DRAFT ENVIRONMENTAL IMPACT STATEMENT
BUS MAINTENANCE FACILITY
WEST SAN FERNANDO VALLEY

Los Angeles, California

October 1976

Prepared for
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

Prepared by
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SUMMARY

Introduction

This report documents the environmental impact assessment findings for four alternative sites in the West San Fernando Valley which are being considered as possible locations for a bus operation and maintenance facility. Such a facility would provide support to the expanded bus fleet required for the San Fernando Grid Bus Service system.

Purpose of Environmental Impact Assessment

The National Environmental Policy Act of 1969 (NEPA) established a broad national policy to promote efforts to improve the relationship between man and his environment. Under Section 102(2)c of NEPA, an Environmental Impact Statement (EIS) may be required for any federally-funded action. Every recommendation concerning major federal actions significantly affecting the quality of the human environment must include a statement by the reponsible official concerning:

- The environmental impact of the proposed action.
- Any adverse environmental effects which cannot be avoided, should the project be implemented.
- Alternatives to the proposed action.
- The relationship between local short-term use of man's environment and the maintenance and enhancement of long-term productivity.
- Any irreversible or irretrievable commitments of resources which would be involved in the proposed action, should it be implemented.

Section 14 of the Urban Mass Transportation Act requires that every project application include a detailed analysis of the environmental impacts of projects for which capital assistance is sought. In fulfilling its responsibility under this Act, the Urban Mass Transportation Administration requires that the Southern California Rapid Transit District (SCRTD) submit as part of a capital grant application, an assessment of environmental impacts that the project may have. This analysis must also address issues and objections identified during a formal review period by federal agencies, state and local entities, and citizens.

In addition, under provisions of the California Environmental Quality Act of 1970 (CEQA), the EIS must include a discussion of "mitigation measures" and "growth-inducing impact" in order to simultaneously satisfy state environmental reporting requirements.

This Environmental Impact Statement has been prepared in compliance with the preceding federal and state requirements.

Project Description[1]

As part of its program to improve bus service throughout the District, SCRTD has initiated Grid Bus Service in the San Fernando Valley. To fully implement this improved level of service, SCRTD has substantially increased the bus fleet operating in the Valley. In order to operate and maintain the increased fleet in a cost-effective manner, two new bus maintenance facilities are proposed by SCRTD--one in the East San Fernando Valley and one in the West San Fernando Valley.

As shown in Figure 1, four sites are under active consideration in the West Valley. The purpose of this EIS is to document the environmental assessment performed for the proposed West Valley Facility to be located at one of the following sites: De Soto Site--De Soto Avenue, near Ventura Freeway; Canoga Site--Canoga Avenue, near Ventura Freeway; Corbin Site--Corbin Avenue, at Nordhoff Street; and Nordhoff Site--Nordhoff Street at Canoga Avenue (see Figure 1).[2]

Twenty-seven alternate sites were considered in the West Valley, in addition to the four selected sites.[3] In addition, the possibility of expanding the existing Division 8 Facility on Sherman Way was considered; however, it was rejected since it is surrounded by fully developed property. The selected West Valley sites were favored over the other contending sites, based on environmental, socioeconomic, and bus-operational considerations.

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[1] A more detailed project description is presented in Section 1 of this document.

[2] Two sites, designated Nordhoff-East and Nordhoff-West, were initially considered near the intersection of Nordhoff Street and Canoga Avenue. The Nordhoff-East Site was subsequently dropped from further consideration. The use of the term "Nordhoff Site" in this EIS refers to the Nordhoff-West Site.

[3] Section 9 presents a more detailed discussion of alternatives to the proposed project, while Section 10 includes the citizen input received at the three community information meetings.

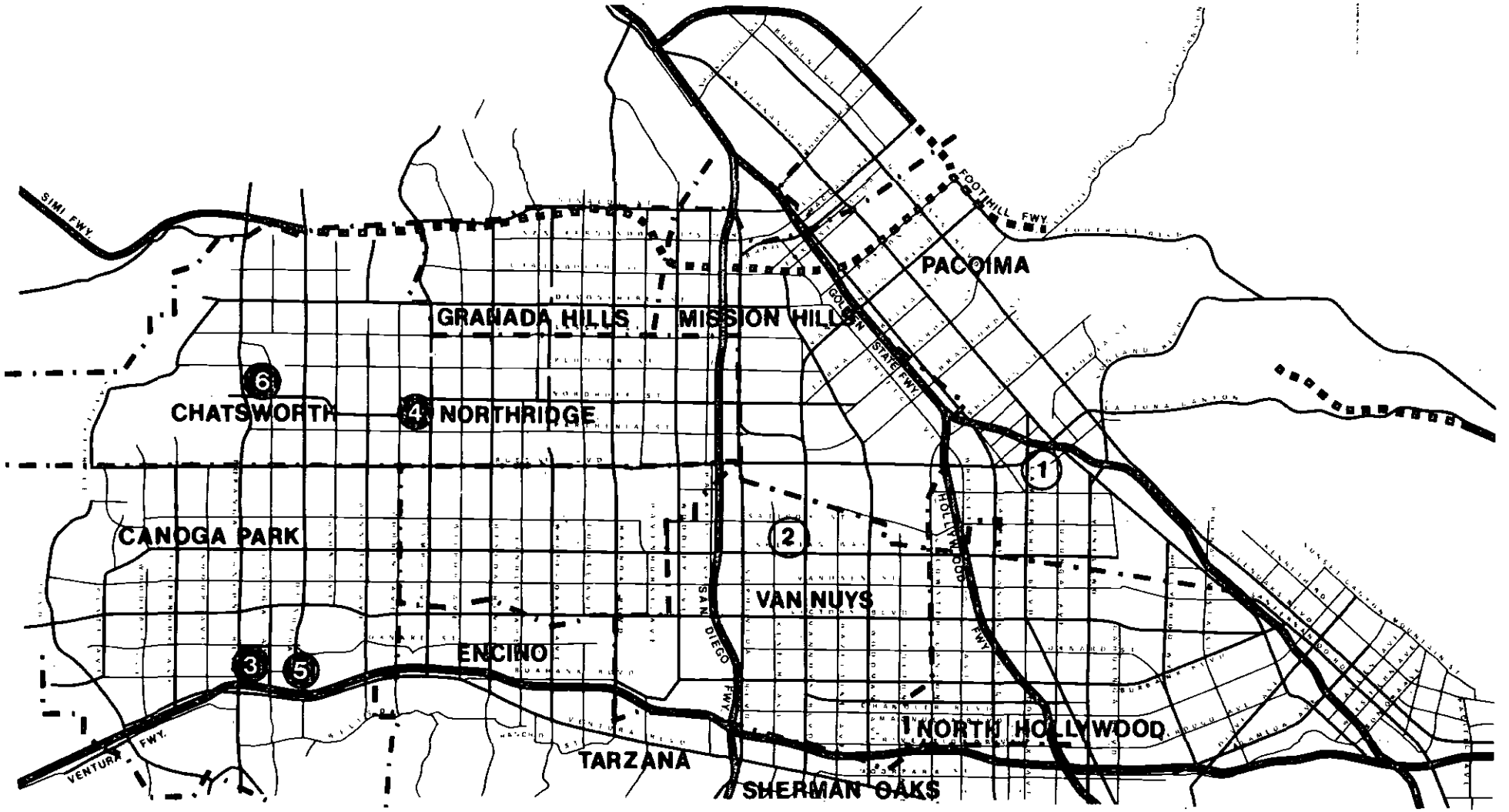

Figure: 1
BUS MAINTENANCE FACILITY LOCATIONS: SAN FERNANDO VALLEY

SCALE IN MILES

NORTH

Legend:

EXISTING FACILITIES

(1) DIVISION 15

(2) DIVISION 8

PROPOSED WEST VALLEY FACILITIES

(3) WEST VALLEY: CANOGA SITE

(4) WEST VALLEY: CORBIN SITE

(5) WEST VALLEY: DE SOTO SITE

(6) WEST VALLEY: NORDHOFF SITE

The actual maintenance facility proposed for the West Valley is similar to the existing Division 9 Facility in El Monte and consists of the following elements:[1]

- o A site of approximately 18 acres.
- o Parking for 250 buses.
- o Parking for 300 employee vehicles.
- o Transportation Building (bus operators' lounge area, showers, locker rooms, classroom, and offices for administrative personnel) of approximately 15,000 square feet.
- o Maintenance Building of approximately 30,000 square feet.
- o Bus Fuel and Vacuum Cleaning Facility.
- o Bus Washer Facility.

This completes a brief summary of the site evaluation, site plan refinement, and facility description of the proposed West Valley project. The next section summarizes the impact assessment findings and compares the findings for the four alternative sites.

Impact Assessment Summary

According to the project development schedule, construction on the proposed West Valley bus maintenance facility is planned to begin in the fall of 1978 and be completed by the fall of 1979. During this period, temporary inconvenience related to construction noise, associated dust, and truck traffic can be expected near the De Soto and Corbin Sites. However, these construction impacts are minimized to the greatest extent possible through provisions of the California Standard Specifications which are contained in SCRTD construction contracts. Construction-related impacts near the Canoga Site would be insignificant, given the existing surrounding uses and the ongoing construction activities related to the Warner Center. Construction-related impacts near the Nordhoff Site would be insignificant, given the existing surrounding uses.

[1] More detailed descriptions of the proposed West Valley Facility and the existing Division 9 Facility are presented in Section 1.

Once construction is complete (including sound-barrier walls and landscaping treatments), and full operations begin, the operation of on-site equipment would produce no perceptible noise impact upon adjoining land uses near any of the four sites. The proposed routing of buses and employee vehicles to and from any of the alternative sites would similarly produce no significant noise impact, although sensitive observers near the De Soto Site may perceive the noise related to bus operations. For the Corbin Site, the exclusive utilization of Nordhoff Street for bus movements would be necessary to meet the no-significant-noise-impact criterion.

With the proposed architectural treatment and landscaping around the exterior of the facility, the project (at any of the four sites) should not create any major, adverse, visual or aesthetic impacts, as viewed from adjoining uses. For the Canoga Site, this conclusion assumes that the trees along the northern boundary are preserved.

While the increased bus and automobile traffic around the alternative sites would produce slight increases in localized carbon monoxide levels, the concentrations will be well within the applicable state and federal air quality standards. Odors related to bus idling and pullouts would not likely be perceptible to nearby residents, even under worse-case wind conditions. In the long term, the level of impacts associated with the facility (at all sites) would remain constant. Presence of the facility should not be a deterrent to the planned future use of adjacent properties.

Table 1 briefly summarizes the findings for each site and environmental factor, and references the section within the body of the report which documents these findings. Also noted on Table 1 are those environmental findings which are significantly different between the four alternative sites; that is --

- Land Use and Urban Growth
- Community Disruption
- Access/Barrier Effect
- Aesthetics
- Ecosystems

Table 1
WEST VALLEY BUS MAINTENANCE FACILITY IMPACT SUMMARY

Environmental Factor	Comment			
	De Soto Site	Canoga Site	Corbin Site	Nordhoff Site
SOCIOECONOMIC ENVIRONMENT				
1. *Land Use and Urban Growth* *	Project would convert existing agricultural use to an urban use (light industrial). The project would be compatible with the adopted community plan (see Section 3.2.1). LIMITED MR1	Project would convert existing agricultural use to an urban use (light industrial). The adopted community plan indicates high-medium residential use for the proposed site (see Section 3.2.1). NON-CONFORMING USE	Project would convert existing vacant land to an urban use (light industrial). The project would be compatible with the adopted community plan (see Section 3.2.1). MR2	Project would convert existing vacant land to an urban use (light industrial). The project would be compatible with the adopted community plan (see Section 3.2.1). MR2
2. *Displacement*	No significant effect anticipated (see Section 3.2.2).	Project would require displacement of ranch structures and current residents (see Section 3.2.2).	No significant effect anticipated (see Section 3.2.2).	No significant affect anticipated (see Section 3.2.2).
3. *Community Disruption* *	The final facility site and operational plan, in conjunction with the recommended mitigation measures (including optional bus routing scheme), would minimize disruption to the greatest extent possible (see Section 3.2.3).	No significant effect anticipated (see Section 3.2.3).	The final facility site and operational plan, in conjunction with the recommended mitigation measures, would minimize disruption to the greatest extent possible (see Section 3.2.3).	No significant effect anticipated (see Section 3.2.3).
4. *Access/Barrier Effect* *	Bus operations on De Soto Avenue could adversely affect the movement (by foot or bicycle) of students to Parkman Junior High School. Use of an optional bus routing scheme (Burbank Boulevard to Canoga Avenue) could greatly reduce such impact (see Section 3.2.4).	No significant effect anticipated		
5. *Fiscal Impact*	The project would result in a recurring property tax-revenue loss of $32,000 annually (see Section 3.2.5).	The project would result in a recurring property tax-revenue loss of $28,000 annually (see Section 3.2.5).	The project would result in a recurring property tax-revenue loss of $40,000 annually (see Section 3.2.5).	The project would result in a recurring property tax-revenue loss of $22,000 annually (see Section 3.2.5).

* Significant difference between sites for this environmental factor.

Table 1 (continued)
WEST VALLEY BUS MAINTENANCE FACILITY IMPACT SUMMARY

Environmental Factor	Comment			
	De Soto Site	*Canoga Site*	*Corbin Site*	*Nordhoff Site*
SOCIOECONOMIC ENVIRONMENT (continued)				
6. *Aesthetics**	Given the existing setting, the compatibility with the community plan, and the use of walls and exterior landscaping around the site, the proposed project should not result in adverse aesthetic impacts to adjoining uses (see Section 3.2.6).	The proposed project would require the removal of many mature trees and other ground cover. Preservation of the trees along the northern boundary, combined with the use of walls and exterior landscaping around the site, would somewhat minimize the aesthetic impact of the proposed action (see Section 3.2.6).	Given the existing setting, the compatibility with the community plan, and the use of walls and exterior landscaping around the site, the proposed project should not result in adverse aesthetic impacts to adjoining uses (see Section 3.2.6).	Given the existing setting, the compatibility with the community plan, and the use of walls and exterior landscaping around the site, the proposed project should not result in adverse aesthetic impacts to adjoining uses (see Section 3.2.6).
7. *Historical and Archaeological*	The proposed project would not jeopardize any known historical and archaeological resources (see Section 3.2.7).	The proposed project would not jeopardize any known historical and archaeological resources (see Section 3.2.7).	The proposed project would not jeopardize any known historical and archaeological resources (see Section 3.2.7).	The proposed project would not jeopardize any known historical and archaeological resources (see Section 3.2.7).
PHYSICAL ENVIRONMENT				
1. *Traffic and Transportation*	The proposed project would result in localized increased bus and employee-vehicle traffic on De Soto Avenue, Burbank Boulevard, and the Ventura Freeway. No congestion is anticipated (see Section 3.3.1).	The proposed project would result in localized increased bus and employee-vehicle traffic on Canoga Avenue and the Ventura Freeway. No congestion is anticipated (see Section 3.3.1).	The proposed project would result in localized increased bus traffic on Nordhoff Street and increased automobile traffic on Parthenia Street. No congestion is anticipated (see Section 3.3.1).	The proposed project would result in localized increased bus and employee traffic on Nordhoff Street and Canoga Avenue. No local congestion is anticipated (see Section 3.3.1).

* Significant difference between sites for this environmental factor.

Table 1 (continued)
WEST VALLEY BUS MAINTENANCE FACILITY IMPACT SUMMARY

Environmental Factor	Comment			
	De Soto Site	Canoga Site	Corbin Site	Nordhoff Site
PHYSICAL ENVIRONMENT (continued)				
2. *Noise Impact*	The provision of a six-foot wall on the eastern boundary of the site would effectively mitigate noise impacts from on-site activities. Routing of buses via Burbank Boulevard and Canoga Avenue would minimize potential off-site noise impacts (see Section 3.3.2).	The provision of a six-foot wall on the northern boundary of the site would effectively mitigate noise impacts from on-site activities. Routing of buses via Canoga Avenue and the Ventura Freeway would minimize off-site noise impacts (see Section 3.3.2).	The provision of a six-foot wall on the southern and western boundaries of the site would effectively mitigate noise impacts from on-site activities. Routing of buses on Nordhoff Street would minimize off-site noise impacts (see Section 3.3.2).	The provision of a six-foot wall on the eastern and southern boundaries of the site would effectively mitigate noise impacts from on-site activities. Routing of buses on Nordhoff Street would have no significant noise impect on surrounding uses (see Section 3.3.2).
3. *Air Quality*	No significant effects on local or regional air quality are anticipated (see Section 3.3.3)			
	see p 108, 117			
4. *Water Resources*	No significant effect anticipated (see Section 3.3.4).			
5. *Energy*	No significant effect anticipated (see Section 3.3.5).			
6. *Ecosystems**	No significant effect anticipated (see Section 3.3.6).	Development of the proposed project on this site would require the removal of most trees and other ground cover. This action, combined with paving, would virtually eliminate all resident wildlife (see Section 3.3.6).	No significant effect anticipated (see Section 3.3.6).	No significant effect anticipated (see Section 3.3.6).
7. *Geology and Soils*	No significant effect anticipated (see Section 3.3.7).			
8. *Seismic*	No significant effect anticipated (see Section 3.3.8).			

* Significant difference between sites for this environmental factor.

With respect to Land Use and Urban Growth, the proposed facility at the De Soto, Corbin, and Nordhoff Sites is fully compatible with the adopted community plan. The future use of the Canoga Site is indicated as high-medium residential, as opposed to the light-industrial classification of the proposed bus maintenance facility. Discussions between SCRTD and the Los Angeles City Planning Department staff have indicated that an expanded project, including a park-and-ride lot on the remaining portion of the Canoga Site or De Soto Site, may be considered a compatible land use in the context of the Warner Center.[1]

Given the existing uses around the Canoga Site, the proposed project would have essentially no disruptive impact to the existing community. The proposed project mitigation measures, combined with the opportunity to adapt future adjacent developments to the presence of the facility, should effectively eliminate the potential for disrupting the future community (Warner Center and environs). Given the existing and proposed uses around the Nordhoff Site, the proposed project would create no significant disruptive impacts.

In comparison, the proposed project at either the De Soto or Corbin Site would be somewhat disruptive to the adjacent residential community. However, the proposed mitigation measures and vehicular routing would minimize such disruption to the greatest extent possible. In the case of the De Soto Site, an optional bus-routing scheme (Burbank Boulevard to Canoga Avenue) would be required to minimize such potential disruption.

The proposed Canoga, Corbin, and Nordhoff Sites would not create any access/barrier impacts with respect to either pedestrian or vehicular traffic. However, potential for such impact exists with respect to the De Soto Site, where increased bus traffic along De Soto Avenue may hinder the movement of students (by foot or bicycle) to Parkman Junior High School. The optional bus-routing scheme previously noted would greatly reduce potential for such access/barrier effect of facility operations at this site.

In terms of aesthetic impacts, the project at any of the four sites would significantly alter the existing visual environment. At the De Soto, Corbin, and Nordhoff sites, this would mean the conversion of an open field to a facility with four medium-sized structures, surrounded by a wall with exterior landscaping. On the other hand, development of the facility at the Canoga Site (combined with the proposed widening of Canoga Avenue) would require the removal of a significant number of large trees and other ground cover, to be replaced by a facility as described for the De Soto and Corbin

[1] The impacts of such an expanded project would be accordingly greater; thus, a supplement of this EIS would be required if the scope of the proposed project on the Canoga Site is enlarged.

Sites. However, preservation of the trees along the northern boundary of the Canoga Site, combined with the use of properly designed walls and exterior landscaping around the site, would somewhat lessen, but not eliminate, the probable aesthetic impact.

The removal of most trees and ground cover at the Canoga Site, combined with the required paving for the bus facility, would virtually eliminate all resident wildlife. By comparison, no significant ecosystem impacts are anticipated at the De Soto, Corbin, or Nordhoff Sites.

1. DESCRIPTION OF PROPOSED PROJECT

1.1 Introduction

The development of a new bus maintenance facility for the West San Fernando Valley by the Southern California Rapid Transit District is an action undertaken to provide cost-effective supportive facilities for the implementation of an expanded program of public transportation service for the Valley. This program, seeking to improve the existing grid system essentially by providing greater frequency of service, and additional routes (Figure 2), calls for the acquisition of approximately 200 new buses, which will bring the total Valley fleet to 600. The West Valley maintenance facility will be the primary support location for approximately 250 of these buses. Another new bus maintenance facility, for the East San Fernando Valley, is currently being planned.[1] An existing facility, Division 8 in Van Nuys, California, may be maintained to provide additional support services for up to 100 buses; alternatively, it may be converted to a park-and-ride facility (Figure 1).

1.2 Location and Boundaries

De Soto Site

One of the proposed sites for the facility is a 28-acre site located on the northwest corner of the intersection of De Soto Avenue and the Ventura Freeway (Figure 3). The site is rectangular in shape, and the southernmost 18 acres would be utilized for the bus maintenance facility. SCRTD is exploring the possibility of utilizing additional acreage for a park-and-ride facility. (The total parcel area is 20 acres.)[2] The total site is bounded on the north by vacant industrial land, on the east by Parkman Junior High School, on the south by the Ventura Freeway, and on the west by the Litton Industries parking lot.

Canoga Site

This proposed alternative site, which is approximately one-quarter mile to the west of the De Soto Site, is an 18-acre parcel located on the west side of Canoga Avenue, north of the Ventura Freeway (Figure 4). The site is somewhat irregular in shape, being wider at one end than at the other, with

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[1] See: SCRTD Draft Environmental Impact Statement--Bus Maintenance Facility, East San Fernando Valley, Los Angeles, California.

[2] The impacts of such an enlarged project would generally be greater than the bus maintenance facility alone; thus, a supplement to this EIS would be required if the scope of the proposed project is enlarged.

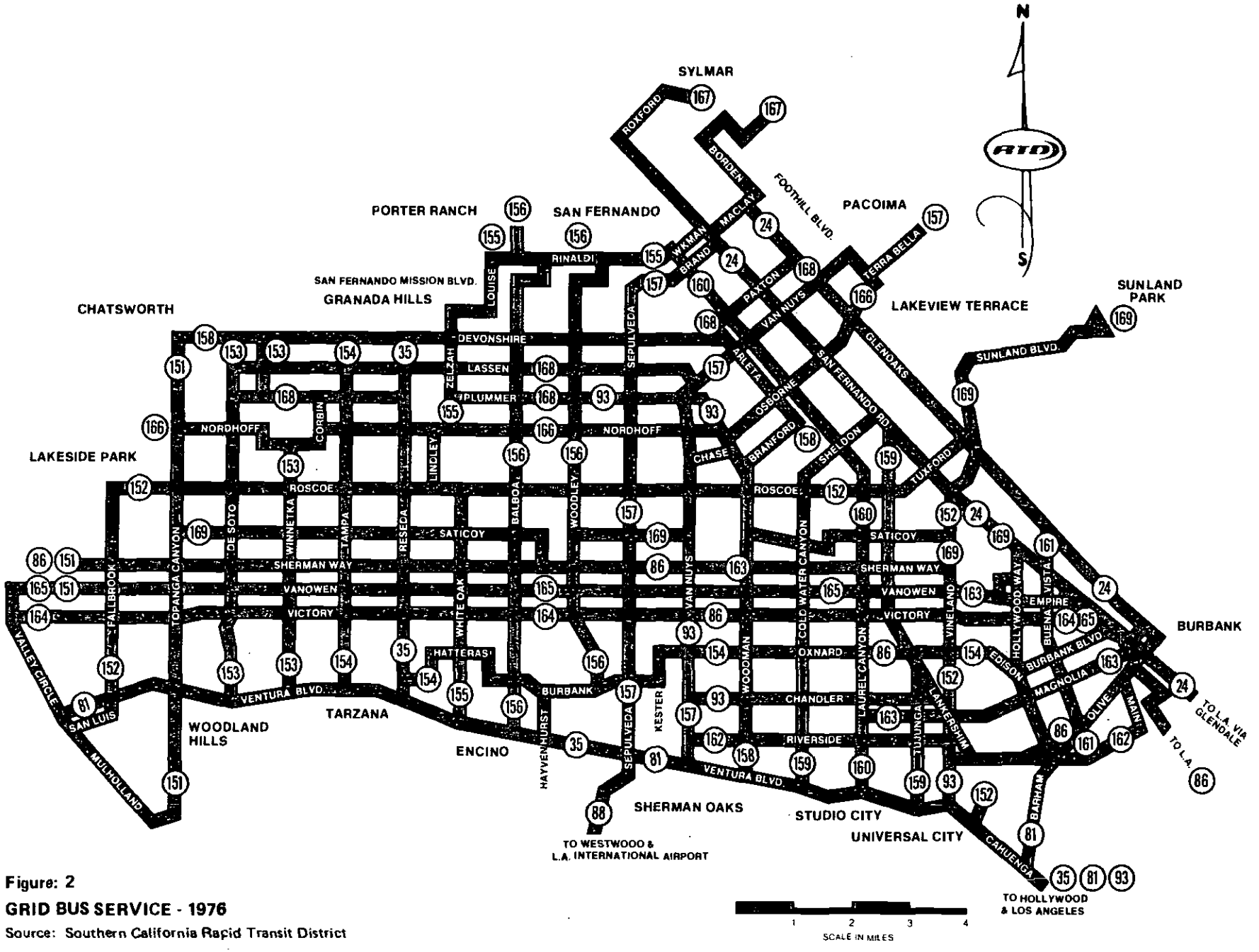


Figure: 2

GRID BUS SERVICE - 1976

Source: Southern California Rapid Transit District

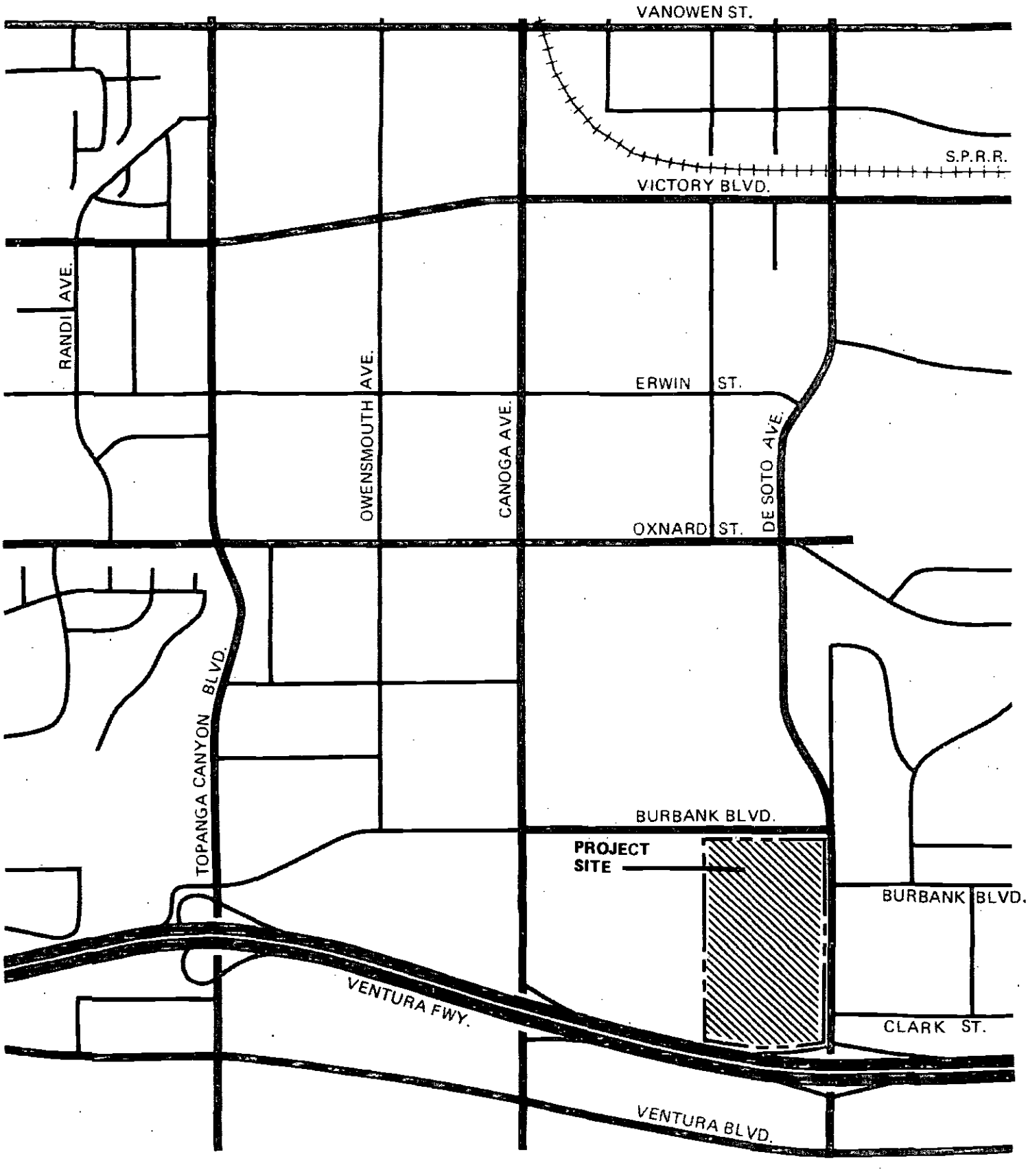


Figure: 3

PROPOSED PROJECT LOCATION: DE SOTO SITE

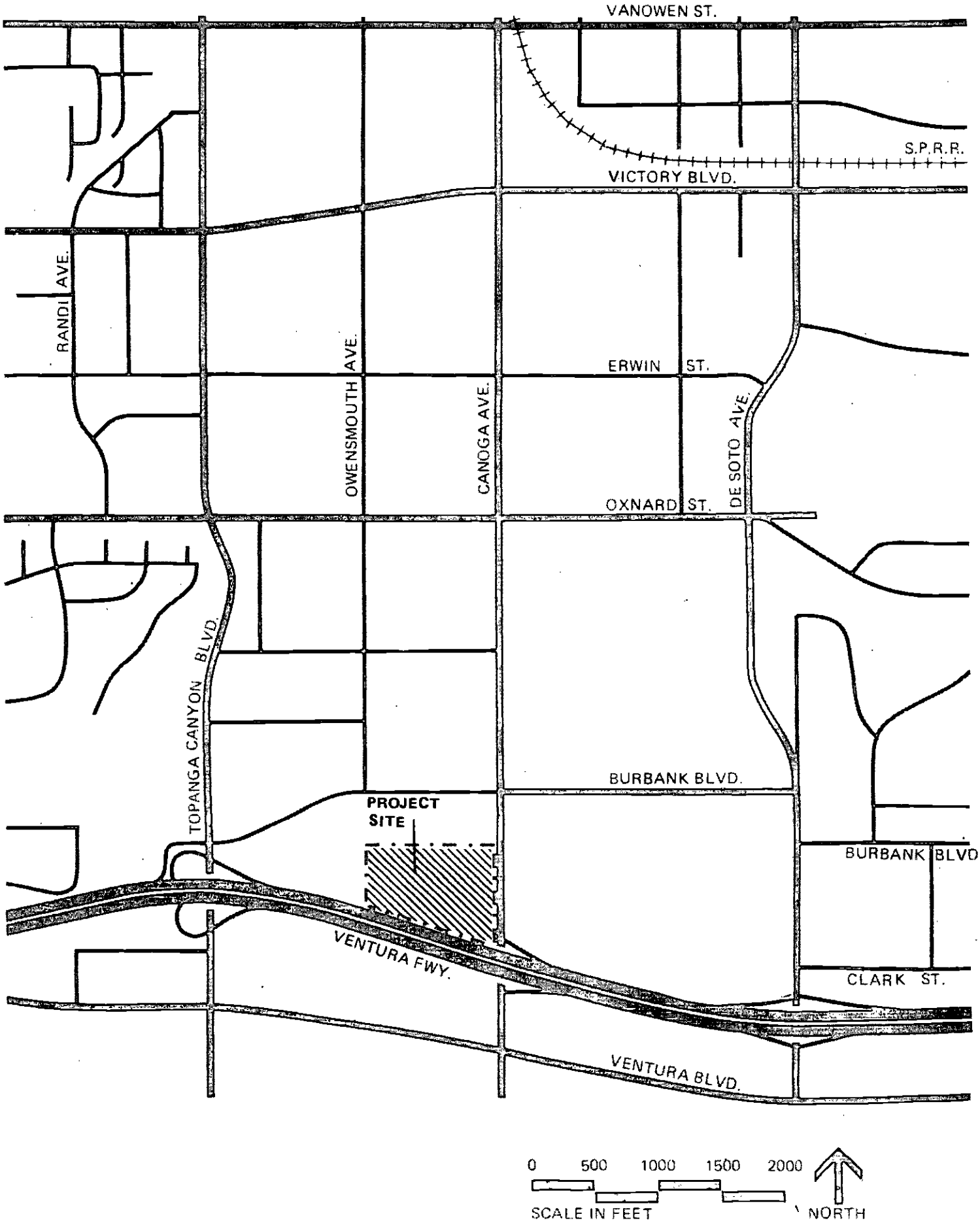


Figure: 4
PROPOSED PROJECT LOCATION: CANOGA SITE

frontage on the east onto Canoga Avenue; the eastern boundary of the property fronts onto the proposed extension of Owensmouth Avenue. The site is bounded to the north by a portion of the Bayly Ranch, the east by an industrial park, the south by the Ventura Freeway, and the west by a plant nursery operation.

Corbin Site

The proposed site for the facility is a 17.97-acre site located on the southwest corner of the intersection of Corbin Avenue and Nordhoff Street; a small rectangular portion of the site fronts onto Parthenia Street (Figure 5). The northern edge of the proposed site is bounded by the extension of Nordhoff Street, presently not developed as a through traffic street. The eastern and southern boundaries of the site face existing industrial and commercial development, respectively. The western boundary, Corbin Avenue, faces existing residential development.

Nordhoff Site

This proposed alternative site is a 17.93-acre, rectangular parcel located on the northwest corner of Nordhoff Street and Canoga Avenue (Figure 6). The site is bounded to the south by predominantly industrial and commercial development. The northern boundary faces on undeveloped land, as does most of the western boundary. Adjacent to the southwesterly corner of the site are a truck parking area and a small commercial use; the eastern boundary faces a Southern Pacific Railroad line and an equestrian center.

1.3 Major Elements

Primary components of the proposed facility at each of the alternative sites (Figures 7, 8, 9, and 10) would include the following:

- Maintenance Building

  Size: 30,000 square feet.

  Function: To maintain and service the coaches assigned to the Division, including bus inspection, engine tuneups, minor overhaul, tire repair, engine steam cleaning, and automobile repair. The maintenance building also contains the following facilities: supply rooms, lunch and locker rooms for mechanics, and office space for maintenance administration.

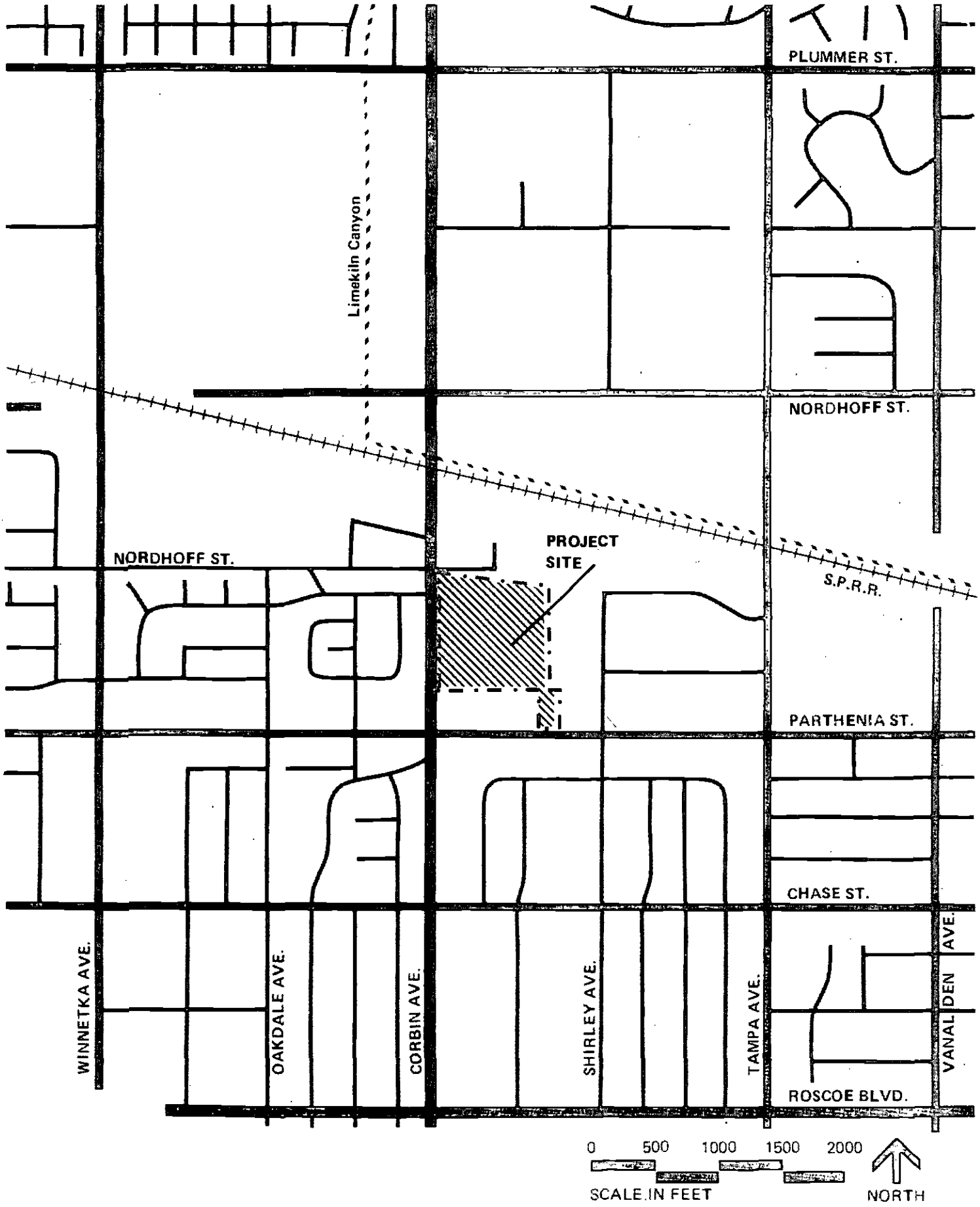
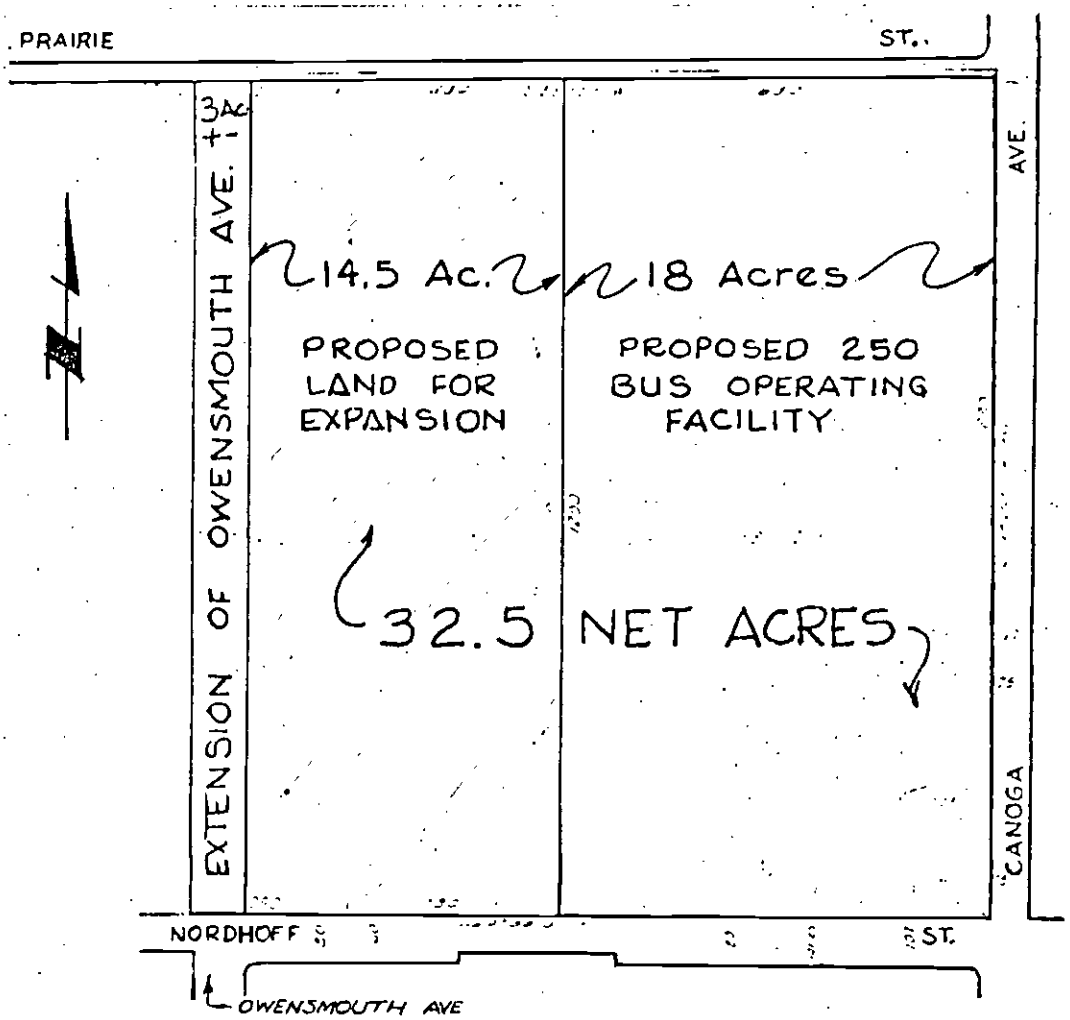


Figure: 5
PROPOSED PROJECT LOCATION: CORBIN SITE



PROPOSED BUS MAINTENANCE AND OPERATING FACILITIES FOR WEST SAN FERNANDO VALLEY

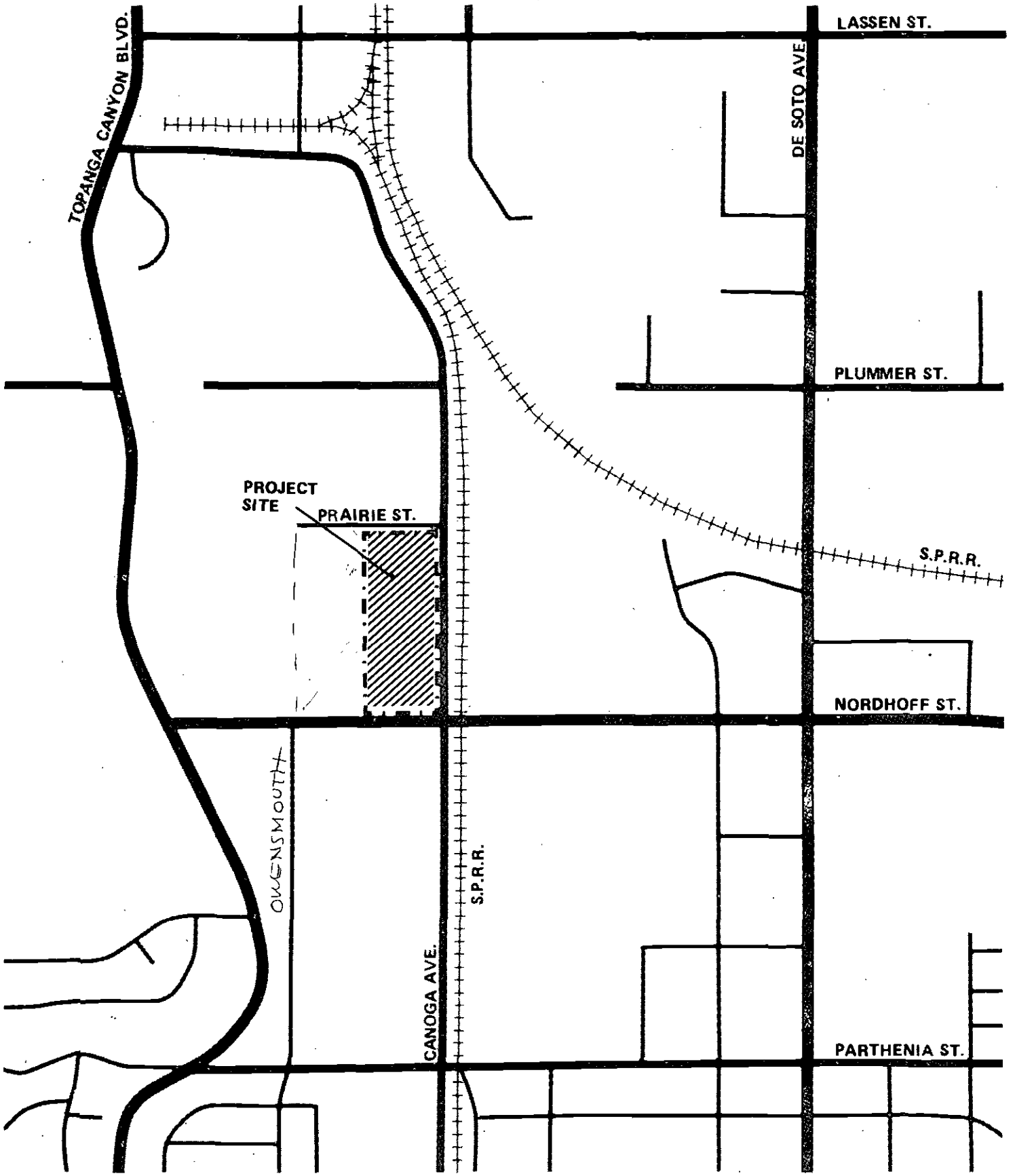


Figure: 6
PROPOSED PROJECT LOCATION:
NORDHOFF SITE

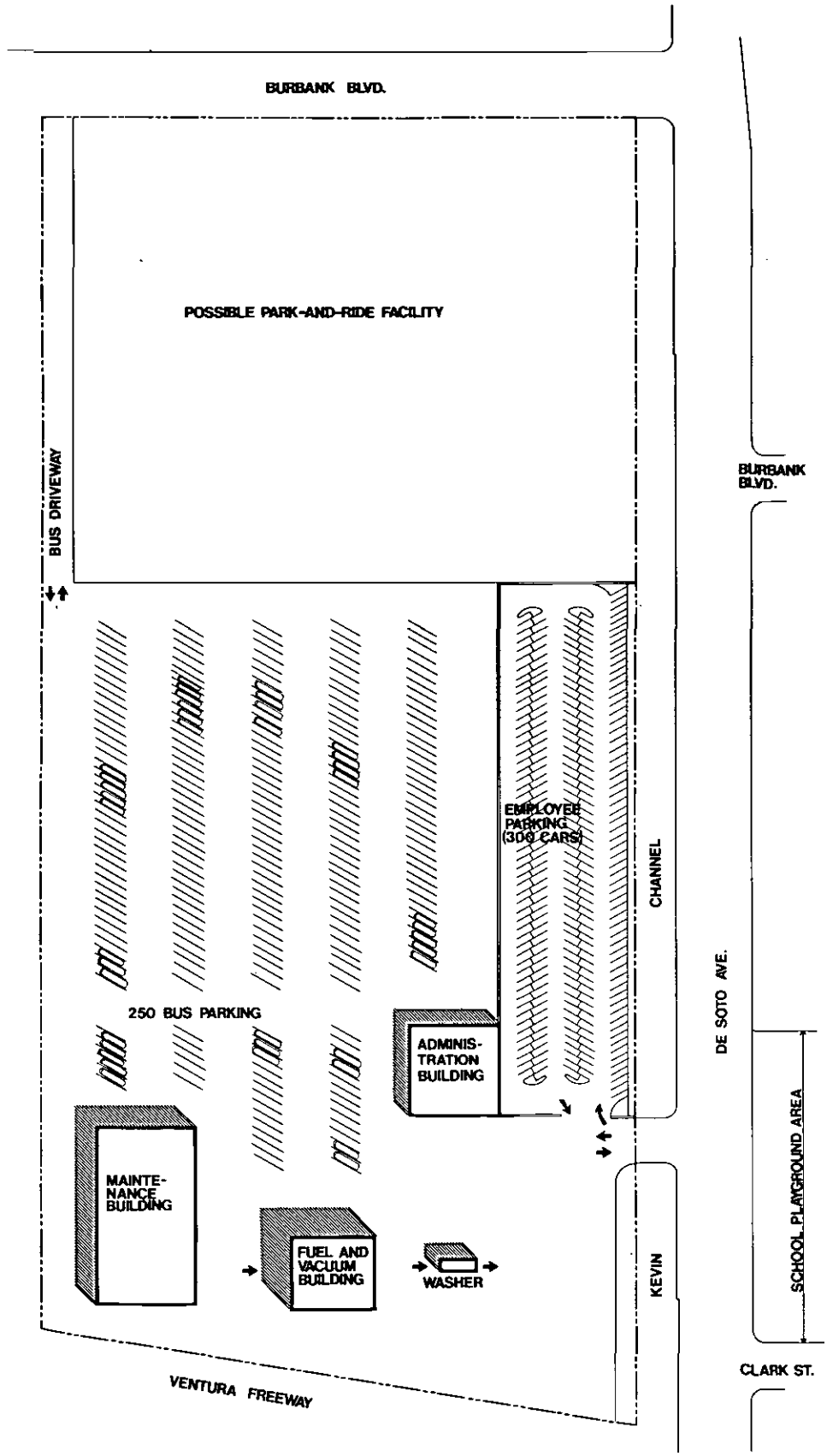


Figure: 7
SCHEMATIC FACILITY PLAN:
DE SOTO SITE PLAN

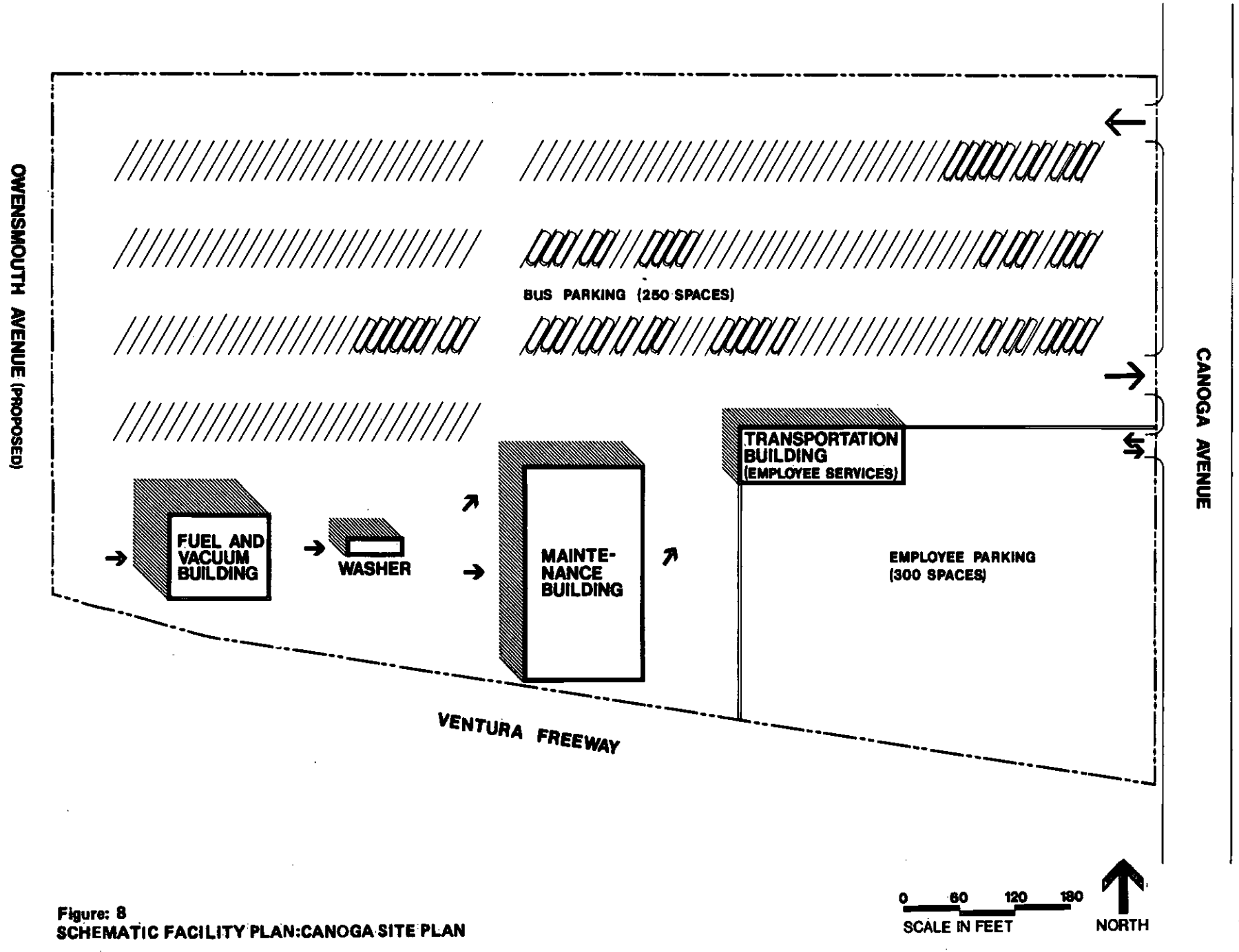


Figure: 8
SCHEMATIC FACILITY PLAN:CANOGA SITE PLAN

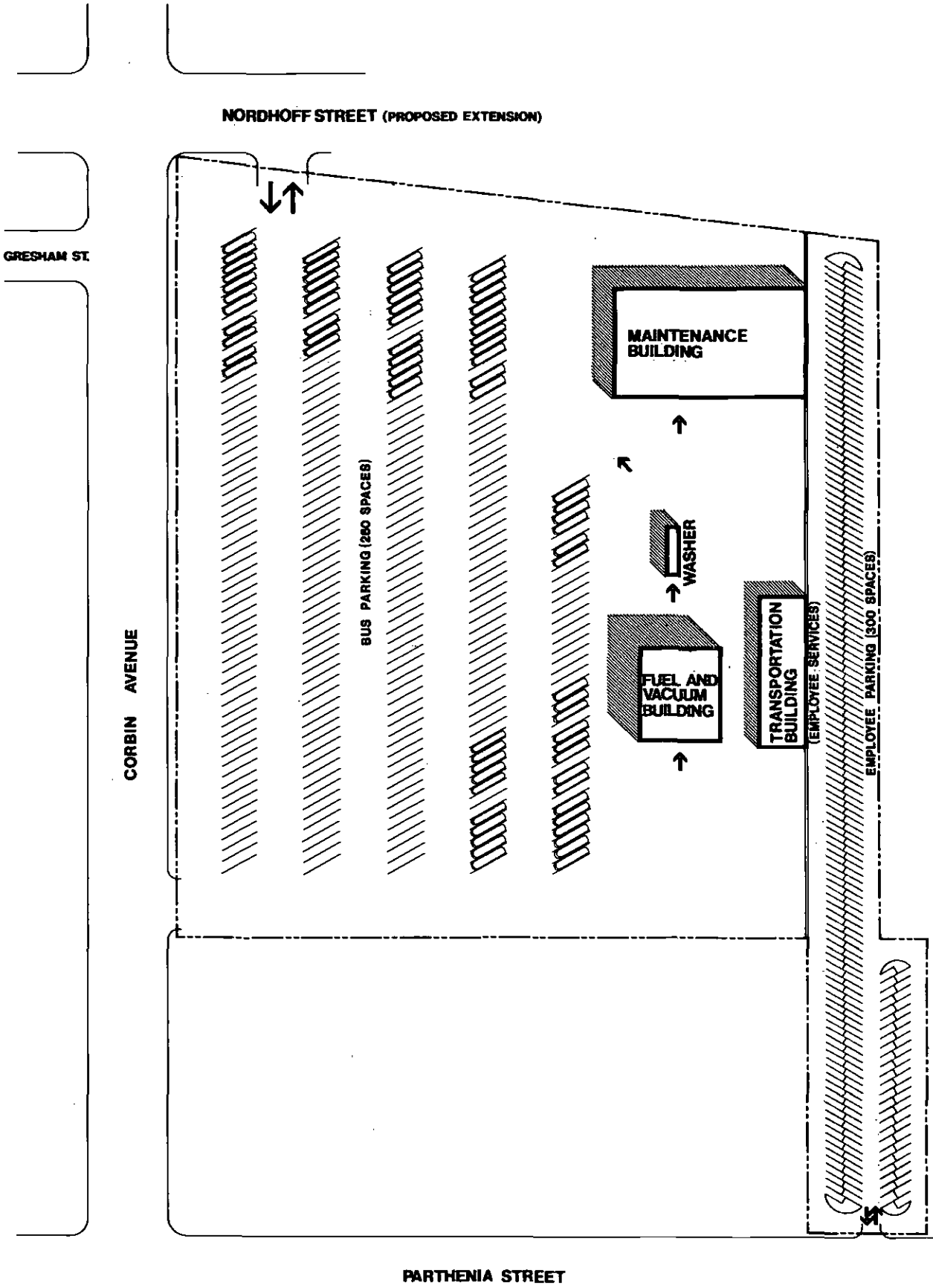


Figure: 9
SCHEMATIC FACILITY PLAN: CORBIN SITE PLAN

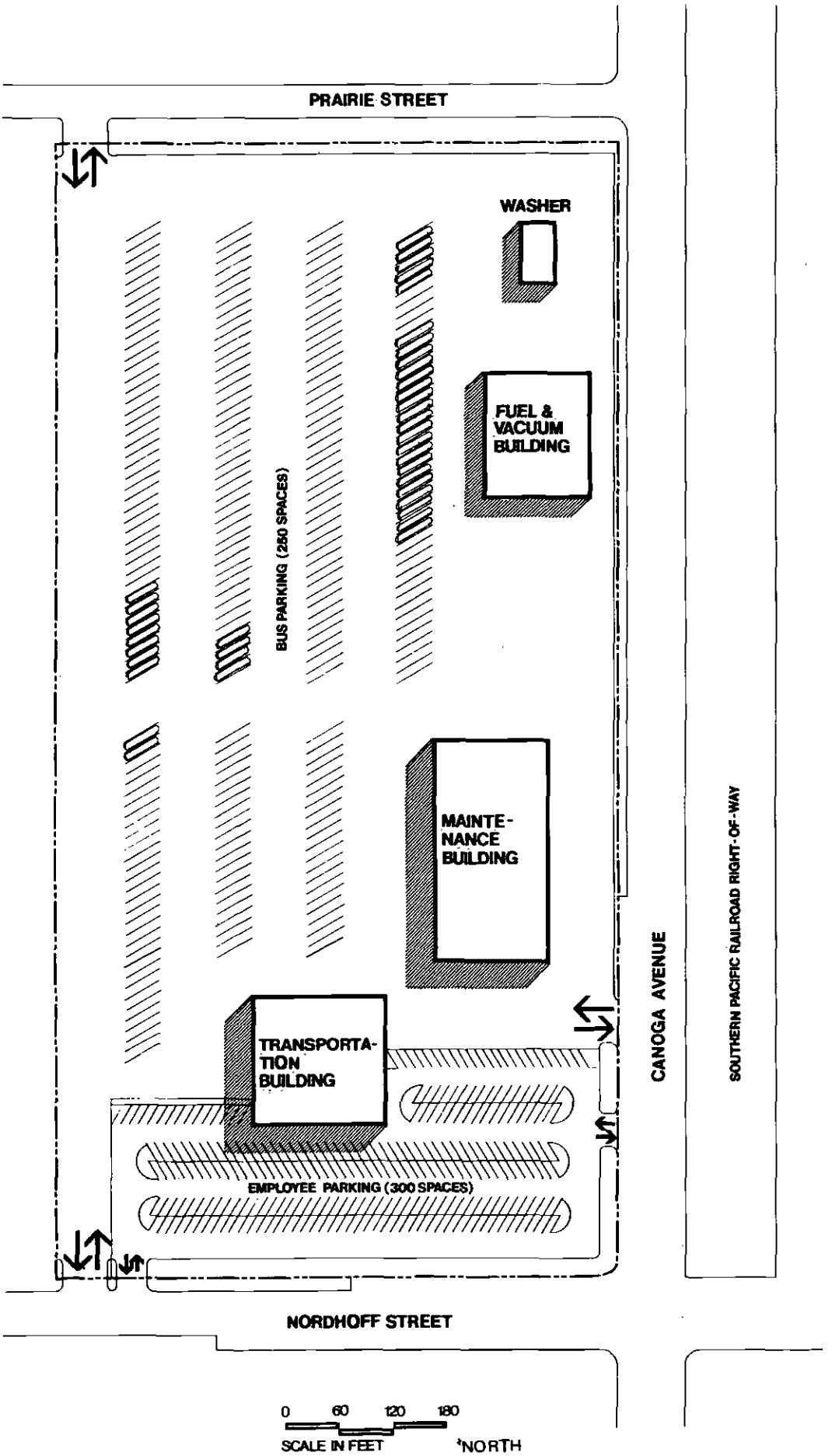


Figure: 10
SCHEMATIC FACILITY PLAN: NORDHOFF SITE PLAN

- Transportation Building

  Size: 15,000 square feet.

  Function: Operators' lounge area, showers, locker room, classroom and offices for administrative personnel.

- Fuel and Vacuum Facility

  The fuel and vacuum facility has four fuel islands with the capability of fueling and vacuuming four buses simultaneously in less than four minutes. The cleaning system consists of a dry vacuum system, dust separation, and bailer. This system was tested and approved by the APCD for particulate emissions. There are four 20,000 gallon diesel fuel tanks, two 10,000-gallon gasoline tanks, and one 10,000-gallon oil tank.

- Bus Washer

  The bus washer is fully automatic and will wash each bus in less than one minute. The system includes a water circulation system that allows reuse of washer water. The only fresh water used in the system is for the final rinse.

- Parking for approximately 250 buses.

- Parking for approximately 300 employees.

A facility similar in function to the proposed West Valley project is currently operating in El Monte, California. Major components of this existing facility are similar to those which will be employed in the new project (Figure 11), with the exception of angle-row bus parking which will be utilized at the new facility.

1.4 Facility Operations

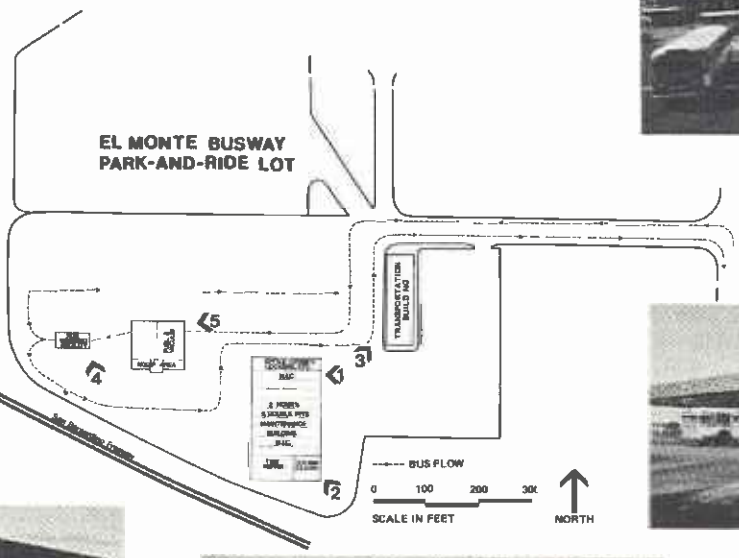
Upon completion of construction, the maintenance facility will begin operations with approximately 175 to 200 buses, representing 80 percent of the total capacity. The full capacity of 250 buses will be reached as the new service programs are implemented. Major activities conducted at the facility include:

- Departures and arrivals of buses in service on RTD routes.

- Arrivals and departures of employees, including bus drivers, mechanics, and administrative personnel. (Some drivers work split shifts, accounting for two arrival and departure cycles during the day.)

5. FUEL AND VACUUM FACILITY
(Looking West)

1. MAINTENANCE BUILDING
(View Looking West)



2. MAINTENANCE BUILDING
(View Looking Northwest)

4. BUS WASHER FACILITY
(View Looking Northwest)

3. TRANSPORTATION BUILDING
(View Looking Northeast)

Figure: 11
DIVISION 9 (EL MONTE) BUS MAINTENANCE FACILITY

- o Vacuuming and fueling of buses.
- o Exterior washing and cleaning of buses.
- o Service operations, including both routine maintenance and repairs, as required.

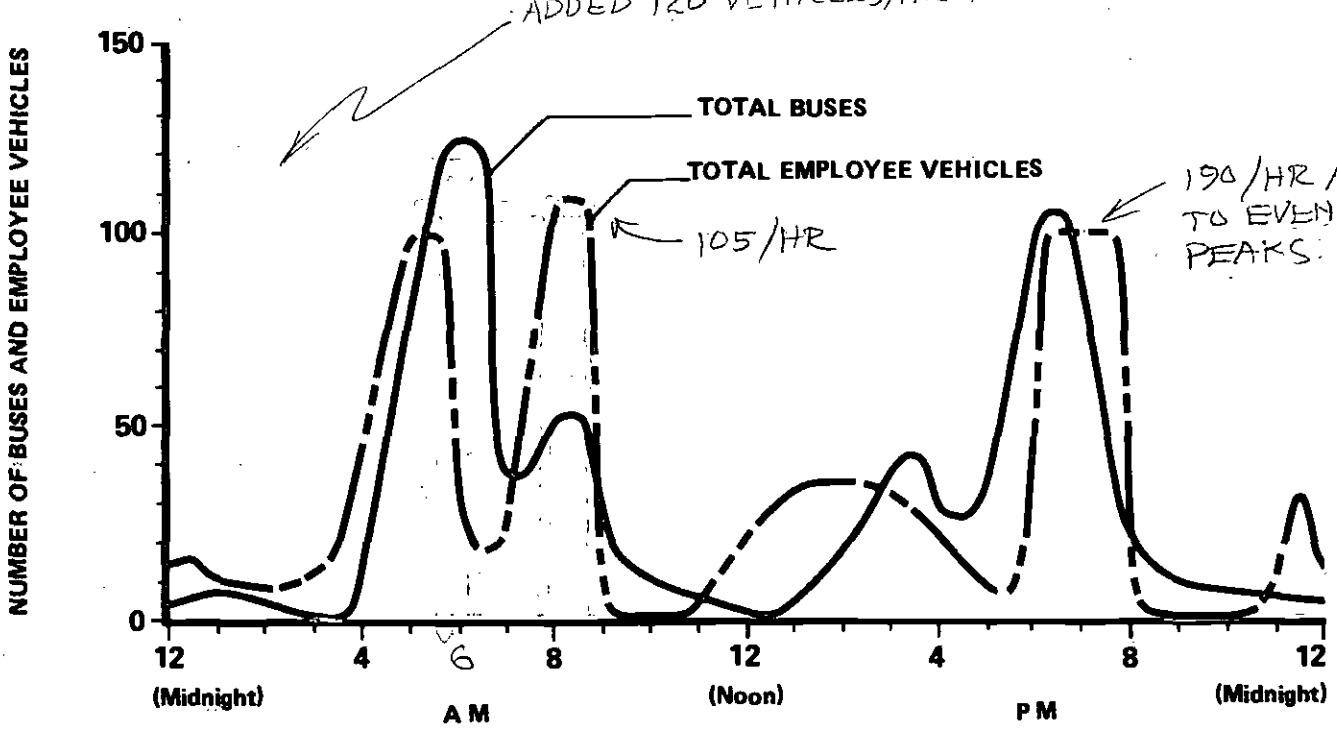
The daily sequence of these events, somewhat generalized for purposes of approximating a typical day's activities, is presented in Figure 12. This diagram presents the order of magnitude of events which would be generated when the facility is operating at full capacity (i.e., 250 buses).

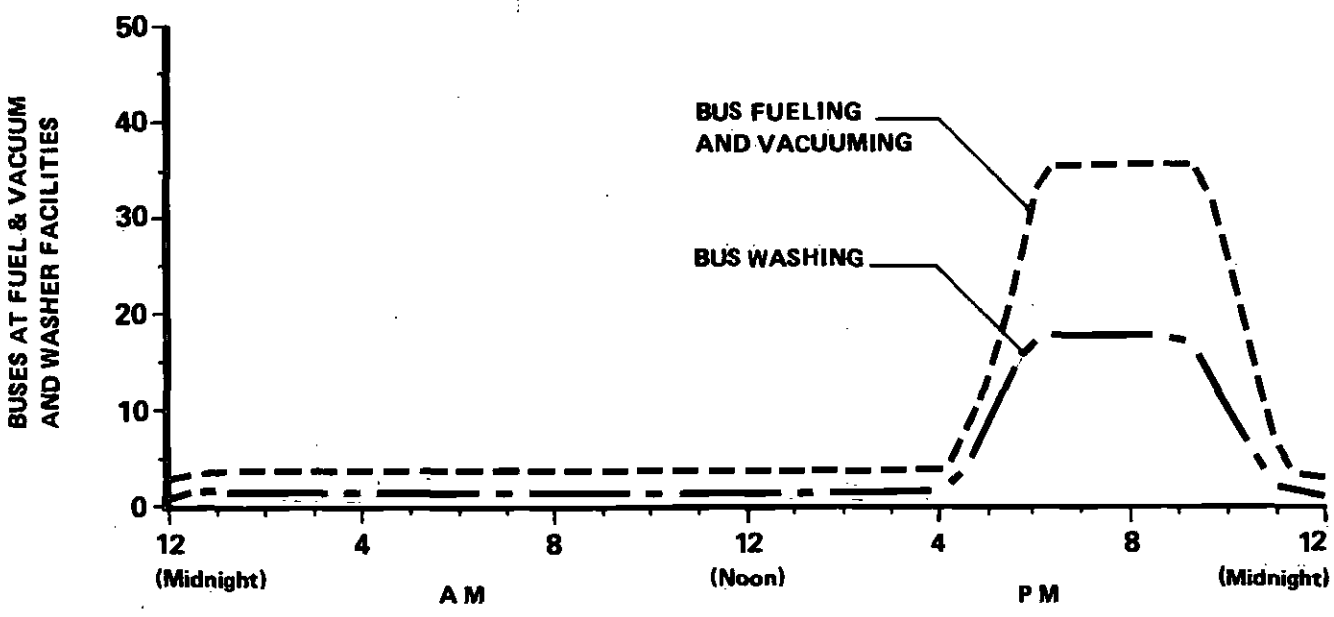
1.5 Project Development Schedule

The major activities and events required to implement the proposed project and their approximate scheduling, are presented in Figure 13.

Procedural and administrative requirements, initiated early in November 1975, including site selection, public meetings, UMTA and EIS review, will require a total of approximately 12 months. Design, final administrative reviews, and construction contract procedures will require an additional 13 months.

Actual construction of the facility will require approximately one year, beginning in the fall of 1978; the facility is expected to become fully operational by the fall of 1979.





Legend

- TOTAL BUSES (DEPARTING AND ARRIVING)
- TOTAL EMPLOYEE VEHICLES (ARRIVING AND DEPARTING)
- BUSES AT WASHER FACILITY
- BUSES AT FUEL & VACUUM FACILITY

Notes

1. There are approximately 20 engine run-ups per day: 10 run-ups between 8:00 a.m. and 4:00 p.m.; 5 run-ups between 4:00 p.m. and 12:00 (midnight); and, 5 run-ups between 12:00 (midnight) and 8:00 a.m.
2. There are approximately 20 tire changes per day between the hours of 4:00 a.m. and 4:00 p.m.

Figure: 12
BUS MAINTENANCE FACILITY 24–HOUR DIAGRAM
Source: SCRTD (Based on Division 9–El Monte Facility–Experience).

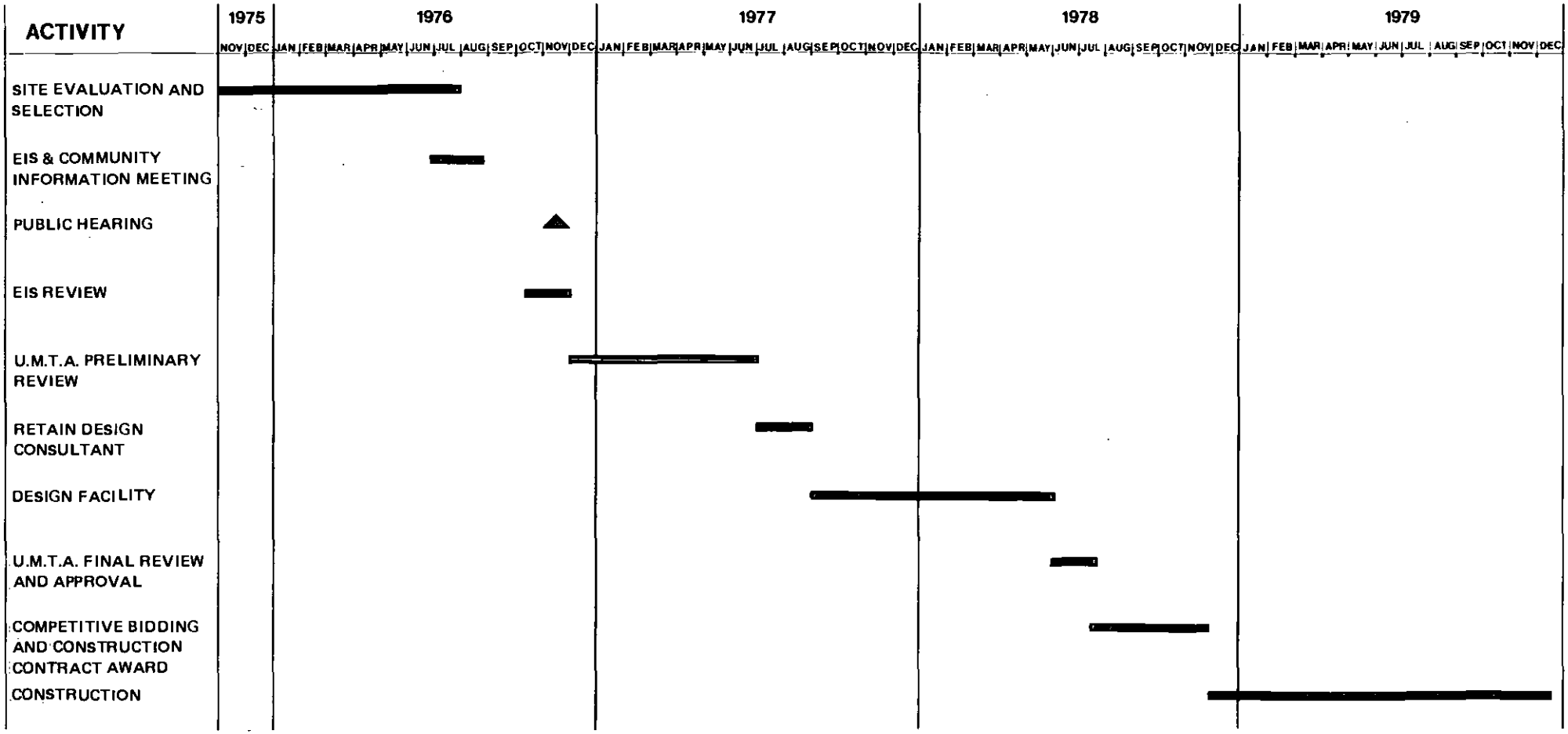


Figure: 13
BUS MAINTENANCE FACILITY PROJECT DEVELOPMENT SCHEDULE

2. ENVIRONMENTAL SETTING

2.1 Study Area Description

De Soto Site

This alternative project site, located on the northwest corner of the intersection of De Soto Avenue and the Ventura Freeway, is an open, flat field with no existing development; it is currently devoted to agricultural uses. The parcel is located in the City of Los Angeles and is within the Canoga Park-Winnetka-Woodland Hills District.

Canoga Site

This alternative project site is located on the northwest corner of the intersection of Canoga Avenue and the Ventura Freeway, which comprises a portion of the Bayly Ranch. A portion of this ranch, containing the majority of the structures of the operation, bounds the site to the north; beyond Burbank Boulevard to the north is vacant land. The eastern boundary of the site is Canoga Avenue, fronted on the east side by an industrial park. A tree-and-plant nursery bounds the project on the west, located along the proposed extension of Owensmouth Avenue. This parcel is within the Canoga Park-Winnetka-Woodland Hills District of the City of Los Angeles.

Corbin Site

This alternative project site, located on the southeast corner of the intersection of Corbin Avenue and the extension of Nordhoff Street, is an open, flat field with no existing development or structures and with little vegetation. This parcel of land is located in the City of Los Angeles, near the eastern edge of the Chatsworth community; the Northridge community is located directly to the east.

Nordhoff Site

This alternative project site is located on the northwest corner of the intersection of Nordhoff Street and Canoga Avenue. It is a flat, undeveloped field with little vegetation. The parcel is bounded to the north and west by undeveloped land, and to the east by open land presently utilized as an equestrian center. The southern boundary of the property, Nordhoff Street, faces existing development, including industrial and commercial uses. This parcel of land is located in the City of Los Angeles and is part of the Chatsworth-Porter Ranch District.

2.2 Socioeconomic Setting

De Soto Site

As shown on Figure 14, this proposed alternative site is presently vacant. Present zoning of the site is R1-1 (one-family dwelling) for the portion immediately adjacent to the freeway, and A1-1 (agricultural) for the majority of the parcel.

The area directly south of the site and the Ventura Freeway is devoted to highway-oriented commercial uses. To the east, along De Soto Avenue, is Parkman Junior High School, which is bounded by single-family dwellings (except to the west). To the north of the site is vacant land which is zoned M2-1 (restricted light industrial). To the west of the site is the Litton Industries parking lot.

The population in the general area of this site can be characterized as stable, predominantly white, and of upper-middle income. On many other socioeconomic indicators, the population exhibits characteristics very similar to those derived at the countywide level. [1]

Canoga Site

As shown on Figure 15, this proposed alternative site is presently an unutilized field area with substantial mature tree growth, low ground cover, and some structures and improvements. Present zoning of the site is R1-1 (one-family dwelling) for the portion immediately adjacent to the freeway, and A1-1 (agricultural) for the majority of the subject property.

The area directly south of the Ventura Freeway is the most intensively developed land in the vicinity of the site. Highway-oriented commercial land is located along both the north and south sides of Ventura Boulevard, while behind this strip, to the south, is located extensive residential development. The only other residential development in the general area of the project is found west of Topanga Canyon Boulevard. To the east of the site is a fully operational light industrial facility (Litton Industries). [2] Additional industrial development is currently under consideration north of Burbank Boulevard and east of Canoga Avenue.

The general population characteristics surrounding this site are the same as summarized for the De Soto Site. [3]

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[1] See Section 3.2.3 for more details regarding population characteristics.

[2] Immediately to the east of Litton Industries is the proposed De Soto Site alternative.

[3] See Section 3.2.3 for more details regarding population characteristics.

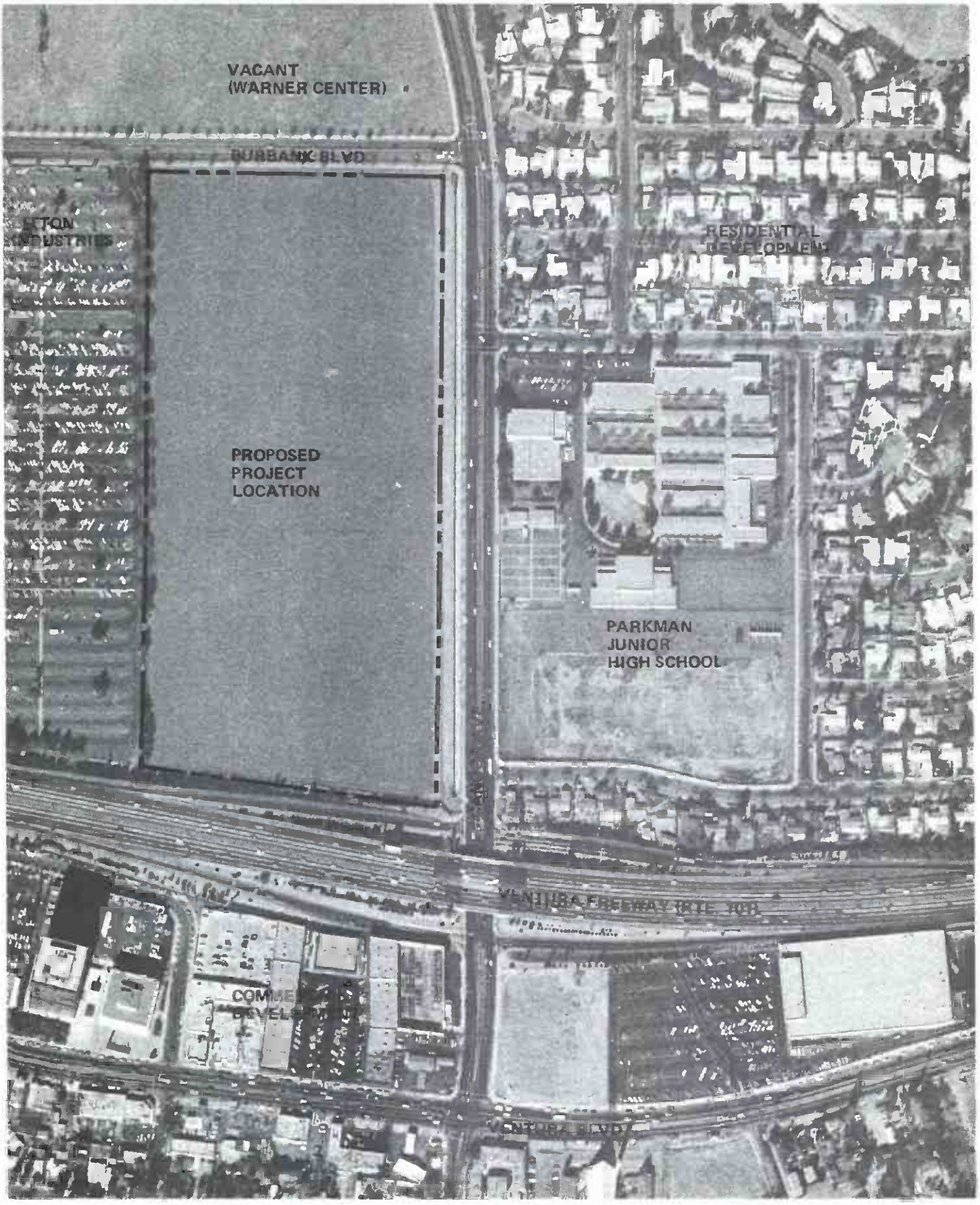

Figure: 14
PROPOSED DE SOTO SITE LOCATION: EXISTING CONDITIONS
Aerial Photo Source: Aerial Map Industries, Santa Ana, Ca.

0 450 900
SCALE IN FEET

NORTH

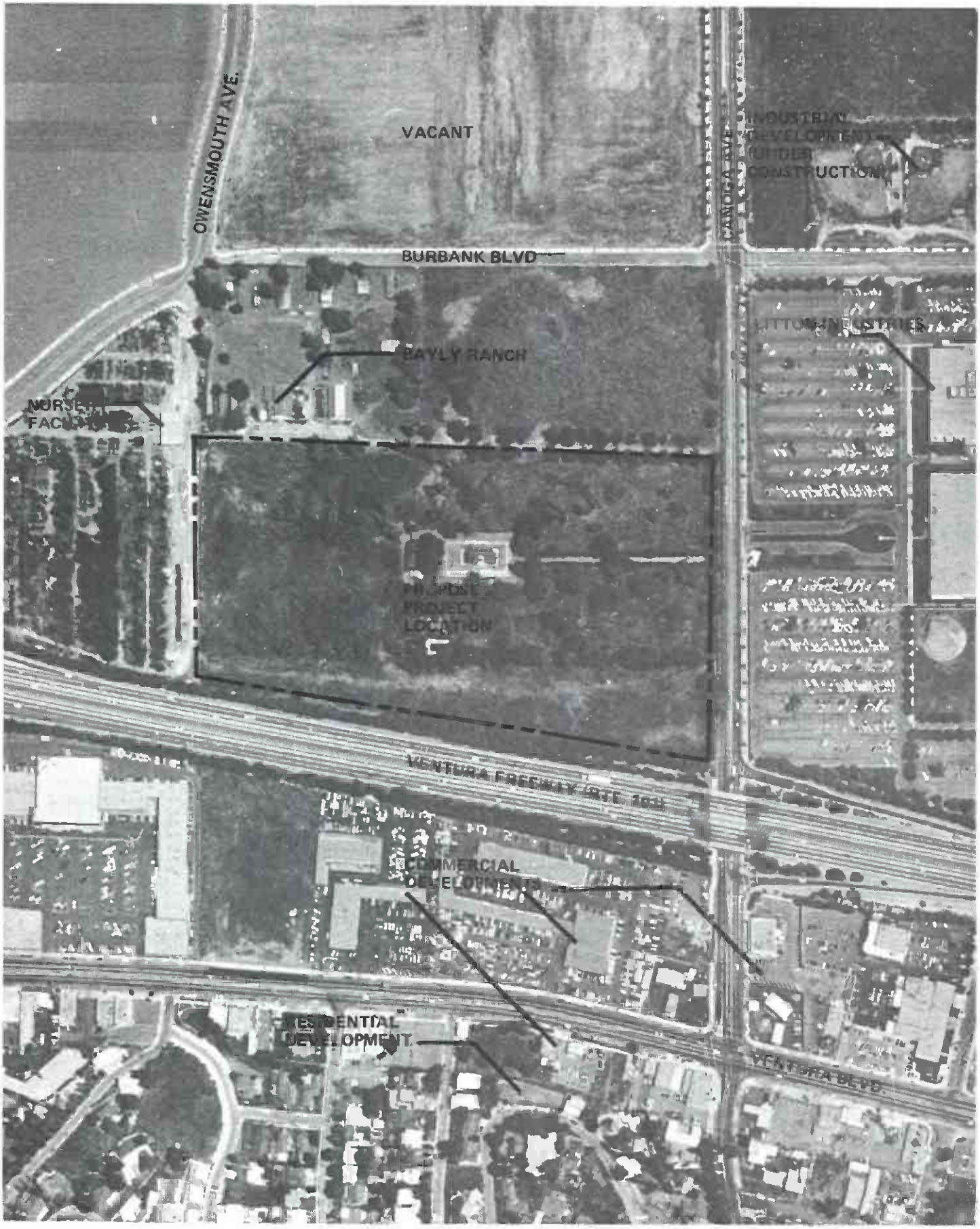

Figure: 15
PROPOSED CANOGA SITE LOCATION: EXISTING CONDITIONS Aerial Photo Source: Aerial Map Industries, Santa Ana, Ca.

0 300 600
SCALE IN FEET

NORTH

Corbin Site

As shown on Figure 16, this proposed alternative site is presently vacant. Zoning of the site is M2-1 (restricted light industrial), with additional areas designated for parking.

Bounding the site on the north are a gas station and a light industrial installation; vacant property surrounding this development is zoned for similar future growth. On the east is a light industrial and services development; on the south are mixed highway-oriented commercial activities. Single-family dwelling units, located along Corbin Avenue, face the western boundary of the project.

The population in the vicinity of the project site may be described as being stable, in terms of mobility, predominantly white, and of middle income. Data on other socioeconomic characteristics of the population indicates that the community is very similar in many respects to the averages derived at the countywide level. [1]

Nordhoff Site

As shown on Figure 17, this proposed alternative site is presently vacant. Existing zoning for most of the site is tentatively MR2-1 (light industrial), pending the filing of a tract map for the area. The southeast corner of the site is zoned C2-1 (commercial), with an L-shaped strip of agriculturally-zoned land surrounding it. Strips of land fronting on Canoga Avenue and Nordhoff Street are tentatively zoned for parking.

Bounding the site on the south is primarily industrial development, while on the southwest are a truck parking area and a commercial use. The western and northern boundaries primarily face undeveloped land, while to the east lies an equestrian center. These lands are zoned for industrial and agricultural uses.

The population surrounding this site may be characterized as predominantly white and middle income. Population in the area is growing rapidly, but, in many respects, the socioeconomic data for the community is similar to countywide figures. [2]

2.3 Physical Setting

Traffic volumes for the major streets and highways in the vicinity of the four proposed project alternative sites are currently operating within their capacities. The associated noise levels resulting from existing vehicular

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[1] Ibid.

[2] Ibid.

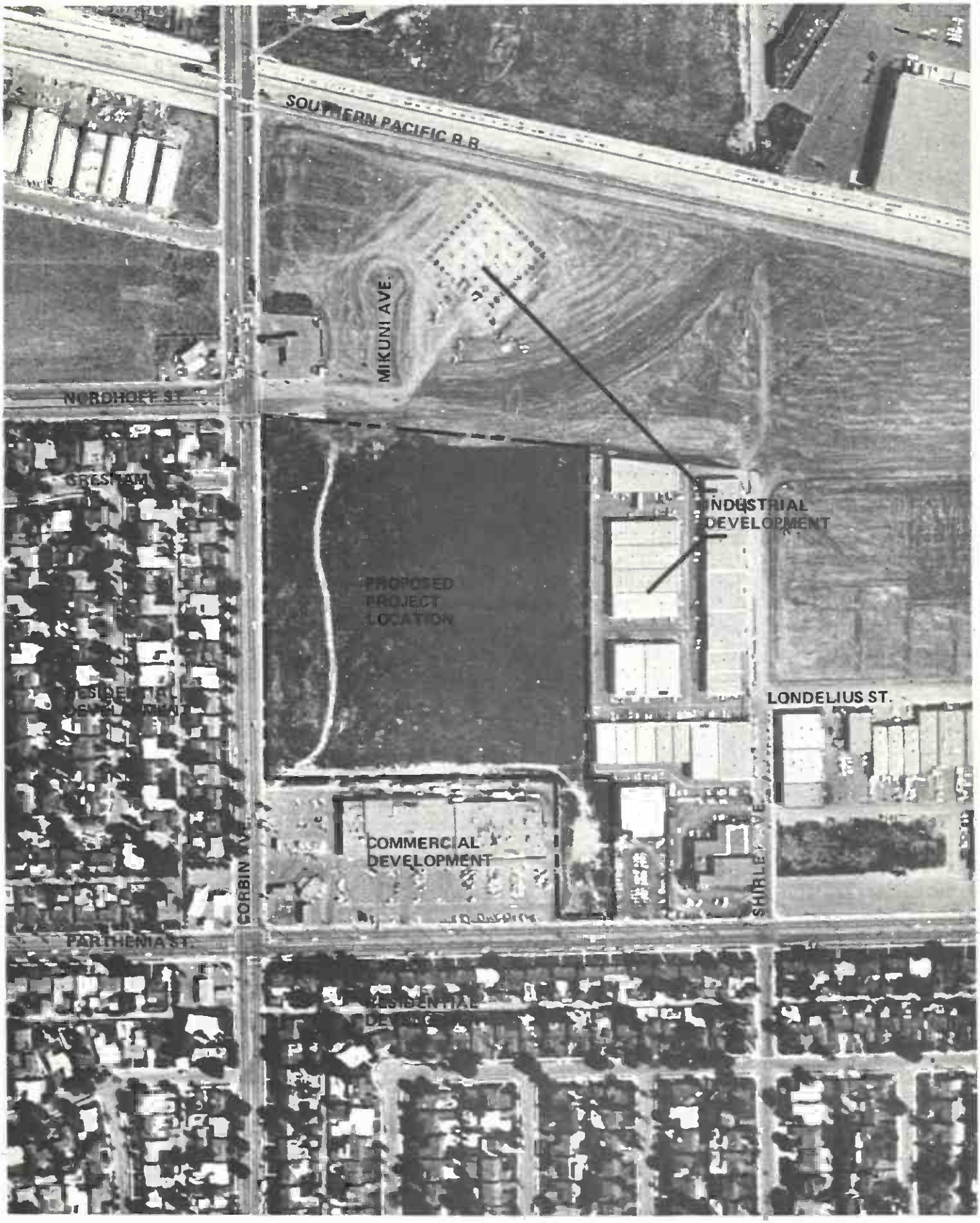
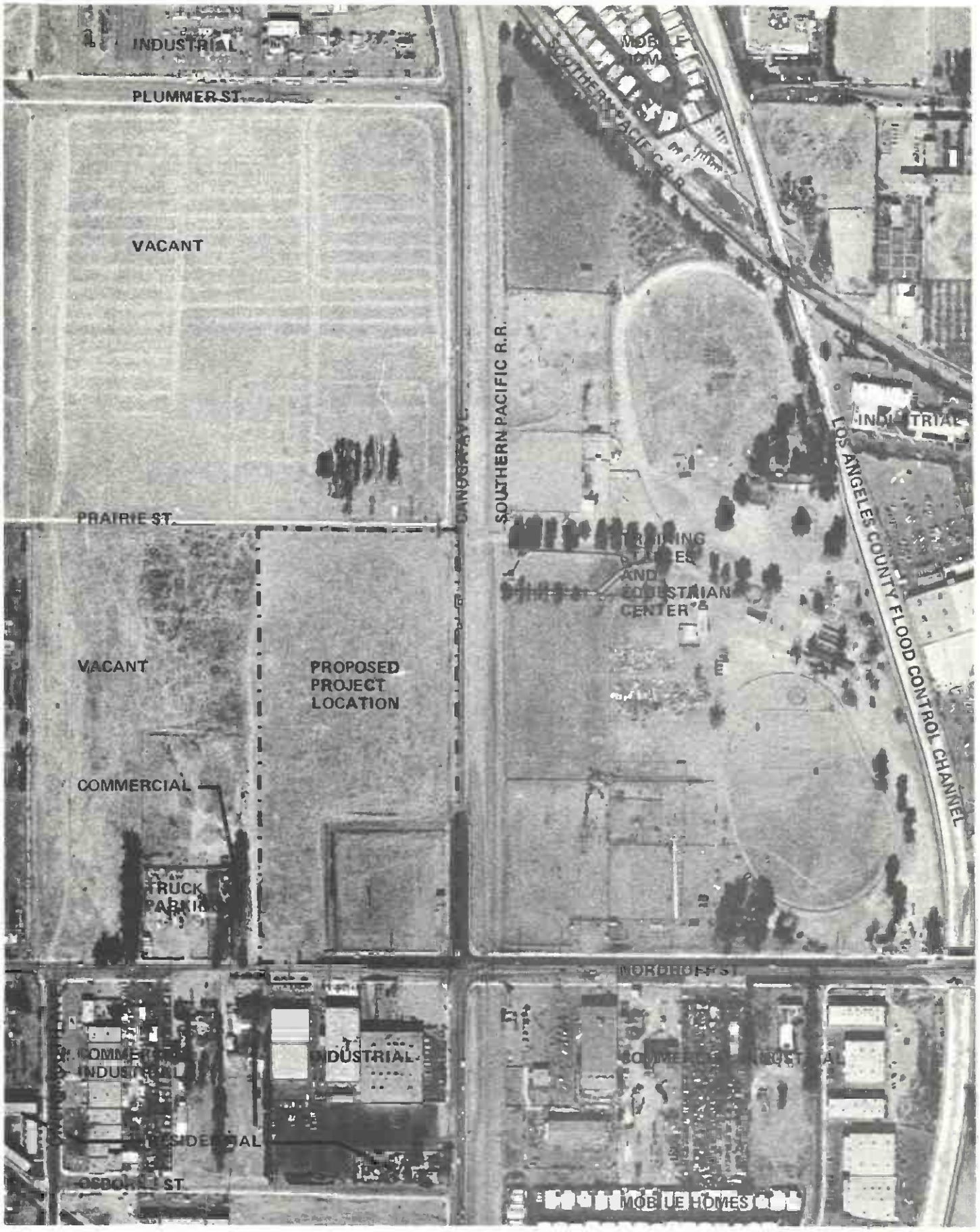


Figure: 16
PROPOSED CORBIN SITE LOCATION: EXISTING CONDITIONS
Aerial Photo Source: Aerial Map Industries, Santa Ana, Ca.

0 300 600
SCALE IN FEET

NORTH



0 400 800

SCALE IN FEET

NORTH

Figure: 17
PROPOSED NORDHOFF SITE: EXISTING CONDITIONS

Aerial Photo Source: Aerial Map Industries, Santa Ana, California.

traffic in each of the areas indicate "normally acceptable" exterior noise levels (based on City of Los Angeles criteria) on and near the project sites.

Localized carbon monoxide levels in the vicinity of the sites are well under the federal one-hour air quality standards. Existing regional-scale air quality (based on the Reseda Air Monitoring Station) can be characterized as follows:

- Federal Oxidant Standards are exceeded approximately 30 days per year during the summer months.
- California Nitrogen Dioxide (NO_2) Standards are exceeded up to four days per year during the winter months.
- Federal Carbon Monoxide 8-Hour Standards are exceeded up to 17 days per year during the winter months.

More details regarding existing traffic volumes, noise levels, and air quality can be found in Sections 3.3.1, 3.3.2, and 3.3.3, respectively.

3. PROBABLE IMPACT OF PROPOSED PROJECT ON THE ENVIRONMENT

3.1 Introduction

Prior to conducting the environmental assessment which is documented in Sections 3.2 and 3.3 of this report, a preliminary environmental evaluation was performed to determine the environmental factors relevant to the proposed project at each of the four alternative sites. Table 2 lists the socioeconomic and physical environmental factors which were considered and the findings regarding their significance at each site.

De Soto Site

All factors, except displacement and community services, are considered potentially significant. The project will displace no people or structures; therefore, displacement is not a significant impact at this site. Given the nature of the proposed project, a similar finding was reached with respect to community services.

Canoga Site

All factors, except community disruption access/barrier, and community services, are considered potentially significant at the Canoga Site. Since the proposed project will not create any impairment of vehicular or pedestrian movements, the access/barrier impact is considered insignificant. Given the nature of the proposed project, a similar finding was reached with respect to impact on community services.

Corbin Site

All factors, except displacement, access/barrier, and community services, are considered potentially significant at the Corbin Site. The proposed project at the Corbin Site will not displace any activities and will not create any impairment of vehicular or pedestrian movements; thus, displacement and access/barrier impacts are considered insignificant. Given the nature of the proposed project, a similar finding was reached with respect to impact on community services.

Nordhoff Site

All factors, except displacement, community disruption, access/barrier effect, and community services, are considered potentially significant. The project will displace no people or structures; therefore, displacement is not a significant impact at this site. The project will not impair vehicular or pedestrian movements; thus, the access/barrier impact is considered

TABLE 2
SUMMARY OF POTENTIALLY SIGNIFICANT IMPACTS

Environmental Factor	Initial Evaluation: Potentially Significant*				Initial Evaluation: Insignificant			
	De Soto	Canoga	Corbin	Nordhoff	De Soto	Canoga	Corbin	Nordhoff
SOCIOECONOMIC ENVIRONMENT:								
o Land Use and Urban Growth	X	X	X	X				
o Displacement		X			X		X	X
o Community Disruption	X		X			X		X
o Access/Barrier Effect	X					X	X	X
o Community Services					X	X	X	X
o Fiscal Impacts	X	X	X	X				
o Aesthetics (Visual Impact)	X	X	X	X				
o Historical and Archaeological	X	X	X	X				
PHYSICAL ENVIRONMENT:								
o Traffic and Transportation	X	X	X	X				
o Noise Impact	X	X	X	X				
o Air Quality	X	X	X	X				
o Water Resources	X	X	X	X				
o Energy	X	X	X	X				
o Ecosystems	X	X	X	X				
o Geology and Soils	X	X	X	X				
o Seismic	X	X	X	X				

* Requires assessment and documentation.

insignificant. Since the surrounding uses are largely industrial or projected on the long-range Chatsworth-Porter Ranch District Plan as being industrially developed in the future, community disruption is not a significant impact. Given the nature of the proposed project, a similar finding was reached with respect to impact on community services.

The socioeconomic and physical environmental factors which are considered potentially significant for each of the sites are documented in Sections 3.2 and 3.3, respectively. Conclusions regarding their actual significance are reached, where appropriate, including effectiveness of possible mitigation measures.

3.2 Socioeconomic Environment

3.2.1 Land Use and Urban Growth

PLANNED MR-P

Existing and Planned Land Use; Zoning

De Soto Site: The entire proposed project site is presently vacant; thus, no improvements or structures exist. However, the present agricultural activities would be halted if the project is developed at this site.

As indicated earlier, existing land uses adjoining the site are:

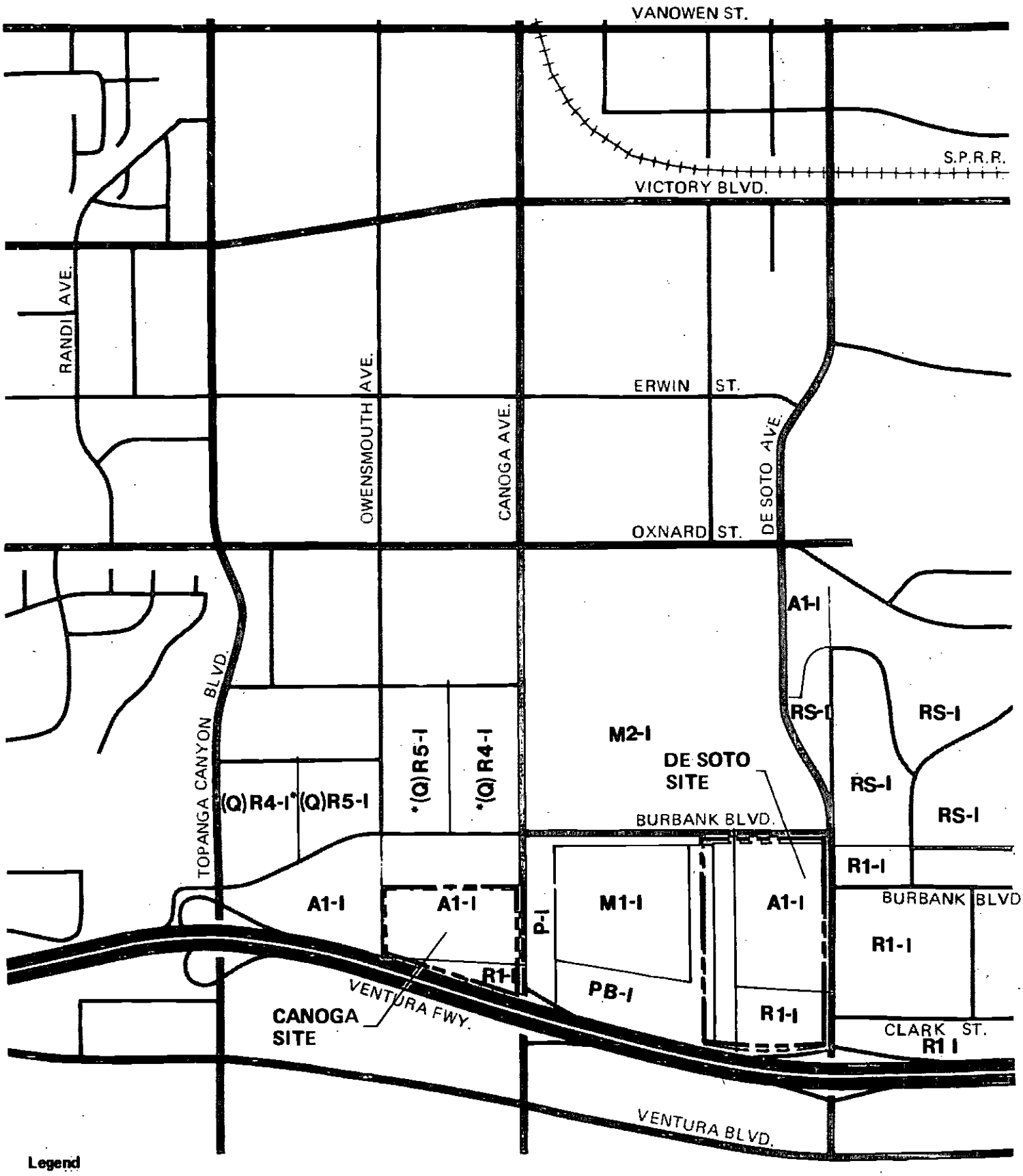
North - vacant (light industrial zoning)
East - residential (single-family)
South - freeway and highway-oriented commercial
West - limited industrial

Current zoning of the project site is shown on Figure 18. The community plan for the area, showing long-range land uses for the Canoga Park-Winnetka-Woodland Hills District, is shown on Figure 19. The long-range plan indicates that the De Soto Site is to be developed as a limited industrial use.[1]

PLANNED R4

Canoga Site: The proposed project site is presently a portion of the Bayly Ranch, a formerly rural homesite which included some agricultural operations and a horse ranch. This ranch is presently only minimally maintained, the proposed site being primarily an unused field located south of the major ranch operations but which contains the former main residence, a swimming pool, and a pony shed. Substantial mature tree growth and some ground cover are located on the site, an inventory of which is presented in Section 3.3.6, Ecosystems. A portion of the frontage along

[1] City of Los Angeles, adopted September 15, 1972.



Legend

A1–I	AGRICULTURAL
M1–I	LIMITED INDUSTRIAL
M2–I	LIGHT INDUSTRIAL
P–I	AUTOMOBILE PARKING
PB–I	PARKING BUILDING
R1–I	ONE-FAMILY DWELLING
RS–I	SUBURBAN
R4–I	MULTIPLE DWELLING
R5–I	MULTIPLE DWELLING
*(Q)	QUALIFIED CLASSIFICATION

0 500 1000 1500 2000

SCALE IN FEET

NORTH

Figure: 18
EXISTING ZONING: DE SOTO AND CANOGA SITES
Source: *Zoning Ordinance,* City of Los Angeles

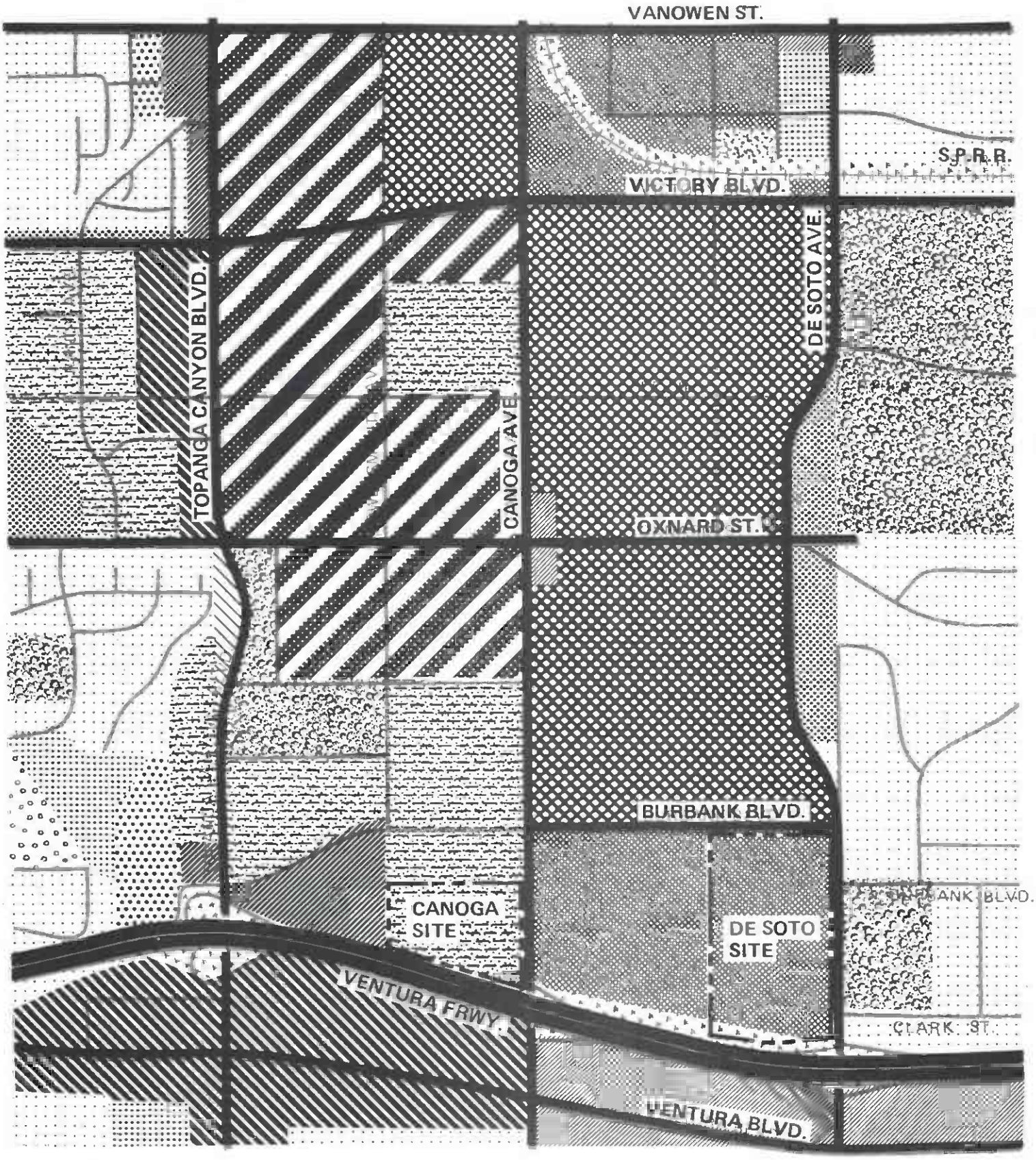


Figure: 19
FUTURE LAND USE: DE SOTO AND CANOGA SITES

Source: *Canoga Park, Winnetka Woodland Hills District Plan,* City of Los Angeles, 9-19-72

Canoga Avenue will be taken, when the property is developed, to widen this street to planned capacity. A strip of trees located in this area will probably be removed to provide this right-of-way. Similarly, a strip of land along the western boundary of the site--the proposed extension of Owensmouth Avenue--would be required for the development of this street.

Current zoning of the project site is shown in Figure 18. The Community Plan for the area, the Canoga Park-Winnetka-Woodland Hills District Plan,[1] is exhibited in Figure 19. As shown by this plan, the anticipated future use of the proposed project site is medium-high-density residential development.

PLANNED MR2-P

Corbin Site: The entire proposed project site is presently vacant; thus, no major permanent improvements or structures exist.

As described earlier, land uses adjoining the site are:

North - industrial, commercial, and vacant
East - light industrial
South - commercial and public office (Pacific Telephone)
West - single-family residential

Active railroad operations, owned by the Southern Pacific Railroad, are located directly north of the existing industrial building and service stations on the northern side of the extension of Nordhoff Street.

Current zoning of the project site is shown in Figure 20. The community plan for the area, showing long-range land uses for the Chatsworth District, is shown in Figure 21.[2] Existing zoning and the long-range plan are in conformance concerning the development of the proposed site for light industrial activities.

PLANNED MR2-P

Nordhoff Site: The entire proposed project site is presently vacant; thus, no major permanent improvements or structures exist.

As indicated earlier, existing land uses adjoining the site are:

North - vacant
East - an equestrian center
South - primarily industrial, with one residence
West - primarily vacant, with a small truck parking area and a commercial use.

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[1] City of Los Angeles, adopted September 15, 1972.

[2] City of Los Angeles, adopted March 25, 1974.

Legend

- C2–I COMMERCIAL
- M2–I LIGHT INDUSTRIAL
- MR2–I RESTRICTED LIGHT INDUSTRIAL
- P–I AUTOMOBILE PARKING
- RS–I SUBURBAN

*(T)– TENTATIVE CLASSIFICATION

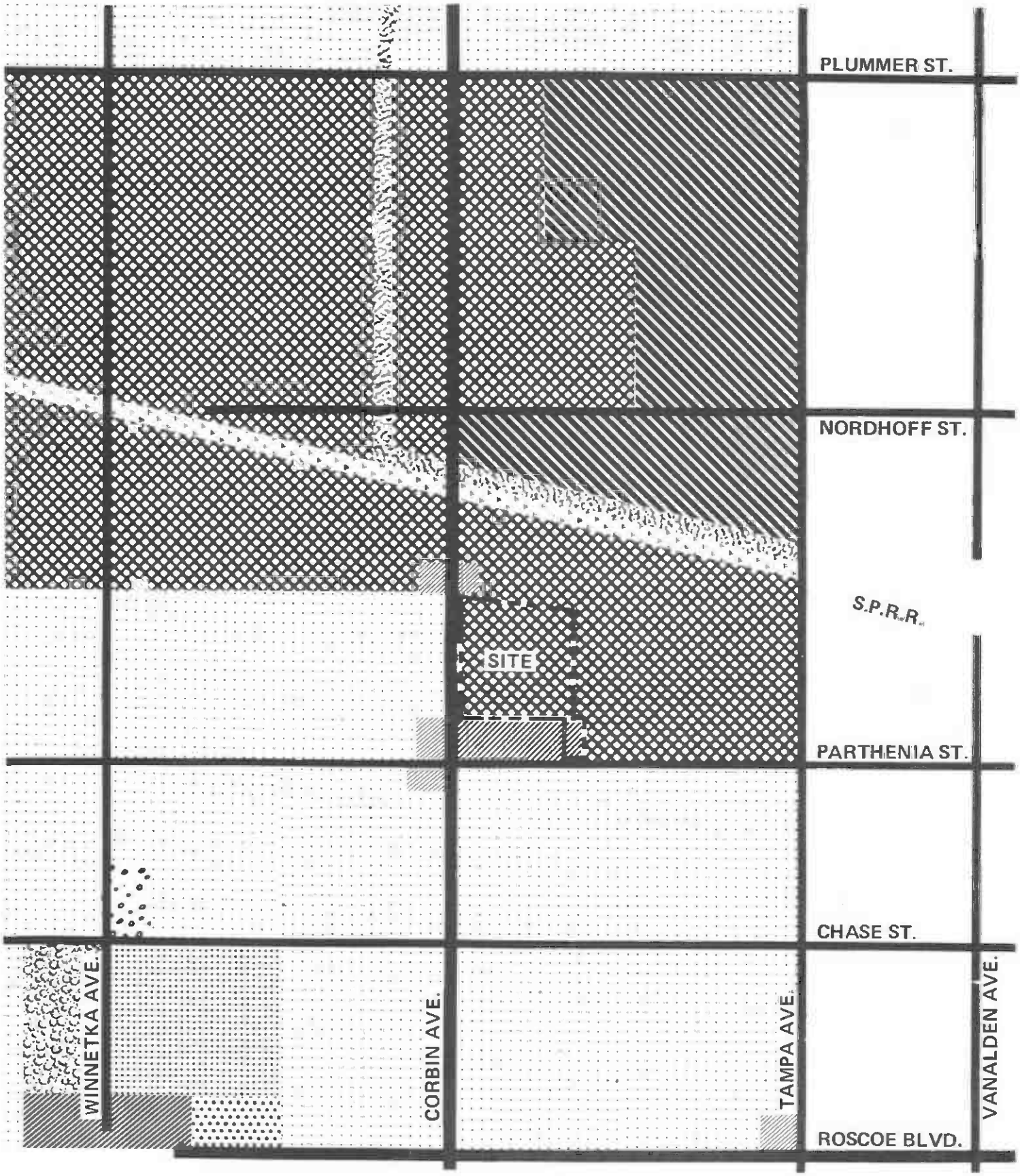
0 500 1000 1500 2000

SCALE IN FEET

NORTH

Figure: 20
EXISTING ZONING: CORBIN SITE

Source: *Zoning Ordinance,* City of Los Angeles



Legend

HOUSING
- LOW
- LOW MEDIUM I
- LOW MEDIUM II
- MEDIUM
- HIGH MEDIUM

COMMERCE
- LIMITED
- HIGHWAY ORIENTED
- NEIGHBORHOOD AND OFFICE
- COMMUNITY
- REGIONAL CENTER

INDUSTRY
- COMMERCIAL MANUFACTURING
- LIMITED
- LIGHT
- HEAVY

OPEN SPACE
- OPEN SPACE
- NATURAL RESOURCE PRESERVE

PARKING
- PARKING BUFFER

PUBLIC AND QUASI-PUBLIC LAND
- RECREATION AND SCHOOL SITE
- QUASI-PUBLIC
- OTHER PUBLIC

Figure: 21
FUTURE LAND USE : CORBIN SITE
Source: Chatsworth-Porter Ranch District Plan City of Los Angeles, 3-25-74.

Southern Pacific Railroad operations are located to the east of the site, the closest track running parallel to, and on the east side of, Canoga Avenue.

Current zoning of the project site is shown in Figure 22. The Chatsworth-Porter Ranch District Plan, shown in Figure 23, illustrates long-range land uses for the area. The development of the proposed site for light industrial purposes is consistent with both existing zoning and the long-range plan.

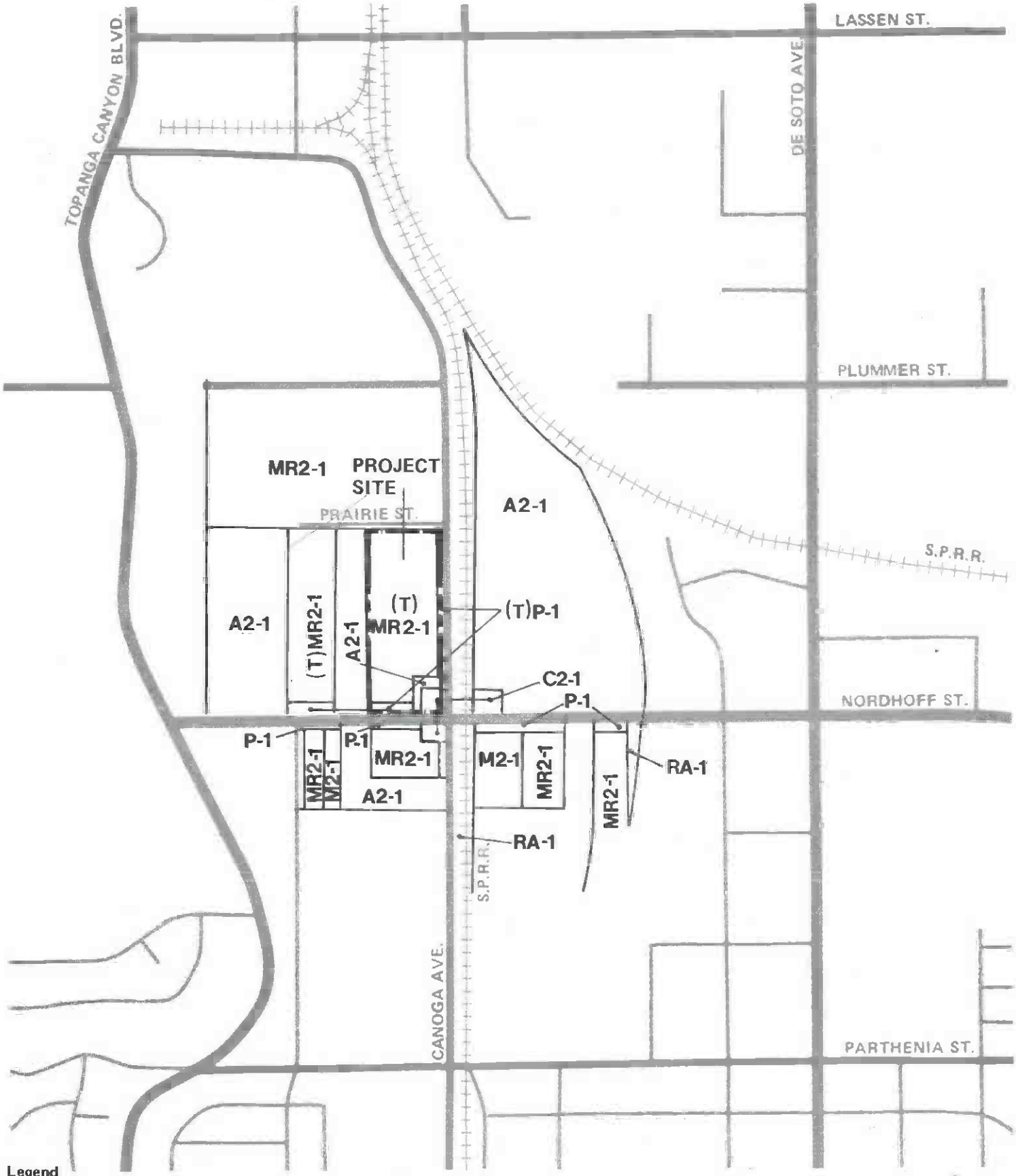
Land Use and Urban Growth Impact

De Soto Site: The development of a bus maintenance facility on this proposed site would have the effect of changing the existing land use from that of agriculture to light industrial. Long-range plans for the proposed site have anticipated urbanization, with limited industrial uses. The De Soto Site has been planned to be developed adjacent to the Warner Center, a major multifunctional urban center designated by the City of Los Angeles.

Canoga Site: The development of a bus maintenance facility on this proposed site would have the effect of changing the existing land use from that of agriculture to light industrial. Long-range plans for the proposed site have anticipated urbanization, with medium- to high-density residential uses. The Bayly Ranch area has been planned to be developed adjacent to the Warner Center, a major multifunctional urban center designated by the City of Los Angeles. Based on planned densities, it is anticipated that the area presently occupied by the Bayly Ranch would be developed in the future to a density of 40 to 60 d.u./acre, for a total of 1,380 to 2,070 d.u.'s. If the proposed bus maintenance facility is developed, this number would be reduced by approximately 720 to 1,080 units, leaving a total of 660 to 990 units.

The urbanization of lands in the vicinity of the Warner Center represents the implementation of a land use policy which calls for the development of activity centers in selected locations throughout the Los Angeles region. This policy is consistent with the objective of discouraging continued urban expansion at the fringe of the metropolitan area. By pursuing such a policy, the depletion of agricultural and resource areas in outlying districts may be minimized and a more rational pattern of land use established in those areas already committed to development.

The creation of activity centers will also impact public regional transportation service by creating areas of higher density which can be served more efficiently and economically. An alternative site plan for the De Soto



Legend

A2–1 AGRICULTURAL
C2–1 COMMERCIAL
M2–1 LIGHT INDUSTRIAL
MR2–1 RESTRICTED LIGHT INDUSTRIAL
P–1 AUTOMOBILE PARKING
RA–1 SUBURBAN AGRICULTURAL

*(T)– TENTATIVE CLASSIFICATION

0 500 1000 1500 2000

SCALE IN FEET

NORTH

Figure: 22
EXISTING ZONING: NORDHOFF SITE

Source: *Zoning Ordinance;*
City of Los Angeles

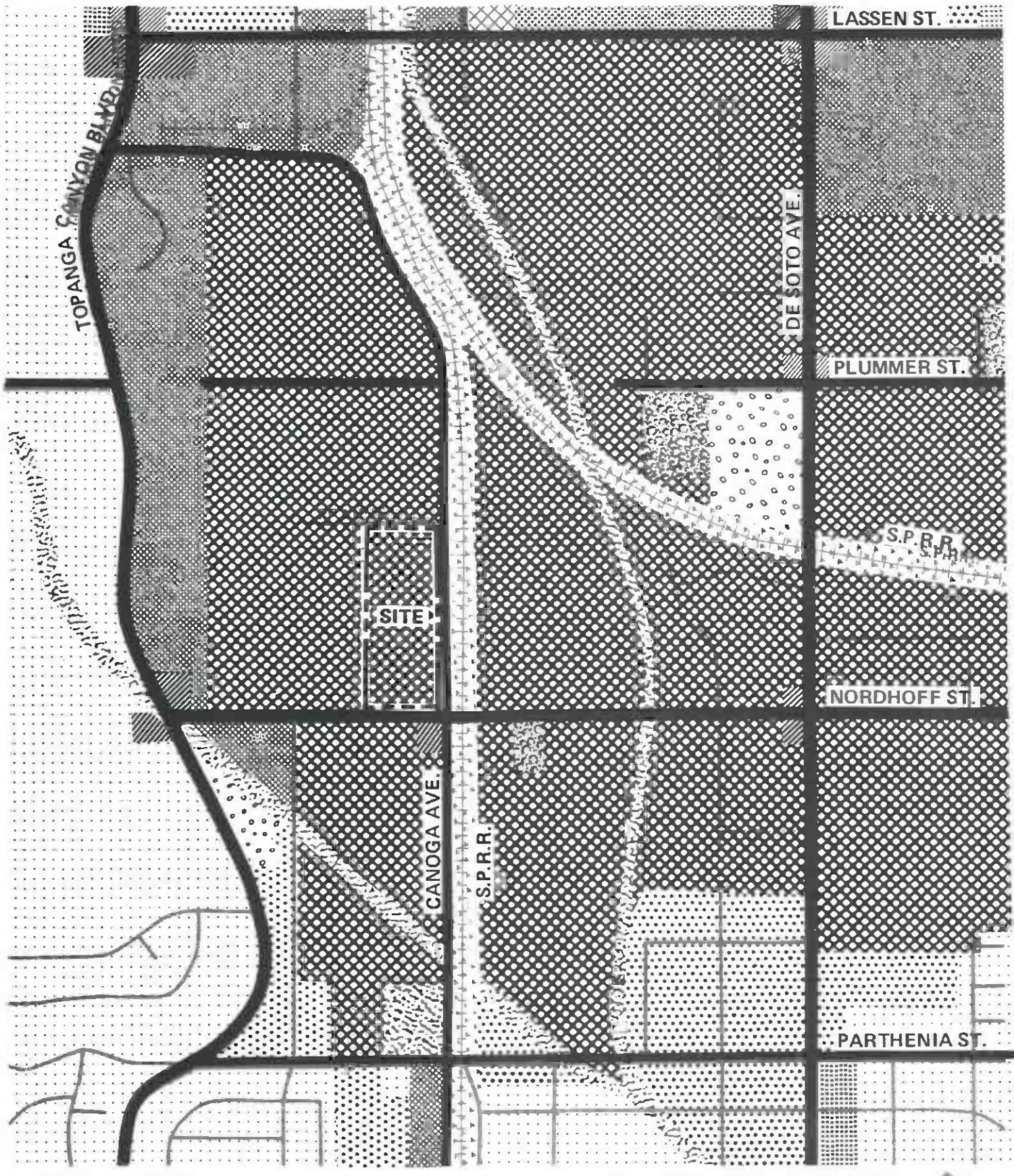


Figure: 23
FUTURE LAND USE: NORDHOFF SITE

Source: Chatsworth-Porter Ranch District Plan
City of Los Angeles, 3-25-74.

and Canoga Sites, presently under consideration by RTD in consultation with FHWA and the City of Los Angeles, would call for the development of a park-and-ride facility in conjunction with the bus maintenance facility; such an expanded project would be consistent with activity center development policy. [1]

Corbin Site: The development of a bus maintenance facility on this proposed site would have the effect of changing the existing land use from that of an open, undeveloped lot to a light industrial activity. Long-range plans for the proposed site have anticipated urbanization, with light industrial uses planned for the vacant areas comprising and adjacent to the subject property. The urbanization of these lands represents an "infilling" of development in an area which is almost completely surrounded with facilities which are manmade or man-modified. The fact that this parcel has remained undeveloped up until the present is probably attributable to a lack of demand for light industrial development in this area; recent activity on sites adjoining the subject property indicates the presence of some private market demand. Infilling of such vacant areas, throughout the region, is consistent with growth and development policies which are seeking to discourage continued urban expansion at the fringe of the metropolitan area. By pursuing such a policy, the depletion of agricultural and resource areas in outlying districts may be minimized and a more rational pattern of land use established in those areas already committed to development.

Nordhoff Site: The development of a bus maintenance facility on this proposed site would have the effect of changing the existing land use from that of a vacant, undeveloped lot to a light industrial activity. Long-range plans for the project site as well as for the surrounding areas have anticipated light industrial uses. The urbanization of these lands represents an "infilling" of development in an area largely surrounded by manmade facilities. As mentioned earlier, such infilling is consistent with growth and development policies which seek to discourage expansion at the urban fringe. Implementation of this policy will serve to minimize the depletion of agricultural and resource areas in outlying districts, encouraging establishment of a more rational pattern of land use in those areas already committed to urban development.

[1] The addition of the park-and-ride facility would necessitate the preparation of a Supplement to this EIS.

3.2.2 Displacement

De Soto Site

Implementation of the proposed project on this site would not involve the displacement of any persons or improvements; however, current agricultural activities would be halted.

Canoga Site

Implementation of the proposed project would involve the displacement of the main house of the Bayly Ranch and associated improvements; this would affect a small number of permanent residents and employees. In addition to payment of a fair and equitable price for the property, relocation assistance and benefits would be available to the residents through provisions of the federal "Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970."[1]

Corbin Site

Implementation of the proposed project will not involve the displacement of any persons or businesses.

Nordhoff Site

Implementation of the proposed project will not involve the displacement of any persons or improvements.

3.2.3 Community Disruption

Existing Community Environment

An important aspect of the environmental setting for a project which is to be located in an urbanized area (such as the presently proposed bus maintenance facility), is the character of the existing human environment. The purpose of this section is to describe the social and economic characteristics of the population in the area surrounding each of the alternative sites, thereby producing a "background profile" of the community which the proposed project will potentially affect.

De Soto Site: As described previously, land uses adjacent to the northern, southern, and western boundaries of this site are nonresidential in character. However, single-family and public school uses bound the site on the eastern boundary (across De Soto Avenue).

[1] Major benefits available through this legislation are summarized in Section 4.

For purposes of this analysis, generalized information concerning population and housing characteristics of nearby residential areas was obtained from federal census materials collected in 1960 and 1970.[1] While changes have undoubtedly occurred in the socioeconomic characteristics of the community since 1970, the census information collected at that time is the most comprehensive source available and is felt to present a reliable generalized view, satisfactory for the purposes of the current assessment. Census tracts, covering an area of approximately three square miles around the site, were utilized for the analysis.[2]

In general, data on the socioeconomic characteristics of the population in the vicinity of the project site, for a number of key variables, is similar to that derived at the countywide level. This similarity indicates that in some ways the study area community is typical of those found throughout the Los Angeles region. Specific findings of the analysis may be summarized as follows:

- Population of the area increased from 1960 to 1970, from 14,482 to 22,792, a gain of 8,315 residents.

- The number of persons per household dropped from an average of 3.47 in 1960 to 3.38 in 1970; countywide averages for the same years were 2.94 and 2.83, respectively.

- The population of the study area in 1970 was predominantly white (98.8% compared to 85.4% for the County); persons of Spanish heritage (Spanish surname and Spanish language) comprised 4.9% of the total population.

- The number of persons under 14 years of age increased from 1960 to 1970 from 5,002 (34.5% of the total) to 6,491 (28.5% of the total), as did the number of persons over 65 years of age, going from 714 (4.9% of the total) to 1,173 (5.1% of the total).

- Median school years completed in 1970 was 13.0, with 12.4 years for the County (12 years is the equivalent of four years of high school).

- Median income in 1970 was $17,638, somewhat above the County level of $10,972.

---

[1] Census of Population and Housing, U. S. Department of Commerce, Bureau of the Census, 1960; 1970.

[2] 1960 Tracts: 1371, 1372, 1375; 1970 Tracts: 1371.01, 1371.02, 1372.01, 1372.02, 1375.01, 1375.02, 1375.03.

- The total number of dwelling units in the study area increased from 1960 to 1970 from 4,518 to 7,078, representing an additional 2,560 units. Owner occupancy dropped during this same period from 93% to 77.4%.

- 32.6% of the residents of the study area moved into their dwelling units between January 1968 and March 1970. 65.5% of the residents moved into the area in the 17 years between 1950 and 1967, with 1.9% arriving in 1949 or earlier.

- 65.2% of the residential structures in the study area are over 15 years old, having been constructed in 1959 or earlier.

Canoga Site: PLANNED R4 As described previously, land uses adjacent to the boundaries of this site are essentially nonresidential in character. Thus, the immediate setting represents an undeveloped area adjacent to a freeway and an industrial park. The generalized information concerning population and housing characteristics, presented for the De Soto Site, are also applicable to the Canoga Site.

Corbin Site: As described previously, land uses immediately adjacent to the site boundary, with the exception of the dwelling units on the west side of Corbin Avenue, are essentially nonresidential in character. On the community scale, however, the project is bounded to the south and west by residential development, and to the north and east by light industrial activity.

In general, 1960 and 1970 federal census data on the socioeconomic characteristics of the population in the vicinity of the project site, for a number of key variables, is similar to that derived at the countywide level.[1] This similarity indicates that, in some ways, the study area community is typical of those found throughout the Los Angeles region. Specific findings of the analysis may be summarized as follows:

- Population of the area increased approximately 56% from 1960 to 1970, from 15,064 to 23,640, a gain of 8,576 residents.

- The number of persons per household dropped from an average of 3.93 in 1960 to 3.68 in 1970; countywide averages for the same years were 2.94 and 2.83, respectively.

[1] The following census tracts, covering the area of approximately two square miles around the site, were utilized for the analysis. 1960 Tracts: 1133, 1134; 1970 Tracts: 1133.01, 1133.02, 1133.03, 1134.01, 1134.02.

- The population of the study area in 1970 was predominantly white (98.3% compared to 85.4% for the County); persons of Spanish heritage (Spanish surname and Spanish language) comprised 6.6% of the total population.

- The number of persons under 14 years of age increased from 1960 to 1970 from 6,253 (41.5% of the total) to 7,770 (32.9% of the total), as did the number of persons over 65 years of age, going from 422 (2.8% of the total) to 783 (3.3% of the total).

- Median school years completed in 1970 was 13.1, with 12.4 years for the County (12 years is the equivalent of four years of high school).

- Median income in 1970 was $15,354, somewhat above the County level of $10,972.

- The total number of dwelling units in the study area increased 61.4% from 1960 to 1970, from 4,222 to 6,817, representing an additional 2,595 units. Owner occupancy dropped during this same period from 81.1% to 71.7%; median home value in 1970 was $41,600.

- 41% of the residents of the study area moved into their dwelling units between January 1968 and March 1970. 58% of the residents moved into the area in the 17 years between 1950 and 1967, with 1% arriving in 1949 or earlier.

- 52% of the residential structures in the study are over 15 years old, having been constructed in 1959 or earlier.

- Major employment categories of the labor force in the area in 1970 included: professional, technical, and kindred workers; managers and administrators; and clerical and kindred workers.

Nordhoff Site: As described previously, land uses adjacent to the boundaries of this site are essentially nonresidential in character. On the community scale, however, residential development is present to the north and south.

In general, 1960 and 1970 federal census data on the socioeconomic characteristics of the population in the vicinity of the project site, for a number of variables, is similar to that derived at the countywide level.[1] However, this area has shown a high degree of population growth, as reflected in the

[1] 1960 Tract: 1132; 1970 Tracts: 1132.01, 1132.02, 1132.03.

statistics for population and number of dwelling units. Specific findings of the analysis may be summarized as follows:

- Population of the area increased approximately 186% from 1960 to 1970, from 5,476 to 15,640, representing a gain of 10,164 residents.

- The number of persons per household dropped from an average of 3.64 in 1960 to 2.87 in 1970; countywide averages for the same years were 2.94 and 2.83, respectively.

- The population of the study area in 1970 was predominantly white (98.2%, compared to 85.4% for the County); persons of Spanish heritage (Spanish surname and Spanish language) comprised 4.5% of the total population.

- The number of persons under 14 years of age increased numerically but decreased proportionately from 1960 to 1970 from 2,076 (37.9% of the total) to 4,643 (29.7% of the total); the number of persons over 65 years of age increased during the period, going from 288 (5.3% of the total) to 880 (5.6% of the total).

- Median school years completed in 1970 was 12.6, compared with 12.4 years for the County (12 years is the equivalent of four years of high school).

- Median income in 1970 was $13,605, somewhat above the County level of $10,972.

- The total number of dwelling units in the study area increased 206% from 1960 to 1970, from 1,624 to 4,976, representing an additional 3,352 units. Owner occupancy dropped during this same period from 74.3% to 64.9%; median home value in 1970 was $35,867.

- 49% of the residents of the study area moved into their dwelling units between January 1968 and March 1970. 49.8% of the residents moved into the area in the 17 years between 1950 and 1967, with 1.2% arriving in 1949 or earlier.

- 30.7% of the residential structures in the study area are over 15 years old, having been constructed in 1959 or earlier.

Community Disruption Impact

De Soto Site: The proposed bus maintenance facility at this site could potentially disrupt the established residential community to the east of the site along De Soto Avenue. Such potential disruption would primarily arise due to vehicular movements to and from the site. As shown earlier in Figure 6, the main entrance and exit for both buses and employee vehicles would be on De Soto Avenue, directly opposite the Parkman Junior High School playground area.

As documented in Section 3.3.1, total daily employee vehicular movements would be approximately 800, while bus vehicular movements could total up to approximately 980. It is estimated that 95% of the employee vehicular movements and 70% of the bus movements, near the site, would occur to the south of the main facility entrance. Thus, the majority of the facility-related traffic would affect the residences on De Soto Avenue, between Clark Street and the Ventura Freeway.

The remaining 5% of the employee vehicular movements and 30% of the bus movements would affect the residences along De Soto Avenue, north of the Junior High School. The disruptive influence of the bus traffic in this area, north of the main entrance, could be avoided by utilizing a secondary bus entrance and exit on Burbank Boulevard. Northbound buses leaving the facility would exit on Burbank Boulevard and go west to Canoga Avenue before turning to the north. Returning buses from the north would utilize the same route, that is, south on Canoga Avenue and east on Burbank Boulevard to the facility entrance. This facility modification, in connection with appropriate noise barriers and aesthetic design treatments, would greatly reduce potential community disruption impacts.

Canoga Site: Given the setting of the proposed project at the Bayly Ranch Site (Figure 15), it is unlikely that the project would disrupt the existing community. Furthermore, the utilization of appropriate mitigation measures (especially noise barriers and aesthetic treatments) would greatly reduce potential disruptive effects on the future community which may develop to the north and west of the Canoga Site. Thus, community disruption impacts of the proposed project are not considered to be major.

Corbin Site: Given the physical disposition of land uses surrounding the proposed site, the bus maintenance facility project could potentially disrupt the existing community, particularly the single-family area to the west of Corbin Avenue. However, the site planning and environmental assessment processes have resulted in facility site and operational plans which will minimize, to the extent possible, potential disruptive effects.

Of primary concern, in terms of potential disruption, is the effect of the addition of bus and employee vehicle traffic to local streets. In consultation with the Los Angeles Department of City Planning, it was determined that the primary access and egress point to the proposed facility for buses would be off Nordhoff Street, as opposed to Corbin Avenue or Parthenia Street. Since Nordhoff Street is programmed to become a major through street (with a grade-separated crossing at the railroad tracks), this will allow all east-west movements to be directed along this thoroughfare. Existing residential development along the south side of Nordhoff Street (west of Corbin Avenue) has anticipated this major street and does not have frontage onto this street, but rather faces Gresham Street and is screened along Nordhoff Street by a fence. Access to employee parking will be provided off Parthenia Street. It is anticipated that the addition of this traffic to Parthenia Street will not create substantial disruptive impacts because of the character of existing development and the type of traffic presently existing on this street.

Nordhoff Site: Given the surrounding land uses (Figure 17), it is unlikely that the project would disrupt the existing community. Provision of appropriate landscaping and noise barriers can serve to mitigate any potentially disruptive actions.

3.2.4 Access/Barrier Effect

At the Canoga, Corbin, and Nordhoff Sites, the proposed project is unlikely to impede the movement of pedestrians and vehicles. However, potential exists for such an impact at the De Soto Site. It is estimated that bus movements to and from the site could represent an increase of approximately 30 percent in the heavy-duty vehicles using De Soto Avenue during the hours of 7:00 to 10:00 a.m. and 3:00 to 6:00 p.m. Such an increase could create an additional barrier to students crossing De Soto or bicycling to Parkman Junior High School. If northbound buses utilize the secondary entrance/exit on Burbank Boulevard, these potential access/barrier effects could be somewhat reduced.

3.2.5 Fiscal Impact

The proposed De Soto, Canoga, Corbin, and Nordhoff Sites are currently generating tax revenues at the annual rate of approximately $32,200, $27,900, $39,890, and $21,608, respectively.[1] Included in these amounts

[1] For the De Soto, Canoga, and Nordhoff Sites, these amounts relate only to the proportion of the total site required for the maintenance facility.

are property, school district, service district, and business taxes. Development of the proposed project at any of the four sites would take the subject properties off public tax rolls, since the Southern California Rapid Transit District, a tax-exempt public body, would become the legal owner. The fiscal effect of this action would be to create an annually-recurring tax loss of the potential revenues which would be generated if the selected property were maintained in the private sector. If the property were to be developed for private sector use as anticipated by future land use plans, the annual tax loss would be considerably higher, since the land would generate more revenues than if maintained in its present condition. This "tax loss," however, is only a theoretical or "paper loss," since development deterred, or opportunity lost, in this fashion usually locates elsewhere in the community, and thus the revenue is generated at another location.

3.2.6 Aesthetics

Existing Aesthetics

De Soto Site: This site is located on a flat, undeveloped parcel of land bounded on the south and east by the Ventura Freeway and De Soto Avenue, respectively (Figure 24A, B, C, and D). On the north, the site is bounded by Burbank Boulevard and a large vacant parcel which comprises a part of Warner Center (Figure 24E). To the west, the site is bounded by Litton Industries (Figure 24F).

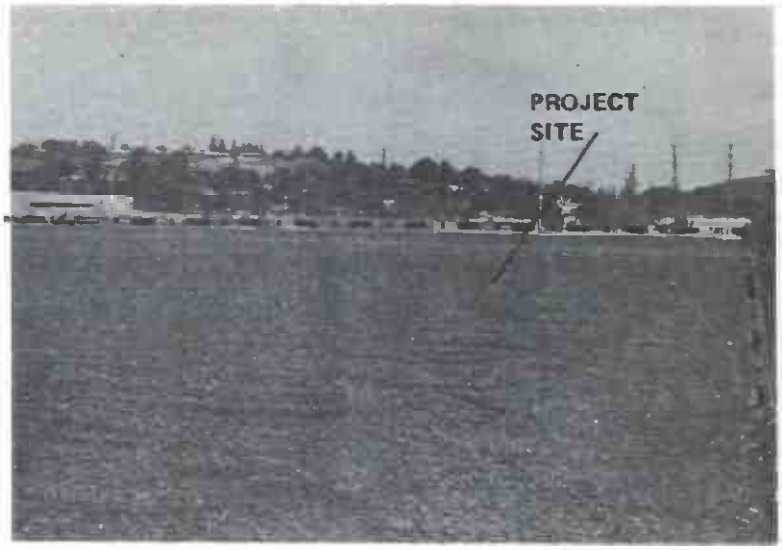
Canoga Site: This site is also located on a flat parcel of land adjoining the Ventura Freeway (Figure 25B), which comprises a portion of the Bayly Ranch. A portion of this ranch, containing the majority of structures of the operation (Figure 25D), bounds the site to the north; beyond Burbank Boulevard to the north is vacant land (Figure 25F). The eastern boundary of the site is Canoga Avenue (Figure 25A), fronted on the east side by an industrial park. A tree-and-plant nursery bounds the project on the west (Figure 25E), located along the proposed extension of Owensmouth Avenue.

As shown on Figure 25A and C, the proposed site is presently a field area with more than 100 large trees, extensive ground cover, and some structures and improvements. The property can generally be characterized as a once beautifully landscaped estate; the landscaping provides a significant haven for wildlife (Section 3.3.6, Ecosystems).

Corbin Site: This proposed project location is a flat, open field area without major distinguishing features or existing structures. The site is partially obscured from view from Parthenia Street, a major arterial, by

Intersection of De Soto Avenue and Ventura Freeway (View Northwest)

A



Western edge of site near Litton Industries and Ventura Freeway (View East)

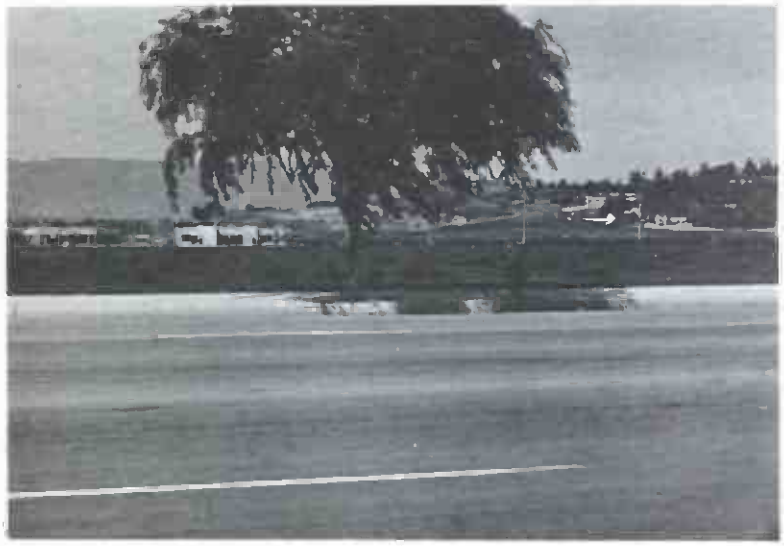
B

Northern edge of site near Litton Industries and Burbank Boulevard (View South toward Freeway)

C

Northern edge of site near Burbank Boulevard and De Soto Avenue (View South)

D



Warner Center from Burbank Boulevard (View North)

E

Litton Industries from Burbank Boulevard (View West)

F

Figure: 24
EXISTING AESTHETICS: DE SOTO SITE

Canoga Avenue, Vicinity of Intersection of Canoga Ave. Off-Ramp (Ventura Fwy.) and Canoga Ave. (View North). **A**

Southern Boundary of Bayly Ranch Facing Landscaped Slopes of Ventura Fwy. (View West). **B**

Existing Mature Tree Growth on Proposed Project Site (View West). **C**

Farm Structures Located on Bayly Ranch, Adjacent to Proposed Project Site. **D**

Existing Nursery Facilities Along West Boundary of Bayly Ranch; Proposed Extension of Owensmouth Avenue (View South). **E**

Burbank Boulevard, Vicinity of Intersection of Burbank Boulevard and Owensmouth Avenue (View East). **F**

Figure: 25
EXISTING AESTHETICS : CANOGA SITE

existing highway-oriented commercial development (Figures 26A and C). Existing industrial development along the eastern boundary of the site is of uniform height facade treatment and is separated from the proposed project area by a strip of parking (Figure 26B). The newly constructed industrial installation north of the site consists of one large building, is approximately 1-1/2 to 2 stories in height, and is set on an attractively landscaped site; considerable vacant land is visible in the area adjoining this facility (Figure 26E). Existing residential development, along Corbin Avenue and Parthenia Street, is characterized by one-story, single-family, detached dwelling units (Figures 26A and D). Residential development along the south side of Nordhoff Street is screened from view by a wooden fence approximately eight feet high; the north side of Nordhoff Street is presently vacant (Figure 26F).

Nordhoff Site: This site is located on a flat, undeveloped parcel of land bounded on the south and east by Nordhoff Street and Canoga Avenue, respectively (Figure 27F). Visible from the site are the foothills west of Topanga Canyon Boulevard (Figure 27A). Adjacent to the southern boundary of the site are commercial and industrial developments and one residential use (Figures 27B, C, and F). To the southwest are a truck parking area and a commercial use (Figure 27D). The northern boundary and the northwestern boundary are presently vacant. To the east lie a Southern Pacific Railroad line and an equestrian center (Figure 27E).

Aesthetic Impact

De Soto Site: Development of the proposed project on this site would substantially alter the existing visual character of the site, since it would entail the conversion of an open field into a bus and automobile storage area containing four medium-sized structures. The facility would be visible from the Ventura Freeway, from Burbank Boulevard, from De Soto Avenue, and from the residences around the junior high school which are at a higher elevation. This view of the facility from the east of De Soto Avenue is potentially the most sensitive in terms of aesthetic impacts.

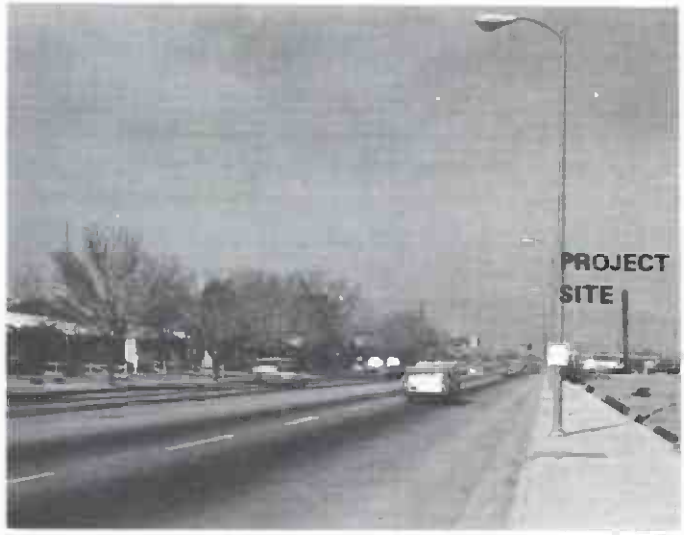
Facade treatments along the eastern boundary (De Soto Avenue) would be designed to provide an attractive appearance through utilization of landscaping, materials, and signing. Such design treatment would reduce--but not eliminate--the visual impact of the facility at this site.

Canoga Site: Development of the proposed project at this site would substantially modify the existing visual character of the site, since it would entail the conversion of a heavily landscaped field into a large, open, bus

Parthenia St., Vicinity of Intersection of Parthenia St. and Corbin Ave. (View West). **A**

Northern and Eastern Boundaries of Project Site, from Parthenia St. (View North). **B**

Eastern and Southern Boundaries of Project , from Corbin Ave. (View East). **C**

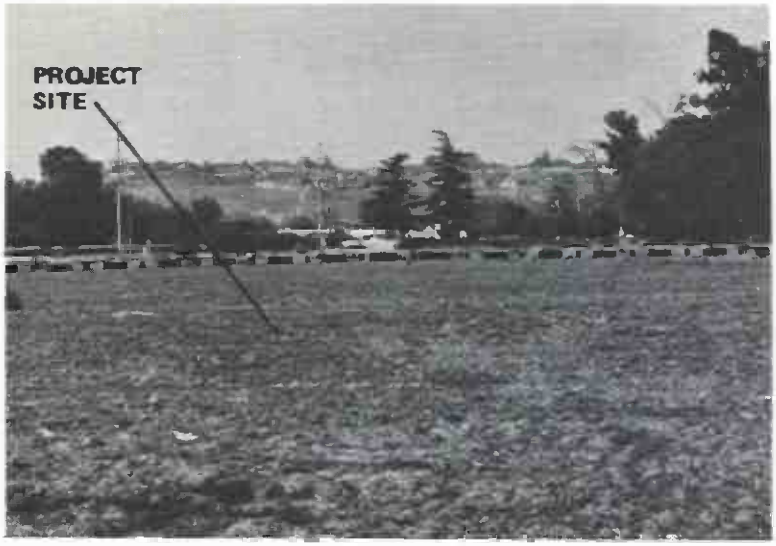


Corbin Ave., Vicinity of Intersection of Corbin Ave. and Nordhoff St. (View North). **D**

Nordhoff St., Vicinity of Intersection of Corbin Ave. and Nordhoff St. (View Northeast). **E**

Nordhoff St., Vicinity of Intersection of Nordhoff St. and Corbin Ave. (View West). **F**

Figure: 26
EXISTING AESTHETICS: CORBIN SITE



Hillside homes west of Topanga Canyon Boulevard from the site (view southwest)

A

Residential use on southern boundary of the site (view south)

B

Adjacent commercial uses on Nordhoff Street (view southwest)

C

Truck parking area west of the site (view north)

D

Equestrian center in the background and the Southern Pacific Railroad in the foreground east of the site (view east)

E

Canoga Avenue narrowing to one lane both directions, with industrial uses in the background and the site to the right (view south)

F

Figure: 27
EXISTING AESTHETICS: NORDHOFF SITE

and automobile parking area with four medium-sized structures. The proposed project, in conjunction with the proposed widening of Canoga Avenue, is expected to remove all trees and shrubs with the possible exception of the trees on the western and northern boundaries (Figure 15).

The most significant, potential, visual impacts are: (1) the altered view from the north, and (2) the altered view along Canoga Avenue. Westbound traffic on the Ventura Freeway should not experience a modified visual environment due to the extensive landscaping along the freeway embankment.

If the trees along the northern boundary are preserved, if the proposed noise barrier is shielded with suitable exterior landscaping, and if proper facility lighting is utilized, potential visual impacts to future residential (or other) uses on the remaining Bayly Ranch parcel would be minimized. [1] The design and siting of these future high-medium-density dwelling units would likely take into account the presence of the proposed bus maintenance facility. This would further reduce potential visual impacts--particularly related to "looking down" on the facility from the third-floor residences.

Facade treatments along the eastern boundary (Canoga Avenue) will be designed to provide an attractive appearance through utilization of landscaping, materials, and signing.

Corbin Site: Development of the proposed project at this site would substantially modify the existing visual character of the site, since it would entail the conversion of an open, vacant field into a bus and automobile storage area containing four medium-sized structures. The facility, because of existing development, will be visible primarily from Corbin Avenue and the extension of Nordhoff Street. The former street view is potentially the most sensitive, since it faces existing residential development. The latter street view would face industrial and commercial frontage. Facade treatments of the proposed facility along these streets will be designed to provide an attractive appearance through utilization of landscaping, visually compatible materials, and appropriate signing. The eastern boundary of the project would face existing industrial development, while the southern boundary would face the service areas of existing mixed commercial development. Neither of these uses would be particularly sensitive, in terms of potential visual intrusion, to the introduction of the proposed project.

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[1] If an expanded project is developed which utilizes the remaining Bayly Ranch parcel for a park-and-ride lot, potential visual impacts to the north would be reduced since a widened Burbank Boulevard would provide a buffer zone.

Of particular concern, in terms of potential visual impact on the residential area located along Corbin Avenue, is the location and intensity of lighting for the proposed facility. Careful planning can ensure that intrusive effects are minimized.

A secondary visual impact created by the development of the proposed facility is the potential effect of adding bus and automobile traffic to local streets serving the site. As described in the section covering community disruption, bus routing to and from the site would be confined to Nordhoff Street to avoid impacting residential development on Corbin Avenue, between Parthenia and Nordhoff Streets. Likewise, automobile traffic, generated by employees of the project, would have primary access off Parthenia Street. Although existing residential development is located along the south side of Parthenia Street, it is anticipated that the addition of the project traffic to this street will create marginal visual impacts since the street presently functions as a major arterial in with mixed commercial uses--and parking--located along the north side of Parthenia Street.

Nordhoff Site: Development of the proposed project at this site would substantially modify the existing visual character of the site, since it would entail the conversion of an open, vacant field into a bus and automobile storage area containing four medium-sized structures. The facility will be visible from Plummer Street, Canoga Avenue, Nordhoff Street, and the residences located on a hillside ridge approximately one-half to three-fourths of a mile to the west of the site. Views of the site from the hillside would be from a distance and, thus, not a direct, immediate view. The most sensitive visual intrusion would exist at the residences that have a relatively direct, unobstructed view of the site, one directly across Nordhoff Street and the other located in the equestrian center. The residence across Nordhoff Street presently has several large bushes lining the street which will partially screen the view of the bus facility. The residence in this equestrian center is approximately 1,200 feet to the east of the site.

Facade treatments of the proposed facility along these streets will be designed to provide an attractive appearance through utilization of landscaping, visually compatible materials, and appropriate signing. Since the surrounding area is comprised of predominantly nonresidential uses, there are few immediate developments that would be particularly sensitive, in terms of potential visual intrusion, to the introduction of the proposed project.

3.2.7 Historical and Archaeological Sites and Structures

The De Soto and Canoga Sites are currently devoted to agricultural activities, while the Corbin and Nordhoff Sites are open, vacant lots. From visual inspection, no historical structures or archaeological sites apparently exist. Research by the University of California's Archaeological Survey, the regional clearinghouse for documentation of historical and archaeological sites, concerning the potential sensitivity of the proposed sites for development, indicated that no archaeological or historical sites are recorded for the immediate areas around the De Soto, Canoga, Corbin, or Nordhoff Sites.[1,2,3,4] A number of archaeological sites have been recorded within two miles of the Nordhoff Site. In general, since the sites are located in a highly urbanized area, it is likely that any such sites as might have existed may have long ago been destroyed.

On the basis of the information presently available, it may be concluded that no impact to historical or archaeological sites may be anticipated by the development of the proposed facility. During construction, however, measures should be taken to ensure that any remains of sites encountered would be evaluated by qualified persons to salvage or protect such resources as might be discovered.

3.3 Physical Environment

3.3.1 Traffic and Transportation

Existing Traffic Volumes

Traffic volumes for the major streets and highways in the vicinity of the proposed De Soto and Canoga Sites are shown in Figure 28. Vehicular speeds on local streets and arterials average 30 to 35 mph, while peak-hour speeds on the Ventura Freeway are in the 50 to 55 mph range.

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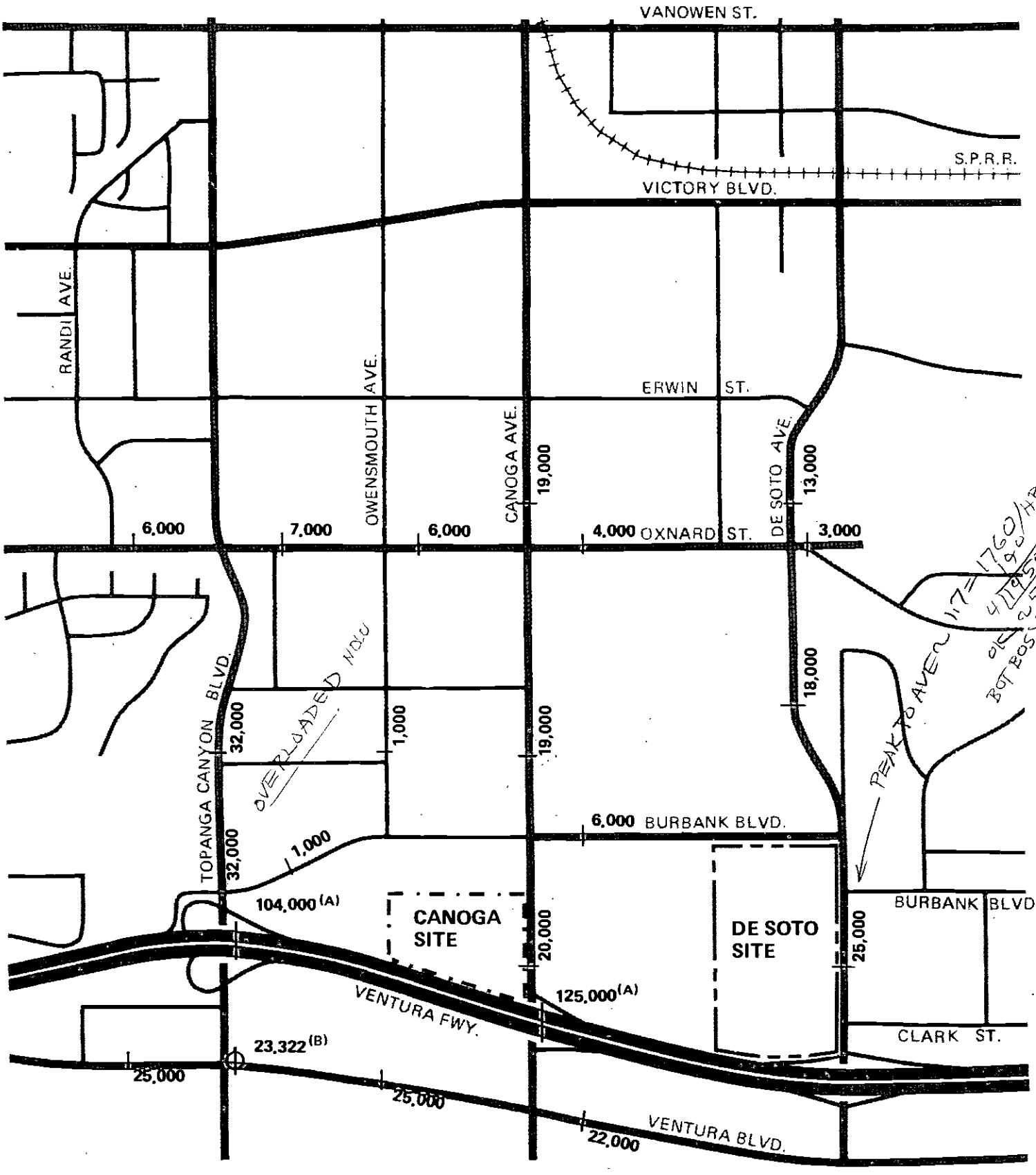
[1] Letter to Samuel Black, Chief Engineer--Bus Facilities, SCRTD, from Martin D. Rosen, Survey Archaeologist, UCLA, Re: De Soto Site; 3-24-76.

[2] Letter to Mr. Samuel Black, Chief Engineer--Bus Facilities, SCRTD, from Martin D. Rosen, Survey Archaeologist, UCLA, Re: Canoga Site; 2-4-76.

[3] Letter to Mr. Samuel Black, Chief Engineer--Bus Facilities, SCRTD, from Martin D. Rosen, Survey Archaeologist, UCLA, Re: Corbin Site; 2-4-76.

[4] Letter to Mr. Samuel Black, Chief Engineer--Bus Facilities, SCRTD, from Martin D. Rosen, Survey Archaeologist, UCLA, Re: Nordhoff Site; 9-30-76.



Legend
000 AVERAGE DAILY TRAFFIC

Sources: A.D.T., *Warner Center Master Environmental Assessment*,
D. Frischer & Associates, 1973 (Vol's. for 1973);
A. Freeway Volumes, 1975, Caltrans.
B. City of L. A.; 2-7-75

Figure: 28
EXISTING TRAFFIC VOLUMES: DE SOTO AND CANOGA SITES

Traffic volumes for the major streets in the vicinity of the proposed Corbin Site are shown in Figure 29. Parthenia Street presently has two traffic lanes in each direction. Assuming a capacity of 600 vehicles/lane/hour, the measured peak hour volumes could produce little or no vehicular congestion. No measured peak hour volumes were available for Corbin Avenue; however, existing and projected average daily traffic volumes are similar to those on Parthenia and, thus, peak hour operations may be assumed to be similar. Vehicular speeds on local streets and arterials currently average approximately 35 mph.

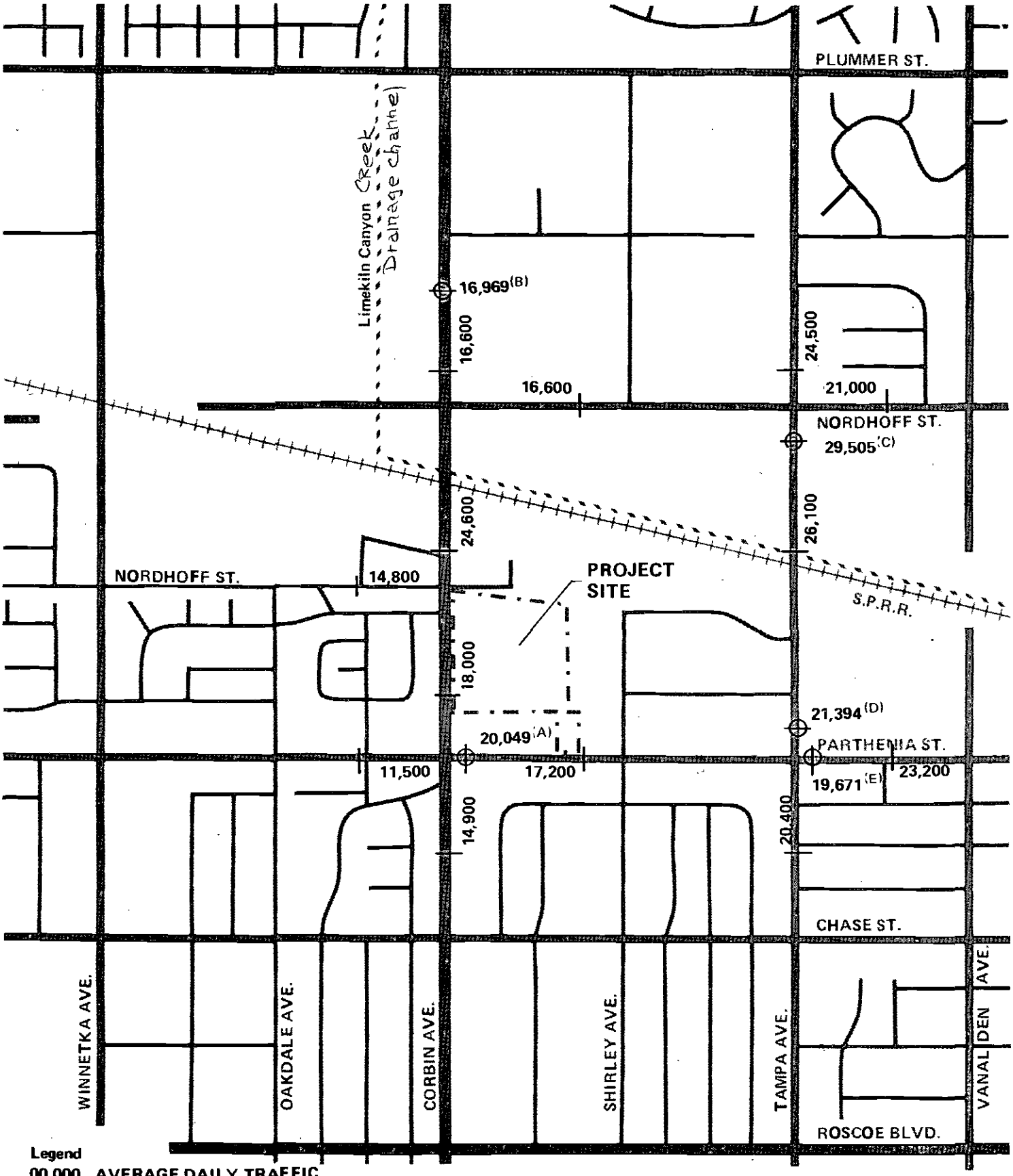
Traffic volumes for the major streets in the vicinity of the proposed Nordhoff Site are shown in Figure 30. Presently, Nordhoff Street has two traffic lanes in both directions, but west of Canoga Avenue it narrows to one lane, both directions. Canoga Avenue has one lane in both directions, except for the stretch of roadway in the vicinity of the Nordhoff-Canoga intersection, where it widens to two lanes in both directions. Thus, at the Nordhoff-Canoga intersection there are two lanes in both directions for both streets. Given this four-lane intersection, and assuming a capacity of 600 vehicles/lane/hour, measured peak-hour volumes produce little or no congestion on Nordhoff Street and Canoga Avenue, at the present time.

The Southern Pacific Railroad line which crosses Nordhoff Street is a branch line and is utilized, at most, twice each day at irregular hours. Thus, railroad crossings do not significantly impede traffic movements.

Existing Bus Service

Bus service in the vicinity of the De Soto and Canoga Sites is presently being provided on De Soto Avenue (Line 153), Ventura Boulevard (Line 81), and Topanga Canyon Boulevard (Line 151). Service on these streets is provided approximately between the hours of 6:00 a.m. and 10:30 p.m., Monday through Saturday, operating with 20-minute headways between buses. Service on Sundays and holidays is provided with similar frequency, beginning one and one-half hours to two and one-half hours later in the morning and continuing until approximately 10:30 p.m. in the evening. These lines are part of the grid bus system presently serving the San Fernando Valley (Figure 2).

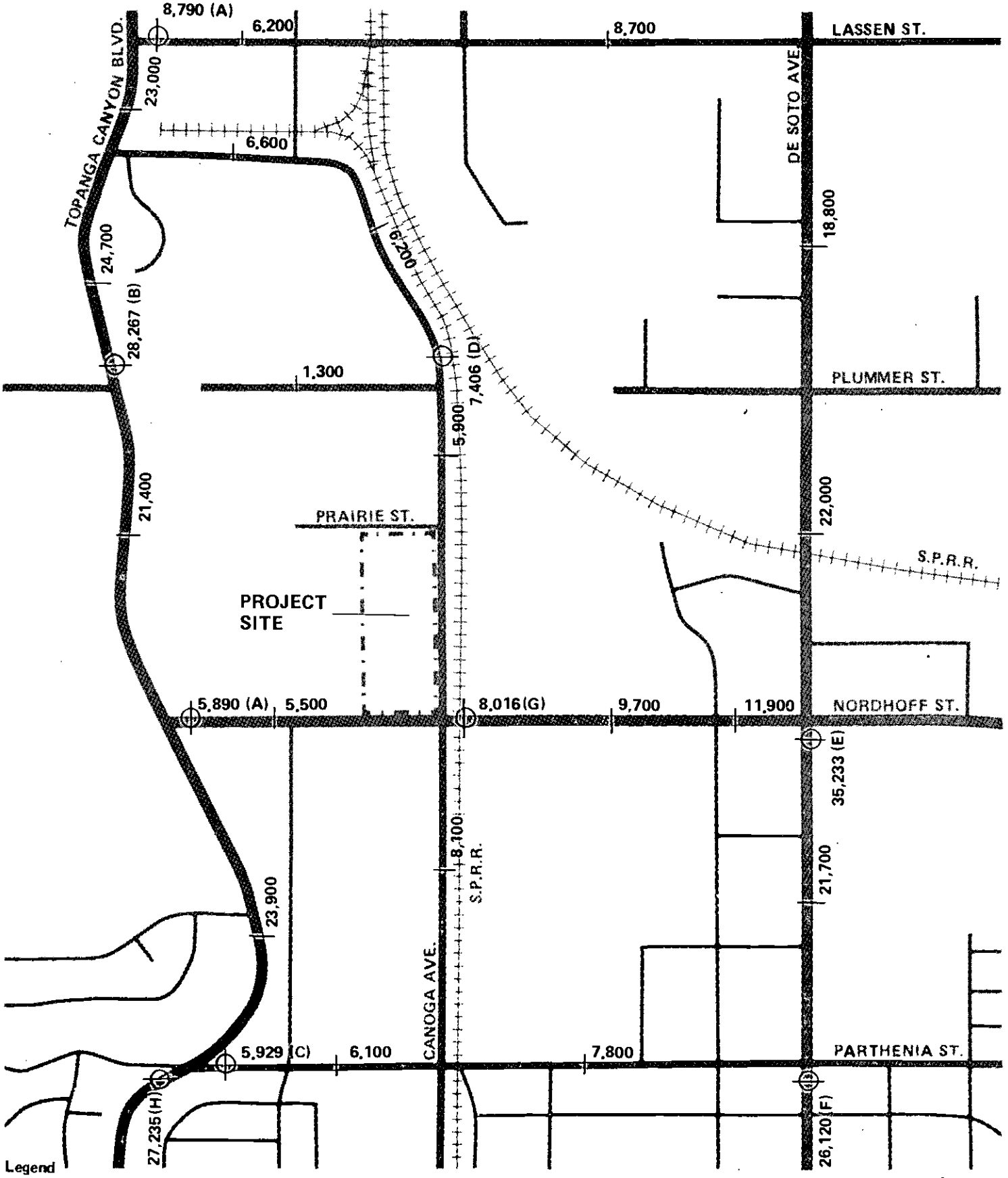
Bus service in the immediate vicinity of the Corbin Site is provided on Corbin Avenue and Nordhoff Street by Lines 93, 153, 166, and 168. Service on these streets is provided approximately between the hours of 6:00 a.m. and 10:30 p.m., Monday through Saturday, operating with 20-minute headways between buses. Service on Sundays and holidays is provided with similar frequency beginning half an hour to two hours later in the morning and continuing until approximately 10:30 p.m. to 1:00 a.m. in the morning, depending upon specific route schedules.



Legend
00,000 AVERAGE DAILY TRAFFIC

Sources: A.D.T. from San Fernando Valley Cooperative Transportation Study, (1972).,
A. City of L.A., Traffic Counts 1974
B. 8-12-75
C. 10-16-75
D. 9-3-74
E. 9-3-74

Figure: 29
EXISTING TRAFFIC VOLUMES : CORBIN SITE



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00,000 AVERAGE DAILY TRAFFIC

Sources. ADT from San Fernando Valley Cooperative Transportation Study (1972).

(A) 8-5-76
(B) 1-23-76
(C) 8-6-76
(D) 11-20-75
(E) 6-3-75
(F) 7-11-74
(G) 1-19-73
(H) 9-28-73

0 500 1000 1500 2000

SCALE IN FEET

NORTH

Figure: 30
EXISTING TRAFFIC VOLUMES: NORDHOFF SITE

The implementation of the proposed facility will not directly affect bus service in the immediate vicinity of the project since it will not serve a station function, but rather act in a support capacity.

Bus service in the immediate vicinity of the Nordhoff Site is provided on Nordhoff Street, Topanga Canyon Boulevard, and De Soto Avenue by Lines 166, 151, and 153, respectively. Service on these streets is provided approximately between the hours of 6:00 a.m. to 11:00 p.m., Monday through Saturday, operating with 20-minute headways between buses. Service on Sundays and holidays is provided with similar frequency, beginning approximately two hours later in the morning and continuing until approximately 10:30 p.m. to 11:00 p.m., depending upon specific route schedules.

Future Traffic Volumes

Projected future traffic volumes on major streets and highways in the vicinity of the De Soto, Canoga, Corbin and Nordhoff Sites are shown in Figures 31, 32, 33 and 34, respectively. Of primary interest to this analysis is the vehicular traffic which will be generated by the proposed project. The total fleet of buses to be maintained at the proposed facility, when operating at full capacity, would generate approximately 978 movements (arrivals and departures) during a 24-hour period. Likewise, drivers and other support personnel arriving and leaving the site will generate approximately 800 vehicular movements.

De Soto Site: The distribution of facility-related bus and employee vehicular movements, as shown in Figure 31, would add 1,778 vehicular movements to the projected De Soto Avenue (without project) total of 21,500, making a (with project) total of 23,278. This future total is well within the capacity of De Soto Avenue and would not cause any additional congestion, particularly since most facility-related vehicular movements would occur at times other than the normal "peak hour." With respect to the Ventura Freeway, the additional bus and employee traffic should not adversely affect the relatively free-flowing characteristics of the freeway in this area.

Canoga Site: As shown on Figure 32, the facility-related buses and employee vehicles will add 1,778 vehicular movements to the projected Canoga Avenue (without project) total of 21,500, making a (with project) total of 23,278. With the proposed widening of Canoga Avenue, traffic generated by the bus maintenance facility can be accommodated without any significant traffic impact. Since most buses (70 percent) would utilize the Ventura Freeway, the facility would have insignificant impact on other surrounding local streets. The addition of these buses should no significantly affect the relatively free-flowing peak-hour characteristics of the Ventura Freeway in this area.

Corbin Site: As shown in Figure 33, the effect of locating the employee parking lot on Parthenia Street will be to add an additional 800 vehicular movements to the projected 18,300, making a total of 19,100; average daily traffic for 1972 was 17,200. A 1974 count indicated a volume of 20,049 vehicles on Parthenia Street; thus this total for 1978 could be somewhat higher than projected. This traffic on Parthenia Street will

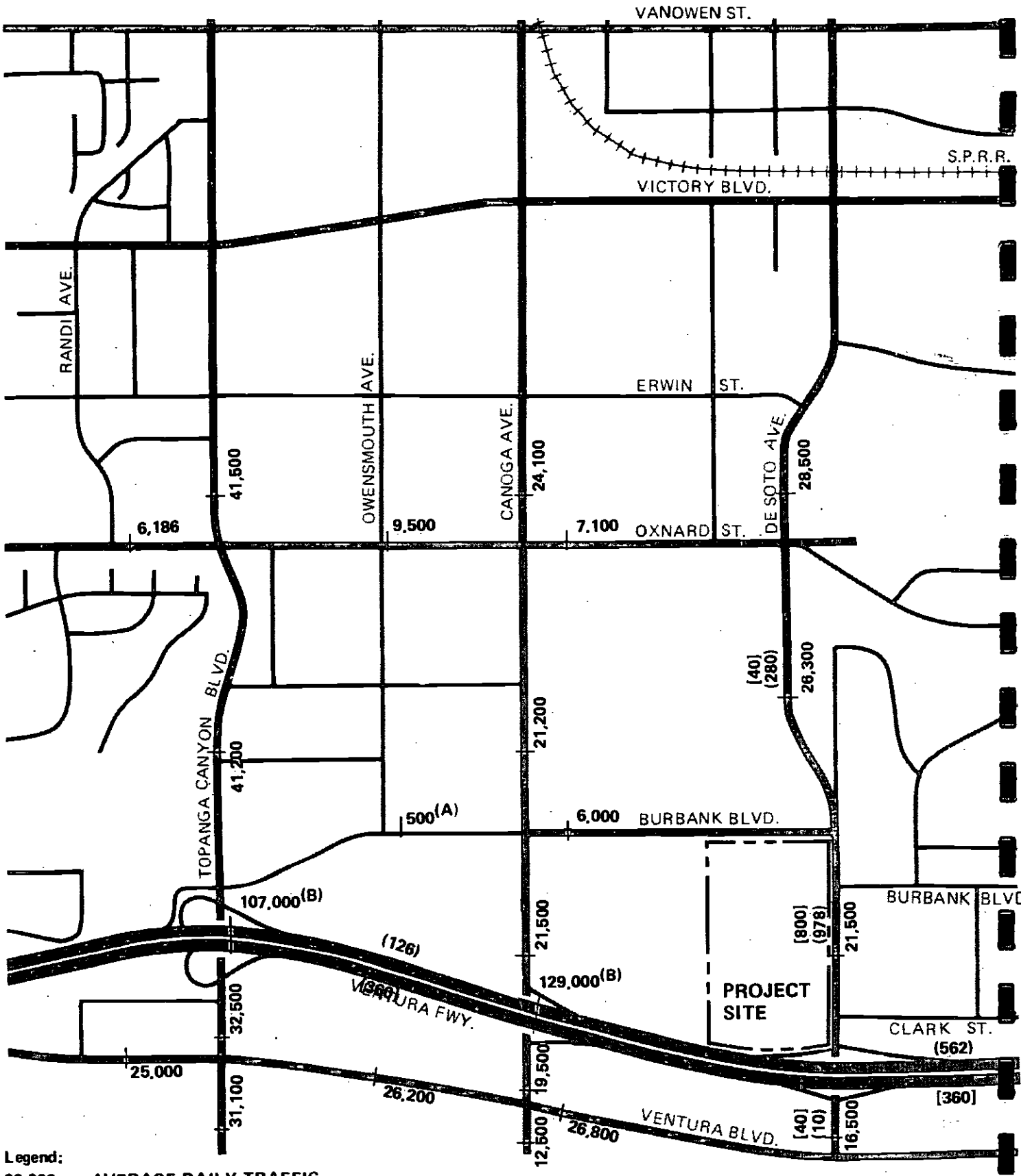
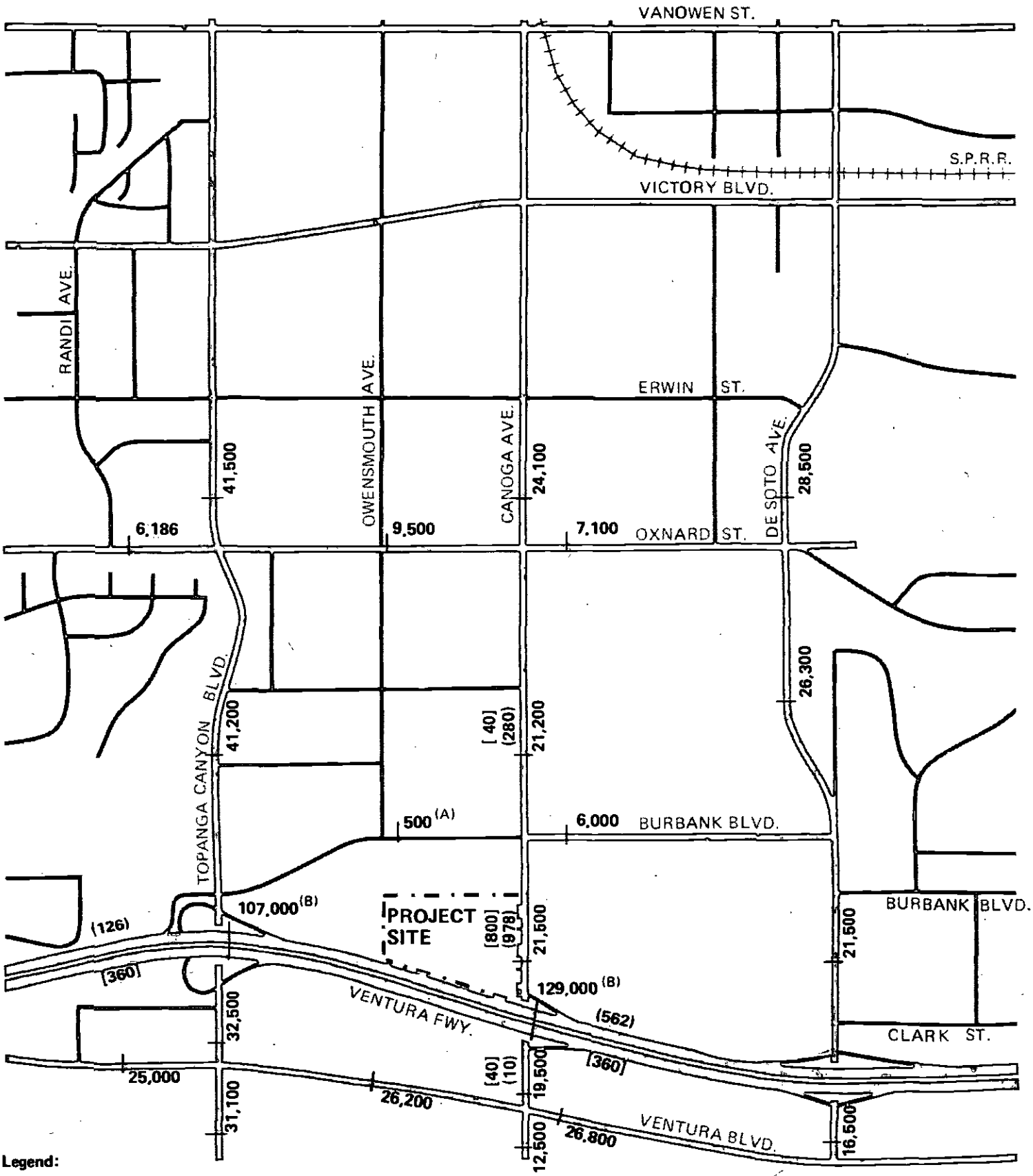


Figure: 31

PROJECTED FUTURE TRAFFIC VOLUMES (1978): DE SOTO SITE



Legend:

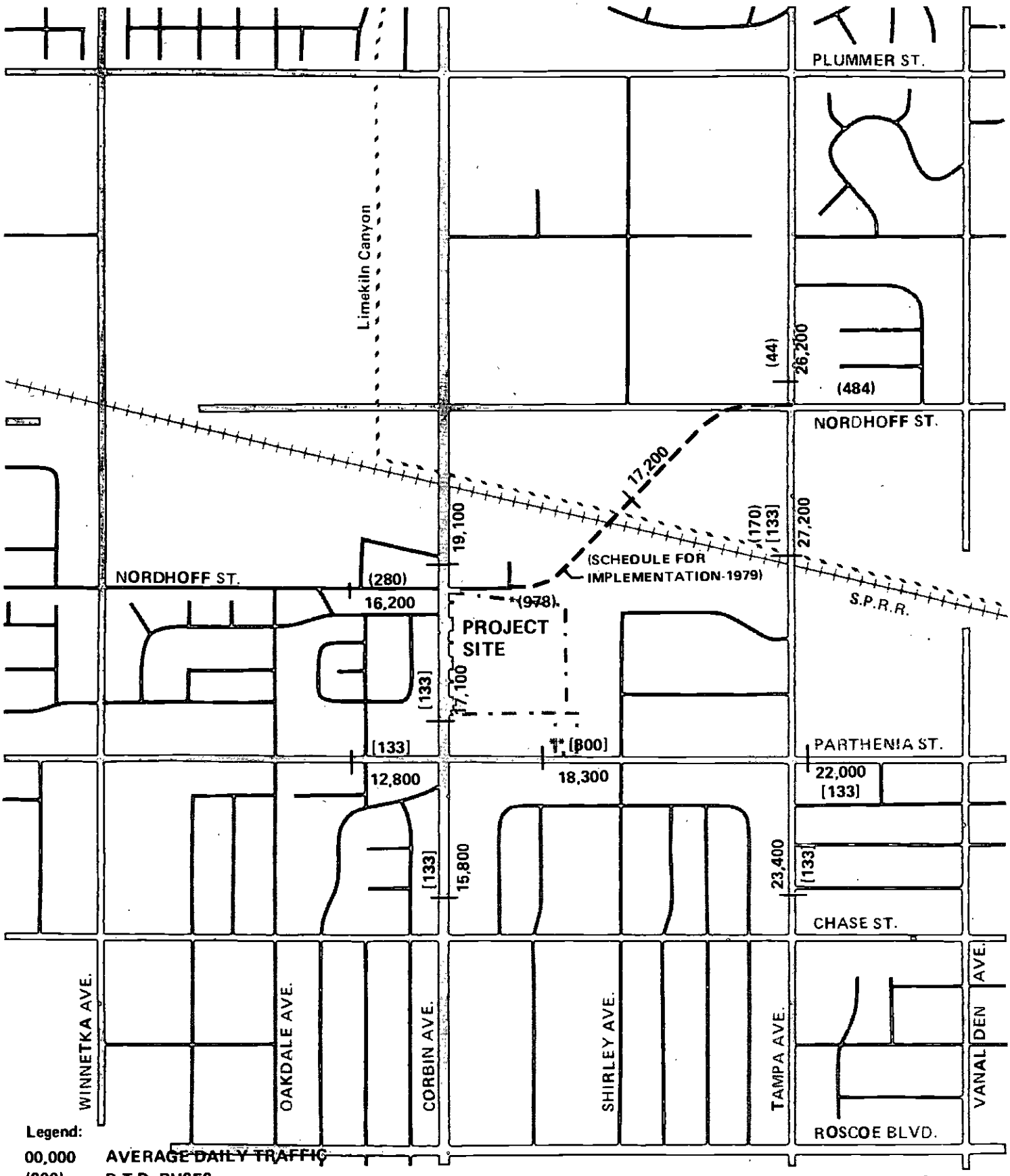
00,000	AVERAGE DAILY TRAFFIC
(000)	R.T.D. BUSES
[000]	R.T.D. EMPLOYEE CARS (ASSUME 90% ARRIVE TO SITE ON FWY.)

Sources: Interpolated from San Fernando Valley Cooperative Transportation Studies (1972 & 1990).

A. 1980 Projection, *Warner Center Master Environmental Assessment*, Frischer & Associates, 1973.

B. Freeway Traffic Volumes estimated based on 1% Growth/Year; Caltrans.

Figure: 32
PROJECTED FUTURE TRAFFIC VOLUMES (1978): CANOGA SITE



Legend:

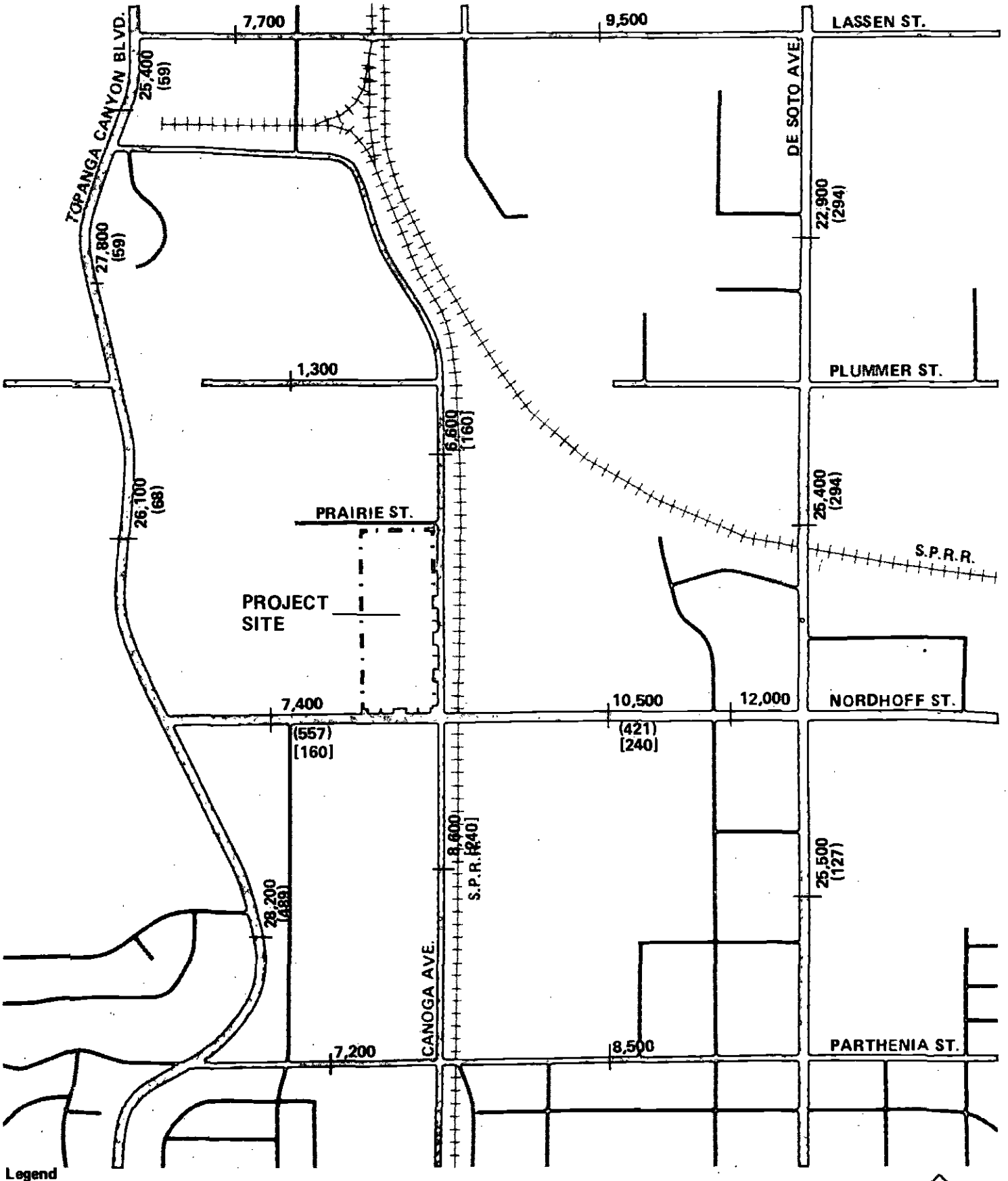
00,000	AVERAGE DAILY TRAFFIC
(000)	R.T.D. BUSES
[000]	R.T.D. EMPLOYEE CARS

Sources: A.D.T. Interpolated from San Fernando Valley Cooperative Transportation Studies (1972 - 1990). Bus Volumes Estimated by R.T.D. (489 Primary Bus Movements); Employee Car Movements Assume Equal Distribution on Major Streets (800 A.D.T. Total).

* Assumes Bus Entrance and Exit on Nordhoff Street.

** Assumes Auto Entrance and Exit on Parthenia Street.

Figure: 33
PROJECTED FUTURE TRAFFIC VOLUMES (1978-1979): CORBIN SITE



Legend

00,000 AVERAGE DAILY TRAFFIC
(000) RTD BUSES
[000] RTD EMPLOYEE CARS

Sources: ADT interpolated from San Fernando Valley Cooperative Transportation Studies (1972-1990).

Bus volumes estimated by RTD (978 total bus movements) employee car movements assume 30% arrival/departure via both Canoga (from the south) and Nordhoff (from the east), and 20% arrival/departure via both Canoga (from the north) and Nordhoff (from the west).

0 500 1000 1500 2000

SCALE IN FEET

NORTH

Figure: 34
PROJECTED FUTURE TRAFFIC VOLUMES (1978): NORDHOFF SITE

not cause a substantial change; in addition, the volume is well below the capacity of the street. Access and egress to the site for buses will be provided on the extension of Nordhoff Street with the consequence of adding 978 bus movements mentioned earlier, to the projected ADT of 17,200 (1979) for a total of 18,178. This additional growth may be accommodated in terms of planned capacity without substantial impact. Mitigation of potential impacts to Corbin Avenue south of Nordhoff Street, where addition of bus traffic to an essentially residential street would produce a significant modification of existing sensitive conditions, is achieved by placing the main bus access point on Nordhoff Street. The character and capacity of this street will be such that it is anticipated that no adverse impacts would occur as a result of this action. In addition, the grade separation on Nordhoff Street, which will be provided at the railroad tracks, will allow buses an essentially free-flow condition to points north and east, past a potential obstacle.

Nordhoff Site: As shown in Figure 34, location of this facility at the Nordhoff Site will add 160 vehicular movements to Canoga Avenue, north of the site, making a projected total of 6,760. A 1975 count indicated a volume of 7,406 for Canoga Avenue; thus, this total for 1978 could be somewhat higher than projected. 240 vehicular movements will be added to the projected 8,600 for Canoga Avenue, south of the site, for a projected total of 8,840. For Nordhoff Street east of the site, 661 vehicular movements will be added to expected traffic volumes of 10,500 for a total of 16,561. Finally, for Nordhoff Street west of the site, 717 additional vehicular movements will be made, to increase projected traffic volumes from 7,400 to 8,117.

Given the four-lane controlling intersection at Nordhoff Street and Canoga Avenue, future traffic and additional traffic generated by the facility will not represent significant vehicular congestion, particularly since most facility-related vehicular movements would occur at times other than the normal peak hours.

Major north-south streets not immediately adjacent, but in close proximity to, the site (Topanga Canyon Boulevard and De Soto Avenue) are currently operating or shortly will be operating at capacity. The proposed facility will add a small increment to the average daily traffic total. Although this addition will add to traffic congestion, it represents only about one percent of the projected total for 1978.

Currently there are no plans to widen either Nordhoff Street (a designated major highway) between Canoga Avenue and Topanga Canyon Boulevard, or Canoga Avenue (a designated secondary highway) between Nordhoff Street and Plummer Street. However, the Engineering Bureau of the City of Los Angeles has plans to widen Canoga Avenue between Nordhoff Street and Roscoe Boulevard, so that it functions as a secondary highway, as designated by the Chatsworth-Porter Ranch District Plan. It is now estimated that this widening project will be initiated anywhere from one to two plus years in the future. This widening project will aid in alleviating future traffic congestion on Canoga Avenue, south of Nordhoff Street.

3.3.2 Noise Impact

Existing Noise

De Soto Site: The existing noise environment in and around the De Soto Site was evaluated by on-site measurement. Currently, the major sources of noise in the area are motor vehicle traffic on the Ventura Freeway, De Soto Avenue, and Burbank Boulevard. Three on-site measurement locations were chosen to evaluate the noise in the community. Noise measurements were made during the peak traffic hour and again during an off-peak traffic hour. These locations are shown in Figure 35. Location 1 was located near the corner of Burbank and De Soto. Location 2 was located near De Soto across from Parkman Junior High School. Location 3 was located on the property adjacent to the Litton Industries parking lot.

The results of the measurements taken near the De Soto Site can be presented in several ways. First, it must be realized that noise is a time-varying quantity that can best be described using statistical quantities. The measurements taken consisted of recording the A-weighted sound pressure level once per second for a 15-minute period at each location. From this data, the statistical distribution of the sound pressure level was determined and reported in terms of the L_{10}, L_{50} and L_{90} noise levels. The L_{10} noise level is that level which was exceeded 10 percent of the time and is called the "peak" noise level. The L_{50} noise level is that level exceeded 50 percent of the time and is called the "median" noise level. The L_{90} noise level is that noise level exceeded 90 percent of the time and is called the "background" noise level. Also, the equivalent noise level, and the noise pollution level were recorded. The equivalent noise level, or L_{eq}, is the "energy average" noise level during the measurement period (as compared to the average of sound pressure level), and the noise pollution level or L_{np} is merely the L_{eq} with an additional correction for the variability of noise. For example, a steady noise is not as annoying as an unsteady noise and L_{np} takes this into account.

Results of the noise measurements are presented in Table 3 in terms of the L_{10}, L_{50} and L_{90} noise levels. Also shown in Table 3 are the equivalent noise levels and noise pollution levels. Noise measurements were made in the late afternoon during the peak traffic hour and during the early afternoon during an off-peak hour.

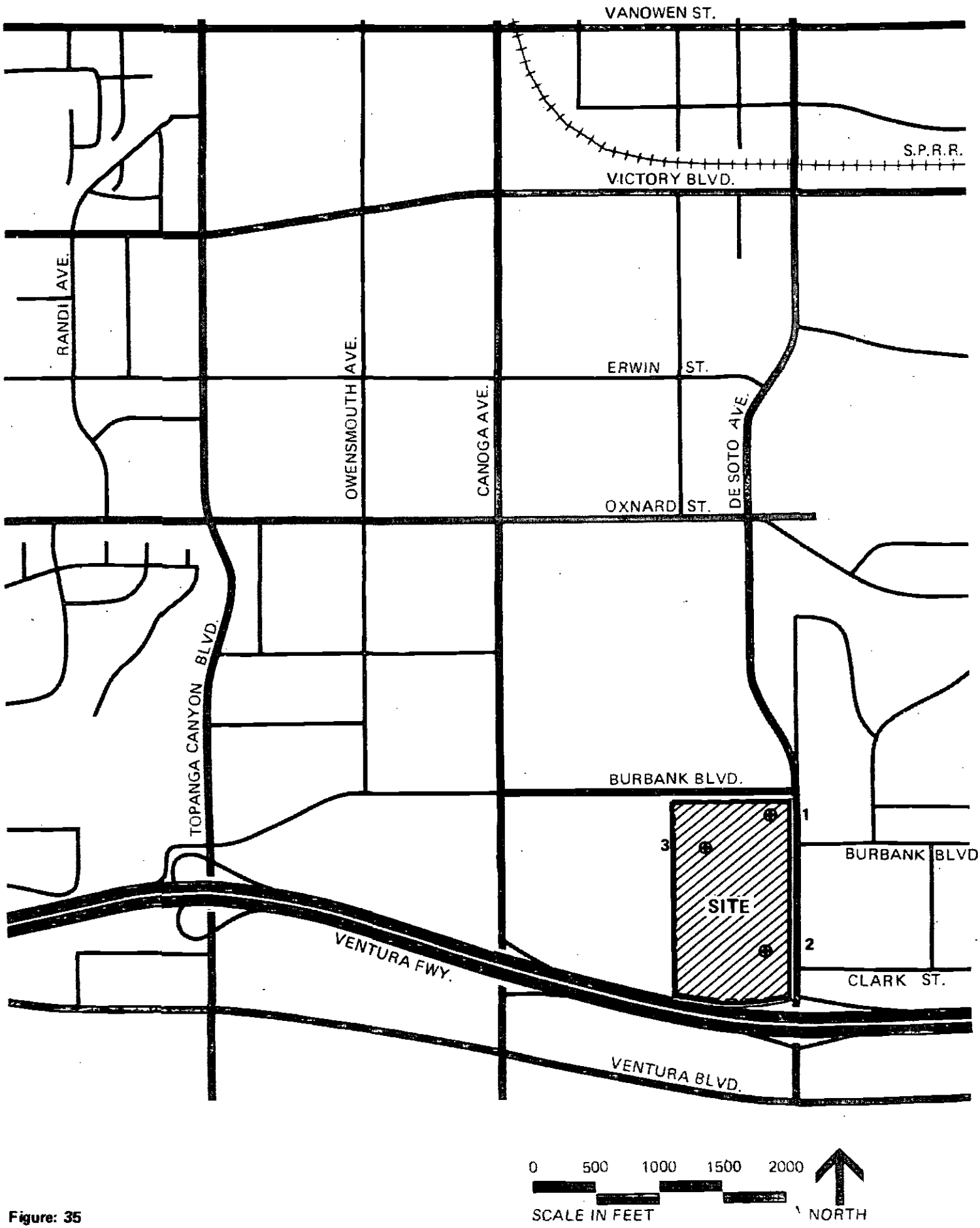


Figure: 35
NOISE MEASUREMENT LOCATIONS FOR DE SOTO SITE

TABLE 3
NOISE MEASUREMENT RESULTS: DE SOTO SITE

Measurement Location*	Time	Noise Level (dBA L_{10}	L_{50}	L_{90}	L_{33}	L_{eq}	L_{NP}
1	2:50 PM	69	63	59	64	67.0	77.0
2	3:15 PM	70	65	62	66	68.0	76.3
3	3:45 PM	69	60	57	61	67.7	81,62
1	5:10 PM	70	62	57	65	69.4	83.3
2	5:35 PM	66	63	60	64	65.3	72.3
3	5:53 PM	69	65	63	66	76.3	74.2

*See Figure 35 for location map.

These levels can be evaluated using standards developed by the federal Department of Housing and Urban Development (HUD).[1] According to the HUD noise evaluation criteria for residential sites, the noise is classified as clearly acceptable, normally unacceptable, and clearly unacceptable. Based on these HUD criteria and the noise measurement results, the community near the De Soto Site currently experiences a normally acceptable noise environment but is approaching normally unacceptable levels due to noise intrusions from automobile traffic operating in the vicinity.

Another methodology for quantifying the impact of traffic noise is by use of the noise scale known as the Day-Night Noise Level of L_{DN}. This is an annual average time weighted noise scale based on the A-weighted decibel. The L_{DN} noise scale is used frequently by the Federal Government's Environmental Protection Agency and is the noise scale used in the City of Los Angeles Noise Element. This scale is also recommended by the City of Los Angeles in its guidelines for Environmental Impact Reports.[2]

[1] U. S. Department of Housing and Urban Development, Noise Assessment Guidelines, HUD Report No. TE/NA-71 (1971). See chart in Appendix A.

[2] See Chart in Appendix A.

Utilizing the existing traffic data presented in Section 3.3.1, L_{DN} contours were computed and are presented in Figure 36. Based on the City of Los Angeles L_{DN} criteria, the site would be classified as clearly acceptable for light industrial use. The portion of the site (adjacent to the Ventura Freeway) currently zoned for residential use would be classified as normally unacceptable.

Canoga Site: The existing noise environment in and around the Canoga Site was evaluated by field measurement. Currently, the major sources of noise in the area are motor vehicle traffic on the Ventura Freeway, Canoga Avenue, and Burbank Boulevard.

Three measurement locations were chosen to evaluate the noise in the community. Noise measurements were made during the peak traffic hour and again during an off-peak traffic hour. These locations are shown in Figure 37. Location 1 was located in the center of the property. Location 2 was located adjacent to the proposed boundary of the bus maintenance facility. Location 3 was located on the property adjacent to Canoga Avenue. An additional measurement location that was included in this report was taken from the environmental study for Warner Center. [1]

Results of the noise measurements are presented in Table 4 in terms of the L_{10}, L_{50}, and L_{90} noise levels. Also shown in Table 4 are the equivalent noise levels and noise pollution levels. Noise measurements were made in the late afternoon during the peak traffic hour. Based on HUD criteria and these noise measurement results, the community near the Canoga Site experiences a relatively quiet noise environment (normally acceptable), with most noise due to local traffic.

[1] Draft Master Environmental Assessment, Warner Center, prepared for the City of Los Angeles by Ultrasystems, Inc., December 1973.

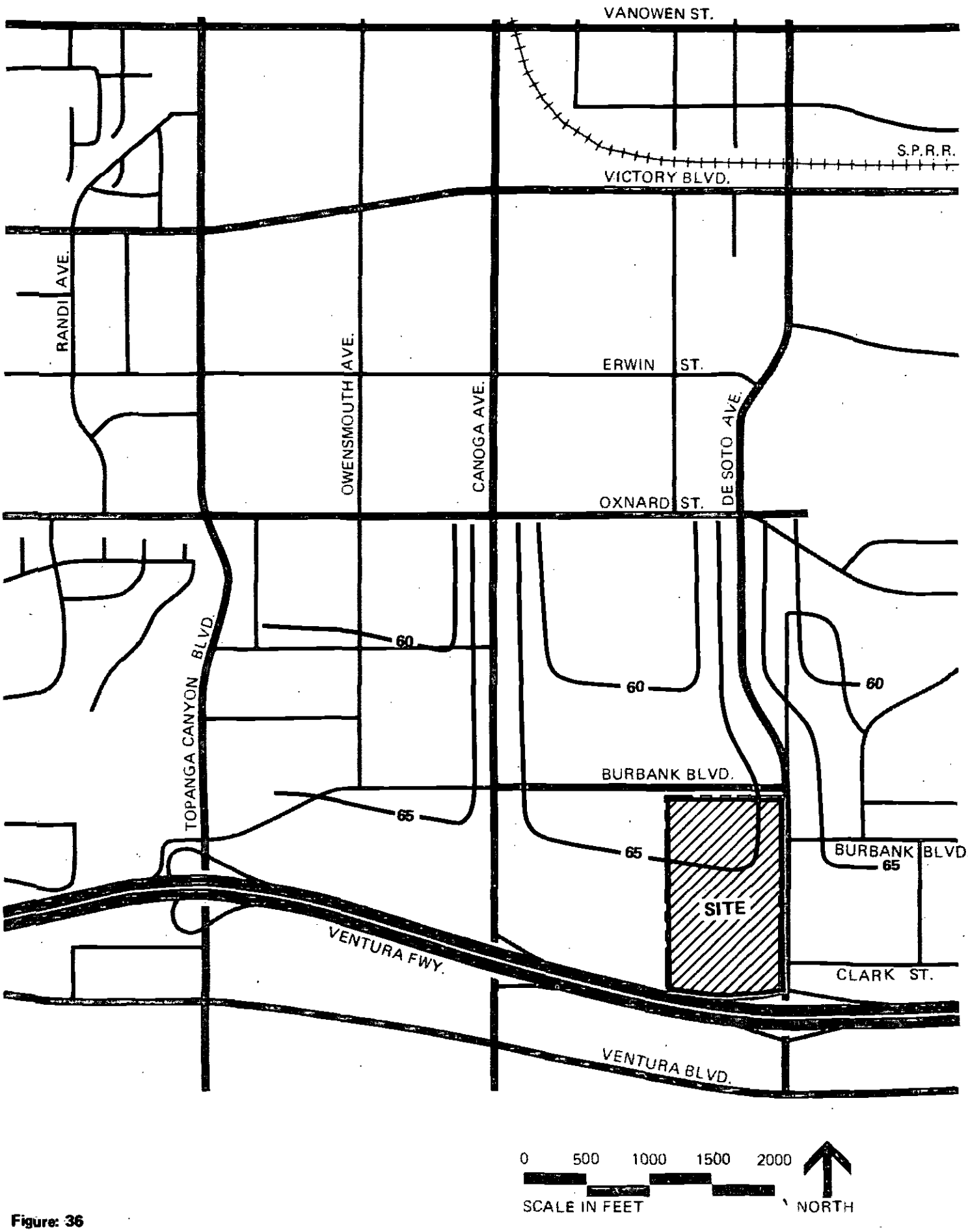


Figure: 36
EXISTING L_{DN} CONTOURS: DE SOTD SITE

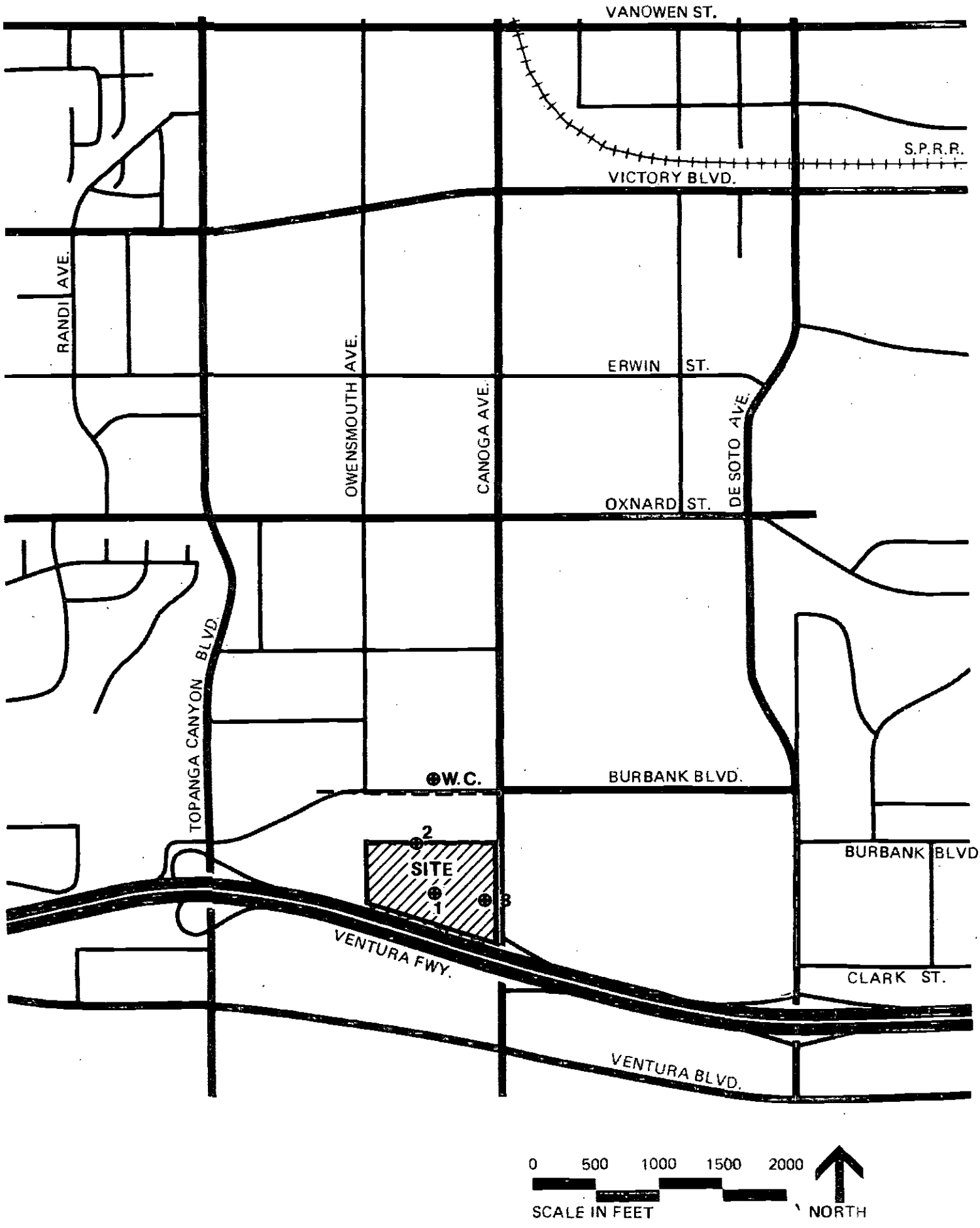


Figure: 37
NOISE MEASUREMENT LOCATIONS FOR CANOGA SITE

TABLE 4
NOISE MEASUREMENT RESULTS: CANOGA SITE

Measurement Location*	Time	Noise Level (dBA) L_{10}	L_{50}	L_{90}	L_{33}	L_{eq}	L_{NP}
1	3:40 PM	64	62	60	63	63.4	67.7
2	3:15 PM	62	60	59	61	63.5	68.5
3	4:03 PM	66	64	63	65	66.6	72.1
W.C.**	4:50 PM	57	54	51	--	--	--
1	6:22 PM	62	60	59	61	61.7	65.6
2	6:03 PM	62	58	55	--	60.2	66.5
3	6:45 PM	66	63	60	64	66.5	72.4
W.C.**	8:40 PM	53	49	47	--	--	--

*See Figure 37 for location map.
**Warner Center data.

Utilizing the existing traffic data presented in Section 3.3.1, L_{DN} contours were computed and are presented in Figure 38. Based on the City of Los Angeles L_{DN} criteria, the site and surrounding area adjacent to the Ventura Freeway would generally be classified as normally unacceptable for residential uses. However, this area would be compatible with industrial uses such as the proposed bus maintenance facility.

Corbin Site: The existing noise environment in and around the Corbin Site was evaluated by on-site measurement. Currently, the major sources of noise in the area are motor vehicle traffic. Major traffic carriers in the area are Corbin Avenue, Parthenia Street, and Nordhoff Street. In addition to this motor vehicle noise, there are additional intermittent noise sources such as train passbys on the adjacent railroad. During the noise measurement program, no trains passed by. Therefore, the results represent conditions where motor vehicle noise is the dominant noise source.

Three measurement locations were chosen to evaluate the noise in the community. These locations are shown in Figure 39. Location 1 was located adjacent to Corbin Avenue and the access road adjacent to the north end of the site. Location 2 was located adjacent to Corbin Avenue at the center of the site. Location 3 was located on Parthenia Street adjacent to where employee parking is proposed to be located.

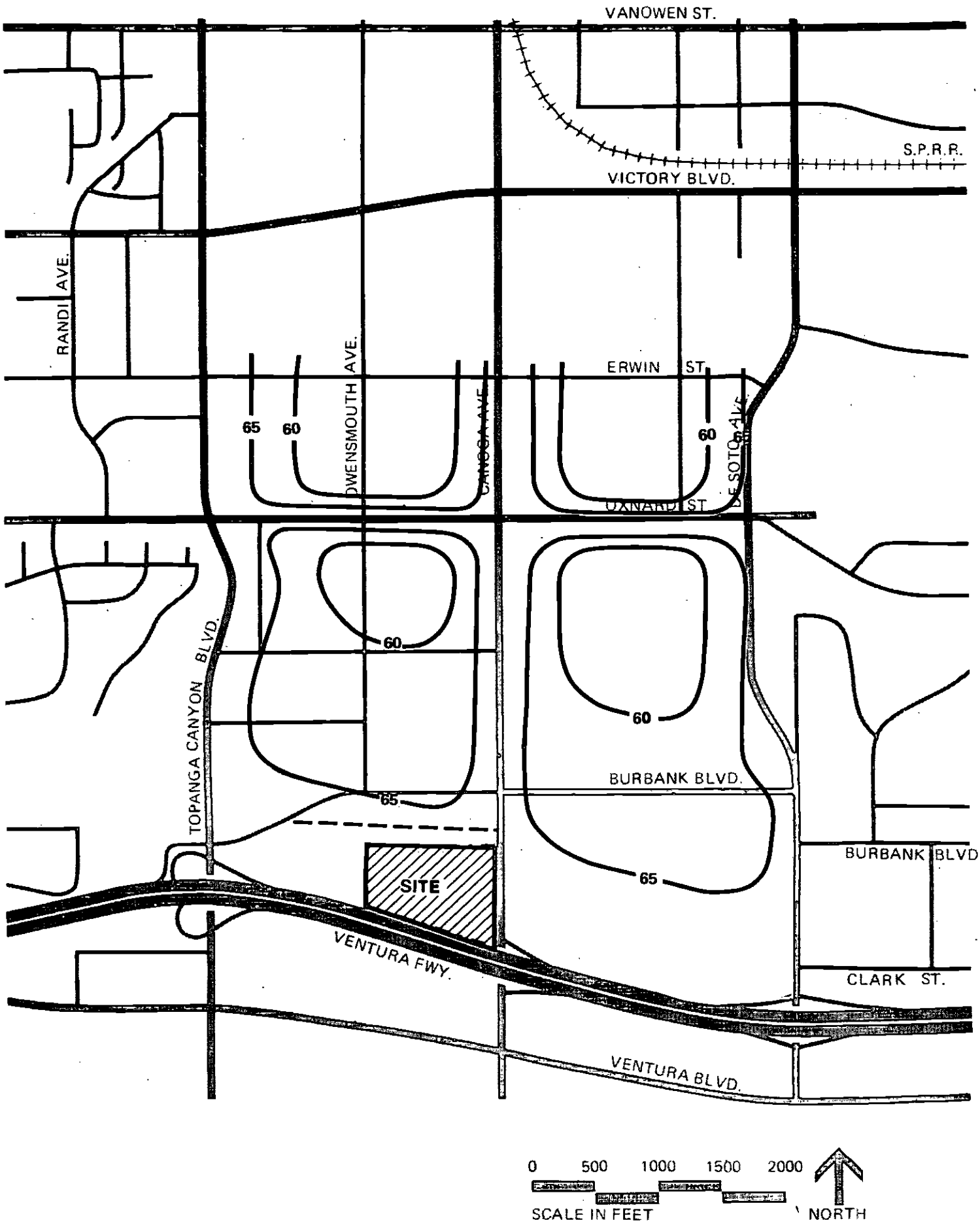


Figure: 38
DAY-NIGHT NOISE LEVELS FOR EXISTING TRAFFIC VOLUMES: CANOGA SITE

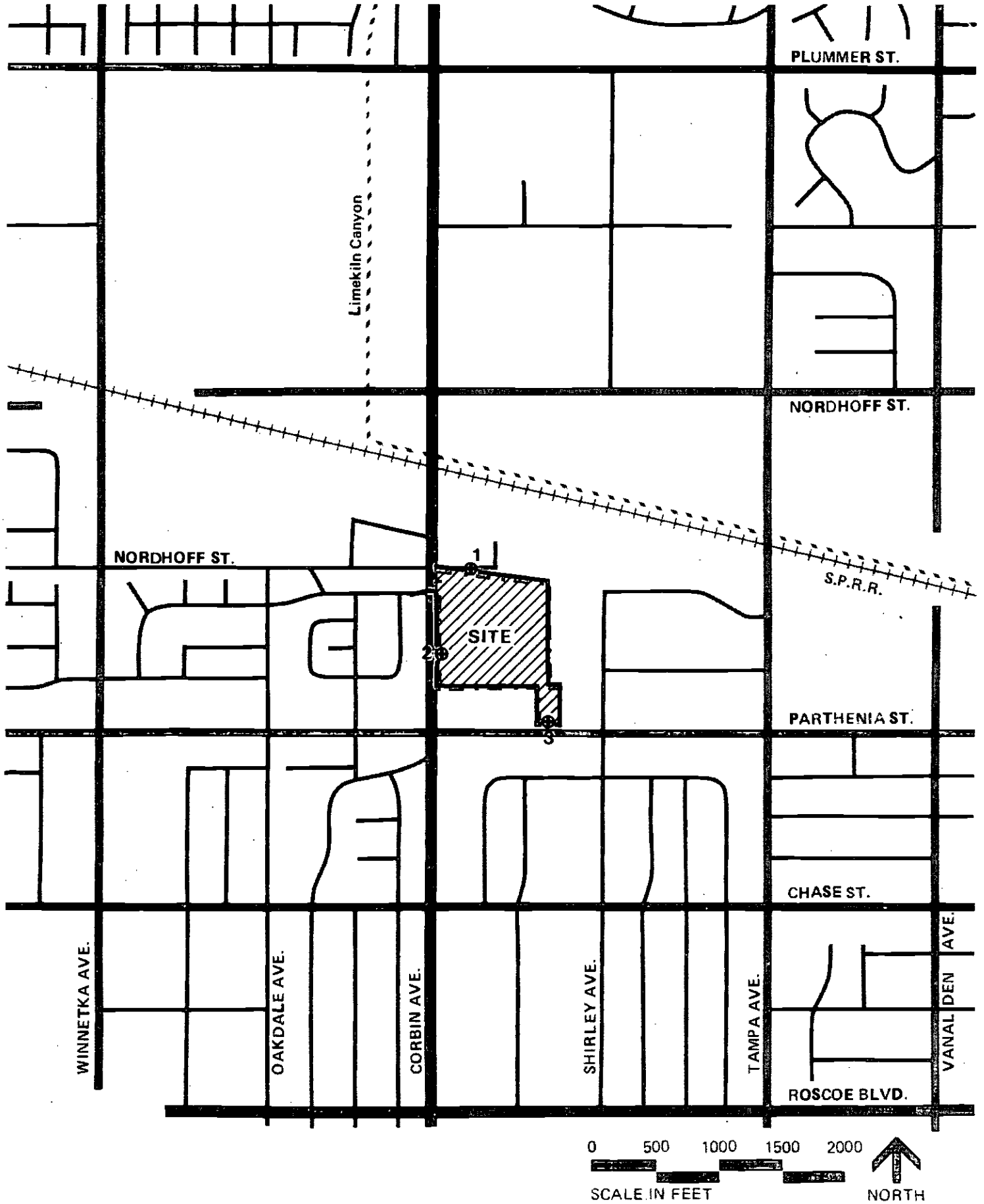


Figure: 39
NOISE MEASUREMENT LOCATIONS FOR CORBIN SITE

Results of the noise measurements are presented in Table 5 in terms of the L_{10}, L_{50} and L_{90} noise levels. Also shown in Table 5 are the equivalent noise levels and noise pollution levels. Noise measurements were made in the late afternoon during the peak traffic hour.

Based on these HUD criteria and these noise measurement results, the community near the Corbin Site experiences a relatively quiet noise environment (normally acceptable), with most noise due to local traffic and infrequent noise intrusions due to train passbys and aircraft flyovers.

Utilizing the existing traffic data presented in Section 3.3.1, L_{DN} contours were computed and are presented in Figure 40.[1] Based on the City of Los Angeles L_{DN} criteria, the site would be classified as clearly acceptable" for the associated (industrial) land use, while the adjacent residential areas would be classified as normally acceptable.

TABLE 5
NOISE MEASUREMENT RESULTS: CORBIN SITE

Measurement Location*	Time	Noise Level (dBA) L_{10}	L_{50}	L_{90}	L_{33}	L_{eq}	L_{NP}
1	4:47 PM	62	59	57	60	61.0	66.9
2	5:07 PM	74	69	60	71	72.2	86.4
3	5:25 PM	74	69	66	71	72.4	81.6
1	4:22 PM	66	62	59	63	64.1	71.1
2	4:40 PM	73	68	60	70	72.1	85.9
3	5:00 PM	72	68	65	70	70.6	79.1

*See Figure 39 for location map.

[1] These noise contours are for existing traffic volumes but do not include railroad noise effects.

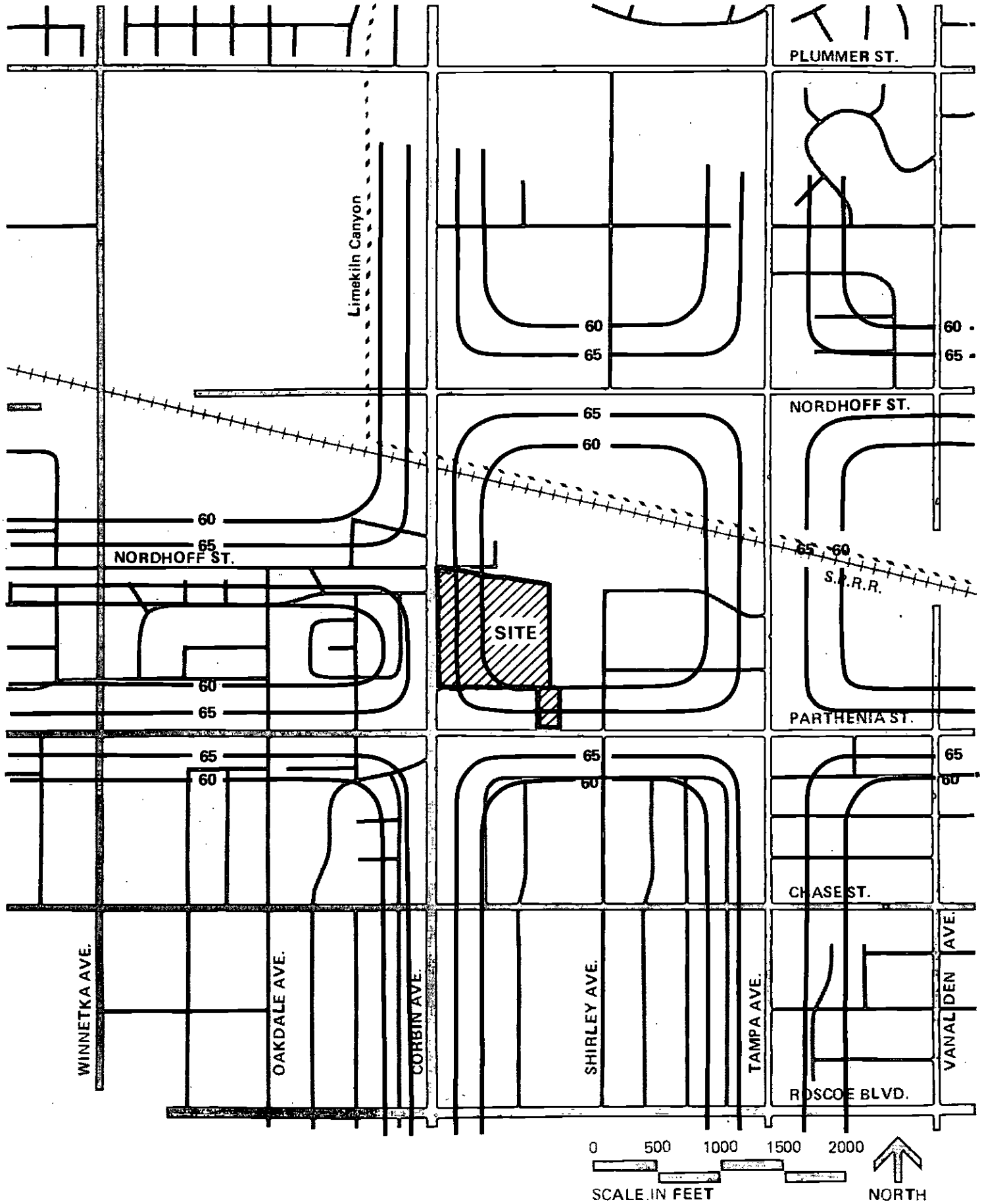


Figure: 40
DAY-NIGHT NOISE LEVELS FOR EXISTING TRAFFIC VOLUMES: CORBIN SITE

Nordhoff Site: The existing noise environment in and around the site was evaluated by on-site measurement. Currently, the major sources of noise in the area are motor vehicle traffic on Nordhoff Street and Canoga Avenue and occasional train passbys on the Southern Pacific Railroad.

Two measurement locations were chosen to evaluate the noise in the community. Noise measurements were made during the peak traffic hour and again during an off-peak traffic hour. These locations are shown in Figure 41. Location 1 was located on Prairie Street adjacent to the drainage channel. Location 2 was located on Nordhoff Street at the western boundary of the site.

Results of the noise measurements are presented in Table 6 in terms of the L_{10}, L_{50}, and L_{90} noise levels. Also shown in Table 6 are the equivalent noise levels and noise pollution levels. Noise measurements were made in the early morning during the peak traffic hour and during a morning off-peak hour.

TABLE 6
NOISE MEASUREMENT RESULTS: NORDHOFF SITE

Measurement Location*	Time	Noise Level (dBA)					
		L_{10}	L_{50}	L_{90}	L_{33}	L_{eq}	L_{NP}
1	7:45 AM	57	50	48	52	58.2	69.8
2	8:09 AM	64	56	51	59	61.1	73.8
1	9:15 AM	48	45	44	46	51.8	60.0
2	9:35 AM	64	55	50	58	60.6	74.4

*See Figure 41 for location map.

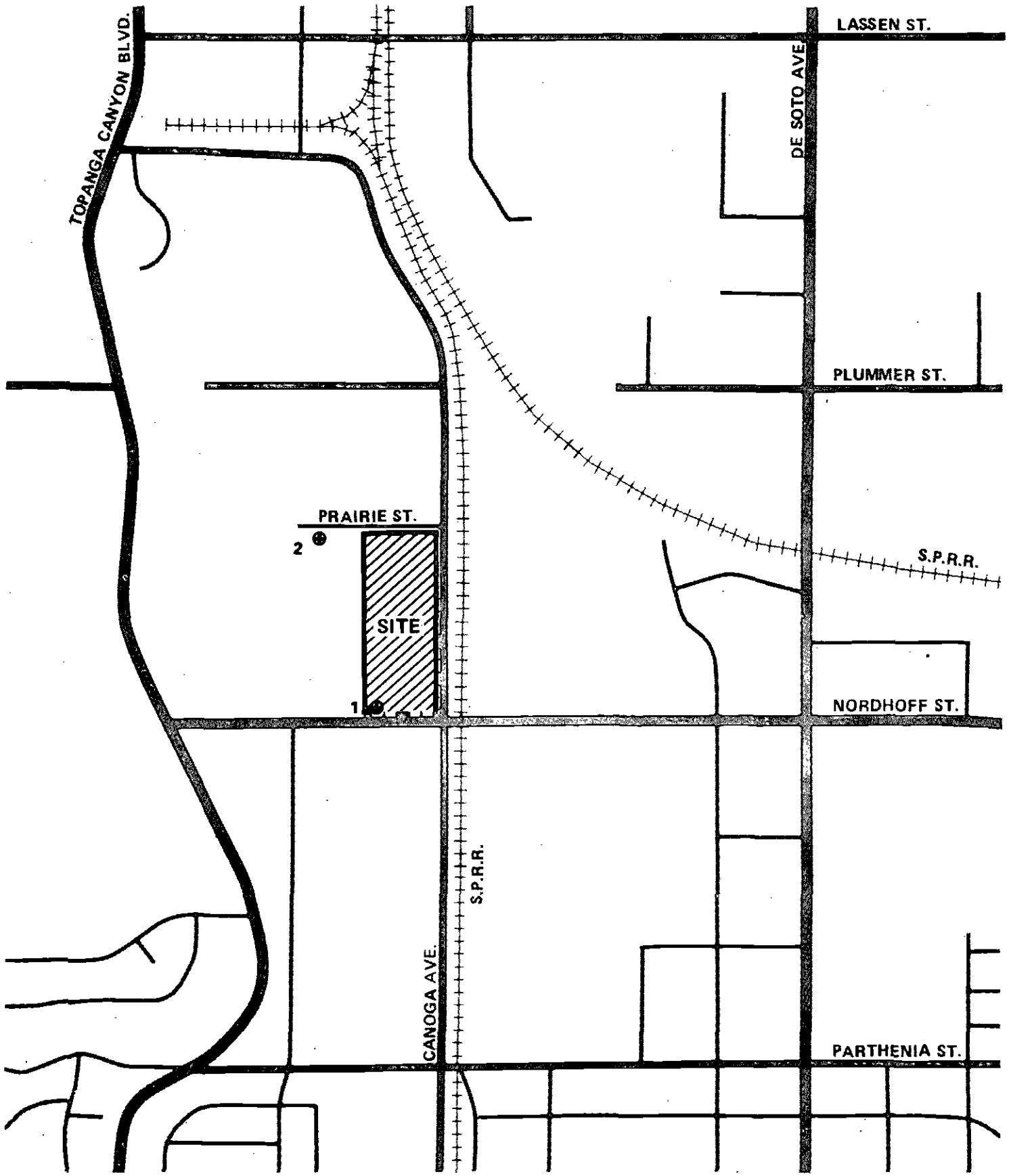


Figure: 41
NOISE MEASUREMENT LOCATIONS FOR NOROHOFF SITE

Based on HUD criteria and these noise measurement results, the community near the Nordhoff Site experiences a relatively quiet (normally acceptable) noise enviroronment.

Utilizing the existing traffic data presented in Section 3.3.1, L_{DN} contours were computed and are presented in Figure 42. Based on the City of Los Angeles L_{DN} criteria, the site would be classified as clearly acceptable for the associated (industrial) land use, while the scattered residential uses near the site would be classified as normally acceptable.

Noise Impact

The construction of the proposed bus maintenance facility at any of the four sites will produce the following two potential noise impacts:

1 - noise from buses and stationary sources operating at the site itself

2 - noise from increased bus and employee vehicle activity on local streets

1 - On-Site Sources

In order to describe the noise characteristics of the maintenance facility, it is appropriate to first describe the facility and its operation. The facility consists of a very large bus parking lot, a garage for repair of buses, a transportation building used primarily for administration and accommodating off-duty bus drivers, an employee parking lot, a bus vacuuming and refueling station, and a bus washer. During a typical day, buses depart from the facility very early in the morning in preparation for the commuter peak hours. During this pullout, as many as 160 buses may pull out in one continuous hour (note that this occurs before the morning peak hour).

Buses return and depart during the day according to normal traffic patterns. After the afternoon peak hour, buses return to the maintenance facility. As each bus returns, it is parked. Later, each bus is vacuumed and refueled. The bus vacuuming and refueling facility operates at full capacity from about 5:00 p.m. to 11:00 p.m. and then is used intermittently throughout the night and day. After vacuuming, every other bus is washed by driving through a washing facility similar to a car wash. This washer is much quieter than a car wash, however, because it does not use steam sprayers or blow dryers. Following this, each bus is parked for the night. Maintenance operations such as engine repairs, tuneups, tire changes, etc., are carried out 24 hours a day by 3 shifts of mechanics, the largest shift working during the daylight hours.

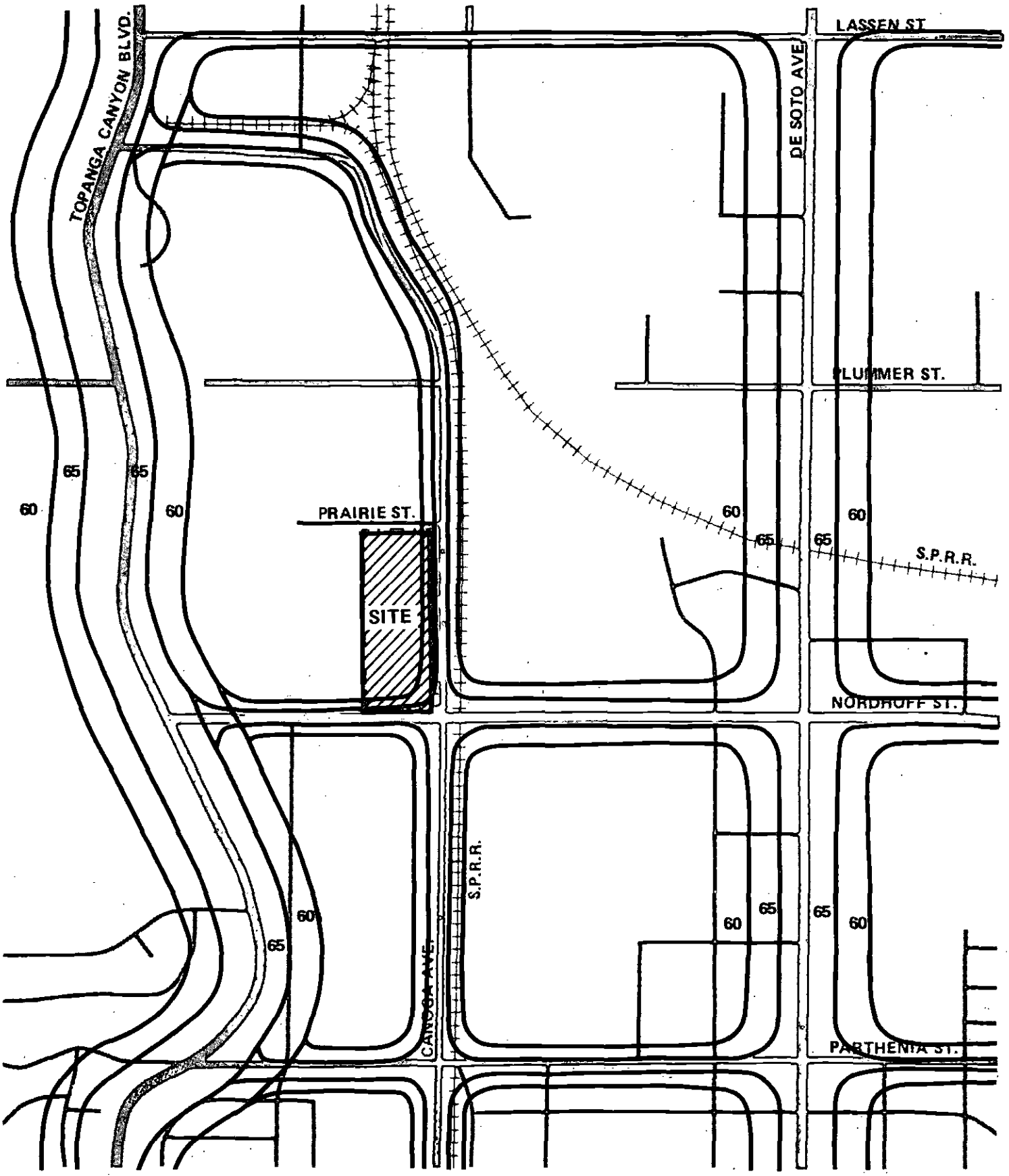


Figure: 42
EXISTING L_{DN} NOISE CONTOURS: NORDHOFF SITE

In order to characterize the noise characteristics of the bus maintenance facility, noise measurements were made at an existing facility identical to the proposed facility. This existing facility is the Division 9 facility located in El Monte. A complete and detailed description of the noise measurements made at El Monte is presented, along with the noise measurement results in Appendix B of this report.

Peak noise levels are important because if a noise is very loud, even though it is of very short duration and infrequent, it can still be very annoying and cause disturbance. The City of Los Angeles Noise Ordinance[1] regulates these kinds of noises.

The noise ordinance for the City has two sections that appear to pertain to the bus maintenance facility (it is important to note that motor vehicles operating on public streets are exempt from this ordinance). These two sections are reproduced below:

> ARTICLE 2
>
> SEC. 112.04. OTHER MACHINERY, EQUIPMENT, DEVICES. Except as to the equipment and operations specifically mentioned and regulated elsewhere in this chapter, and except as to aircraft, tow tractors, aircraft auxiliary power units, trains and motor vehicles in their respective operations governed by state or federal regulation, no person shall operate or cause to be operated any machinery, equipment or other mechanical or electrical device in such manner as to create any noise which would cause the noise level at the property line of any occupied residential property, or if a condominium, apartment house or duplex, within any adjoining unit, to exceed the ambient noise level by more than five (5) decibels.
>
> This section shall not be applicable to emergency work, as defined in Sec. 111.01(c) of this chapter.
>
> ARTICLE 4 - VEHICLES
>
> SEC. 114.01. VEHICLE REPAIRS. It shall be unlawful for any person within any residential zone of the City or within 500 feet thereof to repair, or rebuild any motor vehicle between the hours of 9:00 p.m. one day and 7:00 a.m. of the next day in such a manner that a reasonable person of normal sensitiveness residing in the area is caused discomfort or annoyance.

[1] Ordinance No. 143331.

Table 7 indicates the peak noise levels associated with the operation of the El Monte bus maintenance facility. These levels do not take into account any effect due to shielding by barriers or buildings. The following discussion addresses the impact of on-site stationary sources at each of the sites.

TABLE 7
PEAK NOISE LEVEL SUMMARY: EL MONTE FACILITY

Equipment or Operation	Distance Between Microphone and Noise Source (feet)	Peak Noise Level (dBA)	Peak Noise Level Corrected to 100 Feet (dBA)	Duration of Each Event (minutes)
Simultaneously vacuuming 3 buses	130	73	75	(a)
Engine Run-up	80	88	86	.63
Tire Change	45	84	77	.58
Major bus vacuuming operation in evening	190	71	77	(a)

ALL require barriers and/or distance ~500 for acceptable level in residential area

NOTE: (a) These events occur as scheduled and as shown in Figure 12.

De Soto Site: From the site plan (Figure 7), it can be seen that the facility would be located less than 500 feet from residential property lines and is adjacent to Parkman Junior High School. However, the maintenance building (garage) has been sited so that it would be located more than 500 feet from any residential structure.

In order to determine the impact of on-site peak noise levels on the community, it is necessary to determine the location of nearby residences. The closest homes to the De Soto Site are located along De Soto Avenue. Two groups of homes may be affected. One group of homes is located adjacent to the Ventura Freeway across De Soto Avenue from the site. The other group is located just north of Burbank Boulevard across De Soto from the site. Parkman Junior High School is located on De Soto Avenue immediately across De Soto from the site. Each of these noise-sensitive land uses will be addressed in this impact analysis. Homes south of Ventura Boulevard will not be impacted by noise from the proposed facility. Warner Center Parcel 107, located north of Burbank Boulevard, will be developed as an industrial land use.

Table 8 shows distances between the noise sources and homes and corresponding noise levels. If a 6-foot barrier is provided at the eastern boundary of the facility, an 8 dBA noise reduction can be expected. This is also shown in Table 8. Note that in the existing noise section of this EIS, noise measurements made at the site of the proposed residences indicated current peak noise levels of between 66 and 70 dBA during off-peak and peak hours for the three measurement locations. Operation of the bus maintenance facility should not cause any land use conflicts from a noise point of view.

An evaluation was also performed to determine the impact of stationary noise sources such as engine runups, tire changes, and vacuums on the noise environment during the early morning hours. The concern is that peak noise levels, although acceptable in an absolute sense, may be annoying during times of the day when background noise levels are very low. This is important because the maintenance facility will be operational 24 hours per day.

In order to determine noise impacts during the early morning hours, it was necessary to determine existing ambient noise levels during the night. This was done using the same computer model used to calculate L_{DN} noise levels shown in the existing noise contours. Both De Soto Avenue and the Ventura Freeway were modeled for each hour of the day. It was determined that from midnight through 6 a.m., the existing ambient noise level is considerably lower than noise levels associated with the bus facility. For example, existing ambient peak noise levels[1] at 4 a.m. in the morning range from 68 dBA at the homes nearest the freeway to 58 dBA for the homes north of Burbank Boulevard. No conflicts are expected for the homes near the freeway because of their already high exposure to noise. The quietest hour is from 4 a.m. to 5 a.m. Recall from Table 8 that the projected peak noise levels from the maintenance facility at the homes north of Burbank were 57 dBA.

[1] "Peak" noise levels were actually L_{10} levels.

65dB max acceptable - steady source - for guidance - per CHART A1 - APPEND.

TABLE 8
PROJECTED NOISE LEVELS FOR NEARBY NOISE-SENSITIVE LAND USES: DE SOTO SITE

Location of Noise Source	Distance Between Source and Receiver* (feet)			Projected Peak Noise Levels Assuming No Barrier Effects (dBA)			Peak Noise Levels with 6-Foot Barrier at Eastern Property Line (dBA)		
	South-east Homes	North-east Homes	Junior High School	South-east Homes	North east Homes	Junior High School	South-east Homes	North-east Homes	Junior High School
Garage	750	1,160	890						
o Engine Runups				68	64	65	60	56	57
o Tire Changes				60	54	59	52	48	51
Vacuum Facility	540	1,190	840	62	65	58	54	57	50

* This is based on the distance between the proposed location of the source and the nearest home of the homes in question. For the school, the nearest school building was selected for evaluation.

Therefore, although it is doubtful that the noise from the maintenance facility will be completely masked, the peak noise levels associated with the project are no louder than existing peak noise levels, even during the early morning quietest hours.

Canoga Site: From the Canoga Site plan (Figure 8), it can be seen that the proposed facility would be more than 500 feet from any residential property line. The closest homes to the site are located across Topanga Canyon Boulevard and are far out of audible range of the proposed bus maintenance facility. (This is especially true because of the major noise generators in the area already, such as the freeway and Topanga Canyon Boulevard.) Homes south of the Ventura Freeway and Ventura Boulevard will not be impacted by noise from the proposed facility. It should be pointed out, however, that a portion of the Warner Center will be developed for residential use. Parcels 304 and 305, located immediately across Burbank Boulevard from the proposed facility, will be developed as residential land use. This portion of the analysis will deal with assessing the impact of the proposed facility on Parcel 305 (the closest to the proposed facility).

Because this residential area is not yet built or even designed, it is difficult to project noise levels to residences since their location is not precisely known. For this analysis, it was assumed that there will be at least a 50-foot setback from the residences and Burbank Boulevard. Then, using the site plan of the proposed facility, distances and noise levels can be projected. Table 9 is presented to show distances between the noise sources and homes and corresponding noise levels. If a 6-foot barrier is provided at the northern boundary of the facility, an 8 dBA noise reduction can be expected. This is also shown in Table 9. Note that these are worst-case noise levels and do not take into account shielding that occurs because of the orientation of the facilities. For example, the maintenance garage is oriented so that the open side of the garage is perpendicular to the residential area. In addition, buses parked between the garage, vacuum facility, and the residential area provide a formidable noise barrier. Therefore, actual noise levels could be 5 to 10 dBA lower than shown in Table 9.

Note that, in the existing noise section of this report, noise measurements made at the site of the proposed residences indicated current peak noise levels of 53 and 57 dBA during off-peak and peak hours. Operation of the bus maintenance facility should not cause any land-use conflicts from a noise point of view.

TABLE 9
NOISE IMPACT FROM ON-SITE OPERATIONS: CANOGA FACILITY

Location of noise source	Distance between noise source and nearest homes* (feet)	Projected peak noise levels assuming no barrier effects (dBA)	Peak noise levels with 6-foot barrier at northern property line (dBA)
Garage	1,100		
o Engine runups		65	57
o Tire changes		56	48
Vacuum facility	1,150	56	48

* Nearest homes to be located in Warner Center Parcel 305, and it was assumed that these homes will be set back at least 50 feet from Burbank Boulevard.

Corbin Site: The closest homes to the Corbin Site are located across Corbin from the facility and across Parthenia from the facility. These homes are set back about 40 feet from the respective roadways.

The closest homes to the Corbin Site are located across Corbin from the facility and across Parthenia from the facility. These homes are set back about 40 feet from the respective roadways.

Using the site plan of the proposed facility, distances and noise levels can be projected. Table 10 is presented to show distances between the noise sources and homes and corresponding noise levels. If a 6-foot barrier is provided at the southern and western boundaries of the facility, an 8 dBA noise reduction can be expected. This is also shown in Table 10. Note that these are worst-case noise levels and do not take into account shielding that occurs because of the orientation of the facilities. For example, the maintenance garage is oriented so that the homes on Parthenia are shielded by commercial buildings between the facility and the homes. In addition, buses parked between the garage, vacuum facility, and the residential areas provide a formidable noise barrier. Therefore, actual noise levels could be 5 to 10 dBA lower than shown in Table 10.

TABLE 10
NOISE IMPACT FROM ON-SITE OPERATIONS: CORBIN FACILITY

Location of noise source	Distance between noise source and homes on respective streets (feet)*		Projected peak noise levels assuming no barrier effects (dBA)		Peak noise levels with 6-foot barrier at southern and western property lines (dBA)	
	Corbin	Parthenia	Corbin	Parthenia	Corbin	Parthenia
Garage						
o Engine runups	700	1,100	69	65	61	58
o Tire changes	700	1,100	60	56	52	48
Vacuum facility	700	740	60	60	52	52

*This is based on the distance between the proposed location of the source and the nearest home of the homes in question. For the school, the nearest school building was selected for evaluation.

Note that, in the existing noise section of this report, noise measurements made at the site of the proposed residences indicated current peak noise levels of 73 and 74 dBA during off-peak and peak hours, as measured at the curb in front of the homes. Operation of the bus maintenance facility should not cause any land-use conflicts from a noise point of view.

An evaluation of potential early morning noise impact at the Corbin Site indicated that existing ambient peak noise levels are approximately 55 dBA at the nearest homes along Corbin Avenue and Parthenia Street. The projected peak noise levels from the maintenance facility at these homes are 61 dBA and 58 dBA, respectively (Table 10). Thus, the increase in peak early morning noise levels would be 6 dBA at the homes along Corbin Avenue and 3 dBA at the homes along Parthenia Street. These increases do not consider the shielding effect of parked buses and the structures which would separate the proposed bus from the homes along Parthenia Street. It is concluded that the early morning peak noise levels would not create a significant community noise impact.

Nordhoff Site: In order to assess the impact of the bus maintenance facility on peak noise levels, it is necessary to determine the distance between the facility and any residential structures. From this information, compliance with the noise ordinance can be determined. Also, actual peak noise levels that will be experienced at the residential structures are calculated later.

The following residential structures exist near the proposed facility:

- 1,000 feet east of the site, near horse stables.
- Trailer park 1,400 feet north-northeast of the site, across from railroad tracks.
- 200 feet southwest of the site (intervening industrial buildings between site and house).
- 800 feet southwest of the site, near the intersection of the Santa Susana Pass Wash and Owensmouth Avenue (with intervening industrial buildings.
- 600 feet south of the site, at Canoga Avenue and Osborne Street.
- Mobile homes fronting on Canoga Avenue, 750 feet south of the site.

From this information, it is clear that the homes just across Nordhoff Street from the site (200 feet from the site) are the closest to the site. However, intervening industrial buildings between the house and the site will minimize any noise impact because of the sound barrier that these buildings form. The closest homes with a clear sight of the facility and most potential for noise impact are those located at Canoga Avenue and Osborne Street, 600 feet from the site. The noise impact analysis of this EIS will address these homes for the worst-case analysis.

Table 11 is presented to show distances between the noise sources and homes and corresponding noise levels. If a six-foot barrier is provided on the eastern and southern boundaries of the facility, an 8 dBA noise reduction can be expected. This is also shown in Table 11.

Note that, in the existing noise section of this EIS, noise measurements made at the site indicated current peak noise levels of between 48 dBA and 64 dBA during off-peak and peak hours, for the two measurement locations. Operation of the bus maintenance facility should not cause any land-use conflicts from a noise point of view. This is particularly true when one considers that this is already a heavily industrialized area that is currently subject to industrial noises.

An evaluation was also performed to determine the impact of stationary noise sources, such as engine runups, tire changes, and vacuums, on the noise environment during the early morning hours. The concern is that peak noise levels, although acceptable in an absolute sense, may be annoying during times of the day when background noise levels are very low. This is important because the maintenance facility will be operational 24 hours per day.

In order to determine noise impacts during the early morning hours, it was necessary to determine existing ambient noise levels during the night. This was done using the same computer model that Ultrasystems used to calculate L_{DN} noise levels shown in the noise contours. Both Canoga Avenue and Nordhoff Street were modeled for each hour of the day. It was determined that from midnight through 6:00 a.m. the existing ambient noise level is considerably lower than noise levels associated with the bus facility. For example, existing ambient peak[1] noise levels at 4:00 a.m. range from 34 dBA at the house east of the site to 49 dBA for the homes at Canoga Avenue and Osborne Street. The quietest hour is from 4:00 a.m. to 5:00 a.m. Recall from Table 11 that the projected peak noise levels from the maintenance facility are not expected to exceed 58 dBA from the project. Note that the house east of the site is isolated from any current noise sources, and, although the project-generated noise will not be completely masked by existing noise sources, it is not anticipated that project-generated noise is of sufficient magnitude to cause a problem.

2 - Impact of Additional Bus and Automobile Traffic

Another potential impact of the facility on community noise, in addition to noise emanating from the site itself, is noise generated by buses and employee automobiles using local streets to reach the facility. The

[1] "Peak" noise levels were actually L_{10} levels.

TABLE 11
PROJECTED NOISE LEVELS FOR NEARBY
NOISE-SENSITIVE LAND USES: NORDHOFF SITE

Location of Noise Source	Distance Between Source and Receiver* (feet)				Projected Peak Noise Levels Assuming No Barrier Effects (dBA)				Peak Noise Levels with 6-Foot Barrier at Eastern and Southern Property Lines (dBA)			
	House east of site	Trailer park NNE of site	Homes at Canoga and Osborne	Mobile homes south on Canoga	House east of site	Trailer park NNE of site	Homes at Canoga and Osborne	Mobile homes south on Canoga	House east of site	Trailer park NNE of site	Homes at Canoga and Osborne	Mobile homes south on Canoga
Garage	1,000	2,000	975	1,125								
o Engine Runups					66	60	66	65	58	52	58	57
o Tire Changes					57	51	57	56	49	43	49	48
Vacuum Facility	1,000	1,700	1,425	1,575	57	52	54	53	49	44	46	45

* This is based on the distance between the proposed location of the source and the nearest home of the homes in question.

existing noise environment expressed in Day-Night Noise Levels was calculated and plotted in the existing noise section. This project would be completed and operational in the year 1978, so noise impacts should be assessed using noise levels of the year of completion, assuming the project is not completed.

Day-Night Noise Levels were calculated for 1978 traffic volumes without the project and for 1978 traffic volumes associated with the project. For the purposes of this analysis, buses were treated as heavy-duty trucks, which is a worst-case assumption because RTD buses are not as loud as heavy-duty trucks. The assumptions used to calculate these noise levels are the same as were used in the existing noise contours, except for updating the traffic volumes.

De Soto Site: Figure 43 presents L_{DN} contours for the year 1978 for both conditions of with, and without, the project. Only the 65 L_{DN} contour is shown for clarity. The effects of project-related shifts in the 65 dBA contour are also indicated on Figure 43, in terms of the increase in the noise level. These noise increases, due to additional buses and employee automobiles on local streets, should be negligible, with the possible exception of De Soto Avenue, where noise increases may be perceptible to the sensitive observer.

Canoga Site: Figure 44 presents L_{DN} contours for the year 1978 for both conditions of with, and without, the project. Only the 65 L_{DN} contour is shown for clarity. The effects of the project-related shifts in the 65 dBA contour are also indicated on Figure 44, in terms of the increase in the noise level. None of these increases will cause a significant impact.

Corbin Site: Figure 45 presents L_{DN} contours for the year 1978 for both conditions of with, and without, the project. Only the 65 L_{DN} contour is shown for clarity. The effects of the project-related shifts in the 65 dBA contour are also indicated on Figure 45, in terms of the increase in the noise level. None of these increases will be perceived by the affected population.

Nordhoff Site: Figure 46 presents L_{DN} contours for the year 1978 for both conditions of with, and without, the project. Only the 65 L_{DN} contour is shown for clarity. Noise increases (in L_{DN}) are also shown on Figure 46, for reference. Note that contours are shown only for roadways affected by the project.

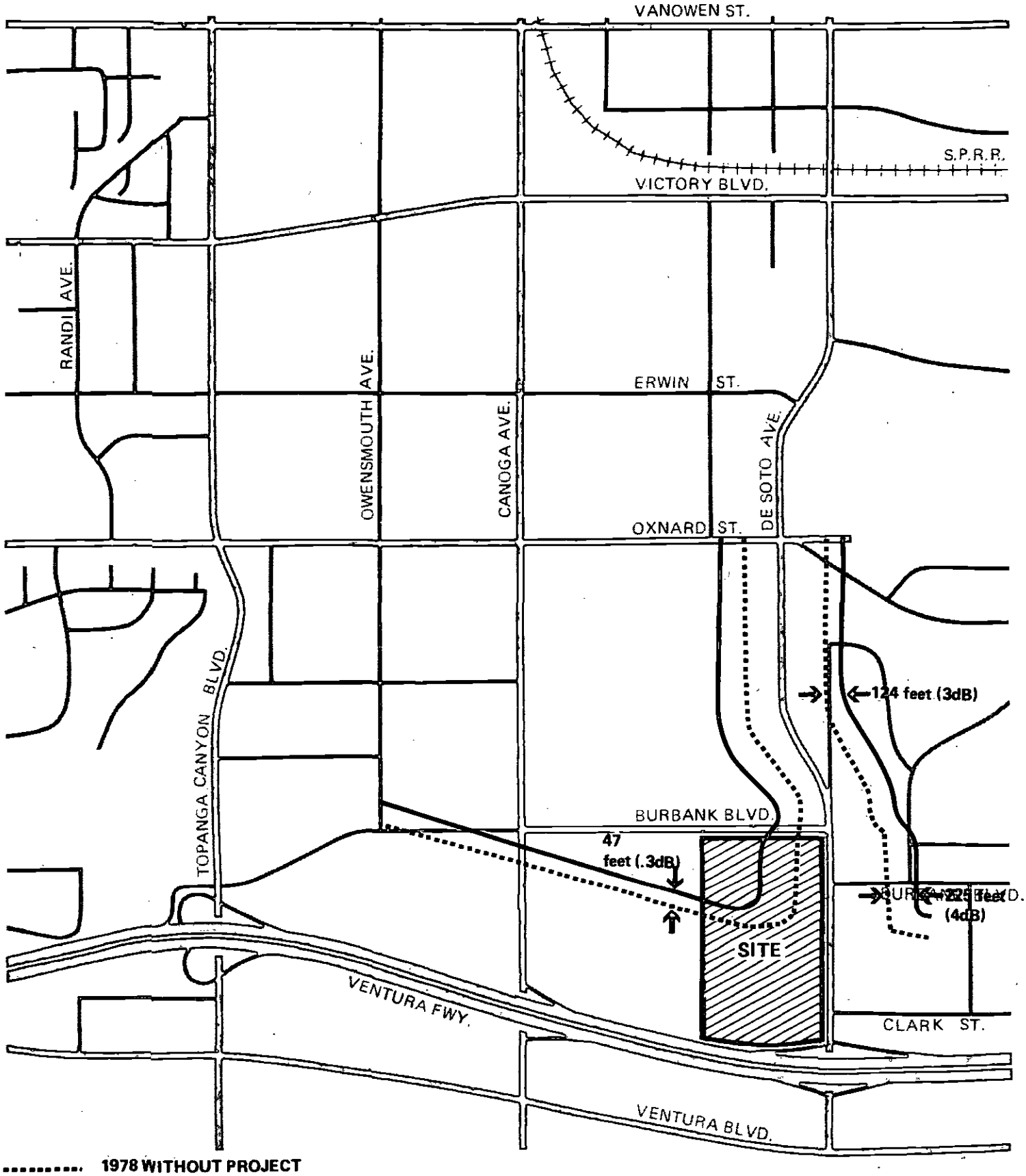
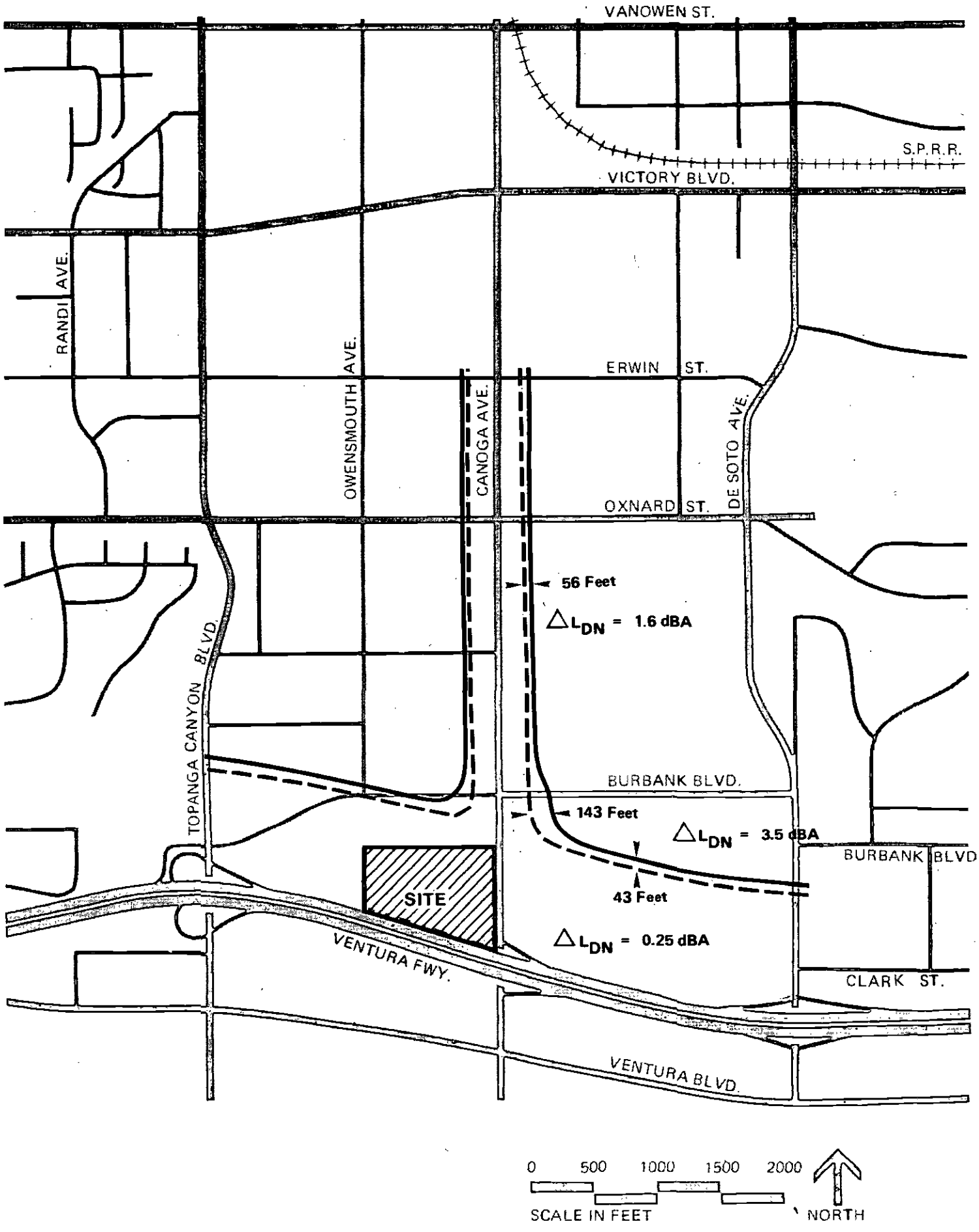


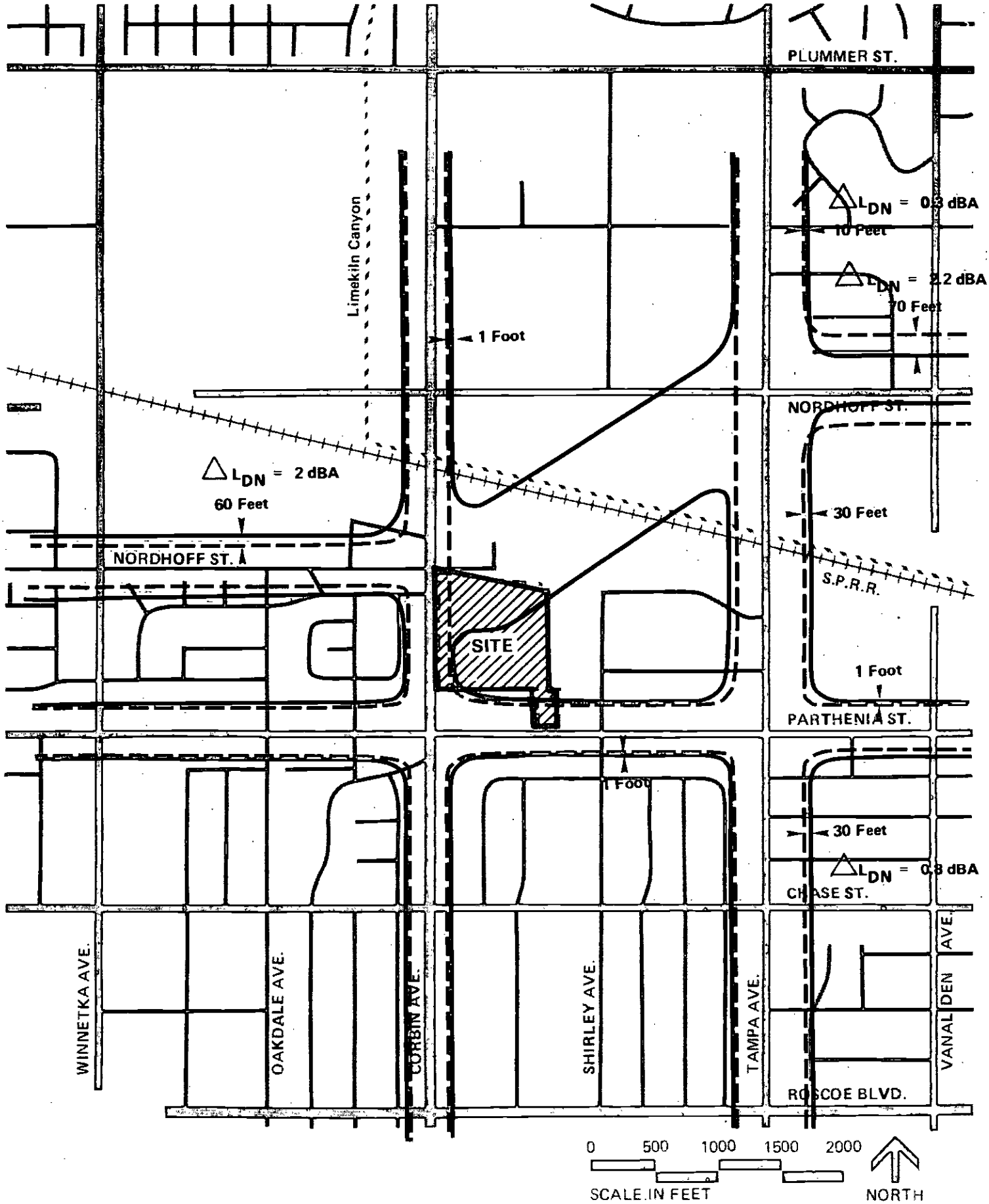
Figure: 43
65 dB DAY NIGHT NOISE LEVEL FOR 1978 TRAFFIC VOLUMES WITH AND WITHOUT BUS MAINTENANCE FACILITY: DE SOTO SITE



Legend

- 1978 WITHOUT PROJECT
- 1978 WITH PROJECT

Figure: 44
65 dB DAY-NIGHT NOISE LEVELS FOR 1978 TRAFFIC VOLUMES WITH AND WITHOUT BUS MAINTENANCE FACILITY TRAFFIC: CANOGA SITE



Legend

- 1978 WITHOUT PROJECT
- 1978 WITH PROJECT

Figure: 45
65 dB DAY-NIGHT NOISE LEVELS FOR 1978 TRAFFIC VOLUMES WITH AND WITHOUT BUS MAINTENANCE FACILITY TRAFFIC: CORBIN SITE

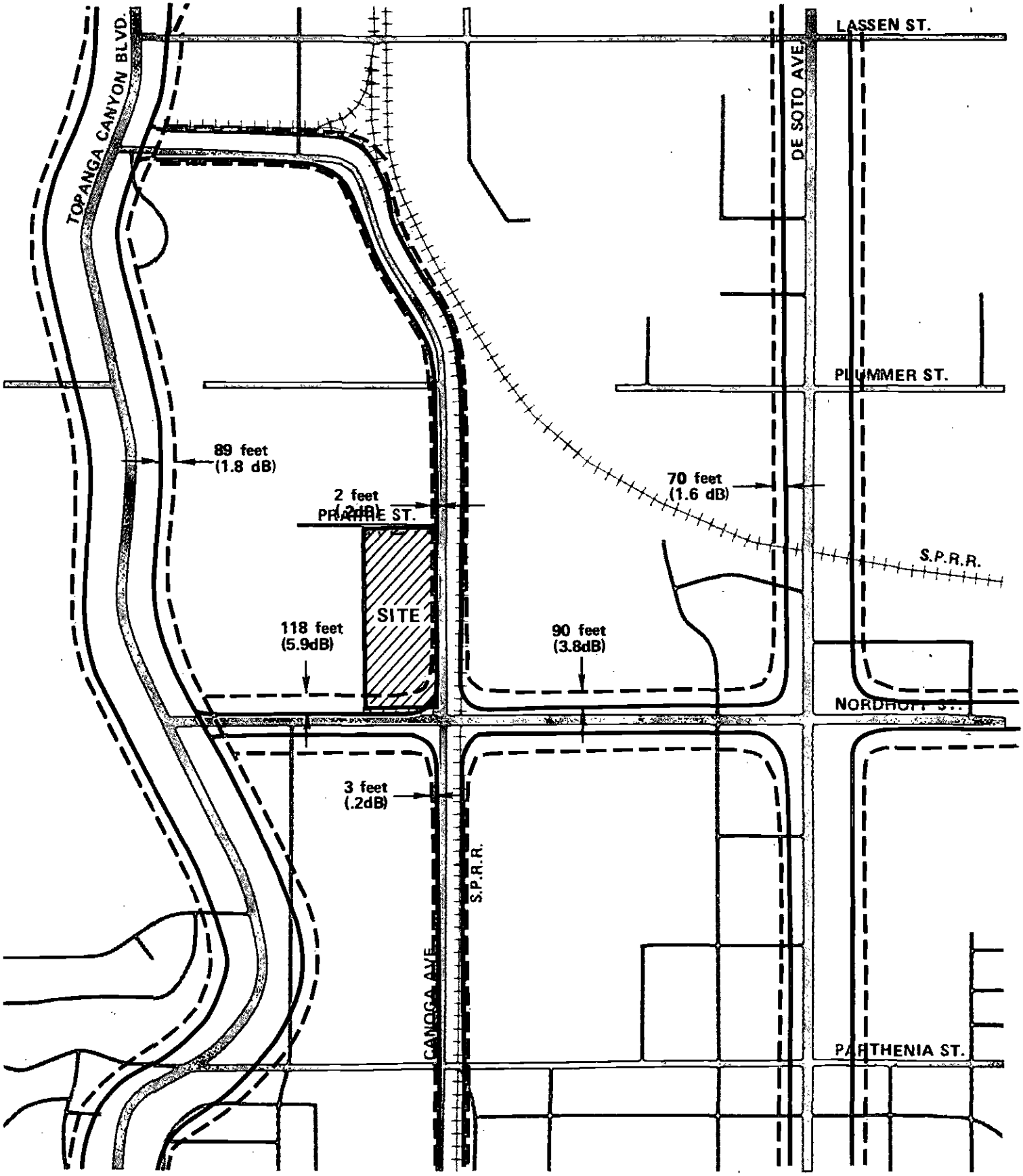


Figure: 46

65 dB DAY/NIGHT LEVEL FOR 1978 TRAFFIC VOLUMES NEAR NORDHOFF SITE WITH AND WITHOUT BUS MAINTENANCE FACILITY (ONLY THOSE ROADS AFFECTED BY THE FACILITY ARE SHOWN)

Summary

De Soto Site: The development of the De Soto Site as a bus maintenance facility will increase community noise levels because of activities at the site and increased bus and automobile traffic on local streets. Noise from stationary sources at the facility, such as the vacuum apparatus, garage, and buses, will not increase noise levels above noise levels already experienced in the area. Noise levels from the facility should be mitigated with the construction of solid barrier or earthen berms, six feet high, on the easternmost boundary of the facility.

Noise increases, due to additional buses and employee automobiles on local streets, should be negligible, with the possible exception of De Soto Avenue, where noise increases may be perceptible to the sensitive observer.

Canoga Site: The development of the Canoga Site as a bus maintenance facility will increase community noise levels because of activities at the site and increased bus and automobile traffic on local streets. Noise from stationary sources at the facility, such as the vacuum apparatus, garage, and buses, will increase noise levels only 2 or 3 dBA in the nearest potential residential area. Noise levels from the facility should be mitigated with the construction of solid barrier or earthen berms, six feet high, on the northernmost boundary of the facility.

Noise increases, due to additional buses and employee automobiles on local streets, are negligible. The L_{DN} contour moves out only about 50 feet from the affected roadways.

In summary, the bus maintenance facility will not adversely affect community noise levels if the specified wall is constructed.

Corbin Site: The development of the Corbin Site as a bus maintenance facility will increase community noise levels because of activities at the site and increased bus and automobile traffic on local streets. Noise from stationary sources at the facility, such as the vacuum apparatus, garage, and buses, will probably not be audible above background levels in the nearest residential area. This assumes the construction of solid barrier or earthen berms at least six feet high, on the southern and western boundaries of the facility. Noise increases, due to additional buses and employee automobiles on local streets, are not substantial.

In summary, the proposed bus maintenance facility will not adversely affect community noise levels if the specified walls are constructed and the buses depart and arrive using Nordhoff Street.

Nordhoff Site: The development of the Nordhoff Site as a bus maintenance facility will increase community noise levels because of activities at the site and increased bus and automobile traffic on local streets. Noise from stationary sources at the facility, such as the vacuum apparatus, garage, and buses, will not increase noise levels above acceptable noise levels. Noise levels from the facility should be mitigated with the construction of solid barrier or earthen berms, six feet high, on the eastern and southern boundaries of the facility.

Noise increases, due to additional buses and employee automobiles on local streets, should be negligible, with the possible exception of Nordhoff Street, where noise increases may be perceptible to the sensitive observer.

3.3.3 Air Quality

Climate and Meteorology

The air quality at a given location is directly affected by both climatic and meteorological characteristics of the surrounding area. Los Angeles and the San Fernando Valley are generally classed as "Mediterranean" in type: mild, sunny winters with occasional rain, plus warm, dry summers. The Pacific Ocean is the primary moderating influence, but coastal mountain ranges, lying along the north and east sides of the Los Angeles coastal basin, act as a buffer against extremes of summer heat and winter cold occurring in desert and plateau regions in the interior. A variable balance between mild sea breezes, and either hot or cold winds from the interior, results in some variety in weather conditions. An important, and somewhat unusual, aspect of the climate of the Los Angeles metropolitan area, is the pronounced difference in temperature, humidity, cloudiness, fog, rain, and sunshine over fairly short distances.

These differences are closely related to the distance from, and elevation above, the Pacific Ocean. Both high and low temperatures become more extreme, and the average relative humidity becomes lower as one goes inland and up foothill slopes. The average daily temperature difference for the San Fernando Valley is about 35 degrees in the summer and 25 degrees in the winter, with the average annual minimum of 48 degrees F. and an average annual maximum of 78 degrees F. The mean daily temperature is 62.9 degrees F. The average monthly minimum (February) and monthly maximum (July) are 42 degrees F. and 92 degrees F., respectively. The average relative humidity ranges from 53 percent to 75 percent.

Most rainfall in the San Fernando Valley occurs during the winter, with nearly 85 percent of the annual total occurring from November through March, while summers are practically rainless. As in many semi-arid regions, there is a marked variability in monthly and seasonal totals. Annual precipitation may range from less than a third of the normal value to nearly three times normal, while some historically rainy months may be either completely rainless or receive from three to four times the average for the month. The average rainfall for a period of 71 years, in the San Fernando Valley, was 16.09 inches, with the greatest daily precipitation over the past 42 years of record being 7.5 inches. The greatest monthly average (December) over the last 33 years is 14.40 inches. The preceding climatological data were obtained from the Climatological Summary for San Fernando, U. S. Department of Commerce, Weather Bureau, San Francisco, California, 1971.

The prevailing daytime winds are from the southeast during the spring, summer, and autumn, but become northerly during the winter months, as can be observed from the data contained in Table 12.

In the summer, at night, the light north by northwest winds represent 50 percent of the total flow. In the daytime, however, the light to moderate east to southeast winds predominate; this is the most marked flow in any daytime period.

During the nights of the autumn months, northwest winds predominate. Light southeast winds are slightly less than half the flow during the daytime.

In the winter, the long nighttime, moderate north winds, which alone account for 35 percent of the total flow, together with the light northwest winds, predominate, and calms occur 15 percent of the time. Strong north winds blow more than 25 percent of the time, and light east by southeast to south by southeast winds blow almost 15 percent of the time in daytime; thus, there is an indication of a converging zone.

TABLE 12
WIND SUMMARY

REGIME	SUMMER (July)	AUTUMN (October)	WINTER (January)	SPRING (April)
Nighttime				
Prevailing	2 mph-NNW	2 mph-NNW	8 mph-N	2 mph-NNW
Peak ave.	3 mph-ESE	5 mph-NNE	8 mph-N	4 mph-N
Morning				
Prevailing	2 mph-SW	3 mph-SW	11 mph-N	4 mph-NNW
Peak ave.	2 mph-SW	8 mph-N	11 mph-N	8 mph-N
Daytime				
Prevailing	5 mph-SE	4 mph-SE	11 mph-N	4 mph-SE
Peak ave.	6 mph-ESE	10 mph-NNE	11 mph-N	11 mph-ENE
Evening				
Prevailing	3 mph-E	3 mph-W	11 mph-N	4 mph-W
Peak ave.	4 mph-ESE	6 mph-N	11 mph-N	7 mph-NNW

NOTE: Prevailing - represents the prevailing wind direction and average wind speed from that direction.

Peak ave. - represents the peak average wind speed and its direction.

Source: Meteorological Summaries Pertinent to Atmospheric Transport and Dispersion over Southern California, U. S. Weather Bureau, Department of Commerce, 1965.

At night, in the springtime, calms occur 12 percent of the time, and light north by northwest winds are most frequent. In the afternoon, two flows are observed: in the early part, the flow is mostly from the south by southeast, as the sea breeze pushes up from the northwestern corner of the Los Angeles Basin; whereas, in the late afternoon or evening, there is a westerly sea breeze from the Oxnard Plain.

In the fall, winter, and early spring, occasional Katabatic descending (Santa Ana) winds come from the northeast over ridges and through passes in the coastal mountains. These Santa Ana winds may pick up considerable amounts of dust and reach speeds of 35 to 50 mph.

As shown by the data in Table 12, the San Fernando Valley is located in an area of complex wind patterns. Prevailing daytime winds in the vicinity of the alternative project sites behave much like a convergence zone, and the winds can vary considerably. In summary, the wind is such that pollutants from the greater Los Angeles area could be carried, under certain conditions, into the project areas as would occur with a southeast wind. As a worst-case condition, a southeast wind will be assumed for all air quality analyses in the following sections.

Existing Air Quality

Existing regional air quality for the project areas is described by data from the Reseda Air Monitoring Station, operated by the Los Angeles Air Pollution Control District and located approximately seven miles west of the site, at Etiwanda and Gault Avenues. These data were compiled in 1974 for the months of April through December, and in 1975 for the period of January through March, and represent the latest data available from the California Air Resources Board. Table 13 describes the number of days that air quality standards were exceeded at the monitoring station for the three most important gaseous pollutants, oxidant, nitrogen dioxide, and carbon monoxide.

Current air quality data indicate that the San Fernando Valley area is already subject to degraded air due to oxidant. Due to its location within the South Coast Air Basin, and the prevailing wind conditions, it can be concluded that a significant portion of San Fernando Valley's oxidant is the result of emissions originating in the heavily populated areas of Los Angeles.

Since the main source of primary pollutants is the automobile, roadways usually represent the major source of emissions local to a project. Because primary pollutants tend to disperse rapidly from the source,

TABLE 13
NUMBER OF DAYS ON WHICH CERTAIN POLLUTANTS EXCEEDED CALIFORNIA OR FEDERAL AIR QUALITY STANDARDS (as Measured at Reseda Air Monitoring Station)

	Month	Number of Days Standard Exceeded		
		Oxidant* (0.08 ppm/hour)	NO_2** (0.25 ppm/hour)	CO* (9 ppm/8 hours)
1975	January	3	4	17
	February	4	1	6
	March	8	0	1
1974	April	13	0	0
	May	17	0	0
	June	26	0	3
	July	29	0	0
	August	31	0	2
	September 1	30	1	3
	October	13	2	11
	November	4	3	14
	December	1	1	16

* Federal Primary Standards

** California Standard

Source: California Air Quality Data, California Air Resources Board.

community air monitoring data often do not adequately describe air quality local to a project site. Consequently, local air quality is most effectively determined by mathematically modelling the emissions' effect of adjacent streets and nearby freeways, using the Gaussian plume technique with a constant emission rate.

"Gaussian Plume Modelling" is a commonly applied technique, used in air resources engineering to describe the dispersion of pollutants downwind from point sources (such as industrial stacks) and line sources (such as roadways). The model is based on the solution to the governing (convective-diffusion) equations. So-called Gaussian coefficients are incorporated into the basic solution (limited otherwise to laminar flow) to statistically account for the influence of atmospheric turbulence in determining the mixing behavior. [1]

The Gaussian plume technique was applied (utilizing traffic data from Section 3.3.1) to the project sites in such a manner as to produce worst-case conditions over the adjacent areas near the alternative project site. In addition, the following conditions were also imposed upon the model to produce the existing carbon monoxide levels indicated in Figures 47, 48, 49, and 50.

- Wind velocity of 2.5 mph. [2]
- Stable atmospheric condition (Stability Class F).

A 10 percent mix of heavy-duty vehicles was assumed, and deterioration of control devices and effect of speed on emissions were considered. The pollution contribution from each roadway was calculated and then summed to produce the profiles shown in Figures 47, 48, 49, and 50. The figures do not include any allowance for background pollutant concentration. However, as stated earlier, primary pollutants (especially CO), tend to be a problem local to a source and are dispersed rapidly. This is most pronounced on a winter morning when inversions are low and winds are light. During such times, background concentrations of primary pollutants

[1] The Guassian plume modelling technique is described in air resource engineering textbooks, e.g., Stern, et al., Fundamentals of Air Pollution, Academic Press, 1974, and thoroughly documented in Workbook of Atmospheric Dispersion Estimates by D. Bruce Turner of the U. S. Department of Health, Education and Welfare (PHS-AP-28, 1970).

[2] The worst-case wind direction for each site is shown on the previously cited figures.

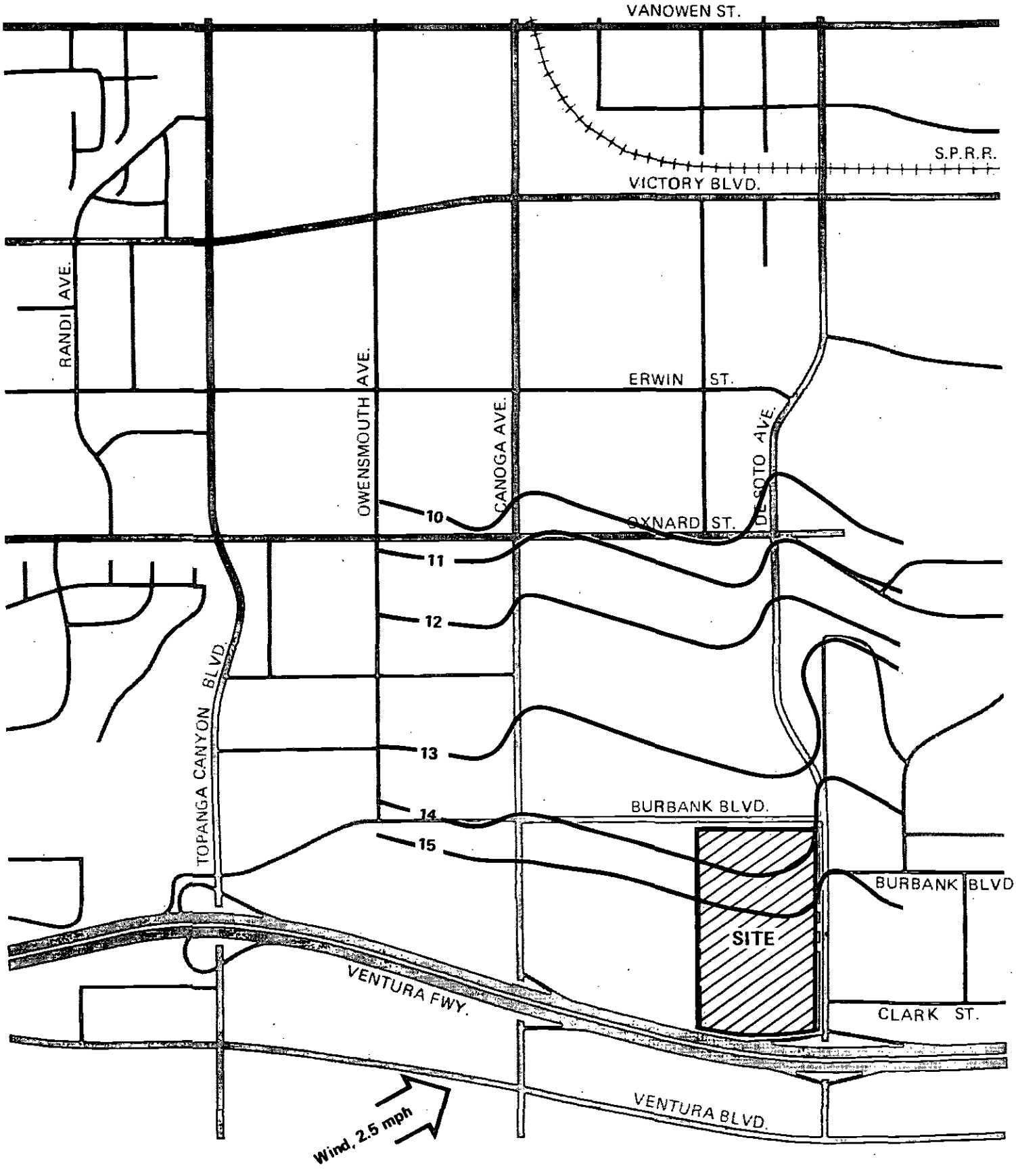


Figure: 47
EXISTING CARBON MONOXIDE LEVELS IN THE VICINITY OF THE DE SOTO PROJECT SITE (IN PARTS PER MILLION)

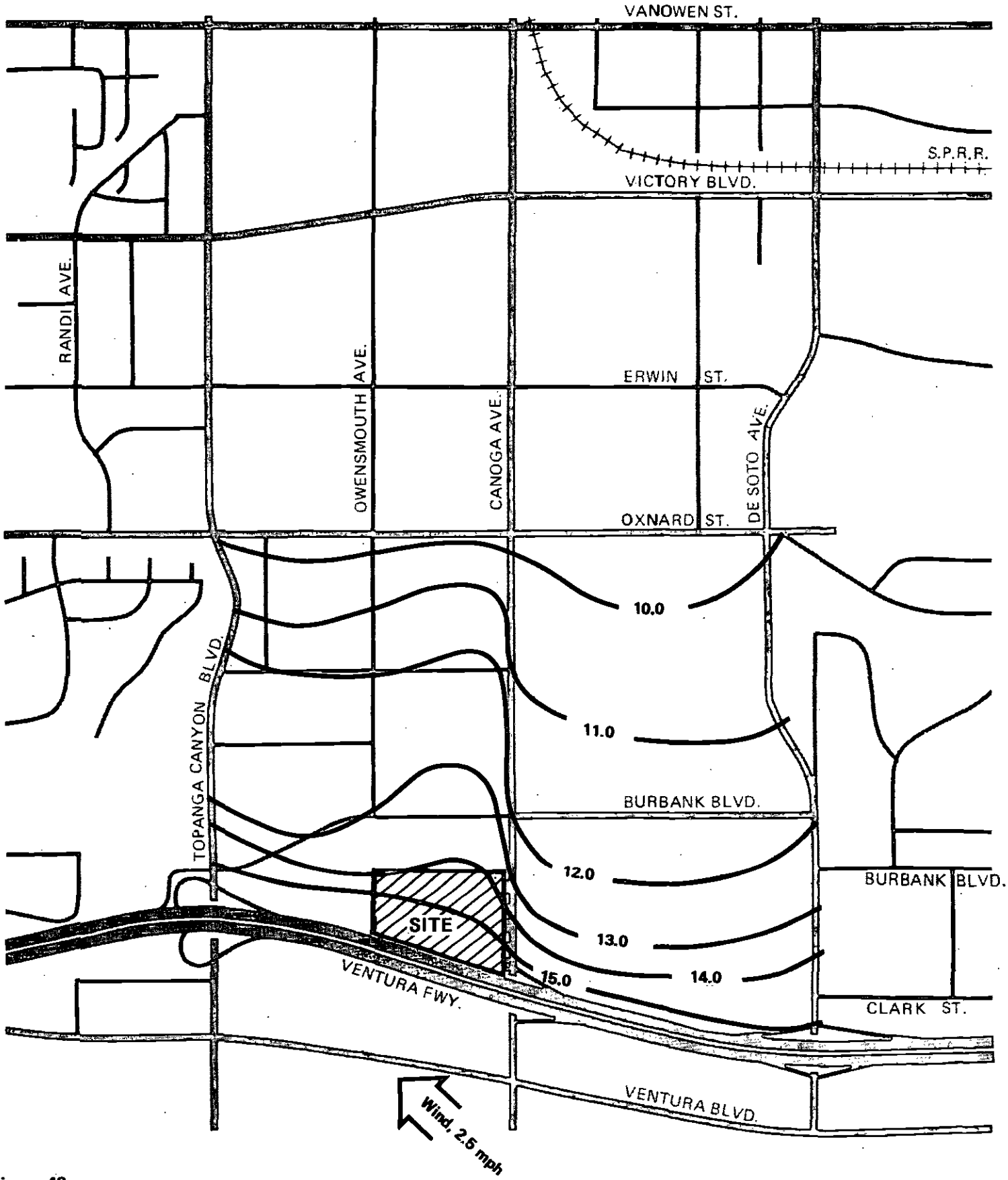


Figure: 48
EXISTING CARBON MONOXIDE LEVELS IN THE VICINITY OF THE CANOGA SITE (IN PARTS PER MILLION)

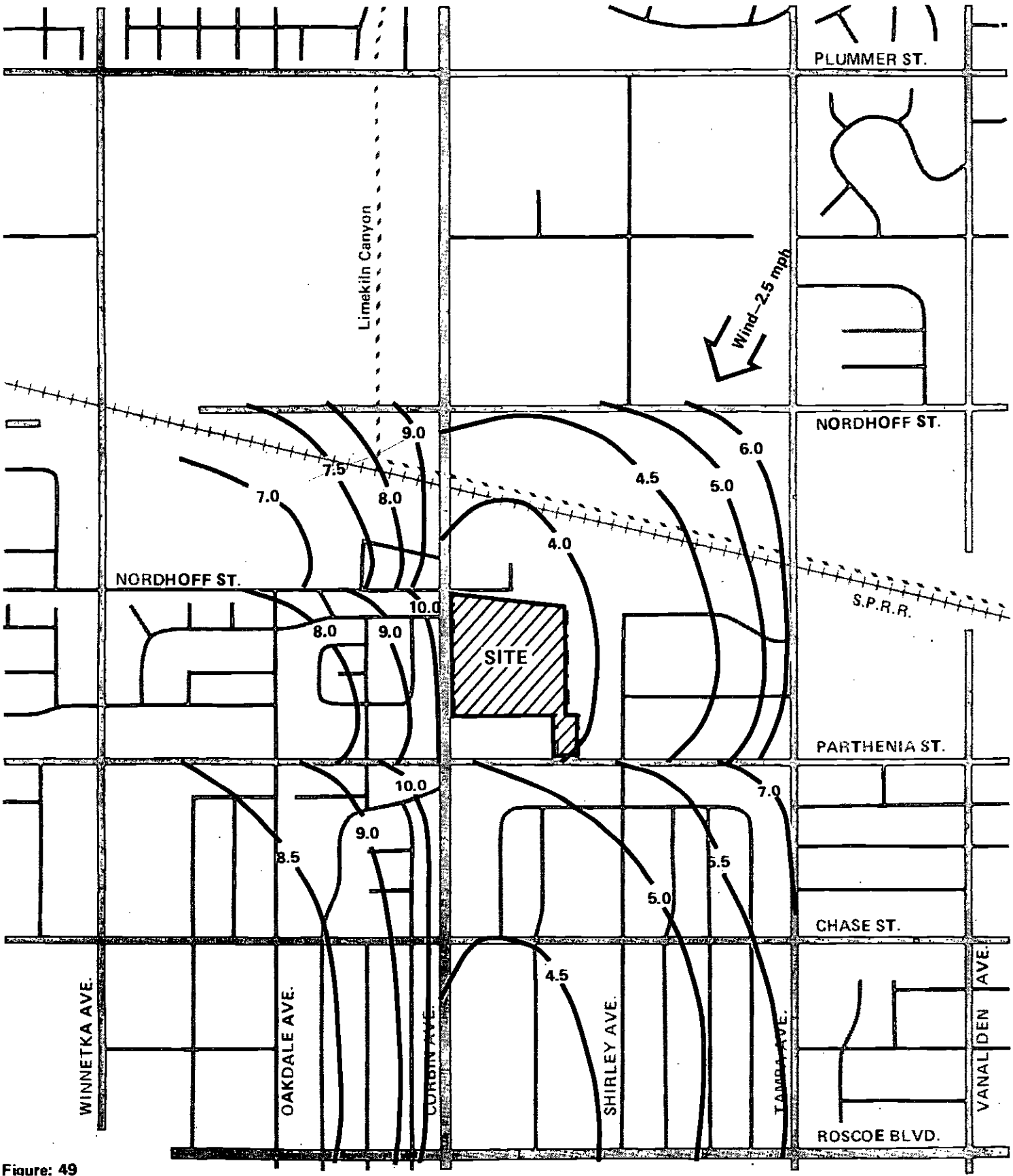


Figure: 49
EXISTING CARBON MONOXIDE LEVELS IN THE VICINITY OF THE CORBIN SITE (IN PARTS PER MILLION)

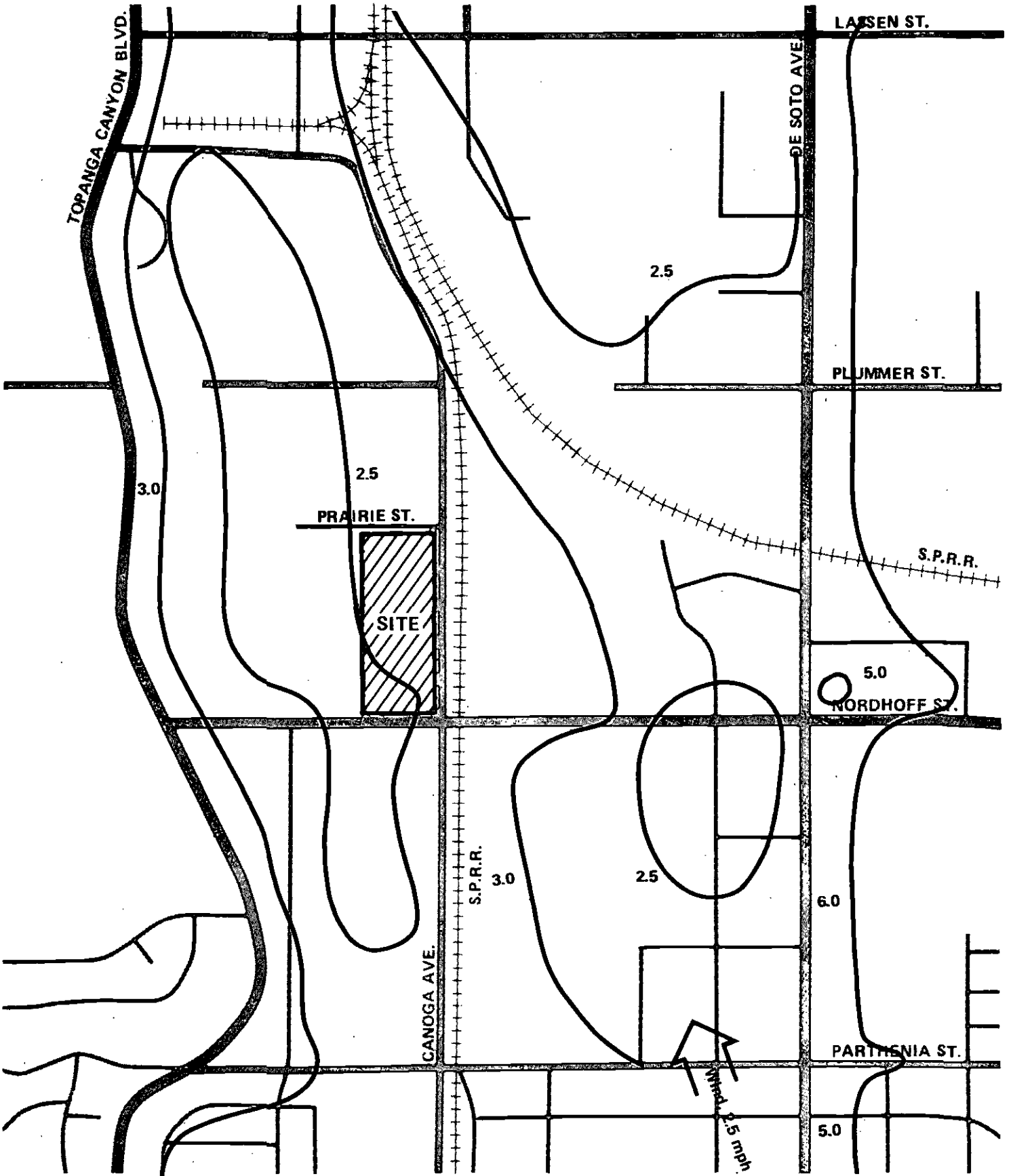


Figure: 50
EXISTING CARBON MONOXIDE LEVELS IN THE VICINITY OF THE NORDHOFF PROJECT SITE (IN PARTS PER MILLION)

in the project area are expected to be quite low due to overnight dispersion. In light of this, the concentrations shown in the figures are close to levels that would be experienced at the site under worst-case conditions. During times of the day or year when higher background concentrations of primary pollutants might be expected, the wind would have a higher velocity or traffic volumes would be lower than the peak-hour volumes used in the model, thereby mitigating the pollution impact.

As shown previously, the carbon monoxide concentrations experienced in the vicinity of the proposed SCRTD project do not approach the Federal Air Quality Standard of 35 ppm for an averaging time of one hour.

Air Quality Impact

Preparation of a site for building construction produces two sources of air pollutant emissions: exhaust emissions from construction equipment, and dust generated as the result of soil movement. The emissions produced during fill and grading are of short-term duration and are, therefore, not considered in detail. Construction of the proposed bus maintenance facility will produce some dust particulate emissions and subsequent distribution of dust that may be troublesome to residents in adjacent tracts and to construction workmen, if prescribed wetting procedures are not followed.

Long-term impacts are those associated with permanent usage of the proposed development and consist of air pollutant emissions from the following sources:

Stationary	Mobile
Space heating and cooling	Motor vehicles (buses and employee autos)
Water heating	
Electrical usage increase	
Bus vacuum facility	
Fuel storage (gasoline and diesel fuel)	

When emissions from these sources are produced in sufficient quantity, degraded air quality may result. As a first step in assessing the impact of these pollutant sources on air quality, detailed emission inventories are required. Emission inventories are presented in Tables 14 through 16, for the sources associated with the completed project, as outlined previously.

TABLE 14

ESTIMATED TOTAL EMISSIONS FROM NATURAL GAS COMBUSTION

Pollutant	Emission Factor* (lb./10^6ft.^{3})	Total Emissions** (lbs./day)
Particulate	15.0	0.00031
Oxides of sulfur	0.6	0.00001
Carbon monoxide	20.0	0.00041
Hydrocarbons	8.0	0.00016
Oxides of nitrogen	120.0	0.00247

* Environmental Protection Agency, Supplement No. 3 for Compilation of Air Pollutant Emission Factors, Second Edition, July 1974, p. 1.4-2.

** Emission factor x usage rate (206 ft.^{3}/day).

Table 14 summarizes the incremental emission burden from the combustion of natural gas for water and space heating within the proposed development. The natural gas consumption rate of 206 cubic feet/day, used in the table, is based on actual data obtained from the SCRTD, Division 9 Facility in El Monte. This consumption rate is the daily average calculated from the highest usage recorded for a single month from the El Monte Facility, i.e., 6,180 cf for the month of November.

Another source, which results from the increase in electrical energy demand, will not produce pollutant emissions at the site of the proposed Bus Yard but, rather, at steam electric generating plants located throughout the electrical generating network. Table 15 quantifies the increase in emissions throughout the electrical generating network due to the proposed project. The electric power consumption rate used in the analysis is, again, based on the highest monthly consumption rate experienced at the El Monte Maintenance Yard, that is, 127,440 kwh for the month of

TABLE 15
ESTIMATED INCREASE IN EMISSIONS[a] ASSOCIATED WITH GENERATION OF ELECTRICITY FOR FUEL OIL COMBUSTION

Pollutant	Emission Factor[b] (lb./10^3gal.)	Total Emissions[c] (lbs./day)
Particulate	0.5	0.14160
Oxides of sulfur	5.0	1.41600
Carbon monoxide	negligible	negligible
Hydrocarbons	0.17	0.04814
Oxides of nitrogen	2.6	0.73632

[a] Emissions not located at any one point but distributed throughout the electrical generating network. Both low-sulfur and high-sulfur fuels were considered.

[b] Los Angeles County APCD, July 1974. Emissions based on 1973 operation of Los Angeles County Power Plants. Heating oil assumed to contain 0.5 percent (by weight) of sulfur.

[c] Derived by considering usage rate of 4,248 kwh/day, 10,000 Btu required to generate 1 kwh, 1 barrel of fuel oil produces 6.3 x 10^6 Btu, and a 30 percent efficiency for power plants. Total emissions = emission factor x usage rate of 283.2 gallons/day.

TABLE 16
MOBILE SOURCE EMISSIONS --
DIESEL BUSES AND EMPLOYEE GASOLINE AUTOS

Pollutant	Emission Factors* (Gasoline) (gm/mi.)	Emission Factors* (Diesel) (lb./10^3gal.)	Total Emissions (tons/day) Autos	Buses	Autos and Buses (Total)
Carbon monoxide	31.0	225	0.22533	0.82410	1.04943
Hydrocarbons	4.03	37	0.02929	0.13552	0.16481
Nitrogen oxides	3.8	370	0.02762	1.35519	1.38281
Particulates	0.58	13	0.00422	0.04761	0.05183
Oxides of sulfur	0.20	27	0.00145	0.09889	0.10034

Based on Project Generated Miles for Autos and Diesel Fuel Consumption for Buses.

Autos: 600 ADT x 11 mi./trip = 6,600 VMT

Buses: (219,761 gal./month) (month/30 days) = 7,325.4 gal./day

* Environmental Protection Agency, Compilation of Air Pollutant Emissions Factors, February 1972, (Revised) March 1975.

September. It should be noted that the emissions data shown in both Tables 14 and 15 reflect only the increase over existing gas and electrical consumptions in the city. As indicated by the data, these emissions are negligible relative to the automobile and bus emissions in the area and will not be discussed in further detail.

Table 16 summarizes the estimated increase in mobile source emissions that will be generated as a result of the proposed project, and includes pollutants from the 300 diesel-powered buses and the 300 employees' vehicles.[1] The estimates for automobile emissions are based on projected employee traffic associated with the project and assume that the SCRTD facility will be completed by 1978 (1978 emission factors were used). It should be noted that, if the project is completed prior to 1978, the emissions shown in Table 16 will be somewhat higher due to higher emission factors. Conversely, if the development is completed after 1978, emissions should be lower as a result of federal and State exhaust control programs. The EPA emission factors used in this assessment represent the most current data based on existing State and Federal Air Quality legislation. However, the EPA has very recently proposed a relaxation of the current and future emission standards up to the year 1980. Until the relaxation has been approved by Congress, the revised standards should not be used to assess the impact of increased emissions from mobile sources.

Although an unknown quantity of particulate matter will be discharged into the atmosphere from the cyclone of the bus vacuum system, the facility is exempt from existing Los Angeles County APCD Rules and Regulations under Rule 11k:

> "An authority to construct or a permit to operate shall not be required for vacuum cleaning systems used exclusively for industrial, commercial or residential housekeeping purposes."

During June 1975, the SCRTD and Los Angeles County APCD had discussed the possibility of testing emissions from the vacuum system presently in use at the El Monte Bus Yard, but difficulties with test ductwork were encountered, making the testing impossible.

The proposed West San Fernando Valley SCRTD Bus Maintenance Yard will also contain two underground gasoline and four underground diesel

[1] The analysis assumed 300 buses as a "worst case;" however, a maximum of 250 buses are anticipated at the proposed new facility.

fuel tanks of 10,000-gallon and 20,000-gallon capacity, respectively. Consequently, evaporative losses in the form of hydrocarbon emissions will occur at the site. The emissions will result from breathing losses and working losses. Breathing losses are associated with thermal expansion and contraction of the vapor space in the tank due to daily temperature changes. Working losses, on the other hand, result from changes in the liquid level within the tank, as during emptying and filling operations. The total emission will depend on a number of factors, including:

1. Type of tank (fixed-roof or floating-roof).
2. Type of petroleum product stored.
3. Vapor pressure of stored liquid.
4. Temperature of stored product.
5. Tank diameter and construction.
6. Turnover rate and throughput of the petroleum in storage.

It should be noted, however, that these emissions are generally negligible for diesel fuel tanks and for gasoline tanks equipped with vapor-recovery systems. Furthermore, according to existing Los Angeles APCD Regulations, the proposed bus yard gasoline storage tanks must comply with Rules 65 and 65.1, which specify acceptable vapor-recovery systems. Rule 65 covers the transfer of gasoline into stationary storage containers with more than 250-gallon capacity, and Rule 65.1 specifies nozzle requirements for fuel transfer into vehicle fuel tanks. As a result of these regulations and the low volatility of diesel fuel, there should not be significant hydrocarbon emissions from the fuel storage tanks at the proposed SCRTD Bus Yard in the East San Fernando Valley.

Automobile and bus usage associated with the SCRTD project will cause a degradation in both local and regional air quality. In order to assess the emissions' effect of the SCRTD project, the major roadways upwind of nearby residential communities were mathematically modelled for the following two cases:

CASE 0 - Emissions' effect from roadways without project-generated traffic.

CASE 1 - Emissions' effect from roadways with project-generated traffic.

Both cases are based on 1978 emission factors (adjusted for vehicle speed), with models being used to generate (worst-case) meteorological conditions for the peak hour of motor-vehicle travel. The same worst-case conditions are used in this impact analysis as were used to describe existing CO levels, in order to provide a consistent basis for comparing

"existing" traffic impacts to "future" traffic impacts. Thus, the following conditions were also assumed for the 1978 models:

- o Low wind speed of 2.5 mph.
- o Stable atmospheric conditions (Pasquill-Gifford Stability, Class F).
- o Peak-hour traffic estimated at 10 percent ADT.
- o 1978 emission factors adjusted for average vehicle speeds of 50 mph on the freeway and 25 mph on all other streets.

The results of the modelling effort for Case 0 (without project) are shown in Figures 51, 52, 53, and 54; and in Figures 55, 56, 57, and 58, for Case 1 (with project). Note that the increase in traffic volumes over 1975 has been more than offset by the decrease in emission factors anticipated for the year 1978 (Figures 47, 48, 49, and 50).

Included in the Case 1 model are carbon monoxide levels resulting from emissions from idling buses during the peak hour. These emissions are based on the area source model described by Turner.[1] The procedure treats the area source as a cross-wind line source with a normal distribution and is a fairly good approximation for the distribution across an area source.

The emission rate used in the calculation for the area source (the RTD site) is based on the assumption that 110 buses will leave during the peak hour, with one-half (or 55) idling and leaving within a half-hour period. This means that an average of 28 buses are likely to be operating simultaneously during any given period of time during this peak period. The conditions for the area source model, therefore, follow the same worst-case conditions used for the roadway source previously described:

- o Low wind speed of 2.5 mph.
- o Stable atmosphere (Stability Class F).
- o Idling diesel bus emission factor, 75 g/hour.[2]

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[1] Bruce D. Turner, Workbook of Atmospheric Dispersion Estimates, U. S. Department of Health, Education and Welfare, 1970.

[2] Source: George Hanely, Staff Engineer, Automotive Emission Control, General Motors. Emission Factor for Detroit Diesel Alyson Engine 6V71.

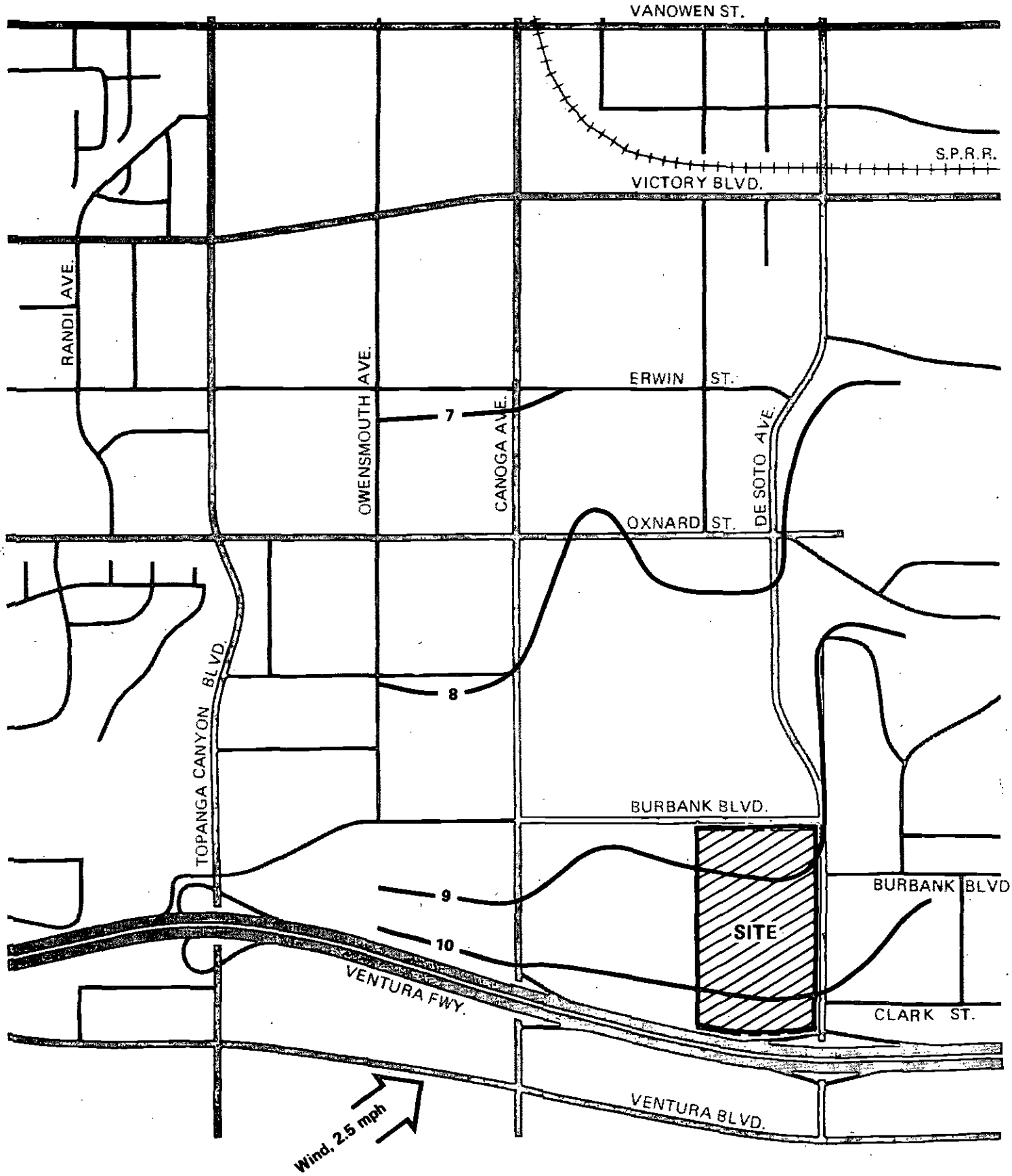

Figure: 51
1978 CO-LEVELS NEAR THE DE SOTO SITE WITHOUT THE SCRTD PROJECT (IN PARTS PER MILLION)

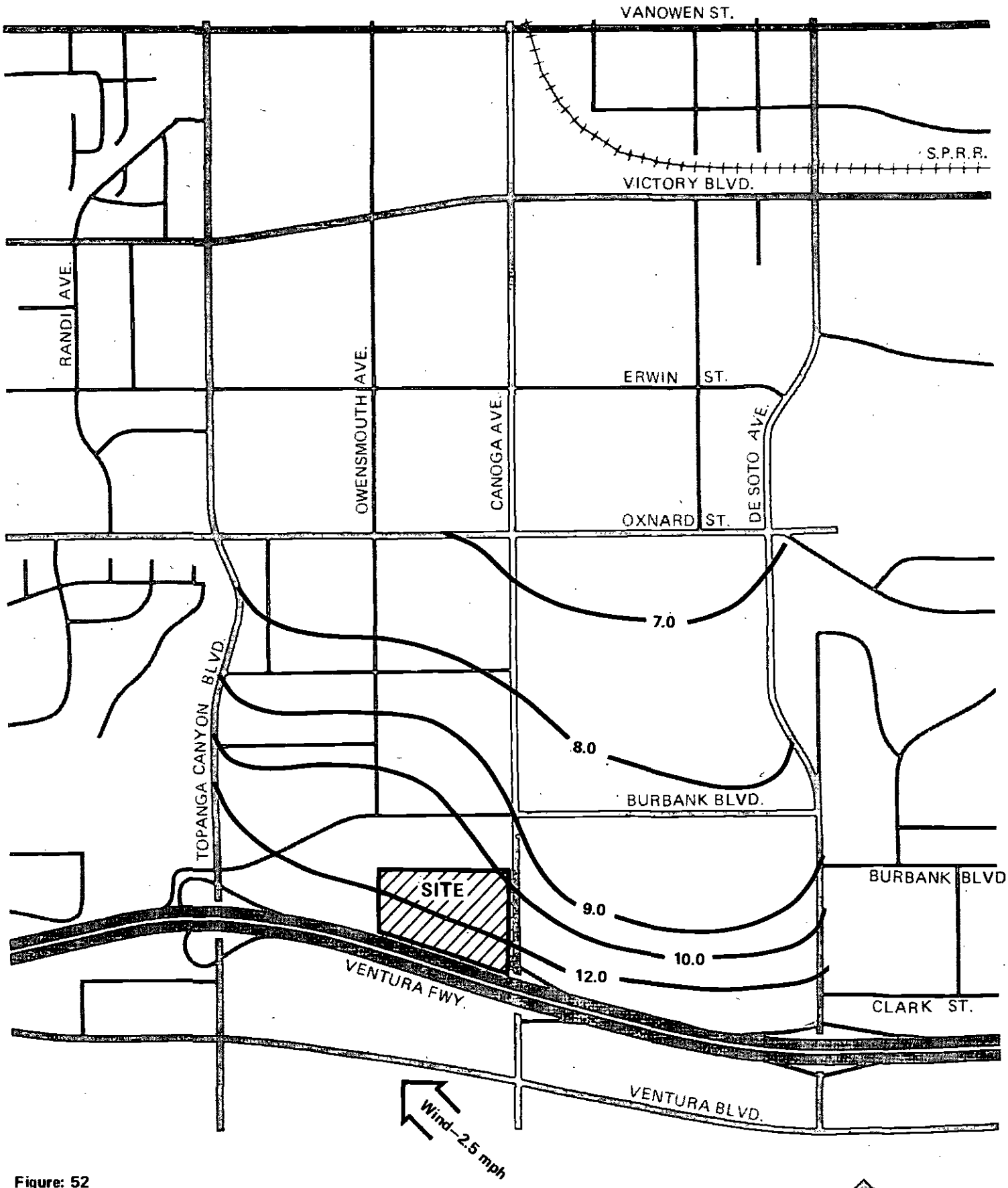

Figure: 52
1978 CO-LEVELS NEAR CANOGA SITE
WITHOUT THE SCRTD PROJECT
(IN PARTS PER MILLION)

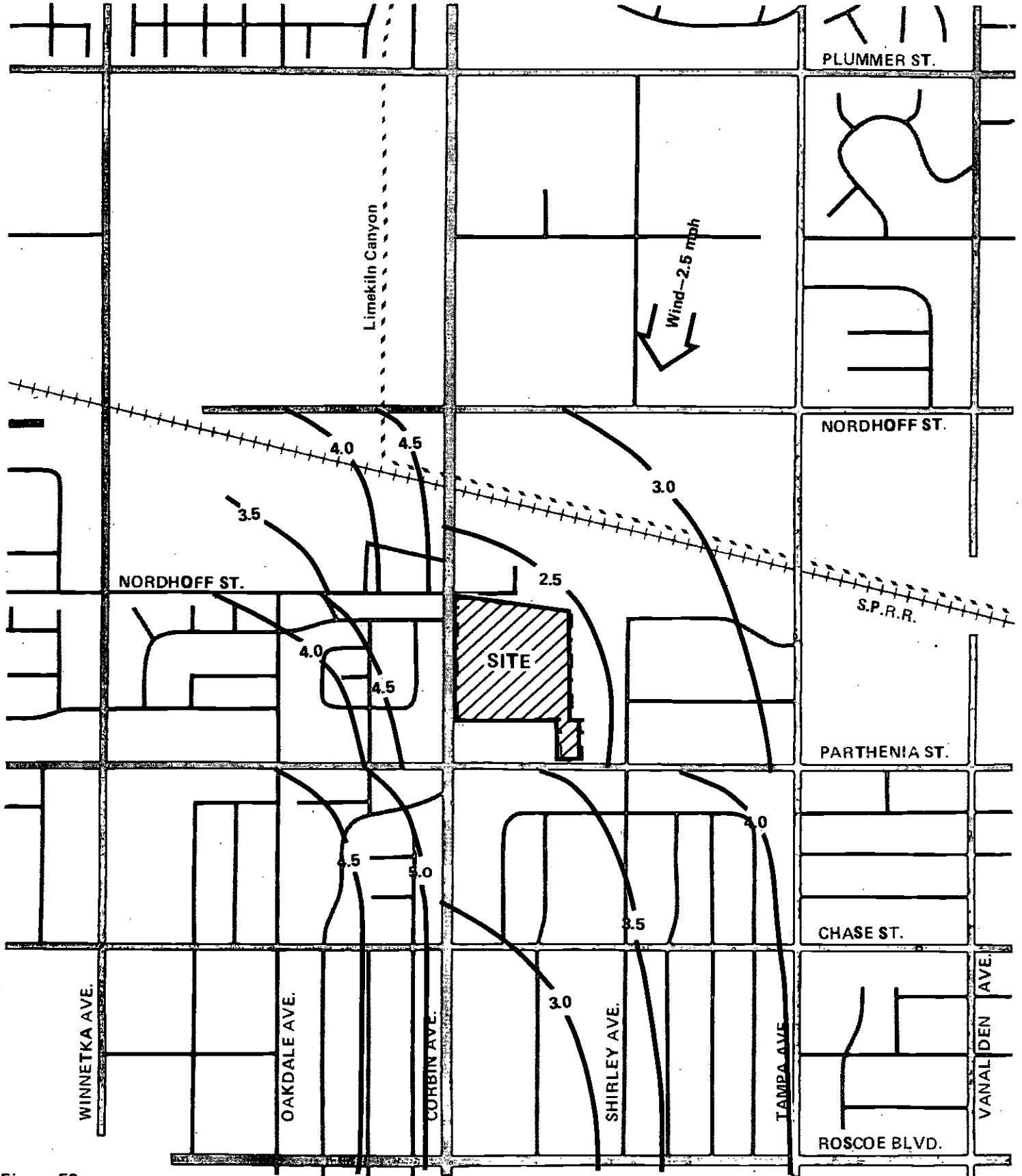

Figure: 53
1978 CO-LEVELS NEAR THE CORBIN SITE WITHOUT THE SCRTD PROJECT (IN PARTS PER MILLION)

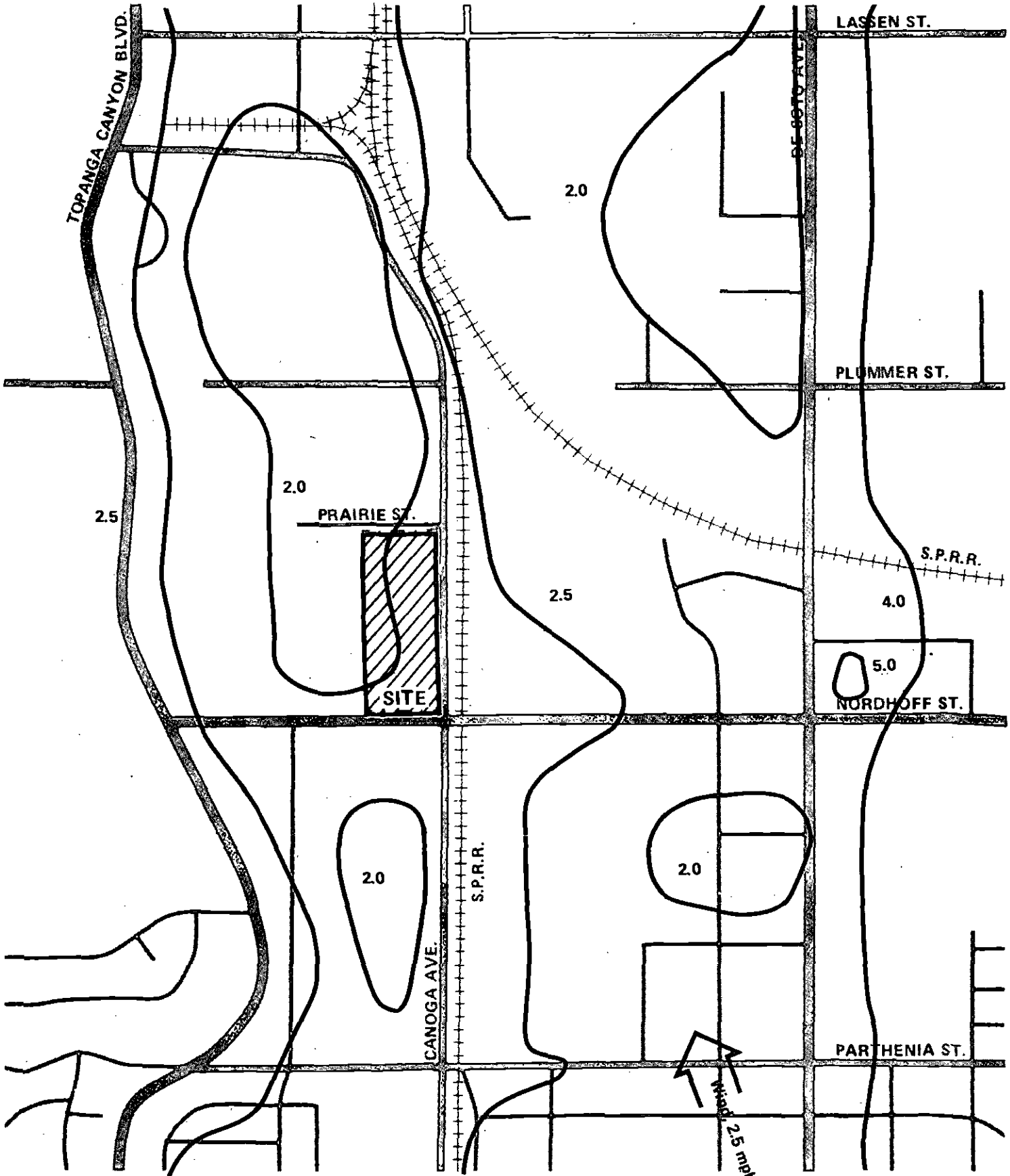

Figure: 54
1978 CO-LEVELS AT THE NORDHOFF SITE WITHOUT THE SCRTD PROJECT (IN PARTS PER MILLION)

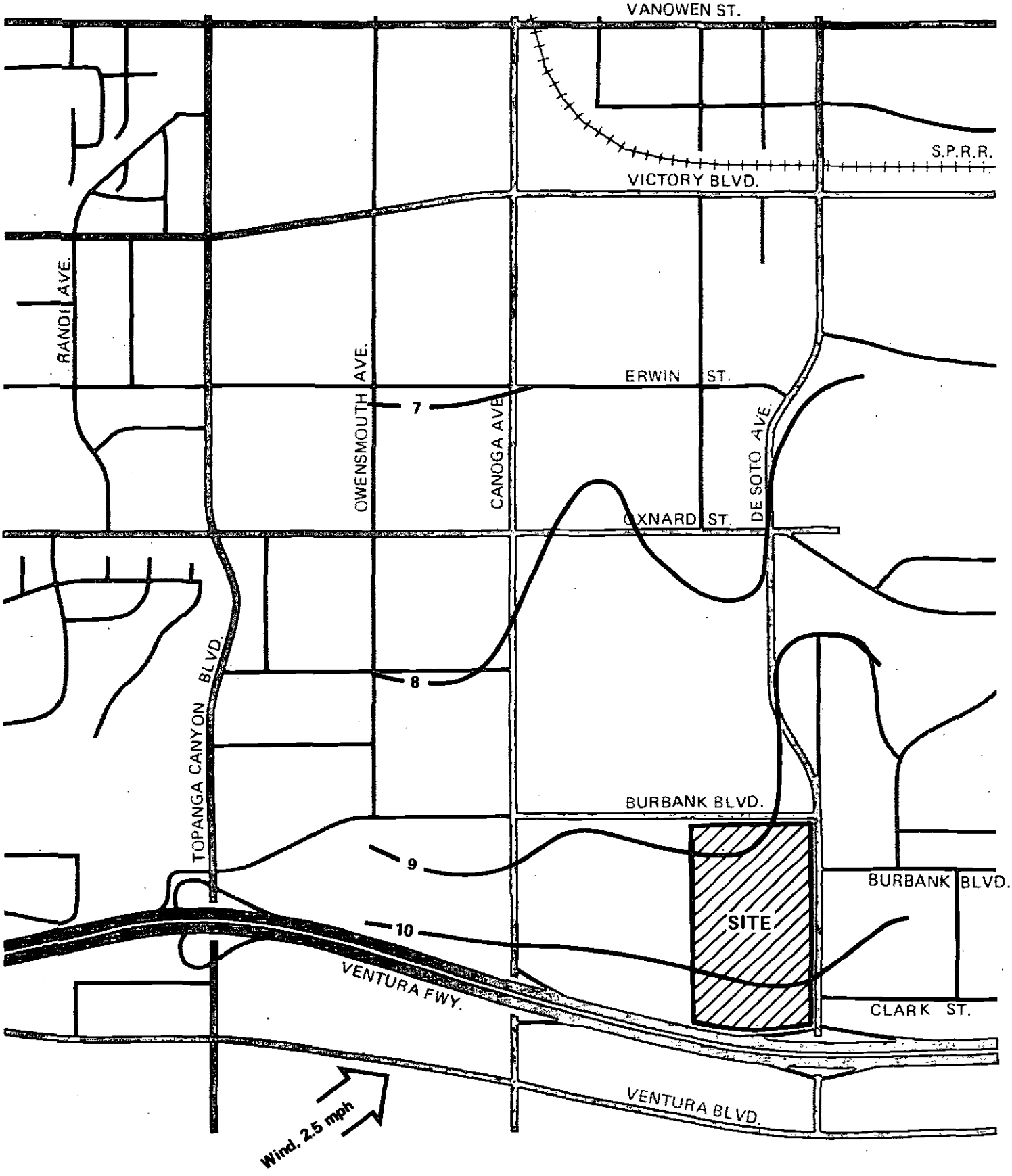

Figure: 55
1978 CO LEVELS NEAR THE DE SOTO SITE WITH THE SCRTD PROJECT (IN PARTS PER MILLION)

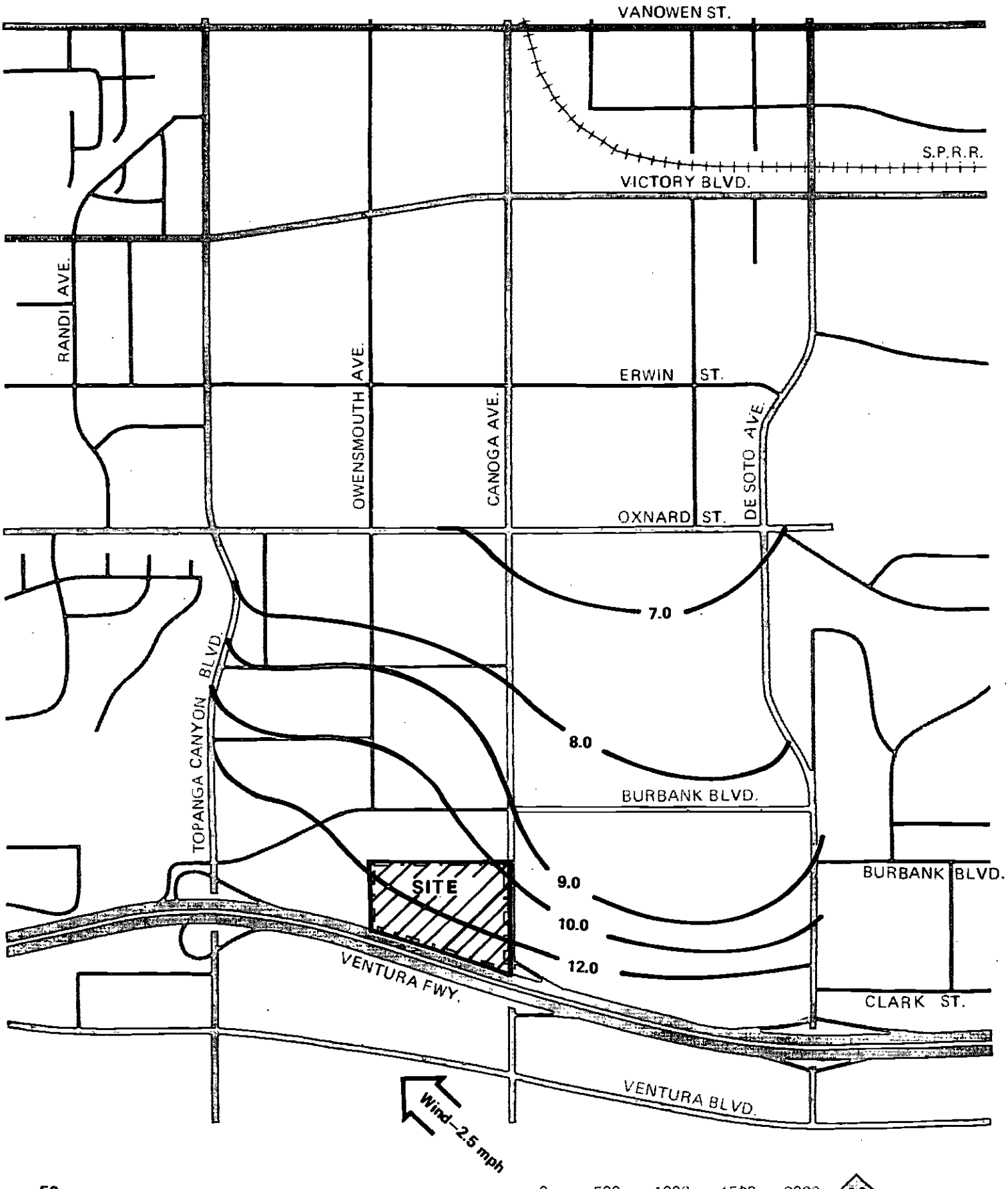

Figure: 56
1978 CO-LEVELS NEAR CANOGA SITE
WITH THE SCRTD PROJECT (IN PARTS PER MILLION)

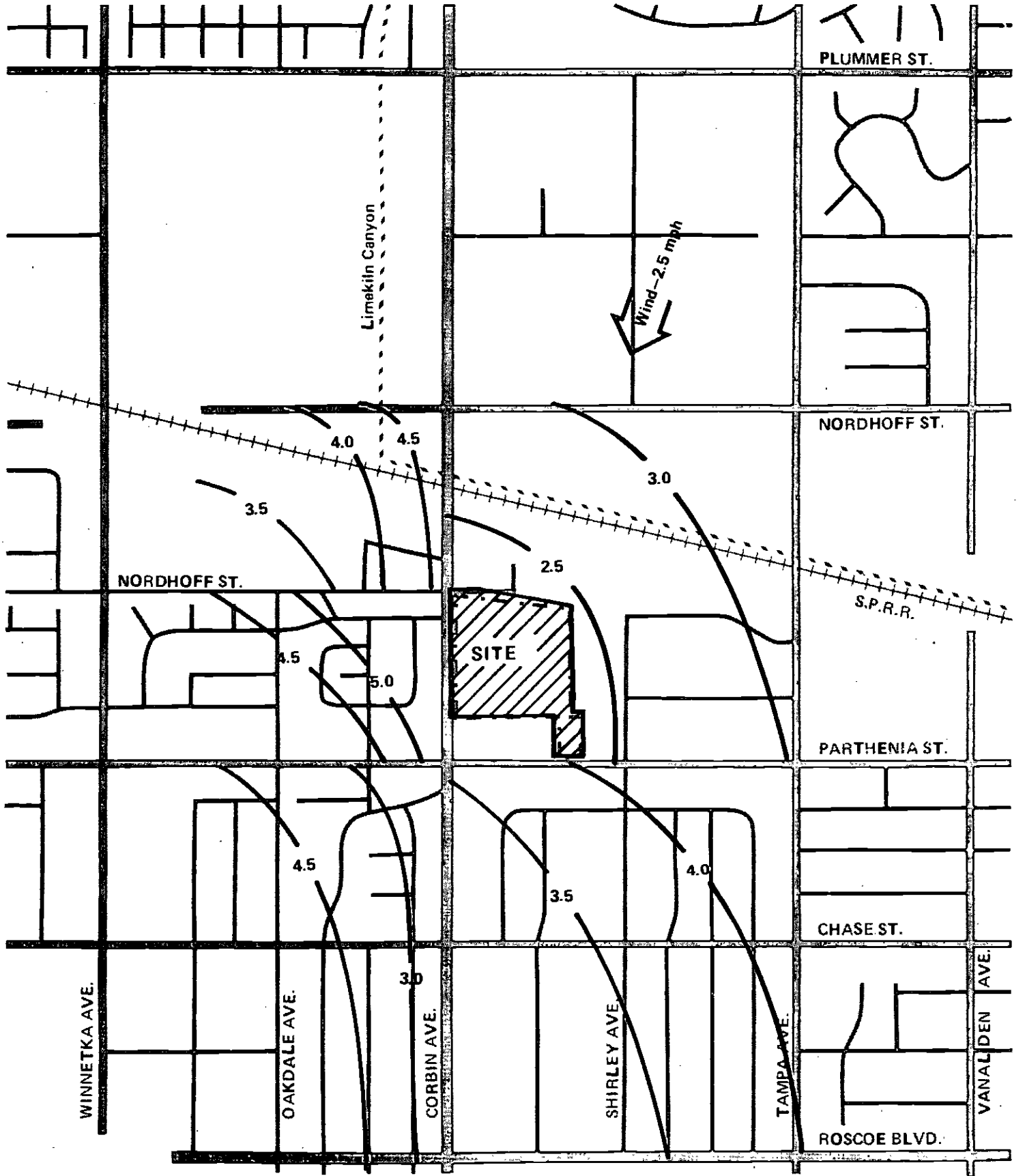

Figure: 57
1978 CO-LEVELS NEAR THE CORBIN SITE WITH THE SCRTO PROJECT (IN PARTS PER MILLION)

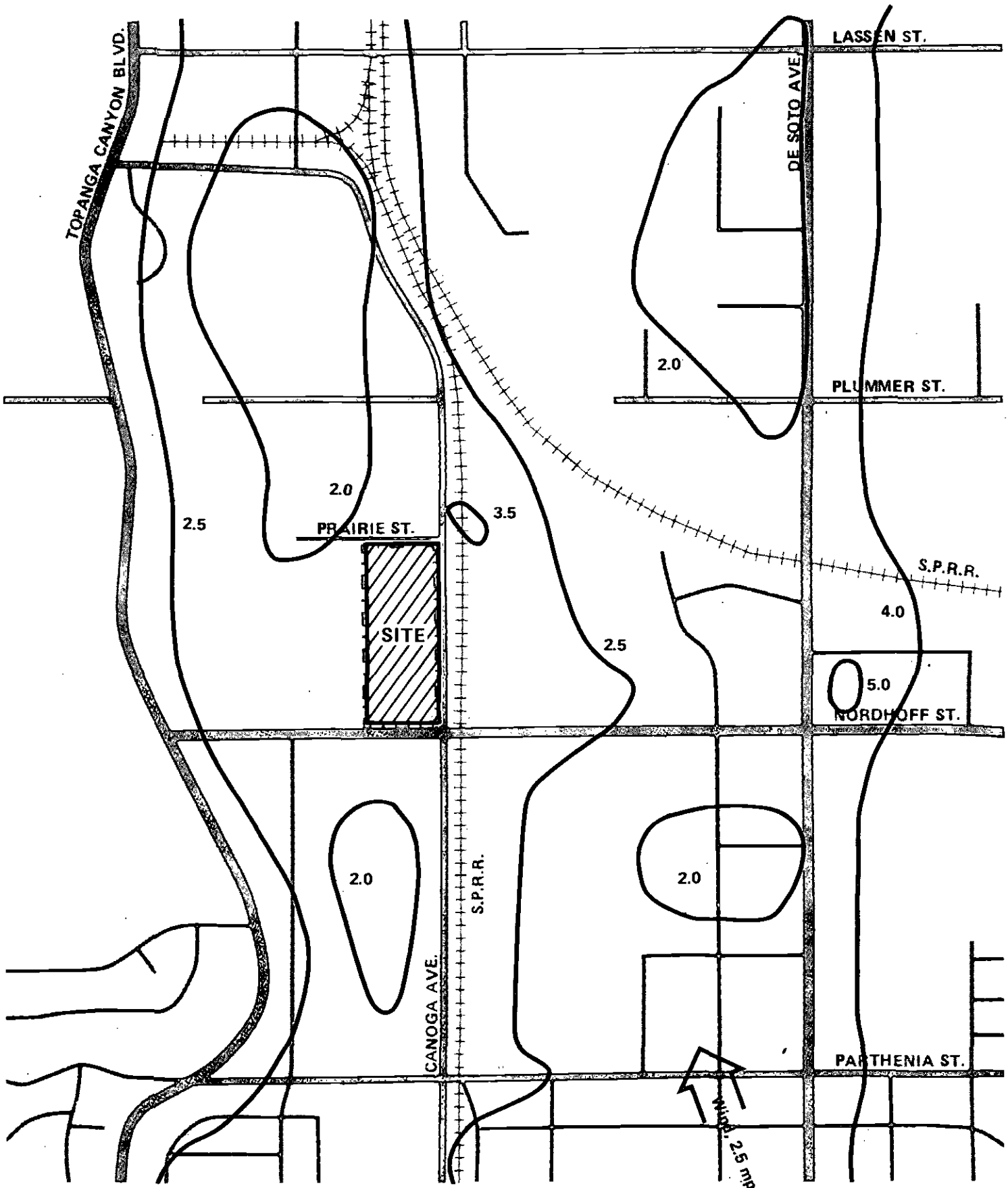

Figure: 58
1978 CO-LEVELS AT THE NORDHOFF SITE WITH THE SCRTD PROJECT (IN PARTS PER MILLION)

As mentioned previously, Figures 55, 56, 57, and 58 include the emissions' effect of both the project-generated traffic on local streets as well as emissions from the idling of buses on the project site. In comparing with- and without-project results, it is evident that the proposed SCRTD Bus Yard will result in only a small increase in primary pollutants over levels expected with no project.

The proposed SCRTD bus maintenance facility will have an impact on both regional and local oxidant levels. The additional vehicle-miles generated by the project will promote an incremental increase in hydrocarbon and oxides of nitrogen emissions throughout the South Coast Air Basin (SCAB). These emissions of primary pollutants, especially during the May-through-October smog season, will likely produce a subsequent increase in secondary pollutants, including oxidant. This increase will occur primarily in areas downwind of the San Fernando Valley. The vehicles associated with the project are only a small percentage of the five million cars already in the SCAB, indicating that the impact of the proposed SCRTD project will result in a negligible increase upon regional oxidant levels.

WORST CONDITION SHOULD BE DISCUSSED (BUT LOCALLY, BAD NEWS FOR CONDITIONS OF LOW INVERSION, NO WIND ?

Impact of Buses on Odors

The purpose of this analysis is to determine if there are any potential impacts of diesel emissions on odors in the area around the proposed maintenance facility. This is done by identifying the source of odors associated with buses and modelling the dispersion of these odorous emissions in the vicinity of the bus facilities and, finally, comparing projected concentrations with the odor threshold of these odorous emissions.

Everyone is familiar with the pungent odor of bus exhaust gases. These are generally experienced when following a bus closely in city traffic or when standing near a bus as it loads and unloads riders. These odorous emissions are characteristic of diesel engines and can be experienced near any diesel-powered vehicle or device. When properly tuned, diesel engines produce very little odorous emissions but, when out of tune, a diesel engine can emit noticeable amounts of odorous emission.

THEN - LET'S KEEP THEM "TUNED" ? (MITIGATION)

The detection and measurement of odor, as well as the analysis of its impact, are very difficult scientific tasks. Olfactory response to low concentrations of certain gases is highly individual (i.e., every person responds differently, due to different sensitivities), and the detection of very low concentrations of certain gases is difficult. For this reason, it has been almost impossible to identify the exact nature of odor impacts. An attempt is made here to assess the potential odor impacts from diesel operations at the bus maintenance facility on nearby residences.

The odors associated with bus (diesel) emissions are generally associated with aldehyde emissions from the exhaust. Aldehydes are a family of organic compounds that is included in the so-called "hydrocarbon" emissions and is primarily the result of incomplete combustion. A well-tuned engine will emit very low amounts of aldehydes. Gasoline-powered automobiles do not emit noticeable amounts of aldehydes, while diesel-powered vehicles do. Aldehyde formation is not well understood, and therefore its control is difficult.

It is important to note that "aldehyde" is a general name for a group of organic compounds of which "formaldehyde" is the most prominent member. Individual aldehydes in diesel exhaust have not been identified in general, and odor thresholds are known only for formaldehyde. Therefore, the basic assumption of this analysis is that formaldehyde is the primary odor-causing ingredient in diesel exhaust, and all aldehyde emissions are in the form of formaldehyde. *

Aldehyde emissions for heavy-duty, diesel-powered vehicles are specified by the Environmental Protection Agency in its compilation of Air Pollution Emission Factors, 2nd Edition, with Supplements 1 through 4. The EPA estimates that aldehyde emissions for heavy-duty diesel engines are on the order of .3 grams of aldehydes per mile (as compared to 20.4 grams of carbon monoxide per mile).

The impact of these aldehyde emissions can be estimated by comparing the projected dispersion of aldehydes with the odor threshold of formaldehyde. The most potential for impact occurs when the buses all pull out in the early morning hours. During this time, as many as 160 buses can pull out in a continuous one-hour period. (Note that not all 160 buses would be pulling out at one time but would be spread out over the hour.) It is estimated that the maximum number of buses operating at any one instant in time is 28. (This is probably high by a factor of 2 and therefore represents a "worst case.") Using the same area source dispersion model used to forecast future carbon monoxide concentrations (the Turner area source model), the dispersion of aldehydes can be predicted for worst-case conditions (minimum wind speed and stable atmosphere). This dispersion is shown in Table 17.

* TOXIC MATERIAL - DISCUSS!

TABLE 17
ALDEHYDE CONCENTRATIONS AS A FUNCTION OF DISTANCE FROM THE BUS FACILITY DURING MORNING PEAK-HOUR PULLOUT

Distance from Center of Bus Activity (feet)	Aldehyde Concentration for "Worst Case" (parts per million)*
500	.011
1,000	.005
1,500	.004
2,000	.003

*Expressed as HCHO and assumed to be formaldehyde.

These concentrations can then be compared with the odor threshold for formaldehyde, which is 1.0 parts per million.[1] As can be seen, the anticipated levels of aldehydes are 2 orders of magnitude (a factor of 100) below the odor threshold. Therefore, odors from the bus maintenance operations should not be a problem with respect to the nearest existing residences, which are more than 500 feet from the center of bus activity at each of the four alternative sites.

Summary and Conclusions

As previously stated, buses and automobiles are the dominant sources of air pollution associated with the SCRTD project. Although the project will increase the levels of primary and secondary pollutants regionally and locally, the increase will be negligible relative to the case of "no project." It has been shown in this report that the pollutants (including odors) generated by the project will be adequately dispersed and thus not create areas of high pollutant concentration. (Higher concentrations of CO would be experienced only very close to highways--within 50 feet--but should still not create a major problem.)

[1] Samuel J. Williamson, Fundamentals of Air Pollution, Addison-Wesley, 1973.

3.3.4 Water Resources

Existing Conditions

De Soto Site: Over a 10-year period of record, a maximum rainfall of approximately one inch per hour occurs in the vicinity of the project site. Based on this maximum rainfall intensity and a runoff coefficient of 0.2,[1] it is estimated that the approximately 19-acre project site presently drains approximately 13,794 cubic feet of water per hour at the peak hour 10-year flow. This is equivalent to a flow of 3.8 cubic feet per second.

There is an existing complex flood control network in the San Fernando Valley, consisting of a series of stream channels, rivers, dams, reservoirs, improved flood control channels and underground storm drains. The site is served by a channel which parallels De Soto Avenue to the east of the site.

The project site is presently an agricultural field. Based on an estimated water consumption rate of 2-acre feet per acre per year for this type of land development, the site presently uses approximately 137,940 cubic feet per month of water.

Canoga Site: Over a 10-year period of record, a maximum rainfall of approximately one inch per hour occurs in the vicinity of the project site. Based on this maximum rainfall intensity and a runoff coefficient of 0.2,[2] it is estimated that the 17-acre project site presently drains approximately 12,342 cubic feet of water per hour at the peak hour 10-year flow. This is equivalent to a flow of 3.4 cubic feet per second.

There is an existing complex flood control network in the San Fernando Valley, consisting of a series of stream channels, rivers, dams, reservoirs, improved flood-control channels, and underground storm drains. The site is served by a channel which parallels De Soto Avenue to the east of the site. ADEQUATE ?

The project site is presently a ranch consisting primarily of grass pastures with a number of horses. Based on an estimated water consumption rate of 2 acre-feet per acre per year for this type of land development, the site presently uses approximately 123,420 cubic feet per month of water.

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[1] Source: Standard Handbook for Civil Engineers, F. Merritt, 1968.

[2] Ibid.

Corbin Site: Over a 10-year period of record, a maximum rainfall of approximately one inch per hour occurs in the vicinity of the project site. Based on this maximum rainfall intensity and a runoff coefficient of 0.3,[1] it is estimated that the 17-acre project site presently drains approximately 18,513 cubic feet of water per hour at the peak-hour 10-year flow. This is equivalent to a flow of 5.1 cubic feet per second.

There is an existing complex flood-control network in the San Fernando Valley, consisting of a series of stream channels, rivers, dams, reservoirs, improved flood-control channels, and underground storm drains. The runoff from the site would flow into the Limekiln Canyon Wash to the north. ADEQUATE ?

The proposed project site is presently a vacant lot with no irrigation and, consequently, no water consumption.

Nordhoff Site: Over a 10-year period of record, a maximum rainfall of approximately one inch per hour occurs in the vicinity of the project site. Based on this maximum rainfall intensity and a runoff coefficient of 0.2,[2] it is estimated that the 18-acre project site presently drains approximately 13,072 cubic feet of water per hour at the peak-hour 10-year flow. This is equivalent to a flow of 3.6 cubic feet per second.

There is an existing complex flood control network in the San Fernando Valley, consisting of a series of stream channels, rivers, dams, reservoirs, improved flood control channels, and underground storm drains. The site is served by a channel which parallels De Soto Avenue to the west of the site. The project site is presently an empty lot consisting primarily of weeds. There is no water consumption presently associated with the site. ADEQUATE ?

Water Resource Impact

De Soto Site: Paving the proposed site would result in increased runoff from the site. Based on a runoff coefficient of 0.95 for asphaltic surfaces, and the same peak hour rainfall of one inch per hour used to describe the existing setting, the runoff after development will be 18.05 cubic feet per second or 65,522 cubic feet per hour. This quantity reflects an increase of 14.25 cubic feet per second or 51,728 cubic feet per hour over existing runoff at the site.

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[1] Ibid.

[2] Ibid.

Canoga Site: Paving the proposed site would result in increased runoff from the site. Based on a runoff coefficient of 0.95 for asphaltic surfaces, and the same peak-hour rainfall of one inch per hour used to describe the existing setting, the runoff after development will be 16.15 cubic feet per second, or 58,625 cubic feet per hour. This quantity reflects an increase of 12.75 cubic feet per second, or 46,283 cubic feet per hour, over existing runoff at the site.

Corbin Site: Paving the proposed site would result in increased runoff from the site. Based on a runoff coefficient of 0.95 for asphaltic surfaces, and the same peak-hour rainfall of one inch per hour used to describe the existing setting, the runoff after development will be 16.15 cubic feet per second, or 58,625 cubic feet per hour. This quantity reflects an increase of 11.04 cubic feet per second, or 40,112 cubic feet per hour, over existing runoff at the site.

Nordhoff Site: Paving the proposed site will result in increased runoff from the site. Based on a runoff coefficient of 0.95 for asphaltic surfaces,[1] and the same peak-hour rainfall of one inch per hour used to describe the existing setting, the runoff after development will be 17.25 cubic feet per second, or 62,092 cubic feet per hour. This quantity reflects an increase of 13.75 cubic feet per second, or 49,500 cubic feet per hour, over existing runoff at the site.

The proposed SCRTD bus maintenance facility is planned to be a duplicate of the facility already operating in El Monte. Total water consumption at the facility was recorded at 3,824 cubic feet for the period June-August. Thus, for the proposed facility, it is estimated that an average of 1,912 cubic feet per month will be required.

The increase in pollutants produced from the project will result in a subsequent incremental increase in the existing pollutant loading entering the Los Angeles sewer system. The increase will result primarily from three sources:

- Additional sewage loading resulting from 300 employees at the site.
- Addition of oil solvent and grease from the operation and maintenance of the buses.
- Addition of detergent used for cleaning and washing the buses.

[1] Ibid.

The sewage loading produced from the operation of the proposed facility will result from less than 300 people, because many of these people will not be new to the area. Consequently, they will likely be moving from some other part of the city which is already served by the Los Angeles Bureau of Sanitation.

The region containing the site is tied into the overall network where the effluent is transported by gravity line to the Hyperion Sewage Treatment Plant located at Playa del Rey on the Pacific Coastline of Western Los Angeles. After treatment, the liquid effluent is discharged into the Pacific Ocean by means of a 7-mile pipeline, while the solid effluent is carried by a 5-mile pipeline and also discharged into the ocean. The Hyperion Treatment Plant currently handles approximately 370 million gallons per day; its design capacity is 440 million gallons per day, with peak flows of 650 million gallons per day.

Some oil and grease will be produced during operation and maintenance of the buses at the proposed bus yard. Inevitably, a portion of this oil and grease will remain on the paved surface of the yard. When rain falls in sufficient quantity, the pollutants will be washed into storm drains as part of the runoff, unless some means of collecting this contaminated runoff is provided. Separator should be studied.

The proposed bus facility will include an Automatic Bus Washer Recirculating System and Bus Interior Cleaning and Deordorizing System. The bus washer detergent used by the SCRTD is a biodegradable detergent called "Techwash Wax." The 300 buses are washed every other day, with 2-1/2 ounces of the detergent being used for each bus. This quantity amounts to approximately 703 pounds of detergent per month, or 23 pounds per day. Table 18 shows the results of a chemical analysis of the detergent to be used at the proposed facility.

In addition, this steam cleaner area of the facility will use a cleaning agent called "Steamlite 12" in the quantity of 100 gallons per month, and 300 gallons per month of 350H thinner solvent. Should be recycled

The discharge of these solvents and detergent will incrementally add to the effluent already being discharged into the ocean from the Hyperion Treatment Plant in Playa del Rey.

TABLE 18
CHEMICAL ANALYSIS OF "TECHWASH WAX" DETERGENT
TO BE USED BY SCRTD

Test Results

	Attribute	Liquid Soap
A.	pH value at 25°C (as per recommended dilution)	10.4
B.	Moisture and volatile matter at 105°C	65.8%
C.	Alcohol-soluble matter	24.4%
D.	Alcohol-insoluble matter	15.1%
E.	Metallic elements	
	Sodium	6.5%
	Potassium	49.0%
	Phosphorus	2.8%
	Tin	0.15%
	Silicon	0.22%
	Lead	0.16%
F.	Appearance and observation	
	Liquid Soap	
	1. Viscous liquid	
	2. Soapy in touch	
	3. Does not irritate skin	
	4. Miscible with water in any proportion	
	5. Produces rich lather with water	

Source: United States Testing Company, Inc., for Southern California Rapid Transit District.

3.3.5 Energy Impact

The purpose of this analysis is to quantify the energy consumption of the proposed RTD bus maintenance facility and to determine if there are measures which, when incorporated into the facility design, can reduce the energy consumption.* Energy conservation is of vital concern to everyone, not only because of cost but because of diminishing natural resources from which we derive fossil fuels.

Appendix B of this report provides a compilation of environmental data taken at the Division 9, El Monte, Bus Maintenance Facility. Included in this data is energy consumption data taken from utility bills over the five-month period for which the facility has been operating. From this data, a forecast can be made of energy usage at the proposed maintenance facility. For example, based on Division 9 consumption data, 45,249 cubic feet of natural gas will be burned per year at the proposed bus maintenance facility. Similarly, 1,438,848 kilowatt hours of electricity will be used per year. 165 KW DEMAND

This energy consumption can be assessed by comparing this energy usage with typical energy consumption rates for industrial buildings. Typical usage rates for industrial land use are 1.2 kilowatt hours per square foot per month for electricity and 333 cubic feet of natural gas per 100 square feet per month. Based on a building area of 51,700 square feet, a typical electrical consumption would be 744,480 kilowatt hours per year, and a typical natural gas consumption would be 2,065,932 cubic feet of natural gas per year. Thus, the proposed maintenance facility uses twice as much electricity as a "typical" industry but 45 times as little natural gas as a "typical" industry. This, of course, is a very gross comparison but can be valuable for relating the project to other facilities. In terms of actual energy consumption, then, the bus maintenance facility uses more than a "typical" industry, but is in the same order of magnitude. This indicates that the facility is not an atypical or an exorbitant energy consumer.

In terms of energy conservation measures that can be employed to conserve energy, it is difficult to change the characteristics of the facility. For example, consider space heating. The proposed facility uses natural gas to heat the buildings and to heat water. The facility, as it currently exists, uses 45 times less natural gas than a "typical" industry, so sophisticated energy-conserving space-heating systems are not justifiable. *

In terms of electrical usage, the proposed facility uses substantial amounts. This electricity is for lighting and operating heavy machinery, including air compressors, large blowers, and several more large, heavy-duty motors and pumps. Most of the electrical consumption is associated with the operation of these large motors. Beyond avoiding unnecessary use of the machinery, little can be done to reduce the energy consumption of the equipment. *

* SHOULD CONSIDER SOLAR HEAT INSTEAD OF NAT. GAS FOR WASH WATER

Another very significant point should be made here regarding the energy consumption of the facility. If one considers the purpose of this project (to maintain a rapid transit system for the Los Angeles area), one realizes that from a macroscale point of view, i.e., the RTD operation as a whole, the project is a part of the single, most significant means of reducing energy consumption in Southern California--providing an alternate means of transportation to the personal automobile. In that light, it does not seem appropriate to overemphasize energy conservation as a design factor for the maintenance facility. Busses must operate at 80% capacity factor to "break even" with 30 mpg autos, single passenger on energy consumption. Busses need drastic improvement in energy consumption & emission control to be competative!

3.3.6 Ecosystems

The purpose of the biological portion of this report is to present lists of the plant and animal species now found on each site and to predict the effects of the proposed development on these species.

The report includes a description of the present biological setting, a discussion of the probable impact of the development and, where applicable, a discussion of measures that would minimize the detrimental effects of the project at a particular site.

Existing Setting

De Soto Site: The property is currently in a highly disturbed state and has very few native species. This is primarily due to its use as agricultural land. It is evident that in the past it has been used to grow corn and a new crop is currently germinating. The land has been plowed, and thus plant species other than corn are limited to the margins of the property.

There are no native plants on the property. One native (Baccharis viminea) extended over the boundary but was rooted on adjacent property and so was not put on the species list. Certain ornamentals likewise extend over the property line. The vegetation along the western boundary includes seedlings of a species of tree, Schinus terebinthefolius (Brazilian Pepper). These seedlings arose from seeds or root sprouts produced by plantings of this species on adjacent property. Of those rooted on the site, none is larger than about 1-1/2 inches in diameter. There are some large examples of the same species that have been planted along Burbank Boulevard between the sidewalk and the street. Eleven specimens of about six-inch trunk diameter are along this northern boundary.

Native animals are also very poorly represented on the site. Only three species of bird were observed of which only one (mourning dove) actually landed on the property. The other two were along the edges but were obviously being supported by vegetation on adjacent land. It is likely that when the corn crops are mature the site will be visited by other native species such as the common crow and brewer's blackbird.

The existing setting may be summarized by saying that it is highly disturbed and does not represent a natural biotic condition.

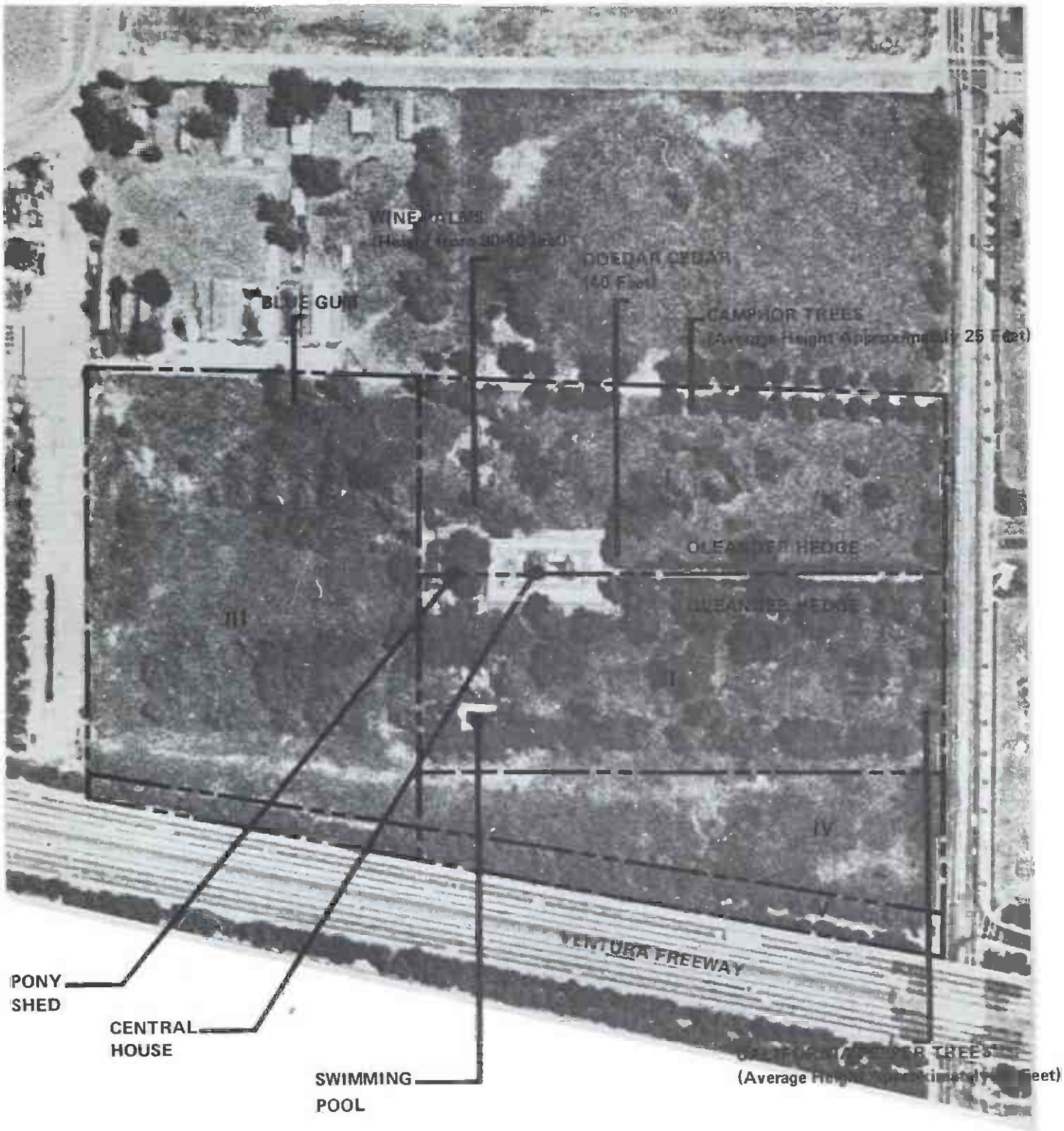
Canoga Site: An on-site biological survey was performed on January 29, 1976. An attempt was made to identify and map each large shrub or tree on the property. The property was extensively walked in search of animal sign and habitat. Birds were also chronicled over a one-hour period of observation.

The property can be characterized as a slightly rundown but once beautifully landscaped estate. With the exception of a few coastal oaks and scrub oaks, the vegetation is entirely of the non-native, decorative landscape variety.

There are well over one hundred large trees on the property. The most distinctive of these include: more than 30 Eucalyptus trees, many towering to 60 feet; 33 Camphor trees lining one access road; 6 stately wine palms greater than 30 feet tall; almost 100 Oleander hedging the main road up to the centrally located house. Sycamore trees, cedar trees and California pepper trees are also conspicuous. A schematic map of the trees on the property is given in Figure 59.

Although the vegetation is exotic, it is now a haven for wildlife. The trees and shrubs also moderate the physical environment, offering shelter and habitat for a diversity of mammals, and providing nesting for birds (Table 19).

In one hour of observation, 12 different species were observed, including a probable breeding pair of red-tailed hawks. The western fence lizard and side blotched lizard were also seen active in the early afternoon. The estate secretary reported a racoon on the property two days before this survey. Other animal signs included owl pellets, opossum tracks, and squirrels. In general, the property is suited to a diverse rodent fauna which, in turn, is capable of supporting a variety of snakes and predatory birds.



Note:
In addition to the trees specifically denoted here, Table No. presents a listing of the remaining trees by Area (I, II, III, IV, V).

Figure: 59
CANOGA SITE : EXISTING SETTING

TABLE 19
LIST OF BIOTA: CANOGA SITE

VEGETATION

ACERACEAE	
Acer pseudoplatanus	sycamore maple
ANACARDIACEAE	
Schinus molle	California pepper
APOCYNACEAE	
Nerium oleander	oleander
FABACEAE	
Caesalpinia sp.	bird of paradise
FAGACEAE	
Quercus agrifolia	coast live oak
Quercus dumosa	scrub oak
LAURACEAE	
Cinnamomum camphora	camphor
MYRTACEAE	
Eucalyptus globulus	blue gum
Eucalyptus viminalis	manna gum
OLEACEAE	
Olea europea	olive tree
PALMACEAE	
Jubaea chilensis	wine palm
PINACEAE	
Cedrus deodora	deodar cedar

ANIMALS

REPTILES AND AMPHIBIANS

Uta stansburiana	side blotch lizard
Sceloporus occidentalis	western fence lizard
* Batrachoseps attenuans	Cal. slender salamander
* Hyla regila	pacific tree frog
* Cnemidophorus tigris	western whiptail
* Pituophis cadenifer	gopher snake
* Lampropelds getulus	king snake
* Crotalus ruber	red diamond rattlesnake

* Species listed on basis of habitat suitability rather than direct evidence. Nomenclature based on P. A. Munz, A Flora of Southern California, University of California Press, 1974.

TABLE 19 (Continued)

BIRDS

Streptopelia chinensis	spotted dove
Zenaidura macroura	mourning dove
Columba livia	rock dove
Buteo jamaicensis	red-tail hawk
Psaltriparus minimus	common bushtit
Vermivor ruficapilla	Nashville warbler
Empidonay hammondii	Hammond's flycatcher
Corvus brachyrhynchos	common crow
Mimus polyglottos	mockingbird
Sturnus vulgaris	starling
Passer domesticus	house sparrow
Euphagus cyanocephalus	brewer's blackbird
*Falco sparverius	sparrow hawk
*Lophortyx californicus	California quail
*Tyto alba	barn owl
*Speotyto cunicularia	burrowing owl
*Otus asio	screeching owl
*Malanerpes formicivorus	acorn woodpecker
*Sphyrapicus varius	yellow-bellied sapsucker
*Dendrocopos pubescens	downy woodpecker
*Turdus migratorius	robin
*Carpodacus purpureus	purple finch
*Carpodacus cassinii	Cassin's finch

MAMMALS

Procyon lotor	racoon
Dipelphis marsupialis	opossum
*Sylyilagus audoboni	desert cottontail
*Citellus beecheyi	California ground squirrel
*Thomomys umbrinus	pocket gopher
*Neotoma lepida	desert woodrat
*Neotoma fuscipes	dusky-footed woodrat
*Reithrodontomys megalotis	harvest mouse
*Mus musculus	house mouse
*Peromyscus maniculatus	deer mouse
*Peromyscus eremicus	cactus mouse
*Dipodomys agilis	agile kangaroo rat
*Perognathus fallax	pocket mouse

*Species listed on basis of habitat suitability rather than direct evidence. Nomenclature based on P. A. Munz, A Flora of Southern California, University of California Press, 1974.

Corbin Site: An on-site survey of the biota was performed January 29, 1976. It was a sunny, windy day with an ambient temperature ranging from 22° to 24° C during the survey. A list of biota for this property is presented in Table 20.

The property is a recently graded field with only sparse weedy vegetation. Vegetation was sampled by walking three 100-meter transects. Along each transect, ten "meter-square" quadrants were dropped at random. This technique yielded an estimate of 50 percent bare ground; vegetation is predominantly cheat-grass and Russian thistle. Not a single tree or shrub is present on this property. The plant list was compiled in the field with on-site identifications using the keys appearing in the attached reference sheet. Flowers are considered essential for rigorous taxonomy, and their absence from the survey specimens rendered the identifications tentative. Many annuals which may frequent this field in different seasons or under less drought stress were doubtlessly overlooked.

Thirty minutes of bird watching were logged at a central location, with three species sighted: meadowlark, mourning dove, and red-tailed hawk.

The animal list was not based exclusively on direct observation. Some of the animals specified are included on the basis of published accounts of habitat suitability or previous personal experience. No time was afforded for actual mammal trapping, nor was any attempt made to report invertebrate or lower plant form occurrences.

Nordhoff Site: This property presently sustains a community of plants which are capable of growing in very disturbed conditions. Most of these are introduced noxious weedy species. The land has very recently been plowed, and rainfall since has induced the growth of a dense carpet of newly sprouted weeds, now approximately three cm high. These are all introduced species, including puncture vine (Tribulus terrestris), cheeseweed (Malva parviflora), volunteer oats (Avena fatua), stork's bill (Erodium cicutarium), and others, as well as the native weed, black mustard (Brassica nigra). Unplowed edges harbor more mature plants of the same species, as well as one clump of tree tobacco (Nicotiana glauca), scattered sunflowers (Helianthus annus), and common groundsel (Senecio vulgaris).

Besides the 14 ornamental trees planted in the sidewalk bordering the intersection of Nordhoff Street and Canoga Avenue, three trees stand on this property. At the corner of Prairie Street and Canoga Avenue is a poplar tree (Poplus fremontii), approximately 18 feet high. The top of this tree has broken off. Two native California walnut trees (Juglans californica), each about 20 feet tall, with trunks of about 12 inches in diameter, grow at the east edge of the property along Canoga Avenue.

TABLE 20
LIST OF BIOTA: CORBIN SITE

VEGETATION	
BRASSICACEAE	
Brassica sp.	mustard
CHENOPODIACEAE	
Salsola iberica	Russian thistle or tumbleweed
POACEAE	
Bromus tectorum	cheat grass
ANIMALS	
REPTILES	
**Pituophis cadenifer*	gopher snake
BIRDS	
Sturnella neglecta	meadowlark
Buteo jamaicensis	red-tailed hawk
Zenaidura macroura	mourning dove
MAMMALS	
Thomomys umbrinus	pocket gopher
Lepus californicus	jack rabbit
**Peromyscus maniculatus*	deer mouse
**Mus musculus*	house mouse

*Species listed on the basis of habitat suitability rather than sighting or other direct evidence. Nomenclature based on P. A. Munz, *A Flora of Southern California*, University of California Press, 1974.

The unnatural floral community is reflected in the poor diversity of animal inhabitants. All the birds seen are species common in open and disturbed areas. These include meadowlarks and mourning doves. Large flocks of starlings, introduced from Europe, were present. These birds probably live on refuse and scattered horsefeed on nearby properties. Similarly, a flock of crows seen here appeared to favor roosting sites in large trees on adjacent land to the west. Sparrows, finches, and Brewer's blackbirds could also frequent this area.

The presence of fossorial mammals was indicated by freshly worked dirt mounts. One bore unmistakable markings of the mole Scapanus latimanus. The valley pocket gopher could also be present. The other animal likely to inhabit this land is the house mouse, Mus musculus, which could live in brush piles and refuse on the site, as well as in burrows in the loosened soil.

In summary, this property is highly disturbed and harbors very common species, some of which are pests.

Ecosystem Impact and Mitigation

De Soto Site: Even though the development will involve paving over the entire area, its impact on the biota will be minimal. This is because the present biota is so sparse and is almost entirely made up of weedy species. Any unpaved area that remains will soon be recolonized by most of the species that now exist.

The one possible detrimental effect of the project is removal of the plantings of Brazilian Pepper along Burbank Boulevard. If this street is the main entry point for vehicles, at least a few of them will have to be removed for construction of driveways. Removal of the trees will also remove nesting and feeding sites for certain birds.

The most important mitigation measures would be preservation of as many as possible of the existing trees along Burbank Boulevard and establishment of additional landscaping. The addition of landscaping will cause an improvement over the present biological condition, since ornamental shrubs and trees will attract bird species that now do not use the site. Landscaping could be established around the boundaries of the property or on islands within the paved area.

Canoga Site: The proposed project is expected to remove all trees and shrubs, with the possible exception of the Eucalyptus on the western boundary. This action, combined with paving, will virtually eliminate all resident wildlife. Areas III and IV (shown in Figure 59) can clearly be developed with little biologic loss.

If any trees are to be preserved, it is important that grading does not disturb root systems and that pavement does not extend to within five feet of the trunks (ideally pavement should stop at the drip line). Attempts should be made to preserve as many trees as possible, especially on the perimeter of the parcel. This would not only partially shield the facility but also retain some wildlife habitat.

Corbin Site: This property sustains only those "weedy" plants and animals which persist in most local developed areas. As such, this habitat has no value as a wildlife refuge or resource. Introduction of any form of landscaping (especially vertical elements, e.g., trees and shrubs) would increase the aesthetic qualities and vegetative structural diversity for wildlife.

Nordhoff Site: Development of this property will have little impact on the biota. The species which now exist there are mainly rapid colonizers which quickly would move back into any unpaved and unoccupied areas. One native species on the property, the California walnut, would be jeopardized. However, none of the species found here are considered to be threatened or endangered by extinction.

Mitigation measures could include the preservation of the two native walnut trees. Any landscaping done to this property would yield an improvement over the present biotic conditions. This would result in the reduction of weedy species such as the tumbleweed Salsola, as well as in attraction of more diverse arrays of birds, reptiles, and mammals. Such plantings could be done around the perimeter of the property and in islands within the paved area.

3.3.7 Geology and Soils

With few exceptions, lands in the San Fernando Valley have exhibited geologic and soils conditions which are generally supportive of urban development; the extent to which the general area surrounding the proposed sites have been developed supports this general observation. Since the proposed bus maintenance facility would not involve the construction of buildings or improvements which are uncommon to the general vicinity of the sites, it

is anticipated that geologic and soils conditions will make the sites suitable for development.[1, 2, 3]

3.3.8 Seismic

Only the Nordhoff Site is located in the vicinity of a known fault zone. At no site are any potential slope stability conditions presented since the area is largely without topographical relief.

The City of Los Angeles' Seismic Safety Plan[4] designates two specific fault-rupture study zones:

- One-quarter-mile fault study zone (location one-eighth mile on either side of a known or assumed trace of the nearest potentially-active fault).
- Proximal-fault study zone (located within 50 feet of an active or potentially-active fault trace).

Development of sites within these areas may be subject to regulation. The nearest fault study zone to the De Soto and Canoga Sites is the Chatsworth Fault, which is located approximately four miles to the northwest. The Northridge Hills Fault is located approximately six miles to the northeast. These faults are classified as potentially active.

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[1] A soils analysis conducted in the City of Los Angeles, for the Canoga Avenue Intercepter Sewer (250 feet north of Victory Boulevard), indicated that soils in the vicinity of the De Soto and Canoga Sites consist of light brown silty clay with fine sand.

[2] Analysis conducted by the Bureau of Engineering, Street Opening and Widening Division, Geology and Soils Engineering Section of the City of Los Angeles, at a location approximately 1/2-mile from the proposed Corbin Site ("Reseda Relief Sewer Unit II," 10/5/72), indicated that soils in this area consisted of stiff brown silty clay, approximately 20 percent fine sand.

[3] Analysis conducted by the Bureau of Engineering, Street Opening and Widening Division, Geology and Soils Engineering Section of the City of Los Angeles, at the Plummer Street Bridge over Brown's Creek (approximately 1/2-mile northeast of the proposed Nordhoff Site), in 1969, indicated that soils in this area consisted of silty fine sand with some gravel and some layers of clay silt.

[4] City of Los Angeles, Seismic Safety Plan, City Plan Case No. 24880, Council File No. 74-3401, adopted by Council September 10, 1975.

The nearest fault study zone to the Corbin Site is the Northridge Hills Fault, which is located approximately 1-1/2 miles to the northeast. The Chatsworth Fault is located approximately two miles to the northwest. These faults are classified as potentially active.

The nearest fault study zone to the Nordhoff Site is the Chatsworth Fault, which is located approximately one-quarter mile to the northwest. The Northridge Hills Fault is located approximately three miles to the northeast. These faults are classified as potentially active.

The City of Los Angeles also requires comprehensive geologic-seismic design-foundation engineering investigations to be submitted for all new development classified, as recommended by the Joint Committee on Seismic Safety of the California State Legislature, as (1) structures whose continued function is critical or whose failure may be catastrophic, or (2) structures whose use is critically needed after a disaster. The proposed bus maintenance facility would not be considered a critical structure under these criteria.

Design and engineering of structures to be located on any of the alternative project sites would be undertaken in compliance with applicable building code and design standards concerning seismic safety.

4. MITIGATION OF ADVERSE IMPACTS

Planning and Environmental Assessment Process

The planning and environmental assessment process followed for this project sought to avoid potential adverse impacts from the beginning, by:

- Selecting sites which minimize displacement impacts.
- Planning the specific site location and layout so that the overall project is most compatible with adjoining land uses and the community as a whole.
- Recommending appropriate mitigation measures--based on impact assessment results--to minimize potential construction and operational impacts.

Construction Impacts

Each SCRTD construction contract is covered by provisions of the State of California, Department of Public Works, Standard Specifications. Section 7, "Legal Relations and Responsibility," deals with the responsibility of the contractor. Items relevant to mitigation of construction-related impacts include the following:

- The contractor shall conform to all State, federal, County, and municipal ordinances and regulations.
- The contractor must comply with all air pollution control rules, regulations, ordinances and statutes.
- The contractor shall exercise every reasonable precaution to protect streams, lakes, reservoirs, etc., from pollution with fuels, oil, etc., and schedule operations to avoid or minimize muddying and silting in these waters.
- The use of pesticides must be in conformance with all rules and regulations of the Department of Agriculture and the Department of Health and Safety.
- The contractor shall conform to all the rules and regulations pertaining to sanitary provisions established by the State.

- There are broad requirements regarding the convenience of the public and public traffic. The rights and protection of the public are to be considered so as to cause as little inconvenience and delay as possible with respect to abutting property owners, access, traveling surfaces, detouring, staging operations, flagging, dust control, signing, lighting, barricading, etc.

- There are also broad requirements to provide for the safety of the public. This includes signing, lighting, barricading, regulation of equipment use, and other protective measures.

- The contractor shall exercise care in avoiding damage or injury to existing highway or utility facilities, adjacent property, trees, shrubs, etc.

- The contractor is made specifically responsible for any damage or injury resulting from his operations to any person or property.

- The contractor is responsible for all the materials used in the work and shall rebuild, restore, repair and make good all injuries, damages, or losses which occur before acceptance of the contract.

Section 10 of the State Standard Specifications is specifically directed at controlling dust resulting from the contractor's operations. This work shall consist of applying either water or dust palliative, or both, for the alleviation of dust nuisance.

By following these State regulations, most construction-related impacts will be either avoided or minimized.

Relocation Assistance

Partial mitigation of the adverse effects of residential displacement and relocation (applicable only to the Canoga Site) is achieved through the relocation assistance provisions of the "Uniform Relocation and Real Property Acquisition Policies Act of 1970." This federal legislation could also mitigate the impact upon the farm operations at the De Soto Site. This could involve either (1) relocation assistance, or (2) "in lieu" payments.

Operational Impacts

If the recommended noise walls are provided (see Section 3.3.2), on-site noise sources will not adversely affect community noise levels. No significant community noise impacts are anticipated due to bus operations.

The provision of a wall around the facility, plus suitable exterior landscaping, will minimize potential aesthetic impacts of the proposed facility.

5. PROBABLE ADVERSE IMPACTS WHICH CANNOT BE AVOIDED

If the mitigation measures recommended in this EIS are incorporated in the design, construction, and operation of the proposed bus maintenance facility at each alternative site, the only significant adverse impacts that cannot be avoided are the following:

De Soto Site: Planned for limited indust use (MR1-P)

- The conversion of 18 acres of agriculture to an urban, light-industrial use.
- An alteration of the existing visual environment resulting from the change from agricultural to urban use.
- A 30 percent increase in heavy vehicle traffic on De Soto Avenue (this impact could be substantially reduced if buses serving the area north of the site use the Burbank Boulevard exit, then go north on Canoga Avenue).
- The resulting community disruption which may occur due to the preceding impacts.

Canoga Site: Planned for high-med (R4) residential use

- The conversion of 18 acres of agriculture to an urban, light industrial use.
- Development of the proposed project on this site would require the removal of most trees and other ground cover. This action combined with paving would virtually eliminate all resident wildlife.
- A significant alteration of the visual environment associated with the removal of mature trees and other ground cover, and the required paving and project-related structures.

Corbin Site: Planned for light industry (Near RR-MR2-P)

- The conversion of 18 acres of vacant land to an urban, light industrial use.
- The resulting community disruption which may occur associated with the land use change.

Favor on basis of planned land uses, minimal overall impact. MR-2, P. (HOW MANY BUSSES GO TO FWY?)

Nordhoff Site:

- The conversion of 18 acres of vacant land to an urban, light industrial use.

- An alteration of the existing visual environment resulting from the change in land use.

- The proposed project will add to traffic congestion on Topanga Canyon Boulevard and De Soto Avenue, although this addition represents only one percent of the total projected traffic volumes for 1978.

6. LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE ENHANCEMENT OF LONG-TERM PRODUCTIVITY

In the short term, implementation of the proposed project will cause temporary construction-related inconveniences, such as increased dust, noise and truck traffic in the vicinity of the selected site. Upon completion (in 1979), 175-200 buses will utilize the facility. Eventually, up to 250 buses will utilize the facility, with associated long-term impacts as documented in this EIS.

As part of the Grid Bus System for the San Fernando Valley, the proposed bus maintenance facility will be a necessary element in providing improved public transportation service to Valley residents. If successful, the overall system could reduce dependence upon the automobile and thus assist in the achievement of regional air quality and energy-use objectives.

See note p 138

7. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

If implemented, this project would result in an irreversible and irretrievable commitment of undeveloped lands to urban use. This commitment would likely occur if the proposed bus maintenance facility is not implemented since the community plans indicate urban uses for the proposed sites. Once this land is converted to urban use, it is unlikely that it would every be returned to an undeveloped use. No other resources of a unique or irreplaceable character are known to exist which would be consumed or lost as a result of the project.

8. GROWTH-INDUCING IMPACTS

As a part of the overall plan to implement Grid Bus Service in the San Fernando Valley, the proposed bus maintenance facility will result in improved public transportation service in the San Fernando Valley. This improved bus service will serve the existing population and will offer added mobility to transit dependents and a greater choice for persons now exclusively utilizing automobiles and other forms of personal transport.

Given this context, it is unlikely that the proposed project will foster economic or population growth either directly or indirectly. The employees needed for construction and operation of this facility should be readily available from the regional labor force. In addition, no burden is foreseen for the public service system of the surrounding community.

In conclusion, the proposed project is a necessary component of an overall plan to incrementally improve the level of public transportation service in the San Fernando Valley. As such, it will not encourage urban sprawl or intensification in the Valley or region.

9. ALTERNATIVES TO THE PROPOSED PROJECT

No Project Alternative

A decision not to develop the proposed project at any of the four alternative sites would have the consequence of requiring RTD to continue maintenance operations on their present site, thus constraining future plans to expand service. In addition, operational cost savings anticipated by locating the new facility in such a manner as to minimize unproductive bus travel ("deadhead time") would not be realized.

De Soto Site:

The site of the proposed facility is designated in the Canoga Park-Winnetka-Woodland Hills District Plan as the future location of limited industrial development; thus, it is anticipated that at some point in time this parcel will be urbanized.

Canoga Site:

The site of the proposed facility is designated in the Canoga Park-Winnetka-Woodland Hills District Plan as the future location of high-medium residential development; thus, it is anticipated that at some point in time this parcel will be urbanized.

Corbin Site:

The site of the proposed facility is designated in the Chatsworth-Porter Ranch District Plan as the future location of light industrial development; thus, it is anticipated that at some point in time private sector demand for this parcel will cause this parcel to be developed.

Nordhoff Site:

The site of the proposed facility is designated in the Chatsworth-Porter Ranch District Plan as the future location of light industrial development; thus, it is anticipated that at some point in time this parcel will be developed for purposes consistent with the intent of this plan.

Alternative Sites

As shown in Figure 60, a total of 32 potential locations for the proposed facility were evaluated by SCRTD during the initial project development phases. Twenty-five of the sites were, upon preliminary assessment, determined to be unsuitable and were rejected from further study and consideration. Those sites considered unsuitable for the project, and the reasons cited by RTD for their rejection from final selection are:

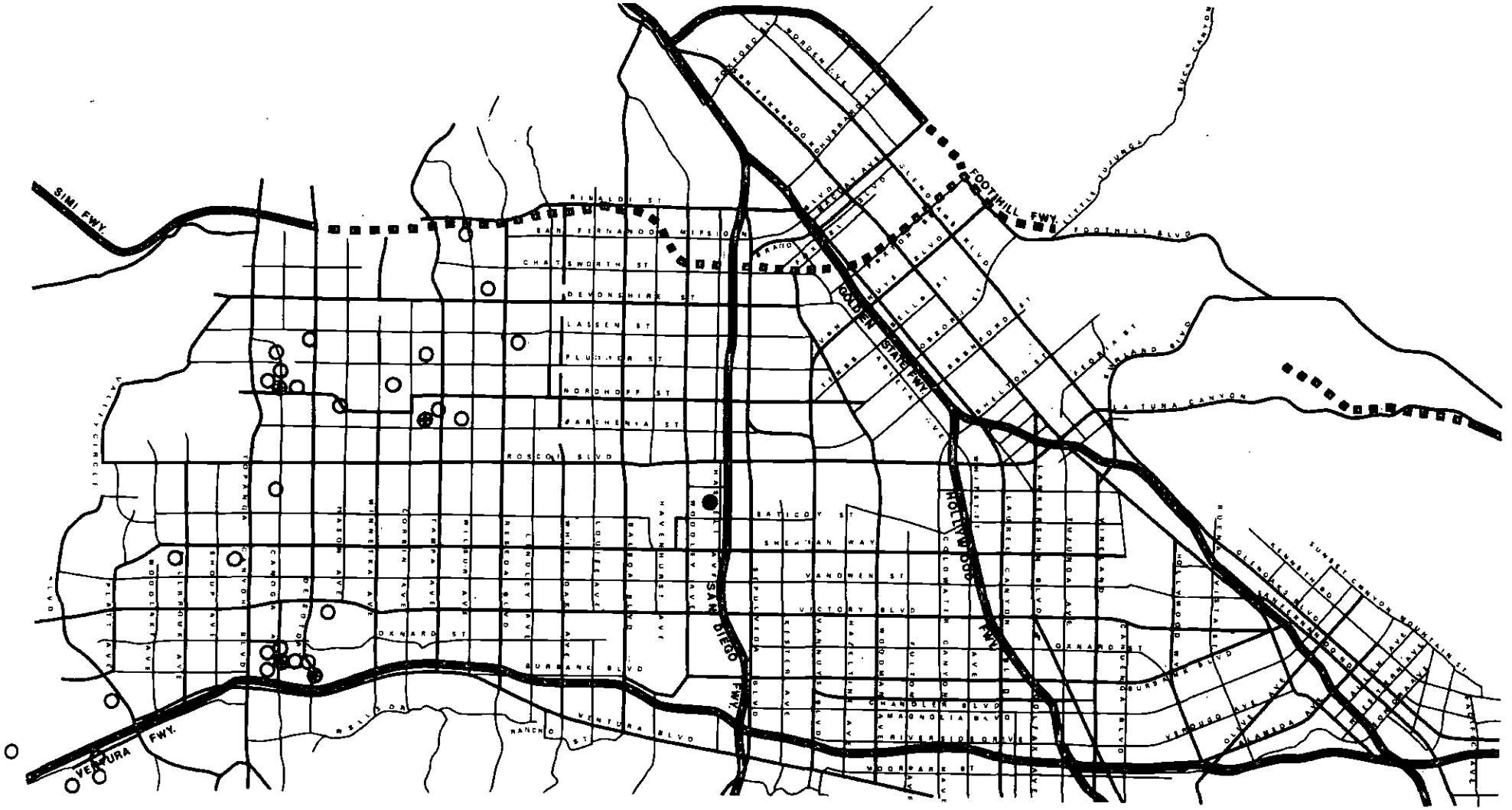

Figure: 60
POTENTIAL PROJECT SITE LOCATIONS EVALUATED

- ● **EXISTING FACILITY**
- ⊕ **PRIMARY SITE**
- ○ **UNSUITABLE SITE**

1. 15± acres located east of Topanga Canyon Boulevard and north of Nordhoff Street in the Chatsworth area. This site was rejected primarily because of the close proximity to residences surrounding it.

2. 18± acres located south of Lassen Street and east of Independent Avenue in the Chatsworth area. Lassen Street is not compatible with heavy vehicle use and the site is located too close to surrounding residences.

3. 18± acres located south of Oxnard Street and west of Canoga Avenue near the Warner Center area. This site was rejected because of the incompatibility of the proposed facility with the Warner Center plans and the Los Angeles County General Plan.

4. 13± acres east of Carlson Circle and south of Sherman Way in the Canoga Park area. The small size of the parcel and the nearby residences were the primary reasons for rejection of this site.

5. 18± acres south of Nordhoff Street and southeast of Lurline Avenue terminating in the Chatsworth area. This parcel was excluded because of its irregular shape and the limitations on access to the east and northeast due to the adjacent railroad tracks. In addition, plans have been formulated for the subdivision and sale of the parcel.

6. 40± acres east of Corbin Avenue and north of Plummer Street in the Northridge area. The proximity of surrounding residences and the potential for severe damage to the remaining property in terms of viability of utilization for other uses are the primary reasons for rejection of the site.

7. 13± acres north of Parthenia Street and west of Van Alden Avenue in the Northridge area. Reasons for rejection of this site include: small size, irregular shape, residences across the street, and need to acquire existing improvements.

8. 18± acres south of Sherman Way and west of Royer Avenue on west side of Canoga Park area. This site was rejected because of its irregular shape and its close proximity to a school, a hospital and surrounding residences; the location is also operationally inefficient.

9. 18± acres south of Lassen Street and east of Reseda Boulevard in the Northridge area. This site was rejected because of its irregular shape and close proximity to a school, a church, and residences across the street.

10. 29± acres east of Topanga Canyon Boulevard and north of Burbank Boulevard. This site was rejected because of its high cost per square foot, its incompatibility with the Warner Center plans, and its residential zoning.

11. 15± acres south of Rinaldi Boulevard and west of Wilbur Avenue in the Porter Ranch area. The inefficient operational location, small size, and irregular shape of this parcel made it unacceptable as a site for the proposed facility.

12. 19.7± acres west of Tampa Avenue and north of Parthenia Street in the Northridge area. The site is currently being developed into an industrial park and thus its utilization for the proposed project was considered impractical.

13. 20± acres west of Canoga Avenue and south of Marilla Street in the Chatsworth area. The primary reason for exclusion of this site was the severe restriction of vehicular movements to and from the east.

14. 15± acres east of Topanga Canyon Boulevard and north of the Ventura Freeway in the Woodland Hills area. Primary reasons for exclusion of this site were the high cost per square foot, its irregular shape and the incompatibility of the proposed use with the Warner Center concept.

15. 18± acres south of Victory Boulevard and east of De Soto Avenue in the Canoga Park area. This site was rejected because it is presently being utilized for agricultural purposes by Pierce College which is consistent with its zoning; in addition, the proximity of existing residential uses made it undesirable for the proposed facility.

16. 25± acres west of De Soto Avenue and north of Burbank Boulevard in the Woodland Hills area. This site was excluded from consideration because of its high cost per square foot, and the potential for severance damage to the remaining portion of the property; in addition, the site's close proximity to surrounding residences made it undesirable for the proposed project.

17. 18± acres north of Burbank Boulevard and east of Canoga Avenue in the Woodland Hills area. The site is currently under construction and the proposed bus facility land use is not compatible with the Warner Center concept.

18. 18.27± acres west of Valley Circle Boulevard and south of Canzonet Street in the Hidden Hills area. This site was excluded from consideration because of its incompatible zoning; it is also operationally unacceptable due to its remote location.

19. 82.27± acres south of Calabasas Road and west of Parkway Calabasas in the Calabasas area. This site was unacceptable for operational reasons and because it was anticipated that severance damage would be incurred by the remaining property.

20. 19.19± acres east of Parkway Calabasas and south of the Ventura Freeway in the Calabasas area. This site was excluded because of its irregular shape and its operational unacceptability.

21. 62.54± acres south of Calabasas Road and east of Parkway Calabasas in the Calabasas area. Operational unacceptability, potential for severance damage to the remaining property and incompatible zoning were the primary reasons for rejection of this site.

22. 14.67± acres west of Canoga Avenue and south of Strathern Street in the Canoga Park area. This site was too small and located in close proximity to residences and thus was excluded from consideration.

23. 29.66± acres north of Mureau Road and west of Round Meadow Road in the Hidden Hills area. The poor access roads to the site and its generally remote location made this site unacceptable for the location of the proposed facility.

24. 79± acres south of Chatsworth Street and east of Wilbur Avenue in the Granada Hills area. This site was excluded because of its close proximity to residences and zoning which was incompatible with the proposed use.

25. 18± acres west of Canoga Avenue and south of Plummer Street in the Chatsworth area. The severe restrictions on easterly and westerly vehicular movements to and from the site were primary reasons for its rejection.

After preliminary screening and evaluation, seven sites, including the existing Division 8 facility, were studied in greater detail. Initial analyses conducted for these potential locations can be summarized as follows:

1. Van Nuys Site: 5.67 acres located on the southwest corner of the intersection of Wyandotte Street and Van Nuys Boulevard (existing Division 8).

Desirable Features

-- Site is currently being used as bus maintenance facility.

-- Access to site is provided by major arterials suitable for heavy vehicle traffic.

-- If the "No Build Alternative" is selected, no relocation costs would be involved.

Undesirable Features

-- Parcel is located several miles east of the desired operational area resulting in excessive deadhead time.

-- If this site were to be utilized for the new facility, it would be necessary to acquire additional property adjoining the present parcel since the existing area is too small for the anticipated expansion (employee parking is now being leased across Van Nuys Boulevard).

-- Single-family area to north and west and hospital across Sherman Way to the south constrain expansion potential.

-- Area required for expansion is not presently offered for sale.

-- Expansion of the site involves displacement of persons and businesses since the area around the existing facility is extensively developed.

2. De Soto Site: 18 acres (28 total) located on the west side of De Soto Avenue, north of the Ventura Freeway in the Woodland Hills area.

Desirable Features

-- Location is operationally acceptable.

-- Size and shape of parcel conform to desired standards.

-- Because of the large size of the parcel, an accompanying park-and-ride facility would be an ideal joint-use of the property.

-- Parcel is planned and zoned for light industrial use.

-- Surrounding streets are compatible with heavy vehicle use.

-- Parcel located very close to a diamond interchange with the Ventura Freeway.

-- Property is presently for sale.

-- No displacement of existing improvements would be required.

Undesirable Features

-- Parcel is too large for a bus maintenance facility without accompanying park-and-ride facility.

-- Incompatible with anticipated type of light industrial land uses to be developed within the Warner Center.

-- Close proximity of single-family residential area and a junior high school across De Soto Avenue.

-- High land cost when compared with other sites ($3.00/sq. ft.).

3. Canoga Site: 18 acres (34.5 total) located on the west side of Canoga Avenue, north of the Ventura Freeway, in the Woodland Hills area.

Desirable Features

-- The location of the site is operationally acceptable.

-- The rectangular shape of the portion of the parcel desired for the facility conforms to established site criteria.

-- Because of the large size of the parcel, an accompanying park-and-ride facility would be an ideal joint use of the property.

-- Parcel located very close to an eastbound on-ramp and a westbound off-ramp of the Ventura Freeway and is accessible by major arterials.

-- Compatible surrounding existing land uses (freeway, industrial development, vacant land, etc.).

Undesirable Features

-- Parcel is too large for a bus maintenance facility without an accompanying park-and-ride facility.

-- Parcel is anticipated by Community Land Use Plan as medium and high density residential and thus the proposed use is incompatible.

-- Close proximity to planned high density residences to the north of the site.

-- Vehicular access to and from the west is poor.

-- High land cost when compared with other sites under consideration ($3.00/sq. ft.).

-- Displacement of existing farm buildings, mature trees and a small number of residents and employees would be required.

-- Property is not currently listed for sale.

4. Corbin Site: 18 acres located on the southwest corner of the intersection of Corbin Avenue and Nordhoff Street, with a small rectangular portion of the site which fronts onto Parthenia Street, in the Northridge area.

Desirable Features

-- Location of the site is operationally acceptable.

-- Parcel is of the desired size and shape.

-- Site is planned and zoned for light industrial use.

-- Width and condition of Corbin Avenue provide good access to site.

-- Compatible land uses surround site except for residential area across Corbin Avenue.

-- Property is currently for sale.

-- No displacement of existing improvements would be required.

Undesirable Features

-- Railroad crossing on Corbin Avenue, one-quarter mile to the north constrains vehicular movements. A grade separation is to be provided on Nordhoff Street in the future thus improving access to the northeast.

-- Corbin Avenue does not interchange with Ventura Freeway to the south; thus, facility traffic must execute additional turning movements.

-- Close proximity of single-family residential area across Corbin Avenue.

-- Land cost is somewhat higher than other sites under consideration ($2.50/sq. ft.).

5. Nordhoff-West Site:[1] 18 acres, located on the northwest corner of Nordhoff Street and Canoga Avenue.

Desirable Features

-- Location is operationally acceptable.

-- Size and shape of parcel will provide for most efficient use of property with respect to internal operational requirements of facility.

-- Parcel is planned and zoned for development for a light industrial use which is consistent with the proposed facility.

-- Site is served by major arterials which may be used by heavy vehicles.

-- Compatible land uses (industrial development, vacant land, etc.) surrounding site.

-- Land cost is low when compared to other sites ($1.00/sq. ft.).

-- Property is currently for sale.

-- No displacement of people or structures would be acquired; will not require removal of existing landscaping; no disruption of existing residential areas will occur during construction.

[1] Primary Nordhoff Site.

Undesirable Features

-- At-grade crossing of Nordhoff Street east of Canoga Avenue with railroad tracks constrains movements to and from the east.

-- Has potential visual impact on homes located on hill west of Topanga Canyon Boulevard (approximately 1/2- to 3/4-mile from site).

6. Nordhoff-East Site:[1] 58.66± acres located east of Canoga Avenue and north of Nordhoff Street in the Canoga Park area.

Desirable Features

-- Location is operationally acceptable.

-- Size and shape of the parcel conform to desired standards.

-- Located in an area planned and zoned for industrial use.

-- Access roads are compatible with heavy vehicle use.

-- Surrounding land uses are generally compatible except for the mobile homes to the north.

-- Low land cost when compared to other sites under consideration ($1.00/sq. ft.).

-- Property is currently for sale.

Undesirable Features

-- Development would entail a significant degree of severance damage to remaining property.

-- Would displace the only large horse ranch facilities in the San Fernando Valley area.

7. Winnetka Site: 152± acres located east of Winnetka Avenue and south of Plummer Street in the Chatsworth area.

[1] The primary site at the intersection of Canoga Avenue and Nordhoff Street is the Nordhoff-West Site located on the northwest corner of the intersection.

Desirable Features

-- Location is operationally acceptable.

-- Size and shape of parcel conform to desired site standards.

-- Parcel is located in an area planned for industrial use.

-- Property is currently for sale.

-- No displacement of existing improvements would be required.

Undesirable Features

-- The site is somewhat remotely located with respect to access to major arterial roads.

-- Vehicular movement to and from the south is impeded because there is no grade separation at the intersection of Winnetka and the SPRR crossing. However, construction of such a facility is proposed by the City of Los Angeles in the future, thus mitigating this problem.

-- Close proximity to surrounding residences.

-- Somewhat high land cost when compared with other sites ($2.50/sq. ft.).

-- Potentially significant severance damages would be experienced by the remaining property.

Based on the preceding analysis and input from the affected communities (see Section 10), the De Soto, Canoga, Corbin, and Nordhoff-West[1] Sites were designated as primary locations. Supporting information concerning the environmental impact of developing the proposed project at these four sites is presented throughout this document.

[1]The site selected for primary consideration is located on the northwest corner of the intersection of Canoga Avenue and Nordhoff Street. A site on the northeast corner of the same intersection was also considered, but subsequently rejected.

10. ORGANIZATIONS AND PERSONS CONSULTED

Beginning in March 1976, a series of informational meetings were held with local civic groups in the vicinity of the following sites:[1]

- Canoga Site
- De Soto Site
- Corbin Site
- Winnetka Site
- Nordhoff-East Site
- Nordhoff-West Site

After concluding these meetings, a series of community meetings were held. In an effort to optimize participation in these meetings, letters were sent to all levels of elected officials, residents within a 500-foot area of the sites (with the exception of the Nordhoff Sites for which letters were sent to residents within 1,200 feet), schools in the area, and all community organizations. News releases were sent to 18 newspapers and three radio stations covering the San Fernando Valley.

In all, three community meetings were held, with two sites discussed at each meeting. It was possible to discuss two sites at each meeting because, in each case, the two sites presented were of interest to the same community groups and residents.

The Canoga and De Soto Sites were presented at a meeting at Parkman Junior High School on July 13, 1976, with 53 people in attendance. The Winnetka and Corbin Sites were presented at a meeting at Chatsworth High School on July 19, 1976, with 190 people in attendance. The Nordhoff Sites were presented at a meeting, also at Chatsworth High School, on September 8, 1976, with 32 people in attendance.

The same general questions were asked at each of these meetings, with similar community concerns. The people were concerned over possible noise and odor problems associated with the activity within the facility and associated with buses on the streets. The people were also concerned with traffic congestion on local streets and the possibility of decreased property values due to the proximity of the facility.

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[1] A list of the organizations and individuals contacted is included at the end of this section.

Each of the sites also raised particular questions and areas of concern. The De Soto Site is across the street from Parkman Junior High School, and much concern for school children's safety and comfort was expressed.

The Canoga Site would be located on the Bayly Ranch Site. This ranch, while not registered officially as a historical site, is considered to have historical significance by some of the local residents.

The Corbin Site has residences across the street, and these people were very sensitive to possible air quality, noise, and traffic problems.

The Winnetka Site, while being physically remote from homes in the area, was perceived by local residents to constitute a significant environmental threat, and much opposition was declared at the community meeting.

The Nordhoff-East Site would necessitate the relocation of a portion of an existing equestrian center. This property is planned for industrial use and is for sale by the owner; however, the present users of the equestrian center protested the District's proposed project.

The Nordhoff-West Site received the least amount of opposition at these community meetings. This site is located on a vacant parcel of industrially-zoned and master-planned land.

Based on the community input received at these meetings, and other considerations, the Winnetka and Nordhoff-East Sites were dropped from further consideration. In addition, additional environmental analyses were performed with respect to: (1) possible odor impacts of bus operations, and (2) possible early-morning noise impacts related to on-site activities. These additional analyses are reflected in the Air Quality and Noise Impact Sections of this EIS.

Individuals and Organizations Contacted With Respect to the West San Fernando Valley Project

Councilman Lorenzen

Councilman Wilkinson

Representatives of Councilman Braude

Representatives of Supervisor Edelman

Representatives of Supervisor Ward

Representatives of Mayor Bradley

San Fernando Valley Mayor's Advisory Committee

Woodland Hills Chamber of Commerce

Chatsworth Chamber of Commerce

Northridge Chamber of Commerce

PLANS (Northridge)

Northridge Civic Association

San Fernando Valley Industrial Association

Associated Chambers of Commerce

Valleywide Committee on Transportation

Jess E. Williamson, Principal, Parkman Junior High School

Cal Hamilton, City of Los Angeles Planning Director

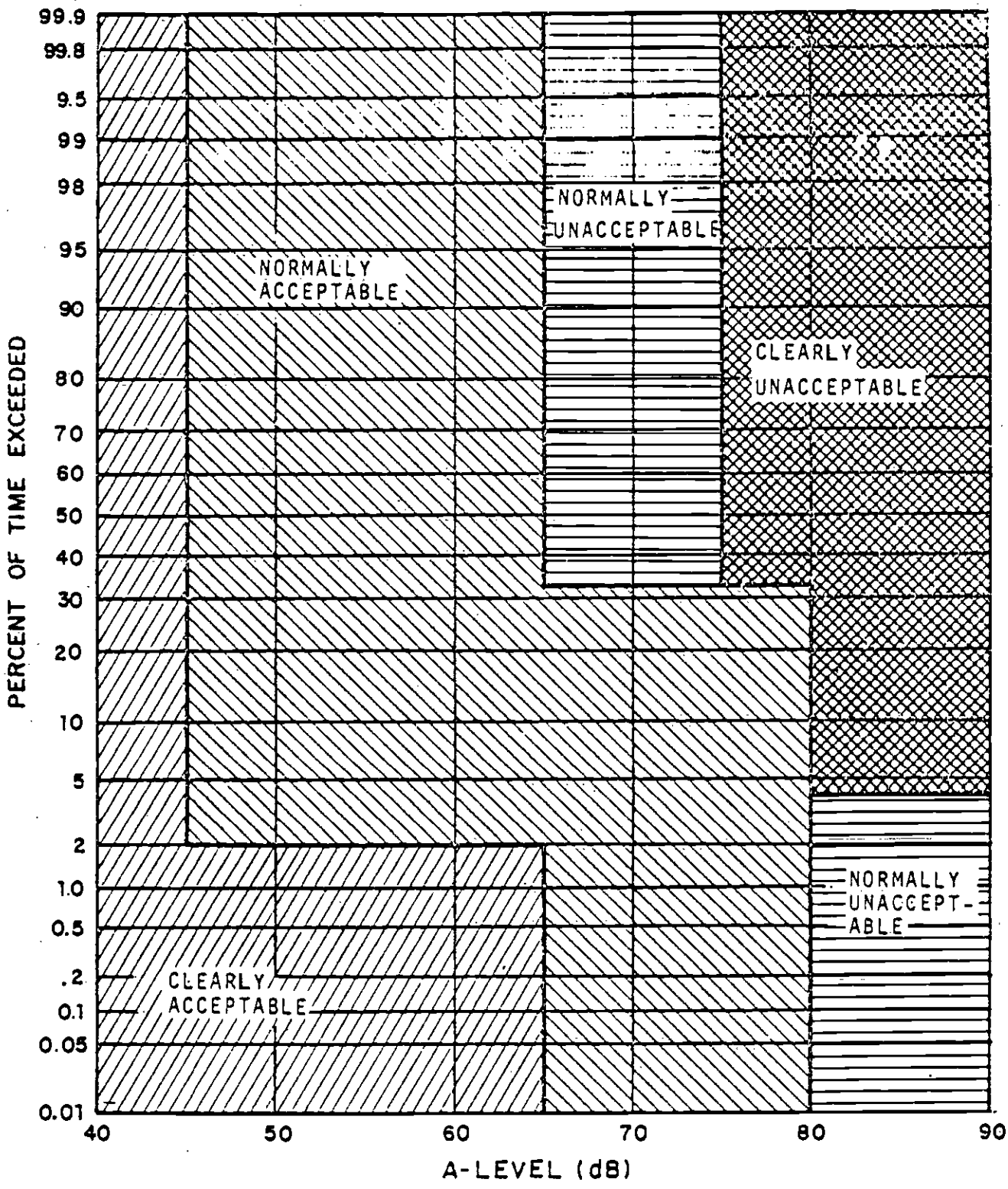
Richard Wainer, City of Los Angeles Department of Public Works, District Engineer

SCRTD Director Ruth Richter

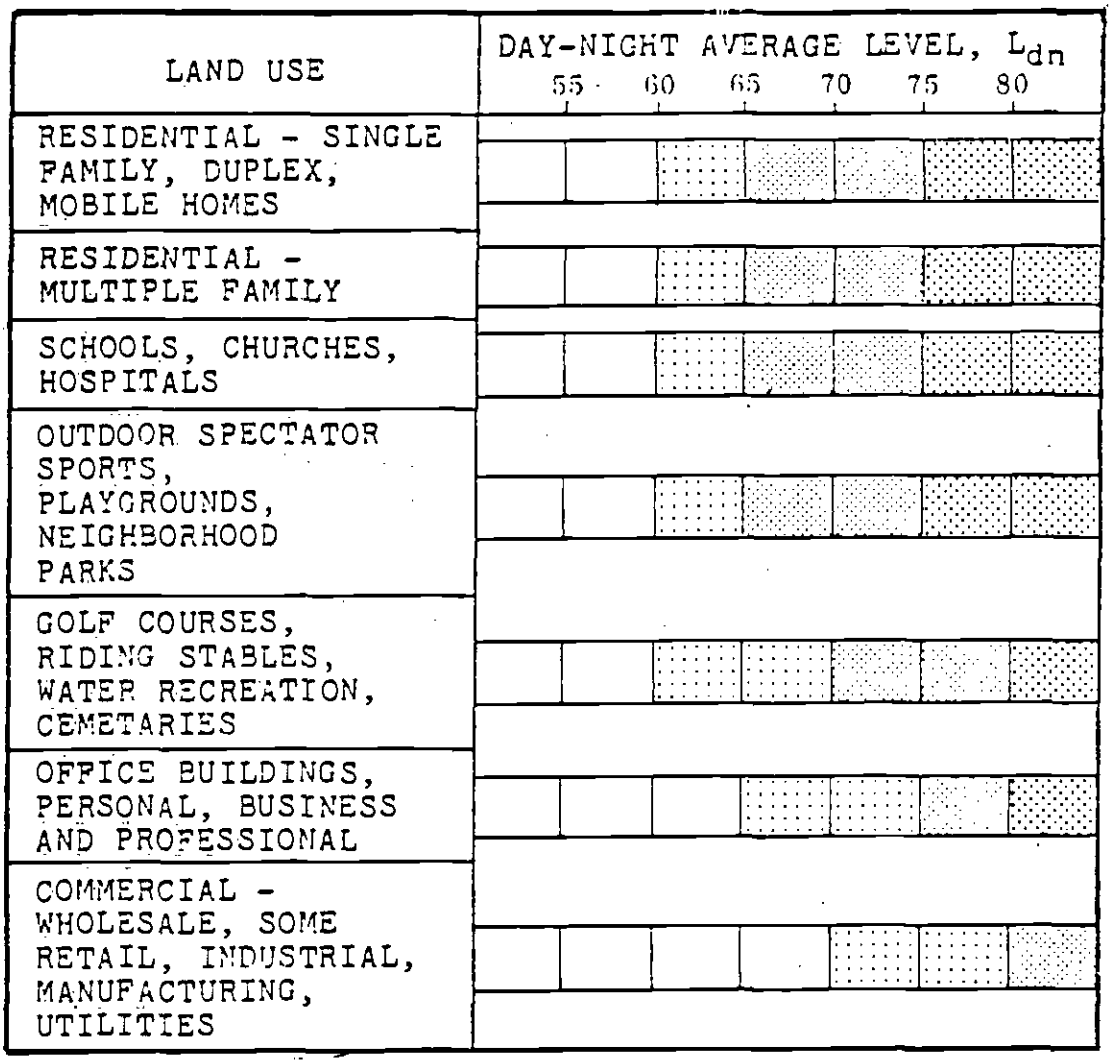
SCRTD Director Mike Lewis

APPENDIX A

NOISE CRITERIA



CURRENT HUD CRITERIA FOR NON-AIRCRAFT NOISE



LEGEND

CLEARLY ACCEPTABLE

NORMALLY ACCEPTABLE

NORMALLY UNACCEPTABLE

CLEARLY UNACCEPTABLE

GUIDELINES FOR ENVIRONMENTAL (EXTERIOR) NOISE COMPATIBLE LAND USE AS DEFINED BY THE CITY OF LOS ANGELES

APPENDIX B

ENVIRONMENTAL CHARACTERISTICS OF DIVISION 9 FACILITY (EL MONTE)

I. INTRODUCTION

The purpose of this appendix is to present a summary and compilation of environmental data taken and gathered at the Division 9 bus maintenance facility of the SCRTD. The Division 9 facility is currently built and operating in a manner after which the two proposed bus maintenance facilities in the San Fernando Valley will be modeled. It is therefore appropriate to use actual data concerning the environmental impact of the proposed facility whenever possible.

Data gathered at the El Monte bus maintenance facility which was used to project the impact of the proposed San Fernando facilities included noise, air, water and energy impacts. Each of these is discussed and quantified in the following sections.

II. NOISE CHARACTERISTICS OF THE EL MONTE BUS MAINTENANCE FACILITY

The noise characteristics of the Division 9 maintenance and storage facility was established by on-site measurements. Because of the many individual noise sources located within the facility, noise measurements were made of each piece of equipment in use (including the buses themselves) and during peak operation of the facility. On December 30, 1975, noise measurements were made in the afternoon of each piece of noisy equipment at the facility. The following equipment contributes to the noise environment at the El Monte facility:

- Vacuum facility
- Garage
  - . impact wrenches
  - . engine runups
- Bus washer
- Buses

In addition to measuring the noise from each piece of equipment, noise measurements were made during an early evening bus arrival and clean-up, during which over 100 buses entered the facility and were vacuumed and one-half of which were washed and then parked. Also, noise measurements were made during an early morning pullout during which 160 buses started up and departed towards their various routes in the morning peak hour period.

Noise Measurement Equipment

The equipment used to carry out the field measurements consisted of a sophisticated digital data acquisition system in which the time varying sound pressure level was sampled at a known rate and converted into a digital sound which was recorded on magnetic tape. The digital signal from the magnetic tape was then interfaced with a programmable calculator and analyzed statistically. This system allowed the acquisition of many more data points than could have been gathered using a hand held sound level meter. The following equipment was used to measure, record, analyze, and calibrate the system:

- Digital Acoustics Sound Level Meter DA-100
- Digital Acoustics Tape Interface DA-126
- Digital Acoustics Processor Interface DA-600
- Sony Superscope Tape Recorder TC-126
- Wang Programmable Calculator 600-14TP
- Quest Acoustic Calibrator

Noise Measurement Results

The results of the measurements taken near the Division 9 facility can be presented in several ways. First, it must be realized that noise is a time varying quantity that can best be described using statistical quantities. The measurements taken consisted of recording the A-weighted sound pressure level once per second for an appropriate period at each location. From this data the statistical distribution of the sound pressure level was determined and reported in terms of the L_{10}, L_{50}, and L_{90} noise levels. The L_{10} noise level is that level which was exceeded 10 percent of the time and is called the "peak" noise level. The L_{50} noise level is that level exceeded 50 percent of the time and is called the "median" noise level. The L_{90} noise level is that noise level exceeded 90 percent of the time and is called the "background" noise level. Also, the equivalent noise level and the noise pollution level were recorded. The equivalent noise level, or L_{eq}, is the "energy average" noise level during the measurement period (as compared to the average of sound pressure level) and the noise pollution level or L_{np}, is merely the L_{eq} with an additional correction for the variability of noise. For example, a steady noise is not as annoying as an unsteady noise and L_{np} takes this into account.

Figure A-1 is presented to indicate typical noise levels that are experienced from various noise sources for comparison with the measured noise levels near the facility. For comparison purposes, assume that the noise levels given in Figure A-1 are "peak" noise levels.

SPL (dBA)	Subjective impression	Community* (outdoor)	Home or industry* (indoor)	Relative loudness (human judgment of different sound levels)
130				32 times as loud
	Uncomfortably	Military jet aircraft takeoff with afterburner from aircraft carrier at 50 ft (130 dBA)	Oxygen torch (121 dBA)	
120				16 times as loud
	loud	Turbofan aircraft at takeoff power under flight path at 200 ft (118 dBA)	Riveting machine (110 dBA). Rock-n-roll band (108-114 dBA)	
110				8 times as loud
	Very	Same jet flyover at 1,000 ft. (103 dBA). Boeing 707, DC-8 at 6,080 ft. before landing (106 dBA). Bell J-2A helicopter at 100 ft. (100 dBA)		
100				4 times as loud
	loud	Boeing 737, DC-9 at 6,080 ft. before landing (97 dBA). Motorcycle at 25 ft. (90 dBA)	Newspaper press (97 dBA)	
90				2 times as loud
	Moderately	Car wash at 20 ft. (89 dBA). Prop. plane flyover at 1,000 ft. (88 dBA). Diesel truck, 40 mph at 50 ft. (84 dBA). Diesel train, 45 mph at 100 ft. (83 dBA). Power mower at 25 ft. (85 dBA).	Food Blender (68 dBA) Milling Machine (83 dBA) Garbage Disposal (80 dBA)	
80				Reference loudness
	loud	High urban ambient sound (80 dBA). Passenger car, 65 mph at 25 ft. (77 dBA). Freeway at 50 ft. from pavement edge 10 A.M. (76-6 dBA)	Living room music (76 dBA) TV-audio, vacuum cleaner (70 dBA)	
70				1/2 as loud
			Cash register at 10 ft (65-70 dBA). Electric typewriter at 10 ft (64 dBA). Dishwasher, rinse at 110 ft (60 dBA). Conversation (60 dBA)	
60				1/4 as loud
		Air-conditioning condensing unit at 15 ft (55 dBA). Large transformers at 100 ft (50 to 60 dBA)		
50				1/8 as loud
	Quiet	Bird calls (44 dBA). Lower-limit urban daytime ambient noise (40 dBA)		
40				1/16 as loud
	Just audible	(Scale Interrupted)		
10				
	Threshold of hearing			
0				

FIGURE A-1 NOISE LEVEL AND RELATIVE LOUDNESS OF TYPICAL NOISES IN INDOOR AND OUTDOOR ENVIRONMENTS, FROM BERANEK, L.L., NOISE AND VIBRATION CONTROL, McGRAW-HILL, N.Y. (1971)

Before the noise measurement results are presented however, it is appropriate to diagram the operation of the bus maintenance facility. A diagram of the facility and noise measurement locations is shown in Figure A-2. Buses arrive in the late afternoon, are vacuumed, half the buses are washed and then all are parked. This continues through approximately midnight. Another main activity which generates noise is the early morning pullout during which a very large number of buses start up and depart the facility. Other noise sources in the facility are located in the garage and include air impact wrenches and engine run-up tests. Noise measurements were made of each piece of equipment and noise measurements were made when the facility is operating at peak conditions both in the evening and early morning. The results of these noise measurements are presented below.

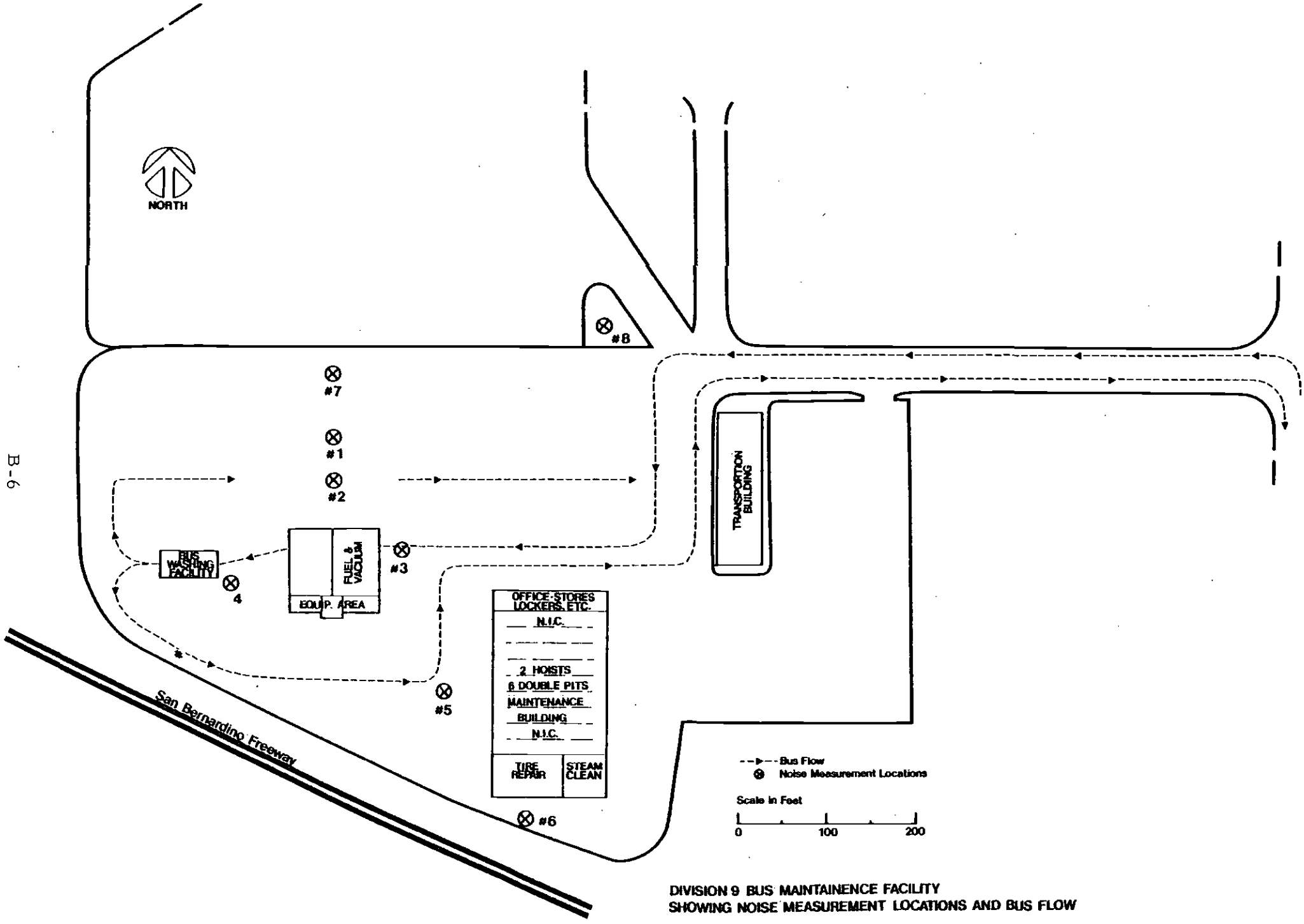
Because of different operational characteristics of each piece of equipment and the variety of noise measurements taken, the results are best presented in tabularized form. These results are given in Table 1.

For the purposes of calculating Community Noise Equivalent Levels (CNEL) or Day-Night Noise Levels (L_{DN}) the equivalent noise level (L_{eq}) shown in Table 1 is the most important quantity. Therefore, Table 1 is summarized in Table 2 for conveniently determining L_{eq} for a given piece of equipment at a known distance. Table 2A presents a similar table of peak noise levels.

Another important quantity that must be known in order to project CNEL or L_{DN} noise levels from the proposed facilities is the temporal distribution of the noise produced by the bus maintenance facility. The time distribution of each noise source is discussed below.

Engine Run-Ups

There are approximately 20 run-ups per day spaced out somewhat randomly. These are probably distributed according to the number of mechanics on duty. Shift 1 has 22 mechanics, Shift 2 has 11 mechanics and Shift 3 also has 11 mechanics. Therefore, it has been assumed that 10 engine run-ups occur during Shift 1 and 5 engine run-ups occur during each of Shifts 2 and 3.



DIVISION 9 BUS MAINTAINENCE FACILITY
SHOWING NOISE MEASUREMENT LOCATIONS AND BUS FLOW

Table 1

ULTRASYSTEMS NOISE SURVEY

Southern California Rapid Transit District
Division 9 Bus Maintenance Facility
El Monte

Measurement Sequence Number: 1A1

Equipment or Activity Measured: Background noise from San Bernardino Freeway.

Measurement Location Number: 1

Duration of Measurements: 5 minutes

Distance Between Microphone and Noise Source: 330 feet to edge of Right-of-Way

Results (dBA):

L_{10}	L_{50}	L_{90}	L_{33}	L_{eq}	L_{NP}	Peak
68	65	63	66	67.1	72.8	

Comments:

These noise levels represent background noise levels at the facility.

Measurement Sequence Number: 1A2

Equipment or Activity Measured: Vacuuming of 3 buses simultaneously.

Measurement Location Number: 1

Duration of Measurements: 5 minutes

Distance Between Microphone and Noise Source: 130 feet to nearest bus

Results (dBA):

L_{10}	L_{50}	L_{90}	L_{33}	L_{eq}	L_{NP}	Peak

Comments:

Vacuuming of buses resulted in noise levels from 67-71 dBA. Telephone buzzer sounded during this measurement so statistical results are not valid. The buzzer was recorded at 76-77 dBA. Small private aircraft overhead resulted in peak reading of 81 dBA.

Measurement Sequence Number: 1A3

Equipment or Activity Measured: 3 buses being vacuumed simultaneously

Measurement Location Number: 1

Duration of Measurement: 5 minutes

Distance Between Microphone and Noise Source: 130 feet to nearest bus

Results (dBA):

L_{10}	L_{50}	L_{90}	L_{33}	L_{eq}	L_{NP}	Peak
73	70	67	71	71.7	77.4	76

Comments:

Buses pulling into vacuum facility were recorded at 71 dBA. Start-up of engines were recorded at 76 dBA.

Table 1 (Continued)

Measurement Sequence Number: 1A4

Equipment or Activity Measured: Vacuuming of 1 bus

Measurement Location Number: 1

Duration of Measurement: 2 minutes

Distance Between Microphone and Noise Source: 130 feet to nearest bus

Results (dBA):

L_{10}	L_{50}	L_{90}	L_{33}	L_{eq}	L_{NP}	Peak
64	68	67	69	69.3	72.0	

Comments:

Measurement Sequence Number: 1A5

Equipment or Activity Measured: Pull-in of Bus to Vacuum Facility

Measurement Location Number: 2

Duration of Measurement: 1 minute

Distance Between Microphone and Noise Source: 70 feet to nearest bus

Results (dBA):

L_{10}	L_{50}	L_{90}	L_{33}	L_{eq}	L_{NP}	Peak
----------	----------	Not Applicable	----------	----------	----------	76

Comments:

Measurement Sequence Number: 1A6

Equipment or Activity Measured: Vacuuming of 1 bus as measured from Location 2

Measurement Location Number: 2

Duration of Measurement: 2 minutes

Distance Between Microphone and Noise Source: 70 feet to nearest bus

Results (dBA):

L_{10}	L_{50}	L_{90}	L_{33}	L_{eq}	L_{NP}	Peak
71	69	67	76	70.4	74.0	

Comments:

Table 1 (Continued)

Measurement Sequence Number: 1A7

Equipment or Activity Measured: Vacuuming of 2 buses as measured from Location 3

Measurement Location Number: 3

Duration of Measurement: 2 minutes

Distance Between Microphone and Noise Source: 25 feet to nearest bus

Results (dBA):

L_{10}	L_{50}	L_{90}	L_{33}	L_{eq}	L_{NP}	Peak
76	73	71	73	74.7	80.3	

Comments: Vacuum units measured at 72 to 74 dBA.

Measurement Sequence Number: 1A8

Equipment or Activity Measured: Background measurement at Location 3

Measurement Location Number: 3

Duration of Measurement: 3 minutes

Distance Between Microphone and Noise Source: 230 feet to freeway right-of-way

Results (dBA):

L_{10}	L_{50}	L_{90}	L_{33}	L_{eq}	L_{NP}	Peak
71	70	69	70	71.1	74.1	

Comments: Background noise level established by freeway noise.

Measurement Sequence Number: 1B2

Equipment or Activity Measured: Background noise at Location 4

Measurement Location Number: 4

Duration of Measurement: 5 minutes

Distance Between Microphone and Noise Source: 130 feet to freeway right-of-way

Results (dBA):

L_{10}	L_{50}	L_{90}	L_{33}	L_{eq}	L_{NP}	Peak
76	72	69	73	74.3	80.8	

Comments: Background noise established by freeway noise.

Table 1 (Continued)

Measurement Sequence Number: 1B6

Equipment or Activity Measured: Freeway background noise at Location Number 7

Measurement Location Number: 7

Duration of Measurement: 15 minutes

Distance Between Microphone and Noise Source: 375 feet to freeway right-of-way

Results (dBA):

L_{10}	L_{50}	L_{90}	L_{33}	L_{eq}	L_{NP}	Peak
70	67	65	68	69.0	74.2	

Comments:

Measurement Sequence Number: 2A

Equipment or Activity Measured: 1 hour measurement of buses pulling into vacuum facility and parking

Measurement Location Number: 7

Duration of Measurement: 1 hour

Distance Between Microphone and Noise Source: 190 feet to nearest bus in vacuum facility which is approximate center of activity

Results (dBA):

	L_{10}	L_{50}	L_{90}	L_{33}	L_{eq}	L_{NP}	Peak
after 15 minutes	71	68	66	69	70.3	75.7	
after 30 minutes	70	68	66	68	69.7	75.9	
after 45 minutes	70	67	64	68	68.9	75.7	
after 60 minutes	70	67	63	68	68.5	75.8	

Comments: Note that measurement sequence 1B6 revealed these results are very near background levels.

Measurement Sequence Number: 3A

Equipment or Activity Measured: 1 hour measurements taken during early morning bus pull-out (peak hour)

Measurement Location Number: 8

Duration of Measurement: 1 hour

Distance Between Microphone and Noise Source: 120 feet from center of activity (intersection near transportation building)

Results (dBA):

L_{10}	L_{50}	L_{90}	L_{33}	L_{eq}	L_{NP}	Peak
74	69	66	71	72.1	80.7	

Comments: Note that during this hour (5:40 to 6:40 am) over 160 buses started up and left the site.

Table 1 (Continued)

Measurement Sequence Number: 1B3

Equipment or Activity Measured: Vacuuming of 1 bus as measured from Location 4

Measurement Location Number: 4

Duration of Measurement: 2 minutes

Distance Between Microphone and Noise Source: 80 feet to nearest bus

Results (dBA):

L_{10}	L_{50}	L_{90}	L_{33}	L_{eq}	L_{NP}	Peak
75	73	71	74	74.5	79.6	

Comments: Note background was very high and these results may be biased by the influence of the freeway.

Measurement Sequence Number: 1B4

Equipment or Activity Measured: Engine run-ups of 2 buses (this is part of regular maintenance procedures)

Measurement Location Number: 5

Duration of Measurement: 38 seconds

Distance Between Microphone and Noise Source: 80 feet to nearest bus

Results (dBA):

L_{10}	L_{50}	L_{90}	L_{33}	L_{eq}	L_{NP}	Peak
88	85	76	87	85.9	99.4	

Comments: Run-up noise from 81 to 89 dBA.

Measurement Sequence Number: 1B5

Equipment or Activity Measured: Tire change using air impact wrench

Measurement Location Number: 6

Duration of Measurement: 35 seconds

Distance Between Microphone and Noise Source: 45 feet to tire being changed

Results (dBA):

L_{10}	L_{50}	L_{90}	L_{33}	L_{eq}	L_{NP}	Peak
83	79	77	80	81.2	86.7	

Comments: Impact wrench was recorded at about 84 dBA at 45 feet.

Table 2

EQUIVALENT NOISE LEVEL SUMMARY

Equipment or Operation	Distance Between Microphone and Noise Source (feet)	Equivalent Noise Level (dBA)	Equivalent Noise Level Corrected to 100 Feet (dBA)	Duration of Each Event (minutes)
Simultaneously vacuuming 3 buses	130	72	74	(a)
Engine Run-up	80	86	84	.63
Tire Change	45	81	74	.58
Major bus vacuuming operation in evening	190	70	76	(a)
Major morning bus pull-out	120	72	74	(a)

(a) - These events occur as scheduled and as shown in Table 3.

Table 2A

PEAK NOISE LEVEL SUMMARY

Equipment or Operation	Distance Between Microphone and Noise Source (feet)	Peak Noise Level (dBA)	Peak Noise Level Corrected to 100 Feet (dBA)	Duration of Each Event (minutes)
Simultaneously vacuuming 3 buses	130	73	75	(a)
Engine Run-up	80	88	86	.63
Tire Change	45	84	77	.58
Major bus vacuuming operation in evening	190	71	77	(a)

(a) - These events occur as scheduled and as shown in Table 3.

Tire Changes

Approximately 20 tire changes occur per day between the hours of 4:00 AM and 4:00 PM. This work is done by contract. It can be assumed that these tire changes are spaced out evenly during the day.

Fueling and Washing

Table 3 shows the time distribution of fueling and vacuuming operations. Please note that the buses are fueled and vacuumed daily but each bus is washed only every other day.

Table 3

BUS MAINTENANCE FACILITY
24-HOUR ACTIVITY DISTRIBUTION
FOR VACUUM AND FUELING

	Buses		Buses	
	In	Out	Fuel & Vacuum	Washer
12:00- 1:00 a.m.	4		3	1
1:00- 2:00 a.m.	7		4	2
2:00- 3:00 a.m.	4		4	2
3:00- 4:00 a.m.			4	2
4:00- 5:00 a.m.		18	4	2
5:00- 6:00 a.m.		93	4	2
6:00- 7:00 a.m.	12	110	4	2
7:00- 8:00 a.m.	12	20	4	2
8:00- 9:00 a.m.	49	3	4	2
9:00-10:00 a.m.	19		4	2
10:00-11:00 a.m.	4		4	2
11:00-12:00 (noon)	4		4	2
12:00- 1:00 p.m.			4	2
1:00- 2:00 p.m.		5	4	2
2:00- 3:00 p.m.		18	4	2
3:00- 4:00 p.m.		41	4	2
4:00- 5:00 p.m.		28	4	2
5:00- 6:00 p.m.	46	10	18	9
6:00- 7:00 p.m.	91	15	36	18
7:00- 8:00 p.m.	50	2	36	18
8:00- 9:00 p.m.	17		36	18
9:00-10:00 p.m.	14		36	18
10:00-11:00 p.m.	8		18	9
11:00-12:00 (midnight)	3		3	2

NOTES:

1 - There are approximately 20 engine run-ups per day. Assume 10 run-ups between 8:00 a.m. and 4:00 p.m., 5 run-ups between 4:00 p.m. and 12:00 (midnight), and 5 run-ups between 12:00 (midnight) and 8:00 a.m.

2 - There are approximately 20 tire changes per day between the hours of 4:00 a.m. and 4:00 p.m.

III. METHODOLOGY USED TO PROJECT DAY-NIGHT NOISE LEVELS FROM THE BUS MAINTENANCE FACILITY

The Day-Night Noise Level (L_{DN}) is a time weighted annual average noise used to reflect community response to noise. With this noise scale nighttime noise is considered more annoying than daytime noise by a factor of 10. L_{DN} is a summation of Hourly Noise Levels (HNL's) with a nighttime weighting of 10 and is mathematically defined as follows:

$$\text{Daily } L_{DN} = 10 \log \frac{1}{24} \left[\sum_{\text{day}} \text{antilog} \frac{HNLD}{10} + 10 \sum_{\text{night}} \text{antilog} \frac{HNLN}{10} \right]$$

and

$$\text{Annual } L_{DN} = 10 \log \left[\frac{1}{365} \sum \text{antilog} \left(\frac{L_{DNi}}{10} \right) \right]$$

where

HNLD are the hourly noise levels for the period 0700-2200 hours

HNLN are the hourly noise levels for the period 2200-0700 hours

and

L_{DNi} is the daily L_{DN} for each day in a continuous 12-month period.

The hourly noise levels (HNL's) are the energy average noise level during a continuous 1 hour period and are equivalent to a 1 hour L_{eq} (equivalent Noise Level).

In order to project an hourly L_{eq} for the operation of the projected bus maintenance facility it was necessary to develop a methodology for adding L_{eq}'s for not equal averaging times and normalizing to 1 hour. Then, knowing the L_{eq} and operating duration of each piece of equipment within the bus maintenance facility and the ambient noise level without the facility, then the hourly L_{eq} can be calculated from the following equation:

$$L_{eq_{1 \text{ hour}}} = 10 \log \left[\sum_{i=1}^{n} t_i \text{ antilog} \frac{L_{eq_{ti}}}{10} \right]$$

where

t_i = fractional part of 1 hour that source is is operating and has an equivalent noise level averaged over period t_i of $L_{eq_{ti}}$

and

n = number of noise sources + 1*

The final result then in L_{DN} for the Maintenance Facility is that at approximately 500 feet from the vacuum-garage area the L_{DN} value is 63 L_{DN} assuming no barrier effects. This impact is discussed in more detail in the Noise Impact Section of this EIS.

* The additional period is included for considering the ambient noise and period of the hour for which no noise sources are operating.

IV. AIR QUALITY IMPACTS OF THE EL MONTE BUS MAINTENANCE FACILITY

Sources of air pollutant emissions at the El Monte Bus Maintenance Facility include stationary source emissions as well as mobile source emissions. Emissions associated with stationary sources include space heating and cooling of buildings, water heating, electrical usage increase, bus vacuum facility and fuel storage on the site. In addition, emissions from the buses idling at the site before existing onto adjacent streets are treated as a stationary point source. Mobile source emissions include the usage of 300 buses and approximately 300 employee automobiles to and from the facility.

Emissions from these sources are based on the following usage rates:

Natural gas: 6180 cubic feet per month = 206 cubic feet per day

Electrical energy: 4,248 kilowatt hours per day

Employee autos: (300 autos) (2 trips per day) (11 miles per trip) = 6600 vehicle miles traveled

Buses: 219,761 gallons per month diesel fuel consumed

The total emissions resulting from all sources is described in detail in the impacts section for each of the proposed sites.

Bus Vacuum Facility Emissions

Although particulate matter is discharged into the atmosphere from the vacuum facility, the facility is exempt from current Los Angeles County APCD Rules and Regulations. Exhibit A-1 is a letter to the SCRTD from the Los Angeles County APCD indicating the APCD's position regarding the vacuum facility. The letter in Exhibit A-2 describes efforts by the APCD to quantitatively measure the particulate emissions from the facility. However, as indicated in the letter, the tests could not be made due to problems with the test ductwork. Finally, Exhibit A-3 indicates the SCRTD's decision to discontinue any further attempt to monitor the system, since there did not appear to be any significant reason to continue.

EXHIBIT A-1

COUNTY OF LOS ANGELES

434 SOUTH SAN PEDRO STREET / LOS ANGELES, CALIFORNIA 90013

ROBERT G. LUNCHE
AIR POLLUTION CONTROL OFFICER

JUN 1 1 1975

June 10, 1975

Mr. Sam Black, Chief Engineer
Southern California Rapid Transit District
1060 S. Broadway, Room 520
Los Angeles, California 90015

Dear Mr. Black:

In answer to your request, I am sending you this letter to explain our position in detail in regard to running tests of the bus vacuuming system at El Monte.

As you know, both Mr. John Spinks and I visited the facilities and were in agreement that a rigid stack extension of at least 30 feet would be necessary in order to reduce the extreme turbulent flow pattern of the gases being discharged from the cyclone of the cleaning system. However, you had wished to try an alternative extension consisting of a thin flexible plastic circular tube, which Mr. Spinks and I thought would be totally inadequate to cope with the conditions of flow. We went along with this suggestion since the test is not required for District purposes, but was to be conducted as a courtesy to the RTD.

On the early evening of June 3, two of our test engineers immediately saw that there was no hope of conducting any kind of test with the wildly flapping thin plastic tube, which was ready to tear off from its supports, even with only two blowers in operation. Any testing was obviously impossible. We must have a rigid duct system capable of containing the gas flow for purposes of representative sampling. Unless this is done, we do not feel that we can expend time and manpower on a test that would not produce any useful data.

Neither Mr. Spinks nor I, on casual observation of the present outlet opening, could see any visible opacity while two buses were being cleaned. Whether this would be also true when four buses are being cleaned is a matter of conjecture. Perhaps a request could be made through our Enforcement Division to have one of our experienced inspectors make opacity observations during your peak cleaning periods. Without a source test, I cannot make any prediction as to whether Rule 52 standards would be met, since there is no correlation between opacity and dust concentration.

EXHIBIT A-1 (Continued)

My comments above might furnish you some foundation for any further action you wish to pursue on this matter. We will be willing to run a Rule 52 test on this equipment whenever a sturdy and safe stack extension is installed.

Very truly yours,

Robert G. Lunche
Air Pollution Control Officer

Howard DeVorkin
Supervising Air Pollution Engineer III
Engineering Division

HD:dk

EXHIBIT A-2

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

1060 SOUTH BROADWAY
LOS ANGELES

DO NOT INCLUDE MORE THAN ONE SUBJECT IN THIS COMMUNICATION

DATE: June 13, 1975

TO: Sam Black

FROM: Elmo Douglass E.D.

SUBJECT: Observation of Interior Bus Cleaning Vacuum System @ Division 9 - Maintenance Facility

On Tuesday June 3, 1975, Robert Rambo, Senior Air Pollution Engineer, Los Angeles County APCD, Joe Bazes, Air Pollution Engineer, Los Angeles County APCD, Ervin Anderes, Chief Engineer, Washtronics, and Jack Davis, Senior Construction Engineer SCRTD met with me at the new Division 9 Facilities to observe and test the exhaust being emitted from the new cyclone installed under Contract 02-50-305-24.

The purpose of the meeting was to measure quantitatively the particles of dust being exhausted into the atmosphere and to determine if the volume of pollutants discharge were within the allowable limits of The APCD regulations. Difficulties were encountered in the ductwork installed for the test, that is turbulent rather than laminer flow, making testing impossible.

The party did, however, observe the cleaning of as many as four buses @ one time (maximum capacity of system) and there were no visible particles being exhausted from the cyclone. The buses used for the testing were ones that had been serviced that date and contained litter and dust discharged by patrons during the days run. No effort was made to be selective of the coaches tested nor was any action taken to induce or reduce the litter and dirt in the coach prior to using the vacuum system. Finally, this system has been used since 27 May 1975, in the cleaning of approximately 200 coaches/day. I have not seen any visible emission nor have I heard comments from others relative to same.

RECEIVED
JUN 17 1975
SCRTD
OFFICE OF CHIEF ENGINEER
BUS FACILITIES

EXHIBIT A-3

1900 SOUTH BROADWAY • LOS ANGELES, CALIFORNIA 90015 • TELEPHONE (213) 28[illegible]

June 13, 1975

Mr. Robert G. Lunche
Air Pollution Control Officer
Air Pollution Control District
County of Los Angeles
434 South San Pedro Street
Los Angeles, California 90013

Attn: Mr. Howard DeVorkin
Engineering Division

Subject: Emission Testing - Division 9
Bus Vacuum Cleaning Equipment

Dear Mr. DeVorkin:

I would like to take this opportunity to express the District's appreciation for your efforts in connection with the test of emissions from the new bus vacuum cleaning equipment located at the El Monte Bus Yard.

We find it necessary to cancel any further testing in light of the expense involved to construct a rigid duct long enough to dispel any turbulence.

In light of your letter of June 10, 1975, and our own continual visual checking for emissions, the amount of particulate matter is so miniscule that no degradation of the air quality in the vicinity is apparent. If in the future there appears to be a need for further testing, I will be in touch with you.

Sincerely,

Samuel M. Black
Chief Engineer

bcc: Davis
Douglass

Rule 65. Gasoline Transfer Into Stationary Storage Containers.

A person shall not transfer or permit the transfer of gasoline from any tank truck or trailer into any stationary storage container with a capacity of more than 250 gallons unless such container is provided with a submerged fill pipe and unless such transfer is made under one of the following conditions:

a. The displaced gasoline vapors or gases are processed by a system that includes (1) a vapor-tight liquid fill connector, (2) a vapor-tight vapor return line to the delivery vessel of at least 3 inches nominal diameter, (3) a tank vent line sized in accordance with National Fire Protection Association Pamphlet 30, 1972 edition, paragraph 2252, and equipped with a vent discharge opening of 0.5-inch diameter or a device approved by the Air

Pollution Control Officer which will insure that the vapor return line is connected before gasoline can be transferred into the container, and (4) the vapor-laden delivery vessel being refilled only at facilities equipped with vapor recovery or disposal systems described in Rule 61. The vapor return system shall collect at least 90 per cent by volume of the hydrocarbon vapors vented during filling of the stationary storage container.

b. The displaced gasoline vapors or gases are processed by a system approved by the Air Pollution Control Officer and with a minimum recovery efficiency at least equivalent to that of the system described in a. above.

c. Transfer is made to a storage container equipped as described in Rule 56a, b or c.

The provisions of this rule shall not apply to the transfer of gasoline into any container having a capacity of less than 2000 gallons which was installed prior to May 1, 1973, or to any underground storage container installed prior to January 1, 1965, where the fill line between the fill connection and container is offset.

The provisions of this rule shall not apply to any stationary container which is used primarily for the fueling of implements of husbandry, as such vehicles are defined in Division 16 (Section 36000, et seq.) of the California Vehicle Code.

A person shall not install any gasoline storage container with a capacity of more that 250 gallons unless such container is equipped as described in this rule.

For the purpose of this rule, the term "gasoline" is defined as any petroleum distillate having a Reid vapor pressure of 4 pounds or greater.

For the purpose of this rule, the term "submerged fill pipe" is defined

as any fill pipe the discharge opening of which is entirely submerged when the liquid level is 6 inches above the bottom of the container. "Submerged fill pipe" when applied to a container which is loaded from the side is defined as any fill pipe the discharge opening of which is entirely submerged when the liquid level is 18 inches above the bottom of the container.

This rule shall be effective:

1. On May 1, 1975, for all containers of 6,000-gallon capacity or greater.
2. On May 1, 1976, for all containers of less than 6,000-gallon capacity.

Schedule of increments of progress for all sources receiving gasoline into stationary storage containers of 6,000-gallon capacity or greater:

1. September 15, 1974 - Submit to the Air Pollution Control Officer a final control plan which describes at a minimum the steps that will be taken by the source to achieve compliance with the provisions of this rule.
2. November 15, 1974 - Negotiate and sign all necessary contracts for emission control systems, or issue orders for the purchase of

component parts to accomplish emission control.

3. December 1, 1974 - Initiate on-site construction or installation of emission control equipment.
4. April 1, 1975 - Complete on-site construction or installation of emission control equipment.
5. May 1, 1975 - Assure final compliance with the provisions of this rule.

Schedule of increments of progress for all sources receiving gasoline into stationary storage containers of less than 6,000-gallon capacity:

1. January 6, 1975 - Submit to the Air Pollution Control Officer a final control plan which describes at a minumum the steps that will be taken by the source to achieve compliance with the provisions of this rule.
2. April 1, 1975 - Negotiate and sign all necessary contracts for emission control systems, or issue orders for the purchase of component parts to accomplish emission control.
3. June 1, 1975 - Initiate on-site construction or installation of emission control equipment.
4. February 1, 1976 - Complete on-site construction or installation of emission control equipment.
5. May 1, 1976 - Assure final compliance with the provisions of this rule.

Rule 65.1. Gasoline Transfer Into Vehicle Fuel Tanks.

(a) A person shall not transfer or permit the transfer of gasoline into any motor vehicle fuel tank of greater than 5 gallons capacity unless such transfer is made through a fill nozzle which:

(1) Is designed and operated to prevent the discharge of gasoline vapors to the atmosphere from the vehicle filler neck and the fill nozzle.

(2) Directs displaced hydrocarbon vapors through the fill nozzle to a system that will prevent at least 90 per cent by volume of such hydrocarbon vapors from entering the atmosphere; and

(3) Prevents fuel tank overfills and spillage on fill nozzle disconnect.

Vapor return and/or vapor recovery systems used to comply with the provisions of this rule shall comply with all safety, fire, weights and measures, and other applicable codes and/or regulations. All fill nozzles and vapor recovery equipment installed must be of a type approved for the purpose by a nationally recognized fire and safety testing organization.

(b) If it is demonstrated to the satisfaction of the Air Pollution Control Officer that it is impractical to comply with the provisions of this rule as a result of vehicle fill neck configuration, location, or other design features for a class of vehicle in existence or in production on June 1, 1976, the provisions of this rule shall not apply to such vehicles. However, in no case shall such configuration exempt any gasoline dispensing facility from installing and using in the most effective manner a system required by this rule.

(c) The provisions of this rule shall not apply to the transfer of gasoline from any container having a capacity of 250 gallons or less, nor from any mobile container used exclusively for refueling of motor vehicles.

(d) The provisions of this rule shall not apply to the transfer of gasoline from any container having a capacity of less than 2000 gallons which was installed prior to May 1, 1973, nor from any underground storage container installed prior to January 1, 1965, where the fill line between the fill connection and container is offset.

(e) The provisions of this rule shall not apply to the fueling of implements of husbandry, as such vehicles are defined in Division 16 (Section 36000, et seq.) of the California Vehicle Code.

(f) For the purpose of this rule, the term "gasoline" is defined as any petroleum distillate having a Reid vapor pressure of 4 pounds or greater.

(g) This rule shall be effective:

(1) On June 1, 1976, for the transfer of gasoline from all containers of 6000-gallon capacity or greater.

(2) On June 1, 1977, for the transfer of gasoline from all containers of less than 6000-gallon capacity.

(h) Schedule of increments of progress for all sources transferring gasoline into motor vehicle fuel tanks from containers of 6000-gallon capacity or greater:

(1) January 6, 1975 - Submit to the Air Pollution Control Officer a final control plan which describes at a minimum the steps that will be taken by the source to achieve compliance with the provisions of paragraph (a) of this rule.

(2) March 1, 1975 - Commence issuing purchase orders and contracts for component parts and installation of control systems to accomplish the final control plan submitted in accordance with paragraph h (1) above.

(3) May 1, 1975 - Initiate on-site construction or installation of emission control equipment.

(4) April 1, 1976 - Complete on-site construction or installation of emission control equipment.

(5) June 1, 1976 - Assure final compliance with the provisions of paragraph (a) of this rule.

(i) Schedule of increments of progress for all sources transferring gasoline into motor vehicle fuel tanks from containers of less than 6000-gallon capacity:

(1) June 1, 1975 - Submit to the Air Pollution Control Officer a final control plan which describes at a minimum the steps that will be taken by the source to achieve compliance with the provisions of paragraph (a) of this rule.

(2) November 1, 1975 - Commence issuing purchase orders and contracts for component parts and installation of control systems to accomplish the final control plan submitted in accordance with paragraph (i) (1) above.

(3) January 2, 1976 - Initiate on-site construction or installation of emission control equipment.

(4) April 1, 1977 - Complete on-site construction or installation of emission control equipment.

(5) June 1, 1977 - Assure final compliance with the provisions of paragraph (a) of this rule.

Fuel Storage Task Emissions

The Bus Maintenance Yard contains several tanks for diesel fuel and gasoline storage. APCD Regulations regarding the transfer of such fuel into stationary storage containers is shown in Exhibit A-4, and for transfer into vehicle fuel tanks in Exhibit A-5.

V. ENERGY CONSUMPTION OF THE EL MONTE BUS MAINTENANCE FACILITY

The following energy consumption information was gathered by reviewing the utility bills for the facility during the past 6 months. This is the only data available since the facility has only been operating for a short period of time.

Natural Gas

Natural gas is used at the bus maintenance for space heating and water heating. For the months of July through November 1975 the facility used the following amounts of natural gas:

Month	Natural Gas Consumption (cubic feet)
July	1,357
August	1,167
September	1,370
October	1,552
November	6,180

Electricity

Electricity is used at the facility for lighting and operation of facilities mechanical equipment such as vacuums, air compressors, bus washers, pumps, etc. The following electricity consumption was reported for July through November 1975:

Month	Electricity Consumption (kilowatt hours)
July	117,360
August	113,760
September	127,440
October	115,680
November	125,280

Based on the above consumption data annual consumption rates can be projected. Natural gas usage appear to have a significant seasonal variation that should be considered when making an annual projection. Using July,

August, September, and October to establish a summer monthly usage average of 1,361 cubic feet and then using a winter monthly average of 6,180 cubic feet, the annual projection becomes 45,249 cubic feet of natural gas per year.

Electrical consumption does not appear to show much seasonal variation so an annual consumption rate is much easier to project. The annual consumption rate based on monthly average consumption rate of 119,904 kilowatt hours is 1,438,848 kilowatt hours per year. The bulk of this usage appears to be associated with heavy-duty motor which operate the blowers for the vacuum facility, the compactor, air compressors, bus washer and other assorted machinery.

Possible energy conservation measures and assessment of this energy usage is discussed in the Energy Impact Section of this EIS.

VI. WATER RESOURCES AT THE EL MONTE BUS MAINTENANCE FACILITY

Water Consumption

The main use of water at the bus maintenance facility is in restrooms, maintenance and the bus washer. It should be pointed out that the bus washer recirculates its water and introduces new water into the system for the final rinse. The following water consumption was reported for the period from July to November 1975.

Month	Water Consumption (cubic feet)
June-August	3,824
August-October	1,738

For the proposed facility, the higher of the two consumption rates (3,824 cubic feet) was assumed in order to show possible "worst case" effects.

Water Quality

The bus washer detergent used by the SCRTD is a biodegradable detergent called "Techwash Wax." The 300 buses are washed every other day, with 2 1/2 ounces of the detergent being used for each bus. This quantity amounts to approximately 703 pounds of detergent per month or 23 pounds per day. Table W-1 shows the results of a chemical analysis of this detergent which will also be used at the proposed facility.

TABLE W-1

CHEMICAL ANALYSIS OF "TECHWASH WAX" DETERGENT
TO BE USED BY SCRTD

Test Results

Attribute	Liquid Soap
A. pH value at 25°c (As per recommended dilution)	10.4
B. Moisture and Volatile matter at 105°c	65.8%
C. Alcohol-Soluble matter	24.4%
D. Alcohol-Insoluble matter	15.1%
E. Metallic Elements	
Sodium	6.5%
Potassium	49.0%
Phosphorus	2.8%
Tin	0.15%
Silicon	0.22%
Lead	0.16%
F. Appearance and Observation	
Liquid Soap	
1. Viscous liquid	
2. Soapy in touch	
3. Does not irritate skin	
4. Miscible with water in any proportion	
5. Produces rich lather with water	

SOURCE: United States Testing Company, Inc., for Southern California Rapid Transit District.

VII. SUMMARY

The air, noise, water and energy characteristics of the Division 9 Bus Maintenance Facility in El Monte have been gathered and compiled for use in assessing the impact of two more maintenance facilities to be located in the San Fernando Valley. In this section an attempt is made to summarize the environmental characteristics of the El Monte Facility without attempting to assess the impact of the Division 9 operation. The impact assessments of the proposed bus maintenance facilities are presented in the respective impact sections of this EIS.

The noise characteristics of the El Monte Facility are typical of an automobile repair shop or service station. Noise sources include air compressors, blowers, impact wrenches, air hoses, and other machinery. The most significant differences between the bus maintenance facility and a typical auto repair shop is the large bus parking area that surrounds the maintenance building thus providing a substantial buffer zone between the work area and surrounding land-uses. Another unique noise characteristic that should be pointed out is that SCRTD buses are much quieter than heavy-duty trucks that one may tend to compare the buses with. In general, the buffer zone surrounding the facilities work areas is a beneficial characteristic that will mitigate potential noise impacts.

Air pollution generated by the operation of the bus maintenance facility will be primarily due to the emissions from buses idling and operating at the site. Other stationary sources include solvent and fuel evaporative emissions and particulate emissions. Particulate emissions result from the vacuum facility exhaust. These stationary sources have been reviewed and inspected by the Los Angeles County Air Pollution Control District and are in compliance with the appropriate regulations.

Energy consumption at the facility is typical of industrial land-uses, Natural gas is used for space heating and water heating but is used

in minimal amounts. Electricity is used in substantial amounts for the operation of heavy machinery and lighting. Mitigation measures and impacts are discussed in the Energy Impact Section of this EIS.

The impact of the bus maintenance facility on water resources is limited to increased runoff coefficients and increased loading on wastewater treatment facilities. The bus washer used recirculates its water in an effort to conserve water. Only the final rinse of the buses is done with fresh water. The soap used to wash the buses is biodegradable and used sparingly.

These environmental characteristics are discussed and assessed in more detail in the respective impact section of this EIS.