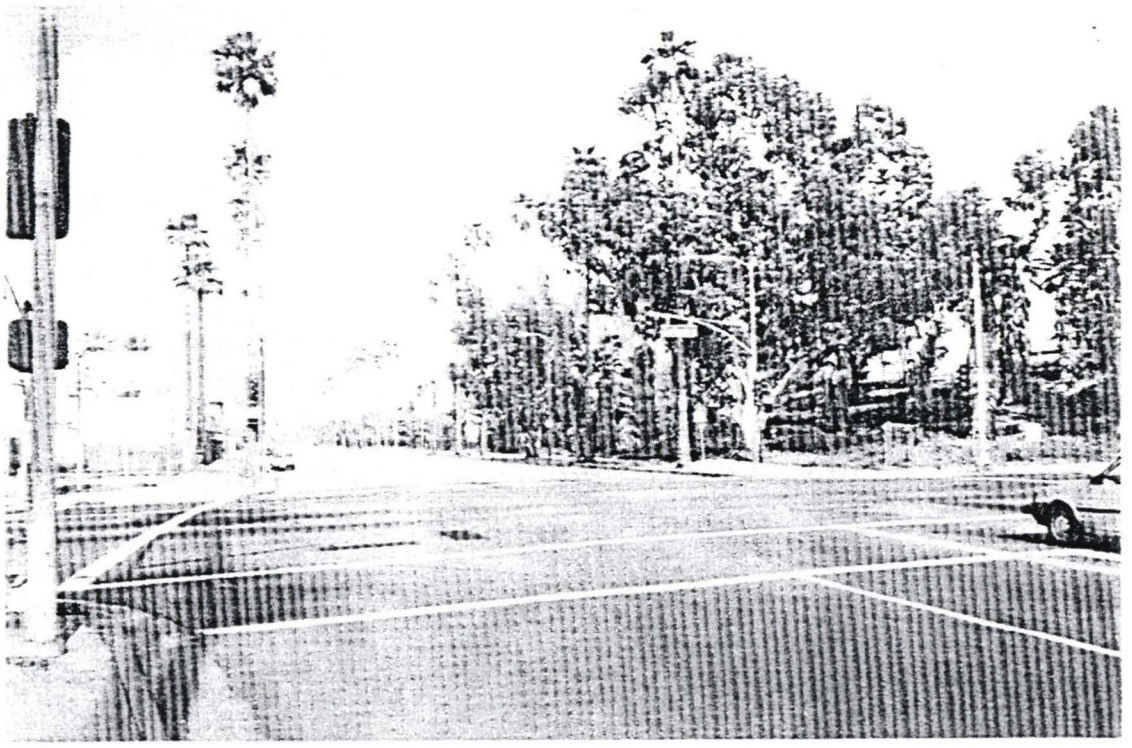
4. The Hazardous Waste and Substances Sites (HWSS) list is published annually by the California Governor's Office of Planning and Research under government Code Section 2.65962.5. This list identifies potential and confirmed hazardous waste sites throughout the State of California. A review of the November 190 version of this document indicates no such sites exist within a quarter mile radius of the site.

5. The Bond Expenditure Plan (BEP) contains a listing of all verified hazardous waste sites that are or will be targeted for abatement by the California Department of Health Services (DHS) under the Hazardous Substances Cleanup Bond Act of 1984 (Health and Safety Code Section 25356) and the Hazardous Substance Account. The January 10, 1991 edition of the BEP indicates that no such site exists within a quarter mile radius of the subject property.

6. The DHS may designate real property as either a "Hazardous Waste Property" or a "Border Zone Property" pursuant to California Health and Safety Code Sections 25220-25241. "Hazardous Waste Property" is land at which hazardous waste has been deposited creating a significant existing or potential hazard to public health and safety. A "Border Zone Property" is one within 2,000 feet of a hazardous waste deposit. Property within either category is restricted in use, unless a variance is obtained from the DHS. A "Hazardous Waste Property" designation results in a prohibition of new uses, other than a modification or expansion of an industrial or manufacturing facility on land previously owned by the facility prior to January 1981. A "Border Zone Property" designation results in the prohibition of a variety of uses involving human habitation, hospitals, schools and day care centers. As of June 1, no such sites were known to exist within a half mile radius of the site.

7. The DHS maintains the Abandoned Sties Program Information System (ASPIS) database of potential hazardous waste sites identified by the historical Abandoned Site Survey Program and compiled data from county health agencies, local fire departments county agricultural commissioners and other local agencies that could be reasonably expected to have information regarding potential waste sites. According to the January 4, 1991 edition of this document, no abandoned hazardous waste sites are know to exist along the proposed rail line.

8. The Toxic Substances Control Division of the DHS maintains the Hazardous Waste Information System (HWIS) database. This database is a list of hazardous waste generators and TSD facilities pursuant to the Hazardous Waste Control Law (Health and Safety Code Section 25100 et seq.) and the



Existing vegetation at the northeast corner of Jefferson Boulevard and Flower Street.

Source: Terry A. Hayes Associates

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 5.10-1
PROPOSED JEFFERSON BOULEVARD STATION



SOURCE: Gruen Associates

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 5.10-2

VIEW LOOKING NORTH ON FLOWER

Hazardous Waste Management Act of 1976 (Health and Safety Code Section 25179.1 et seq.). According to the January 30, 1989 edition of the HWIS database, no hazardous waste generators are located along the proposed rail line.

9. The California Waste Management Board maintains the Solid Waste Information System (SWIS) database. This database is a list of open, closed and inactive solid waste disposal facilities and transfer stations pursuant to the Solid Waste Management and Resource Recovery Action of 1972, government of the SWIS database indicates that no solid waste disposal facilities exist within a quarter mile radius of the propose rail line.

10. The California Water Resources Control Board (CWRCB) has compiled a list of all known leaks of hazardous substances from underground storage tanks (USTs) in the State of California pursuant to Section 25295(b) of the Health and Safety Code. The July 1, 1991 edition of this list indicates no sites with leaking USTs exist within a quarter mile radius of the site.

11. The Los Angeles County Environmental Health Department monitors known hazardous waste sites and enforces various environmental laws which govern these sites. No such sites are know to exist within a quarter mile radius of the site.

IMPACTS

During this data base survey, no direct evidence was identified which would indicate that the proposed rail line has been exposed to environmental contamination. Potential sources of contamination are the USTs which exist at several nearby gas stations and an auto dealership. A subsurface investigation would have to be conducted to determine if the subject property has been impacted by leakage from these tanks. However, based on the information obtained from available regulatory databases, the proposed rail line is not known to be impacted by any hazardous materials. Therefore, a subsurface investigation is not recommended at this time.

Based on the site inspection and the review of relevant federal, state and local data bases, the site is not known to be impacted by any environmental contamination associated with hazardous waste treatment, storage or disposal facilities. Based on the current available information regarding the site, it appears that the potential for significant environmental liabilities associated with the site is relatively moderate. However, due to the presence of the La Cienega oil field in the site vicinity further geotechnical studies are recommended prior to permit approvals.

MITIGATION MEASURES

Detailed geotechnical investigations would be performed as part of the detailed engineering phase of the project and prior to the issuance of construction permits. These studies would provide more detailed data on the potential for upset. Nonetheless, mitigation measures which will be incorporated into the design of the subway alternative 2b to reduce the potential for upset include:

- All underground structures shall be designed with adequate ventilation to allow dissipation of underground gas accumulations. Impermeable membranes shall be installed surrounding tunnel, deep trench and subterranean station structures.

- Relief wells shall be employed to remove underground methane gas if and where necessary.

- Gas sensing systems to be employed to identify gas infiltration and allow for sealing of such infiltration.

- Although the possibility for future problems during construction from unrecorded or abandoned oil and gas wells is remote, if such a well should be encountered during project construction the California Department of Conservation's Division of Oil and Gas should be contacted to obtain information on the requirements for and approval to perform remedial operations.

UNAVOIDABLE ADVERSE IMPACTS

None are anticipated.

CUMULATIVE IMPACTS

Other related projects will require individual evaluation regarding the potential risk of upset at each individual site. No cumulative effects are anticipated.

5.12 AESTHETICS

SETTING

Visual Character:

The proposed light rail route has two distinct visual characters; the primarily low-rise buildings, the palm lined right-of-way of Flower Street, and the park and university lined Exposition Boulevard. **Figure 5.12-1** shows the locations of photographs included in this section.

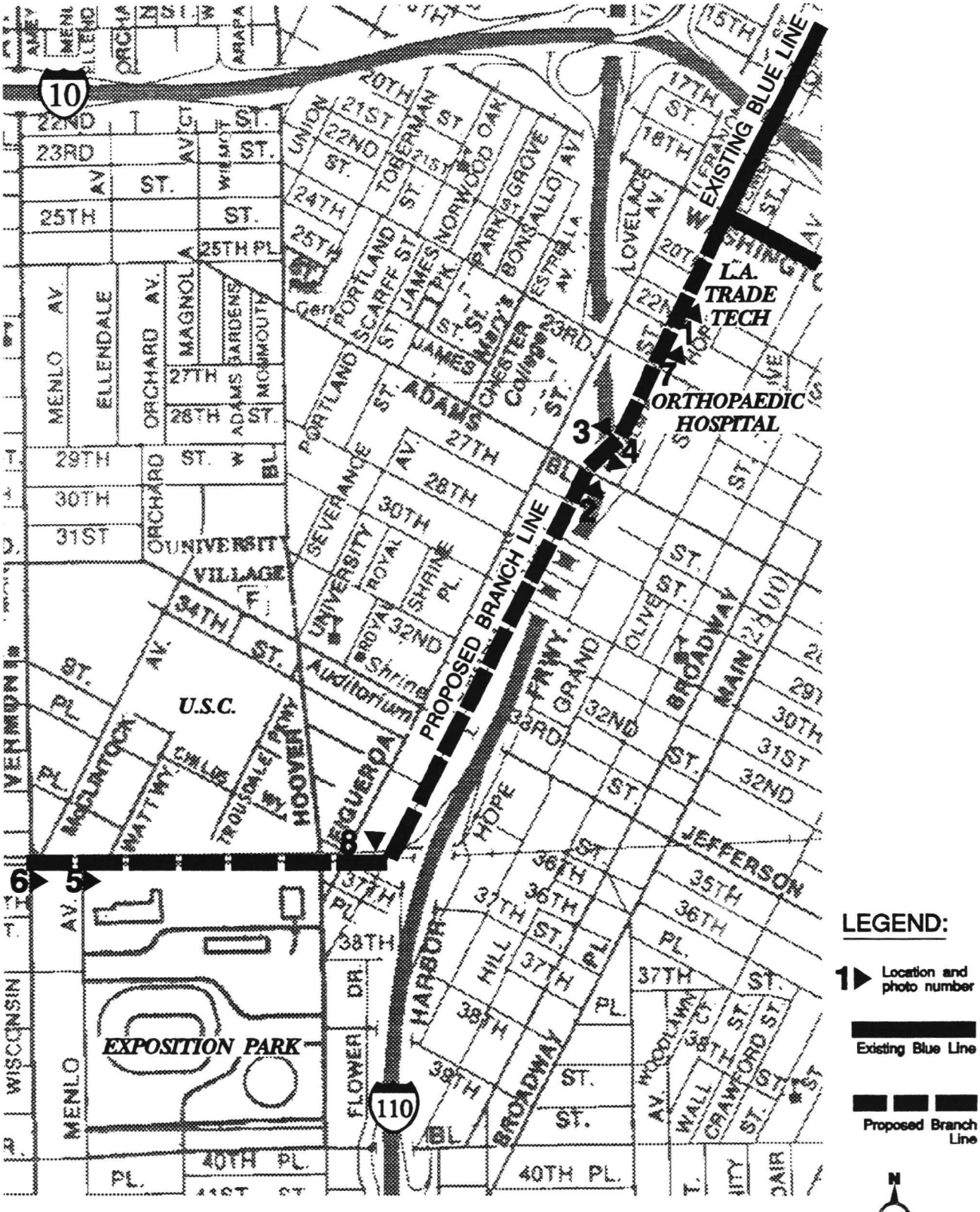
Flower Street, between Washington Boulevard and the Orthopaedic Hospital is characterized by a series of low-rise buildings (one to three stories) primarily concrete with few windows or ornamental features (see Photo 1, **Figure 5.12-2**). There are also several older brick structures along the west side of Flower Street south of the Harbor Freeway overpass with commercial uses on the ground floor and residential units above. The Orthopaedic Hospital is a six-story structure fronting on Flower Street, just north of Adams Boulevard and bridge crossing the Harbor Freeway (see Photo 2, **Figure 5.12-2**). Directly across from the Hospital is a four-story grey concrete apartment building (see Photo 3, **Figure 5.12-3**). South of the apartment building, looking south down Flower Street, is St. John's Church and some more low-rise buildings on the west side of Flower Street to Exposition Boulevard. (see Photo 3, **Figure 5.12-3**).

Exposition Boulevard is bordered on the south by Exposition Park and on the north by the University of Southern California (USC). The rail road right-of-way which extends along the center of the Exposition Boulevard is sparsely landscaped. The width of the Boulevard in combination with the park gives the Exposition Boulevard an open, park like visual character along the southern side of Exposition Boulevard between Figueroa Street and Vermont Avenue, while USC gives the Exposition Boulevard an institutional character along the north side of the Exposition Boulevard. (see Photos 5 and 6, **Figure 5.12-4**).

Views:

Flower Street is a north/south running street and provides views, looking north, of Downtown Los Angeles along most of it's length between Washington Boulevard and Exposition Boulevard (see Photos 7 and 8, **Figure 5.12-5**). Views looking south are limited to the immediate adjacent uses and there are no scenic views or vistas looking south along Flower Street.

Exposition Boulevard is an east/west street. The views along the Boulevard are of the adjacent park and university uses described above. Exposition Boulevard is designated as a Scenic Highway in the City of Los Angeles Scenic Highways Plan. There are no scenic views or vistas looking east or west along the boulevard in the area of the proposed rail route.



LEGEND:

1▶ Location and photo number

Existing Blue Line

Proposed Branch Line

N

1" = .3 miles

Source: Los Angeles County Transportation Commission

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 5.12-1

PHOTO LOCATION MAP

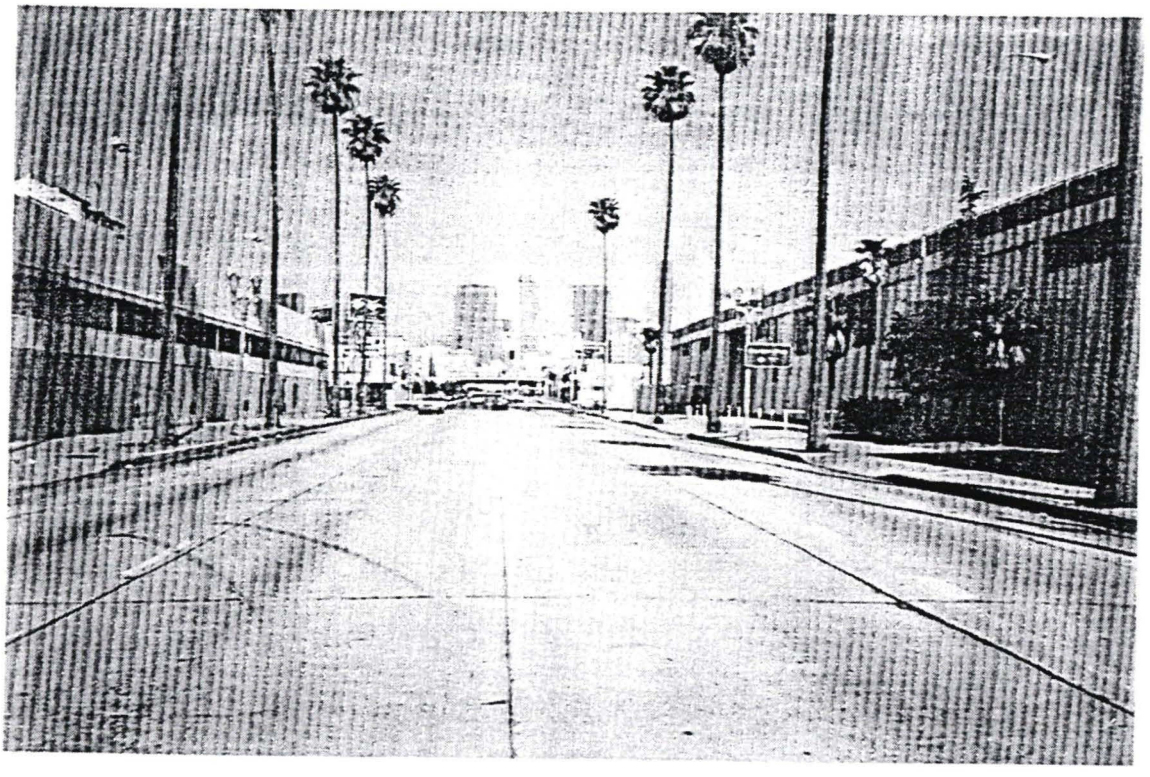


Photo 1: View looking north on Flower Street.

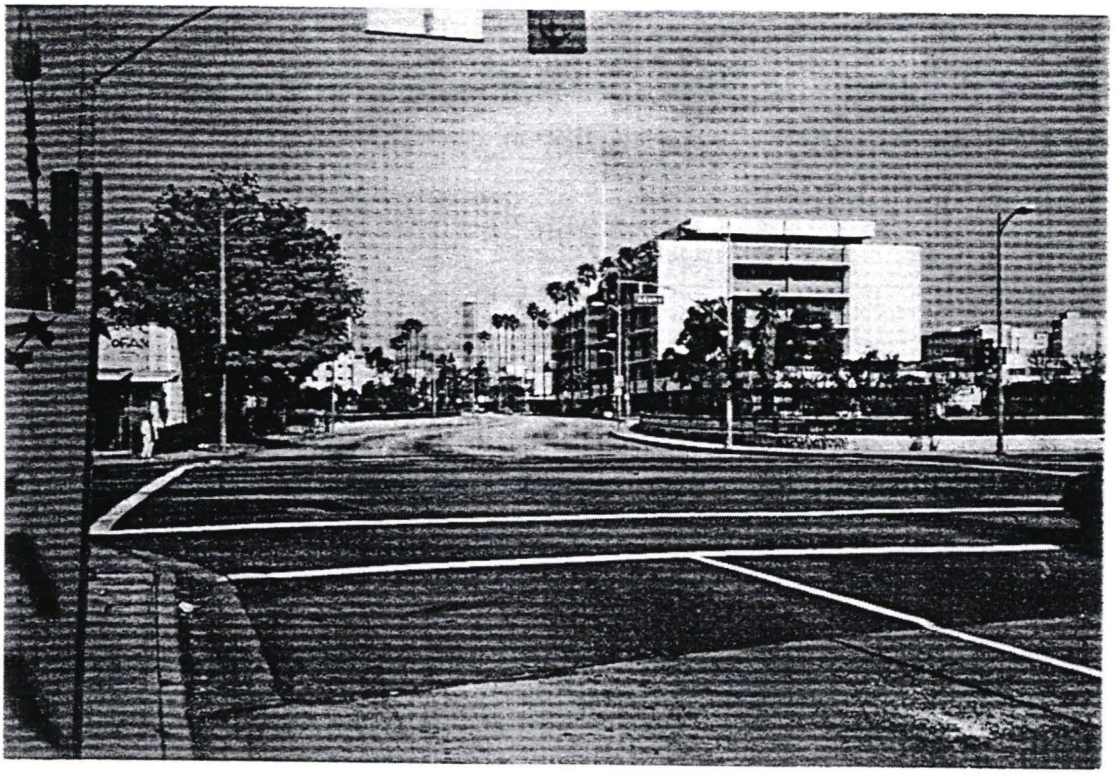


Photo 2: View looking north on Flower Street at Adams Boulevard.

Source: Terry A. Hayes Associates

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 5.12-2
FLOWER STREET RAIL SEGMENT
PHOTOS 1 AND 2

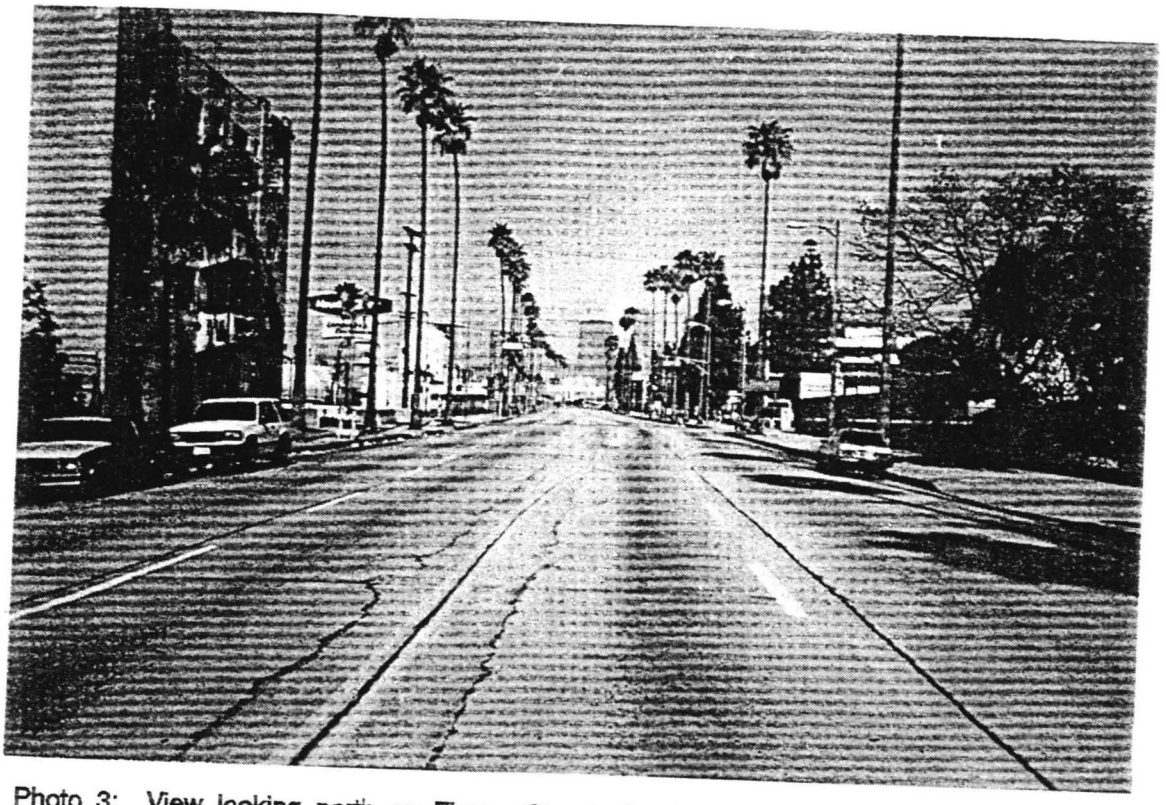


Photo 3: View looking north on Flower Street showing 4-story apartment building on Flower Street and just north of the Harbor Freeway Overpass.

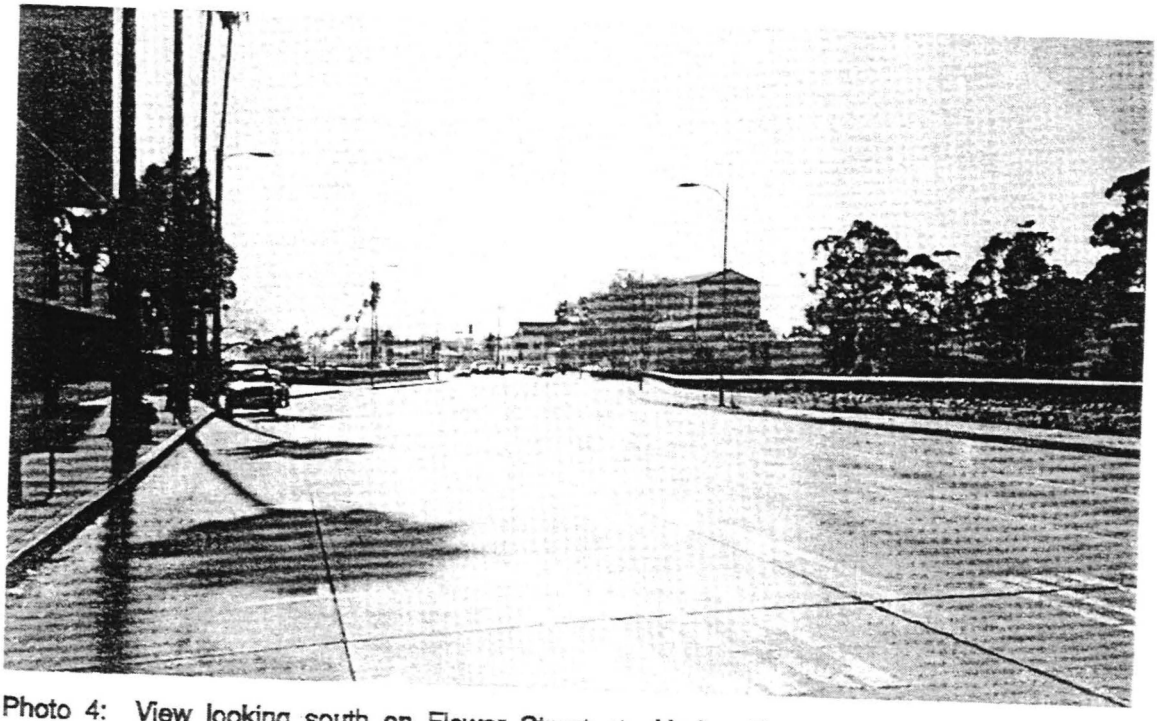


Photo 4: View looking south on Flower Street at Harbor Freeway overpass.

Source: Terry A. Hayes Associates

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 5.12-3
FLOWER STREET RAIL SEGMENT
PHOTOS 3 AND 4

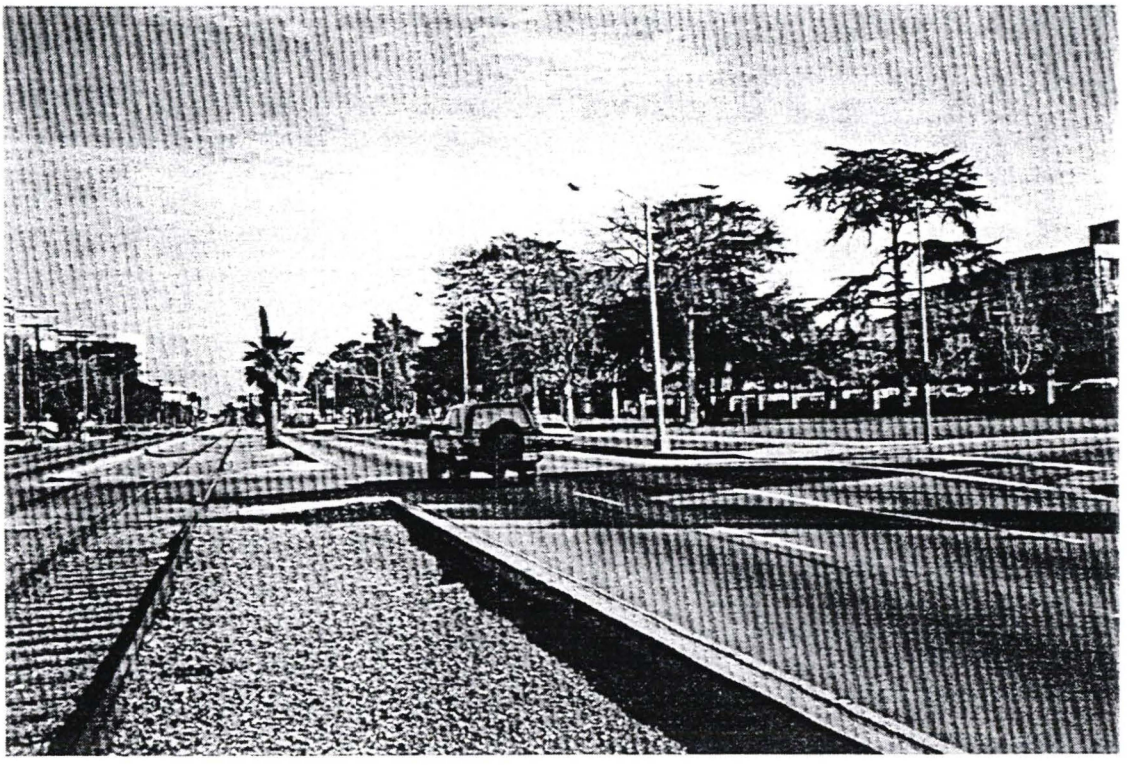


Photo 5: View looking east on Exposition Boulevard at Menlo Drive.

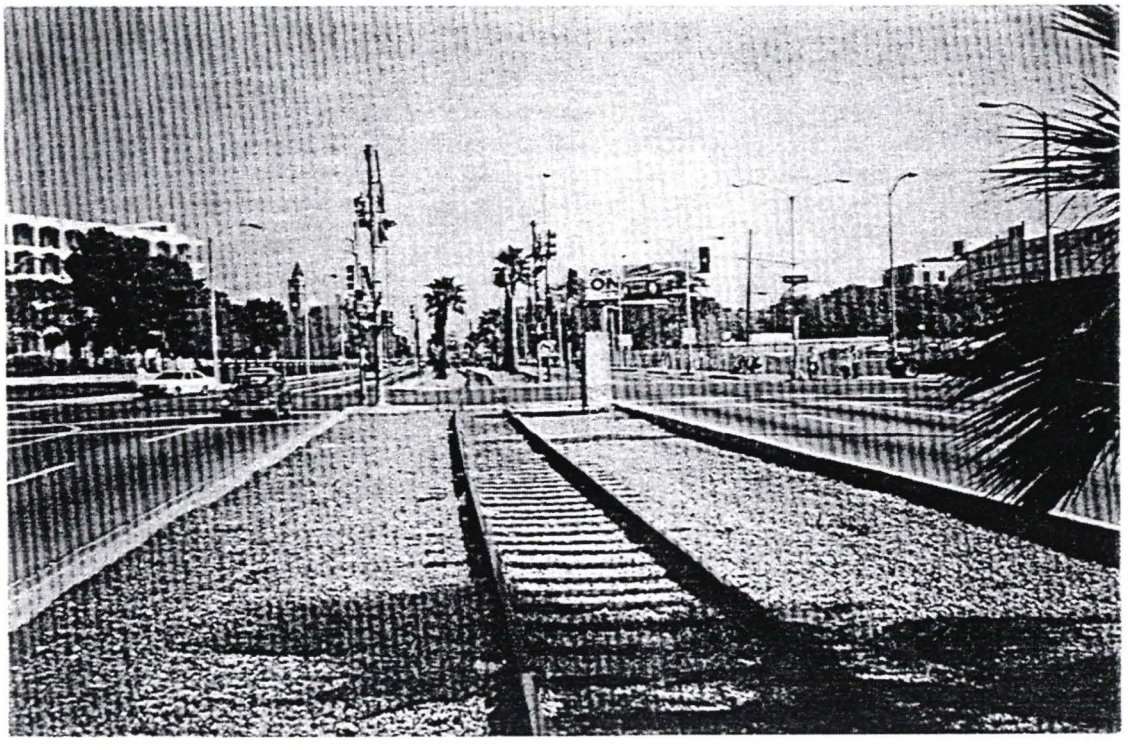


Photo 6: View looking east on Exposition Boulevard west of Vermont Street.

Source: Terry A. Hayes Associates

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 5.12-4
EXPOSITION BOULEVARD RAIL SEGMENT
PHOTOS 5 and 6

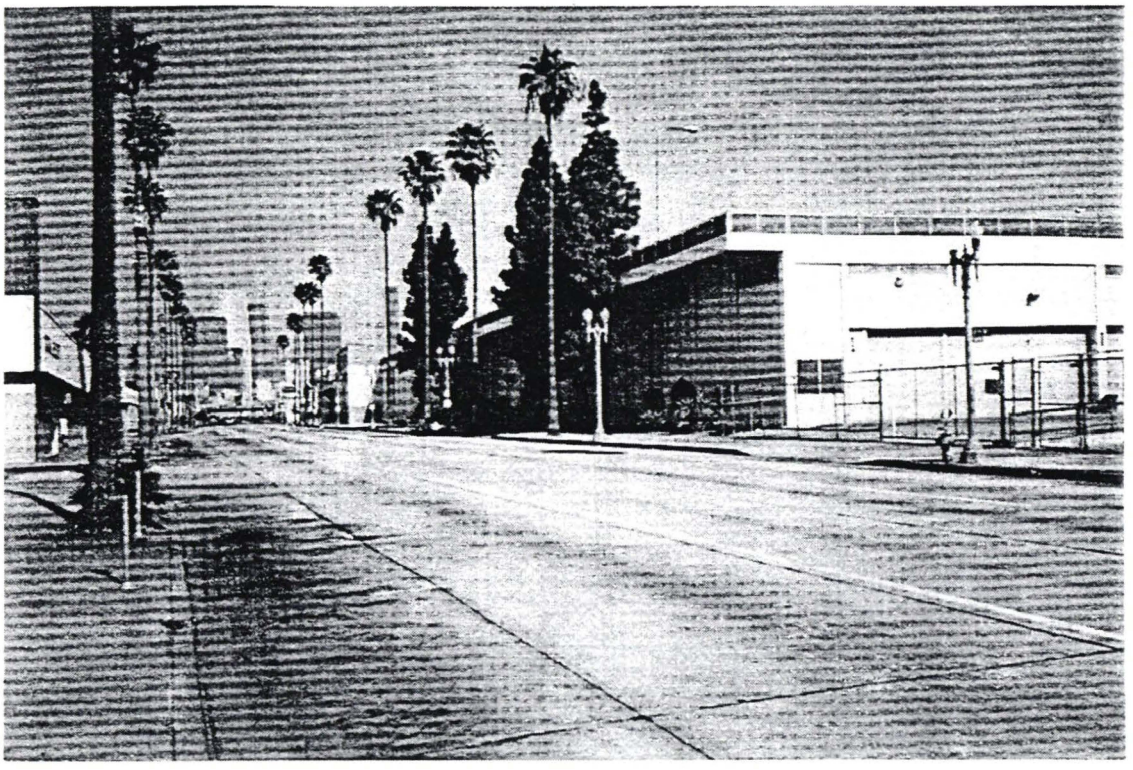


Photo 7: View of downtown Los Angeles looking north on Flower Street.

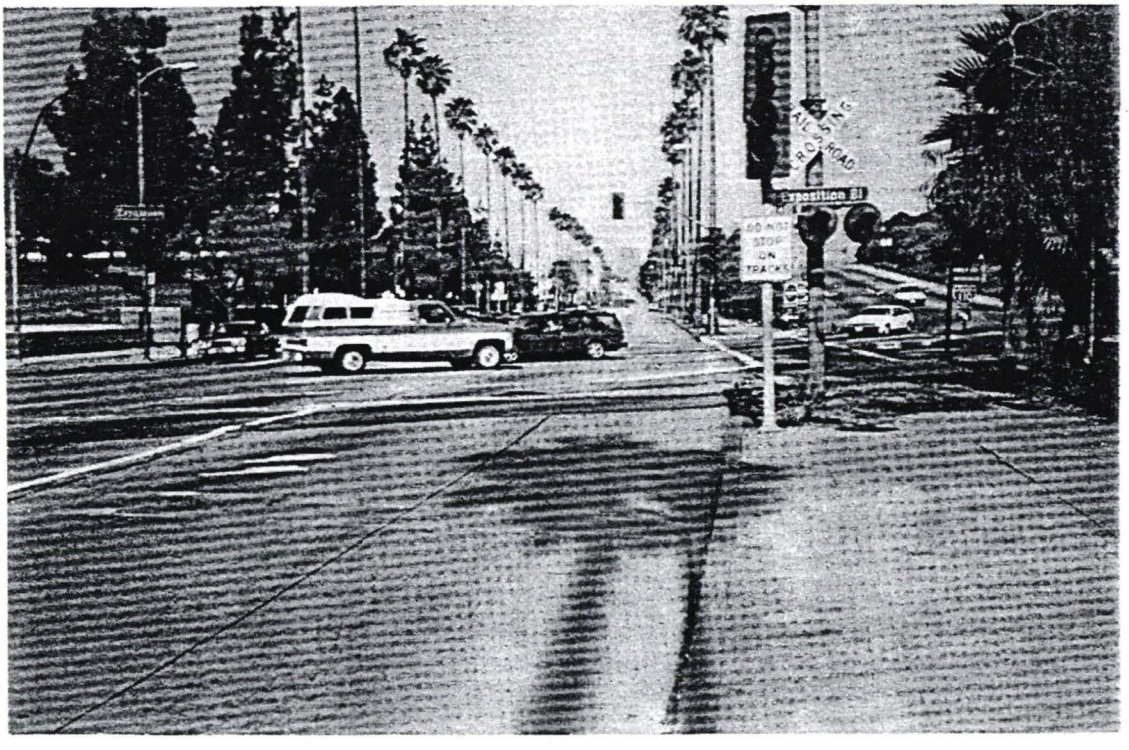


Photo 8: View looking north on Flower Street at the intersection of Flower Street and Exposition Boulevard.

Source: Terry A. Hayes Associates

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 5.12-5
FLOWER STREET RAIL SEGMENT
PHOTOS 7 and 8

IMPACTS

The proposed light rail line would result in a change in the visual character of Flower Street and to a lesser degree Exposition Boulevard. **Figure 5.12-6** is a rendering of the proposed rail line looking south down Flower Street and **Figure 5.12-7** is a rendering of the proposed rail line from the Jefferson Street station south to and along Exposition Boulevard. Both renderings show the all at-grade Alternative 1a and 2c. The following describes the visual effects of each alternative:

Northern Segment

Alternative 1a and 2c (All At-Grade with Shared Bridge). When trains are passing, the rail line would result in a visual barrier between the east and west sides of Flower Street. In addition, the line would have a physical barrier approximately three feet high on the sidewalk side of the track on Flower Street and on both sides along Exposition Boulevard to discourage pedestrian crossings at undesignated cross-walks. The most sensitive adjacent uses, from a visual standpoint are the residential uses on the west side of Flower Street (upstairs from the commercial uses and the apartment building across from the Orthopaedic Hospital) and Orthopaedic Hospital where the trains would come to about fifty feet from the building under alternative 1a.

The proposed light rail line would extend down the rail road right-of-way in the center of Exposition Boulevard where there are existing rail road tracks and some sparse landscaping. Thus, the proposed line would not significantly change the visual character of Exposition Boulevard.

Alternative 1b and 2c (All At-Grade with Separate Bridge). Under this alternative (a separate bridge crossing the Harbor Freeway) the line would be up to 50 feet away from Orthopedic Hospital. The visual character of this alternative rail line would be similar to those described above for Alternative 1a and 2c. With the exception of the overhead catenary lines and outside poles, the separate light rail bridge structure would not have any design characteristics or features that would make it stand out from the existing Flower Street bridge.

Western Segment

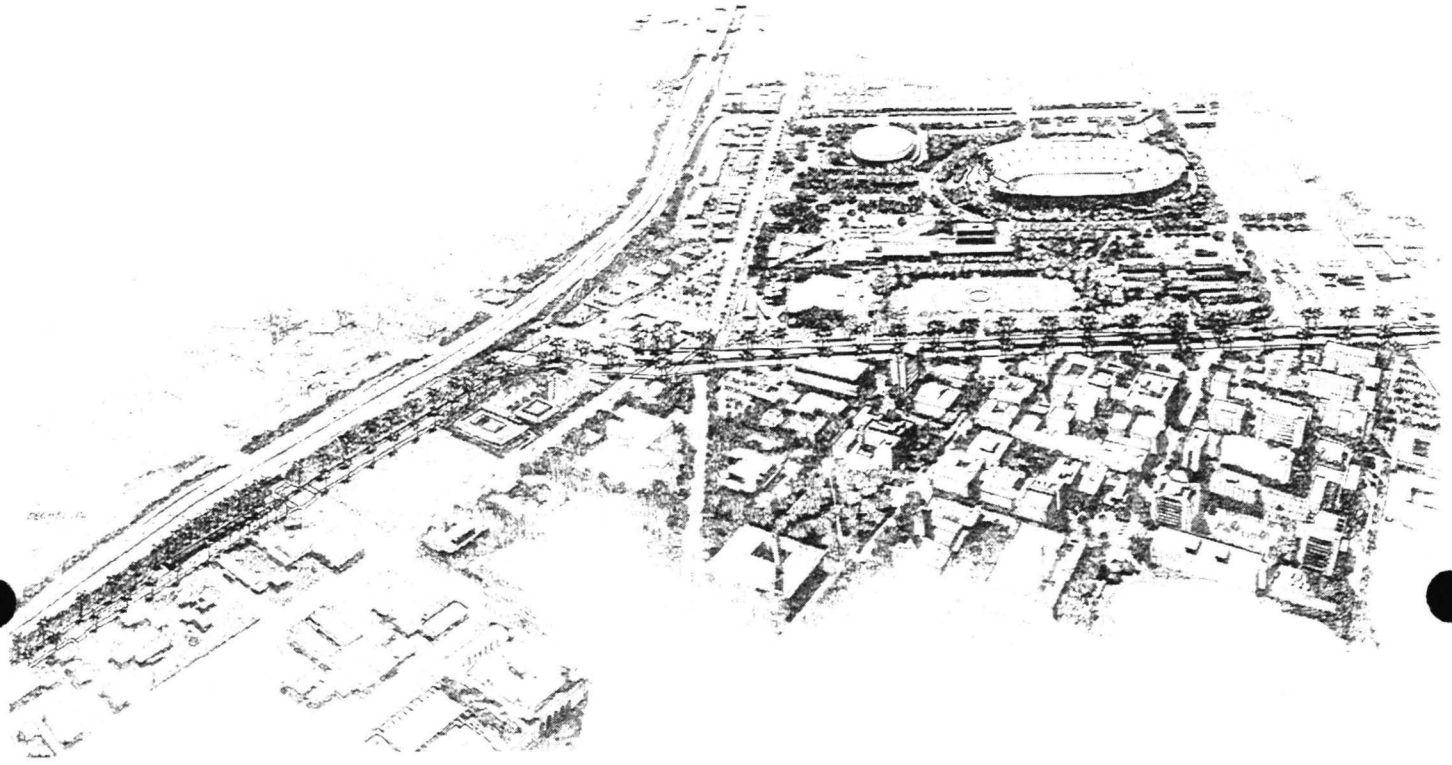
Alternative 2a (Part Aerial). The aerial alternative would create the most significant type of visual changes along the proposed route. The aerial structure would be a dominant visual element. Typically the elevated guideway structure would rise from the existing ground level to about 22 feet at the top of the rail. The underside of the guideway platform would need to provide 16 feet of clearance to allow for vehicles to pass. The guideways would be supported by 5 to 7 foot diameter piers spaced at 80 foot intervals. Catenary poles at 120 foot intervals and overhead wires would extend another 25 feet above the guideway. The impact of the aerial



SOURCE: Gruen Associates

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES TRANSPORTATION COMMISSION

FIGURE 5.12-6
VIEW OF PROPOSED RAIL LINE
LOOKING SOUTH ON FLOWER



SOURCE: Gruen Associates

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES TRANSPORTATION COMMISSION

FIGURE 5.12-7
VIEW OF PROPOSED RAIL LINE
LOOKING SOUTH TO EXPOSITION

guideway would not be considered significant because of the presence of existing buildings and the elevated portions of the Harbor Freeway and transitway structure (adjacent to Flower Street) which serve to either obstruct views of, or provide a backdrop for the guideway from adjacent areas.

Alternative 2b (Part Subway). The subway alternative would have the least impact to the existing visual setting along the corridor. The proposed rail line would not result in the obstruction of any scenic views or vistas. The view of Downtown Los Angeles, looking north on Flower Street would remain unobstructed.

Light and glare impacts that would be common to all alternatives (except the part subway alternative 2b) include lighting at the stations and from the cars as they pass by. High beam front head lights on the transit vehicles could affect vehicles on adjacent roadways when transitioning over these streets. However, due to the existing presence of street lights and automobile lights on existing adjacent streets, the added train lights and station lighting is not expected to create a significant negative light or glare impact.

The above mentioned visual changes are not considered significant visual impacts.

MITIGATION MEASURES

- The re-landscaping of palms along Flower Street would mitigate the changes in visual character along Flower Street resulting from the proposed rail line.

- Station lighting shall incorporate directional shielding and would be designed to reduce spill-over light and glare on adjacent sensitive uses.

UNAVOIDABLE ADVERSE IMPACTS

None are anticipated.

CUMULATIVE EFFECTS

Other proposed projects in the site vicinity would result in visual changes to each respective property and will require individual impact analysis. No cumulative visual effects are anticipated.

5.13 CULTURAL RESOURCES

Cultural resources for the purpose of this report can be described as recorded archaeological and historic sites which would be affected by the construction and operation of the rail project.

An archival records search for cultural resources within a one mile radius of the route was conducted by the Archaeological Information Center at the University of Los Angeles (UCLA).

SETTING

Prehistoric Resources: No prehistoric sites have been identified within a one-mile radius from the proposed rail line. Due to the early development of the area, there is a potential for prehistoric material to be present.

Historic Resources: There is one historic structure located immediately adjacent to the proposed rail route:

- St. John's Episcopal Church at 514 West Adams Boulevard, listed on the City of Los Angeles list of Historic-Cultural Monuments (#516) and on the National Register of Historic Places (#20958) (see **Figure 5.13-1**).

There are three additional properties located in the vicinity of the proposed rail line listed on the National Register including:

- Los Angeles Memorial Coliseum
  3911 S. Figueroa St.

- Natural History Museum
  900 Exposition Boulevard

- The Stimson House
  2421 South Figueroa Street

In addition, the street lights along Flower Street between Washington Boulevard and Exposition Boulevard were installed in 1932 (see **Figure 5.13-1**). The lights, identified as Union Metal 1806 Electrolier are located at about 100 foot intervals on both sides of the street. Though they are not specifically designated as a historic monument nor are they within any designated historic district they could be considered as an example of early street lighting in Los Angeles. According to the Bureau of Street Lighting of the City, there are

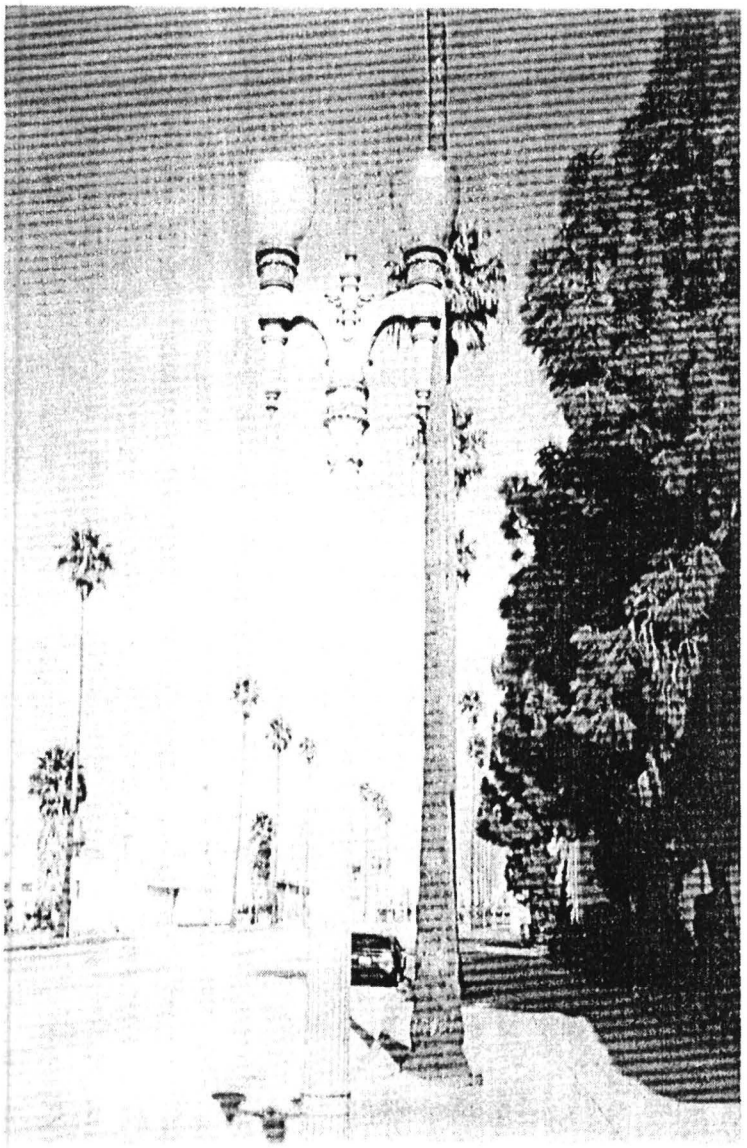


Photo 1: Street lights along Flower Street.

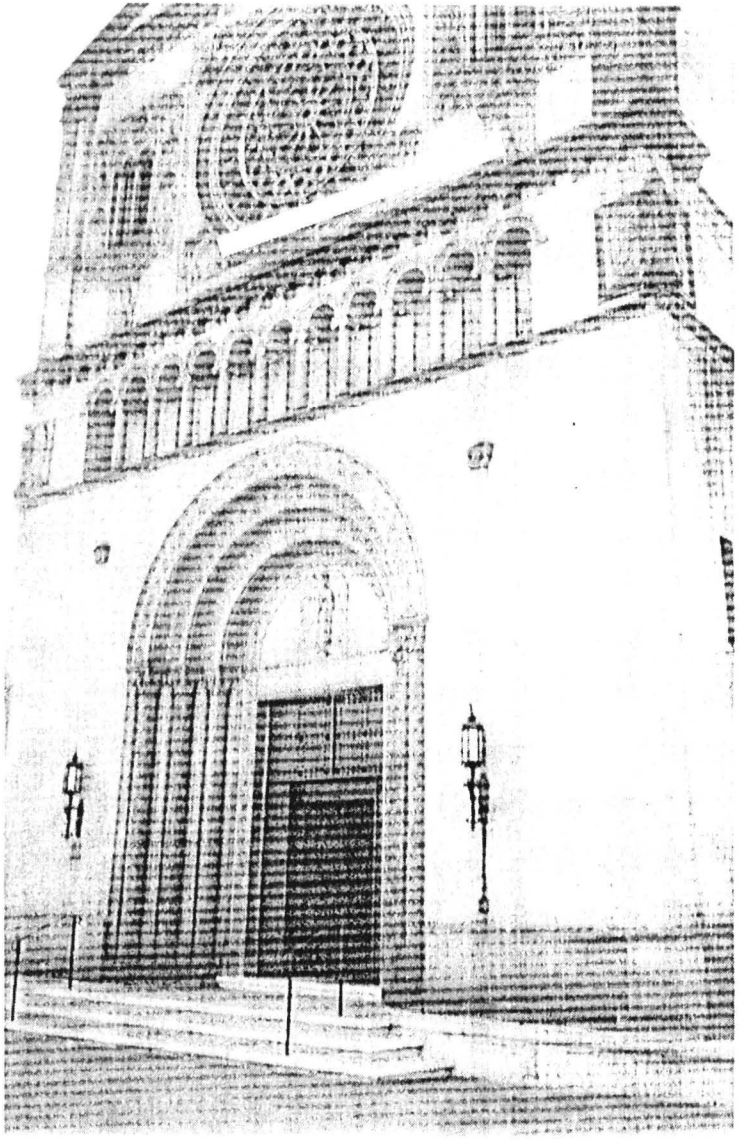


Photo 2: St. John's Church.

Source: Terry A. Hayes Associates

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 5.13-1
HISTORIC RESOURCES
PHOTOS 1 and 2

few areas where these lighting fixtures remain intact.[11] Many of these types of lights have been replaced in the past when areas are redeveloped primarily because they do not meet current illumination standards for street lighting and because of the cost to update the lamps versus replacement. For example, the same type of street lights were removed along Flower Street north of Washington Boulevard when the Blue Line was constructed. Some of those lights were salvaged and remain in City storage for use in other parts of downtown.

Religious Institutions and Hospitals: There are a number of religious institutions and hospitals adjacent to the proposed rail route including:

- St. John's Episcopal Church (noted above).
- Orthopaedic Hospital, on Flower Street between 23rd Street and Adams Boulevard.
- Omar Ibn Al-Khattab Islamic Foundation Mosque at 1025 West Exposition Boulevard (northwest corner of Exposition Boulevard and Vermont Avenue).

IMPACTS

No environmental impacts caused by the construction and operation of the rail system are anticipated to affect either of the historic buildings discussed above. The street lights, however along the east side of Flower Street would be removed and would be lost as a historic resource of this street and of the City in terms of areas with examples of this 1932 vintage of street lights.

Flower Street will become a one-way, southbound street. One northbound contra-flow lane would be provided to serve Orthopaedic Hospital. Therefore, access to and from the hospital is not expected to be significantly impacted. The rail line would not affect the mosque at Exposition and Vermont. Rail tracks associated with the project would be located in the median of Exposition Boulevard. Access to the mosque would not be affected. St. John's Church would be affected by the loss of portions of it's parking lot. This effect is not anticipated to be significant, however, Flower Street driveway access may be restricted to the church lot under alternative 1b.

[11] Stan Horowitz, Division Manager, City of Los Angeles, Bureau of Street Lighting, telephone conversation, January 1992.

MITIGATION MEASURES

- LACTC should work with the Bureau of Street Lighting, Assessment Engineering Division regarding the design of the proposed replacement street lights. At that time the potential of reusing and updating the lights should be considered as an alternative to removal and replacement with new lights.

- The design of the route alignment adjacent to St. John's Church should be coordinated with the church to ensure that safe and efficient circulation and access to the church parking lot is provided. The replacement of on-street and off-street parking spaces should also be resolved.

UNAVOIDABLE ADVERSE IMPACTS

None are anticipated.

CUMULATIVE IMPACTS

Other related projects will require individual evaluation regarding the potential loss of cultural resources at each individual site. No cumulative effects are anticipated.

INITIAL STUDY CHECKLIST

ENVIRONMENTAL CHECKLIST

The following checklist of environmental issues has been prepared in accordance with Section 15063 of the California Environmental Quality Act Guidelines:

1. Name of Proponent: Los Angeles County Transportation Commission

2. Address/Phone Number: 818 West Seventh Street, Suite 1100
Los Angeles, CA 90017; (213) 623-

3. Date Checklist Submitted: _____

4. Agency Requiring Checklist: Los Angeles County Transportation Commission

5. Name of Proposal: Exposition Park Branch Line Rail Transit Corridor Route

ENVIRONMENTAL IMPACTS (Explanation of all "yes" and "maybe" answers are provided in Attachment A sheets).	**YES**	**MAYBE**	**NO**
1. **EARTH**. Will the proposal result in:			
a. Unstable earth conditions or in changes in geologic substructures?	____	X	____
b. Disruption, displacement, compaction or overcovering of the soil?	____	X	____
c. Change in topography or ground surface relief features?	____	X	____
d. The destruction, covering or modification of any unique geologic or physical features?	____	____	X
e. Any increase in wind or water erosion of soils, either on or off the site?	____	X	____
f. Changes in the deposition or erosion of beach sands or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake?	____	____	X
g. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure or similar hazards?	X	____	____
2. **AIR**. Will the proposal result in:			
a. Air emissions or deterioration of ambient air quality?	____	X	____
b. The creation of objectionable odors?	____	____	X
c. Alteration of air movement, moisture or temperature or any change in climate, either locally or regionally?	____	____	X

INITIAL STUDY CHECKLIST (Page 2)		YES	MAYBE	NO
Project Name: Exposition Park Branch Line Rail Transit Corridor Route				
3.	**WATER.** Will the proposal result in:			
a.	Changes in currents, or the course or direction of water movements, either marine or fresh waters?	____	____	X
b.	Changes in absorption rates, drainage patterns, or the rate and amounts of surface water runoff?	____	____	X
c.	Alterations to the course of flow of flood waters?	____	____	X
d.	Change in the amount of surface water in any water body?	____	____	X
e.	Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity?	____	____	X
f.	Alteration of the direction or rate of flow of ground waters?	____	____	X
g.	Change in the quantity or ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?	____	____	X
h.	Reduction in the amount of water otherwise available for public water supplies?	____	____	X
i.	Exposure of people or property to water related hazards such as flooding or tidal waves?	____	____	X
j.	Changes in the temperature, flow or chemical content of surface thermal springs?	____	____	X
4.	**PLANT LIFE.** Will the proposal result:			
a.	Change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops and aquatic plants)?	____	X	____
b.	Reduction of the number of any unique, rare or endangered species of plants?	____	X	____
c.	Introduction of new species of plants into an area or is a barrier to the normal replenishment of existing species?	____	____	X
d.	Reduction in acreage of any agricultural crop?	____	____	X
5.	**ANIMAL LIFE.** Will the proposal result in:			
a.	Change in the diversity of species or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms or insects)?	____	X	____
b.	Reduction of the number of any unique, rare or endangered species of animals?	____	____	X
c.	Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals?	____	____	X
d.	Deterioration of existing fish or wildlife habitat?	____	____	X

INITIAL STUDY CHECKLIST (Page 3)		YES	MAYBE	NO
Project Name: Exposition Park Branch Line Rail Transit Corridor Route				
6.	**NOISE.** Will the proposal result in:			
	a. Increases in existing noise levels?	____	X	____
	b. Exposure of people to severe noise levels?	____	X	____
7.	**LIGHT AND GLARE.** Will the proposal produce new light or glare?	____	X	____
8.	**LAND USE.** Will the proposal result in an alteration of the present or planned land use of an area?	____	X	____
9.	**NATURAL RESOURCES.** Will the proposal result in:			
	a. Increase in the rate of use of any natural resources?	____	____	X
10.	**RISK OF UPSET.** Will the proposal involve:			
	a. A risk of explosion or the release of hazardous substances (including but not limited to oil, pesticides, chemicals, or radiation) in the event of an accident or upset conditions?	____	X	____
	b. Possible interference with an emergency response plan or an emergency response evacuation plan?	____	X	____
11.	**POPULATION.** Will the proposal alter the location, distribution, density, or growth rate of the human population of an area?	____	X	____
12.	**HOUSING.** Will the proposal affect exisiting housing, or create a demand for additional housing?	____	X	____
13.	**TRANSPORTATION/CIRCULATION.** Will the proposal result in:			
	a. Generation of additional vehicular movement?	X	____	____
	b. Effects on existing parking facilities, or demand for new parking?	X	____	____
	c. Substantial impact on existing transportation systems?	____	X	____
	d. Alterations to present patterns of circulation or movement of people and/or goods?	X	____	____
	e. Alterations to waterborne, rail or air traffic?	____	____	X
	f. Increase in traffic hazards to motor vehicles, bicyclist or pedestrians?	____	X	____

Project Name: Exposition Park Branch Line Rail Transit Corridor Route

		YES	MAYBE	NO
14.	**PUBLIC SERVICES.** Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas:			
	a. Fire protection?		X	
	b. Police protection?		X	
	c. Schools?		X	
	d. Parks or other recreational facilities?		X	
	e. Maintenance of public facilities, including roads?		X	
	f. Other governmental services?			X
15.	**ENERGY.** Will the proposal result in:			
	a. Use of exceptional amounts of fuel or energy?	X		
	b. Significant increase in demand upon existing sources of energy, or require the development of new sources of energy?			X
16.	**UTILITIES.** Will the proposal result in a need for new systems, or alterations to utilities?	X		
17.	**HUMAN HEALTH.** Will the proposal result in:			
	a. Creation of any health hazard or potential health hazard (excluding mental health)?			X
	b. Exposure of people to potential health hazards?			X
18.	**AESTHETICS.** Will the proposed project result in the obstruction of any scenic vista or view open to the public, or will the proposal result in the creation of any aesthetically offensive site open to public view?		X	
19.	**RECREATION.** Will the proposal result in an impact upon the quality or quantity of existing recreational opportunities?			X
20.	**CULTURAL RESOURCES:**			
	a. Will the proposal result in the alteration of or the destruction of a prehistoric archaeological site?		X	
	b. Will the proposal result in adverse physical or aesthetic effects to a prehistoric or historic building, structure, or object?		X	
	c. Does the proposal have the potential to cause a physical change which would affect unique ethnic cultural values?			X
	d. Will the proposal restrict existing religious or sacred uses within the potential impact area?			X

INITIAL STUDY CHECKLIST (Page 5)	YES	MAYBE	NO

Project Name: Exposition Park Branch Line Rail Transit Corridor Route

MANDATORY FINDINGS OF SIGNIFICANCE.

a.	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat od a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	____	X	____
b.	Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?	____	____	X
c.	Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more seperate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environment is significant).	____	____	X
d.	Does the project have environmental effects which cause substantial adverse effects on human beings, either directly or indirectly?	____	X	____

DISCUSSION OF ENVIRONMENTAL EVALUATION

(For narrative discription of environmental impacts please see Attachment A.)

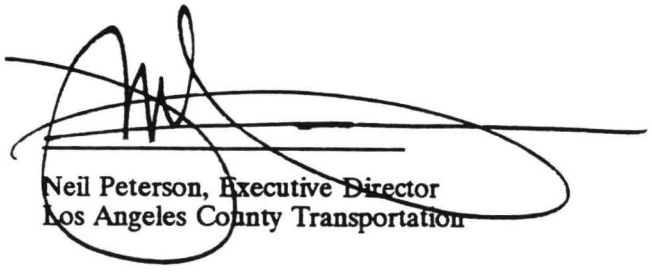
DETERMINATION

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. [ ]

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A NEGATIVE DECLARATION WILL BE PREPARED. [ ]

I find the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. [ ]



Neil Peterson, Executive Director
Los Angeles County Transportation

Date

CALIFORNIA ENVIRONMENTAL QUALITY ACT
INITIAL ENVIRONMENTAL STUDY

Lead City Agency: Los Angeles County Transportation Commission (LACTC)

Project Title: Exposition Park Branch Line Rail Transit Corridor Route

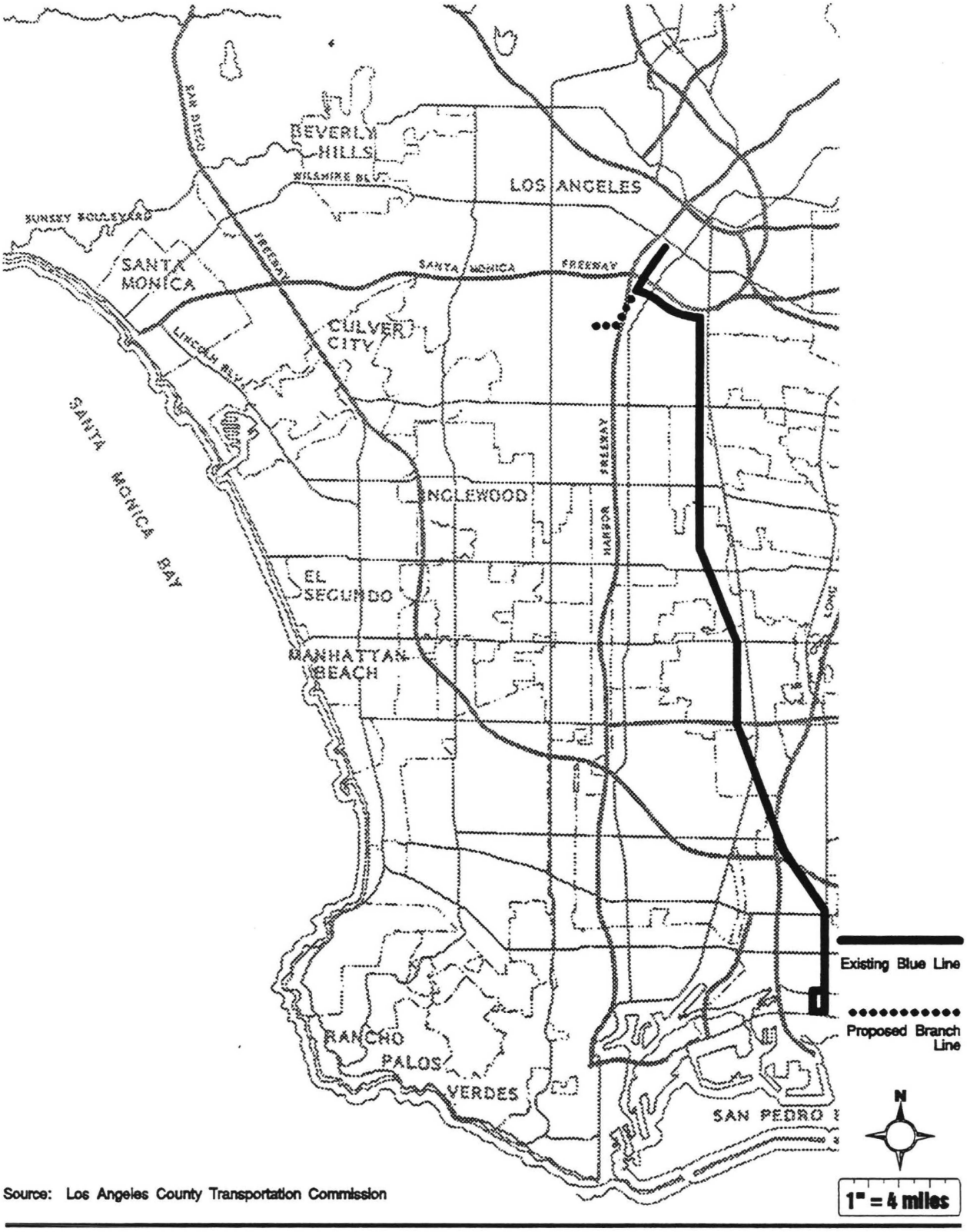
I. PROJECT DESCRIPTION

The proposed project is a rail transit improvement. As shown in Figure 1, the Exposition Park Branch Line will operate as a branch of the Metro Blue Line. Figure 2 shows the proposed local route which would extend along Flower Street from the existing Blue Line terminus at Washington Boulevard. The proposed alignment would extend south along Flower Street and continue on to the Exposition Boulevard right-of-way to the proposed terminus at Vermont Avenue. The 1.8 mile route would likely have a total of three stations along this alignment. Stations are proposed to be located at Flower and 23rd Streets to serve Orthopedic Hospital and the Harbor Freeway Transitway, at Flower Street and Jefferson Boulevard to serve USC, the Shrine Auditorium and planned developments in the vicinity, and a third station at a point near the Exposition Boulevard right-of-way and Vermont Avenue to serve USC and the Coliseum-Exposition Park complex.

Background. Representatives of major institutions along the proposed rail line approached LACTC staff in July, 1990 to discuss the feasibility of study efforts to extend light rail service to the USC/Exposition Park area. At an initial meeting, area representatives expressed their strong support for the rail project and their willingness to provide private sector funding for the study process. An USC/Exposition Park Blue Line Task Force was formed with representatives from local institutions, elected officials, community organizations, public agencies and property owners to organize and fund the study effort.

Conceptual level planning completed by Wilbur Smith Associates, as part of the Central Los Angeles Year 1995 Multi-Modal Transit Study, identified the viability of the extension of a branch line from the Metro Blue Line two miles south to serve the USC/Exposition Park area and adjacent neighborhoods.

In May 1991, the Commission solicited professional assistance to perform route refinement work including conceptual engineering refinement and costing evaluation of the proposed alignment and station locations for at-grade, aerial and subway alternatives. In addition an Environmental Impact Report (EIR) following the California Environmental Quality Act (CEQA) Guidelines will be prepared for the proposed Light Rail Transit (LRT) project.

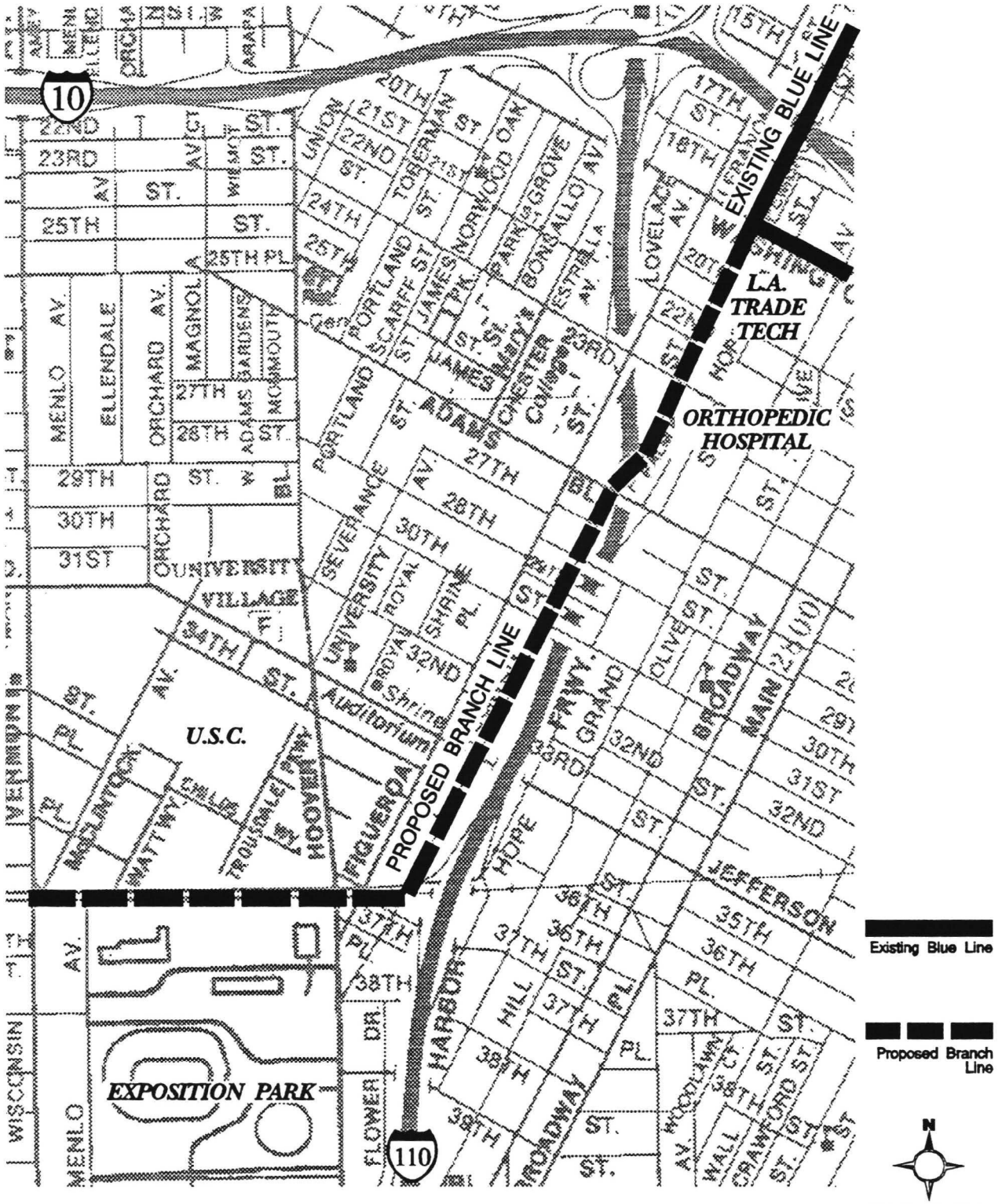


Source: Los Angeles County Transportation Commission

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES TRANSPORTATION COMMISSION

FIGURE 1

REGIONAL LOCATION



Source: Los Angeles County Transportation Commission

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES TRANSPORTATION COMMISSION

FIGURE 2

PROJECT LOCATION

An Exposition Park Branch Line Task Force has been formed with representatives from local institutions, elected officials, community organizations, public agencies and property owners to organize and fund the branch line study process. Task Force members will be active participants throughout the study process.

Project Objectives. The overriding goal of the process is to refine the proposed LRT project to ensure the improvement of both regional and local transit service and to either avoid or successfully mitigate negative impacts within budgeting constraints. In addition, the LACTC and Task Force members have developed the following goals for the proposed project:

1. Provide improved regional and local access to the educational, cultural, and recreational facilities of the USC/Exposition Park area;

2. Support and enhance area revitalization and redevelopment efforts such as those planned for the Figueroa Corridor and surrounding neighborhoods;

3. Provide opportunities for integration of station facilities into future station area development such as currently proposed development projects or potential joint development projects;

4. Identify methods to encourage pedestrian circulation and access; new and existing small businesses; and residential development;

5. Design and integrate the light rail project into an existing urban neighborhood primarily as an urban design and community issue with engineering parameters;

6. Encourage interface with existing transportation systems and planned improvements currently underway including interface with the SCRTD bus system and the Harbor Freeway Transitway project;

7. Facilitate patron transfer between rail and bus service;

8. Provide parking at proposed stations for adjacent neighborhoods not within walking distance of a rail station;

9. Encourage improved access to health care facilities and other public services in the extended rail transit corridor.

10. Every attempt will be made to keep the alignment on Flower Street within the existing street dedication. The use of a portion of excess CALTRANS right-of-way where it runs parallel to Flower Street adjacent to the Harbor Freeway or south of Jefferson Boulevard will also be considered. However,

EXPOSITION PARK BRANCH LINE RAIL TRANSIT CORRIDOR ROUTE

Initial Study for
Environmental Impact Report

Los Angeles County Transportation Commission
818 West Seventh Street, Suite 1100
Los Angeles, CA 90017
Contact: Mr. Jim de la Loza
(213) 244-6261

September 6, 1991

NOTICE OF PREPARATION
OF A DRAFT ENVIRONMENTAL IMPACT REPORT

To: Affected Agencies, Organizations, and Interested Citizens	**From:** Los Angeles County Transportation Commission 818 West Seventh Street, Suite 1100 Los Angeles, CA 90017 Contact: Jim de la Loza

Project Title:	**Exposition Park Branch Line Rail Transit Corridor Route**	**Date:** Sept. 6, 1991

The Los Angeles County Transportation Commission (LACTC) will be the lead agency and will prepare an Environmental Impact Report (EIR) for the project identified above. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in conjunction with the proposed project. If your agency has an action related to the project, it will need to use the EIR prepared by our agency when considering your permit or other approval for the project. The project description, location, and the probable environmental effects are contained in the attached materials. A copy of the Environmental Checklist is attached.

Due to the time limits mandated by state law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice. Please send your response to Jim de la Loza at the address shown above. We will need the name for a contact person in your agency.

Neil Peterson
Executive Director

Reference: California Administrative Code,Title 14, Sections 15082(a), 15103, 15375

CHAPTER 8
LIST OF PREPARERS, PERSONS CONTACTED, AND REFERENCES

8.1 LEAD AGENCY

Los Angeles County Transportation Commission;
Neil Peterson, Executive Director
A.R. de la Cruz, Director, Central Area
James L. de la Loza, Project Manager, Central Area
Nancy Michali, Project Manager, Central Area
Manit Churanakoses, P.E., Supervisor, Facilities Engeineering

8.2 LIST OF PREPARERS

Gruen Associates, Design and Project Management
John Stutsman, Vice President, AICP
Rick Abelson, Urban Designer, ASLA
Don Holloway, P.E., Traffic Engineer

Terry A. Hayes Associates
Terry A. Hayes, AICP, Principal-in-Charge
Ellen LaPorte, Senior Planner, Manager
Cynthia Van Empel, Planner
Fedolia Harris, Assistant Planner
Janet Murphy, Technical Editor
Vanessa Smith, Executive Assistant

Benito A. Sinclair & Associates, Civil and Structural Engineering
Peter P. Zimmerman, P.E., Project Engineer

Meyer, Mohaddes Associates, Inc., Transportation Engineers
Michael P. Meyer, P.E., Traffic Engineer
Abbas Mohaddes, Project Manager

Gannett Fleming
Don Steeley, P.E., Project Manager

Manuel Padron Associates
Manuel Padron, Principal
Bruce Emory, Senior Associate

8.3 PERSONS AND AGENCIES CONSULTED

California Museum of Science and Industry, Administration, Sue Glad.

California Water Quality Control Board, Los Angeles Region, John L. Lewis.

City of Los Angeles, Office of the Mayor, Michael Bodaken.

City of Los Angeles, Bureau of Street Lighting, Stan Horowitz.

City of Los Angeles, Department of City Planning, Robert Duenas.

City of Los Angeles, Department of Public Works, Robert Horii.

City of Los Angeles, Department of Fire, Donald O. Manning.

City of Los Angeles, Department of Transportation, Wilford Melton and James Okazaki.

City of Los Angeles, Department of Water and Power, Edward Karapetian.

Community Redevelopment Agency of the City of Los Angeles, John Spaulding.

Expo Rail, Exposition Rail Committee, Alan Fishel and Darrell R. Clarke.

Los Angeles Trade-Technical College, Admissions Office, Jerry Potras and James Grivich.

Natural History Museum of the City of Los Angeles, Mark Rodriguez.

Orthopaedic Hospital, Richard MaCarthy.

Saint Vincent de Pauls Church, Sister Diane Donohue.

South Coast Air Quality Management District, Connie Day.

State of California, Governor's Planning and Resource Office, David Nunenkamp.

State of California, Department of Conservation, Stephen Oliva.

State of California, Office of Historic Preservation, Mary Cohn.

University of Southern California, Department of External Affairs, Chris Lowe.

8.4 REFERENCES

California Department of Conservation, Division of Mines and geology, Special Report 93 "Early Pliocene Sedimentary History of the Los Angeles Basin, California" 1967.

City of Los Angeles, Department of City Planning, Southeast Los Angeles District Plan, January 7, 1980 and amended June 17, 1981.

City of Los Angeles, Department of City Planning, South Central Los Angeles District Plan, June 1977.

County of Los Angeles, Environmental Health Department, Active and Inactive Landfill Listings and Site Mitigation Log, May 1, 1991 and June 6, 1991.

Department of Conservation, California Division of Mines and Geology, Planning Scenario for a Major Earthquake on the Newport-Inglewood Fault Zone, Special Publication 99, 1988.

Hart, Earl W., Fault-Rupture Hazard Zones in California, Special Publication 42, Revised 1988. Department of Conservation, Division of Mines and Geology, Fault-Rupture Hazard Zones in California, Special Publication 42, Revised 1985.

Los Angeles County Transportation Commission, Proposed 30-Year Integrated Transportation Plan (Revised), August 26, 1991.

Orthopaedic Hospital, Cal Trans Impact Report, Cal Trans Impact Workshop Members.

Southern California Association of Governments. Air Quality Management Plan: South Coast Air Basin. 1990.
South Coast Air Quality Management District. A Climatological Air Quality Profile: California South Coast Air Basin. 1980.

State of California, Governor's Office of Planning and Research, Hazardous Waste and Substances Site List (HWSS), November 1990.

State of California, Department of Conservation, Division of Mines and Geology, Wildcat Map W1-5, 1988.

State of California, Department of Health Services, Bond Expenditure Plan (BEP), January 10, 1990.

State of California, Department of Health Services, Hazardous Waste Properties and Border Zone Properties (HWP), June 1, 1991.

State of California, Department of Health Services, Abandoned Sites Program, January 4, 1991.

State of California, Department of Health Services, Hazardous Waste Information Syatem (HWIS), August 2, 1990.

State of California, Department of Transportation, Harbor Freeway Transitway, 37th Street Ramps, Supplemental Report, Historic Property Survey and Finding of Effect, May 1990.

State of California, Integrated Waste Management Board, Solid Waste Information System (SWIS), October 1, 1991.

State of California, Water Resources Control Board, Leaking Underground Storage Tank List (LUST), July 1, 1991.

Tinsley, J. C. and Youd, T. L., "Liquefaction-Related Ground Failure in Evaluating Earthquake Hazards in the Los Angeles Region," U.S. Geological Survey Professional Paper 1360, 1985.

United States Department of Agriculture, Soil Conservation Service, Report and General Soil Map, Los Angeles, California, 1969.

United States, Environmental Protection Agency, Environmental Response Compensation and Liability Information System (CERCLIS), July 15,1991.

United States, Environmental Protection Agency, National Priority List (NPL), October 25, 1991.

United States, Environmental Protection Agency, Federal Superfund Liens Database (Liens), March 1, 1991.

University of Southern California, Graduate School of Business Administration, The Downtown Area Shuttle Hop: A Ridership Study, May 8, 1991.

Zimmer-Gunsul-Frasca Partnership, Exposition Park Master Plan, November 6, 1991.

APPENDIX A

INITIAL STUDY AND NOTICE OF PREPARATION

CHAPTER 7
ALTERNATIVES TO THE PROJECT

The California Environmental Quality Act (CEQA) requires that as part of the disclosure process, that decision-makers and other interested parties in the EIR be made aware of other alternatives that were considered that reasonably attain the objectives of the proposed project. In this case, the overall objective of the project has been to extend Blue Line rail transit service to serve primarly the employment, residential, educational and cultural centers in a portion of downtown Los Angeles to the Exposition Park, USC campus area and neighborhoods adjacent to Vermont Avenue. CEQA requires that the No Project Alternative also be discussed. CEQA also requires that when environmental effects of the alternatives are taken into account, that the environmentally superior alternative be identified.

This report has been organized to fulfill these requirements. First, the body of this report provides a comparative assessment of five alternatives for each environmental impact topic. The alternatives carried in this assessment or those that emerged from an extensive screening and evaluation process carried out by the Los Angeles County Transportation Commission and the Consultant Team in conjunction with a Technical Advisory Committee composed of major stakeholders in the Flower-Exposition Corridor Area. The screening process included consideration of the following factors:

- Engineering feasibility and order of magnitude costs.
- Minimize right-of-way acquisition.
- Minimize disruption to adjacent land uses and other adverse environmental effects.
- Compatibility with local plans and projects, with special consideration given to the urban design setting and character of the corridor area.
- Provide a stimulus for community development.
- Maximize rail transit patronage (daytime and residential population concentrations served).

The project alternatives that emerged from this screening and evaluation process are listed below. The environmental impacts of these alternatives is discussed in Chapter 5 of this report, including the identification of mitigation measures.

Northern Segment

- **Alternative 1a - Shared Bridge**. This alternative would extend from Flower Street at Washington Boulevard to Flower Street near 29th Street.
- **Alternative 1b - Separate Bridge**. The alternative would extend from Flower Street at Washington Boulevard to Flower Street near 29th Street.

Western Segment

- **Alternative 2a - Part Aerial.** This alternative extends from Jefferson Boulevard to a point approximately 1,000 feet west of the Exposition Boulevard/Figueroa Street intersection.

- **Alternative 2b - Part Subway.** The alternative extends from Jefferson Boulevard to a point approximately 1,000 feet west of the Exposition Boulevard/Figueroa Street intersection.

- **Alternative 2c - All At-Grade.** This alternative extends from Jefferson Boulevard to Vermont Avenue.

Other alternatives were also considered, but not addressed in detail in this report because these options failed to satisfy one or more of the overall screen and evaluation criteria. The alternatives in this category are as follows:

NO PROJECT ALTERNATIVE

This alternative would mean that the Blue Line rail transit extension would not be implemented. Transit service to/from the Exposition Park area and the Los Angeles Central Business District would continue to be accomplished by existing Southern California Rapid Transit District Bus Routes and DASH service provided by the Los Angeles Department of Transportation, and by the future Harbor Transitway project.

This alternative would not satisfy the basic objectives of the project to provide rail transit service between downtown and Exposition Park. Continuation with existing transit services would not require the taking of property or the physical disruption of adjacent land uses. Continuation of the current level of bus/shuttle transit service to the Exposition Park area would not likely reduce vehicle trips --particularly in the travel corridor between downtown and Exposition Park on streets such as Figueroa Street, Flower Street, Grand Avenue and Main Street. As a result, by the Year 2010 increased vehicular congestion and resulting increased air pollution would be anticipated. Failure to provide improved transit service in the area would provide no stimulus for continued private investment and community development, particularly in the underutilized corridor between Figueroa Street and Flower Street extending from Jefferson Boulevard to Washington Boulevard.

ALL AERIAL ALTERNATIVE

The purpose of this alternative would be to maximize rail transit service and minimize street traffic disruption by constructing an elevated light rail alignment that would be grade separated from surface traffic street intersection operations. The advantages of this option would be primarily in the area of transit travel time and eliminating transit/vehicular conflicts at surface streets. This option was not carried forward for detailed analysis because of the following deficiencies:

- The elevated structure would create a variety of adverse urban design and visual effects, including:

  - Disruption of the north-south view corridor along Flower Street.

  - Disruption to the site setting for St.Johns Church a National Register of Historic Places property near Flower and Adams.

  - Creating a dominant visual barrier effect along Exposition Boulevard between Exposition Park and the USC campus. Such an effect would be in conflict with the design objectives articulated in the on-going Exposition Park Master Plan process as well as with the preliminary master plan concepts articulated by the University of Southern California's facilities planning management and staff.

- The elevated structure could also result in adverse environmental effects due to is proximity to sensitive land uses.

  - Increased noise level in the vicinity of Trade Tech classrooms. Compared to the alternatives evaluated in the body of this report, an elevated structure would likely result in additional noise impacts. With at-grade operations, noise levels would result in significant impacts at this location. Rail operations on an elevated structure would further increase this impact because of the inherent higher noise generating characteristics of elevated structures (3 decibels higher than at-grade) as well as from the noise of the rail transit operating at higher speeds.

  - Orthopaedic Hospital and 4-Story Apartment Building. Depending on whether the east side or the west side of Flower Street would be used, the alternative would bring an elevated structure in close proximity to either the Orthopaedic Hospital or the 4-story apartment building across the street. In both cases, noise levels would be increased compared to the proposed at-grade alternatives in the same area. Noise levels would be increased by at least 3 decibels because of the higher noise generating characteristics of light rail vehicles using an elevated structure. In addition, noise levels at the hospital or apartment building would further be increased because of the higher light rail speeds attainable on a fully grade separated alignment.

  - St. John's Church. If proximity impacts on Orthopaedic Hospital are to be avoided, the elevated structure would have to be aligned along the west side of Flower Street near the Adams and Flower Street intersection. This alignment would likely create an adverse noise effect at St. John's Church due to proximity of the elevated structure and the higher rail transit operating speeds.

- Apartment Buildings and Second Story Apartments on Flower Street. Between Adams Boulevard and Jefferson Boulevard there are a number of apartments. While it is anticipated that the elevated alignment would be on the east side of the Flower Street, the potential for increased noise exists. In these locations there would be a cumulative effect of increased noise from street traffic, freeway traffic, elevated transitway traffic and rail transit operations.

AT-GRADE WEST SIDE OF FLOWER STREET ALTERNATIVE

This alternative would place the light rail tracks along the west side of Flower Street at a point just south of the Washington and Flower intersection. This option would require the transition of the rail tracks from the east side of Flower Street, north of Washington Boulevard to the west side of Flower Street, south of Washington. The primary disadvantage of this Alternative would be the extensive disruption to access to businesses and residences located on the west side of Flower. The west side alignment would also increase noise impacts for apartments located along this segment of Flower Street.

EAST SIDE OF FREEWAY ALTERNATIVE

The scoping and public meeting process revealed that there was some interest in selecting a rail transit alignment that followed on the east side of the Harbor Freeway. The rail alignment would likely follow Flower Street from Washington Boulevard until it reached the Harbor Freeway near Adams Boulevard. At Adams, the alignment would not cross the freeway, but rather follow the eastern edge of the freeway right-of-way until it reached the railroad tracks and then passed westward under the Harbor Freeway and would join Exposition Boulevard.

The advantages of this option include the availability of either CALTRANS right-of-way on the east side of the freeway or the acquisition of industrial property beyond the Caltrans right-of-way limits. In addition, this alternative could avoid effects on heavily traveled streets by shifting the alignment to the east where there is a significant drop off in traffic volumes. The alternative could also be grade separated at east-west streets. Compared to the west side of the freeway alternatives, public comments raised suggested that this option would provide a better connection to the proposed Caltrans Exposition Park transitway station as well as provide an opportunity to directly tie into the railroad right-of-way now owned by LACTC to provide transit service to the east.

The primary disadvantages of this alternative are as follows:

- Extensive Right-of-way would be required at Orthopaedic Hospital to provide for the transition from Flower Street to the east side of the Harbor Freeway.

- The east side alignment would not satisfy community development objectives. The Figueroa-Flower corridor land uses would not benefit from an alignment where stations would be largely in an industrial area on the east side of the freeway.

- Access along Hope Street to uses such as the new USC parking structure and the Department of Motor Vehicles may be significantly disrupted due to the limited right-of-way available on Hope Street.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

In terms of minimizing community disruption during both the construction and the operation phase, the No Project Alternative would be environmentally superior to alternatives addressed in this report. However, the No Project Alternative would not meet regional transportation needs. The No Project Alternative would also result in continued congestion and air pollution in the project area. It would also not fulfill the intent of the Transit Improvement Measures contained within the Air Quality Management Plan.

Of the alternatives discussed in this report, alternatives 1a and 1b would have similar effects in most environmental impact categories, particularly construction-related disruption, right-of-way acquisition, air quality, etc. It should be noted that Alternative 1a would bring the light rail alignment closest to the Orthopaedic Hospital property where the hospital has raised concerns regarding potential impacts. This assessment has found, however, while there may be adverse effects they would likely not be significant.

When alternatives 2a (part aerial), 2b (part subway) and 2c (all at-grade) are compared, the construction effects would be greater for Alternatives 2a and 2b than for 2c. The major environmental advantage would relate to the impacts at the Figueroa/Flower/Exposition/ 37th Street intersection complex. In this case, the grade-separated alternatives would have distinct traffic operating benefits over the at-grade alternative. Between alternative 2a and 2b, the major environmental factor would be the effect on the urban design character and historic/visual setting of Exposition Park, the Rose Garden, and Natural History Museum. In this case, alternative 2b (part subway) would be environmentally superior because of its reduced visual effect along Exposition Boulevard.

- **27th Street to Jefferson Boulevard.** This area is designated C2-1 with a floor area ratio three times the buildable lot area. Most of the structures along this strip are one-story with several two-story buildings between 29th and 33rd Streets. This area comprises about 602,900 square feet. At a 3:1 FAR, this area could have a maximum development potential of up to 1.3 million square feet.[4] The existing development comprises about 250,000 square feet of buildings. Therefore, under the existing zoning there is a development potential for up to an additional million square feet in this area.

In summary, there is a substantial potential for the redevelopment of some of the existing parcels located along the Flower Street portion of the rail line between Washington Boulevard and Jefferson Boulevard. The degree to which such potential would be realized is dependent upon a complex interplay of actual pressure for development, existing and emerging growth controls, and local attitudes toward such growth.

6.2 LONG-TERM IMPLICATIONS OF THE PROPOSED PROJECT

6.2.1 Relationship Between Local Short-term Uses and Long-term Productivity

Construction of the proposed project would entail short-term impacts which must be weighted against the achievement of long-term objectives. The short-term impacts consist primarily of required property acquisition and displacement of current uses, construction-related impacts, and the possibility of creating pressure for land use changes in the project vicinity. In addition the project would create short-term employment opportunities during construction of the rail line.

In the long-term, implementation of the project would further achieve the Countywide Transit Plan, the South Coast Air Quality Management Plan (by reducing vehicle trips in the region), and the Hoover Redevelopment Plan. The project would also provide some energy savings in terms of daily trips traveled by car in the region and would offer additional modes of transportation for the region's residents. Long-term employment opportunities would also be created for operation of the facilities.

Considerations favoring construction of the project now, rather than at some later time include:

- Increasing cost of development, rising labor and material costs
- Increased employment opportunities

[4]Assumes 602,900 square feet of lot area less 25% for setbacks and landscaping for a total developable area of 452,175 square feet.

6.2.2 Significant Irreversible Changes

Implementation of the proposed project would require the long-term commitment of non-renewable resources for the construction and operation of the project including right-of-way, manpower, energy and construction materials. Most significant is the long-term commitment of right-of-way for transportation use.

CHAPTER 6
OTHER ENVIRONMENTAL EFFECTS/ FINDINGS OF SIGNIFICANCE

6.1 GROWTH INDUCEMENT

The potential exists for the proposed rail route to result in induced growth adjacent to the proposed line, particularly in the area between Flower and Figueroa Streets from Washington Boulevard to Jefferson Boulevard. This area is characterized by older, mostly one- and two-story buildings on land that is zoned for greater density. The area is generally, therefore considered underutilized. The following describes the existing development density and the potential development density, as per the Zoning, on the blocks between Flower Street and Figueroa Street from Washington Boulevard to Jefferson Boulevard.

- **Exposition Boulevard to 22nd Street.** As shown on **Figure 6.1-1**, this area is zoned M1-2, Limited Industrial with a floor area ratio six times the buildable lot area. In general, most of the structures within this area are one-story with the exception of some 3-6 story structures along Figueroa Street between 21st and 23rd Streets. This M1-2 zoned area comprises about 303,900 square feet, less the 34,100 square feet of area built with a mid-rise building, for a total buildable area of about 269,800 square feet. At the allowed 6:1 FAR, this area could accommodate up to 1.2 million square feet of development.[1] It is estimated that the existing one-story buildings in this area comprises about 115,600 square feet of development.[2] Therefore, under the existing zoning there is a development potential for up to an additional 1.1 million square feet in this area.

- **22nd Street to 27th Street.** This area is zoned C2-2 also with a floor area ratio six times the buildable lot area. This area, excluding St. John's Church on the southwest corner of Adams Boulevard and Flower Street, is estimated to have about 204,400 square feet of existing development. Excluding the mid-rise building on Flower Street between 22nd and 23rd Streets, this area would have a development potential of almost 800,000 square feet based on the existing C2-2 zoning of this area.[3] It is estimated that this area includes about 36,000 square feet of existing development or 764,000 square feet less than what would be allowed under the existing C2-2 zoning.

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[1]Assumes a site area of 269,800 square feet less 25 percent of the area for setbacks and landscaping, for a total developable area of 202,350 square feet.

[2]Based on aerial photographs taken in September of 1991.

[3]Assumes a total lot area of 177,600 square feet less 25% for setbacks.

LEGEND:

COMMERCIAL ZONES

C2-1 — Retail business, limited manafacturing, auto services, churches, etc... Floor area ratio may not exceed 3 times buildable lot area.

C2-2 — Same as above. Floor area ratio may not exceed 6 times buildable lot area.

INDUUSTRIAL ZONES

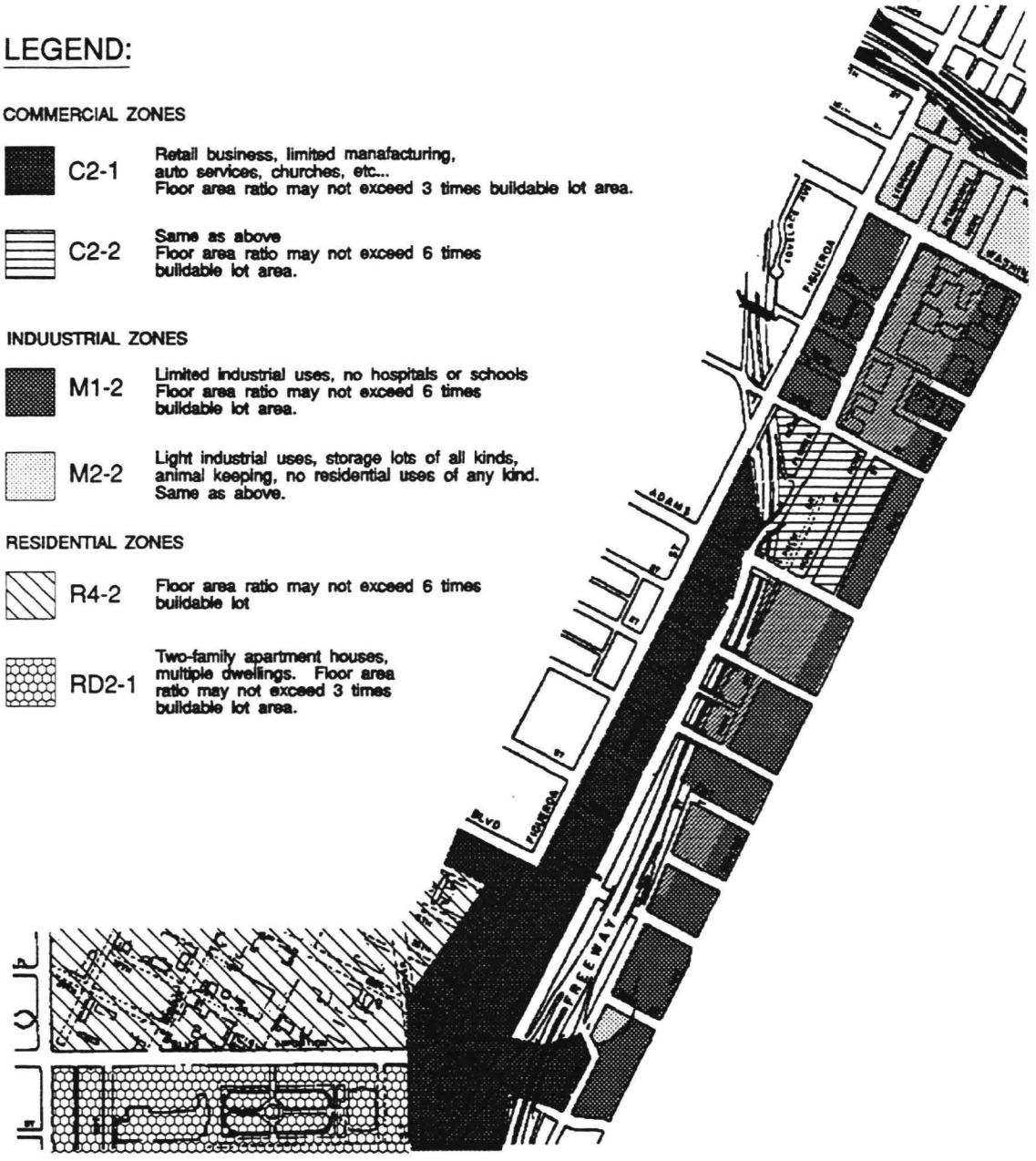
M1-2 — Limited industrial uses, no hospitals or schools. Floor area ratio may not exceed 6 times buildable lot area.

M2-2 — Light industrial uses, storage lots of all kinds, animal keeping, no residential uses of any kind. Same as above.

RESIDENTIAL ZONES

R4-2 — Floor area ratio may not exceed 6 times buildable lot

RD2-1 — Two-family apartment houses, multiple dwellings. Floor area ratio may not exceed 3 times buildable lot area.



Los Angeles Planning and Zoning Code

Exposition Park Branch Line
Rail Transit Corridor Route
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

FIGURE 6.1-1
ZONING ADJACENT TO THE PROPOSED RAIL LINE

at station sites and possibly at some other specific locations along the alignment, track constraints and additional station site amenities such as park and ride facilities and bus transfer areas may require some private property acquisitions.

II. SETTING

The proposed Exposition Park Branch Line alignment would begin in the southern part of downtown Los Angeles and would terminate in South Central Los Angeles near the northwestern corner of Exposition Boulevard and Vermont Avenue. This line would operate as a branch of the Metro Blue Line which serves the area from downtown Los Angeles to Long Beach.

The proposed route would traverse two City of Los Angeles community plan areas including the Southeast Los Angeles Community (that portion of the line along Flower Street between the Washington Boulevard and Exposition Boulevard) and the South Central Los Angeles Community (that portion of the line along Exposition Boulevard from Figueroa to Vermont).

Land uses along the proposed route are primarily a mixture of commercial, industrial and institutional. The route would begin at Washington Boulevard and Flower Street where the Los Angeles Trade Technical School (Trade Tech) is located. South, along Flower Street to the Harbor Freeway is mostly light industrial uses on the west side of Flower with the Orthopedic Hospital located on the east side between 23rd Street and the Harbor Freeway over pass. South of the Freeway along the east side of Flower is the freeway right-of-way. There are no developed uses immediately adjacent to Flower all the way to Exposition Boulevard. Along the west side of Flower between the freeway and Jefferson there are a mixture of older warehouse buildings and fast food restaurants. On the southwest corner of Jefferson and Flower is the vacant site of the proposed USC Plaza, a mixed-use office/hotel project. The former Southern Pacific railroad right-of-way now owned by LACTC runs down the center of Exposition Boulevard between Figueroa and westerly past the route terminus at Vermont. Exposition Park is located along the south side of Exposition Boulevard between Figueroa and Vermont. Uses within the park include museums and a rose garden. The University of Southern California (USC) is located along the north side of Exposition Boulevard between Figueroa and Vermont. West of Vermont, on the north side of Exposition, there is an Islamic Temple under construction and west of that are single-family homes. On the south side of Exposition, west of Vermont, there is a gas station, a multi-family housing development and further west, single-family homes.

The Harbor Freeway (I-10) parallel to the north-south segment of this alignment is currently under construction. It is being widened and a separate four lane aerial transitway (for buses and car pools) is being constructed down the center of the

freeway. The transitway will haven an off ramp at Adams Boulevard, with buses and carpools utilizing city streets to reach downtown. A transit station on the transitway is planned at 37th Street near Exposition Park. As a mitigation measure for the transitway project, Figueroa and Flower Streets will be redesigned south of Washington Boulevard. Flower Street will be converted to a one-way southbound street. Figueroa Street will be restriped with off-set striping to accommodate up to five lanes northbound but retaining two southbound lanes for local access.

The proposed route is not located within the City of Los Angeles Special Studies Zone for Fault Rupture nor within an Alquist-Priolo Special Studies Zone. The closest known potentially active faults to the proposed alignment are the Santa Monica-Hollywood fault which lies approximately 5 miles to the north and the Newport-Inglewood fault which is located approximately 5 miles to the west of the route. The project would conform to the City of Los Angeles adopted Seismic Safety Plan and all applicable provisions of the Municipal Code, including the revised Division 23, Section 2312, of the Building Code which sets forth regulations concerning proper earthquake design and engineering. According to the Federal Emergency Management Agency's Flood Insurance Rate Maps, most of the proposed route lies within Zone C which has little to no flood hazard potential.

III. ENVIRONMENTAL EFFECTS

Since the entire project lies within a developed urban setting, it has the potential to create varying degrees of adverse environmental impacts. The following Environmental Checklist and responses (Attachment A) identifies key impacts to be addressed in the EIR, as well as others to be identified during the formal environmental process.

ATTACHMENT A

EXPOSITION PARK BRANCH LINE RAIL TRANSIT CORRIDOR ROUTE

ENVIRONMENTAL CHECKLIST FORM

Responses to "yes", "maybe" and "no" answers identified in the Initial Study Checklist are discussed below in the corresponding order:

1. Earth

a) Unstable Earth Conditions or Changes in Geologic Subsurfaces.

Maybe. The proposed project would require surface grading, the placement of retaining walls and aerial structural footings which may effect the geologic substructure along the alignment route. The EIR will address these potential geotechnical issues.

b) Disruptions, Displacements, Compaction or Overcovering of the Soil.

Maybe. The grading activities required for project construction could result in the disruption, displacement, compaction or overcovering of the soil along the project site alignment.

c) Change in Topography or Ground Surface Relief Features.

Maybe. Topographic or ground surface relief feature changes would be minor as the majority of the route is relatively flat. This change in topography is not considered a significant impact and does not require further analysis in the EIR.

d) The destruction, covering or modification of any unique geologic or physical features.

No. The proposed project would be located in a built urban environment and would not alter any unique geologic or physical feature and does not require further analysis in the EIR.

e) Any Increase in Wind or Water Erosion of Soils on or off site.

Maybe. Earthwork required for the construction of the rail line may create the potential for soil erosion during the construction period. The EIR will examine this potential effect and recommend erosion and fugitive dust control measures for the project.

f) Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream.

No. The project would not be located near any coastal or surface water bodies.

g) Exposure of people or property to geologic hazards.

Yes. The EIR will document seismic risks and describe design measures required to minimize potential hazards.

2. Air

a) Air Emissions and Deterioration of Ambient Air Quality

Maybe. The rail project would potentially create a beneficial impact to regional air quality by diverting vehicular trips to transit. However, street changes and the provision of station area parking could increase local traffic related emissions. The EIR air impact analysis will focus on localized air quality impacts around station areas and construction sites. Short term impacts would include fugitive dust, heavy construction equipment emissions, truck traffic to and from construction sites, and long-term emissions generated by auto traffic attracted to rail transit stations and parking lots. Appropriate mitigation measures will be developed and included in the EIR.

b) The Creation of Objectionable Odors.

No. The proposed project would not emit any detectable gases.

c) Alteration of Air Movement, Moisture or Temperature or any Change in Climate Locally or Regionally.

No. According to criteria established in the City of Los Angeles Department of City Planning EIR Manual, a project of this type would not be of sufficient height or mass to change the air movement, moisture or temperature locally or regionally.

3. Water

a) Changes in Currents or the Course of Water Movements in Marine or Fresh Waters.

No. The project would not be located near any marine or surface water bodies.

b) Changes in Absorption Rates, Drainage Patterns, and the Rate or Amounts of Surface Runoff.

No. Paving for surface parking or impervious surfaces created by the proposed stations would insignificantly increase the existing impervious surface area.

c) Alteration to the Course or Flow of Flood Waters

No. The rail line and stations would not be of sufficient size or mass to alter the flow of any flood waters.

d) Change in the Amount of Surface Water in any Water Body.

No. The project would not be located near any marine or surface water bodies.

e) Discharge into Surface Waters, or in Any Alteration of Surface Water Quality.

No. During construction, the proposed project could result in a minimal increase in runoff which may increase/alter surface water quality at the discharge location. This effect would be short-term and minimal and is not considered significant and does not require further analysis in the EIR.

f) Alteration of the Direction or the Rate of Flow of Ground Water.

No. There would not be substantial subsurface structures or other project features which would affect ground water in the project corridor.

g) Change in the Quantity of Ground Waters, either through direct additions or Withdrawals or by cuts or Excavations.

No. There would be no additions or withdrawals of ground water and no interceptions of an aquifer by cuts or excavations.

h) Substantial Reduction in the Amount of Water Available for Public Water Supplies.

No. No water fixtures for public use would be provided at proposed stations. The project would comply with applicable City ordinances requiring water conservation or low flow devices. The proposed project is not anticipated to reduce public water supplies.

i) Exposure of People or Property to Water Related Hazards Such as Flooding or Tidal Waves.

No. The project would not be located in a flood plain nor near tidal waters and would therefore not expose people or property to flood hazards or tidal waves.

4. Plant Life

a) Change in Diversity of Species, or Number of any Species of Plants.

Maybe. The LRT facility would be constructed along existing street and railroad rights-of-way and therefore it is not anticipated that significant impacts on plant and animal habitats would occur. However, there is potential to disturb mature palms along Flower Street south of Adams Ave. The EIR will identify plant removal requirements of the project and propose mitigation measures where significant plant life impacts may occur.

b) Reduction in the Numbers of any Unique, Rare or Endangered Species of Plants.

Maybe. See response to 4a.

c) Introduction of New Species of Plants Into an Area.

No. The proposed project would introduce landscaping along portions of the route but it is not anticipated that this vegetation would introduce new species of plants into the area.

d) Reduction in Acreage of any Agricultural Crop.

No. The proposed corridor is in a developed urban area. The alignment would not displace any land in agricultural use.

5. Animal Life

a) Change in the Diversity of Species or numbers of any Species of Animals.

Maybe. See response to 4a.

b) Reduction in the Numbers of any Unique, Rare or Endangered Species of Animals.

No. There are no state or federally designated rare, threatened, or

endangered animal species along the proposed rail route.

c) Introduction of New Species of Animals Into an Area Resulting in a Barrier to the Movement of Animals.

No. The proposed rail project would not introduce new species of animals into the area.

d) Deterioration of Existing Fish or Wildlife Habitat.

No. The proposed project is not located near any fish or wildlife habitat.

6. Noise

a) Increase in Existing Noise Levels.

Maybe. During construction of the proposed project, it is anticipated that there would be periods when noise levels and vibration would be expected to rise above existing levels in the area. Long-term LRT activity as a noise source is not high for individual train operations, but may become significant based on the frequency of operations where sensitive land uses are located adjacent to the facility. The LRT may also generate increased structural or ground-borne vibration. The EIR will assess the potential increase in noise and vibration caused by LRT operation and identify mitigation measures as necessary.

b) Exposure of People to Severe Noise Levels

Maybe. See response 6a.

7. Light and Glare

New Light or Glare From Street Lights or Other Sources.

Maybe. Current sources of illumination in the project area consist of street lamps and ornamental lighting for businesses along the corridor route. The proposed project could introduce new illumination and glare sources into the project area. The EIR will assess station area and LRT facility lighting impacts, if any, on adjacent uses.

8. Land Use

Substantial Alteration of the Present or Planned Land Use of an Area.

Maybe. Construction and operation of the proposed project could result in the displacement of existing residential, commercial, and parking uses, particularity in the proposed station areas. Any displacements will be identified and discussed in the EIR.

9. Natural Resources

Increase in the rate of use of any Natural Resource.

No. The construction and operation of the building would not significantly increase the rate of use of any natural resource.

10. Risk of Upset

a) A Risk of Explosion or the Release of Hazardous Substances.

Maybe. The potential for discovering subsurface contamination and hazardous materials is possible along the corridor route. The EIR will examine this potential impact and identify mitigation measures as necessary.

b) Possible Interference with an Emergency Response Plan or an Emergency Response Evacuation Plan.

Maybe. The proposed facility or associated station areas may require the cul-de-sac of local streets which could affect emergency vehicle access. In addition, an at-grade alignment along Flower Street would possibly require that emergency vehicles accessing Orthopedic Hospital to cross rail transit tracks.

11. Population

Alteration of the Location, Distribution, Density or Growth Rate of an Area.

Maybe. The LRT may, at station locations, encourage more intensive commercial and/or residential growth. Potential growth inducing impacts such as increased development intensity, and possibly spillover parking will be discussed in the EIR,

12. Housing

Affect on Existing Housing or Create the Demand for Additional Housing.

Maybe. See response 11.

13. Transportation/Circulation

a) Generation of Substantial Additional Vehicular Movement.

Yes. The proposed project would generate additional vehicular movement in highly localized areas to and from station locations.

b) Effects on Parking

Yes. The proposed project would create a demand for new parking facilities at the new rail transit stations. Potential alignment options within the Flower Street or Exposition Boulevard rights-of-way may also require the removal of on-street curb parking in some areas.

c) Impact on Existing Transportation Systems

Maybe. There would be an increase in vehicular traffic around the stations during peak periods and during construction of the facility.

d) Alterations to the Present Patterns of Circulation of People or Goods

Yes. The proposed project would alter the pattern of circulation as a result of traffic traveling to and from station locations. Local streets that may be cal-de-sac could also affect circulation patterns.

e) Alterations to Waterborne, Rail or Air Traffic.

No. The proposed project would not alter waterborne, rail or air traffic.

f) Increase in Traffic Hazards to Motor Vehicles, Bicyclists or Pedestrians.

Maybe. There is always a potential for accidents with increased traffic as there would be at the proposed station locations. At-grade alignment options that are being considered could also increase the potential for traffic and rail vehicle conflicts.

14. Public Services

a) Fire Protection.

Maybe. The new stations may create the demand for additional fire protection services at the station locations.

b) Police Protection.

Maybe. Although transit service personnel would be available, existing police protection may have to be enhanced at the proposed stations.

c) Schools.

Maybe. Los Angeles Trade Tech and the University of Southern California would be located adjacent to the proposed alignments under consideration. Pedestrian and vehicular access to these facilities could be affected by the proposed project. In addition, construction and operational-related noise may be a factor. Both of these issues will be addressed in the EIR.

d) Parks or Other Recreational Facilities.

Maybe. Exposition Park would be located adjacent to the proposed rail transit route. Depending on the alignment configuration, it is possible that pedestrian and/or vehicular access to the park could be affected. In addition, construction and operational-related noise may be a factor. Both of these issues will be addressed in the EIR.

e) Maintenance of Public Facilities Including Roads.

Maybe. The proposed project could increase localized traffic at the station locations which could result in the need for increased road maintenance services.

f) Other Governmental Services.

No. The proposed LRT would not affect any other governmental services.

15. Energy

a) Use of Exceptional Amounts of Fuel or Energy.

Yes. The proposed LRT project will result in the increased use of electrical energy. Gasoline consumption is expected to decrease from reduced

automobile usage, which has the potential to offset the increased use of electricity needed to operate the transit system.

b) Substantial Increase Upon Existing Sources of Energy or Require Development of New Sources.

No. Operation of the proposed project would result in an increase in electrical use but the demand is not expected to be substantial, nor is the demand expected to require the development of new sources of energy.

16. Utilities

Need for New Systems or Substantial Alterations to Utilities.

Yes, Construction of the proposed project may require the relocation of underground or overhead utilities.

17. Human Health

a) Creation of any Health Hazard.

No. The proposed project would not include any elements that could create a health hazard or potential health hazard.

b) Exposure of People to Potential Health Hazards.

No. See response 17a.

18. Aesthetics

The Obstruction of Any Scenic Vista or View Open to the Public or the Creation of an Aesthetically Offensive Site Open to Public View.

Maybe. Construction of the LRT would introduce overhead wires and catenary supports as well as aerial structure supports. The at-grade portions may impact the visual setting of major cultural/institutional facilities located along the proposed alignment. The palms along Flower Street may require relocation, changing the visual appearance of the street. Construction activity may present a temporary visual impact. The Eir will identify sensitive view corridors and analyze the visual impacts of the LRT facility. Mitigation measures will be identified as required.

19. Recreation

No. See 14d.

20. Cultural Resources

a) The Alteration of or the Destruction of a Prehistoric or Historic Archaeological Site.

Maybe. There is the possibility that there could be prehistoric or historic archaeologic resources under the proposed alignment route.

b) Adverse Physical or Aesthetic Effects to a Prehistoric or Historic Building, Structure or Object.

Maybe. There may be historic structures located along the proposed alignment route which would look onto the proposed LRT.

c) Physical Changes Which Would Affect Unique Ethnic Cultural Values.

No. There are no unique ethnic organizations which would be affected by the development of the proposed project.

d) Restrict Existing Religious or Sacred Uses Within the Potential Impact Area.

No. No religious uses or organizations would be effected by the proposed rail alignment.

21. MANDATORY FINDINGS OF SIGNIFICANCE.

a) Maybe. The proposed project does not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory.

b) No. The project does not have the potential to achieve short-term, to the disadvantage of long-term, environmental goals.

c) No. The project does not have impacts which are individually limited, but cumulatively considerable.

d) Maybe. The project may have environmental effects which cause substantial adverse effects on human beings, either directly or indirectly.

APPENDIX B

RESPONSE TO NOTICE OF PREPARATION

STATE OF CALIFORNIA

MICROFILMED
COPY IN RMC

PETE WILSON, *Governor*

GOVERNOR'S OFFICE OF PLANNING AND RESEARCH
1400 TENTH STREET
SACRAMENTO, CA 95814

NOP
DRAFT
EIR
EXSD

194739

DATE: Oct 08, 1991

TO: Reviewing Agency

RE: LOS ANGELES COUNTY TRANSPORTATION COMMISSION's NOP for EXPOSITION PARK BRANCH LINE RAIL TRANSIT CORRIDOR
SCH # 91101009

Attached for your comment is the LOS ANGELES COUNTY TRANSPORTATION COM Notice of Preparation of a draft Environmental Impact Report (EIR) for the EXPOSITION PARK BRANCH LINE RAIL TRANSIT CORRIDOR.

Responsible agencies must transmit their concerns and comments on the scope and content of the EIR, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of this notice. We encourage commenting agencies to respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

JIM DE LA LOZA
LOS ANGELES COUNTY TRANSPORTATION COMMISSION
818 WEST SEVENTH ST. STE. 1100
LOS ANGELES, CA 90017

with a copy to the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the review process, call Tom Loftus at (916) 445-0613.

Sincerely,

David C. Nunenkamp
Deputy Director, Permit Assistance

Attachments

cc: Lead Agency

Notice of Completion

Appendix F

Mail to: State Clearinghouse, 1400 Tenth Street, Sacramento, CA 95814 916/445-0613

See NOTE below

SCH # 91101009

Project Title: Exposition Park Branch Line Rail Transit Corridor

Lead Agency: Los Angeles County Transportation Comm Contact Person: Jim de la Loza

Street Address: 818 West Seventh Street, suite 1100 Phone: 213-244-6261

City: Los Angeles Zip: 90017 County: Los Angeles

Project Location

County: Los Angeles City/Nearest Community: Los Angeles

Cross Streets: _____ Total Acres: _____

Assessor's Parcel No. _____ Section: _____ Twp. _____ Range: _____ Base: _____

Within 2 Miles: State Hwy #: _____ Waterways: _____

Airports: _____ Railways: _____ Schools: _____

Document Type

CEQA: [X] NOP [ ] Supplement/Subsequent [ ] Early Cons [ ] EIR (Prior SCH No.)_____ [ ] Neg Dec [ ] Other _____ [ ] Draft EIR

NEPA: [ ] NOI [ ] EA [ ] Draft EIS [ ] FONSI

Other: [ ] Joint Document [ ] Final Document [ ] Other_____

Local Action Type

[ ] General Plan Update [ ] Specific Plan [ ] Rezone [ ] Annexation
[ ] General Plan Amendment [ ] Master Plan [ ] Prezone [ ] Redevelopment
[ ] General Plan Element [ ] Planned Unit Development [ ] Use Permit [ ] Coastal Permit
[ ] Community Plan [ ] Site Plan [ ] Land Division (Subdivision, Parcel Map, Tract Map, etc.) [ ] Other_____

Development Type

[ ] Residential: *Units* _____ *Acres* _____
[ ] Office: *Sq.ft.* _____ *Acres* _____ *Employees* _____
[ ] Commercial: *Sq.ft.* _____ *Acres* _____ *Employees* _____
[ ] Industrial: *Sq.ft.* _____ *Acres* _____ *Employees* _____
[ ] Educational _____
[ ] Recreational _____

[ ] Water Facilities: *Type* _____ *MGD* _____
[ ] Transportation: *Type* _____
[ ] Mining: *Mineral* _____
[ ] Power: *Type* _____ *Watts* _____
[ ] Waste Treatment: *Type* _____
[ ] Hazardous Waste: *Type* _____
[ ] Other: _____

Project Issues Discussed in Document

[ ] Aesthetic/Visual [ ] Flood Plain/Flooding [ ] Schools/Universities [ ] Water Quality
[ ] Agricultural Land [ ] Forest Land/Fire Hazard [ ] Septic Systems [ ] Water Supply/Groundwater
[ ] Air Quality [ ] Geologic/Seismic [ ] Sewer Capacity [ ] Wetland/Riparian
[ ] Archeological/Historical [ ] Minerals [ ] Soil Erosion/Compaction/Grading [ ] Wildlife
[ ] Coastal Zone [ ] Noise [ ] Solid Waste [ ] Growth Inducing
[ ] Drainage/Absorption [ ] Population/Housing Balance [ ] Toxic/Hazardous [ ] Landuse
[ ] Economic/Jobs [ ] Public Services/Facilities [X] Traffic/Circulation [ ] Cumulative Effects
[ ] Fiscal [ ] Recreation/Parks [ ] Vegetation [ ] Other _____

Present Land Use/Zoning/General Plan Use

Project Description The proposed project is a rail transit improvement.

NOTE: Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. from a Notice of Prepar or previous draft document) please fill it in.

Revised October

NOP Distribution List

SCH# 91[illegible]

S = sent by lead agency
X = sent by SCH

Resources Agency

- Karen Cagle
  Dept. of Boating & Waterways
  1629 S Street
  Sacramento, CA 95814
  916/445-6281
- Gary L. Holloway
  California Coastal Commission
  45 Fremont Street, Suite 2000
  San Francisco, CA 94105-2219
  415/543-8555
- Reed Holderman
  State Coastal Conservancy
  1330 Broadway, Suite 1100
  Oakland, CA 94612
  415/464-1015
- Dennis O'Bryant
  Dept. of Conservation
  1416 Ninth Street, Room 1326-2
  Sacramento, CA 95814
  916/322-5873
  - Div. of Mines and Geology
  - Div. of Oil and Gas
  - Land Resources Protect. Unit
- Douglas Wickizer
  Dept. of Forestry
  1416 Ninth Street, Room 1516-2
  Sacramento, CA 95814
  916/322-0128
- Hans Kreutzberg
  Office of Historic Preservation
  P.O. Box 942896
  Sacramento, CA 94296-0001
  916/322-9621
- Mike Doyle
  Dept. of Parks and Recreation
  P.O. Box 942896
  Sacramento, CA 94296-0001
  916/324-6421
- Anna Leena Bronson
  Reclamation Board
  1416 Ninth Street Room 706
  Sacramento, CA 95814
  916/322-3740
- Nancy Wakeman
  S.F. Bay Conservation & Dev't. Comm.
  30 Van Ness Avenue, Room 2011
  San Francisco, CA 94102
  415/557-3686
- Nadell Gayou
  Dept. of Water Resources
  1416 Ninth Street, Room 449
  Sacramento, CA 95814
  916/445-7416

Fish and Game - *Regional Offices*

- Gary Stacey, Regional Manager
  Department of Fish and Game
  601 Locust
  Redding, CA 96001
  916/225-2300 (8-442)
- Jim Messersmith, Regional Manager
  Department of Fish & Game
  1701 Nimbus Road, Suite A
  Rancho Cordova, CA 95670
  916/355-0922 (8-438)
- B. Hunter, Regional Manager
  Department of Fish and Game
  P.O. Box 47
  Yountville, CA 94599
  707/944-5518
- G. Nokes, Regional Manager
  Department of Fish and Game
  1234 East Shaw Avenue
  Fresno, CA 93710
  209/222-3761 (8-421)
- Fred A. Worthley, Jr., Reg. Manager
  Department of Fish and Game
  330 Golden Shore, Suite 50
  Long Beach, CA 90802
  213/590-5113 (8-635)

Independent Commissions

- John R. Nuffer
  California Energy Commission
  1516 Ninth Street, MS-15
  Sacramento, CA 95814
  916/323-9180
- William A. Johnson
  Native American Heritage Comm.
  915 Capitol Mall, Room 288
  Sacramento, CA 95814
  916/322-7791
- William Meyer
  Public Utilities Commission
  505 Van Ness Avenue
  San Francisco, CA 94102
  415/557-1375 (8-597)
- Betty Eubanks
  State Lands Commission
  1807 - 13th Street
  Sacramento, CA 95814
  916/322-2795

Business, Transportation, & Housing

- Sandy Hesnard
  Caltrans - Division of Aeronautics
  P.O. Box 942874
  Sacramento, CA 94274-0001
  916/324-1833
- Sgt. Jim Weddell
  California Highway Patrol
  Long Range Planning Section
  Planning and Analysis Division
  2555 First Avenue
  Sacramento, CA 95818
  916/445-1981
- Ron Helgason
  Caltrans - Planning
  P.O. Box 942874
  Sacramento, CA 94274-0001
  916/445-5570

Department of Transportation
District Contacts

- Jo Sanford
  Caltrans, *District 1*
  1656 Union Street
  Eureka, CA 95501
  707/445-6671 (8-538)
- Michelle Gallagher
  Caltrans, *District 2*
  1657 Riverside Drive
  Redding, CA 96001
  916/225-3259 (8-442)
- Brian J. Smith
  Caltrans, *District 3*
  703 B Street
  Marysville, CA 95901
  916/741-4277 (8-457)
- Gary S. Adams
  Caltrans, *District 4*
  P.O. Box 7310
  San Francisco, CA 94120
  415/557-9162 (8-597)
- Jerry Laumer
  Caltrans, *District 5*
  P.O. Box 8114
  San Luis Obispo, CA 93403-8114
  805/549-3161 (8-629)
- Moses Pacheco
  Caltrans, *District 6*
  P.O. Box 12616
  Fresno, CA 93778
  209/276-5989 (8-422)
- Gary McSweeney
  Caltrans, *District 7*
  120 South Spring Street
  Los Angeles, CA 90012
  213/620-2376 (8-640)
- Harvey Sawyer
  Caltrans, *District 8*
  247 West Third Street
  San Bernardino, CA 92403
  714/383-4808 (8-670)
- Elsa Flores
  Caltrans, *District 9*
  500 South Main Street
  Bishop, CA 93514
  619/872-0203 (8-627)
- Al Johnson
  Caltrans, *District 10*
  P.O. Box 2048
  Stockton, CA 95201
  209/948-7838 (8-423)
- Jim Cheshire
  Caltrans, *District 11*
  P.O. Box 85406
  2829 Juan Street
  San Diego, CA 92138-5406
  619/237-6755 (8-631)
- Aileen Kennedy
  Caltrans, *District 12*
  2501 Pullman St.
  Santa Ana, CA 92705
  714/724-2239 (8-655)

Food and Agriculture

- Vashek Cervinka
  Dept. of Food and Agriculture
  1220 N Street, Room 104
  Sacramento, CA 95814
  916/322-5227

Health & Welfare

- Quy Tu
  Dept. of Health
  714 P Street, Room 1253
  Sacramento, CA 95814
  916/323-6111
- DHSTSCD: _____

State and Consumer Services

- Robert Sleppy
  Dept. of General Services
  400 P Street, Suite 3460
  Sacramento, CA 95814
  916/324-0214

Environmental Affairs

- Barbara Fry
  Air Resources Board
  1102 Q Street
  Sacramento, CA 95814
  916/322-8267
- Jeannie Blakeslee
  Calif. Waste Management Board
  1020 Ninth Street, Room 300
  Sacramento, CA 95814
  916/327-0454

State Water Resources Control Board

- Allan Patton
  State Water Resources Control Board
  Division of Clean Water Programs
  P.O. Box 944212
  Sacramento, CA 94244-2120
  916/739-4414
- Dave Berlinger
  State Water Resources Control Board
  Delta Unit
  P.O. Box 2000
  Sacramento, CA 95810
  916/322-9870
- Ed Anton
  State Water Resources Control Board
  Division of Water Quality
  P.O. Box 100
  Sacramento, CA 95801
  916/445-9552
- Mike Falkenstein
  State Water Resources Control Board
  Division of Water Rights
  901 P Street
  Sacramento, CA 95814
  916/324-5636
- APCD/AQMD: SOUTH COAST

Regional Water Quality Control Board

- NORTH COAST REGION (1)
  1440 Guerneville Rd.
  Santa Rosa, CA 95401
  707/576-2220 (8-590)
- SAN FRANCISCO BAY REGION (2)
  2101 Webster, Suite 500
  Oakland, CA 94614
  415/464-1255 (8-561)
- CENTRAL COAST REGION (3)
  81 Higuera Street, Suite 200
  San Luis Obispo, CA 93401-5414
  805/549-3147 (8-629)
- LOS ANGELES REGION (4)
  101 Center Plaza Drive
  Monterey Park, CA 91754
  213/266-4460 (8-640)
- CENTRAL VALLEY REGION (5)
  3443 Routier Road, Suite A
  Sacramento, CA 95827-3098
  916/361-5600
  - Fresno Branch Office
    3614 East Ashlan Avenue
    Fresno, CA 93726
    209/445-5116 (8-421)
  - Redding Branch Office
    415 Knollcrest Drive
    Redding, CA 96002
    916/224-4845 (ATS 441)
- LAHONTAN REGION (6)
  2092 Lake Tahoe Boulevard
  Suite #2
  South Lake Tahoe, CA 96150
  916/544-3481
  - Victorville Branch Office
    15428 Civic Drive, Suite 100
    Victorville, CA 92392-2359
    619/241-6583
- COLORADO RIVER BASIN REGION (7)
  73-271 Highway 111, Suite 21
  Palm Desert, CA 92260
  619/346-7491
- SANTA ANA REGION (8)
  6809 Indiana Avenue, Suite 200
  Riverside, CA 92506
  714/782-4130 (8-632)
- SAN DIEGO REGION (9)
  9771 Clairemont Mesa Blvd., Suite
  San Diego, CA 92124-1331
  619/265-5114 (8-636)
- OTHER: _____
- OTHER: _____

6/20/91

STATE OF CALIFORNIA—THE RESOURCES AGENCY

PETE WILSON, Governor

DEPARTMENT OF CONSERVATION
DIVISION OF ADMINISTRATIVE SERVICES
DIVISION OF MINES AND GEOLOGY
DIVISION OF OIL AND GAS
DIVISION OF RECYCLING

1416 Ninth Street
SACRAMENTO, CA 95814
TDD (916) 324-2555
ATSS 454-2555
(916) 445-8733

91 NOV 8 AM 9:48

November 4, 1991

Mr. Jim De La Loza
Los Angeles County Transportation Commission
818 West Seventh Street, Suite 1100
Los Angeles, California 90017

Dear Mr. De La Loza:

Subject: NOP for Exposition Park Branch Line Rail Transit Corridor SCH # 91101009

The Department of Conservation's Division of Oil and Gas has reviewed the NOP of a Draft EIR for the proposed project and submits the following comments for your consideration.

The proposed transit corridor extends through the La Cienega oil field. However, there are no recorded active or abandoned wells in proximity to the project.

However, if any unrecorded or abandoned wells are uncovered or damaged during excavation or grading, remedial plugging operations may be required. Is such damage occurs, the Division's district office should be contacted to obtain information on the requirements for and approval to perform remedial operations.

If any structure is to be located over or in the proximity of a previously abandoned well, there is the possibility that the well may need to be plugged and abandoned to current Division specifications. Section 3208.1 of the Public Resources Code authorizes the State Oil and Gas Supervisor to order the reabandonment of any previously abandoned well when construction of any structure over or in the proximity of the well could result in a hazard. The cost of reabandonment operations is the responsibility of the owner of the property upon which the structure will be located.

Although the possibility for future problems from oil and gas wells that have been plugged and abandoned or reabandoned to the Division's current specifications are remote, we, nevertheless, suggest that a diligent effort be made to avoid building over any abandoned well.

If construction over an abandoned well is unavoidable, we suggest that an adequate gas venting system be placed over the well.

The scope and content of information that is germane to the Division's responsibility are contained in Section 3000 et seq. of the Public Resources Code, and administrative regulations under Title 14, Chapter 4 of the California Code of Regulations.

If you have any questions, please feel free to contact John Jepson at the Division district office in Long Beach. The address is 245 West Broadway, Suite 475, Long Beach, CA 90802; phone (213) 590-5311.

Sincerely,

Stephent E. Oliva
Environmental Program Coordinator

cc: John Jepson, Division of Oil and Gas, Long Beach
Mike Stettner, Division of Oil and Gas, Sacramento

STATE OF CALIFORNIA—BUSINESS AND TRANSPORTATION AGENCY PETE WILSON, Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 7, 120 SO. SPRING ST.
LOS ANGELES, CA 90012
TDD (213) 620-3550

October 10, 1991

CMNT
EXBD
RA
TRS
CORR

MICROFILM

195572

County of Los Angeles
IGR/CEQA
NOP-EIR-Initial Study;
Exposition Park Branch
Line Rail Transit Corridor
Route
Vic LA-110-R0.91-R21.44

Mr. Jim de la Loza
Los Angeles County Transportation Commission
818 West Seventh Street, Suite 1100
Los Angeles, CA 90017

Dear Mr. De la Loza:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above-referenced NOP. Based on the information received, we have the following comments:

1. At Flower Street and Adams Boulevard where the rail crosses the Harbor Freeway, CAltrans should be a resposible agency in the development of the design for rail to cross the freeway. Caltrans has many issues that need to be resolved at this location.

2. Caltrans 110 Transitway project will install a station between 37th Street and Exposition Boulevard. The Exposition Park Branch line should have an inface station as close as possible to allow service from the Harbor area to Santa Monica and back. Caltrans station has been placed to accommodate the Exposition Park line to run west and east.

If you have any questions regarding comments 1 & 2, please call George Hayakawa at (213) 897-4644 and Michelle Smith at (213) 897-0133.

3. Also, please be advised that the proposed LRT line appears to be in close proximity to the Saint John Eposcopal Church which has been determined to be elegible for the National Register of Historic Places: Other nearby properties are also of historic importance. Local community groups are very interested in transportation projects: These groups include the ADHOC Committee, 23rd Street Neighbors, and the CRA Adams Normandie 4321 PAC. Businesses and non-profit organizations in the area that have shown a keen interest in transportation projects includes: the Los Angeles Orthopaedic Hospital, Saint Vincent De Paul Church, the Automobile Club of Southern California, and the University of Southern California.

Of particular interest to these groups has been a projects vibration, traffic circulation, noise, community, and cultural resources impacts.

If you have any questions regarding environmental issues please call Cleave Govan at (213) 897-0665. Any other questions regarding this response, please call at (213) 897-1338.

Sincerely,

Wilford Melton

WILFORD MELTON
IGR/CEQA Coordinator
Transportation Planning &
Analysis Branch

ASSOCIATED STUDENTS U.C.L.A.
402 WESTWOOD BOULEVARD
LOS ANGELES 24, CALIFORNIA

January 24, 1955

Mr. Herbert Cameron, President
Board of Public Utilities
City Hall
Los Angeles 12, California

COPY

Dear Herb:

This will confirm our telephone conversation regarding a petition to be presented to the Board of Public Utilities on January 28, 1955.

I understand that a request is being made to reinstate passenger service on the Santa Monica Airline running from Los Angeles to Santa Monica. The student body at the University of California at Los Angeles would be very interested in seeing that this service is resumed. We have approximately 550 students living in the area near Exposition Boulevard running from Main Street to Crenshaw Boulevard. I am sure that some of these students would avail themselves of this transportation service.

Therefore it is our recommendation that your Honorable Board give very careful consideration to reinstating this service as soon as it seems advisable. Thank you very much for your assistance.

Sincerely yours,

William C. Ackerman
General Manager

WCA:ls
cc: Mrs. Marjorie H. Rainey
Mrs. Garnet Rainey

Distribution
R. Barrantes

South Coast
AIR QUALITY MANAGEMENT DISTRICT
9150 FLAIR DRIVE, EL MONTE, CA 91731 (818) 572-6200

SEP 1991
RECEIVED
NEIL PETERSON
EXECUTIVE DIRECTOR

19147

September 19, 1991

Neil Peterson
Los Angeles County Transportation
818 West Seventh St. Ste. 1100
Los Angeles, CA 90017

Notice of Preparation of a Draft Environmental Impact Report for Exposition Park Branch Line Rail Transit Corridor
District No. LAC910912-01

Dear Mr. Peterson:

Thank you for the opportunity to comment on the above referenced environmental document. District staff has reviewed and assessed potential impacts that may result from the above referenced project.

Preliminary staff assessment indicates that the proposed project may adversely affect air quality. Appropriate mitigation measures should be incorporated into the proposed project to reduce air quality impacts to insignificant level. Refer to the District's "Air Quality Handbook for Preparing Environmental Impact Reports" to assess and mitigate adverse air quality impacts.

Upon completion of the Draft Environmental Impact Report, please forward two copies to:

South Coast Air Quality Management District
Planning Division
9150 Flair Drive
El Monte, CA 91731

Attn: Local Government - CEQA

If you have any questions, please call me at (818) 307-1519.

Yours truly,
Connie Day

Connie Day
Program Supervisor
Environmental Review

CD:es

Attachment

EXHIBIT A

POTENTIAL EMISSION SOURCES AND MITIGATION MEASURES

A. To Minimize Construction Activity Emissions
- o Water site and equipment in the morning and evening.
- o Spread soil binders on site, unpaved roads, and parking areas.
- o Re-establish ground cover on construction site through seeding and watering.

B. Reduce Construction Equipment Emissions
- o Wash off trucks leaving site.
- o Properly tune and maintain all equipment.
- o Use low-sulfur fuel for equipment.

C. Reduce Construction-Related Traffic Congestion
- o Provide rideshare incentives.
- o Provide transit incentives for construction personnel.
- o Configure construction parking to minimize traffic interferences.
- o Minimize obstruction of through-traffic lanes.
- o Provide a flagperson to guide the traffic properly.
- o Schedule operations affecting roadways for off-peak traffic hours.

D. Limit Emissions From Vehicle Trips and Roadway Construction
- o Operate a Transportation management Plan per SCAQMD regulation XV.
- o Provide commuter rideshare incentives.
- o Provide commuter transit incentives.
- o Promote Transportation Demand Management Associations.
- o Establish a program of alternative work schedules.
- o Establish a telecommuting program.
- o Schedule goods movements for off-peak traffic hours.
- o Promote local shuttle and regional transit systems.
- o Provide dedicated turn lanes as appropriate.
- o Provide transit shelters.
- o Provide bicycle lanes, storage areas and amenities.
- o Ensure efficient parking management.
- o Prioritize Construction of HOV lanes.
- o Work closely with cities in the region to implement TDM goals.

E. Minimize Indirect- Source Emissions
- o Implement energy conservation measures beyond state and local requirements.
- o Install energy-efficient street lighting.
- o Include energy costs in capital expenditure analyses
- o Landscape with native drought-resistant species to reduce water consumption and to provide passive solar benefits.

STATE OF CALIFORNIA

PETE WILSON, Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD—
LOS ANGELES REGION
101 CENTRE PLAZA DRIVE
MONTEREY PARK, CA 91754-2156
(213) 266-7500

L.A.C.T.C.
1991 SEP 30 PM 12:13

September 25, 1991

File: 700.300

Jim de la Loza
County of Los Angeles
Transportation Commission
818 West Seventh Street, Suite 1100
Los Angeles, CA 90017

NOTICE OF PREPARATION - EXPOSITION PARK BRANCH LINE RAIL TRANSIT CORRIDOR ROUTE, DOWNTOWN. L. A. COUNTY TRANSPORTATION COMMISSION

We have reviewed the subject document regarding the proposed project, and have the following comments:

Based on the information provided, we recommend the following:

☒ We have no further comments at this time.

☐ The proposed project should address the attached comments in the environmental document.

Thank you for this opportunity to review your document. If you have any questions, please contact Eugene C. Ramstedt at (213) 266-7553.

JOHN L. LEWIS, Unit Chief
Technical Support Unit

cc: Tom Loftus, State Clearinghouse

(07-13-89)

Community Redevelopment Agency

PD400

of the City
of Los Angeles

REP
JOT
DRAFT
EXBD

354 South Spring Street
Suite 800
Los Angeles
California 90013-1258

213 977 1600

Telecopier
Number 213 977 1665

An Affirmative Action
Equal Opportunity
Employer

Date October 9, 1991

File Code

MICROFILMED
COPY

195001

1991 OCT 11 PM 12:

Jim de la Loza
Los Angeles County Transportation Commission
818 West Seventh Street, Suite 1100
Los Angeles, California 90017

SUBJECT: NOTICE OF PREPARATION FOR THE DRAFT EIR FOR THE EXPOSITION PARK BRANCH LINE RAIL TRANSIT CORRIDOR ROUTE

CRA
LA

Dear Mr de la Loza,

Thank you for the opportunity to comment on the Exposition Park Branch Line Rail Transit Corridor Route.

We have reviewed the Notice of Preparation for this development and would like your agency to address the following area of concern in your draft EIR. The area of concern is the issue of the potential impact upon existing residential and commercial neighborhoods from additional commuter, vehicular traffic generated at the stations.

Also, we would like your agency to add emphasis to the following areas of concern in your draft EIR. These areas of concern are listed as project objectives in your Initial Study:

1. Support and enhance area revitalization and redevelopment efforts such as those planned for the Figueroa Corridor and surrounding neighborhoods.

2. Provide opportunities for integration of station facilities into future station area development such as currently proposed development projects or potential joint development projects.

3. Identify methods to encourage pedestrian circulation and access, new and existing small business, and residential development.

4. Design and integrate the light rail project into an existing urban neighborhood primarily as an urban design and community issue within engineering parameters.

5. Identify the opportunities for integration of Blue Line with the Harbor Freeway Transit Way.

6. Coordinate the project with the Exposition Park Master Planning effort.

At this time, I recommend that 1) the traffic generated impacts on existing residential and commercial neighborhoods and 2) the project objectives, noted above, be added to the list of EIR focus issues.

James M. Wood
Chairman

Norman H. Emerson
Linda Griego
W. Hall, Jr.
Thomas Kilgore, Jr.
Frank Kewahara
Dennis P. Lyne

If you have any questions, please feel free to contact Mr. Rich Macias, Principal Environmental Planner at (213) 977-1738.

Sincerely,

John Spalding
Director of Planning and Urban Design

CRA
LA

DRAFT
CMNT
EXBD

BOARD OF PUBLIC WORKS
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DENNIS N. NISHIKAWA
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SECRETARY

CITY OF LOS ANGELES
CALIFORNIA

L.A.C.T.C.
1991 OCT -3 PM 1:06



TOM BRADLEY
MAYOR

193373

SEP 27 1991

DEPARTMENT OF
PUBLIC WORKS
BUREAU OF
ENGINEERING
ROBERT S. HORII
CITY ENGINEER
ROOM 800, CITY HALL
LOS ANGELES, CA 90012

Los Angeles County Transportation Commission
818 West Seventh Street, Suite 1100
Los Angeles, Ca 90017

Attention: Jim de la Loza

Dear Mr. de la Loza,

SUBJECT: PRE-DRAFT COMMENTS - EXPOSITION PARK BRANCH LINE RAIL TRANSIT CORRIDOR ROUTE

Staff of the Environmental Coordination Unit (ECU) have reviewed the above referenced document, and submit the following wastewater related comments.

Portions of the Los Angeles North Central Outfall Sewer exist along the proposed section of Exposition Boulevard. This sewer consists of a very old 2 ring brick pipe particularly sensitive to disturbance.

The portion of Flower Street, proposed for the rail line, contains several sewer lines along and transverse to the street. Pipes consist of varying sizes of clay and reinforced concrete pipe. Several portions of abandoned sewer line are also present along the street.

The proposed alignment should be coordinated with the Department of Public Works, Bureau of Engineering Wastewater Program Management Division's Collection Systems Task Force and the Central Engineering District to avoid possible interference with the existing sewer system and any future sewer system plans.

AN EQUAL EMPLOYMENT OPPORTUNITY - AFFIRMATIVE ACTION EMPLOYER

Thank you for this opportunity to comment. If you have any questions, please contact Kelvin Lew at (213) 485-8272.

Sincerely,

ROBERT S. HORII
City Engineer

By:

BRADLEY M. SMITH
Division Engineer
Wastewater Program
Management Division

BMS/kdl
(j:expopark.wp)
ENV-2-1

cc: Jim Doty-PMD

PD 400
EXBD
COR
CT

CITY OF LOS ANGELES
CALIFORNIA

L.A.C.T.C.
1991 SEP 30 PM 2:32

CITY PLANNING COMMISSION

WILLIAM G. LUDDY
PRESIDENT
THEODORE STEIN, JR.
VICE-PRESIDENT

SUZETTE NEIMAN
FERNANDO TORRES-GIL

RAMONA HARO
SECRETARY

ROOM 503, CITY HALL
(213) 485-5071

TOM BRADLEY
MAYOR

DEPARTMENT OF
CITY PLANNING
ROOM 561, CITY HALL
200 N. SPRING ST.
LOS ANGELES, CA 90012-4801

MELANIE FALLON
DIRECTOR

193169

September 26, 1991

Los Angeles County Transportation Commission
818 West Seventh Street, Suite 1100
Los Angeles, CA 90017

Attn: Jim de la Loza

Dear Mr. de la Loza:

The City Planning Department, Neighborhood Planning Division, has reviewed the Notice of Preparation for the Draft Environmental Impact Report for the Expositon Park Branch Line Rail Transit Corridor Route.

This division would like the DEIR to address any potential impacts to existing transportation systems and alterations to rail traffic under the transportation/circulation section. The impact to existing sources of energy for the construction and operational phases of the project should also be addressed in the DEIR. It can be expected that this project would stimulate land use impacts in residential and commercial areas, and those potential impacts should be examined.

If this division can be of further assistance to you, please do not hesitate to contact Cheryl Rogers of my staff at 617-7294.

Yours truly,

Robert Duenas
City Planner

TDB-L263
RD:CR:tp

recyclable are made from recycled waste

YD400
NOP

S.E. (ED) ROWE
GENERAL MANAGER

MICROFILMED
COPY IN RMC
L.A.C.T.C.
1991 OCT 15 PM 12:24
195481

CITY OF LOS ANGELES
CALIFORNIA

TOM BRADLEY
MAYOR

DEPARTMENT OF
TRANSPORTATION
ROOM 1200, CITY HALL
LOS ANGELES, CA 90012
(213) 485-2265
FAX (213) 237-0960

October 10, 1991

Mr. Jim de la Loza
Los Angeles County Transportation Commission
818 West Seventh Street, Suite 1100
Los Angeles, CA 90017

EXPOSITION PARK BRANCH LINE: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR)

The City of Los Angeles Department of Transportation (LADOT) has reviewed the Initial Study and Environmental Checklist for the Environmental Impact Report (EIR). We believe that the project will have significant impact on existing transportation systems. Furthermore, we request that LACTC adequately address and respond to the following concerns in the DEIR:

- As a member of the Task Force representing LADOT, I have raised concerns regarding adverse impacts of an at-grade operation on traffic safety and circulation. In our view, the proposed at-grade operation along Flower Street would seriously degrade the capacity on a route where we are trying to expedite the movement of southbound buses and car-pools destined for the Harbor Freeway Transitway. Hence, the concern over the substantial impacts from an at-grade operation should provide the impetus to consider aerial and subway alternatives in the DEIR for discussion and evaluation.

- Construction impact and mitigation measures should be evaluated in light of the frequent special events which severely impact traffic circulation in this area. During major sports, entertainment and other events staged at the adjacent activity centers, Flower Street becomes a critical alternate traffic route because of limited or prohibited use of Figueroa Street, and serves as an important inlet and outlet for event traffic. The severity of traffic congestion and circulation problems caused by the events has necessitated LADOT to direct traffic and provide special traffic controls to mitigate the impact on circulation. With respect to these special conditions, the construction methods for this Light Rail line should be studied and chosen for the least amount of exacerbation and impact. The DEIR should consider possible construction impact mitigation such as limiting the size of the project impact area during any one period of time, and phasing and staging of work.

The comments above do not preclude other concerns LADOT may have as we continue to provide input to your studies at future meetings.

Please call me at (213) 485-3039 if you have any questions.

James M. Okazaki
Chief of Transit Programs
Bureau of Transit Programs

JMO/PC:pc
EXPOPK.NOP

cc: Tom Conner, Planning, Design, and Regulation
John E. Fisher, Bureau of Design & ATSAC
Joe Crowley, Northwest Area District Operations
Jim Sherman, Bureau of Traffic Management

CITY OF LOS ANGELES
CALIFORNIA

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MAYOR

DEPARTMENT OF FIRE
200 NORTH MAIN STREET
LOS ANGELES, CA 90012

DONALD O. MANNING
CHIEF ENGINEER
AND
GENERAL MANAGER

October 30, 1991

91 NOV 7 P2:49

Los Angeles County Transportation
Commission
818 West Seventh Street, Suite 1100
Los Angeles, CA 90017

Attention: Jim De La Loza

Dear Mr. De La Loza:

Notice of Preparation of a Draft Environmental
Impact Report - Exposition Park Branch
Line Rail Transit Corridor Route

The Exposition Park Branch Line will operate as a branch of the Metro Blue Line. The proposed alignment would extend south along Flower Street and continue on to the Exposition Boulevard right-of-way to the proposed terminus at Vermont Avenue. The 1.8 mile route will have a total of three stations along this alignment.

The following comments are furnished in response to your request for this Department to review the proposed development:

A. FIRE-FLOW

The adequacy of fire protection for a given area is based on required fire-flow, response distance from existing fire stations, and this Department's judgment for needs in the area. In general, the required fire-flow is closely related to land use. The quantity of water necessary for fire protection varies with the type of development, life hazard, occupancy, and the degree of fire hazard.

Fire-flow requirements vary from 2,000 gallons per minute (G.P.M.) in low density areas to 12,000 G.P.M. in high-density commercial or industrial areas. A minimum residual water pressure of 20 pounds per square inch (P.S.I.) is to remain in the water system, with the required gallons per minute flowing.

Adequate public fire hydrants will be required.

Any necessary improvements to the water system or to the existing fire hydrants due to the Rail Transit Corridor Route construction or to any street ending in a cul-de-sac, will be at the applicant's expense.

B. FIREFIGHTING APPARATUS ACCESS

Access for Fire Department apparatus and personnel to and into all structures shall be required.

Flower Street will become a one-way street. One northbound contra-flow lane will be provided to serve Orthopedic Hospital. A possible conflict with traffic flow may occur with the Northern Terminus Harbor Transitway Project.

All street intersections with a level of service of "E" or "F" decreases the level of fire protection and emergency medical services provided by this Department.

The Fire Department recommends there be continuous, through streets. If a cul-de-sac is created above Fire Department objections, all fire lanes or dead-ending streets shall terminate in an approved turning area.

When required access is provided by an improved street, fire lane, or combination of both which results in a dead-end in excess of 700 feet in length from the nearest cross street, at least one additional ingress-egress roadway shall be provided in such a manner than an alternative means of ingress-egress is accomplished.

CONCLUSION

The proposed Rail Transit Corridor Project shall comply with all applicable State and local codes and ordinances, and the guidelines found in the Fire Protection and Fire Prevention Plan, as well as the Safety Plan, both of which are elements of the General Plan of the City of Los Angeles (C.P.C. 19708).

Definitive plans and specifications shall be submitted to this Department and requirements for necessary permits satisfied prior to commencement of any portion of this project.

The proposed project shall comply with all applicable State and local codes and ordinances, and the guidelines found in the Fire Protection and Fire Prevention Plan, as well as the Safety Plan, both of which are elements of the General Plan of the City of Los Angeles (C.P.C. 19708).

DONALD O. MANNING
Chief Engineer and General Manager

Dal L. Howard, Assistant Fire Marshal
Bureau of Fire Prevention and Public Safety

DLH:ASM:vg/3140E

cc: Councilman Mark Ridley-Thomas
Councilwoman Rita Walters
Environmental Affairs Commission
Fire Department Planning Section

NUP
EXBD
RAIL
TRS
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RTE

MICROFILMED
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Department of Water and Power the City of Los Angeles

1991 OCT 31 PM 1:25

TOM BRADLEY
Mayor

Commission
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RICK J. CARUSO, *Vice President*
ANGEL M. ECHEVARRIA
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DANIEL W. WATERS, *General Manager and Chief Engineer*
ELDON A. COTTON, *Assistant General Manager - Power*
JAMES F. WICKSER, *Assistant General Manager - Water*
NORMAN L. BUEHRING, *Assistant General Manager - External Affairs*
NORMAN J. POWERS, *Chief Financial Officer*

197103 October 29, 1991

Mr. Jim de la Loza
Los Angeles County Transportation Commission
818 West Seventh Street, Suite 1100
Los Angeles, California 90017

Dear Mr. de la Loza:

Notice of Preparation
Exposition Park Branch
Line Rail Transit Corridor Route

This is in reply to your letter dated September 6, 1991 requesting comments concerning the above project.

The proposed project is a rail transit improvement. The Exposition Park Branch Line will operate as a branch of the Metro Blue Line. The proposed local route would extend along Flower Street from the existing Blue Line terminus at Washington Boulevard.

Electric service will be provided in accordance with the Los Angeles Department of Water and Power's (LADWP) rules and regulations. The cumulative effect of this and other projects planned in the area may eventually require the construction of additional power distribution facilities. Power distribution facility construction may cause limited temporary impact on the surrounding communities in the form of unavoidable noise, air pollution, and traffic congestion during construction.

Based on the project description, some of the enclosed energy conservation measures may apply and should be considered for inclusion into the Draft Environmental Impact Report.

Commercial Energy Conservation Mitigation Measures

During the design process, the applicant should consult with the Los Angeles Department of Water and Power, Energy Services Subsection, regarding possible energy conservation measures. The applicant shall incorporate measures which will exceed minimum efficiency standards for Title XXIV of the California Code of Regulations.

- Built-in appliances, refrigerators, and space-conditioning equipment should exceed the minimum efficiency levels mandated in the California Code of Regulations.

- Install high-efficiency air conditioning controlled by a computerized energy-management system in the office and retail spaces which provides the following:

  - A variable air-volume system which results in minimum energy consumption and avoids hot water energy consumption for terminal reheat;

  - A 100-percent outdoor air-economizer cycle to obtain free cooling in appropriate climate zones during dry climatic periods;

  - Sequentially staged operation of air-conditioning equipment in accordance with building demands; and

  - The isolation of air conditioning to any selected floor or floors.

  - Consider the applicability of the use of thermal energy storage to handle cooling loads.

- Cascade ventilation air from high-priority areas before being exhausted, thereby, decreasing the volume of ventilation air required. For example, air could be cascaded from occupied space to corridors and then to mechanical spaces before being exhausted.

- Recycle lighting-system heat for space heating during cool weather. Exhaust lighting-system heat from the buildings, via ceiling plenums, to reduce cooling loads in warm weather.

- Install low and medium static-pressure terminal units and ductwork to reduce energy consumption by air-distribution systems.

- Ensure that buildings are well-sealed to prevent outside air from infiltrating and increasing interior space-conditioning

loads. Where applicable, design building entrances with vestibules to restrict infiltration of unconditioned air and exhausting of conditioned air.

- A performance check of the installed space-conditioning system should be completed by the developer/installer prior to issuance of the certificate of occupancy to ensure that energy-efficiency measures incorporated into the project operate as designed.

- Finish exterior walls with light-colored materials and high-emissivity characteristics to reduce cooling loads. Finish interior walls with light-colored materials to reflect more light and, thus, increase lighting efficiency.

- Install thermal insulation in walls and ceilings which exceeds requirements established by the California Code of Regulations.

- Design window systems to reduce thermal gain and loss, thus, reducing cooling loads during warm weather and heating loads during cool weather.

- Install heat-reflective draperies on appropriate exposures.

- Install fluorescent and high-intensity-discharge (HID) lamps, which give the highest light output per watt of electricity consumed, wherever possible including all street and parking lot lighting to reduce electricity consumption.

- Install occupant-controlled light switches and thermostats to permit individual adjustment of lighting, heating, and cooling to avoid unnecessary energy consumption.

- Install time-controlled interior and exterior public area lighting limited to that necessary for safety and security.

- Control mechanical systems (HVAC and lighting) in the building with timing systems to prevent accidental or inappropriate conditioning or lighting of unoccupied space.

- Incorporate windowless walls or passive solar inset of windows into the project for appropriate exposures.

- Design project to focus pedestrian activity within sheltered outdoor areas.

For additional information concerning these conservation measures, please contact Mr. Brian Belier, Manager of the New Construction Unit of Energy Services Subsection, at (213) 481-5735.

Thank you for the opportunity to comment on this project. If you or your staff have any questions regarding this letter, please contact Mr. Douglas E. Varner of my staff at (213) 481-3233.

Sincerely,

EDWARD KARAPETIAN
Manager of Environmental and
Governmental Affairs

Enclosure

c: Mr. Douglas E. Varner w/o Enclosure

EXDL
TRS
COR
RTE

OFFICERS
N. MATTHEW GROSSMAN
PRESIDENT
WILLIAM R. ROBERTSON
VICE PRESIDENT
MARGARET U. FARNUM
CHIEF ADMINISTRATIVE OFFICER

MICROFILMED
IN RMC



SITE OF 1932 AND 1984
OLYMPICS ATHLETICS COMPETITION
OPENING & CLOSING CEREMONIES



SITE OF 1984 OLYMPICS
BOXING COMPETITION

STATE OF CALIFORNIA
JESSE A. BREWER
JAMES F. DICKASON
N. MATTHEW GROSSMAN

CHRISTY C. WALTERS
ALTERNATE

COUNTY OF LOS ANGELES
MICHAEL D. ANTONOVICH
DEANE DANA
EDMUND D. EDELMAN

KENNETH HAHN
ALTERNATE

CITY OF LOS ANGELES
NATE HOLDEN
RICHARD J. RIORDAN
WILLIAM R. ROBERTSON

MARK RIDLEY-THOMAS
J. STANLEY SANDERS
ALTERNATES

LOS ANGELES MEMORIAL COLISEUM COMMISSION

COLISEUM, 3911 SO. FIGUEROA ST. • 747-7111 — SPORTS ARENA, 3939 S. FIGUEROA ST. • 748-6136
LOS ANGELES, CALIFORNIA 90037

L.A.C.T.C.
1992 JAN -6 PM 12:39

204064

January 3, 1992

Los Angeles County Transportation Commission
818 West Seventh Street, Suite 1100
Los Angeles, California 90017

ATTENTION: Jim de la Loza

RE: **EXPOSITON PARK BRANCH LINE RAIL TRANSIT CORRIDOR ROUTE**

Dear Mr. de la Loza:

Although this is later than we had originally anticipated, we do want to address a few items on your Notice of Preparation of Draft Environmental Impact Report with regard to the Branch Line Rail Transit. They are as follows:

1. On Page 5 under Project Objectives, we have two comments as noted below:

   a. In Item 1, we would suggest that the words "and major entertainment" be inserted between recreational and facilities. The word "and" could be deleted at the end of the first line.

   b. We would believe that one of the Project Objectives might be the consideration of the existing parking lots in Exposition Park as peripheral parking for Downtown Los Angeles to relieve traffic congestion in the inner city.

2. Page 6 -- It might be more definitive if the sentence in the third paragraph under "SETTING", Line 15, might read as follows:

   Uses within the Park include museums, a rose garden, a sports complex (arena/stadium), swimming pool, and community center.

3. Page 14 -- In reference to Number 13, "Transportation/ Circulation", we do have a couple of questions with regard to 'b' and 'c'. If on-street curb parking is removed in our area, will parking be made available elsewhere? How would an increase in vehicular traffic around the stations on Exposition at either Vermont or Figueroa be mitigated, if it impacts traffic attending events?

4. On Page 15 -- we would also ask under No. 14 "Public Services" how any affected pedestrian and/or vehicular access that might be affected would be mitigated?

5. Although I am certain that this is not a matter for the EIR, we would request that special schedules of the Light Rail Blue Line be in effect for events held in our facilities, particularly in the Coliseum.

If you have any questions concerning the content of this letter, please call.

Sincerely,

Margaret Farnum

(Mrs.) Margaret Farnum
Chief Administrative Officer

gbl

EXBD
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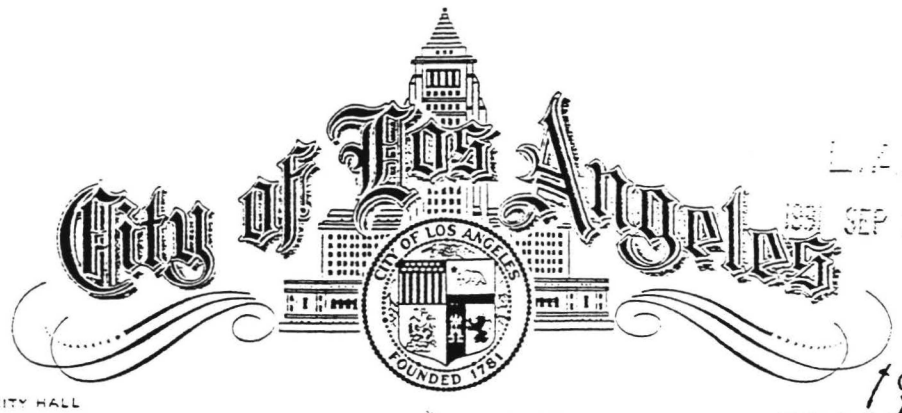
JR



L.A. C.T.C.
1991 SEP 25 PM 12:14

19213

CITY HALL
LOS ANGELES, CALIFORNIA 90012
(213) 485-3311

OFFICE OF THE MAYOR

TOM BRADLEY
MAYOR

September 23, 1991

Jim de la Loza
Los Angeles County Transportation Commission
818 West Seventh Street
Suite 1100
Los Angeles, CA 90017

Re: Exposition Park Branch Line Rail Transit Corridor Route NOP

Dear Mr. de la Loza:

I have reviewed the above and have one concern that needs to be addressed in the Draft Environmental Impact Report. I understand that 56 families currently reside at 2315 South Flower Street, a site which may be acquired for placement of the station or other site amenities. I would urge you to consider the environmental impact such displacement might work on such families, including, but not limited to:

a) The cost of the families' current rents;
b) The cost of replacement housing for such families;
c) The ability of LACTC to provide such families homes in proximity to where they now reside.

I know that LACTC is already legally required to provide relocation, not necessarily replacement, housing assistance to these families. Arguably, however, these families might require more than relocation assistance to truly mitigate the environmental impact caused by placement of the rail station or amenities at the proposed location.

The Mayor's Office strongly supports building of the Exposition Park Branch Line. This letter is sent merely to ask your consideration of the above.

Very truly yours,

Michael Bodaken
Housing Coordinator

cc: Jane Ellison

EXPORAIL
Exposition Rail Committee
P.O. Box 34-1483
Los Angeles, California 90034
213-394-3799 FAX 213-664-5529
September 10, 1991

Mr. Jim de la Loza
Los Angeles County Transportation Commission
818 West Seventh Street, Suite 1100
Los Angeles, CA 90017

Dear Mr. de la Loza:

The Exposition Rail Committee (formerly Committee to Preserve the Right-of-Way) is an independent citizens group volunteering our time in support of the LACTC's recent purchase of the Exposition right-of-way and for the use of this right-of-way for light rail transit.

We strongly support the LACTC's decision to begin the Route Refinement Study and Environmental Impact Report for the Metro Blue Line extension to the Exposition Park/USC area. This is a first step toward the potential use of the entire Exposition right-of-way, west to Santa Monica, and east to the Long Beach line as a Washington Blvd. express bypass.

Recognizing the importance of this first phase of Exposition, we would suggest addition to the Route Refinement Study of a route alternative to Flower Street between Adams Blvd. and Exposition Blvd. The benefits of this route alternative include:

- Faster running time
- A connection to an Exposition express bypass of Washington Blvd. east of the Harbor Freeway
- Potentially less cost, by combining construction with the planned Harbor Freeway improvements
- A transfer station with the Harbor Freeway Transitway

The attached description and diagrams provide more detail about this proposed route alternative.

Sincerely,

Alan Fishel
Chair

Darrell R. Clarke
Co-Director

ExpoExpress Option for the Exposition Park Branch Line

[1] *Orthopedic Hospital*

CalTrans has several location options for the new Flower Street Bridge. If the most westerly option is chosen, there would be room to:

1. Gradually bring the LRT tracks from at-grade along Flower near 23rd Street to aerial structure at the Harbor Freeway, following the east side of the proposed CalTrans HOV aerial structure on its way south. This would keep the LRT tracks further from the hospital than the existing freeway.

2. Maintain existing vehicular access from Flower Street, all grade-separated from the LRT tracks.

3. Provide a new parking area between the hospital main entrance and the LRT tracks.

[2] *Station at Jefferson Boulevard*

An attractive pedestrian promenade, built as part of a widened Jefferson Boulevard freeway overpass, could connect the station just east of the freeway to Flower Street. This distance is approximately 280 feet.

[3] *A Future LRT Easterly Extension*

With this option, future west-to-east and north-to-east LRT extensions would be greatly facilitated. Since all special trackwork would be located east of the freeway, a simple, more graceful aerial structure in the vicinity of Figueroa Street (Location **[5]**) could be built.

[4] *Interface with Transit Center and Busway*

This option would provide an at-grade station using the existing railroad underpass at the freeway which would have direct interface with the proposed CalTrans HOV/Busway station above and surface transit center to be built beneath the freeway at that location.

This LRT station would be particularly important for transit patrons traveling from the Harbor Freeway to the Santa Monica Corridor and vice-versa. It would also serve as an excellent surface transit feeder for central-city-bound LRT traffic as well. The planned Flower Street alignment would not directly interface with this facility and would therefor likely lose a valuable source of transit patrons.

[5] *LRT Aerial Structure over Figueroa Street*

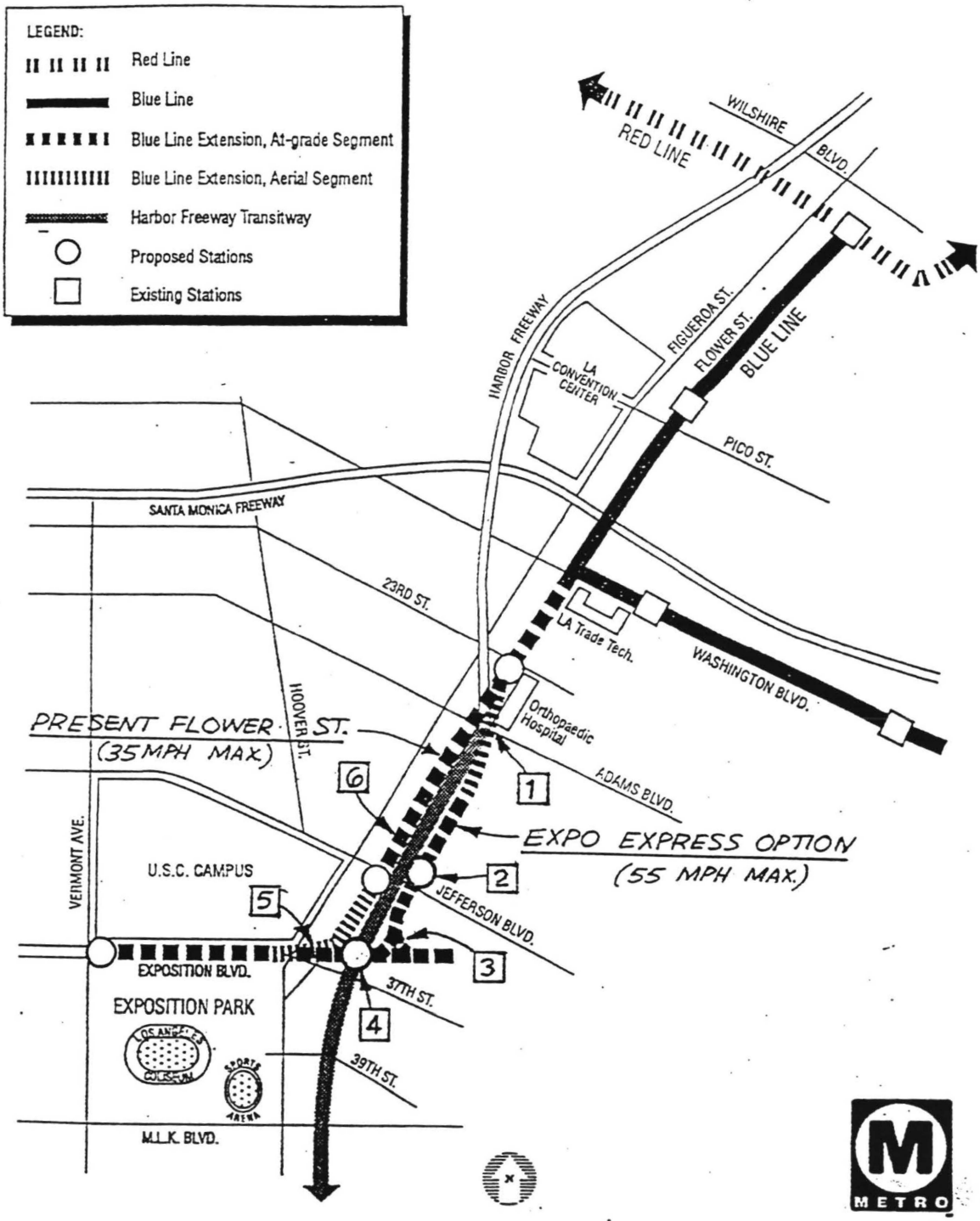
Please see discussion of Figueroa Street in Item **[3]**.

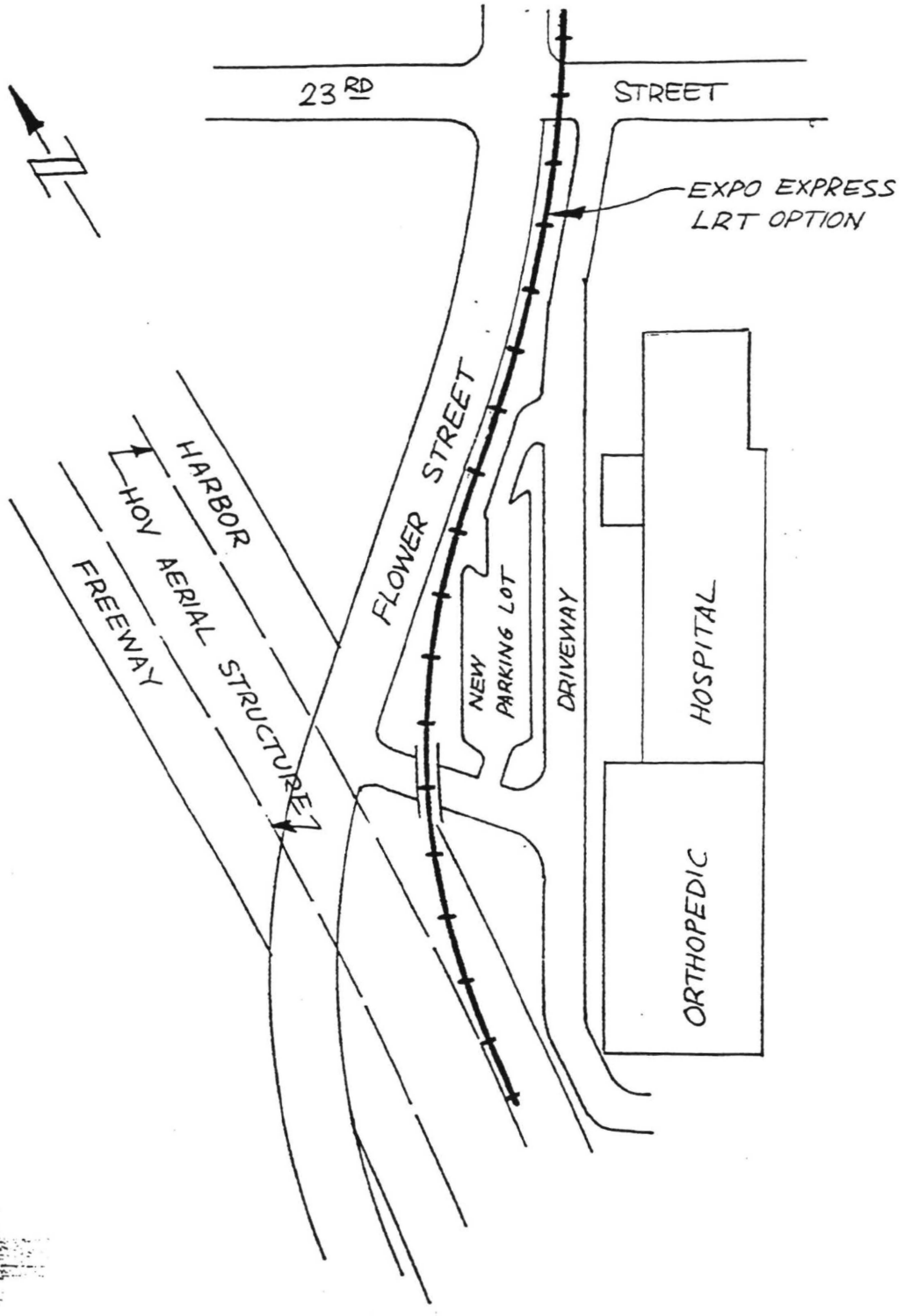
[6] *Flower Street South of Adams Boulevard*

With the ExpoExpress option, this portion of Flower Street could be fully beautified free of the physical limitations imposed by the LRT tracks and wires. The excess CalTrans right-of-way now required for the LRT tracks could be incorporated into the streetscape improvements.

PROPOSED EXPOSITION PARK BRANCH LINE

EXPO-EXPRESS LRT OPTION





1 ORTHOPEDIC HOSPITAL

SAINT VINCENT DE PAUL CHURCH
621 WEST ADAMS BOULEVARD
LOS ANGELES, CALIFORNIA 90007
(213) 749-8950

SEP 23 1991

SEPTEMBER 19, 1991

191509

Jim de la Loza
Los Angeles County Transportation Commission
818 West Seventh Street #1100
Los Angeles, 90017, CA

Re: Exposition Park Branch Line
Rail Transit Corridor Route

Dear Mr. de la Loza,

I am writing to you regarding the impact of the proposed Exposition Park line on the residents of the apartment at 2315 So Flower Street, directly across the street from the Orthopaedic Hospital.

In the preliminary studies that I have seen, there has been discussion regarding a possible Metro Station at 23rd and Flower which would be a wonderful convenience for Orthopaedic Hospital and one that we would support.

On page 6 of the Report it is noted that " at station sites and possibly other specific locations along the alignment, track constraints and additional station site amenities such as park and ride facilities and bus transfer areas may require some private property acquisitions". "along Flower Street to the Harbor Freeway is mostly light industrial uses on the west side of Flower (where the Apartment is located) with the Orthopaedic Hospital located on the east side between 23rd Street and the Harbor Freeway over pass."

Litt, Marquez & Fajardo is representing the residents of 2315 So. Flower in a slum landlord suit against Robert Gluckstein, the owner of the building. My concern is for the residents of the 56 apartments who may have to find affordable housing in an area where there is no available housing for low income families. If the owner accepts an offer from LATC for his property, I want to make sure that there is provision for *replacement housing* as well as relocation costs for the residents.

SAINT VINCENT DE PAUL CHURCH
621 WEST ADAMS BOULEVARD
LOS ANGELES, CALIFORNIA 90007
(213) 749-8950

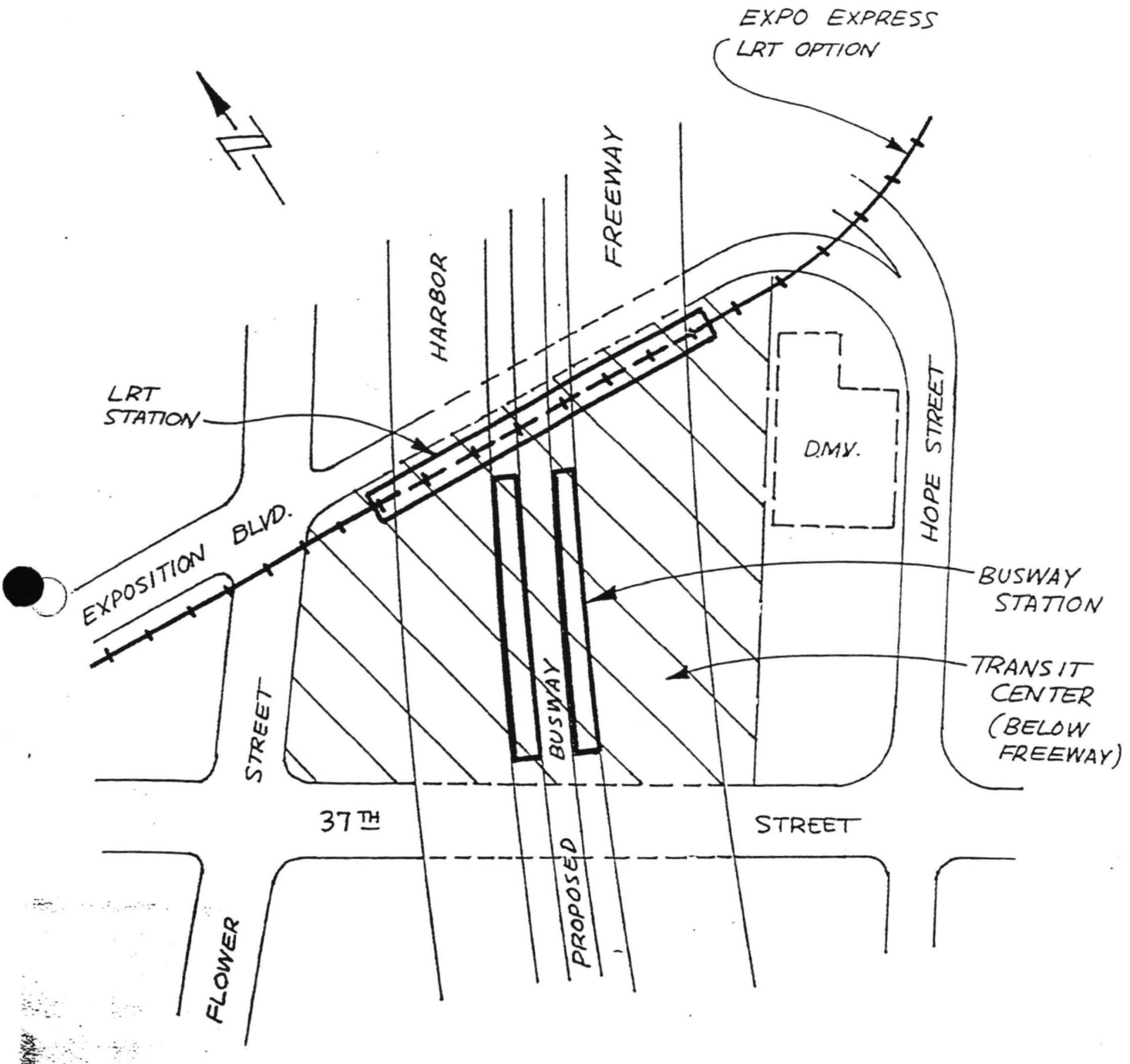
I can appreciate the fact the Blue Line will need a station and additional amenities. I want to be sure that the needs of the residents in the apartment are also considered.

If you have need of additional information please contact me.

Sincerely,

Sr. Diane Donoghue

Sr. Diane Donoghue



4 INTERFACE WITH TRANSIT CENTER AND BUSWAY

PREP NOT - 12 DRAFT

L.A. C.T.C.
191050 1991 SEP 19 AM 11:45

Pete Wilson
Governor
State of California

Board of Directors

Fred L. Friedman
President

James Dickason
Vice President

Michael D. Bagdasarian

Jesse A. Brewer

N. Matthew Grossman

Alexander Haagen

Christy Campbell Walters

Jeffrey N. Rudolph
Executive Director

MEMORANDUM TO: Jim de la Loza, LACTC

FROM: Sue Glad, Deputy Director for External Affairs

RE: Notice of Preparation of a Draft EIR

DATE: September 17, 1991

Regarding the Notice of Preparation Document requesting comments from the affected agencies, the following points should be noted:

1. Page 2 (I), the California Museum of Science and Industry would prefer wording to describe the location of the third station "at a point on Exposition Boulevard between Figueroa Street and Vermont Boulevard", rather than any possible designation of the station's location.

2. On Page 15, 14. Public Services, c) Schools. You should add that a new school will be developed in Exposition Park in conjunction with the museum and although the exact location has not yet been determined, the alignments could have an effect on that school, as well as Los Angeles Trade Tech and the University of Southern California.

NATURAL HISTORY MUSEUM
of Los Angeles County

L.A.C.T.C.
1991 SEP 24 AM 10 59

900 Exposition Boulevard
Los Angeles, California 9000

September 20, 1991

Mr. Jim de la Loza
Los Angeles County Transportation
Commission
818 West Seventh Street
Suite 1100
Los Angeles, CA 90017

Dear Mr. de la Loza:

The Museum of Natural History is pleased to report it is in concurrence with the EIR development as proposed.

It is requested that all information regarding this project be forwarded to **Mark A. Rodriguez, Chief Deputy Director.**

Sincerely,

MARK A. RODRIGUEZ
Chief Deputy Director

MAR/cec

Orthopaedic Hospital

Richard McCarthy
Executive Vice President/Administrator

October 1, 1991

Mr. Jim de la Loza
Los Angeles County Transportation Commission
818 West Seventh Street Suite 1100
Los Angeles, CA 90017

Dear Jim,

Thank you for sending the Draft Environmental Impact Report to Orthopaedic Hospital for review and comment. I would like to outline the concerns that Orthopaedic Hospital has regarding any significant construction and/or increased traffic flow in proximity to the hospital. I am also enclosing a report developed by Hospital staff last year in response to the planned Cal Trans HOV project. Some of the issues raised in this study may be relevant to the EIR study and should be given consideration in both route planning and construction plans for the Blue Line Project.

We are primarily concerned with maintenance of good access to the Hospital including access from Flower Street and full access to the rear of the hospital from 23rd Street. We believe that access can best be maintained by placement of the light rail line along a right of way on the west side of Flower. Placement of the light rail line in the center of Flower or on the east side of the street would significantly reduce both northbound and southbound entry to the Hospital. We also want to be certain that the Light Rail project will not negatively impact the eastbound and westbound traffic flow on 23rd Street. Many of our patients access the hospital through the 23rd Street entrance.

Other environmental issues relate to noise levels and vibration levels during the light rail construction phases as well as any impact resulting from ongoing light rail operations. We also are interested in processes to mitigate ambient dust flow during construction. Concerns related to these issues are described in greater detail in the attached report.

We would be pleased to work with you and the EIR consultants to be certain that the above outlined issues are appropriately considered in the Environmental Assessment.

Best regards,

Rich McCarthy

Richard McCarthy

Los Angeles Trade-Technical College
400 WEST WASHINGTON BLVD
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L.A.C.T.C.
1991 OCT -7 PM 1:14

194284

October 1, 1991

Jim de la Loza
Los Angeles County Transportation Commission
818 West Seventh Street, Suite 1100
Los Angeles, CA 90017

Dear Mr. de la Loza;

RE: EXPOSITION PARK BRANCH LINE TRANSIT CORRIDOR ROUTE

In response to the Draft Environmental Impact Report dated September 6, 1991, there are two Transportation/Circulation issues which are of concern to our institution.

1. The precedence of trains over vehicular traffic should be reversed. As the Blue Line is currently configured, vehicular traffic has precedence over the trains. Due to the ability of trains to carry much larger numbers of people more efficiency, trains should have precedence. People are more inclined, I believe, to ride the train when its faster than driving a car. It is my understanding that this was the same issue that ultimately led to the decline of the Red Car system years ago.

2. In addition to the precedence issue, the specific plan for Flower Street indicates the possibility of the train line switching from an easterly alignment to a westerly alignment between Washington Blvd. and 23rd St. I believe this swerving trainline will cause a major traffic obstacle on Flower St. when it becomes a High Occupancy Vehicle (HOV) on-ramp for the Harbor Freeway. If the street must be crossed, I would suggest an aerial guideway be considered.

Obviously I am trying to minimize traffic congestion in the vicinity of our college. The Blue Line has been very well received by both our students and staff and I anticipate the Exposition Line will also be positively received.

Sincerely,

James A. Grivich
Vice President, Administration

91-094

L.A.C.T.C.
1991 SEP 13 PM 1:10

James W. Norton
600 West Ninth Street, No. 1001
Los Angeles, California 90015

September 12, 1991

Mr. James L. de la Loza
Project Manager, Central Area
Los Angeles County Transportation Commission
818 West Seventh Street
Los Angeles, California 90017

Dear Mr. de la Loza:

I attended the public workshop/scoping meeting at the Sports Arena featuring the proposed Blue Line Exposition Branch Line. It appears that the various entities involved with--or affected by--the project are eager to cover all bases, as well as get the project going as soon as practical.

As a long-time employee and resident of "South Downtown" (I work at the Automobile Club of Southern California and live in the Skyline Condominiums), I am encouraged by the Blue Line extension--it is a very good idea, both in terms of better transportation service and, perhaps more importantly, positive urban development.

Three elements that came quickly to mind when reviewing the proposal are these:

1. There doesn't really need to be a choice between building a Vermont Avenue or a USC/Exposition Park station. Throughout the world, rapid transit stations, including approaches, ramps and platforms, often extend 800 feet or more. If both-end access is provided at the station, the west end could focus on Vermont, the east end on USC/Exposition Park.

2. A close coordination between the Exposition Boulevard Station of the Harbor Freeway Transitway and a Blue Line station should be established. The proposed Jefferson Boulevard Station, if placed to the south of Jefferson, would probably work--Exposition is less than 1000 feet from Jefferson at this point.

3. The proposed 23rd Street Station should focus on Adams Boulevard rather than 23rd. Adams is a major transit and employment corridor; 23rd isn't a major anything. By making 23rd a double-end station, Trade Tech would also be well served.

Thank you for your attention. I look forward to following the development of this important new transit line.

Jim Norton

James W. Norton

APPENDIX C

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