SECTION IV
ENVIRONMENTAL IMPACT ANALYSIS

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OVERVIEW

The ADP EIR is both a project EIR and a Program EIR. A Project EIR examines the environmental effects of a specific development program. A Program EIR examines actions related to one large project such as a specific plan.

A specific development program has been planned for Phase I and therefore, is being analyzed as a project EIR. The Buildout Phase is the completion or buildout of the Alameda District Plan. This phase allows for a comprehensive consideration of the reasonably anticipated scope of the project and will serve as the base document, should any future environmental review be necessary for development of the future projects. Therefore, the Buildout Phase is being analyzed as a Program EIR.

EIR FORMAT

The format of the Environmental Impact Analysis section of this EIR has been developed to logically take the reader through the various aspects of the analysis. The components of this section are as follows:

- Environmental Setting
- Environmental Impact
  - Threshold of Significance
  - Phase I Impacts
  - Buildout Phase Impacts
  - Summary of Phase I Impacts
  - Summary of Buildout Phase Impacts
- Cumulative Impacts
- Mitigation Measures
  - Phase I
  - Buildout Phase
- Adverse Effects

Environmental Setting

This section describes the existing and historical environment of the project site and the vicinity of the project site before the commencement of the project, from a local and a regional perspective.

Environmental Impact

This section describes the project and focuses on the possible significant environmental impacts associated with the project. Where appropriate, environmental impacts analyzed are separated into Phase I impacts and Buildout Phase impacts. The Phase I program is analyzed as a development program with specific building locations, heights, massing footprints, and overall configuration within the ADP. The Buildout Phase is analyzed as an overall plan reflecting the Specific Plan guidelines and policies such as land use restrictions, height limits, and Floor Area Ratio (FAR) limits. In some instances where Buildout Phase impacts do not differ substantially from Phase I impacts, such as Archeological Resources, Paleontological Resources, Geologic Hazards, Grading, and Risk-of-Upset, a combined analysis is provided. Furthermore, many of the individual impact analyses are based on technical studies that have been compiled in a Technical Studies Appendices. The Technical Studies Appendices are on file with the Community Planning Bureau, City of Los Angeles Planning Department, located at 221 South Figueroa Street, Suite 310, Los Angeles, California 90012.

To assist the reader, a subsection titled Threshold of Significance, is provided at the beginning of the Environmental Impact section. The project is analyzed with respect to the stated threshold in order to make a specific finding of no impact, less than significant impact, or significant impact.

Following the environmental impact discussion is a subsection identified as a Summary of Impacts (or Summary of Phase I impacts and Summary of Buildout Phase Impacts). Each impact is in numerical sequence followed by the letter of the alphabet corresponding to the Environmental Impact Section (e.g., C.2 for Paleontological Resources). The specific impact identified corresponds to the specific mitigation measure.

Cumulative Impacts

The cumulative impact analysis examines the possible impacts associated with other development actions in the vicinity of the ADP. This EIR utilizes two approaches to this analysis: 1) the Related Projects List assembled as part of Section III, Environmental Setting which identifies specific proposed projects; and 2) a comparison of the proposed project in relation to future baseline conditions. Only the traffic analysis and those sections which specifically utilize the traffic data for their analysis (Air Quality and Noise) use the second approach. This is explained in greater detail in the respective Environmental Impact sections.

Mitigation Measures

As mentioned above, specific mitigation has been identified to correspond directly to the specific impact. A corresponding numerical sequence is also used to tie specific impacts and mitigation together.

The total square feet identified in Phase I is composed of individual buildings which may not go forward simultaneously. As building permits are sought for individual components of Phase I, the City shall review each component and determine which mitigations are required.

Adverse Effects

This section summarizes the environmental impact after implementation of the mitigation measures.

ENVIRONMENTAL EQUIVALENCY REVIEW PROCESS

Any mitigation measure and timing thereof, subject to the approval of the City, which will have the same or superior result and will have the same or superior effect on the environment may be substituted for mitigation measures discussed here in.

The ADP contemplates a mixed use project of office, residential, retail, hotel, theater and entertainment uses. While the Project/Program EIR analyzes a maximum envelope consideration of uses, with the highest impact component (office) constituting the majority of new space, the project proponents contemplate that other uses permitted by the ADP may be substituted for office, if appropriate, in the future. Accordingly, to ensure that potential environmental impacts of any such project modifications have been adequately analyzed, while at the same time providing flexibility, the ADP Specific Plan incorporates an Equivalency Review Process. This review process formula establishes an impact ratio, utilizing the proposed project as the base, to compare quantifiable environmental impacts.

The equivalency review process assumes that the maximum thresholds of environmental impact which are analyzed, mitigated and addressed by this document are not exceeded. Modification to the proposed project would require review and approval, supported by technical data as necessary, by the appropriate City departments. Modifications that exceed a threshold which is analyzed, mitigated and addressed by this EIR would require additional environmental analysis. This process will be regulated by the ADP Specific Plan ordinance.

SECTION IV.A
LAND USE

ENVIRONMENTAL SETTING

Existing Land Uses on the Project Site

The two properties of the ADP are briefly described below and previously shown in Figure 3. The reader is referred to Section III, Environmental Setting, for discussion and graphic depictions of existing facilities on the project site.

The Union Station property contains the Los Angeles Union Station Passenger Terminal, the adjoining Railway Express Agency (REA) Building and south ramp, a two-level parking structure, surface parking, the train yard, rail platforms, and trackage. The land east of the rail track to Vignes Street is currently being excavated for the Gateway Center's subterranean parking.

The Terminal Annex property contains the Terminal Annex Building and related facilities, a parking garage, and a Vehicle Maintenance Facility. Currently, the upper two floors of the Annex are vacant, but the bottom two floors contain some retail office and postal service operation space. Existing land uses include surface parking, a Vehicle Maintenance Facility, Fire Station No. 4, and two small vacant commercial buildings.

Land Use Policy and Regulatory Framework

The City of Los Angeles' Comprehensive General Plan, the first element of which was adopted in June 1968, guides the land use patterns for the 465 square mile area of the city. The City's General Plan is comprised of three components:

<u>Citywide Elements</u>

This component consists of those plans which provide long-range, Citywide policy direction on specific topics, some of which are also mandated by State law, or concern special areas that affect the City as a whole (e.g., the Master Plans for Los Angeles International Airport and the Port of Los Angeles). The Elements in this component of the General Plan include: Concept Los Angeles, Citywide Plan; Air Quality; Highways and Freeways; Sewage and Refuse Disposal; Conservation and Open Space; Cultural and Historical Monuments; Bicycle; Noise; Public Libraries; Housing; Safety; Seismic Safety; Police; Fire; Public Schools; Public Recreation; Water and Power Systems; and Scenic Highways.

Community/District Plans

There are 35 planning areas in the City of Los Angeles. Together they form the Land Use Element of the City General Plan. While the plans focus on land use, they also provide circulation and public services guidelines for their specific communities.

Specific Plans

These are the most micro in scale and the most specific components of the City General Plan. The intent is to blend both the policy and implementation functions for unique neighborhoods within a Community Plan area.

Existing Community Plan Policies

The ADP project site is located within the Central City North Community Planning area of the City of Los Angeles. Land use and other general policies for this area are addressed in Central City North Community Plan (CCNCP) of the City's General Plan. This Plan was adopted by the City Council in 1979, and amended in January of 1988 as part of the General Plan Consistency Program (AB283).

The CCNCP provides guidelines for the development of land uses and the provision of public services and facilities, and is one of 35 such Community/District Plans in the City of Los Angeles. Key objectives of this plan include:

- To coordinate the development of Central City North with that of Central City, other parts of the City of Los Angeles, and the metropolitan area.

- To designate lands at appropriate locations for the various private uses and public facilities in the quantities and at densities required to accommodate population and activities projected to the year 1995.

- To make provisions for housing as required to satisfy the varying needs and desires of all persons who choose to reside in the Community, maximizing the opportunity for individual choice.

- To encourage the preservation and enhancement of the varied and distinctive character of the Community and its landmarks.

- To promote economic well-being and public convenience through:

  a. allocating and distributing commercial lands for retail, service, and office facilities in quantities and patterns based on sound planning principles and standards.

  b. designating land for industrial development that can be so used without substantial detriment to adjacent uses of other types, and imposing restriction on the types and intensities of industrial uses as are necessary to this purpose.

  c. reinforcing viable functions and facilitating the renewal or rehabilitation of deteriorated and under-utilized areas.

- To provide a basis for the location and programming of public services and utilities and to coordinate the phasing of public facilities with private development.

- To encourage a balanced circulation system coordinated with planned land uses and densities that can accommodate anticipated travel demands.

- To strongly encourage open space for recreational uses, and to promote the preservation of views, natural character and topography of the Community for the enjoyment of both local residents and persons throughout the Los Angeles region.

- To establish an atmosphere of cooperation and participation among businesses, citizen groups and public agencies in the implementation of the Plan.

- To provide local job opportunities for inner-city residents.

- To upgrade and stabilize existing industrial uses.

- To provide opportunities for industrial firms to locate their operations in an attractive, safe and economically sound environment, and convenient to transportation facilities.

The project site is located within the Government Support Area designation of the Community Plan. The major purpose of the Government Support Area is the "additional development of government facilities in this area...This area includes the Union Station area which is proposed to be redeveloped to accommodate tourist-oriented commercial and cultural facilities, and a transportation center combining a wide variety of rail and bus service."

The Community Plan also recommends that Specific Plans be undertaken for the Union Station area as well as for Chinatown and Little Tokyo. The ADP will coordinate intended land use patterns, connections, and compatibility of uses with these areas as part of its overall land use program.

Existing General Plan Designations on the Project Site

The project site is designated as Heavy Industrial and Parking uses by the CCNCP. The CCNCP designation for Heavy Industrial uses has corresponding permitted zones of M3 and P. Union Station is identified by the Plan as a Cultural/Historical site. The Plan also identifies a fire station on the northwestern corner of the Terminal Annex site, the current location of City of Los Angeles Fire Station No. 4. Additionally, the Plan labels the southeastern portion of the ADP site as the location for a possible transportation center. Existing Union Station trackage on-site and the San Bernardino (El Monte) busway bordering the site on the south are also shown by the Plan.

Existing Project Site Zoning

Both the Union Station and Terminal Annex properties are currently zoned [Q] M3-1 (see Figure 9). The M3 zone permits the development of heavy industrial uses. A Height District No. 1 designation permits a floor area ratio of 1.5 times the buildable area of the lot. The [Q] conditions applicable to both properties are as follows:

- A new footnote was added to the Central City North Community Plan map to read as follows: "For properties designated on zoning maps as Height District No. 1 (or its equivalent), development exceeding a floor area ratio of 1.5:1 up to 3:1 may be permitted through a zone change/height district change procedure, including an environmental clearance."

- The property shall be limited to: 1) government uses; 2) transportation uses including bus or railway stations, transit facilities, railroad yards, and parking facilities; and 3) other uses which were in existence on the property on the effective date of the ordinance and accessory uses established thereafter.

Planning Designations and Land Uses for Neighboring Properties

The following describes the community/district plan designations and land uses of the properties which are adjacent to the project site.

North of Sunset Boulevard and west of Alameda Street, across from the project site, is the Chinatown community. The portion of Chinatown closest to the project site is designated by the CCNCP for Community Commercial (corresponding permitted zoning of C2, P, PB) and includes such land uses as the Metro Plaza Hotel, stores, restaurants, a maintenance yard for the Los Angeles Department of Transportation, an auto repair shop, and parking facilities. Land designated as Community Commercial is subject to Height District No. 2 restrictions or a corresponding Floor Area Ratio (FAR) of 6:1.

Land uses surrounding the project site from the northeast (above Vignes Street) and continuing around the eastern side of the project site along Vignes Street to the El Monte Busway are designated for light Industrial uses by the CCNCP and zoned M3-1 or M2-1. Specific uses include the following: the Fansteel Company Drop Forge structures (located north of Vignes Street and west of the Union Station rail yard); two Los Angeles County jail facilities (one between Vignes Street and Bauchet Street and the other between Bauchet and Cesar E. Chavez Avenue); a manufacturing facility, two bail bond businesses, supplier facilities, an office building, and a retail warehouse (all located south of Bauchet Street, west of Vignes Street, north of Clara Street and east of Avila Street); the Gateway Center commercial office project (Related Project No. 15) currently under construction at the southwest corner of Vignes and Cesar E. Chavez Avenues; the Piper Technical Center facility (containing governmental facilities) between Cesar E. Chavez Avenue and Ramirez Street east of Vignes Street; and a Denny's restaurant at the intersection of Vignes and Ramirez Streets. The designated properties in this area are subject to Height District No. 1 and have an allowable FAR of 1.5:1.

Land directly south of the project site is designated for open space and includes the El Monte Busway and the Santa Ana Freeway. Land uses immediately south of the Santa Ana Freeway include industrial properties, with a General Plan designation of Commercial Manufacturing and corresponding zones of CM (Commercial Manufacturing) and P (Parking). Actual zoning for these properties is either CM-1 or M3-1. The Civic Center and the Downtown Los Angeles Business District are located to the southwest and are designated in the Central City Community Plan as Civic Center or Regional Center, with corresponding zones of C2 (Community Commercial), C4 (Neighborhood and Office Commercial), P, and PB (Parking Building).

Land uses west of Alameda Street are primarily commercial. El Pueblo de Los Angeles Historic Monument, including the Olvera Street commercial/tourist complex, is located west of the Union Station property across Alameda Street. This land area is within the Central City Community Plan Area (adopted May 1974 and last revised in 1991) and is designated as open space, with corresponding zones of CR and C1.5 (both Limited Commercial zones) and C4. Actual zoning for these properties is either C4-1 or CR. Land uses west of the Terminal Annex property across Alameda Street are primarily retail/commercial, with a General Plan designation of Community Commercial and corresponding zoning of C2, P and PB. True zoning for these properties is either C2-2 or CM-2. Chinatown, also a historical/commercial area, is located two blocks west of the project site. The properties in this area are subject to Height District No. 1 or No. 2, with corresponding FAR limits of 1.5:1 or 6.0:1, respectively.

Other Related Land Use Plans

The following discussion focuses on related land use plans/policies which could influence development on the project site. All other related governmental policies/plans (such as those formulated by the South Coast Air Quality Management District, Southern California Association of Governments, etc.) are discussed in the applicable sections of this EIR.

Downtown Strategic Plan

The Los Angeles Downtown Strategic Plan (DSP) is a conceptual policy which was adopted by the City Council in August 1994. The DSP seeks to establish a vision and plan of action to help guide the city's decisions in determining the future of Downtown growth and development over the next 25 years. The DSP proposes "program initiatives for economic growth and for social well-being, as well as physical projects to create the settings capable of attracting new investments for jobs, housing, tourism and entertainment, industry, and commerce."[1] While the DSP makes low density land use suggestions for the ADP site which are not consistent with the proposed project, the ADP site is outside the DSP's plan area. In adopting the DSP, the Council stated: "these strategies are suggestions only, to be considered in future planning efforts, and that these strategies are in no way intended to mandate or limit specific uses of property within the north, south, east or west areas adjacent to the DSP area."[2]

Land Use/Transportation Policy

On November 2, 1993, the Los Angeles City Council adopted a Land Use/Transportation Policy to address the integration of future growth and burgeoning transit development within the city over the next 30 years. To that end, the City of Los Angeles and the LACMTA undertook a cooperative planning effort to develop an integrated policy that addresses land use, transportation, and air quality issues related to the regional transportation system. One objective of the Land Use/Transportation Policy is to encourage "Transit Oriented Districts (TOD)." TODs focus growth around transit stations and increase land use intensity in transit station areas, where appropriate, to promote transit use and discourage automobile dependence. Current and future Specific Plans are also identified as an instrument to meet the Land Use/Transportation Policy's objectives.

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1 Los Angeles Downtown Strategic Plan, November 1993.

2 Planning and Land Use Management Committee and Housing and Community Redevelopment Committee Report, July 28, 1994.

The Land Use/Transportation Policy identifies Union Station (and the Primary Influence Area within 0.25 miles) as an "Urban Complex." Urban Complexes are defined in the adopted policy as those areas which have experienced intensity of development and growth of economic opportunity, and are places where bus lines intersect or intermodal transfer of rail and bus transit occurs (therefore, they are a form of TOD). Under the Urban Complex designation, the minimum desired FAR is 4.5:1.0, and the maximum desired FAR is 10.0:1. The policy encourages a mixed-use, pedestrian friendly environment and provides for residential densities ranging from a minimum of 40 dwelling units per acre to 60 dwelling units per acre.

Chinatown Redevelopment Project

On January 23, 1980, the City Council of Los Angeles passed an ordinance (Ordinance No. 153,365) to redevelop the Chinatown neighborhood. The goals of this redevelopment project include the following: to revitalize the area; to maintain the existing residential and commercial base and provide new development opportunities to expand this base; to control growth in the area by guiding development; to eliminate and prevent the spread of blight; to preserve the historic nature of the area; to preserve and promote the area's cultural character; and, to expand public space. Chinatown is currently designated for residential and commercial uses. The redevelopment project intends to enhance these land uses and accommodate future growth by providing more diversified housing, commercial establishments and jobs.

ENVIRONMENTAL IMPACT

Thresholds of Significance

A project will result in a significant land use impact if it conflicts with adopted plans and goals of the community plan in which it is located or if it disrupts or divides the physical arrangement (termed functional and physical compatibility) of an established community.

Proposed Project

The reader is referred to Section II, Project Description, for a detailed qualitative description and quantitative presentation of the proposed project. Briefly, existing development on the 70.52 acre project site totals 965,800 square feet of floor area, which consists of 731,600 square feet of space on the Terminal Annex site and 234,200 square feet of space on the Union Station site. During Phase I development, 93,500 square feet on the Union Station site and 187,900 square feet on the Terminal Annex site will be demolished. Total demolition during Phase I will be 281,400 square feet on both properties. Development during Phase I (including adaptive reuse and existing uses) would total 3,589,400 square feet. Net Phase I development totals 3,308,000 square feet.

Buildout of the proposed project would result in 10,960,700 square feet of development (including adaptive reuse and existing uses to remain) and demolition of 410,100 square feet of existing structures. Therefore, the net proposed development of the project site would total 10,550,600 square feet.

Requested Actions

In order to implement the ADP development, the applicant is requesting the following primary land use actions by the City of Los Angeles: 1) approval of a Specific Plan including accompanying Zoning and Height District Changes; 2) General Plan Amendments; 3) possible Development Agreements for both the Union Station and Terminal Annex ownerships; 4) Vesting Tract Maps; and, 5) conditional use permits for sale of alcoholic beverages. Additional incidental discretionary and non-discretionary actions as listed in the Section II, Project Description also may be requested. The impacts of any such actions are fully addressed by this EIR.

Specific Plan. The ADP is intended as a "Specific Plan" under the parlance of the City of Los Angeles' Zoning Code. Specifically, it is intended to provide the most rational approach to set forth the guidelines and parameters for development of the region's only current or planned transit "hub".

The ADP provides for the following:

- land use designations, including "planning areas," site-specific zoning and permitted densities;
- development phasing, with related transportation infrastructure;
- height parameters and restrictions, with specific "maximums" for each planning area and special emphasis on the protection of historic resources currently occupying the ADP site;
- urban design parameters, including open space and pedestrian access/transit integration requirements for all development within the ADP area;
- local and regional transportation improvement requirements for each phase of development, including transit, roadway, and Transportation Demand Management (TDM) measures; and
- parking provisions which will decrease the ratio of parking per 1,000 square feet of building area over the implementation of phases of development to ensure compatibility with high transit usage and TDM measures consistent with the region's transit "hub".

Planning Areas. The ADP establishes three distinct "planning areas" for the purpose of providing for development regulation, height controls and an articulation of required physical amenities into appropriate areas within the Plan area so as to best utilize land area, protect and enhance existing resources within the ADP, and minimize visual and physical impacts upon surrounding properties.

The three planning areas -- the **Historic Area**, the **Mixed Use/Office Area**, and the **Transit Office Core** -- provide for specific uses and height parameters within each distinct area, as follows (Refer to Table 12 for specific height restrictions by planning area):[1]

- **Historic Area** -- this area includes historic buildings and land uses such as the existing Union Station Passenger Terminal and the Terminal Annex Post Office. Uses focus on government office, adaptive reuse of existing historic space, retail, museum, entertainment and conference center uses, and other uses provided by the ADP. Heights should not exceed 80 feet (6 stories).

- **Mixed Use/Office Area** -- This area provides for a mix of land uses complementary to the overall planning objectives of massing development in and around the region's transit hub. Uses focus on both government and commercial office space, retail, hotel, entertainment uses, provision for residential uses, conference center uses, and other uses provided by the ADP. Heights in this area should not exceed 400 feet (30 stories).

- **Transit Office Core** -- This area provides for higher density massing of office and commercial activities linked to the regional mass transit portal and transit plaza central to the ADP site. Uses focus on government and commercial offices, retail uses, hotel, conference center uses, entertainment uses and other uses provided by the ADP. Height regulations provide for buildings in this area to not exceed 500 feet (45 stories).

Zoning and Density. The City's recently adopted Land Use/Transportation Policy calls out the Union Station/Terminal Annex site (the ADP area) as an "Urban Complex", with commercial development noted for a Minimum Desirable FAR of 4.5 to 1, and a Maximum Permitted FAR of 10 to 1. Residential densities of 40 to 60 dwelling units per acre are also set forth in the Policy guidance.

A zone change from [Q]M3-1 to C2-2-D, with an average FAR of 4.0 to 1 is proposed. The ADP's density averages approximately 4.0 to 1 over the roughly 70 acre site; however, as noted previously, individual parcels will be permitted to be more dense than this "base" level of FAR. Specifically, the ADP is a "unified development" area, as defined by Section 12.24C58 of the Los Angeles

[1] Source of language: Alameda District Specific Plan

Municipal Code (LAMC), with specific regulations relating to height, historic preservation, pedestrian access, plazas and open spaces, and other public amenities. In order to achieve these amenities and meet these regulations and conditions of development, massing of higher densities are permitted on each individual parcel, with the exception of those properties in the Historic Area where preservation of these resources is of paramount importance. The ADP will permit the "by right" transfer of density within the ADP, and within property ownership given the design and development of this Plan as a "unified development" program. A "cap" on development within the ADP will permit no more than 11 million square feet of total development under the Plan.

It is intended that the average densities over each planning area increase further away from the Historic Area. The highest planned density within the ADP (by planning area) is in the Transit Office Core. This area is directly adjacent to the east portal of the Metro Rail system and adjacent to the bus/transit plaza, and thus has the most direct connection to rail transit. The Mixed Use/Office Area provides for the bulk of development in the ADP, however the area also contains more land area, more pedestrian access areas, more plazas and open spaces, etc.

TABLE 12
HEIGHT RESTRICTIONS

Planning Area	Height (in feet)	Stories
Historic Area	80	6
Mixed-Use/Office	400	30
Transit Office Core	550	45

General Plan Amendments. General Plan Amendments to the Community Plan will be processed, modifying the CCNCP to incorporate all the land use designations, zoning, development standards, and conditions of development for the ADP area into the CCNCP map and text. The General Plan Amendments will permit the establishment of a specific plan for the subject property as called for in the existing Community Plan. The land use designation for the entire ADP site will be changed from Heavy Industrial to Regional Center Commercial.

Ultimate development densities and configurations would be derived through adoption of the ADP itself, along with review and consideration of the entitlements requested in connection with the project. The maximum FAR would not exceed 4.0 over the entire project site.

Development Agreements. Development Agreements for development of the Union Station and Terminal Annex properties may be sought by the project applicants. The Development Agreements would be consistent with the Specific Plan program requirements.

Subdivision Approval. Vesting tract maps will be sought by the project applicants for the respective properties. The subdivisions will set forth lot parameters for future development pads within the ADP's area and will be consistent with the proposed Specific Plan.

Project Consistency with Land Use Regulatory Framework

Total gross development (existing and proposed) under Phase I would result in an average FAR of 1.12:1, which is significantly below the existing and proposed zoning/height district limitations and below the densities suggested as "minimums" and "maximums" for the Union Station/ADP site in the City's Land Use/Transportation Policy. As such, this is considered a less than significant impact. Upon decision maker approval of the ADP's Zoning and Height District Changes, General Plan Amendments, Development Agreements, and Vesting Tract Maps (as well as the respective associated findings of consistency with the City's Land Use/Transportation Policy), density impacts associated with project Buildout are also considered to be a less than significant impact. Without such approvals, density impacts associated with this project would be considered significant because Buildout of the project would exceed the maximum 3.0:1 FAR permitted by the existing community plan designation of the site.

Consistency with the Central City North Community Plan (CCNCP)

As discussed below, the project, as proposed, would be consistent with applicable policies of the CCNCP, including Specific Plan Policy 2, Public Transportation Policy 3, and Government Support Area Policy 3(e).

Specific Plan Policy 2

The Community Plan's "Specific Plan Policy 2" states:

> "[that a Specific Plan should be undertaken for] Union Station, a portion of the Government Support area in the area generally bounded by Alameda Street, Vignes Street, Cesar E. Chavez Avenue, the Los Angeles River and Ducommon Street";
>
> "[a Specific Plan for this area should consider a] proposed transportation center and its approaches (vehicular and pedestrian) and relationship to the Piper Technical Center and the potential commercial development south of the Santa Ana freeway"; and,
>
> "[Additional consideration should be given to the] relationship of the possible tourist oriented commercial and cultural facilities on the west side of the Pueblo de Los Angeles."

Public Transportation Policy 3

Key to the ADP is the creation and enhancement of a regional transportation center. The transportation plan (included as part of the ADP) integrates both regional commuter transit and local circulator transit opportunities along with a coordinated transportation demand management program to minimize automobile use. (See Section IV.D, Traffic, Parking, and Access). Additionally, the inclusion of office uses at the region's only existing and planned transportation hub would reduce automobile trips and vehicle miles traveled (VMT), thereby relieving congestion and improving air quality. This is consistent with CCNCP Public Transportation Policy 3, which states that:

> "Union Station is an under-utilized facility that provides intercity rail services. The [Community] Plan proposes that these passenger railroad operations and a variety of other rail and bus systems be housed in a reduced portion of the station and at other locations in proximity to platforms and portals so in that they may be coordinated with other transportation centers."

Government Support Neighborhood Policy 3 (e)

The range of land uses proposed under the ADP, including 3,242,000 square feet of government office space, is consistent with the goals and policies of the General Plan. Government facilities are encouraged in the CCNCP. Specifically, the Community Plan identifies a Government Support

Neighborhood that includes:

> ". . . the Union Station area, which is proposed to be redeveloped to accommodate tourist-oriented commercial, cultural facilities, and a transportation center combining a wide variety of rail and bus servings. A broad pedestrian plaza is proposed to connect the old Plaza with the Union Station Area."

Physical Land Use Compatibility

The physical compatibility of the project with its surrounding environs is based on an analysis of proposed uses and improvements and their on- and off-site effects on traffic, parking, noise levels, air quality, shade/shadow, light and glare, and aesthetics. These effects are discussed in their respective sections of this EIR. Project approvals will incorporate development standards and design guidelines of the Specific Plan. Therefore, development will have no significant impact in terms of physical compatibility other than those addressed in other sections of this EIR.

Functional Land Use Compatibility

A determination of the project's functional compatibility with surrounding land uses can also be used to determine if significant adverse land use impacts would occur as a result of a proposed project. Functional compatibility is defined herein as follows:

> "the capacity for adjacent, yet dissimilar land uses to maintain and provide services, amenities, and/or environmental quality associated with such uses. Adverse functional compatibility impacts may be generated when a proposed project hinders the functional patterns of use and relationships associated with existing land uses; patterns of use relate to the interaction and movement of people, goods, and/or information."

The commercial office, government office, residential, retail, entertainment and museum components of the project are considered functionally compatible with the existing uses both on- and off-site, and would both perpetuate and expand on-site uses. The pedestrian-oriented design of the project would encourage walking and provide direct connections with transit facilities at Union Station and access to Terminal Annex and off-site businesses such as retail stores and restaurants at Olvera Street and Chinatown. In addition, the office component of the project would provide economic benefits to surrounding off-site businesses. The proposed museum is also functionally compatible with the many historical attractions in and around the project site, and the proposed government offices are compatible with the Gateway Center project, which is a government complex. The hotel space within the project site will also attract tourists interested in the surrounding historic areas of Olvera Street and El Pueblo Plaza.

Implementation of the proposed project would, therefore, be considered functionally compatible with the surrounding uses in the area, since public services, environmental quality, and existing patterns of use would be maintained (and in certain instances enhanced).

Summary of Phase I Impacts

Impact A.1 Implementation of the project will require approval of a Specific Plan (including accompanying zoning and height district changes), General Plan amendments, possible development agreements for both the Terminal Annex and Union Station ownerships, vesting tract maps, and other incidental discretionary actions. These actions will incorporate development standards and design guidelines. Phase I development must be consistent with the Specific Plan and, therefore, will have no significant impact on applicable land use plans and policies.

Impact A.2 Land use compatibility is primarily determined by the sensitivity of one land use to the characteristics associated with another land use (i.e., activity, noise, density, and appearance). Therefore, other sections of this EIR which analyze these environmental changes are relevant to the analysis of land use compatibility. Project approvals will incorporate development standards and design guidelines of the Specific Plan; and, therefore, Phase I development will have no significant impacts in terms of functional or physical compatibility with the surrounding community, other than those addressed in other sections of this EIR.

Summary of Buildout Phase Impacts

Impact A.3 Implementation of the ADP will require approval of a Specific Plan (including accompanying zoning and height district changes), General Plan amendments, possible development agreements for both the Terminal Annex and Union Station ownerships, vesting tract maps and other incidental discretionary actions. These actions will incorporate development standards and design guidelines. Buildout Phase development must be consistent with the Specific Plan; and, therefore, Buildout Phase development will have no significant impact on applicable land use plans and policies.

Impact A.4 Land use compatibility is primarily determined by the sensitivity of one land use to the characteristics associated with another land use (i.e., activity, noise, density, and appearance). Therefore, other sections of this EIR which analyze these environmental changes are relevant to the analysis of land use compatibility. Project approvals will incorporate development standards and design guidelines of the Specific Plan; and, therefore, Buildout Phase development will have no significant impacts in terms of functional or physical compatibility with the surrounding community, other than those addressed in other sections of this EIR.

CUMULATIVE IMPACT

A total of 56 known or identified related projects are proposed for the project area. Total related development includes 19,260,173 square feet of commercial office space, 2,052,333 square feet of retail uses, 5,641 residential units, 5,622 hotel rooms, and other uses totalling in excess of 2.8 million square feet. Although some of the related projects identified in Section III may request General Plan Amendments, Zone Changes, Variances, Conditional Use Permits, Tract Map approvals, or other discretionary land use actions, the merits of each project would be considered on a case-by-case basis. Increased development densities from these projects would generate secondary cumulative impacts with respect to air quality, noise, traffic, utilities, and public services. These impacts are discussed in their respective sections of this EIR. The project itself does not generate a significant adverse impact on land use. Together with the related projects identified in this EIR, no cumulative adverse impacts on land use are identified.

MITIGATION MEASURES

Phase I

A.1 No mitigation is recommended, as the Specific Plan is expected to result in a beneficial effect through implementation of programmed improvements. On an ongoing basis, the City will review building plans for consistency with the Specific Plan.

A.2 Mitigation measures B.1 through M.4.5, as identified in the other sections of this EIR. No additional mitigation is recommended, as the ADP is expected to result in a beneficial effect through implementation of programmed improvements. On an ongoing basis, the City will review building plans for consistency with the ADP.

Buildout Phase

A.3 No mitigation is recommended, as the ADP is expected to result in a beneficial effect through implementation of programmed improvements. On an ongoing basis, the City will review building plans for consistency with the ADP.

A.4 Mitigation measures B.1 through M.4.5, as identified in the other sections of this EIR. No additional mitigation is recommended, as the ADP is expected to result in a beneficial effect through implementation of programmed improvements. On an ongoing basis, the City will review building plans for consistency with the ADP.

ADVERSE EFFECTS

Implementation of the proposed mitigation measures as described above, ensuring that compatibility is maintained and that the goals of the Community Plan and Specific Plan are achieved, will ensure that the project impacts are less than significant.

SECTION IV.B
AESTHETICS

This examination of the aesthetic setting and impacts of the proposed project is based upon an evaluation of two categories of aesthetic values: 1) visual character and; 2) viewsheds.

In assessing visual character, the first objective is to identify the types of features considered to be inherent in the project site and surrounding locale, such as the prevailing land uses. The second objective in assessing visual character is to identify other features that may be characteristic of the affected setting. Architectural styles, for example, might be defining attributes of a particular area.

Viewsheds refer to the visual qualities of a geographical area. The geographical area is defined by the horizon, topography, and other natural features that give an area its visual boundary and context, or by any man-made improvements that have become the prominent visual components of an area. Viewshed impacts are typically characterized by the loss and/or obstruction of existing scenic vistas or other significant views in the area of the site which are available to the general public. For the purposes of this analysis, views are categorized into natural or man-made, and distance from the observer is categorized into foreground, middleground, and background. Viewshed analyses are also based upon relative visibility with regard to viewing location. Views treated within this analysis assume fair-weather conditions.

ENVIRONMENTAL SETTING

Visual Character

The project site is characterized by low- and mid-rise developments built at low densities, along with large surface parking lots. Specifically, the Terminal Annex property contains several structures and surface parking. The Terminal Annex Building (4 stories/60 feet, with two 125-foot domed towers) is located on the southern portion of the property. Other structures are located along the western and southern boundaries of the property. The parking garage on the property (2 stories/25 feet) contains up to 1,000 spaces and is located along the Alameda Street/North Main Street western frontage. The Vehicle Maintenance Facility (2 stories/25 feet) is located adjacent to the parking structure along the North Main Street frontage. The City of Los Angeles Fire Station No. 4 (2 stories/35 feet) is located in the northwestern corner of the Terminal Annex property. One- and two-story commercial buildings (15 and 25 feet above grade, respectively) are located in the northwest corner of the property. The remaining areas on the property are used for surface parking.

The western portion of the Union Station property is occupied by the Union Station Passenger Terminal (1 story/70 feet) and baggage handling facilities (2 stories/35 feet), with surface parking lots located along the Alameda Street frontage. A two-level (25-foot) parking structure, containing 300 spaces, is located adjacent to the Union Station Passenger Terminal and REA Building along the southern property boundary. The eastern portion of the Union Station property is occupied by the train yard, rail platforms, and trackage as previously shown in Figure 7. The Mission Tower building (2 stories/40 feet) and an auto repair shop (1 story/20 feet) are located on the east side of the tracks north of Cesar E. Chavez Avenue.

The visual character of the project site is defined primarily by historic and architectural features rather than any dominant natural feature. As viewed from City Hall, the Civic Center, and the financial center of Los Angeles, the facades of Terminal Annex and Union Station mark the northeastern edge of Downtown Los Angeles. The reader is referred to Section IV.C.3, Historic Resources, of this EIR for a detailed examination and discussion of the architectural features of the existing improvements on the project site. A summary of the architectural features is provided below.

Union Station

The station is comprised of a number of components of irregular shape and height, supported at each end by arcades and pavilions. The principal components are of reinforced concrete construction and include: a high and arched entrance vestibule, the ticket concourse waiting area, and a clock tower which rises to a height of 125 feet surmounted by a Moorish finial. To the north of these main components is a two-story office unit, faced by a lower arcade, and bordered on the north by an ornamental driveway arch and a continuation of the arcade which terminates in a low peaked roof pavilion about 375 feet north of the main station entrance. Immediately to the south of the main building is a similar arcade known as the South Arcade. Eighty-three feet long and thirty-eight feet high, the South Arcade forms a covered promenade thirty-three feet wide linking the main building to an attractive restaurant unit. The restaurant is two stories high and comparable in appearance with the two story office unit immediately north of the ticket concourse. The South Arcade crosses a driveway into the rear station grounds.

The main facade of the station, with its stepped roof lines, irregular setbacks, and prominent arcades on either side of the center, extends continuously along Alameda Street between Cesar E. Chavez Avenue and Aliso Street. Union Station is designed in the two architectural styles that were popular toward the end of the great age of railroad station design - Spanish Colonial Revival and Moderne. Character-defining features of the Spanish Colonial Revival style are its use of smooth unadorned plaster walls, red tile roofs, glazed tile, and wrought iron decoration. Moderne elements are evident in stylized geometric motifs for decoration, lighting, massing, and proportion. The main architectural focus of the station complex is the passenger station itself. Character-defining features and spaces of the terminal are described in Section IV.C.3 of this EIR.

Other ancillary structures existing on the Union Station site are the REA Building, the terminal tower, and the car repair facility. Surface and structure parking lots, passenger platforms, and trackage are other uses that occupy the property. A more detailed description of these ancillary structures is included in Section III, Environmental Setting.

Terminal Annex

Terminal Annex is a four story, poured-in-place reinforced concrete structure which is an eclectic combination of Spanish Colonial Revival, Mission, and Pueblo architectural stylistic influences. Its primary interior spaces and fixtures reveal the influence of Beaux Arts classicism, popular in public buildings at the turn of the century. In siting, massing, and layout, however, the building is utilitarian, essentially a warehouse in form and function. The Terminal Annex Building was originally conceived as a rectangular structure, with the west side of the rectangle containing the two primary entries with bronze door frames, decorative eagles, and hanging lanterns. The formality of the primary facade is enhanced by a landscaped forecourt which results in the building being set back 160 feet from Alameda Street, the main entrance. This facade is distinguished by two domed, tiled towers and monumental, arched windows which mark both corners of the west elevation. The two domed towers, with zigzagging bands of yellow and blue tile, cap the structure. The towers are recessed slightly from the third floor cornice line of the building and are reminiscent of the bell towers often found on Spanish Colonial Revival and Mission style structures.

Other structures and uses on the Terminal Annex property include the 1960s extension, surface and structured parking, a Vehicle Maintenance Facility, a two-story commercial building, and a one-story commercial building. City of Los Angeles Fire Station No. 4, which is fully operational, is located in the northwestern portion of the property. The fire station is proposed for acquisition and relocation as part of Buildout Phase development. With the exception of the ground floors of the Terminal Annex Building, the fire station and the parking structure, all of these buildings are vacant. A more detailed description of these structures is included in Section III, Environmental Setting.

Off-Site Visual Character

The visual character of the surrounding locale is defined by the high-rise buildings comprising the downtown and Civic Center areas to the southeast; the light industrial and commercial buildings to the north and east; and the historically significant El Pueblo de Los Angeles Historic Monument (Olvera Street) to the west.

Figures 8 and 9 in Section III of this EIR provide aerial perspectives of the project locale, with the project site in the middleground. Figure 8 shows the aerial view looking east (from Los Angeles City Hall), while Figure 9 shows the panoramic perspective looking south (from Chinatown).

In general, with the exception of the Gateway Center commercial office project immediately east of the project site (Related Project No. 15, under construction), land uses adjacent to the project site consist predominately of low-rise retail, commercial, industrial, and public facility structures as discussed further below.

North of Sunset Boulevard and west of Alameda Street (across from the project site) is the Chinatown community. The portion of Chinatown closest to the project site includes such land uses as the Metro Plaza Hotel, stores, restaurants, a maintenance yard for the Los Angeles Department of Transportation, an auto repair shop, and parking facilities.

Land uses surrounding the project site from the northeast (above Vignes Street) and continuing around the eastern side of the project site along Vignes Street to the El Monte Busway consist of a mixed patchwork of older industrial uses and maintenance yards, newer governmental facilities, and abandoned parcels. These include the following: the Fansteel Company Drop Forge structures (located north of Vignes Street and west of the Union Station rail yard); two Los Angeles County jail facilities ranging in heights from vacant single story to seven stories (one between Vignes Street and Bauchet Street and the other between Bauchet and Cesar E. Chavez Avenue); a manufacturing facility, two bail bond businesses, supplier facilities, an office building, and a retail warehouse (all located south of Bauchet Street, west of Vignes Street, north of Clara Street and east of Avila Street); the Gateway Center commercial office project at the southwest corner of Vignes Street and Cesar E. Chavez Avenue; the Piper Technical Center facility (containing governmental facilities) between Cesar E. Chavez Avenue and Ramirez Street, east of Vignes Street; and a Denny's restaurant at the intersection of Vignes and Ramirez Street.

Land uses directly south of the project site include the El Monte Busway and the Santa Ana Freeway. Land uses immediately south of the Santa Ana Freeway include industrial properties, while the Civic Center and the Downtown Los Angeles business district are located further to the southwest. Land uses west of Alameda Street are primarily commercial and industrial. El Pueblo de Los Angeles Historic Monument, including the Olvera Street commercial/tourist complex, is located west of the Union Station property across Alameda Street. Land uses west of the Terminal Annex property across Alameda Street are primarily retail and commercial. Some residential uses are also located further to the west and northwest, in Chinatown. These uses are generally characterized by low-rise multi-family residential buildings, with the exception of the 12-story Cathay Manor elderly housing facility located three blocks west of Cesar E. Chavez Avenue.

With the exception of Olvera Street and Chinatown, the visual character of the surrounding areas is not defined by unique historic or architectural features. Rather, these areas are defined by their distinct urban nature, their predominantly commercial and industrial context, and a lack of any dominant natural features. Olvera Street, directly to the west of the Union Station property, is defined by its historic and pedestrian orientation. It is part of the El Pueblo de Los Angeles which contains 27 historic buildings. Olvera Street and El Pueblo de Los Angeles are important to the visual setting of the project site as they provide a historically based linkage between on and off-site properties. These historical elements stand in contrast to the commercial and industrial character of most of the surrounding areas. This area is discussed in more detail in Section IV.C.3 of this EIR.

Viewsheds

Overall, the most prominent and important view of the project site is of the west elevations of the Terminal Annex Building and the Union Station Passenger Terminal from Alameda Street. This perspective is important since it provides uninterrupted views of the historic buildings that are the most noteworthy visual features of the site. Other prominent views occur along North Main Street and along the eastern approaches to the site from Cesar E. Chavez Avenue and Ord Street. Available views of the historic features of the site (the Union Station Passenger Terminal and clock tower, and the Terminal Annex facade and domed towers) are important in assessing existing and future viewshed impacts. Indirect views are also available from the Olvera Street area, west of the site. Long-range pedestrian-level views of the site from the Civic Center area are partially obscured by foreground development. The areas most frequented by pedestrians in the project locale are along the Alameda and North Main Street frontages on the western edge of the project site, and in the Olvera Street and Chinatown areas further to the west.

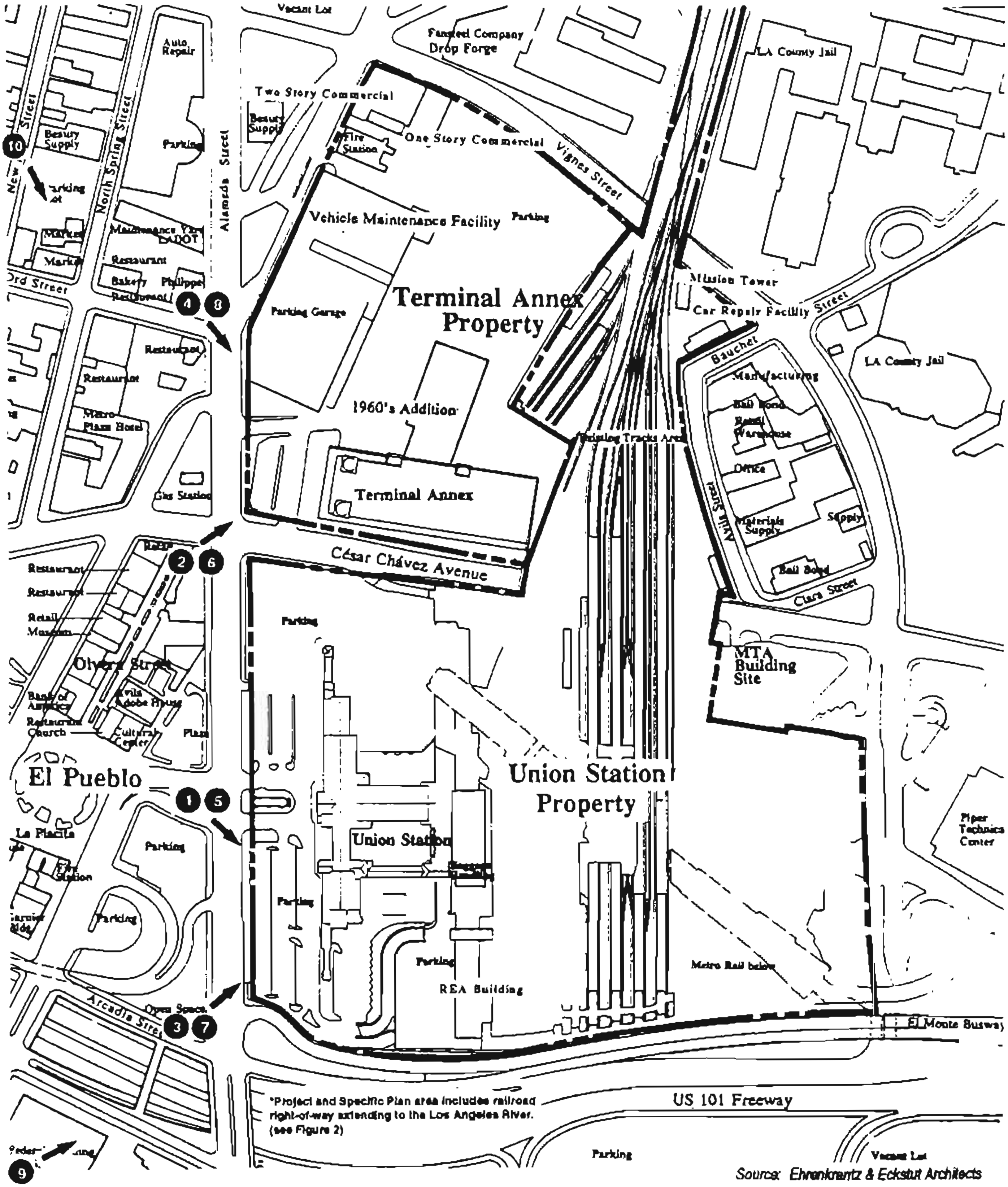
Street-level views of the site are available along most of the surrounding surface streets in the area, particularly along Alameda Street and Sunset Boulevard/Cesar E. Chavez Avenue to the west of the project site. The viewshed analysis conducted herein includes viewing locations from four vantage points, where the foreground, middleground, and background views are distinct and different. Figure 12 shows the locations of a variety of perspectives looking towards the project site. Photographs from pedestrian level locations are provided in Figures 13 through 16.

Figure 13 shows the site from the intersection of Alameda and Los Angeles Streets looking southeast, at a distance of approximately 90 feet from the project site. From this perspective, the western frontage of the Union Station property can be seen almost in its entirety, including the Union Station Passenger Terminal, clock tower, and the parking structure.

Figure 14 shows the site from Alameda Street and Cesar E. Chavez Avenue looking northeast, at a distance of approximately 90 feet from the project site. From this vantage point, the four-story Terminal Annex Building can be prominently seen in the middleground, and the parking garage (partially hidden by on-site trees) along the Alameda Street/North Main Street western frontage, is shown in the background. A small portion of an off-site street maintenance yard can be seen in the background between the Terminal Annex Building and the parking structure.

Figure 15 shows the site from Alameda Street north of Arcadia looking northeast, at a distance of approximately 90 feet from the project site. The foreground and middleground perspectives are dominated by the buildings comprising Union Station along the Alameda Street frontage, including the Union Station Passenger Terminal, clock tower, and the parking structure. In the background to the northeast, behind the Union Station parking structure, is the 26-story Gateway Center. Further to the north, and also in the background is a less important view of the Terminal Annex Building and parking structure on the Terminal Annex property.

Figure 16 shows the site from the intersection of Alameda, North Main, and Ord Streets, looking to the south at a distance of approximately 90 feet from the project site. From this vantage point, the viewer can see the two-story parking garage on the Terminal Annex property located along the Alameda Street/North Main Street western frontage in the foreground and middleground perspectives. The two domed towers of the Terminal Annex Building can be seen behind the parking structure. To the southeast, the 26-story Gateway Center Phase I is located in the background. To the south, also in the background perspective, is the partially obscured Union Station Clock Tower. In addition, several low- to mid-rise buildings immediately south of the Santa Ana Freeway can also be observed in the background. Prominent or important views of the existing Terminal Annex Building and Union Station Passenger Terminal are not available from this vantage



Source: Ehrenkrantz & Eckstut Architects

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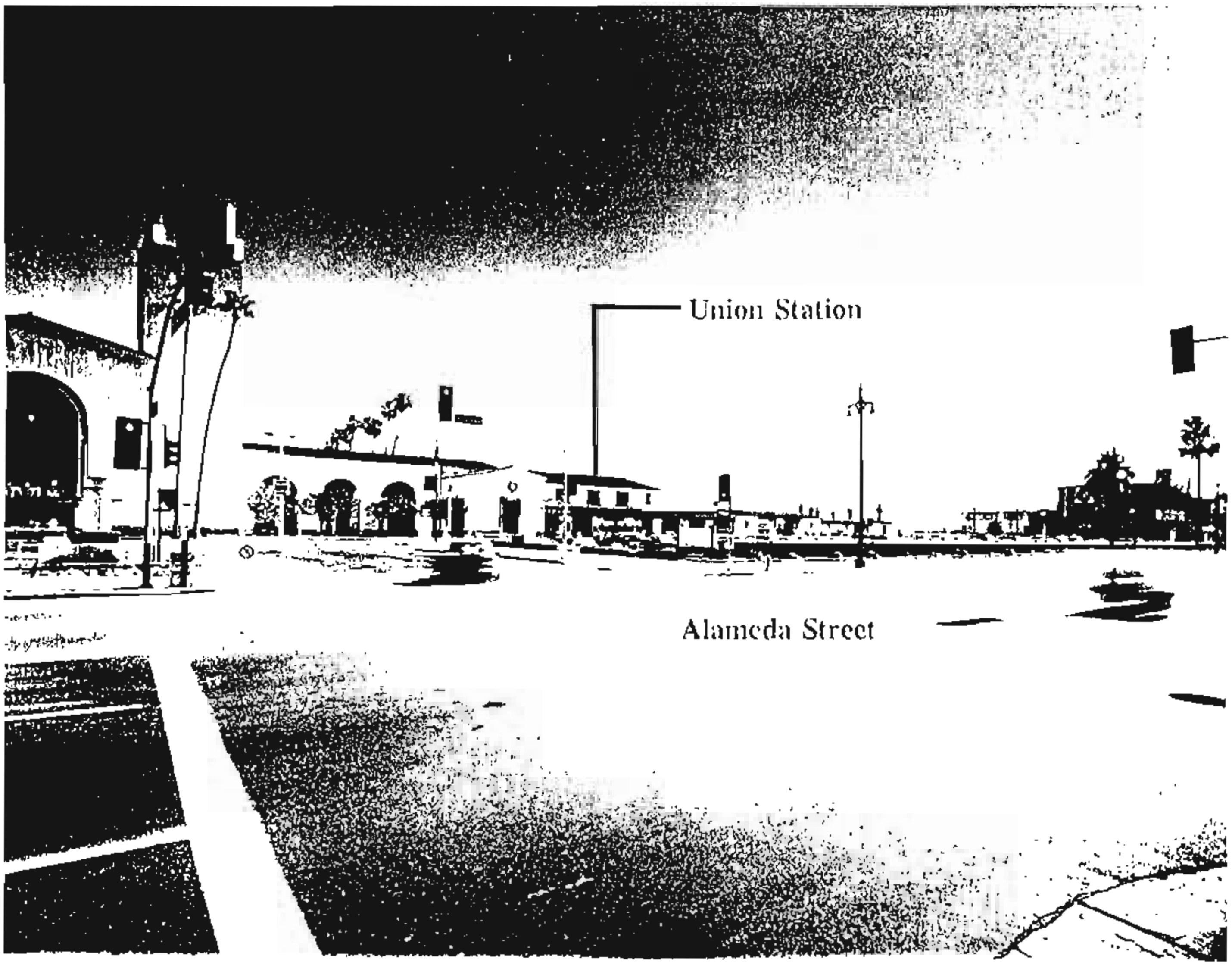
SCALE IN FEET

Figure 12
PHOTO LOCATIONS



Source: Ehrenkrantz & Eckstut Architects

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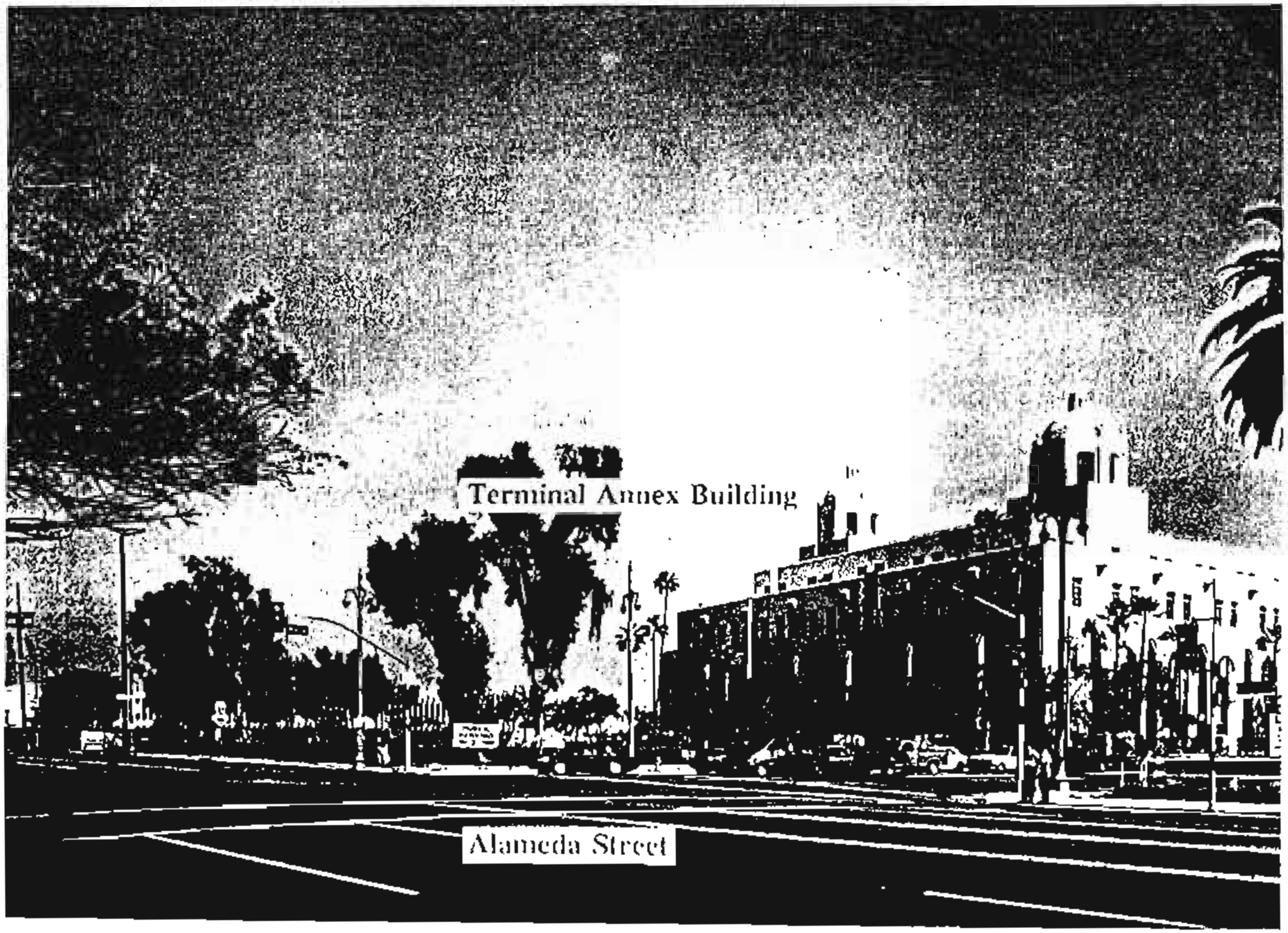
Figure 13
EXISTING UNION STATION
PHOTO 1



Source: Ehrenkrantz & Eckstut Architects

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Figure 14
EXISTING TERMINAL ANNEX
PHOTO 2

Source: Ehrenkrantz & Eckstut Architects

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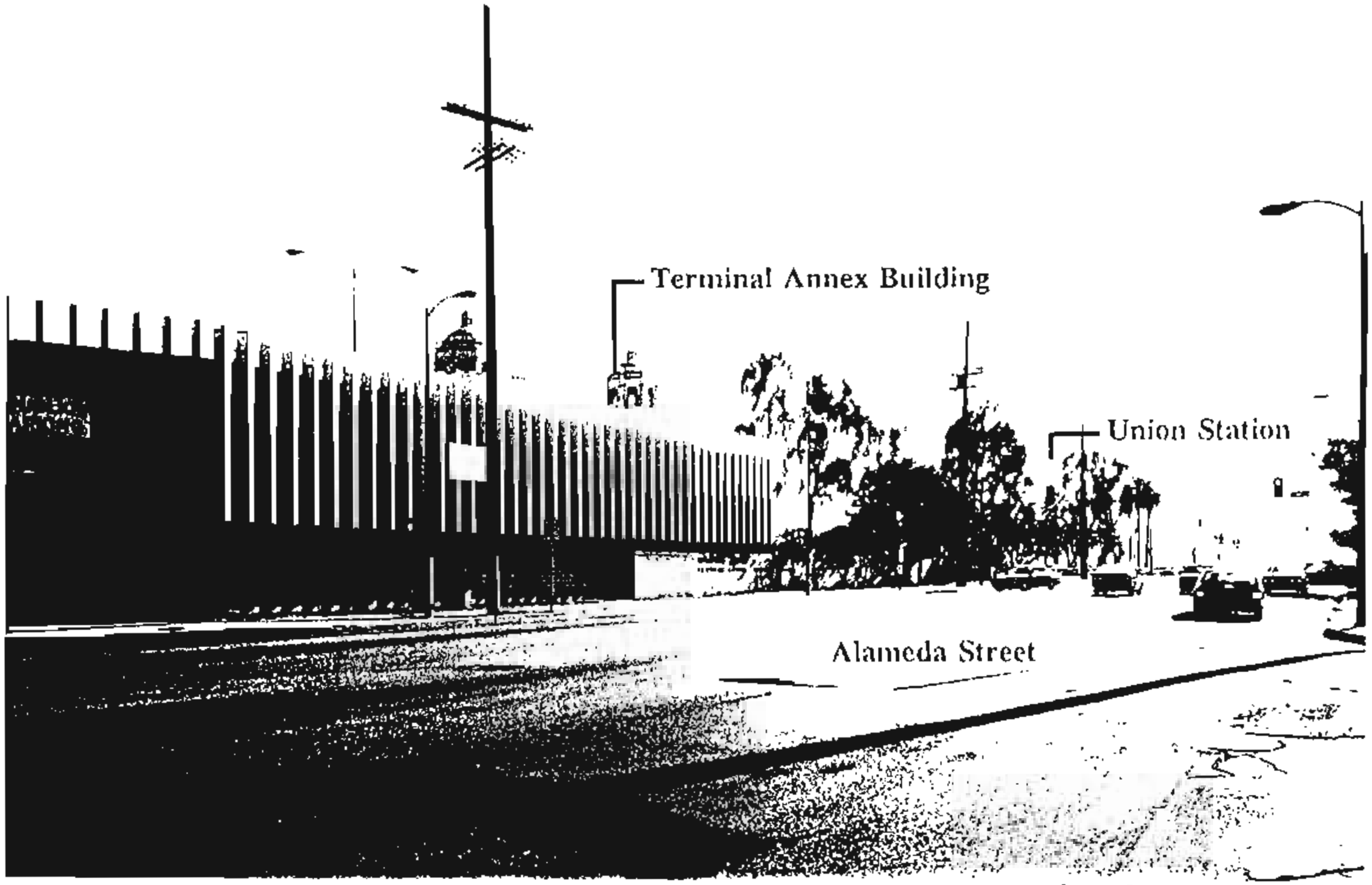
Figure 15
EXISTING UNION STATION
PHOTO 3



Source: Ehrenkrantz & Eckstut Architects

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Figure 16
EXISTING TERMINAL ANNEX
PHOTO 4

ENVIRONMENTAL IMPACT

Threshold of Significance

For the purposes of this EIR, development that severely contrasts with the on-site or off-site visual character, loss of or alteration to a major public scenic or historic view, and/or the creation of an objectionable public view are considered significant visual impacts.

Proposed Project

The reader is referred to Section II of this EIR for a detailed discussion of proposed uses, square footage, and building heights and locations. During Phase I, three commercial office buildings would be developed on the Terminal Annex property. Additionally, the historic Terminal Annex Building would be rehabilitated in conformance with required historic preservation guidelines and would be adaptively reused for government office uses and postal sales. The Terminal Annex Building would contain 457,000 square feet of space and would rise 80 feet (four stories) above grade. The three proposed commercial office buildings would consist of a 200,000 square foot (four stories/60 feet above grade) structure, a 250,000 square foot (eight stories/120 feet above grade) building, and a 400,000 square foot (12 stories/180 feet above grade) structure, respectively.

Three government office buildings, one commercial office building, a retail complex, and a museum would be developed on the Union Station property during Phase I of the ADP. The retail structures would contain 100,000 square feet of space and would rise 60 feet (three stories) above grade. A proposed government office structure would contain 255,000 square feet of space (11 stories/160 feet). A 25-story/350 foot commercial office building would include 620,000 square feet of space. Two government office towers would contain 470,000 square feet (16 stories/240 feet) and 540,000 square feet (12 stories/180 feet), respectively. The proposed museum would contain 70,000 square feet of space and would rise 50 feet (3 stories) above grade.

Additionally, approximately 7,500,000 square feet of new development is proposed on the ADP site during the Buildout Phase of the ADP. Specific development characteristics such as individual building locations for the Buildout Phase have not been specified at this time. Development plans for the Buildout Phase would be regulated and limited by the requirements of the Specific Plan, which provides a range of uses, design guidelines, and height limits described in Section II, Project Description, and shown in Figure 5. Maximum height limits within each of the Planning Areas would be 400 feet for the Mixed-Use/Office Area, 550 feet for the Transit/Office Core Area, and 80 feet for the Historic Area. It is anticipated that 12 or more structures of varying heights could be developed in the Buildout Phase within the height limitations of the Specific Plan. Development would occur on the current locations of the Vehicle Maintenance Facility, fire station, northern surface parking lot on the Terminal Annex property, the portion of the existing surface parking lot nearest Cesar E. Chavez Avenue, over the railyard, and adjacent to the Gateway Intermodal Transit Center (which is currently under construction) on the Union Station property. Potential land uses include government and commercial offices, hotel, residential, entertainment and retail space.

Phase I Impacts

Impact on the Visual Character of the Site and Locale

Development of Phase I would increase the density of development on the project site and would modify the visual character by changing the project site from its existing land use pattern to a mix of new urban-oriented commercial development harmonized with existing historical structures. Phase I development would have a significant impact on on-site visual character. Phase I would be consistent with the highly urban character of the Civic Center and downtown areas to the south, and would not have a significant impact on off-site visual character. Compliance with the Historic Resources, Parks and Open Space, and Urban Design Elements of the ADP would reduce impacts on on-site visual character but not to a less than significant level. The provisions of these ADP Elements are further discussed below.

Urban Design Element. The Urban Design Element of the ADP includes landscape and open space guidelines, with provisions regarding heights, setbacks, parking, and pedestrian/transit/vehicular access. Policies are set forth for each Planning Area (Historic, Transit/Office Core and Mixed-Use/Office) with the objective of reinforcing the specific nature of each area as well as establishing guidelines to promote the transition and connections between the areas. Height guidelines have been established to step-back height from the Historic Area, adjacent to Alameda Street, to the Transit/Office Core at the eastern portion of the project area. The following principles are included in the Urban Design Element:

- Mixed-use development with an emphasis on a variety of open spaces.
- New development as an extension of the existing character of the area.
- Smaller scale development in the foreground, sensitive to the character and scale of the historic buildings.

- Buildings that are familiar in size, shape, and orientation.

- An interconnected access system that makes linkages internally and connects to the larger downtown community.

Open Space Element. The key component of the Open Space Element of the ADP is to set guidelines to create a pedestrian environment that links many small open spaces currently existing and planned with well landscaped walking paths. Trees are proposed to line the perimeter streets and major internal arterials, as well as to provide shade in the open areas. The series of linked, small open spaces would include gardens, patios, and plazas.

Phase I would designate approximately 3.6 percent (2.49 acres) of the total site area for open space and would include such outdoor features as gardens, plazas, and patios. Buildout Phase of the project would designate approximately 9.4 percent (6.50 acres) of the total site area for open space and would include the same features as described above.

Historic Resources Element. The Historic Resources Element of the ADP consists of two components. The first sets forth policies and guidelines to preserve and encourage the reuse of the historic structures, and the second sets forth policies and parameters for new development that protect and enhance the existing historic structures. These are discussed in further detail in Section IV.C.3 (Historic Resources) of this EIR. The ADP encourages the preservation and reuse of the historic resources through a series of policies and guidelines based on the Secretary of the Interior's Standards for Rehabilitation. The design goal of the ADP is to create a district that grows out of, and complements, the historically significant architecture of Union Station and Terminal Annex, the cultural heritage of El Pueblo/Olvera Street and the active urban tradition of the Chinatown neighborhood and Little Tokyo. Key goals and policies include:

- Siting of new buildings to preserve and enhance views of historic buildings.

- Massing and architectural treatment designed to minimize interference with the image and character of Union Station and Terminal Annex.

- Building materials for new buildings shall be complementary with those used on the Union Station and Terminal Annex Buildings.

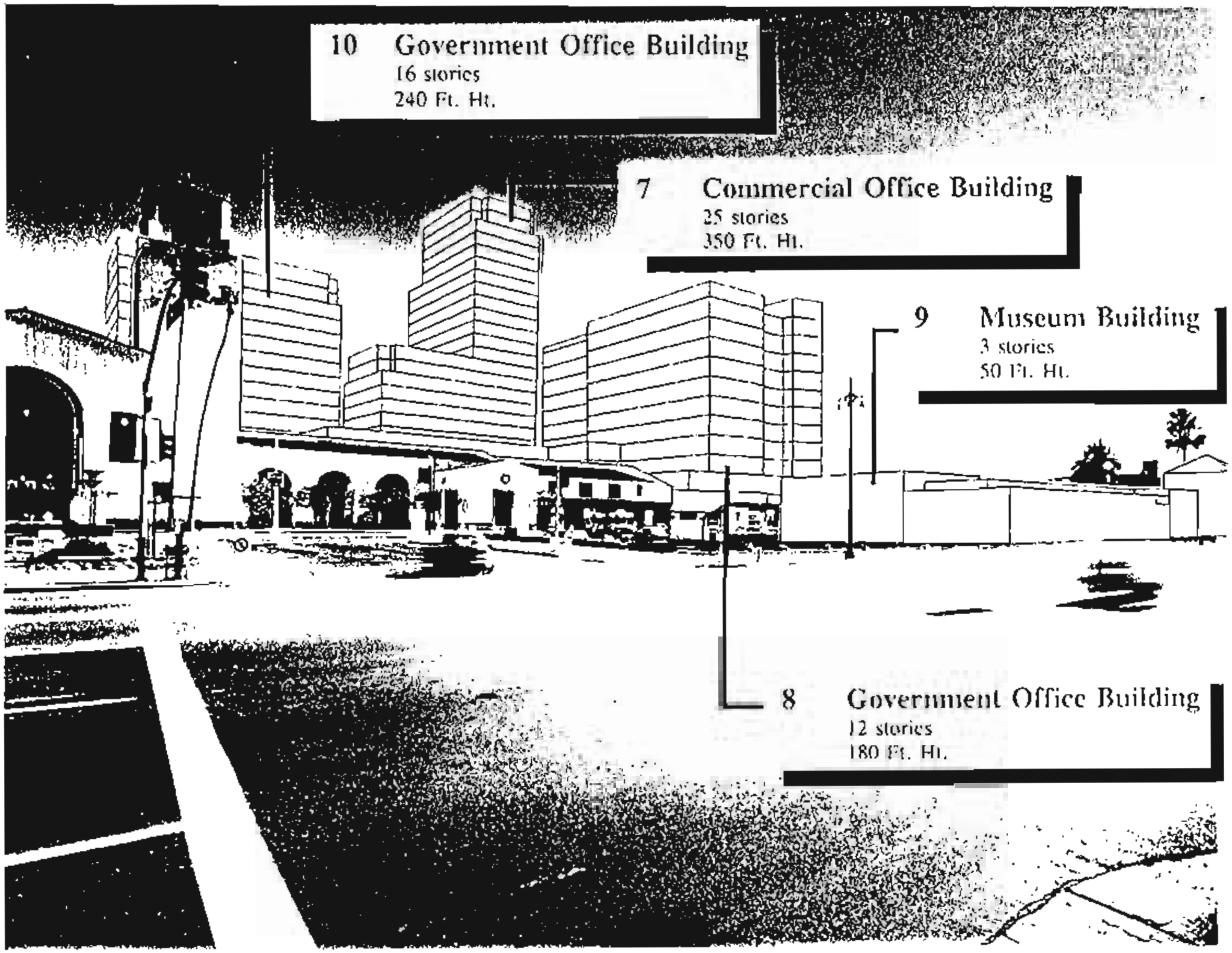
Alterations to Viewsheds

As discussed under "Environmental Setting," the most prominent and important views of the project site are of the west elevations of the Terminal Annex Building and the Union Station Passenger Terminal from vantage points along Alameda and North Main Streets. Further, the areas most frequented by pedestrians in the project locale are along the Alameda and North Main Street frontages on the western edge of the project site and in the Olvera Street and Chinatown areas further to the west. Figures 17 through 20 show the generalized building massing of proposed Phase I development superimposed over existing on-site structures from the same perspectives along or adjacent to Alameda Street as Figures 13 through 16.

Photo 5, Figure 17 shows Phase I development on the Union Station property from the same vantage point as shown in Photo 1, Figure 13, from the intersection of Alameda and Los Angeles Streets looking southeast. The important foreground view of the western frontage of the Union Station Passenger Terminal is preserved in its entirety from this perspective. Proposed Phase I development on the Union Station property dominates the middleground and background perspectives. While views of the Union Station Passenger Terminal are preserved they would be framed by new development resulting in an alteration of the viewshed. Thus impacts from this vantage point would be significant.

Photo 6, Figure 18 shows Phase I development on the Terminal Annex property from the same vantage point as Photo 2, Figure 14, from Alameda Street and Cesar E. Chavez Avenue looking northeast. The visually important view of the four-story Terminal Annex Building is preserved from this vantage point, with proposed new Phase I development on the Terminal Annex property shown in the middleground and background. Impacts from this vantage point would be less than significant.

Photo 7, Figure 19 shows Phase I development on the Union Station and Terminal Annex properties from the same vantage point as Photo 3, Figure 15, from Alameda Street north of Arcadia looking northeast. While the visually important middleground perspective of the Union Station Passenger Terminal is preserved, the viewsheds from the west and south are disrupted. Given the sensitivity of uninterrupted views of the Union Station Passenger Terminal, disruption of these views from the west and south is considered a significant visual impact. With respect to the Terminal Annex Building, the background view is preserved from this perspective and impacts would be less than significant.



Source: Ehrenkrantz & Eckstut Architects

VIEW FROM ALAMEDA STREET @ LOS ANGELES STREET
LOOKING SOUTHEAST

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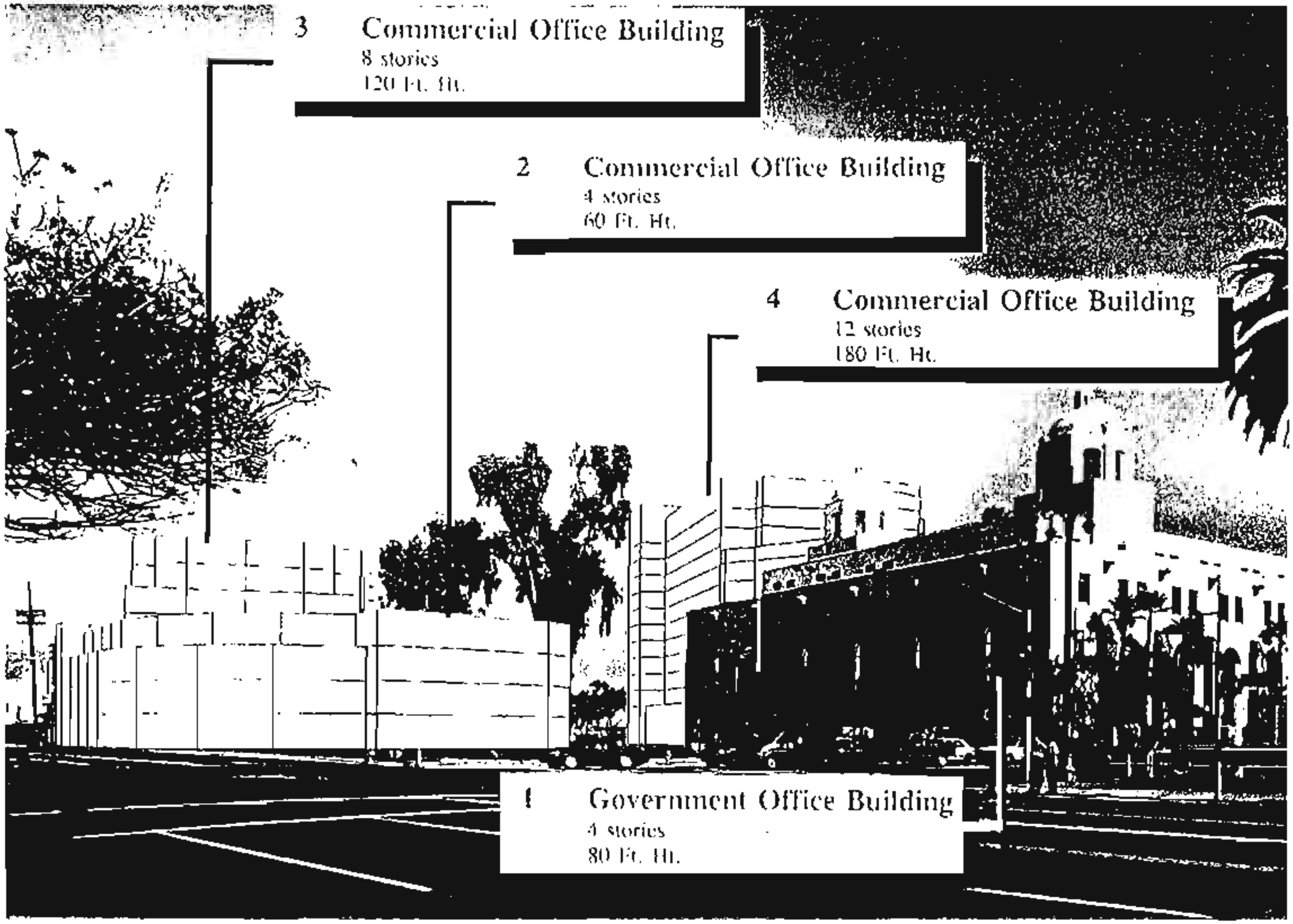
Figure 17
SUPERIMPOSED PHASE I DEVELOPMENT
PHOTO 5



VIEW FROM ALAMEDA @ CESAR CHAVEZ
LOOKING NORTHEAST

Source: Ehrenkrantz & Eckstut Architects

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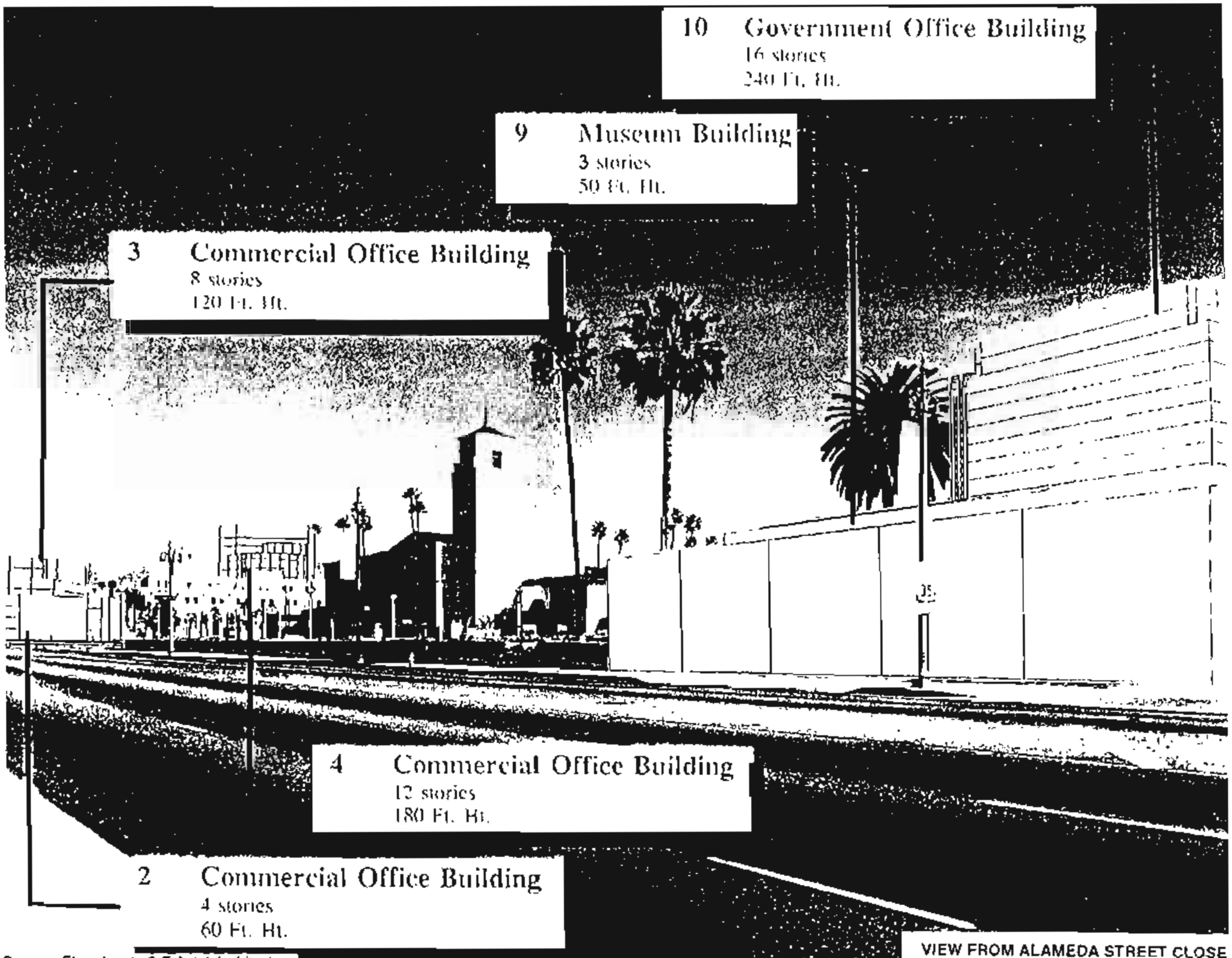
Figure 18
SUPERIMPOSED PHASE I DEVELOPMENT
PHOTO 6



Source. Ehrenkrantz & Eckstut Architects

VIEW FROM ALAMEDA STREET CLOSE TO ARCADIA LOOKING NORTH

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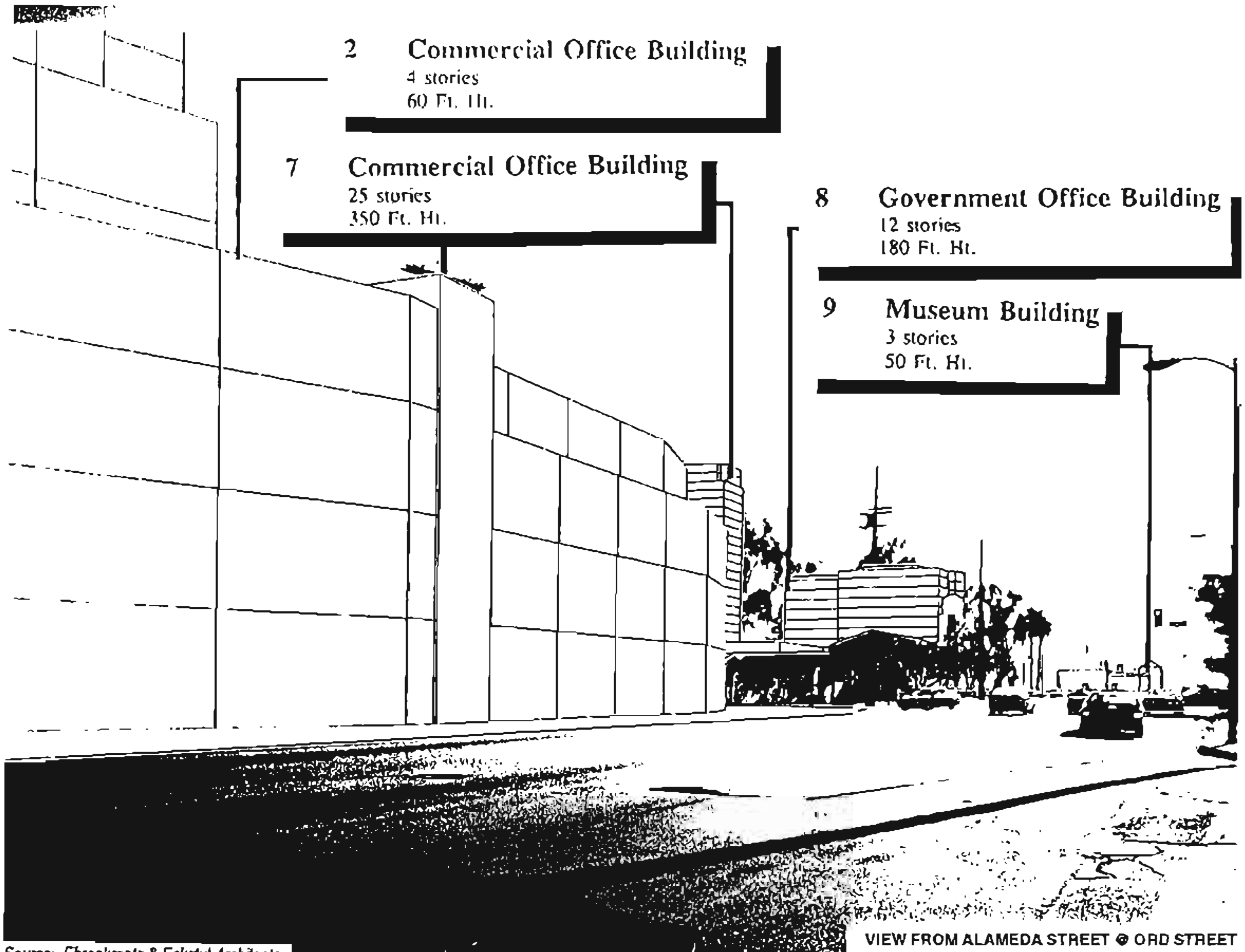
Figure 19
SUPERIMPOSED PHASE I DEVELOPMENT
PHOTO 7



Source: Ehrenkrantz & Eckstut Architects

VIEW FROM ALAMEDA STREET @ ORD STREET
LOOKING TO THE SOUTH

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Figure 20
SUPERIMPOSED PHASE I DEVELOPMENT
PHOTO 8

Photo 8, Figure 20 shows Phase I development on both the Terminal Annex and Union Station properties from the same vantage point as Photo 4, Figure 16, at the intersection of Alameda, North Main, and Ord Streets. From this position, the foreground view will be dominated by new development on the Terminal Annex property, while middleground views will be dominated by new development on the Union Station property. In addition, several low- to mid-rise buildings immediately south of the Santa Ana Freeway can also be observed in the background. Since no prominent or important views of the existing Terminal Annex Building or Union Station Passenger Terminal are presently available, visual impacts from Phase I development from this vantage point are considered to be less than significant.

Buildout Phase Impacts

Impact on the Visual Character of the Site and Locale

Development proposed under the Buildout Phase of the project would further increase the density of development on the project site and would continue the modification of the visual character begun during Phase I by changing the land use pattern to a mix of new urban-oriented commercial development, harmonized with existing historical structures. Buildout Phase development would have a significant impact on on-site visual character. Buildout Phase would increase the visibility of the site relative to the surrounding area, but would be consistent with the highly urban character of the Civic Center and downtown areas to the south. Buildout Phase development would not have a significant impact on off-site visual character. Compliance with the Historic Resources, Parks and Open Space, and Urban Design Elements of the ADP would reduce impacts on on-site visual character, but not to a less than significant level. The provisions of these ADP elements are as previously discussed.

Alterations to Viewsheds

Specific development plans are not available for the Buildout Phase of the ADP. Photos 9 and 10, Figures 21 and 22 respectively, show proposed Phase I development, and the boundaries and height limits for potential Buildout Phase development, for each of the Planning Areas (400 feet for the Mixed-Use/Office Area, 550 feet for the Transit/Office Core Area, and 80 feet for the Historic Area) from the same vantage points as depicted in Figures 8 and 9 in Section III, Environmental Setting. Depending on the ultimate number, size, and location of buildings developed under the Buildout Phase of the ADP, important views of both the Terminal Annex Building and the Union Station Passenger Terminal could be framed, blocked or obstructed, with impacts considered significant given the visual sensitivity of these historic structures. As discussed above, however, the Historic

Resources, Parks and Open Space, and Urban Design Elements of the ADP have been developed to minimize impacts on views and visual character and would reduce, although not eliminate, significant impacts.

Summary of Phase I Impacts

Impact B.1.1 Phase I development will modify the on-site visual character and is considered a significant impact.

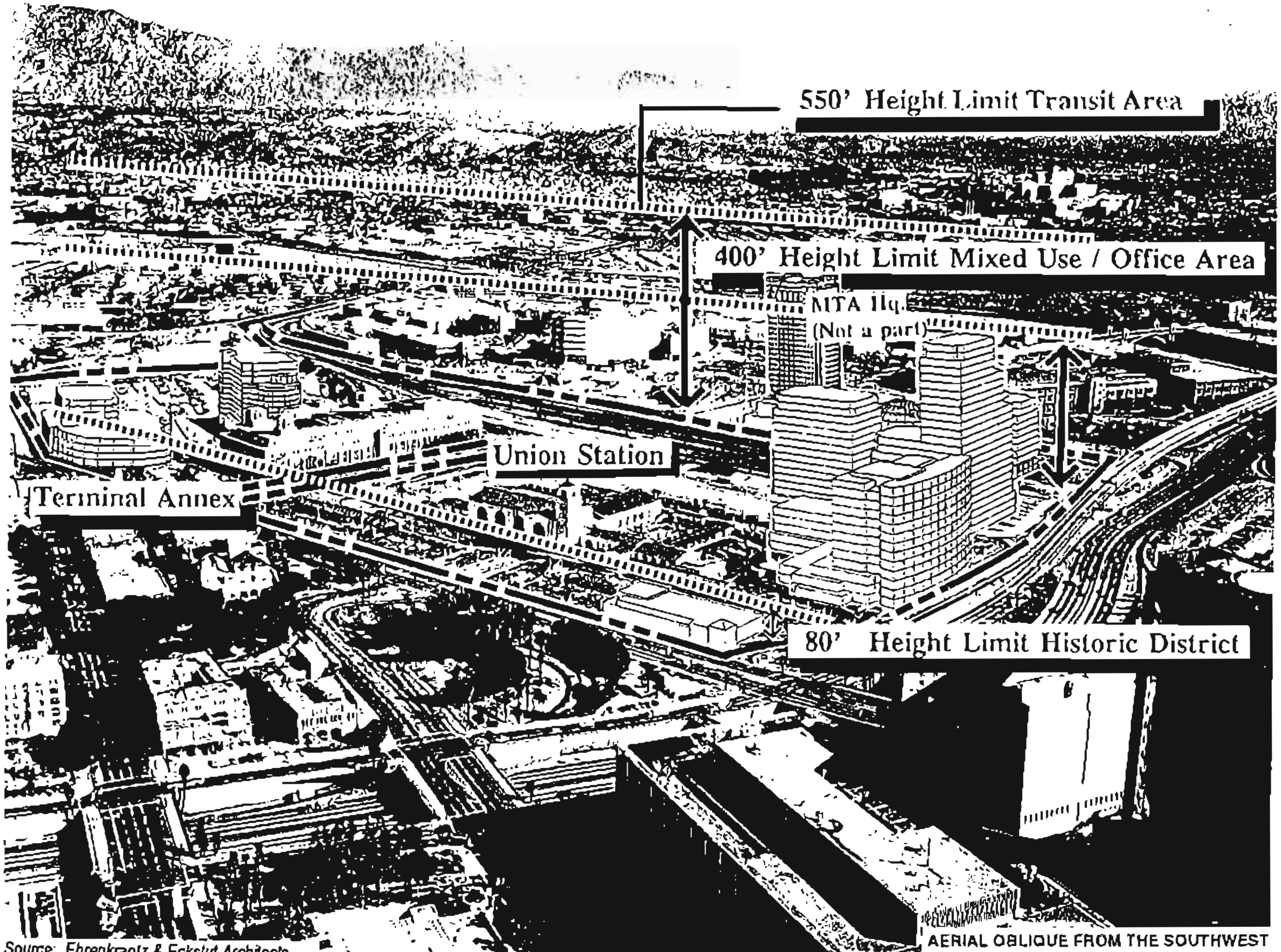
Impact B.1.2 Alteration of the viewshed from the intersection of Alameda and Los Angeles Streets is considered a significant impact.

Impact B.1.3 Obstruction of views of the Union Station Passenger Terminal from the south and southwest is considered a significant viewshed impact.

Summary of Buildout Phase Impacts

Impact B.2.1 Depending on the ultimate number, size, and location of buildings developed under Buildout Phase of the ADP, important views of both the Terminal Annex Building and the Union Station Passenger Terminal could be partially framed or obstructed, with viewshed impacts considered significant.

Impact B.2.2 Buildout Phase development will modify the on-site visual character of the site and is considered a significant impact.

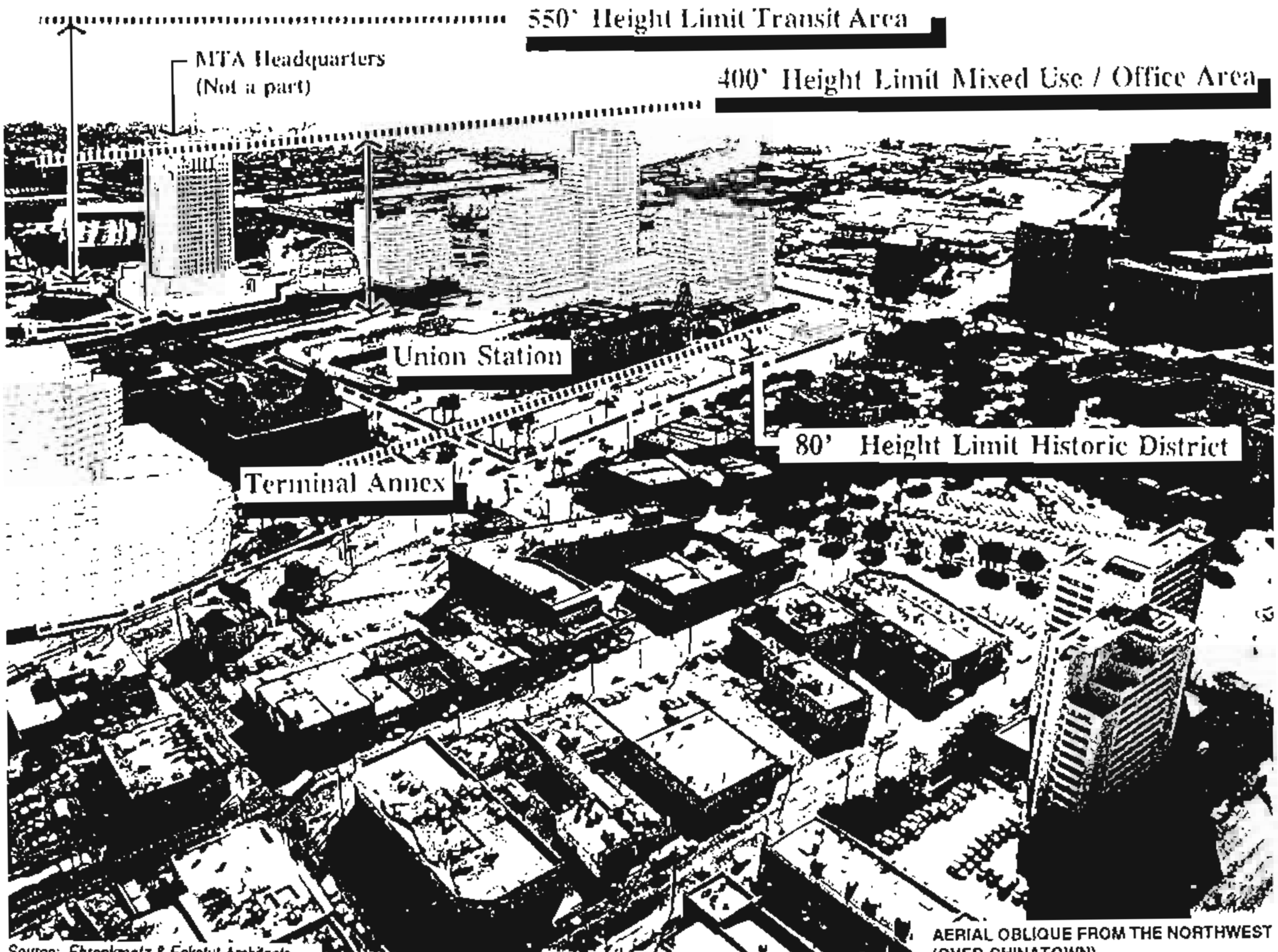


Source: Ehrenkrantz & Eckstut Architects

AERIAL OBLIQUE FROM THE SOUTHWEST
(FROM CITY HALL)

CORDOBA CORPORATION
EPA ENVIRONMENTAL PLANNING ASSOCIATES

Figure 21
SUPERIMPOSED PHASE I
DEVELOPMENT/BUILDOUT HEIGHT LIMIT
PHOTO 9



Source: Ehrenkrantz & Eckstut Architects

AERIAL OBLIQUE FROM THE NORTHWEST
(OVER CHINATOWN)

CORDOBA CORPORATION
EPA ENVIRONMENTAL PLANNING ASSOCIATES

Figure 22
SUPERIMPOSED PHASE I
DEVELOPMENT/BUILDOUT HEIGHT LIMIT
PHOTO 10

CUMULATIVE IMPACTS

With respect to aesthetic impacts, only one of the 56 identified related projects is located in close enough proximity to the project site to potentially compound the impacts of the project itself. The project most likely to contribute to cumulative aesthetic impacts is Related Project No. 15, Phase I of the Gateway Center project. Although this project is adjacent to the ADP, environmental review for this development was previously conducted through a Draft and Final EIR prepared and certified in 1992. This building, which will contain 628,000 square feet of office space and stand 26 stories tall when complete, is currently under construction and will house the Headquarters of the LACMTA.

Because of its size and adjacency to the proposed project, the Gateway Center project will contribute to the transformation of the existing visual character in the project locale. This is considered a less than significant impact on off-site visual character given the highly urban character of the Civic Center and downtown areas to the south. As such, significant cumulative impacts associated with off-site visual character would, like the proposed project, not be anticipated. Contribution to the transformation of the existing visual character would, however, constitute a significant cumulative impact on on-site visual character. With respect to viewshed impacts, development of the Gateway Center project or other related projects would not obstruct any important views of the Terminal Annex Building and the Union Station Passenger Terminal. Significant cumulative effects would be limited to the impacts of the ADP itself. No additional cumulative impacts would be expected as a result of related projects.

MITIGATION MEASURES

Compliance with the Historic Resources, Parks and Open Space, and Urban Design Elements of the ADP will reduce, but not eliminate, significant viewshed and on-site visual character impacts. Additional mitigation measures are not feasible.

ADVERSE EFFECTS

Phase I and Buildout Phase development would result in significant impacts to viewshed and on-site visual character.

SECTION IV.C.1
ARCHEOLOGICAL RESOURCES

This section summarizes the results of a comprehensive archeological report prepared for the ADP by Brian D. Dillon, Ph.D., in January 1994. The study (incorporating literature, archive, historic map, and photograph research) is on file with the Community Planning Bureau, City of Los Angeles Planning Department, located at 221 S. Figueroa Street, Third Floor, and is part of the Technical Studies Appendices to this EIR.

ENVIRONMENTAL SETTING

As a means of identifying known cultural resources within or adjacent to the study property, formal archaeological and historical site records and historic monument listings as established by federal, state, county, and municipal mandates were consulted at the UCLA Archaeological Information Center. Similarly, archival collections of historic photographs, drawings, maps, and sketches were examined at the Los Angeles Public Library, the University of Southern California, the Los Angeles County Museum, the Los Angeles City Engineer's Office, the El Pueblo de los Angeles Historical Monument, and the Chinese Museum of Los Angeles. These collections incorporate earlier holdings of the Title and Trust Insurance Company, the Security Pacific Bank, the California Historical Society, and the Hearst Publishing Company (Los Angeles Examiner). Along with the official site records, unpublished EIRs completed for the immediate vicinity of the ADP (as well as within a one-mile radius of it) were consulted at the UCLA Archaeological Information Center.

Other documents relating to the prehistory and history of the study area held by the Los Angeles Public Library's History Department and El Pueblo de los Angeles Historical Monument, were also canvassed, and additional published and unpublished reports on relevant environmental impact research in the project vicinity were also located and examined.

Environmental setting is normally understood to indicate the natural background or arena within which cultural (or human) events and activities took place. For the purposes of this analysis, however, the environmental setting of the ADP instead indicates the history of land use within the boundaries of the study parcel over the entire period of human presence in Southern California, essentially from as early as twelve thousand years ago to the present day. As referenced in this section, the environmental setting will address both prehistoric (prior to 1542 A.D.) and historic (from 1542 A.D. to the present) periods.[1]

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1 The historic period is usually subdivided into four chronological subdivisions from the protohistoric to the anglo-american as described later in this section.

The ADP project incorporates an area of 70.52 acres immediately to the east of the oldest historic portion of the City of Los Angeles and lies in the generally flat zone west of the Los Angeles River, within its historic flood plain. All of the ADP property lies within the original four square league boundary of El Pueblo de los Angeles as established by the Spanish Colonial authority in 1781.

The ADP includes a southern, 52.3-acre unit including and surrounding Los Angeles' Union Station, as well as an 18.2-acre unit incorporating the Terminal Annex property.

The ADP is bound on the west by Alameda Street and for a short distance by North Main Street; on the south, by the Santa Ana Freeway and associated off ramps; and on the north and east, by Vignes Street. Cesar E. Chavez Avenue penetrates the parcel near its mid-point and serves to define its northern and southern portions.

Recorded Sites and Monuments

An archival search was performed at the UCLA Archaeological Information Center, a branch of the California State Historic Preservation Office. Whereas four recorded archaeological sites (CA-LAN-7/H, 887H, 1112H, and 1575H) were found to exist in the immediate vicinity of the ADP, only one of these (CA-LAN-1595H) is entirely incorporated within the project boundaries. CA-LAN-7/H was recorded in 1951 across Alameda Street from Union Station as part of the old, late 19th-century Los Angeles Chinatown. CA-LAN-887H was recorded in the present Placita de Dolores in 1978, also opposite Union Station, in the small triangular zone just east of the El Pueblo de los Angeles Historic Monument. The historic site consists of structural and habitation remains dating as early as the Spanish Colonial Period all the way up to the 1950s (including a Spanish/Mexican period midden, Zanja Madre [L.A.'s first irrigation system], and deposits from a brothel that dates from c. 1880-1920). Whereas both these sites are presently known to have been recorded on the west side of Alameda Street, it must be recognized that Alameda Street is simply an artificial, modern "boundary of convenience," and either or both sites, or additional deposits similar in nature, could exist on the east side of Alameda Street within the limits of the study parcel. CA-LAN-1112H was recorded in 1981 within El Pueblo de los Angeles Historic Monument, immediately north of and adjacent to the old Plaza Church. Unlike the situations with CA-LAN-7/H and 887H, there is no likelihood that CA-LAN-1112 extends onto the ADP.

CA-LAN-1595H was recorded in 1989 and incorporates the area south of Cesar E. Chavez Avenue, west of Vignes Street, north of the 101 Freeway, and east of Alameda Street. In other words, all of this historic archaeological site is presently encompassed by the Union Station portion of the ADP. CA-LAN-1595H is said, by its recorder, to incorporate historic Chinatown, ca. 1860 to the 1930s; but this statement is only partially correct, as the first Los Angeles Chinatown of the 1860s through the early 1880s actually lay to the west, centered around the Calle de los Negros southeast of the old Spanish Plaza but still west of Alameda Street. It was only after the mid-1880s that landowners such as Juan Apablaza developed their concentrated group of tenements for Chinese occupants in the LAN-1595H area, which may be more properly termed Los Angeles' second Chinatown. Much of the historic site lies underneath or adjacent to the extant structures of Union Station; and by 1989, archaeological monitoring and salvage work, concomitant with the Metro-Rail Construction project, had unearthed at least one human burial, substantial deposits of artifactual remains (e.g., Chinese ceramics, glassware, and jewelry), and architectural and cultural features (e.g., building footings, pipelines, ditches, and hearths). Non-artifactual constituents include assorted faunal remains (i.e, fish, turtle, bird, shellfish, and reptile).

Published reference works relating to historic resources, as established by Federal, State, County, and municipal mandate, were also consulted. The National Register of Historic Places list (updated through 1993) was consulted. It was determined that on the Federal level, the Los Angeles Union Station Passenger Terminal at 800 North Alameda Street (Union Station) and the US Post Office (the Los Angeles Terminal Annex) at 900 Alameda Street, both lying within the study area boundaries, have been placed upon the National Register of Historic Places. Many other structures and districts in close proximity to the study area have also been placed upon the National Register, and are enumerated in the Historic Resources Report, as part of the Technical Studies Appendices available at the City Planning Department.

On the State level, according to the California State Department of Parks and Recreation listing of State Registered Landmarks (1982; updates through December, 1993), many state landmarks also exist in close proximity to the study parcel. On the Los Angeles County level, the Union Station Passenger Terminal has been recorded as a Historic Place (No. A3). Many other buildings and localities adjacent to the study parcel have also been designated as historic places; these are detailed in the cultural resources appendix to the project EIR. On the Municipal level, according to the Cultural Heritage Board of the City of Los Angeles (1980; updates through 1993), the Union Station Passenger Terminal has also been declared a Los Angeles City Historic-Cultural Monument (No. 101). Again, as with the Federal, State, and County situation, many other monuments have been recognized as historically significant by the City of Los Angeles in the general vicinity of the study area. The reader is also referred to Section IV.C.3, Historical Resources, for a detailed discussion of on-site historical resources and project impacts.

Cultural/Historical Background

Little direct evidence of prehistoric (prior to 1542 A.D.) occupation within the boundaries of the project site is available. Because the entire property is completely improved with historic period development, no surface traces of prehistoric age are visible anywhere on the site. Nevertheless, given its proximity to the Los Angeles River, natural conditions would have rendered the project location as close to optimal a resource acquisition area in the prehistoric period, and somewhat less likely perhaps, as a settlement location as well. This being the case, it is possible that prehistoric cultural resources may still exist within the project boundaries, albeit presently obscured by the more recent cultural deposits or constructions. Archaeological evidence from similar, but less disturbed, contexts indicates that the Los Angeles plain and coastal strip probably hosted a prehistoric human occupation continuously for at least the past 8,000 years. An even earlier occupation dating perhaps as far back as 12,000 years ago is possible, but has yet to be scientifically documented at any Los Angeles County site. The earliest possible cultural resources which may be discovered on the study parcel, consequently, would date from this period.

Traditional thinking holds that population density along the southern California littoral (coastline) remained quite low until the period approximately between A.D. 1 and 500, after which a great many large villages developed in the most favorable coastal locations, such as where the major freshwater streams and rivers either met the shoreline or cut across flat topography. The study area meets these criteria. Alternatively, however, any location east of the present course of Alameda Street (i.e., within the project boundaries) may have been periodically scoured by the Los Angeles River while in flood stage.

Southern California prehistoric Indian settlement patterns, as presently understood, suggest that it is unlikely a prehistoric or protohistoric (1542 to 1769) Indian village would be located within the flood zone (i.e., east of Alameda Street) when high ground was available just a few hundred feet to the west. Indeed, the original Spanish Colonial El Pueblo de los Angeles may have lain within or very close to the project boundaries, but was moved to higher, drier, ground to the west after being flooded out of its low-lying location.

The arrival of Spanish, Portuguese, and Mexican Criollo explorers in Alta (or "upper") California ushered in the Historical Period. In Los Angeles County, the historical period is usually subdivided into the following chronological subdivisions (identified by the name of the group in the political ascendancy at the time):

Protohistoric	1542-1769
Spanish Colonial	1769-1822
Mexican	1822-1848
Anglo-American	1848-present

Documentary evidence is most suggestive that significant cultural resources belonging to each of these four successive periods may be present within the boundaries of the ADP. The precise location of protohistoric Yangna or Yabit, the Indian settlement visited by the Portola party in early August 1769, continues to puzzle historians and archaeologists and stimulates debate. Some believe that this place lies underneath Union Station, within the boundaries of the southern half of the ADP project site. If any traces of Yangna/Yabit remain, they are presently obscured by downtown Los Angeles, with none having been visible on the ground surface for approximately 130 years. Different lines of evidence and differing opinions as to the location of Yangna are discussed and evaluated in the Technical Appendix. At the present time, the protohistoric Indian settlement of Yangna cannot be stated with any degree of certainty to have existed within the boundaries of the study property, but, conversely, neither is there compelling archaeological evidence that it in fact was located somewhere else.

The original center of El Pueblo de los Angeles, as founded in 1781, lay towards the northern margin of the four square-league rectangle, west of the Rio Porciuncula, probably north of present-day Marchessault Street and perhaps east of the present course of Alameda Street within the boundaries of the study area. Unfortunately, no precise maps exist by which the exact location of the earliest Spanish Colonial civil pueblo in Southern California may be established.

It is known that the original historic village was laid out around a plaza on the standard Latin American plan, and that the northwest corner of the modern Los Angeles Plaza may incorporate some part of the southeast corner of the original Plaza. Certainly, even if the original historic village center may not have been located within the ADP boundaries, some of the first agricultural fields, irrigation works, and grazing lands established by the Spanish Colonial settlers were laid out on the lands presently incorporated by the study parcel. With the focus of the Spanish Colonial town of Los Angeles moving to the west, the project site remained essentially agricultural from 1800 until the end of the Spanish Colonial period.

With the Mexican period beginning around 1822, the village of Los Angeles grew into a small town as population increased. In 1835, the Capitol of California was moved from Monterey to Los Angeles, indicating a shift in the political and economic gravity of Mexican California, from the north (Monterey) to the south. Concomitantly, much irrigated crop land adjacent to the growing town of Los Angeles, especially to the east, was converted from the seasonal growing of maize and beans to more commercially viable orchards and vineyards.

Much, if not most, of the study parcel had been so developed by the mid-1830s, particularly through the efforts of J.L. Vignes, a French immigrant and the leading wine maker of the entire Pacific Coast north of Central Mexico. Vignes' Aliso vineyard and winery, the most significant exemplar of this industry in western North America, overlapped a portion of the southwestern margin of the ADP. The dirt path leading to it in the 1830s, after many changes, is still known 160 years later as Aliso Street. Another French vintner, Louis Bouchette, also planted a vineyard north of what is now Cesar E. Chavez Avenue, likewise converting the Terminal Annex portion of the study property from subsistence agriculture to wine-making.

Near the southwest corner of the study parcel, bordering on Vignes' property, also lay the Rancheria de los Poblanos (literally, the "villagers' encampment"), where ex-mission Indian refugees were allowed to settle after their eviction from the Southern California Missions in 1836. It is possible that some accounts of the protohistoric Indian settlement of Yangna existing "under Union Station" are in fact confusing the middle and late 18th-century site with the early 19th-century Indian refugee Rancheria de los Poblanos. This Indian refugee encampment was short-lived, lasting only about nine years; for the Indians were again evicted in 1845 and moved across the Los Angeles River to the eastern bank to allow the land to be brought into cultivation for vineyards.

Patterns of land use within the boundaries of the ADP study parcel changed little after the Mexican War of 1847 and the 1850 California Statehood. Through the 1850s and 1860s, Los Angeles remained more Mexican and agricultural than Yankee and industrial, but by the early 1870s, this pattern began to change. Aliso Street developed into one of the principal freightage and teamster centers of the growing town, and some of the older vineyards were replaced by warehouses, stables, and wagon makers' shops.

The northeast corner of the intersection of Aliso and Alameda streets began to be built up as early as the 1860s, but most of the area east of Alameda and south of Cesar E. Chavez Avenue remained in vineyards into the early 1880s. One major exception to this situation was the construction of the Sisters of Charity Orphanage at the southwest corner of Cesar E. Chavez Avenue and Alameda Street around 1870. This was one of the few three story buildings in Los Angeles, and for many years a prominent local landmark. Los Angeles was finally linked with Northern California and the eastern States by rail in the late 1870s; and Alameda Street became one of the principal rights of way for railroads entering the city.

By the early 1880s, Los Angeles was experiencing a population boom that completely eclipsed all previous demographic patterns, and one consequence was the rapid development of many old agricultural areas that had remained orchards and vineyards up until this point. Much of the area taken up by the Union Station portion of the ADP incorporates Los Angeles' second Chinatown, which was essentially the city's Chinese ghetto from the early 1880s until its residents were forced to relocate by the construction of Union Station in the middle 1930s. North of Cesar E. Chavez Avenue, on what is now the Terminal Annex portion of the ADP, lumber mills and lumberyards were built. This was a favored location, being at the terminus of the eastward rail line bringing San Bernardino Mountain timber for construction of the booming town.

As early as 1860, a Chinese company had been organized in Los Angeles; however, of a total County population in 1860 of 11,333 people, only 11 were Chinese. A decade later, the Los Angeles Chinese population was still less than 300. In 1871, the infamous Chinese Massacre culminated in 19 Chinese being lynched by a mob adjacent to the town plaza. The Chinese population of Los Angeles, despite this setback, nevertheless continued to grow. By 1880, it numbered approximately 1,169 people (out of a total County population of 33,381), and eventually grew to 4,424 people out of 101,454 by 1890. At its height, Los Angeles' old Chinatown had a concentrated population of about 3,000, most residing east of the Plaza on both sides of Alameda Street. Because 19th century legislation in California prohibited most Chinese from becoming citizens, they could not own land outright and had to lease, sublease, or simply live as tenants on the property of legal (i.e., non-Chinese) owners. One such major property owner of the late 19th and early 20th centuries was Juan Apablaza, whose lands constituted the heart of Chinatown and lay entirely within the ADP boundaries. Chinatown incorporated brick, two-story tenements, as well as one and two-story wooden houses and shacks. For half a century it existed as a city within a city, the largest Chinatown in Southern California.

Union Station was built only after a long legal battle lasting 29 years. Demolition of selected Chinatown structures began in 1933, and by 1935 massive earth-moving activities were well under way. The first structures demolished lay at the eastern end of the proposed station, leaving a strip of buildings still fronting Alameda Street. All the old Chinatown structures were demolished by 1938, and salvageable building materials (bricks, wood, etc.) were removed for reuse prior to construction of the Union Station. More than 400,000 cubic yards of fill were brought on-site (much of it taken from Fort Moore Hill) so as to raise the new tracks 12 feet above the existing grade of Cesar E. Chavez Avenue at the northern end, and 16 feet above the existing grade of Aliso Street. In 1935, the Post Office Department announced its plans to build a new and major facility (to be called the Terminal Annex) near the proposed Union Station east of Alameda Street and south of Cesar E. Chavez Avenue. After negotiations, the Terminal Annex was relocated north of Cesar E. Chavez Avenue, and was completed shortly after Union Station, which was opened on May 3, 1939.

ENVIRONMENTAL IMPACT

Threshold of Significance

According to the California Environmental Quality Act (CEQA) and CEQA Guidelines, Appendix G (Part j), activities which disrupt or adversely affect important prehistoric or historic archeological resources or sites may be considered as significant impacts. Under both state and federal law, adverse impacts to significant prehistoric or historic archaeological deposits must be mitigated. However, before specific mitigation measures are designed, so that the ADP will be in compliance with such legal requirements, further consideration of what constitutes significant archaeological deposits should be made. This is crucial at the outset, as no mitigation of adverse impacts is required for deposits determined to have no archaeological significance. However, until existing pavements and recent historic fill layers have been removed, there is no way to know if significant archaeological deposits requiring mitigation remain.

Reasonable criteria for archaeological and historical significance, which are unambiguous and also in keeping with all state and federal guidelines, relate to: 1) chronological age; 2) the uniqueness; and 3) the state of preservation of the kinds of evidence encountered. These three criteria, discussed further below, can be used for case-by-case comparison and for the ultimate determination in each case as to whether a given collection of subterranean artifacts is significant or insignificant, and consequently should or need not be preserved.

Chronological Age

In strictly historical terms, the older the historical or archaeological evidence is, the more significant it is. At present in California, as a minimum criteria for historic site status, the evidence must be at least 45 years of age. This recommendation simply means that anything younger than 45 years of age cannot be considered historically significant.

Uniqueness

Uniqueness is a related issue, for, it is a general rule that the farther back one goes in time, the fewer examples of things that once were common remain. Because the destructive effects of repeated construction in the same locality are cumulative, very few traces remain of Prehistoric, Spanish, or Mexican period sites, as well as of archaeological deposits in downtown Los Angeles.

Early post-World War II deposits, on the other hand, while technically "older" than 45 years, are nevertheless redundant at present and have little, if any, significance; and, therefore, they need not be mitigated nor avoided by construction projects.

Moving backwards in time, not every one of the thousands of historic artifacts dating to the late Anglo-American period (principally glass fragments and tin cans), likely to be recovered from deep penetrating excavations in downtown Los Angeles, need be preserved, even though they may in some cases greatly exceed 45 years of age. Here, representative sampling should constitute adequate mitigation for preservation purposes.

Intactness

The final significance criteria, that of the intactness and/or degree of preservation, can only be considered once the preceding two (age and uniqueness) have been determined. Regardless of their state of preservation, any historical archaeological evidence dating to the Mexican Period or earlier should be considered as significant and should be preserved. All such evidence is extremely rare, and is as old as the recorded history of the State of California can be.

Proposed Project

Proposed for the 70.5 acres incorporated by the ADP is a two-phase development project. Building plans and their locations have been formalized for Phase I development and are treated herein. Buildout Phase development, however, is still in the planning stages, but should be treated as though, by the end of Buildout Phase, most undeveloped portions of the property will host multi-story buildings with subterranean, multi-tiered parking structures. The most notable exceptions to such proposed development are the Terminal Annex and the Union Station Passenger Terminal Buildings, most of which will remain unchanged, and the open space areas intercalated between the proposed new development.

Proposed for Phase I are: four new commercial office buildings ranging in height from four to twenty-five stories; three new buildings proposed for government facilities, eleven to sixteen stories in height; retail uses of three stories; and a new museum of three stories in height. Buildout Phase construction will expand the inventory to include new hotels, a conference center, recreation facilities, a residential component, and other related uses.

Phase I and Buildout Phase Impacts

From the archaeological impact standpoint, the proposed above-ground height and proposed function of each new building is of no consequence; potential adverse impacts to any significant prehistoric, protohistoric, or early historic cultural resources will only be occasioned by subsurface excavations required for subterranean parking and, to a lesser extent, for foundations or footings. For Phase I development, four buildings will have two-story, subterranean parking structures which will be excavated approximately 20 feet below present grade (at least an additional 10 foot buffer margin should be added for footings, utilities, etc.), giving a maximum depth of 30 feet for construction excavation. Buildout Phase development could incorporate subterranean parking structures ranging from a minimum of one to a maximum of five stories in depth (with a ten-foot buffer). Such excavations would penetrate to depths of 30 to 60 feet below present grade.

Any and all such deep penetrating excavations for subterranean parking are likely to reach through existing imported fill layers to the old grade level dating to the mid-1930s (i.e., before the construction of Union Station and the Terminal Annex). As noted above, imported fill brought in prior to the construction of Union Station/Terminal Annex ranged in depth from 12 to 16 vertical feet. Moving from north to south, dips and pockets in the old ground surface could result in fill depths approaching 30 feet in some places.

Also expected is an increase in thickness of the 1930s era fill layer from west to east. Therefore, those new buildings proposed for the western portion of the property (closer to Alameda Street) should consequently encounter a thinner subsurface fill layer while those farther east (farther from Alameda Street) should encounter deeper fill deposits.

The above discussion regarding possible fill depths is of direct concern to understanding potential impacts to any significant subsurface prehistoric and historic archaeological deposits which might still exist on the project site. Historically, recent imported sterile fill has no archaeological significance and is irrelevant to the legitimate concern of compliance with mitigation recommendations for the amelioration of adverse impacts to significant cultural resources.

While deep penetrating excavations which remove significant archaeological deposits constitute an adverse impact and require mitigation, such excavations through recent, probably sterile, imported fill (such as that underlying the present grade at the ADP and blanketing any stratigraphically lower archaeological deposits which may be remaining) will not constitute adverse impacts that require mitigation.

Any surviving intact archaeological deposits dating to the prehistoric, protohistoric, or early historic periods, if encountered during pre-construction excavation, are likely to be fairly thin (of only a few feet thickness at best). If existing, these may in some cases best be visualized as sandwiched between a sterile imported fill cap above, and the culturally sterile geological deposits below.

With potential adverse impacts from the proposed construction limited to what may prove to be a single, probably thin, stratum, it is obvious that all mitigation efforts should be concentrated upon that cultural stratum rather than upon those insignificant strata above and below. It may be assumed that any and all significant subterranean archaeological deposits which may remain on the project site will be encountered within the first 20 vertical feet of pre-construction excavation. It is equally likely that by the time such excavation has progressed to a depth of 30 feet, it will have exceeded the lowermost limit of such archaeological deposits and, thus, no longer constitute an impact.

It is to be expected that most prehistoric and early historic evidence which may be encountered will come from disturbed contexts, be of small size, be portable, and be best preserved through scientific removal from the areas proposed for development, and finally curated in a museum where it can be adequately protected. In this context, conclusions regarding the probable cultural resources significance of the project site, period by chronological period, are presented below.

Prehistoric Period

A very strong possibility exists that previously unrecorded prehistoric archaeological sites at one time existed within the boundaries of the study parcel. This is because the study location lies at the margin of the old Los Angeles River flood plain, which would have been an optimal prehistoric resource extraction location on the Los Angeles plain, perhaps as early as 12,000 years ago, the time of earliest human entry into Southern California.

However, the possibility that such sites have remained undisturbed through more than 200 subsequent years of intensive land use is extremely unlikely. Similarly, whatever prehistoric remains may once have existed were also probably subject to natural removal and dispersal via the scouring action of the Los Angeles River while in flood, and any prehistoric settlements or use areas may have been, of necessity, of short duration even prior to the historic period. Any such prehistoric remains encountered within the project boundaries would consequently be significant in cultural resources because of their age and uniqueness.

Protohistoric Period

The principal point of interest for the protohistoric period as it concerns the project site is the precise location and extent of the contact-period Gabrielino settlement of Yangna (or Yabit). This Indian settlement was encountered by Don Gaspar de Portola in 1769 somewhere in the vicinity of what is now the study parcel, and was still extant some 12 years later when the Spanish Colonial Pueblo de los Angeles was founded immediately adjacent to it. Amongst the first recorded marriages of the infant Spanish colonial hamlet of Los Angeles were those of colonists from northwest Mexico with Gabrielino Indians from Yangna or Yabit. Unfortunately, there is no consensus as to the exact location of the protohistoric Indian settlement. Some authorities suggest that it could lie within the boundaries of the project site; others believe that it lies to the west, northwest, or southwest. The same conditions for preservation of this protohistoric site apply as those noted above for prehistoric sites; more than two centuries of subsequent land use and natural impact may have removed much, if not all traces, of the protohistoric settlement. Clearly, if any trace of Yangna or Yabit were to be encountered during the proposed construction effort, it should be considered significant because of its age and uniqueness.

Historic Period

The likelihood that significant, historical materials may be discovered during deep excavations preparatory to construction for the ADP is high to very high. The area incorporated within the project boundaries was in use, at least for agricultural purposes (also probably as a dump) virtually from the founding of the Pueblo de Nuestra Senora de la Reina de los Angeles de Porciuncula in 1781 at the outset of the Spanish Colonial period, and saw increasing use during the latter part of that period (roughly 1800-1822). Unlike contemporary colonial-period settlements in other parts of Latin America, or even in the Eastern United States, where buildings or entire city blocks have been preserved, virtually no visible portion of the original 1780s settlement remains intact in Los Angeles. Despite the fact that no original Spanish Colonial period structures remain, it is nevertheless likely that throughout the old Pueblo and its environs, including the study property, significant deposits of Spanish Colonial, Mexican and early Anglo-American period artifacts may remain obscured by later constructions. Such deposits could still be discovered within the boundaries of the ADP, provided that they were not removed during the construction of Union Station and Terminal Annex during the 1930s and early 1940s.

During the Spanish Colonial period, and the subsequent Mexican period (1822-1848), the study property was adjacent to the Los Angeles town Plaza; consequently, quite close to the seat of the most important governmental, political, military, financial, and social activity when Los Angeles was the "capital" of Alta California. Despite such proximity, Los Angeles remained, for all intents and purposes, a small town until the 1870s, and the study area continued to be primarily agricultural in nature. After the early decades of the Anglo-American Period (i.e., post-1880) the northern (Terminal Annex) portion of the study property was developed into lumberyards and rail sidings while the southern (Union Station) portion of the ADP was rapidly developed as the Chinese "quarter" of the growing city. As previously mentioned, this area became the largest "Chinatown" in Southern California within a few years.

For much of its early history, the city of Los Angeles was dependent upon San Bernardino Mountain lumber for most of its construction. Due to deforestation and other causes, this local industry all but died by the 1920s, requiring importation of lumber from Northern California or points even farther afield. Some traces of the late 19th/early 20th century lumberyards may be encountered in the Terminal Annex area as a consequence of construction. Because the story of San Bernardino Mountain lumbering and lumber consumption by the growing city of Los Angeles can be better explained by archival research and studies at the production rather than the consuming end, any such evidence remaining in the ground here should be considered as of moderate significance at best.

Few sources exist for Los Angeles' late 19th century Chinatown. Arnold Genthe documented the place with comprehensive photographic coverage, and demographic reconstructions of the Chinatown population. These are only now being initiated by the Chinese Historical Society of Southern California. The chances for discovery of intact structures or foundations relating to old Chinatown are slight. Nevertheless, some intact deposits (albeit of small size) may still remain to be found, such as cache pits, trash pits, storage cellars, privies, etc. In many cases, these offer more valuable kinds of information than simple architectural remnants themselves. If any such historical deposits relating to Los Angeles' old Chinatown are encountered, these should be considered significant because of their uniqueness rather than any great antiquity. Any deposits post-dating the demolition of Chinatown should be considered to have little or no historical significance and subject to no protection or preservation efforts through mitigation.

Summary of Phase I and Buildout Phase Impacts

Impact C.1.1 In the absence of mitigation, excavation for development (proposed under the ADP) to depths of 30 feet could cause a significant impact in the form of a loss of as-yet-unrecorded archeological deposits and remains. Significant archeological resources on the project site could include remains from the prehistoric, protohistoric, and historic periods.

CUMULATIVE IMPACTS

Excavation for subterranean structures in the ADP, in combination with other past, current, and future developments in the ADP locale could also contribute to the progressive loss of as-yet-unrecorded archeological deposits and remains. The loss would be a significant cumulative impact.

MITIGATION MEASURES

In order to mitigate identified potentially significant impacts to less than significant levels, the following mitigation measures will be required during all construction of new development under the ADP. The measures listed below will allow for the recovery of archeological remains, should any additional remains be encountered by excavation in the ADP area, along with associated geologic and geographic site data. These should then be preserved in a museum repository, where they would be available for future study by qualified investigators. As appropriate, these measures shall be conducted prior to and during excavation for subterranean structures below the artificial fill. With the exception of laboratory tasks and reporting requirements, no mitigation measures will be required after excavation has been completed.

Mitigation recommendations are offered as options subject to implementation, depending upon whether or not significant cultural resources are actually encountered, once ground-breaking begins. The most appropriate forms of cultural resources mitigation, as a means of ameliorating the potential adverse impacts resulting from proposed construction on the ADP, involve both additional archival work and fieldwork.

Phase 1 and Buildout Phase

Pre-Construction

C.1.1.a Prior to the initiation of construction, a written historical reconstruction of each specific location shall be conducted, utilizing maps, photographs, census data, etc. Such additional research should be conducted on a building-site-by-building-site basis, as development is proposed over an extended period of time and some areas are not proposed for new construction. A record of historical reconstruction should include information obtained from sources including, but not limited to, the following data: maps, property ownership, street locations, street addresses, directories, and census information. Historical reconstruction for the entire area is currently underway by the Chinese Historical Society of Southern California and by staff members of El Pueblo de los Angeles Historic Park. To the extent feasible, this work can be comparatively evaluated with the ADP area to contribute to the historical reconstruction for the project site. Once a written historical reconstruction has been completed for the specific construction location, the archival mitigation requirement should be considered as satisfied; and all following mitigation steps, as necessary, lie within the realm of fieldwork.

Construction

C.1.1.b Archaeological monitoring of all subsurface excavation shall be required within the potentially significant historic and prehistoric stratigraphic levels to ensure that no cultural resources are buried under existing development contained within the project property. Below these levels, once sterile soil is encountered and it can be determined that no stratigraphically lower levels masked by thin sterile deposits exist, archaeological monitoring should not be necessary. If such monitoring of the cultural levels (i.e., the fill brought in to cover the old pre-construction surface, the surface itself, and any historic and/or prehistoric cultural levels below it) indicates the absence of significant archaeological deposits, then mitigation of adverse impacts has been achieved in that location, and no additional archaeological work is necessary.

C.1.1.c In the event that potentially significant cultural resources are encountered during the course of construction, all development must cease in the immediate area of the cultural resource until the cultural resources are properly assessed and subsequent recommendations are determined by a qualified archaeologist. This measure is designed to prevent any cultural resources from being damaged and/or destroyed during project development. In addition, the designated depository, as well as the applicant's archaeologist, must be notified immediately if subsurface cultural materials are discovered.

If monitoring reveals problematic archaeological deposits, then additional mitigation steps may be required. Such steps include test excavations to reveal whether such deposits are significant or insignificant. If they are determined to be of little or no significance, then no additional archaeological work is necessary. However, if such deposits are determined to be significant, then salvage excavation of a representative sample might be required. Such decisions can only be made on a case-by-case basis depending upon the specific stratigraphic situation discovered for each proposed construction location.

C.1.1.d Demolition of existing structures or pavements and controlled removal of at least 10, and possibly up to 15, vertical feet of overburden may be necessary prior to actual initiation of any intensive archaeological mitigation work. This is recommended over costly and redundant archaeological test excavations via deep exploratory trenching at the outset, which could miss deeply buried deposits of limited horizontal extent. At minimum, a physical inspection of any and all historic or prehistoric archaeological deposits must be made prior to a determination of significance. Badly disturbed deposits may require test excavation for determination of significance. Such inspection or testing can only be made if archaeological monitoring is conducted concomitantly with initial grading. Only if such deposits can be determined significant should they be mitigated through archaeological salvage excavations.

C.1.1.e Artifacts determined to be prehistorically or historically significant should be preserved and provided to the designated depository for research purposes.

ADVERSE EFFECTS

There will be no significant unmitigated impact on archaeologic resources in the ADP area as a result of construction-related excavation. Environmental impacts will have been reduced to a less than significant level by the mitigation measures listed above.

SECTION IV.C.2
PALEONTOLOGICAL RESOURCES

This section summarizes the results of a comprehensive paleontological report prepared for the ADP project by Paleo Environmental Associates, Inc., in November 1993. The study is on file with the Community Planning Bureau, City of Los Angeles Planning Department, located at 221 S. Figueroa Street, Third Floor, and is part of the Technical Studies Appendices to this EIR.

ENVIRONMENTAL SETTING

Paleontologic resources include fossil specimens, fossil sites, associated geologic and geographic site data, and the fossil-bearing rock units. Fossils, the remains or indications of once-living organisms, are a very important scientific resource because of their use in documenting the evolution of particular groups of organisms, reconstructing the environments in which they lived, and determining the ages of the rock units in which they occur and of major events in earth history.

The entire ADP project site and surrounding area is immediately underlain by a cover of up to 30 feet of uncertified artificial fill material. The artificial fill, in turn, is underlain by younger alluvium, which consists of unconsolidated floodplain deposits of silt, sand, and gravel. The younger alluvium is not differentiated from the underlying older alluvium, in which the floodplain deposits are poorly consolidated. (For a detailed examination of existing soil conditions on the project site, the reader is referred to Section IV.H.1, Grading.)

Thirty-one geotechnical borings have been drilled within the ADP locale. All but two borings are within or immediately adjacent to the Gateway Center parcel (Related Project No. 15). These borings indicate artificial fill extends from the surface to depths of two to 30 feet; the underlying alluvium, from depths of two to 30 feet at its upper contact, and from 63 to 108 feet at its lower contact; and the underlying unnamed late Miocene marine shale (Puente Formation of earlier workers), from depths of 66 to 109 at its upper contact, to undetermined depths greater than 135 feet (deepest boring) at its lower contact. In those areas of the ADP area where it is recorded in borings, the top of the unnamed shale is below the proposed depth of excavation for Phase I, which will not exceed 50 feet.

Only one fossil site is recorded from the alluvium in the ADP area. In 1989, a partial limb bone of a late Pleistocene elephant was uncovered 200 to 400 feet west of the eastern portal and at a depth of 35 to 55 feet during excavation of the Metro Rail Red Line tunnel under the southeastern quadrant of Alameda Street and Cesar E. Chavez Avenue, immediately north of Union Station.

An archival search was conducted at the Natural History Museum of Los Angeles County (LACM) to document the occurrence of other previously recorded fossil sites from the alluvium in and near the ADP area. One fossil site (LACM 1755) is present north of 12th Street between Hill and Olive Streets, 1.8 miles southwest of the ADP area. This site yielded horse remains at a depth of 43 feet. Numerous other LACM fossil sites in the alluvium occur in the metropolitan Los Angeles area at greater distances south and west of the project site, and include the sites at the La Brea tar pits and vicinity. These sites have yielded a diversity of extinct late Pleistocene (Ice Age) continental vertebrates, primarily large land mammals.

These occurrences indicate an unknown potential for as-yet unrecorded fossil sites and additional fossilized land mammal remains occurring in the alluvium within the proposed depth of excavation in the ADP area.

Additional identifiable fossil remains from the alluvium, which spans the end of the Pleistocene, would be highly important scientifically, particularly if they could be used in refining previous estimates regarding the age of the alluvium or in accurately reconstructing the climate and habitats that existed in the metropolitan Los Angeles area at the end of the Pleistocene, about 10,000 years ago. The end of the Pleistocene is marked by the world-wide extinction of most large land mammal species. Moreover, there is a potential for the recovery of remains representing rare species, geologic or geographic range extensions, and/or more complete specimens for some species than have been found previously in the alluvium. Therefore, the project site could be considered as a potentially important paleontological site.

ENVIRONMENTAL IMPACT

Threshold of Significance

According to the California Environmental Quality Act and CEQA Guidelines Appendix G (Part j), activities which disrupt or adversely affect important paleontological resources or sites may be considered significant impacts. A fossil specimen is considered scientifically important if it is identifiable, complete, well-preserved, age diagnostic, useful for environmental reconstruction, a type or topotypic specimen, rare taxon or part of a diverse faunal assemblage. Based on the characteristics indicated above, the potential for rock units to yield paleontological resources in the ADP project site is assessed using the following indicators of importance:

- High Importance: Rock unit has comparatively high potential for yielding as-yet unrecorded fossil sites and additional scientifically important fossil remains in the project site similar to those previously recorded from rock units in the project site and/or surrounding locale.

- Moderate Importance: Rock unit has relatively moderate potential for yielding as-yet unrecorded fossil sites in the project site and scientifically important fossil remains similar to those previously recorded from rock units in the project site vicinity.

- Low Importance: Rock unit has comparatively low potential for yielding as-yet unrecorded fossil sites or scientifically important fossil remains in the project site.

- Unknown Importance: Rock unit has yielded too few data from the project site and vicinity to allow an accurate assessment of its potential for yielding any as-yet unrecorded fossil sites or scientifically important fossil remains in the project site.

- No Importance: Igneous and high-grade metamorphic rock units are unfossiliferous and have no potential for containing any fossil sites or remains.

For the purposes of this EIR, a project that would result in potential disturbance of rock units of high or moderate importance is considered a significant impact.

Phase I and Buildout Phase Impacts

The focus of the following discussion of anticipated impacts on paleontological resources is potential construction-related impacts, because no additional impacts are expected to result from the operation features of the proposed project.

Paleontologic resources of high and moderate importance, including fossil remains, as-yet unrecorded fossil sites, associated geologic and geographic site data, and the fossil-bearing strata in the alluvium, could be adversely affected by the direct and indirect construction-related environmental impacts accompanying excavation for subterranean structures in the ADP project site. These impacts could occur throughout the ADP site during construction of all phases of development.

Direct impacts could result from the ground disturbance accompanying excavation for subterranean structures. Although excavation will occur only during construction and will be a comparatively short-term activity, the possible disturbance or loss of fossil remains, as-yet unrecorded fossil sites, associated geologic and geographic site data, and the fossil-bearing strata in the alluvium as the result of excavation is a potentially significant impact.

Indirect impacts could result from the easier access to fresh exposures of fossiliferous strata in the alluvium afforded construction personnel, rock hounds, and amateur and commercial fossil collectors. There would be an accompanying potential for unauthorized fossil collecting in the ADP area. Although excavation will be a comparatively short-term activity, the possible loss of additional fossil remains, as-yet unrecorded fossil sites, and associated geologic and geographic site data as a result of unauthorized fossil collecting in the alluvium is a potentially significant impact.

There will be no impacts associated with excavation in the artificial fill because the artificial fill is unfossiliferous (resources of no importance). In addition, there will be no impacts on the paleontologic resources of the ADP site after excavation has been completed because there no longer will be any potential for the disturbance or loss of additional fossil remains.

Summary of Phase I and Buildout Phase Impacts

Impact C.2.1 Significant environmental impacts on the paleontologic resources of high and moderate importance in the ADP area could arise from Phase I and Buildout Phase excavation for subterranean structures and unauthorized fossil collecting by construction personnel, and could result in the disturbance or loss of fossil remains, previously unrecorded fossil sites, and associated geologic and geographic site data. These impacts will occur throughout the ADP area during Phase I construction.

Impact C.2.2 Environmental impacts associated with excavation in the artificial fill would be less-than-significant because the artificial fill is unfossiliferous.

CUMULATIVE IMPACTS

Excavation for subterranean structures in the ADP area, in combination with other past, current, and future developments in the ADP locale could contribute to the progressive loss of fossil remains, as-yet unrecorded fossil sites, associated geologic and geographic site data, and the fossil-bearing strata in the alluvium. This loss would be a significant cumulative impact.

MITIGATION MEASURES

The measures listed will allow for the recovery of fossil remains, should any additional remains be encountered by excavation in the ADP area, and associated geologic and geographic site data, and for their preservation in a museum repository, where they would be available for future study by qualified investigators. As appropriate, these measures shall be conducted prior to and during excavation for subterranean structures below the artificial fill.

Phase I and Buildout Phase

Pre-Construction

C.2.1.a Prior to any earth-moving activity in the ADP area, the applicant shall retain the services of a qualified vertebrate paleontologist approved to manage a paleontologic resource impact mitigation program. The contracted person or firm shall have experience in conducting similar programs in areas underlain by rock units containing large and small land mammal remains.

C.2.1.b The program manager shall prepare a treatment plan with a discovery clause to allow for the salvage and treatment of an unusually large or productive fossil occurrence that cannot be recovered and/or processed without diverting personnel from monitoring. The treatment plan shall specify the procedures and costs involved with rock sample recovery, processing, and sorting; or large specimen recovery, preparation, and stabilization; and identification, cataloguing, curation, and storage of such an occurrence. The discovery clause shall specify when and how the treatment plan would be initiated.

Construction

C.2.1.c A field supervisor, in consultation with a qualified paleontologist, shall monitor excavation on a part-time basis once excavation has encountered the alluvium below the artificial fill. If fossil remains are uncovered by excavation, monitoring shall be increased during excavation.

C.2.1.d Monitoring shall consist of examining excavations and spoils for larger fossil remains, and test screening spoils for smaller fossil remains. If larger fossil remains are encountered by earth moving, the field supervisor shall have the authority to temporarily divert earth moving around the fossil site until the remains have been examined, their importance determined, the remains removed, if warranted, and earth moving allowed to proceed through the site. To ensure earth moving is not delayed, the field supervisor, if warranted, shall have the earth-moving contractor assist in moving the remains to an adjacent location for later transport to a museum or laboratory facility.

C.2.1.e The field supervisor shall instruct construction personnel on their responsibilities and the procedures to be implemented if fossil remains are encountered when the monitor is not onsite.

C.2.1.f If fossil remains are encountered, earth moving shall be diverted around the fossil site until the field supervisor or paleontologist has been called to the site and examined the remains, determined their importance, removed the remains, if warranted, and allowed earth moving to proceed through the site.

C.2.1.g If smaller fossil remains are found by test screening, the monitor shall flag the fossiliferous spoils to ensure they are not disturbed by earth moving, evaluate the spoils by additional test screening, and, if determined sufficiently productive, recover a sample (not to exceed 6,000 pounds) of the spoils or undisturbed sediment at the fossil site for processing. To ensure earth moving is not delayed, the monitor, if warranted, shall have the earth-moving contractor assist in moving the sample to an adjacent location for later transport to a museum or laboratory facility.

C.2.1.h Any fossil site discovered as the result of monitoring shall be plotted on a map of the ADP area.

C.2.1.i Following the completion of monitoring, any fossil remains or fossiliferous rock sample shall be provided to a museum or laboratory facility for processing, sorting, preparation, stabilization, identification, curation, and preparation of findings describing the scientific importance of any recorded fossil remains. The specimens and associated geologic and geographic site data shall be placed in a museum collection for permanent storage.

ADVERSE EFFECTS

There will be no significant unmitigated impact on paleontologic resources in the ADP area as a result of construction-related excavation or unauthorized fossil collecting by construction personnel. Environmental impacts will have been reduced to a less-than-significant level by the mitigation measures listed above, particularly paleontologic monitoring of excavation, which will allow for the recovery of fossil remains and associated geologic and geographic site data, should any be unearthed by excavation.

SECTION IV.C.3
HISTORICAL RESOURCES

This section summarizes the results of a comprehensive historic resource report prepared for the ADP project by Historic Resources Group, in June, 1995. The study is on file with the Community Planning Bureau, City of Los Angeles Planning Department, located at 221 S. Figueroa Street, Third Floor, and is part of the Technical Studies Appendices to this EIR.

ENVIRONMENTAL SETTING

The Los Angeles Union Station Passenger Terminal is located at 800 North Alameda Street in close proximity to City Hall, El Pueblo de Los Angeles, Olvera Street, Little Tokyo, and Chinatown. The original property of the station was an irregular parcel roughly bounded by Alameda Street on the west, Arcadia Street on the south, Vignes and Cesar E. Chavez Avenue on the north, and a property line parallel to Alameda Street on the east which defined the eastern edge of the train yard. Additional property was later purchased by the railroads along the eastern side, giving the station frontage on four streets. Union Station is set back approximately 200 feet from Alameda Street.

Terminal Annex, located at 900 North Alameda Street, is across Cesar E. Chavez Avenue (formerly Macy Street) from Union Station. Similar to Union Station, Terminal Annex is set back approximately 160 feet from Alameda Street. It is parallel to Cesar E. Chavez Avenue and slightly askew from Alameda Street. The landscaped open space and parking lot in front of Terminal Annex acts as a forecourt to the building.

Both Union Station and Terminal Annex are located to the east of the historic El Pueblo de Los Angeles, the "birthplace of Los Angeles," and within view of the Los Angeles City Hall.

The site is adjacent to two important ethnic neighborhoods and the historic core of Los Angeles. The Old Plaza, known today as El Pueblo de Los Angeles Historic Monument, was the heart of the surrounding Hispanic neighborhood and a commercial center serving Los Angeles residents of all nationalities. The area was also home to the Los Angeles Chinese community. Chinatown was relocated to the north of the El Pueblo area when Union Station Terminal was constructed between 1934 and 1939. The symbolic presence of the Hispanic community remains, however, with the preservation and continued use of the El Pueblo area as a retail and cultural center.

Olvera Street, a pedestrian street reminiscent of a Mexican marketplace which features restaurants and shops, extends from the intersection of Alameda Street and Cesar E. Chavez Avenue toward the Old Plaza. It is part of the El Pueblo de Los Angeles Historic Monument which today contains 27 historic buildings. Two buildings remain from the Spanish period, including the Avila Adobe (c.

1818), the oldest residence in Los Angeles and the Plaza Catholic Church (1818-22), the oldest place of religious worship in the city. Two of the oldest brick buildings in Los Angeles, the Pelanconi House and the Masonic Hall, remain in El Pueblo de Los Angeles. Several buildings still extant at El Pueblo de Los Angeles were constructed during the boom of the 1880s, including the Plaza House (1883), Plaza Firehouse (1884), Sepulveda House (1887), and Vickrey/Brunswig Building (1888). Structures from the early decades of the 20th century include the Plaza Substation (1903-4), Italian Hall (1907-8), the Plaza Community Center/Biscailuz Building (1925-6), the Plaza Methodist Church (1925-6) and the Winery (1874/1914/1938). Other important historic buildings are the Garnier Block (1890); Merced Theatre (1870), the city's first theater; and Pico House (1869).

Terminal Annex and Union Station display a physical presence in this area as imposing today as when they were constructed, with the most dominant views of these historic structures found on Alameda Street. As viewed from City Hall, the Civic Center and the financial center of Los Angeles, across the historic fabric of these older commercial neighborhoods, the facades of Terminal Annex and Union Station mark the northeastern edge of downtown Los Angeles. Beyond, to the south and east behind both Terminal Annex and Union Station, are the train yards and the Santa Ana Freeway. The expanse of railroad tracks accentuates the impression that these buildings delineate the edge of the city.

History

Union Station

The site had been a part of the original El Pueblo de Los Angeles. The western half later became a part of the first Asian (Chinese) community in Southern California. That community started shortly after the gold rush and was strengthened by additional settlers in the late 1860s when the first rail line in southern California was built. This line ran from Los Angeles to Wilmington along what is now Alameda Street. Most of the laborers who built the line were Chinese.

The first railroad station in Los Angeles (1869) was located near the southwest corner of the present station site. In 1876, Southern Pacific completed the first major rail line to come to Los Angeles. The new line ran along Alameda Street in front of the present station and joined the Wilmington line in the vicinity of the original station. The Wilmington line soon became a part of Southern Pacific and a new Southern Pacific station was built a few blocks to the north. A few years later, when the Santa Fe and Union Pacific came to Los Angeles, they each built their own stations south of the present site.

Union Station replaced three separate stations: Central Station (Southern Pacific) on South Central Avenue at the foot of East Fifth Street; La Grande Depot (Santa Fe) at the foot of East Second Street; and the Los Angeles and Salt Lake Depot (Union Pacific) on East First Street east of the Los Angeles

River (until it burned down in 1924 and subsequently shared Central Station). Because the separate stations and their respective tracks caused congestion and conflicted with growing automobile usage downtown, the City and the Railroad Commission called for a single consolidated train station in 1915.

It took more than 15 years of litigation between the City, State, and railroad companies before a 1931 United States Supreme Court decision cleared the way for its construction. One of the many obstacles during this period was that U.S. Postal Service/Terminal Annex was vying for the same site. When a different site was chosen for Terminal Annex, the Union Station project was facilitated. Harry Chandler, publisher of the Los Angeles Times, was one of the station's biggest supporters. Ultimately, the railroads and the mayor chose another location known as the "Plaza set back area" for the Los Angeles Union Station Passenger Terminal, known today as Union Station. The choice of this site led to the demolition of the city's original Chinatown, and left the historic Plaza area intact.

When the old Chinatown was demolished in 1933, the displaced Chinese population moved to the produce market district. Some businesses moved to China City, a project bounded by Sunset between Spring and Main Streets, and some built new homes and businesses on North Broadway in the area known as Chinatown today.

Construction began in 1934 after $1,000,000 in civic funds from a gasoline tax to aid with separating streets from railroad tracks, was allocated to the project. Project costs were divided among the three railroad companies. The design of Union Station was created by a committee of architects, including John and Donald Parkinson of The Parkinson Firm, and railroad architects H.L. Gilman from the Santa Fe, J.H. Christie from the Southern Pacific and R.J. Wirth from the Union Pacific. The landscape architect was Tommy Tomson and the color consultant was Hermann Sachs.

Union Station was completed in 1939. It was named the Union Station Passenger Terminal, because it represents the union of more than one railroad in establishing a common shared facility for passenger trains. Across the country, the concept of a union station was the result of civic improvement programs that sought to centralize and beautify downtown areas. The union stations in Washington, D.C., St. Louis and Los Angeles were part of these efforts.

The station, built to be a small city with the amenities needed by travelers, opened on May 7, 1939 with a three day extravaganza, a parade of floats, formal dedication ceremonies hosted by film star Leo Carrillo, tours of the new station, and live entertainment.

John Parkinson was a well-respected and prolific architect born and trained in England. His contributions to the design of the city were very influential. Operating in various partnerships from

1894 through 1935, he was the architect for the Stationer's Annex building at 523 S. Spring Street, and helped design the majority of the buildings in the Spring Street Financial District. He and his son Donald became a premier father and son team who designed many important buildings such as Bullocks Wilshire, the Coliseum, the Title Guarantee Building and who contributed to the design of City Hall.

The Fred Harvey Restaurant in the terminal was designed by Mary Coulter, who is best known as the creator of many of the Grand Canyon's buildings, including the Hopi House and the Desert Watchtower. The restaurant was part of the famous chain of eateries that served Santa Fe railroad depots across the country.

Union Station was the destination and point of origin of a number of the country's most famous transcontinental trains of the period. Completed just as passenger train travel began to wane in the United States, Union Station was the last major train station built in the country. The completion of Union Station, along with the Terminal Annex to the north, was considered a major achievement in urban development and transportation. Both played an important role in the logistics of World War II, particularly in the later phase which was centered in the Pacific. The peak years of use for Union Station were during World War II and the years just following the war. During this time more than 100 daily trains carrying a total of more than 100,000 troops passed through Union Station. Later as the metropolitan freeway network took shape, Union Station found itself once again in the middle of the hub of the latest ground transportation system.

As the last major train station built in the United States, Union Station is significant in the history of transportation of Los Angeles, the state, and the nation. Its integrated design reflects the care of its designers to consolidate three major railroads into a single terminal complex. The main passenger terminal building remains one of the great architectural statements of its time. Union Station remains the "last of the great stations" and retains a high degree of integrity.

Union Station was designated Los Angeles Historic-Cultural Monument #101 on August 2, 1972. It is listed in the National Register of Historic Places, at the national level of significance for both its historic associations and for its architectural merit. It was listed on November 13, 1980, before it was 50 years old, an honor attesting to its "exceptional importance," the requirement for listing of newer buildings.

Terminal Annex

The location of a major train terminal and mail handling facility served by the rail line brought about significant changes to this portion of the city. The site of Terminal Annex was originally occupied by several lumber warehouses.

The siting of Terminal Annex and Union Station in close proximity to each other had the advantage of use of rail facilities for mail distribution. Terminal Annex was served by rail cars which approached the east side of the structure from a bridge constructed over East Macy Street (now Cesar E. Chavez Avenue. Today, this bridge maintains the historic connection between the two structures.

Terminal Annex was completed in 1938. It was designed by Gilbert Stanley Underwood, a prominent Los Angeles architect who achieved national recognition for his regionally-responsive designs, and who went on to become the Supervising Architect of the United States. Underwood was a graduate of Yale and Harvard, and had completed an impressive list of private commissions across the country by the time he started his architectural practice in Los Angeles in 1923. He is recognized as one of the pioneers of the "Rustic Architecture" style, which is represented in a series of hotel lodges he designed for the National Park Service and Union Pacific Railroad, the most well known of which is the Ahwahnee Hotel (1927) in Yosemite. Examples of his works in the Art Deco style are Desmond's Department Store on Wilshire Boulevard in Los Angeles and the Union Pacific Railroad station in Omaha, Nebraska, the first Art Deco station in the country.

Beginning in 1934, Underwood worked in the Supervising Architect's office, where he was responsible for a series of post offices and courthouses in the western United States. He left this program in about 1939 to work with William Dewey Foster on the War Department Building, the first unit of the State Department Building. Among his private commissions from this period are the Sun Valley Lodge and two hotels for Colonial Williamsburg for John D. Rockefeller, Jr.

Underwood's facility in adapting and combining architectural styles, his innovations in interpreting regional influences, and the influence in his work of the Beaux Arts classicism of Federal architecture are all apparent in Terminal Annex.

The eleven murals in the Terminal Lobby were painted under the auspices of the Treasury Relief Art Program of the Public Works Administration (PWA) by artist Boris Deutsch between 1941 and 1944. Entitled "Cultural Contributions of North, South, and Central America," Deutsch's murals for Terminal Annex are typical of their era in both theme and imagery, though not typical of Deutsch's other work. Born in Russia in 1895, Deutsch studied art at the Riga Academy. After immigrating to the United States, Deutsch began to receive public notice by the mid-1920s in Los Angeles and by the 1930s was considered among the pioneers of modernism in Southern California.

Terminal Annex was the hub of mail processing for the Los Angeles area from the time of its completion in 1938 until 1989 when a new processing center was constructed. It is significant for the role it has played in the integration of rail and mail service on the east edge of the city, for its architectural style, and for its association with renowned architects and artists.

Terminal Annex is significant architecturally, as it represents a transitional building type for the post office, between the de-centralized mail handling systems typical before 1940 to the increasingly mechanized systems used after World War II. It represents an eclectic mix of architectural styles that is at once typical of Southern California public architecture of the era, and unique in the way it is expressed in this structure. Terminal Annex is typical of the amalgam of influences on public architecture in Southern California in the early 20th century. In this respect, it is an important example of the period on the West Coast and of Underwood's and Louis B. Simon's influence on the development of a regional architectural expression. In addition, the building contains significant murals by Boris Deutsch, a pioneer of modernism in Southern California.

Terminal Annex was listed in the National Register of Historic Places in 1985. It is one of twenty-two post offices built in Southern California between 1918 and 1933 nominated as a thematic group to the National Register of Historic Places.

Architectural Description

<u>Union Station</u>

The station is comprised of a number of components of irregular shapes and heights, supported at each end by arcades and pavilions. The principal components are of reinforced concrete construction and include a high and arched entrance vestibule, the ticket concourse or lobby, and a clock tower which rises to a height of 125 feet, surmounted by a Moorish finial. To the north of these main components is a two story office unit, faced by a lower arcade, and bordered on the north by an ornamental driveway arch and a continuation of the arcade which terminates in a low peaked roof pavilion about 375 feet north of the main station entrance. Immediately to the south of the main building is a similar arcade, known as the South Arcade. Eighty-three feet long and 38 feet high, the South Arcade forms a covered passage or promenade 33 feet wide linking the main building to an attractive restaurant unit. The restaurant is two stories high and comparable in appearance with the two story office unit immediately north of the ticket concourse. The south arcade crosses a driveway into the rear station grounds. The main facade of the station, with its stepped roof lines, irregular setbacks, and prominent arcades on either side of the center, extends continuously between Cesar E. Chavez Avenue and Aliso Street.

Union Station is designed in the two architectural styles that were popular toward the end of the great age of railroad station design: Spanish Colonial Revival and Moderne. Character-defining features of the Spanish Colonial Revival style were its use of smooth unadorned plaster walls, red tile roofs, glazed tile, and wrought iron decoration. Moderne elements are evident in stylized geometric motifs for decoration, lighting, massing, and proportion.

The main architectural focus of the station complex is the passenger station itself. Character-defining features and spaces of the terminal are described in the paragraphs below.

The clock tower is one of the most prominent exterior features of the terminal. With its Moorish finial, colorful Spanish wall tiles, decorative moderne scrollwork and ventilation ports, the tower has a clock face on each side. Large arched windows line the exterior and have a scroll motif which is repeated inside.

The main entrance is framed by a 50-foot arch rimmed with mosaic tile in blue, gray, green, and burnt sienna from Gladding, McBean & Company. Within the arch is a semi-circular inset of concrete and glass in a cross and star pattern. There is a reinforced concrete cantilevered marquee with large free-standing letters which spell "Union Station."

Through the bronze doors, the main entrance leads to a vestibule 50 feet wide and 80 feet deep. With a high arched ceiling and massive chandeliers, the vestibule contains the central information booth and serves as an entrance to three station areas: the Fred Harvey restaurant to the south, the Waiting Room to the east, and the Ticket Concourse to the north.

The Ticket Concourse is the largest room in Union Station. It has a distinct Spanish Colonial Revival design and is 146 feet long by 80 feet wide. Made of American black walnut, the 115-foot ticket counter dominates the east wall. Tile and marble flooring covers most of the room. Large arched window panels are graced with Spanish grillwork in the bell and scroll pattern. Six ornamental chandeliers, 10 feet in diameter, hang from a typically Spanish Colonial Revival painted decorative ceiling with exposed beams. The ceiling murals were designed by Hermann Sachs, the renowned Rumanian artist who painted the "Spirit of Transportation" mural in the porte cochere at Bullocks Wilshire. The wall at the north end of the Ticket Concourse contains a built-in clock, a speaker with a brass Deco-influenced grillwork, and a streamlined drinking fountain. There is decorative grillwork over the power panel. Beyond the north wall are restrooms and the offices of the north wing.

The Waiting Room is the second largest room in the station and measures 140' by 80'. It is furnished with groups of leather-upholstered chairs. Red quarry tile covers most of the floor, except near the walls and in the center, where different marbles compose a pattern suggestive of a carpet runner. Marble is also the capping base to the floor. The walls have a wainscoting of blue, olive, and sienna Spanish tile in a geometric pattern. Below the tile is a strip of Belgian black marble and a layer of sienna-colored Montana travertine, decorated with ornamental tiles. A band of plaster divides the upper and lower walls. The chandeliers and beams are different from those in the ticket concourse. The upper walls and ceilings are faced with acoustical tiles. Above and across from the bronze exit doors are two-sided marble clocks.

The enclosed north patio, measuring 156' by 85', is accessed primarily from the waiting room and by gates in the north walls. The patio's flagstone path leads to a fountain, with a floral shaped basin, tiled fish motif and streamlined fountainhead. Wrought iron benches, as well as built-in tiled benches, furnish the patio. Along the path, Art Deco wall sconces are located on the exterior building walls and the streamlined utilitarian light standards. Above the windows and the balcony are painted wooden balustrades.

The baggage and departure areas have low ceilings with glass bricks, panels of fluorescent lighting, stylized columns with flared capitals and brilliantly tiled drinking fountains in a Southwest Native American geometric motif. The colored concrete floor tile is in a zigzag pattern. There is an Amtrak police station in this area.

The larger south patio acts as a courtyard between the main building and the arcade and is 200 feet long by 112 feet wide. It was originally planted with full grown pepper, olive, and palm trees and paved with five shades of brick. The streamline lighting pylons are Westinghouse Reflectolux junior luminaries.

The south arcade provides direct access to the Fred Harvey Restaurant building, which echoes the main complex in its Spanish Colonial Revival and Moderne design. The two-story main dining space in the restaurant building is 62 feet wide by 74 feet long. In the center of the restaurant is a freestanding "U"-shaped stainless steel soda fountain luncheonette counter. The stools which bordered the counter have been removed. The floor is of Valencia Spanish tile in a black, red, and buff zigzag pattern. Cream colored walls surround tiled wall panels with parrot designs. Both the walls and the ceiling are lined with acoustic panels. Original metal chandeliers still hang from the arched ceilings. Wrought iron grillwork leads to the second floor mezzanine dining room which has pine paneled walls. Adjacent to the main room is an Art Deco cocktail lounge with a herringbone brick floor, copper sheathed bar, bubble etched mirrors and red strips of indirect neon lighting.

Union Station was listed in the National Register of Historic Places in 1980. The boundaries for this designation are the original boundaries of the station. The National Register nomination identifies the significance of the property as an integrated complex, the most important component of which is the Union Station Passenger Terminal itself. Other facilities identified in the nomination as contributing to the significance of the property include baggage facilities, the pedestrian subway tunnel, north and south retaining walls, track structure and sheds. Although not mentioned in the nomination, the Terminal Tower and Car Repair Shop also contribute to the significance of the site.

These support and ancillary facilities are more utilitarian in appearance than the Union Station Passenger Terminal. The complex is bordered by retaining walls on the north and south sides which, although modified, reflect Moderne influences. The 575-foot pedestrian subway connects the main terminal building with the tracks; it is integrated structurally and visually into the design, using linear bands of subdued colors to unite the two areas. The colors are those traditionally associated with the southwestern deserts, including earth tone reds, oranges, yellows, and browns. Original light fixtures are placed in the ceiling leading to eight sets of double ramps rising to the platforms between the tracks.

The southern end of the complex was a service wing which included a boiler room and power plant as well as offices and support facilities. This portion of Union Station has been altered to a greater degree than the remainder of the Station. The first major alteration to the complex was the removal of the former Pacific Electric Freight service yard at the south end of the complex which was infilled with the construction of a parking garage between the curving ramp and the southern wing in 1954. The second level was built as a covered freight platform. This alteration is noted in the National Register nomination as not contributing to the significance of Union Station. A parking area was also added over the south garage in the 1950s. Further significant alterations have been made to the southeast portion of the site to accommodate construction of the El Monte Busway Extension (1987-1989), including truncation of approximately 80 feet of the Railway Express Agency (REA) Building, as well as reconstruction of a portion of the south retaining wall and ramp. The portion of the southern wing which forms the east edge of the taxi patio remains substantially intact although some of the exterior openings have been altered. The interior of this portion of Union Station was substantially altered and renovated for use as Amtrak's baggage facility. While highly altered, the southern wing retains sufficient integrity such that it remains a character-defining feature of Union Station and therefore contributes to its significance. The ramp was originally L-curved but was altered to an S-curve in the El Monte Busway extension activity in the late 1980s. Though altered, the ramp still contributes to the significance of the Station.

With construction of the Metro Redline, other recent significant alterations to previously contributing features on the southern portion of the site included the removal and reconstruction of approximately 40 percent to 50 percent of all tracks and canopies. The canopies were described in the 1979 nomination of the property to the National Register as having
"...no special aesthetic value and...historical only to the extent that they served a utilitarian function..." However, the remaining original canopies are still contributing features. In addition, the north parking lot and north ramp as well as a portion of the baggage area were demolished and reconstructed. Due to such alterations, these features are no longer contributing.

While changes have occurred within the Union Station Passenger Terminal and the tunnel, these alterations have not impaired the integrity of these contributing features. The northern portion of the track area, the Terminal Tower and the Car Repair Shop also remain substantially intact.

A complete inventory of character-defining features and spaces and their existing condition is contained in "Initial Study for Rehabilitation and Reuse: Survey of Conditions" prepared for Catellus Development by Hardy Holzman Pfeiffer Associates in 1991.

Terminal Annex

Terminal Annex is a four story, poured-in-place reinforced concrete structure which is an eclectic combination of Spanish Colonial Revival, Mission and Pueblo architectural stylistic influences. Its primary interior spaces and fixtures reveal the influence of Beaux Arts classicism popular in public buildings at the turn of the century. In siting, massing and layout, however, the building is utilitarian, essentially a warehouse in form and function.

Terminal Annex was originally conceived as a rectangular structure, with the west side of the rectangle containing the two primary entries. The formality of the primary facade is enhanced by a landscaped forecourt which results in the building being set back 160 feet from Alameda Street, the main entrance. This facade is distinguished by two domed, tiled towers and monumental, arched windows which mark both corners of the west elevation.

Terminal Annex has a solid exterior with massive curing buttresses, projecting drainspouts, arched windows, and two formal entrances with bronze door frames, decorative eagles, and hanging lanterns. The tiled, domed towers, which are recessed slightly from the third floor cornice line of the building, are reminiscent of the bell towers often found on Spanish Colonial Revival and Mission style structures. The domes are ringed with matte glazed ceramic tiles in pastel colors. The buttress caps, urns, and finals are of pre-cast concrete. The smooth concrete finish of the building echoes the appearance of stucco or plaster finishes typical of these styles, and recessed window openings creating deep shadows reinforce this reference. Pilasters accent the building's structural bays. The projections above the pilasters are reminiscent of the forms of canales or water spouts.

The rhythm of the bays of the structure are articulated on the facade with pilasters which terminate in a pre-cast concrete sculptural cap at about the third story floor elevation. Cast-in-place canale-like details project from the facade near the original (third floor) cornice line, further accentuating the bays.

The main (south and west) facades of the structure feature two story paned windows in arched openings at ground level, with paired, double hung windows above on the third floor. The windows on the north and east facades are also framed industrial sash. The arched window openings on the primary facades have hollow steel frames with fluted mullions. They are two stories in height, with the spandrel occurring at the second floor. The heads of the windows are square, and appear cured on the exterior due to the curved concrete surround. Steel sash windows are found on the upper floors. The windows in the domes are rolled, hammered gold opalescent glass panes, some of which have been replaced by clear glass.

The west entrance to the building is accessed via granite stairs leading from the sidewalk to a formal landing. Decorative bronze railings and sidelights are located on the side walls of the stairs. The landing features a star pattern in three shades of granite, flanked by concrete walls with similar detailing. The star pattern is repeated in granite and concrete at the two formal entrances to the building. This leads to bronze entry vestibules. The center of this entry sequence features the original flag pole.

Only a small portion of the building's interior is public space. These spaces have beige terra cotta walls with trim in geometric patterns. The vibrantly colored terrazzo floors with chevrons and diamond-shaped medallions resemble an Indian design. Along the Cesar E. Chavez Avenue (south) side is an elevator lobby where the doors are emblazoned with bronze medallions. The surrounding walls are fitted with panels of terra cotta ornament.

Terminal Annex features a series of Public Works Administration (PWA)-sponsored murals by artist Boris Deutsch painted between 1941 and 1944. These arched-lunettes celebrate the many native American cultures of Central and South America from the distant past to the present. A progression in the artist's style over the years is notable. The murals depict the Pueblo Indians (1941); Mexican Indians with ceremonial masks (1942); Incas with a llama and reed flutes (1943); Central American Indians with colorful costumes (1943); Mayans with ruins (1943); California Indians, padre and Mission Santa Barbara (1943); peasants with oxen carts (1943); and Hispanics today in the fields of astronomy (1943), science and chemistry (1943), communications (1944), and the military and World War II (1944).

The vaulted ceilings and arched entries to the service windows of the lobby with their painted murals add interest to the public space, which wraps around the west and south portions of the building at the ground floor. Beaux Arts influences are to be found in the bronze entry vestibules with their Ionic columns and grillwork, and on the bronze doors to the public elevators. The original light fixtures, both lamps and ceiling fixtures, are simple and reminiscent of the architect's Art Deco work. Ceramic tiles with a relief pattern, found throughout the public lobby, are subdued in color and pattern and provide a decorative backdrop to these varied influences.

The lobby has bronze entry doors, terrazzo floors, terra cotta walls, and a plaster ceiling. Many of the original furnishings and signage in the lobby are intact. Over time new paint colors have obscured the original color palette.

Terminal Annex has a subtle but rich material palette including pre-cast concrete and plaster elements, terra cotta, granite, bronze, enameled steel, glass, painted finishes and murals. Each of these materials contributes to the historic character of the building.

The building has a large open plan on the upper floors. There are few decorative elements in these utilitarian areas.

Alterations to the building and grounds have been made, beginning with the addition of a fourth story in 1949. This addition was part of the original plan for the building. The fourth story steps back from the third story cornice line on the north, south and west sides of the building, allowing the structure to retain the appearance of its original volume punctuated by the two domed towers. The second major addition was the new wing added in 1959 to the north side. The four story addition extends perpendicular to the structure on the north side.

In 1967, the configuration of the parking lot and landscaping was altered. Two additional rows of parking were added to the forecourt and a new curb cut was added onto Bauchet Street. The original lawn adjacent to Alameda Street was reduced to a narrow strip and a median strip laid with red brick was added between the old and new parking lanes. Fifteen olive trees were added across the building facade in the median and along Alameda Street.

Other alterations effecting the south and west elevations of the building are the addition of a fire stair on the south side and a handicap ramp on the west side of the building in the 1970s. A portion of one of the two main entry stairs was removed in conjunction with the latter modification. Numerous additions to the north and east sides of the building have occurred over time, most in conjunction with the addition of mechanical equipment. The building was repainted in the 1980s. Other changes include the blocking of windows with sheetrock or concrete block throughout the north and south elevations. The east elevation has had curtain wall panels installed where mail portals were originally located.

The lobby was altered in 1976 when three new service bays were added to the south end of the lobby. The vaulted ceilings were extended and efforts were made to match the materials and finishes of the original space, including matching the cream colored ceramic tile. The service windows were modified. The lobby was repainted in the 1960s and 1980s. The furnishings are virtually intact with the exception of the ceiling lamps in the lobby which were replaced in 1976. The murals were restored in 1980. The remaining building interiors, including the bathrooms, have been remodeled.

ENVIRONMENTAL IMPACT

Threshold of Significance

A project which may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. An historical resource is a resource listed in, or determined to be eligible for listing, in the California Register of Historical Resources[1].

Both Terminal Annex and Union Station are listed in the National Register of Historic Places, and thus automatically listed in the California Register. For purposes of CEQA, the structures are historically significant. Therefore, it is necessary to determine whether the proposed project involves "substantial adverse change" in the significance of these historic resources through "demolition, destruction, relocation, or alteration such that the significance of an historical resource would be impaired."

In addition, alternatives that would render Union Station or Terminal Annex ineligible for inclusion in the National Register of California Register would constitute a significant impact. For the purposes of this analysis, the Secretary of the Interior's Standards for rehabilitation are used in determining whether an alteration is such that the significance of the resource is impaired.

California Register of Historical Resources

In 1992, the Legislature passed, and the Governor signed into law, AB2881 which established the California Register.[2] The California Register is an authoritative guide in California used by state and local agencies, private groups and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change.[3]

Resources eligible for inclusion in the California Register are based upon National Register criteria.[4] Certain resources are determined by the statute to be included in the California Register, including:

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[1] Cal. Pub. Res. Code Section 21084.1

[2] See Cal. Pub. Res. Code § 5024.1(e)

[3] Cal. Pub. Res. Code § 5024.1(a).

[4] See Cal. Pub. Res. Code § 5024.1(b).

1. California properties formally determined eligible for, or listed in, the National Register of Historic Places;

2. State Historical Landmark No. 770 and all consecutively numbered historical landmarks following No. 770. For state historical landmarks preceding No. 770, OHP shall review their eligibility for the California Register in accordance with procedures to be adopted by the Commission; and

3. Points of Historical Interest which have been reviewed by OHP and recommended for listing by the Commission in accordance with procedures adopted by the Commission.[1]

For resources which are not automatically listed in the California Register, resources may be nominated for listing in the California Register.[2] Resources which may be nominated include:

1. Individual historical resources;

2. Historical resources contributing to the significance of an historic district under criteria;

3. Historic resources identified as significant in historic resource surveys, if the survey meets the criteria listed in Code § 5024.1(g); and

4. Locally designated resources if the criteria for local designation have been determined by the Commission to be consistent with California Register criteria adopted by the Commission.[3]

While owner consent is required to list a privately owned resource, the statute provides that if "private property cannot be presently listed in the California Register solely because of owner objection, the Commission shall nevertheless designate the property as eligible for listing."[4]

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[1] Cal. Pub. Res. Code § 5024.1(d).

[2] See Cal. Pub. Res. Code § 5024.1(f) for nomination requirements, including the provisions for seeking comment from the local government and notification of owners.

[3] Cal. Pub. Res. Code § 5024.1(e).

[4] Cal. Pub. Res. Code Section 5024.1(f)(5).

In summary, California Register resources are per se significant for purposes of CEQA. National Register eligible resources qualify for listing in the California Register and formally determined eligible National Register resources are automatically listed in the California Register. Furthermore, the California Register criteria are based on National Register criteria. Therefore, the National Register is relevant in assessing the historic significance of a resource.

National Register Criteria

The National Register of Historic Places is "an authoritative guide to be used by federal, state, and local governments, private groups and citizens to identify the nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment."[1] Both Union Station and Terminal Annex are listed in the National Register of Historic Places.

To be eligible for listing in the National Register, a resource must possess significance in American history and culture, architecture, or archaeology. These criteria are the Register's standards for determining the significance of properties. Sites, districts, or structures of potential significance must possess integrity of location, design, setting, and materials and meet one or more of four established criteria.[2]

1. associated with events that have made a significant contribution to the broad patterns of our history; or

2. are associated with the lives of persons significant in our past; or

3. embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

4. yield, or may be likely to yield, information important in prehistory or history.

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1 36 Code of Federal Regulations, Section 60.2.

2 Guidelines for Completing National Register Forms, National Register Bulletin 16, U.S. Department of Interior, National Park Service, September 30, 1986 ("*National Register Bulletin 16*"). This bulletin contains technical information on comprehensive planning, survey of cultural resources and registration in the National Register of Historic Places.

The National Register includes properties classified as buildings, sites, districts, structures, or objects.[1]

Evaluation of Integrity

In addition to meeting the criteria of significance, a property must have integrity. "Integrity is the ability of a property to convey its significance".[2]

According to *National Register Bulletin 15*:

- Within the concept of integrity, the National Register criteria recognizes seven aspects or qualities that, in various combinations, define integrity.

- To retain historic integrity a property will always possess several, and usually most, of the aspects. The retention of specific aspects of integrity is paramount for a property to convey its significance.[3]

Factors of Integrity

According to National Register criteria the seven factors that define integrity are location, design, setting, materials, workmanship, feeling and association. The following is excerpted from *National Register Bulletin 15* which provides guidance on the interpretation and application of these factors: Location is the place where the historic property was constructed or the place where the historic event occurred.[4] Design is the combination of elements that create the form, plan, space, structure, and style of a property.[5] ... Design can also apply to districts, whether they are important primarily for

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1 *National Register Bulletin 15*, U.S. Department of the Interior, National Park Service, Interagency Resources Division (*"National Register Bulletin 15"*), p. 4.

2 *National Register Bulletin*, p. 44

3 Ibid.

4 "The relationship between the property and its location is often important to understanding why the property was created or why something happened. The actual location of a historic property, complemented by its setting, is particularly important in recapturing the sense of historic events and persons. Except in rare cases, the relationship between a property and its historic associations is destroyed if the property is moved." Ibid.

5 "A property's design reflects historic functions and technologies as well as aesthetics. It includes such considerations as the structural system; massing; arrangement of spaces; pattern of fenestration; textures and colors of surface materials; type, amount, and style of ornamental detailing; and arrangement and type of plantings in a designed landscape." Ibid.

historic association, architectural value, information potential, or a combination thereof.[1]

Setting is the physical environment of a historic property.[2] Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.[3]

Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.[4]

Feeling is a property's expression of the aesthetic or historic sense of a particular period of time.[5] Association is the direct link between an important historic event or person and a historic property.[6]

Assessment of Integrity

In assessing a property's integrity, the National Register criteria recognize that properties change over time. In this regard, *National Register Bulletin 15* provides:

> It is not necessary for a property to retain all its historic physical features or characteristics.

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[1] "For districts significant primarily for historic association or architectural value, design concerns more than just the individual buildings or structures located within the boundaries. It also applies to the way in which buildings, sites, or structures are related . . . " Ibid.

[2] *National Register Bulletin*, p. 45.

[3] "The choice and combination of materials reveals the preferences of those who created the property and indicate the availability of particular types of materials and technologies. Indigenous materials are often the focus of regional building traditions and thereby help define an area's sense of time and place."

[4] "Workmanship can apply to the property as a whole or to its individual components. It can be expressed in vernacular methods of construction and plain finishes or in highly sophisticated configurations and ornamental detailing. It can be based on common traditions or innovative period techniques." (Emphasis added.) Ibid.

[5] "It results from the presence of physical features that, taken together, convey the property's historic character." Ibid.

[6] "A property retains association if it is the place where the event or activity occurred and is sufficiently intact to convey that relationship to an observer. Like feeling, association requires the presence of physical features that convey a property's historic character. ... Because feeling and association depend on individual perceptions, their retention alone is never sufficient to support eligibility of a property for the National Register." Ibid.

> The property must retain, however, the essential physical features that enable it to convey its historic identity.[1]

For properties which are considered significant under National Register Criteria B, *National Register Bulletin 15* states:

> A property that is significant for its historic association is eligible if it retains the essential physical features that made up its character or appearance during the period of its association with the important event, historical pattern, or person(s).[2]

In assessing the integrity of properties which are considered significant under National Register Criterion C, *National Register Bulletin 15* provides:

> A property important for illustrating a particular architectural style or construction technique must retain most of the physical features that constitute that style or technique.[3]

Section 106

Section 106 of the National Historic Preservation Act of 1966 is a review process administered by the Advisory Council on Historic Preservation.[4] For purposes of Section 106, "historic properties" include properties listed in, or eligible for, the National Register of Historic Places.[5] A federal "undertaking" has an effect on a historic property when the undertaking may alter characteristics of the property that may qualify the property for inclusion in the National Register. For the purpose of determining effect, alteration to features of a property's location, setting, or use may be relevant depending on a property's significant characteristics and should be considered.[6]

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1 *National Register Bulletin 15*, p. 46.

2 Ibid.

3 "A property that has lost some historic materials or details can be eligible *if* it retains the majority of the features that illustrate its style in terms of the massing, spatial relationships, proportion, pattern of windows and doors, texture of materials, and ornamentation. The property is not eligible, however, if it retains some basic features conveying massing but has lost the majority of the features that once characterized its style." Ibid.

4 Section 106 is codified at 16 U.S.C. § 470, et seq; and the regulations thereunder are codified at 36 CFR Part 800.

5 36 CFR § 800.2(e).

6 36 CFR § 800.9(a).

An undertaking is "considered to have an adverse effect when the effect on a historic property may diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association."[1] Adverse effects include but are not limited to:

(1) Physical destruction, damage or alteration of all or a part of the property;

(2) Isolation of the property from, or alteration to the character of the property's setting, when that character contributes to the property's qualification for the National Register;

(3) Introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting;

(4) Neglect of a property resulting in its deterioration or destruction; and

(5) Transfer, lease, or sale of the property.[2]

When a project is limited to rehabilitation of the property in conformance with the Standards, the undertaking may be considered to be not adverse.[3]

Secretary of the Interior's Standards

The Secretary of the Interior has promulgated Standards for Rehabilitation[4] (the "Standards") for historic structures which are codified at 36 CFR Section 67.7. The Standards are designed to ensure that rehabilitation does not impair the significance of an historic building. Therefore, the Standards are relevant in assessing whether there is a substantial adverse change in significance under CEQA.

The Standards are as follows:

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.

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[1] 36 CFR § 800.9(b).

[2] 36 CFR § 800.9(b).

[3] 36 CFR § 800.9(c)(2).

[4] The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings, U.S. Department of the Interior, National Park Service, Preservation Assistance Division, 1990; see also 36 Code of Federal Regulation Section 67.7.

2. The historic character of a property shall be retained and preserved. The removal of historic material or alteration of features and spaces shall be avoided.

3. Each property shall be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other buildings, shall not be undertaken.

4. Most properties change over time; those changes that have acquired significance in their own right shall be retained and preserved.

5. Distinctive features, finishes and construction techniques or examples of skilled craftsmanship which characterize a historic property shall be preserved.

6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive historic feature, the new feature shall match the old in design, color, texture, and other visual qualities, and where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.

7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.

8. Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.

9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

10. New additions and adjacent or related new construction shall be undertaken in such a manner that if they were removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

The Standards were written to:

> Assist the long-term preservation of a property's significance through the preservation of historic materials and features. The Standards pertain to historic buildings of all materials, construction types, sizes, and occupancy and encompass the exterior and interior of the buildings. They also encompass related landscape features and the building's site and environment, as well as attached, adjacent, or related new construction.[1]

The Guidelines for Rehabilitating Historic Buildings were developed to assist property owners and managers in applying the general Standards listed above. The Guidelines contain a specific hierarchy for decision-making in assessing the rehabilitation of any historic building. First, the significant materials and features of a building must be identified. Then a method for their retention and preservation must be found. If the physical condition of character-defining materials warrants additional work, repair is recommended. If deterioration or damage precludes repair, then replacement can be considered.

The introduction to the Guidelines states that:

> Some exterior and interior alterations to the historic building are generally needed to assure its continued use, but it is most important that such alterations do not radically change, obscure, or destroy character-defining spaces, materials, features, or finishes.[2]

A technical brief which describes how to identify the character-defining features of a building notes:

> A complete understanding of any property may require documentary research about its style, construction, function, its furnishings or contents; knowledge about the original builder, owners, and later occupants; and knowledge about the evolutionary history of the building. Even though buildings may be of historic, rather than architectural significance, it is their tangible elements that embody its significance for association with specific events or persons and it is those tangible elements both on the exterior and interior that should be preserved.[3]

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1 Standards, p. 5.

2 Standards, p. 11.

3 Lee Nelson, "Architectural Character: Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character", Preservation Brief 17, U. S. Department of the Interior, Preservation Assistance Division, 1982, p. 1.

In addition to the rehabilitation of character-defining features, the Standards and Guidelines also address alterations and additions to historic buildings, as well as retrofitting for health and safety requirements. Some interior and exterior alterations to a historic building may be needed to assure its continued use. These modifications should not, however, obscure character-defining features of the structure.

Design Elements and Guidelines

The ADP includes design elements and guidelines intended to preserve the historic significance of the Union Station and Terminal Annex buildings. Some of these design elements and guidelines are discussed below.

Historic Preservation Element of the ADP

The Historic Preservation Element of the ADP consists of two components: the first sets forth policies and guidelines to preserve and encourage the reuse of the historic structures; while the second sets forth policies and parameters for new development. The ADP encourages the preservation and reuse of the historic resources by a series of policies and guidelines based on the Secretary of the Interior's Standards for Rehabilitation. The design goal of the ADP is to create a district that grows out of and complements the historically significant architecture of Union Station and Terminal Annex, the cultural heritage of the City's birthplace at the El Pueblo de Los Angeles at Olvera Street and the active urban tradition of the Chinatown neighborhood and Little Tokyo.

Reuse of Historic Structures

Rehabilitation work on Terminal Annex and Union Station buildings will be undertaken in accordance with the Secretary of the Interior's Standards for Rehabilitation. The ADP allows new active uses within the rehabilitated buildings. Alterations in connection with rehabilitation for new uses will not radically change, obscure or destroy character-defining spaces, materials, features or finishes. In addition, the Terminal Tower, Car Repair Shop, and the northern portion of the track system will be retained in the proposed project. However, some demolition of portions of the Terminal Annex and Union Station will occur to accommodate adjacent new construction.

New Development Guidelines and Policies

The ADP recommends that development in the Historic Area provide a proper setting to reinforce the architectural character and symbolic prominence of the Union Station Passenger Terminal and Terminal Annex Building; therefore, architectural treatment will be designed to minimize interference with the image and character of these buildings.

The traditional setback from Alameda Street to the historic buildings will be maintained, thus preserving a major part of the historic view of the buildings. Buildings fronting Alameda Street within the Historic Area will remain low in scale and be designed to reinforce the existing Spanish Colonial Revival imagery apparent in Union Station. Through use of arcades, paving, archways and courtyards, a pedestrian-oriented district within the ADP can be developed which builds upon and complements the retail character of Olvera Street and Chinatown to the north.

Landscape Guidelines

New landscape design will be sympathetic to the design intent of the original Terminal Annex and Union Station design. Plant species that are appropriate to the climate and conditions of Southern California are encouraged. Extensive landscaping is proposed along Alameda Street to implement the Specific Plan Policy to create a street-lined "boulevard"-type entrance to the ADP area.

Phase I and Buildout Impacts

Phase I

Phase I of the proposed project includes the rehabilitation of Union Station and Terminal Annex facilities within the Historic Area as identified in Figure 5. Some demolition of selected portions of the Union Station Passenger Terminal, REA Buildings and south ramp, and the Terminal Annex Building will occur, as well as the construction of six buildings on the Union Station property and three buildings on the Terminal Annex property. There are three types of potential impacts of the project: impacts from rehabilitation work on the buildings and impacts resulting from demolition and new construction.

Rehabilitation

Both Union Station and Terminal Annex are being or will be rehabilitated. Terminal Annex is owned by the U.S. Postal Service. As a federal agency, undertakings of the Postal Service must be reviewed under Section 106 of the National Historic Preservation Act of 1966. In the Section 106 process, if a rehabilitation of a National Register property conforms with the Standards, the project is cleared with a finding of no adverse effect. Therefore, demolition of the noncontributing addition to Terminal Annex (built in 1959) along with two non-contributing ancillary structures will not violate the Standards because it will return the building to its historic configuration and is therefore not an adverse effect. Furthermore, the interior modifications proposed to Terminal Annex to create an atrium may involve a significant adverse effect. However, the Historic Preservation Element of the ADP requires the rehabilitation to conform with the Standards, and therefore, no significant adverse effect will occur.

In the case of the Union Station Passenger Terminal, the applicant has been rehabilitating the property as a "certified rehabilitation" in connection with the use of the historic rehabilitation tax credit. The credit is equal to 20 percent of the qualified rehabilitation expenditures. To claim the credit, a Historic Preservation Certification Application - Part 2 must be filed with the State Office of Historic Preservation and the National Park Service. This application has been filed and approved for rehabilitation work to date.

A rehabilitation which conforms with the Standards does not cause a substantial adverse change in the significance of the resource nor is the significance of the resource impaired. Therefore, if the rehabilitation of the buildings meets the Standards it will not have a significant adverse effect on historic resources associated with the rehabilitation work.

Demolition and New Construction

To conform with the Standards, new structures adjacent to Union Station and Terminal Annex must be of contemporary design which is compatible with the historic structures. The Historic Preservation and Urban Design Elements of the ADP have been developed to provide for compatible new construction.

Three new buildings of four, eight and twelve stories each will be constructed to the north of Terminal Annex. These buildings are set back from the Terminal Annex building. Under the Historic Preservation Element of the ADP, this new construction will conform to the Standards, and therefore, not constitute a significant adverse effect.

New construction in Phase I on the Union Station property consists of low-rise museum and retail space to the southwest (Building 9) and northeast (Building 5), as well as four commercial and government office buildings ranging from 5 to 25 stories. These buildings are located to the south and east of the historic Union Station structure. However, development in the historic area will be designed to reinforce the architectural character of Union Station and minimize the impact on the setting of Union Station, with a transition to the 26-story Gateway Transit Center to the east. More detail on each of the Phase I buildings and the impacts on Union Station is provided in the following discussion.

No demolition would be required for Building 9, along Alameda Street, or Building 6 in the Gateway Plaza area to the east of Union Station and the train tracks. Building 9 is to be constructed in what is currently a surface parking lot. As discussed in more detail in the Land Use Section IV.A, this development in the ADP's Historic Area will be low-rise in order to minimize visual intrusion on Union Station. Building 9 would contribute to view impacts on Union Station by changing the view from Alameda Street, which is currently unobstructed except by surface parking. (See additional discussion in Aesthetics Section IV.B.) Building 6 in the Gateway area is anticipated to have only minimal impacts on Union Station, given its distance from the station. As an office building of approximately 11 stories in height, however, it would be visible from Alameda Street and thus create some alteration to the views of the southern portion of the station.

Buildings 5, 7, 8 and 10 are proposed to require some demolition of contributing historic resources on the Union Station property during Phase I. Each of these four buildings is described in turn.

The 3-story retail development proposed for Building site 5 would incorporate and reuse much of the historic public area known as the Arrival and Departure Lobby east of the Main Waiting Room. Certain portions of this area have been altered to provide access to Metrorail (West Entrance) or to accommodate relocated Amtrak ticketing and baggage check and passenger restroom facilities. These Amtrak facilities together with the new upper level baggage building were completed in 1989 as a result of Metrorail construction dislocations. The new upper level baggage building will be demolished as part of Building Site 5 development and replaced with a new 3-story retail structure. The walls which frame and define the eastern edge of the historic North and South patios remain character defining features and would not be removed. The new retail structure would be appropriately set back to form an outdoor esplanade. The new building would, therefore, provide new pedestrian-serving uses and new open spaces at Union Station. It is likely that additional vertical circulation elements such as stairs, escalators and elevators will be added to the Arrival/Departure Lobby Area to enhance retail flow, but these elements will be designed in a manner that will be sensitive to and complementary with the historic plaster and tile finishes.

Buildings 7 and 10, which would partially extend across the top of the existing train tracks, would also result in some demolition of the existing track level butterfly canopies and passenger loading platforms. While these were substantially altered by Metrolink construction and modernization, the remaining original tracks, canopies and platforms are character defining features. The new buildings, to the extent they are built over the tracks, will provide shelter for the tracks and replace the utilitarian function previously served by the butterfly canopies in that area. The new development will be required by the Historic Preservation provisions of the ADP to have design compatible with the station. Buildings 7 and 10, to the extent they cover the tracks, will provide new pedestrian connections between the east and west areas of the site.

For the new building proposed as Building 8, the southern service wing of Union Station and the curving ramp are proposed for demolition. While this area of the site has been heavily impacted by several substantial prior alterations, the service wing and ramp remain character-defining features and continue to contribute to the significance of Union Station. The new building proposed on this location is primarily conceived as an L-shaped building with a 12-story wing and a 5-story wing, with the latter coming closest to Union Station. This design, made possible by the demolition, will permit creation of a new pedestrian courtyard at Union Station. The demolition is also required in order to construct an underground parking facility for Building 8, as encouraged by the ADP in order to minimize surface parking for new buildings.

The construction of Phase I development on the Union Station property, as discussed above, will require the demolition of some character-defining features to the rear of the station which contribute to its historic significance. A significant adverse impact on historic resources will occur from this Phase I demolition. Construction of Phase I buildings will alter the setting of Union Station through the introduction of large structures in close proximity to the Union Station Passenger Terminal. Therefore, one important factor for assessing integrity of a resource, namely its setting, will be substantially impaired by new construction and will constitute a significant adverse effect. Other factors of integrity, such as materials, design, feeling and association, will also be impaired from both the demolitions and new construction. However, given the architectural and historic significance of the Union Station Passenger Terminal itself, Union Station will remain eligible for the National Register. Regardless, a significant adverse impact will occur from construction of Phase I buildings.

Some of the structures on the eastern portion of the Union Station property would shade the south facing main concourse windows and patio of the Union Station Passenger Terminal. As addressed in more detail in Section IV.K.2 Natural Light (Shade/Shadow), this is considered a significant impact for Phase I development. A significant visual impact would also occur as discussed in more detail in Section IV.B Aesthetics, due to the obstruction of views of the Union Station Passenger Terminal from the southwest.

Buildout Phase

In the Buildout Phase, selected demolition will occur, including the removal of the noncontributing Vehicle Maintenance Facility and the further demolition of the north rear wing of Union Station. New construction totaling 7,500,000 square feet will consist of government and commercial office, hotel, residential and retail space. Under the Historic Preservation Element, new construction would be compatible in design and materials. The siting and massing of adjacent new construction will further alter the setting of the historic structures. Construction between Union Station and Terminal Annex will alter their historic relationship. Therefore, the Buildout Phase involves a significant adverse impact on historic resources. As with Phase I, and as described in Sections IV.K.2 Natural Light (Shade/Shadow) and IV.B Aesthetics, the Buildout Phase would also have a significant impact due to shading of southern facing design elements of the Union Station Passenger Terminal and due to view obstruction of the building from the southwest.

Summary of Phase I and Buildout Phase Impacts

Impact C.3.1 The demolition called for by Phase I at Union Station constitutes a significant adverse effect.

Impact C.3.2 The proposed new construction in Phase I substantially impairs the integrity of Union Station and will, therefore, constitute a significant adverse effect.

Impact C.3.3 Additional new construction and demolition at Union Station, and additional new construction at Terminal Annex, in the Buildout Phase will constitute a significant adverse effect.

CUMULATIVE IMPACTS

The historic impacts of the project are related to alterations of the existing historic setting (the ADP site itself and adjacent historic resources to the west of the Union Station property). The related project most likely to contribute to any cumulative historic impacts is Related Project 15, Phase I of the Gateway Center development (environmental review for this project was previously conducted through a Draft and Final EIR prepared and certified in 1992). Construction of the 628,000 square foot, 26-story building is nearing completion and will be occupied by the LACMTA. As stated in Section IV.B, Aesthetics, Phase I of the Gateway Center project will not obstruct any important views of the Terminal Annex Building or the Union Station Passenger Terminal. Primary pedestrian level views that are available of these resources are from Alameda Street adjacent on the west of the ADP, and from Cesar E. Chavez Avenue which bisects the ADP site in an east-west direction. Development of Phase I of the Gateway Center project would occur east of the Union Station Passenger Terminal and railroad trackage, and south of Cesar E. Chavez Avenue. Available pedestrian level views of the Union Station Passenger Terminal and the Terminal Annex Building would not be impacted by Phase I of the Gateway Center project, nor would the related project directly alter any of the existing historic resources within the ADP site. However, the related project would contribute to transformation of the existing visual character and alteration of the historic setting of the ADP site. This would constitute a significant cumulative impact. Other neighboring related projects (Related Project Nos. 50 and 54, a proposed hotel and expansion of the Men's Central Jail) are located further to the east and north of the site and would not have additional significant cumulative effects to the ADP site itself. No other cumulative impacts would be expected as a result of related projects.

MITIGATION MEASURES

Phase I and Buildout Phase

There is a potential significant adverse impact expected from rehabilitation work on existing historic structures which can be avoided if it conforms to the Standards. Furthermore, demolition of a portion of Union Station and proposed new development will constitute significant adverse effects, and therefore under Phase I of the ADP the following measures shall be implemented:

C.3.1.a Rehabilitation work during Phase I of the proposed project shall conform to the "Secretary of Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings."

C.3.1.b All historic buildings or portions of historic buildings to be removed shall be documented with black and white archival photographs showing all views plus significant exterior and interior architectural or construction details, keyed to a map of the site. This documentation shall include large format photography and measured drawings. The photographs and plans prepared as mitigation should be submitted to the Los Angeles Conservancy and the Planning Department for inclusion in their architectural and cultural resources surveys.

C.3.1.c The Historic Preservation Element shall include design guidelines to ensure the compatibility of new construction with the historic character of Terminal Annex and Union Station and provide appropriate open space.

C.3.2 Mitigation Measures C.3.1.a, C.3.1.b and C.3.1.c shall also be implemented for the Buildout Phase of the proposed project.

C.3.3 Mitigation Measures C.3.1.a, C.3.1.b and C.3.1.c shall also be implemented for the Buildout Phase of the proposed project.

ADVERSE EFFECTS

After mitigation, environmental impacts on historic resources of Phase I at Union Station, and Buildout Phase at both Union Station and Terminal Annex, will remain significant.

SECTION IV.D.1
TRAFFIC

This section summarizes the results of a comprehensive transportation impact study prepared for the ADP project by Korve Engineering, in May 17, 1995. The study is on file with Los Angeles City Department of Transportation (LADOT) and the Community Planning Bureau, City of Los Angeles Planning Department, located at 221 S. Figueroa Street, Third Floor, and is part of the Technical Studies Appendices to this EIR.

The following section may vary somewhat from the standard section elsewhere in this EIR. An exception to the format was necessary to facilitate the reader's understanding of the traffic assumptions, analysis and conclusions, and to present the information in a form that is consistent with requirements of the LADOT. Further, variations in the format are necessary to clearly demonstrate linkage between varying degrees of mitigation. Regardless, the following section is consistent with the requirements of the California Environmental Quality Act (CEQA), in that it offers the required information related to project impacts, mitigation measures and cumulative analysis.

ENVIRONMENTAL SETTING

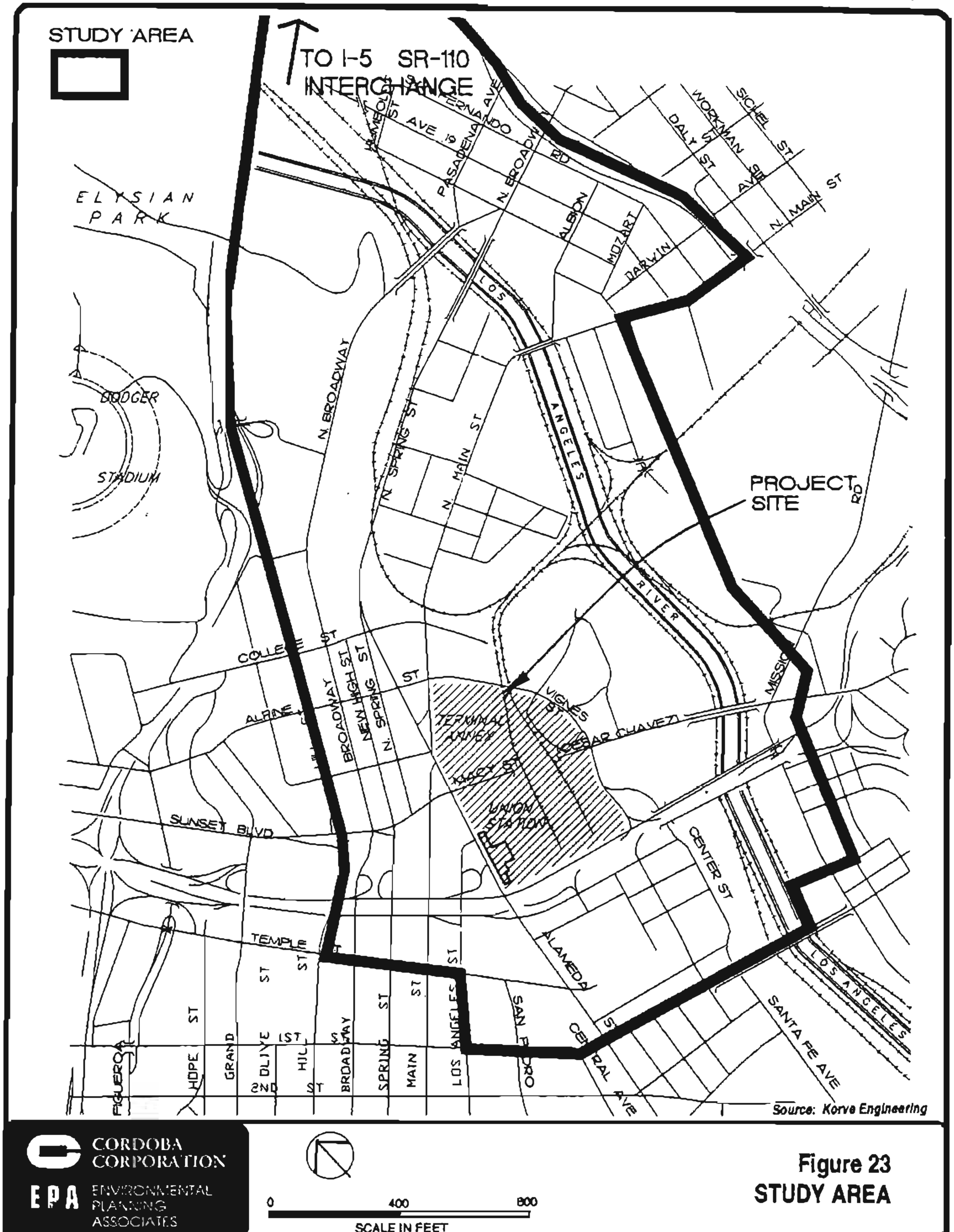
Site Location And Access

Regional Accessibility

Freeways. The Alameda District is located at the center of the greater Los Angeles Basin, near the Los Angeles Central Business District (CBD), Chinatown and Olvera Street areas (see Figure 23.)

Primary regional access to the site is provided by the Hollywood/Santa Ana Freeway (US-101), which runs approximately east-west along the southern edge of the study area; and the Pasadena/Harbor Freeway (SR-110/I-110), which runs north-south to the west of the site. To the east of the project site is the Golden State Freeway (I-5), which also has a north-south orientation. The San Bernardino/Santa Monica (I-10) and Pomona (SR-60) Freeways form an east-west corridor south of the study area, and provide indirect access.

Traffic approaching the project site from the north has access via the Pasadena (SR-110) and Golden State (I-5) Freeways; access from the east is via the Santa Ana Freeway (I-5), the San Bernardino Freeway (I-10) and Pomona Freeway (SR-60); access from the south is via the Harbor (SR-110) and Long Beach (I-710) Freeways. Since the project site is located directly north and east of downtown Los Angeles and in the center of the many freeway junctions leading to and from the downtown area, much of the traffic near the project site is pass-by traffic destined for downtown Los Angeles, and to other regional destinations.



CORDOBA CORPORATION

EPA ENVIRONMENTAL PLANNING ASSOCIATES

Figure 23
STUDY AREA

The project site is located to adjacent freeway on/off ramps. Ramps for US-101 are located at Mission Road, Vignes, Alameda, Los Angeles, Spring, Grand and Temple Streets, and North Broadway. Northwest of the site, access and egress via SR-110 is located via North Hill Street and North Broadway. I-5 is approximately one mile northeast of the site and is accessible via North Broadway, with other access and egress routes also available via Pasadena Avenue, North Main Street, and Mission Road.

Local Accessibility

The project area is served by a dense network of city streets in functional classifications ranging from major highway to local street. Although not surrounded by a standard grid network system, the study area can be accessed via major and minor arterials from all directions.

Existing Roadway System

Roadways Adjacent to the Project Site

Alameda Street. Alameda Street is classified as a major highway per the Streets & Highways Element of the City's General Plan. Alameda Street runs in a north-south direction and forms the west boundary of the project site. It is directly accessible via US-101 and has three through lanes between Temple Street and North Main Street in both northbound and southbound directions with left turn pockets.

Alameda Street is currently used by autos and buses accessing Union Station, El Pueblo de Los Angeles Historic Monument (which includes "Olvera Street"), Chinatown to the north and west of the project site, and the downtown Los Angeles area to the south and west. Parking is permitted in designated areas and controlled by parking meters during off-peak hours in the southbound direction. Parking is not allowed in the northbound direction along Alameda Street. The average daily traffic volume is approximately 30,600 vehicles per day north of Cesar E. Chavez Avenue, adjacent to the project. Average daily traffic is approximately 28,200 vehicles per day south of the US-101 at First Street.

Cesar E. Chavez Avenue. Cesar E. Chavez Avenue which was recently renamed from Macy Street is classified as a major highway which runs east-west bisecting the project site between Terminal Annex and Union Station. It currently provides local access to and from Boyle Heights, which is located southeast of the site. Cesar E. Chavez Avenue also runs directly north of the Piper Technical Center. Cesar E. Chavez Avenue has two through lanes with exclusive left turn lanes at most intersections. Parking is not permitted along most of Cesar E. Chavez Avenue. The average daily traffic volume is approximately 29,000 vehicles per day at Alameda Street.

Vignes Street. Vignes Street is classified as a major highway which runs east of North Main Street and changes direction to generally north-southeast of the railroad tracks. It forms the eastern and northern boundaries of the project site. Vignes Street currently provides direct access to the east side of Union Station site via US-101 on/off ramp east of the rail tracks. Vignes Street has two through lanes in either direction. Parking is prohibited along portions of Vignes Street. Average daily traffic along Vignes Street at Cesar E. Chavez Avenue is approximately 16,300 vehicles per day.

Ramirez Street. Ramirez Street is classified as a major highway and runs east from Vignes Street to connect with Center Street which goes under the US-101. It has two through lanes in each direction. Parking is not allowed along Ramirez Street.

Roadways in the Vicinity of the Project Site

North Spring Street. North Spring Street generally runs in a north-south direction. It connects with Alameda Street, north of College Street, and has two through lanes in either direction. Parking is prohibited in the northbound direction during the p.m. peak period and in the southbound direction during the a.m. peak period. Average daily traffic is 18,700 vehicles per day.

North Broadway. North Broadway is classified as a secondary highway south of Alpine Street and a major highway north of Alpine Street. North Broadway parallels North Main Street and also provides access to downtown Los Angeles, and Chinatown from the north. It has two through lanes in either direction. Metered parking is available with peak hour restrictions. Average daily traffic, north of Alpine Street, is 22,700 vehicles per day and 24,000 vehicles per day north of Sunset Boulevard.

North Main Street. North Main Street is classified as a secondary highway and has a southwest-northeast orientation. North Main Street intersects Alameda Street near the entrance of Terminal Annex. It serves downtown Los Angeles and El Pueblo de Los Angeles Historical Monument/Olvera Street areas. North of Alameda Street, North Main Street has two through lanes in either direction. Parking is restricted during the evening peak period in the northbound direction and during the morning peak period in the southbound direction. North Main Street south of Alameda Street is a one-way street in the northbound direction with five through lanes. Average daily traffic on North Main Street is approximately 31,400 vehicles per day south of the US-101 at Temple Street and approximately 9,220 vehicles per day near the project site.

Alpine Street. Alpine Street connects with Vignes Street west of North Main Street. East of Yale Street, Alpine Street is striped for two lanes in each direction with peak hour parking restrictions. West of Yale Street, Alpine Street has only one lane per direction. This street is classified as a secondary highway east of Hill Street and a collector street west of Hill Street. Metered parking is available with restrictions during peak hours. Alpine Street carries approximately 11,300 vehicles per day at North Broadway.

College Street. College Street is a secondary highway between North Main Street and Yale Street. East of North Main Street it is a local street. Meter parking is available west of North Spring Street with a.m. and p.m. peak hours restrictions. College Street carries approximately 13,500 vehicles per day west of Hill Street and 11,950 vehicles per day west of North Broadway.

North Hill Street. North Hill Street is a northeast-southwest street parallel to US-110 with on/off ramps to the freeway. This street serves Chinatown and downtown Los Angeles where it becomes a one-way (southbound) street south of the US-101. North Hill Street is a four lane secondary highway with metered parking and peak hour parking restrictions. Average daily traffic is approximately 23,400 north of College and 24,600 north of Alpine Street.

Aliso/Commercial Street. Aliso Street is classified as a local street whereas Commercial Street is classified as a collector street. Aliso Street is a one-way eastbound street, and is a frontage road to US-101 from North Broadway to Alameda Street. Aliso Street has four travel lanes with two left turn lanes, one through lane and one shared through/right lane at the intersection of Alameda and Commercial Street. Commercial Street is a two way street east of Alameda Street and south of US-101, with one lane in each direction. Parking is not allowed along Aliso/Commercial Street.

Los Angeles Street. Los Angeles Street is classified as a secondary highway which has its northern terminus at Alameda Street opposite Union Station, and serves downtown Los Angeles to the south. Los Angeles Street has two travel lanes and a parking lane in the northbound direction and three lanes in the southbound direction. Parking is restricted during p.m. peak hours in the northbound direction. Los Angeles Street carries 31,400 vehicles per day at Temple south of US-101.

Center Street. Center Street is classified as a major highway, and connects with Ramirez Street east of Vignes Street and goes under the US-101. Although Center Street is classified as a major highway, it has more characteristics of a local street with one lane per direction. Center Street provides access to Union Station from the south and the east. Parking is allowed only in the southbound direction along Center Street. Average daily traffic is 5,900 vehicles per day.

Arcadia Street. Arcadia Street is classified as a local street. It is a one-way westbound street and has three travel lanes. Arcadia Street connects with a US-101 off-ramp and El Monte Busway and functions as a freeway frontage road between Alameda Street and Broadway. Arcadia Street carries approximately 21,100 vehicles per day west of Alameda Street.

Mission Road. Mission Road is classified as a major highway in the study area. It is striped for three lanes in each direction with peak hour parking restrictions. Parking is prohibited during the p.m. peak period in the northbound direction and during the a.m. peak period in the southbound direction. Mission Road carries approximately 21,200 vehicles per day near Cesar E. Chavez Avenue.

Sunset Boulevard. Sunset Boulevard, recently renamed Cesar E. Chavez Avenue beginning at Beaudry Street, is classified as a major highway with three through lanes in either direction. Sunset Boulevard runs east-west and connects with Cesar E. Chavez Avenue. Currently, it provides local access to the project site from Echo Park, Silverlake, and Hollywood. Metered parking is allowed with peak period restrictions. Sunset Boulevard carries 34,900 vehicles per day at North Spring Street.

Methodology

The study area was determined in conjunction with LADOT. The traffic analysis examines the level-of-service (LOS) for three levels of roadway infrastructure: 1) roadways, 2) intersections, and 3) freeways.

The performance of a given roadway segment or intersection is rated by its level-of-service (LOS). Level-of-service is a qualitative measure describing traffic flow conditions, ranging from LOS A at free-flow conditions to LOS F at extremely congested conditions. The methodology for the link LOS analysis was developed in conjunction with Los Angeles Department of Transportation (LADOT) and comprised a volume to capacity (V/C) analysis, with the V/C ratio on each link determining LOS.

Peak hour intersection levels-of-service were calculated using the Critical Movement Analysis (CMA) methodology, consistent with LADOT guidelines. The CMA methodology as described in the Transportation Research Board circular 212 was used for this purpose. CMA is a procedure which allows for capacity and level of service determination for signalized intersections. The analysis incorporates the effects of geometry and traffic signal operation and results in a level of service determination for the intersection of a whole operating unit. Intersection level-of-service definitions are provided in Table 13. Existing turning movement counts were obtained from the LADOT files, and are illustrated in Appendix D of the traffic study contained in the Technical Studies Appendices document.

TABLE 13
LEVEL OF SERVICE DEFINITION

Level of Service	Description	Volume to Capacity Ratio
A	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made and nearly all drivers find freedom of operation.	0 - .60
B	Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form.	.61 - .70
C	Good operation. Occasionally drivers may have to wait more than 60 seconds and back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted.	.71 - .80
D	Fair operation. Cars are sometimes required to wait more than 60 seconds during short peaks. There are no long-standing traffic queues. This level is typically associated with design practice for peak periods in non-urbanized areas.	.81 - .90
E	Poor operation. Some long-standing vehicular queues develop on critical approaches to intersections. Delays may be up to several minutes.	.91 - 1.00
F	Forced flow. Represents jammed conditions. Back-ups from locations downstream or on the cross-street may restrict or prevent movement of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop and go type traffic flow.	Over 1.00

Source: Highway Capacity Manual, Special Report 209, Washington D.C., 1985.

Street System

Roadways

The arterial links shown in Figure 24 were identified in conjunction with LADOT for link level of service analysis.

The methodology for the link LOS analysis was a volume to capacity (V/C) analysis, with the V/C ratio on each link determining LOS. The assumed capacities on roadway links were developed in conjunction with LADOT, as follows:

Link Type	Hourly Capacity
One-way major arterial	750 veh./lane/hour
Two-way major arterial	700 veh./lane/hour
One-way secondary arterial	600 veh./lane hour
Two-way secondary arterial	550 veh./lane/hour
Collector and local streets	400 veh./lane/hour

Tables 14 and 15 illustrate existing a.m. and p.m. peak hour volumes, capacities, and levels of service on the analyzed links, respectively. The tables indicate that in general, traffic conditions are at LOS D or better, and that the most congested areas are on the links providing access to the CBD from the north and south. Several links providing access to the north, such as Hill Street, Broadway, and Alameda Street, show congestion in the southbound direction in the a.m. peak hour (towards the CBD) and in the northbound direction in the p.m. peak hour (away from the CBD). Links operating at LOS E or F under existing conditions include:

North Broadway s/o 5 Fwy.	NB in p.m.
North Broadway n/o Bishop	NB in p.m.
N. Spring n/o Sotello	NB in p.m.
Los Angeles s/o Temple	NB in p.m.
North Hill s/o Alpine	SB in a.m.
North Broadway n/o College	NB in p.m.
North Broadway s/o Alpine	NB in p.m.
Alameda s/o Temple	NB in p.m., SB in a.m.

The remaining analyzed roadway links currently operate at LOS D or better in the peak hours.

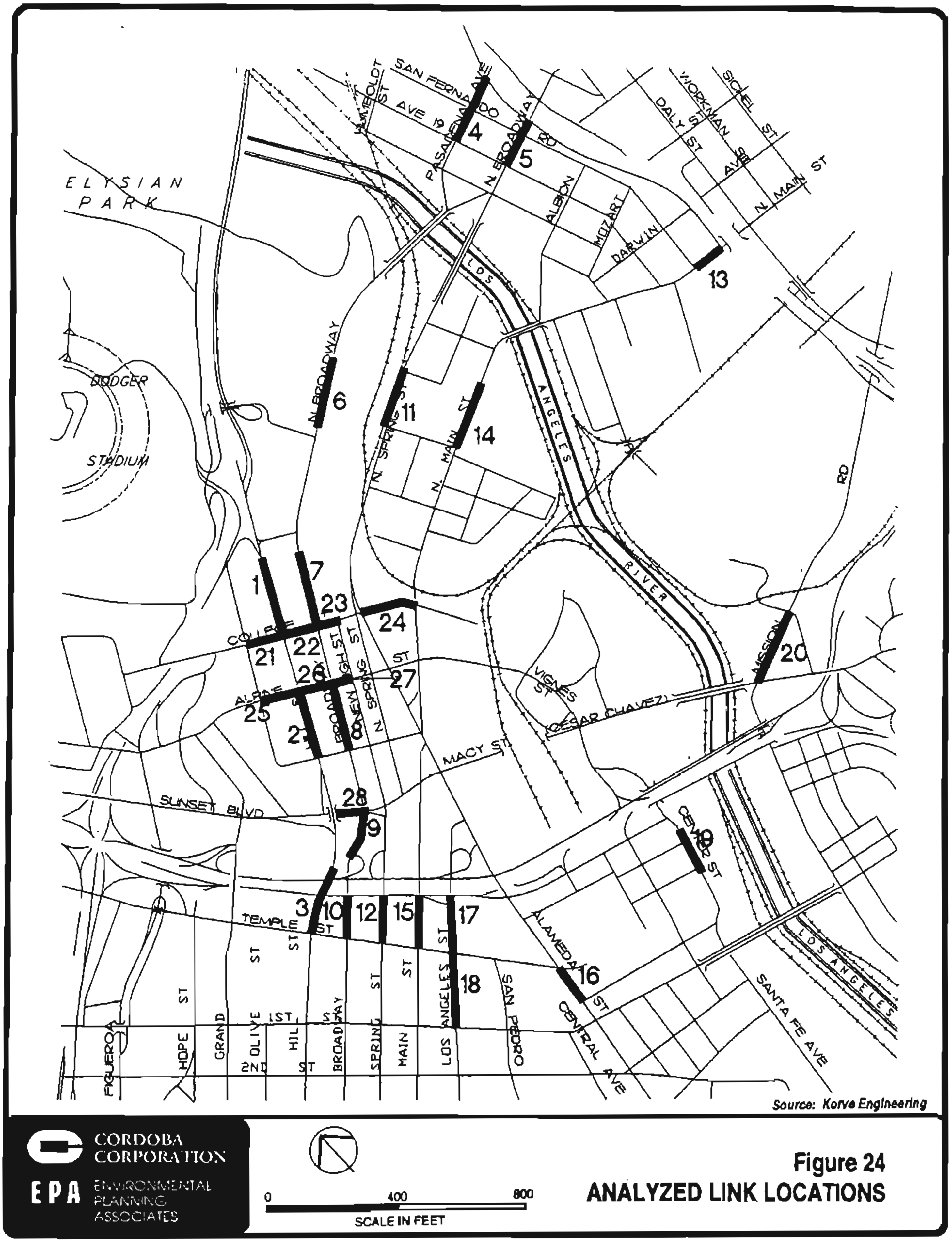


Figure 24
ANALYZED LINK LOCATIONS

TABLE 14
EXISTING CONDITIONS
A.M. PEAK HOUR LINK LEVELS OF SERVICE

	Existing Conditions [1]							
Street Orientation	Dir.	Lanes	Class	Cap./lane	Tot. Cap.	Volume	V/C	LOS
North-South Streets								
1 Hill N/O College	N	2	Secondary	1,100	2,200	200	0.091	A
	S	2	[2]	1,100	2,200	1,980	0.900	D
2 Hill S/O Alpine	N	2	Secondary	700	1,400	170	0.121	A
	S	2	[3]	700	1,400	1,660	1.186	F
3 Hill S/O Aliso	N	2	Secondary	700	1,400	90	0.064	A
	S	3	[3]	700	2,100	1,450	0.690	B
4 Pasadena S/O 5 Fwy	N	2	Secondary	700	1,400	320	0.229	A
	S	2	[3]	700	1,400	890	0.636	B
5 Broadway S/O 5 Fwy	N	2	Major	700	1,400	650	0.464	A
	S	3		700	2,100	1,700	0.810	D
6 Broadway N/O Bishop	N	2	Major	700	1,400	360	0.257	A
	S	3		700	2,100	1,810	0.862	D
7 Broadway N/O College	N	2	Major	700	1,400	330	0.236	A
	S	2		700	1,400	1,100	0.786	C
8 Broadway S/O Alpine	N	2	Secondary	700	1,400	430	0.307	A
	S	2	[3]	700	1,400	930	0.664	B
9 Broadway S/O Sunset	N	2	Secondary	700	1,400	480	0.343	A
	S	2	[3]	700	1,400	910	0.650	B
10 Broadway S/O Aliso	N	3	Secondary	700	2,100	420	0.200	A
	S	2	[3]	700	1,400	1,260	0.900	D
11 N. Spring N/O Sotello	N	1	Major [4]	1,200	1,200	290	0.242	A
	S	2		1,200	2,400	1,530	0.638	B
12 Spring S/O Aliso	S	4	Major [5]	700	2,800	980	0.350	A
13 N. Main S/O 5 Freeway	N	2	Secondary	550	1,100	390	0.355	A
	S	2		550	1,100	950	0.864	D
14 N. Main N/O Sotello	N	2	Secondary	550	1,100	280	0.255	A
	S	2		550	1,100	610	0.555	A
15 Main S/O Aliso	N	5	Secondary [3] [5]	700	3,500	960	0.274	A
16 Alameda S/O Temple	N	2	Major	700	1,400	460	0.329	A
	S	2		700	1,400	1,305	0.932	E
17 Los Angeles S/O Aliso	N	3	Secondary	700	2,100	415	0.198	A
	S	3	[3]	700	2,100	1,260	0.600	A
18 Los Angeles S/O Temple	N	2	Secondary	700	1,400	480	0.343	A
	S	3	[3]	700	2,100	1,595	0.760	C
19 Center S/O Jackson	N	1	Major	400	400	190	0.475	A
	S	1	[6]	400	400	350	0.875	D
20 Mission N/O Macy	N	2	Major	700	1,400	655	0.468	A
	S	3		700	2,100	1,735	0.826	D
East-West Streets								
21 College W/O Hill	E	2	Secondary	300	600	390	0.650	B
	W	2	[6] [7]	300	600	460	0.767	C
22 College E/O Hill	E	2	Secondary	300	600	510	0.850	D
	W	2	[6] [7]	300	600	290	0.483	A
23 College E/O Broadway	E	2	Secondary	300	600	180	0.300	A
	W	2	[6] [7]	300	600	330	0.550	A
24 College E/O Spring	E	1	Secondary	400	400	60	0.150	A
	W	1	[6]	400	400	105	0.263	A
25 Alpine W/O Hill	E	2	Local [7]	300	600	230	0.383	A
	W	2		300	600	400	0.667	B
26 Alpine E/O Hill	E	2	Secondary	300	600	290	0.483	A
	W	2	[6] [7]	300	600	400	0.667	B
27 Alpine E/O Broadway	E	2	Secondary	300	600	290	0.483	A
	W	2	[6] [7]	300	600	410	0.683	B
28 Sunset E/O Hill	E	3	Major	700	2,100	935	0.445	A
	W	3		700	2,100	1,265	0.602	B

[1] Sources: RTD Gateway EIR, LADOT Traffic Counts, Korve Engineering
[2] Operates almost as freeway on/off ramp; capacity is halfway between major arterial and freeway ramp.
[3] Operates similarly to other major arterials in area; major arterial capacity used.
[4] Operates free-flow, without signals or interruptions, between College and I-5 Freeway; higher capacity represents free-flow conditions.
[5] Capacity reduced from 750/lane to 700/lane to reflect high percentage of buses.
[6] Operates as collector or local street, despite higher functional classification.
[7] Capacity reduced 25% from 400 to 300 to account for pedestrian conflicts.

TABLE 15
EXISTING CONDITIONS
P.M. PEAK HOUR LINK LEVELS OF SERVICE

	Existing Conditions [1]							
Street Orientation	Dir.	Lanes	Class	Cap./lane	Tot. Cap.	Volume	V/C	LOS
North-South Streets								
1 Hill N/O College	N	2	Secondary	1,100	2,200	1,680	0.764	C
	S	2	[2]	1,100	2,200	1,020	0.464	A
2 Hill S/O Alpine	N	2	Secondary	700	1,400	1,010	0.721	C
	S	2	[3]	700	1,400	710	0.507	A
3 Hill S/O Aliso	N	2	Secondary	700	1,400	650	0.464	A
	S	3	[3]	700	2,100	580	0.276	A
4 Pasadena S/O 5 Fwy	N	2	Secondary	700	1,400	660	0.471	A
	S	2	[3]	700	1,400	360	0.257	A
5 Broadway S/O 5 Fwy	N	2	Major	700	1,400	1,690	1.207	F
	S	3		700	2,100	320	0.152	A
6 Broadway N/O Bishop	N	2	Major	700	1,400	1,560	1.114	F
	S	3		700	2,100	550	0.262	A
7 Broadway N/O College	N	2	Major	700	1,400	1,350	0.964	E
	S	2		700	1,400	740	0.529	A
8 Broadway S/O Alpine	N	2	Secondary	700	1,400	1,290	0.921	E
	S	2	[3]	700	1,400	620	0.443	A
9 Broadway S/O Sunset	N	2	Secondary	700	1,400	1,250	0.893	D
	S	2	[3]	700	1,400	540	0.386	A
10 Broadway S/O Aliso	N	3	Secondary	700	2,100	1,245	0.593	A
	S	2	[3]	700	1,400	395	0.282	A
11 N. Spring N/O Sotello	N	1	Major [4]	1,200	1,200	1,340	1.117	F
	S	2		1,200	2,400	340	0.142	A
12 Spring S/O Aliso								
	S	4	Major [5]	700	2,800	895	0.320	A
13 N. Main S/O 5 Freeway	N	2	Secondary	550	1,100	900	0.818	D
	S	2		550	1,100	510	0.464	A
14 N. Main N/O Sotello	N	2	Secondary	550	1,100	790	0.718	C
	S	2		550	1,100	280	0.255	A
15 Main S/O Aliso	N	5	Secondary [3] [5]	700	3,500	1,800	0.514	A
16 Alameda S/O Temple	N	2	Major	700	1,400	1,550	1.107	F
	S	2		700	1,400	910	0.650	B
17 Los Angeles S/O Aliso	N	3	Secondary	700	2,100	1,420	0.676	B
	S	3	[3]	700	2,100	255	0.121	A
18 Los Angeles S/O Temple	N	2	Secondary	700	1,400	1,295	0.925	E
	S	3	[3]	700	2,100	790	0.376	A
19 Center S/O Jackson	N	1	Major	400	400	270	0.675	B
	S	1	[6]	400	400	260	0.650	B
20 Mission N/O Macy	N	2	Major	700	1,400	1,205	0.861	D
	S	3		700	2,100	835	0.398	A
East-West Streets								
21 College W/O Hill	E	2	Secondary	300	600	430	0.717	C
	W	2	[6] [7]	300	600	300	0.500	A
22 College E/O Hill	E	2	Secondary	300	600	400	0.667	B
	W	2	[6] [7]	300	600	350	0.583	A
23 College E/O Broadway	E	2	Secondary	300	600	350	0.583	A
	W	2	[6] [7]	300	600	200	0.333	A
24 College E/O Spring	E	1	Secondary	400	400	330	0.825	D
	W	1	[6]	400	400	55	0.138	A
25 Alpine W/O Hill	E	2	Local [7]	300	600	395	0.658	B
	W	2		300	600	240	0.400	A
26 Alpine E/O Hill	E	2	Secondary	300	600	400	0.667	B
	W	2	[6] [7]	300	600	370	0.617	B
27 Alpine E/O Broadway	E	2	Secondary	300	600	440	0.733	C
	W	2	[6] [7]	300	600	430	0.717	C
28 Sunset E/O Hill	E	3	Major	700	2,100	1,370	0.652	B
	W	3		700	2,100	1,190	0.567	A

[1] Sources: RTD Gateway EIR, LADOT Traffic Counts, Korve Engineering
[2] Operates almost as freeway on/off ramp; capacity is halfway between major arterial and freeway ramp.
[3] Operates similarly to other major arterials in area; major arterial capacity used.
[4] Operates free-flow, without signals or interruptions, between College and I-5 Freeway; higher capacity represents free-flow conditions.
[5] Capacity reduced from 750/lane to 700/lane to reflect high percentage of buses.
[6] Operates as collector or local street, despite higher functional classification.
[7] Capacity reduced 25% from 400 to 300 to account for pedestrian conflicts.

Intersections

In conjunction with LADOT, twelve intersections were identified for intersection level-of-service analysis. The 12 intersection locations are illustrated in Figure 25.

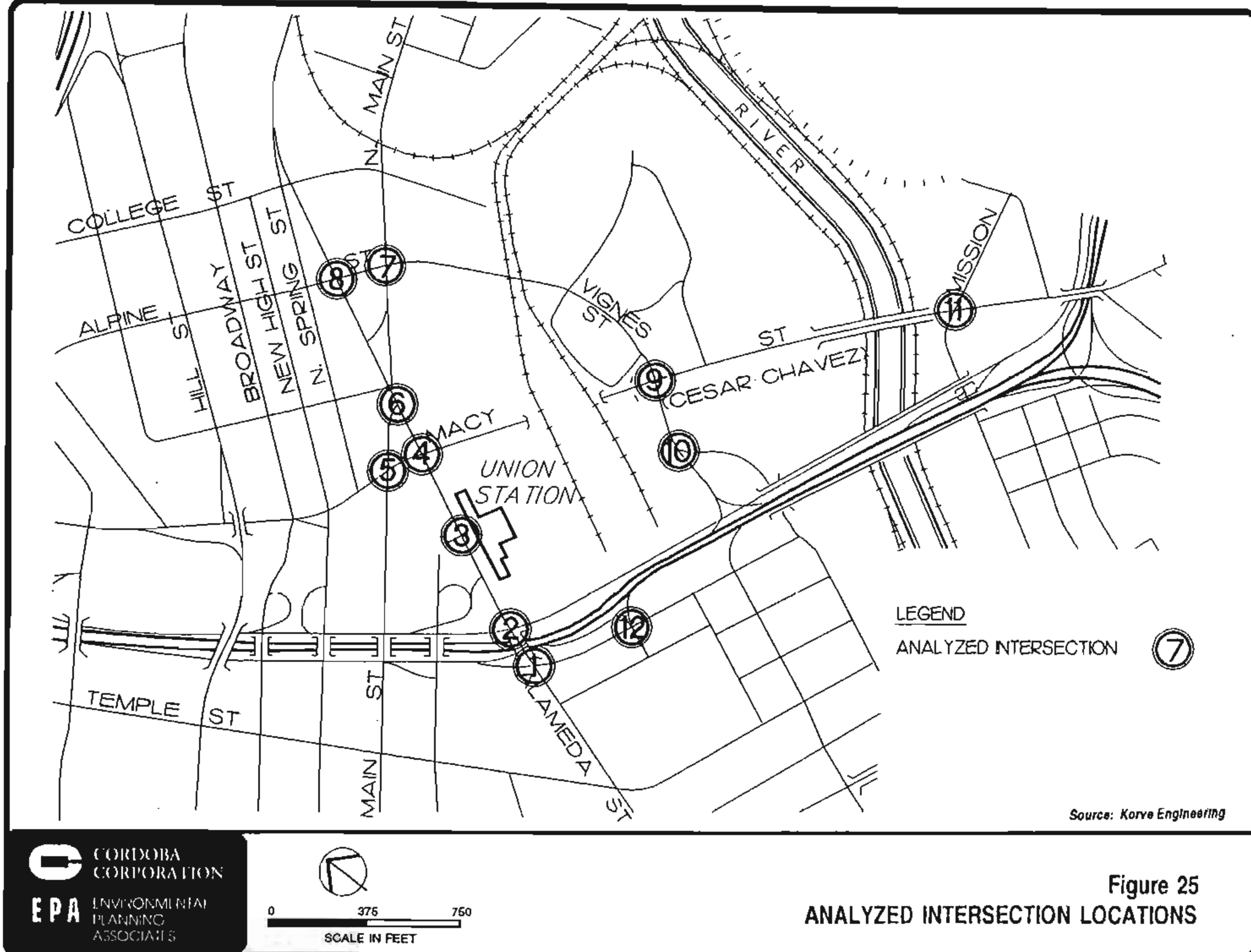
Two of the twelve analyzed intersections are not currently signalized, but were analyzed with the CMA methodology to maintain consistency in this analysis. This methodology is recommended by the LADOT staff.

Table 16 indicates that all but one of the twelve analyzed intersections currently operate at LOS D or better in both peak periods. The intersection of Mission Road/Cesar E. Chavez Avenue operates at LOS E in the a.m. peak period, due to a large number of vehicles making the southbound right turn from Mission Road to Cesar E. Chavez Avenue.

Freeway System

Five key freeway segments surrounding the ADP study area were selected for level-of-service analysis. (Additional freeway segments were also subsequently analyzed as needed under project conditions to comply with CMP requirements.) These five freeway segments are illustrated in Figure 26. In addition, the following freeway ramps were also selected for analysis:

1. US-101 Vignes Street WB Off-Ramp
2. US-101 Vignes Street WB On-Ramp
3. US-101 Vignes Street EB On-Ramp
4. US-101 Alameda Street WB Off-Ramp
5. US-101 Hewitt/Commercial EB On-Ramp
6. US-101 Hewitt/Commercial EB Off-Ramp
7. US-101 Los Angeles EB Off-Ramp
8. US-101 Los Angeles WB On-Ramp
9. US-101 Mission Street WB On-Ramp
10. SR-110 Hill Street SB Off-Ramp
11. SR-110 Hill Street NB On-Ramp
12. I-5 N. Main Street SB Off-Ramp
13. I-5 N. Broadway NB On-Ramp
14. I-5 N. Broadway SB Off-Ramp



Source: Korve Engineering

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Figure 25
ANALYZED INTERSECTION LOCATIONS

TABLE 16

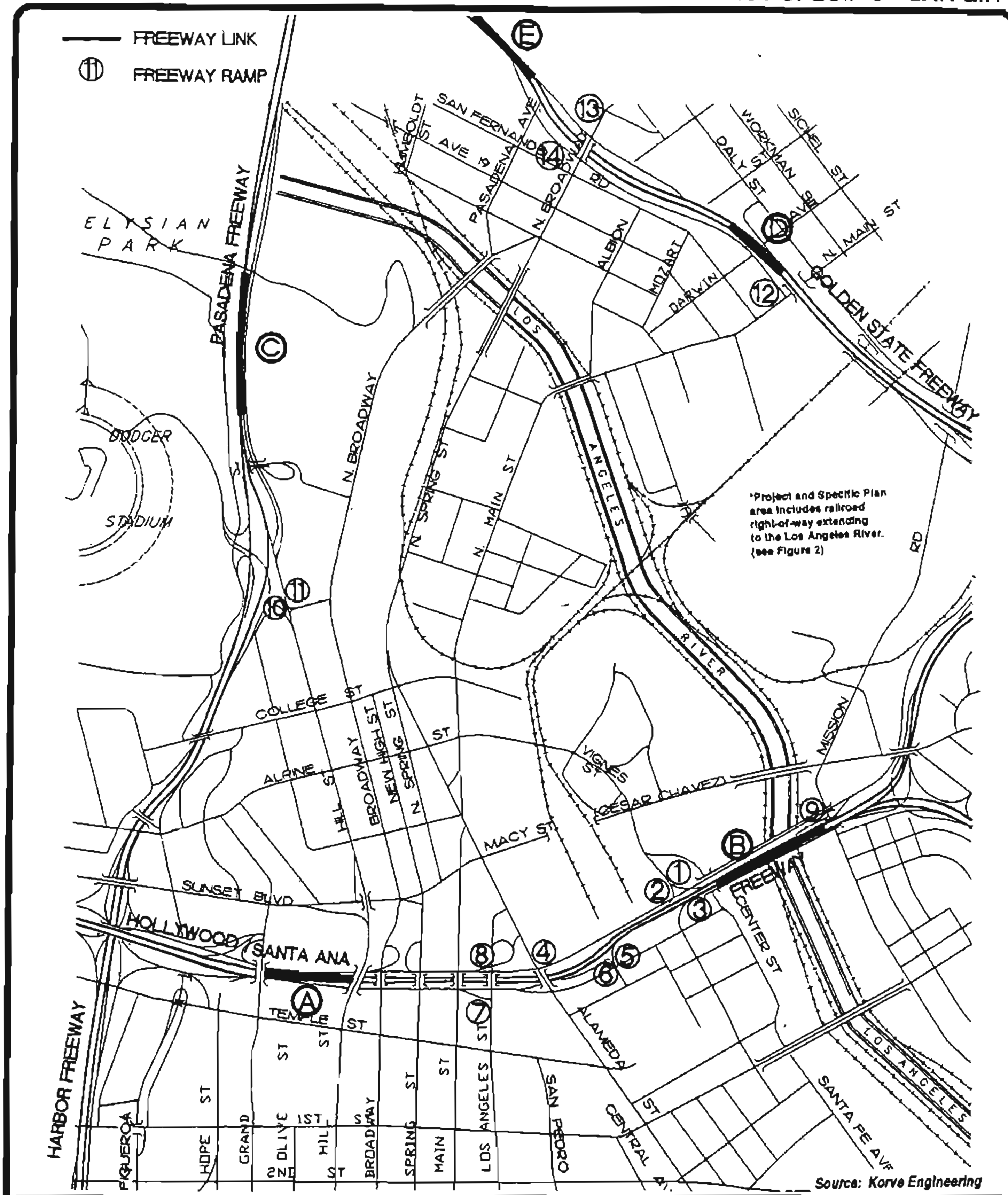
EXISTING CONDITIONS

INTERSECTION LEVELS OF SERVICE

Intersection	Existing			
	AM Peak		PM Peak	
	V/C	LOS	V/C	LOS
1. Alameda & Aliso	0.457 *	A	0.811 *	D
2. Alameda & Arcadia	0.557 *	A	0.582 *	A
3. Alameda & Los Angeles	0.449 *	A	0.436 *	A
4. Alameda & Cesar Chavez	0.643 *	B	0.637 *	B
5. N. Main & Cesar Chavez	0.453 *	A	0.561 *	A
6. Alameda & N. Main	0.450 *	A	0.676 *	B
7. N. Main & Vignes	0.509	A	0.616	B
8. Alameda & Alpine	0.561	A	0.707	C
9. Vignes & Cesar Chavez	0.755	C	0.817	D
10. Vignes & Ramirez/NB-101**	0.377	A	0.436	A
11. Mission & Cesar Chavez	0.962	E	0.769	C
12. Hewitt/Commercial & SB-101**	0.394	A	0.521	A

* Includes adjustment for ATSAC. ATSAC currently installed at six study intersections; to be intalled at five additional intersections by 1996.

** Currently unsignalized, but analyzed as signalized for comparison purposes.



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0 400 800

SCALE IN FEET

Figure 26
ANALYZED FREEWAY LINK AND RAMP LOCATIONS

The analysis methodology of the freeway system is consistent with both that of the local street system, and the CMP methodology, in that it is based on a volume to capacity ratio evaluation of level of service. Tables 17 and 18 illustrate existing peak hour levels-of-service on the freeway segments and ramps, respectively. As Table 17 indicates, most of the freeway segments are currently operating at or near capacity (LOS E or F) in at least one direction during each peak period. The most congested freeway segments are on I-5. Table 18 indicates that all of the freeway ramps are operating at acceptable levels-of-service in the peak periods.

Public Transit

Union Station was built in 1939 to serve as a joint facility for the passenger and freight services of four railroads: Southern Pacific, Atchison, Topeka and Santa Fe, and Union Pacific. During the 1950s as a result of increased auto and airline utilization, rail service experienced a decline in ridership and thus the use of the Station declined as well, until the formation of Amtrak in the 1970s. However, rail and transit services are now on the rise in Southern California and Union Station has been the focus of a significant rejuvenation in rail transit.

Since its opening in 1939, Union Station has been the only passenger rail station in the City of Los Angeles. Union Station now serves as the hub for the multimodal transportation services in the Los Angeles Area. These multimodal transportation services include several rail services: Amtrak (inter-city rail), the Metro Red Line (urban subway rail), and Metrolink (urban commuter rail). Union Station is also served by numerous bus lines and shuttle services which provide convenient access to downtown Los Angeles and other heavily travelled destinations. As transit is expanding rapidly at Union Station, the specific nature of rail and bus transit service changes frequently. The following discussion documents transit service in late 1993/early 1994.

<u>Rail Transit Systems</u>

Amtrak and Metrolink, which provide inter-city and commuter rail service, currently use the existing trackage and platform facilities to the north and east of the Union Station Terminal. The Metro Rail Red Line, which provides urban transit service, uses an underground subway tunnel and station platform located directly below the Union Station train yard, and is accessed by portals on the east and west sides of the station.

TABLE 17
FREEWAY LINK ANALYSIS
EXISTING CONDITIONS

AM PEAK HOUR

	Existing Conditions						
Location	**Dir.**	**Lns.**	**Peak Hour Cap.**	**AADT**	**Peak Hour Volume**	**V/C**	**LOS**
A. US-101 W/O Hill	N	4	8,000	225,000	7,920	0.990	E
	S	4	8,000		5,630	0.704	C
B. US-101 W/O Mission	N	4	8,000	221,000	7,780	0.973	E
	S	4	8,000		5,530	0.691	B
C. SR-110 Hill to Solano	N	4	8,000	182,000	4,090	0.511	A
	S	4	8,000		8,340	1.043	F
D. I-5 Main to Broadway	N	5	10,000	229,000	7,210	0.721	C
	S	4	8,000		8,570	1.071	F
E. I-5 Broadway to SR-110	N	4	8,000	217,000	6,830	0.854	D
	S	3	6,000		8,120	1.353	F

PM PEAK HOUR

	Existing Conditions						
Location	**Dir.**	**Lns.**	**Peak Hour Cap.**	**AADT**	**Peak Hour Volume**	**V/C**	**LOS**
A. US-101 W/O Hill	N	4	8,000	225,000	6,350	0.794	C
	S	4	8,000		8,790	1.099	F
B. US-101 W/O Mission	N	4	8,000	221,000	6,240	0.780	C
	S	4	8,000		8,630	1.079	F
C. SR-110 Hill to Solano	N	4	8,000	182,000	7,960	0.995	E
	S	4	8,000		5,150	0.644	B
D. I-5 Main to Broadway	N	5	10,000	229,000	9,680	0.968	E
	S	4	8,000		6,900	0.863	D
E. I-5 Broadway to SR-110	N	4	8,000	217,000	9,170	1.146	F
	S	3	6,000		6,540	1.090	F

Source: AADT, peak hour % (2-way), and peak hour % (directional) - Caltrans Traffic on California State Highways
Number of lanes - Caltrans California Highway Log Book and field review.

TABLE 18
EXISTING CONDITIONS
FREEWAY RAMP ANALYSIS

LOCATION	ADT (1)	Volume (2) AM	Volume (2) PM	Lanes	Cap. (3)	AM Peak V/C	AM Peak LOS	PM Peak V/C	PM Peak LOS
US-101 (Santa Ana Freeway)									
1 Vignes St. WB Off-Ramp	7,100	330	290	1	1,600	0.206	A	0.181	A
2 Vignes St. WB On-Ramp	2,800	175	305	1	1,600	0.109	A	0.191	A
3 Vignes St. EB On-Ramp	6,300	100	1,285	1	1,450	0.069	A	0.886	D
4 Alameda WB Off-Ramp	17,500	1,845	1,080	3	5,100	0.362	A	0.212	A
5 Hewitt/Commercial EB On-Ramp (4)	9,400	110	305	1	1,000	0.110	A	0.305	A
6 Hewitt/Commercial EB off-Ramp	5,000	620	285	1	1,450	0.428	A	0.197	A
7 Los Angeles EB Off-Ramp	7,700	460	520	1	1,700	0.271	A	0.306	A
8 Los Angeles WB On-Ramp	12,000	720	810	1	1,450	0.497	A	0.559	A
9 Mission St. WB On-Ramp	3,200	190	220	1	1,700	0.112	A	0.129	A
SR-110 (Pasadena Freeway)									
10 Hill St. SB Off-Ramp	12,400	850	890	2	3,400	0.250	A	0.262	A
11 Hill St. NB On-Ramp	14,000	960	1,010	1	1,700	0.565	A	0.594	A
I-5 (Golden State Freeway)									
12 N. Main St. SB Off-Ramp	2,900	200	210	1	1,700	0.118	A	0.124	A
13 N. Broadway NB On-Ramp	7,100	490	510	2	3,400	0.144	A	0.150	A
14 N. Broadway SB Off-Ramp	6,200	430	450	1	1,700	0.253	A	0.265	A

Source:
(1) ADT - Caltrans Ramp Volumes on the California State Freeway System.
(2) Peak hour ramp volumes obtained from 2 sources:
(a) Peak hour intersection count at ramp intersection
(b) Application of peak hour factor to ADT
(3) Capacities based on approximate service flow rates from Highway Capacity Manual.
(4) Stop Controlled On-Ramp assumed to reduce the capacity to approximately 1,000 vehicles per lane.

Amtrak. A summary of Amtrak train service is presented in Table 19. Amtrak currently operates 32 trains per day, using eight tracks and four platforms. Departures and arrivals are concentrated between 7:00 a.m. and 11:00 p.m. although there are few train arrivals and departures in the commuter peak hours of the day. Amtrak provides inter-city rail services to major cities in California and across the United States. Amtrak routes serving Union Station include the San Diegan (San Diego to Santa Barbara), Coast Starlight, Sunset Limited, and Southwest Chief. Amtrak also offers connecting bus service to several routes, and details of this connecting bus service are shown in Appendix D of the Traffic Study, located in the Technical Studies Appendices document of this EIR.

Metrolink Commuter Rail. Metrolink is a regional commuter rail network serving the five Southern California counties and a key part of an overall system which eventually will include 400 rail miles of service linked to Union Station. Under the supervision of the Southern California Regional Rail Authority, Metrolink began service in October 1992 and, as of November 1993, operated service on four of the planned five commuter lines. The fifth line to Orange County was opened in mid-1994.

Current Metrolink commuter rail service (early 1994) is provided on the following lines:

- Ventura Line - Moorpark to Union Station
- Santa Clarita Line - Santa Clarita to Union Station
- San Bernardino Line - San Bernardino to Union Station
- Riverside Line - Riverside to Union Station

Metrolink offers primarily inbound service to Union Station in the a.m. peak period, and outbound service in the p.m. peak period. Some off-peak service is also available, and reverse commute trains have also been added on the Burbank and Santa Clarita Lines. Metrolink service as of November 1993 represented 60 daily trains in/out of Union Station. Details of the Metrolink train schedule are shown in Appendix D of the Traffic Study, in the Technical Studies Appendices to the EIR.

Metro Red Line. The Metro Red Line is a subway system serving the densely populated Los Angeles region, and is one of the key elements of a 400-mile rail transit network approved by the Los Angeles County voters.

TABLE 19
AMTRAK SERVICE AT UNION STATION

Arrivals				Departures			
Train No.	Name	Service Offering	Time	Train No.	Name	Service Offering	Time
1	Sunset Limited	Mon Wed Fri Only	7:00 a.m.	570	San Diegan	Daily	6:45 a.m.
569	Orange County Commuter	Mon - Fri	7:25 a.m.	572	San Diegan	Daily	8:40 a.m.
571	San Diegan	Mon - Fri	8:03 a.m.	771	San Diegan	Daily	9:40 a.m.
3	Southwest Chief	Daily	8:10 a.m.	773	San Diegan	Daily	9:40 a.m.
774	San Diegan	Daily	10:25 a.m.	14	Coast Starlight	Daily	9:55 a.m.
575	San Diegan	Daily	11:32 a.m.	774	San Diegan	Daily	10:45 a.m.
577	San Diegan	Daily	1:33 p.m.	36	Desert Wind	Daily	11:20 a.m.
579	San Diegan	Daily	3:33 p.m.	576	San Diegan	Daily	12:45 p.m.
35	Desert Wind	Daily	2:15 p.m.	578	San Diegan	Daily	2:40 p.m.
581	San Diegan	Daily	5:40 p.m.	580	San Diegan	Daily	4:45 p.m.
11	Coast Starlight	Daily	8:10 p.m.	582	Orange County Commuter	Mon - Fri	5:35 p.m.
783	San Diegan	Daily	7:37 p.m.	783	San Diegan	Daily	8:00 p.m.
585	San Diegan	Daily	9:40 p.m.	4	Southwest Chief	Daily	9:15 p.m.
587	San Diegan	Daily	11:52 p.m.	586	San Diegan	Daily	9:00 p.m.
773	San Diegan	Daily	9:20 p.m.	2	Sunset Limited	Sun Tues Fri Only	10:50 p.m.
568	San Diegan	Mon - Fri	5:10 a.m.				

The Red Line will eventually run 17.4 miles from Union Station to the San Fernando Valley, serving Downtown Los Angeles, the Wilshire Corridor, Hollywood, Universal City and North Hollywood. The first 4.4-mile segment of the line opened in January, 1993. The second and third phases are expected to open by about the year 2001. Extensions of the Red Line will also provide service to the Mid-City and Westwood areas, as well as to East Los Angeles.

The Metro Red Line currently provides service to Union Station at ten minute intervals in the peak periods, and every 15 minutes in off-peak periods.

Bus Service

Bus routes serving the ADP area are summarized in Table 20. There are a total of 34 bus routes and 261 peak hour buses that serve the Union Station/Terminal Annex area.

TABLE 20
BUS ROUTES SERVING THE UNION STATION AREA

	No. of Routes	A.M. Peak Hour Buses		P.M. Peak Hour Buses	
		In	Out	In	Out
Routes Terminating at Union Station from West/South	14	73	53	61	71
Routes Passing by Union Station[1]	6	20	14	28	12
El Monte Busway Routes	14	76	25	21	68
TOTAL	**34**	**169**	**92**	**110**	**151**

[1] In represents towards Union Station. Out represents away from Union Station.

LACMTA Local and Express Bus Services. Currently, a total of 20 Metropolitan Transportation Authority (MTA) local and express routes serve the Union Station/Terminal Annex area on local streets, stopping at several locations near and on the project site. Bus stops are located on Alameda Street, Cesar E. Chavez Avenue, and on the upper and lower levels of Union Station. Most of these routes terminate in the vicinity of the ADP, while several others pass by the ADP enroute to other destinations. Combined, these routes provide approximately 170 buses to the ADP area in the peak hours. Peak hour bus service on the local streets is summarized in Appendix D of the Traffic Study which is found in the Technical Studies Appendices.

El Monte Busway Service. Both Foothill Transit and MTA also provide freeway express service on the El Monte Busway. These services are express buses or limited stop buses serving the major residential cities and the downtown area. Fourteen routes currently operate on the busway, providing service to Union Station and downtown Los Angeles with roughly 100 buses in the peak hours. A summary of service on the El Monte Busway is provided in Appendix D of the Traffic Study, in the Technical Studies Appendices.

LADOT Dash. The Los Angeles Department of Transportation provides DASH shuttle bus services for various downtown destinations. Lines B and D serve the Union Station area every five minutes from 6:30 a.m. to 6:30 p.m. for a $.25 fare.

Metrolink Shuttle Bus. LADOT operates a shuttle bus service, Monday through Friday, to serve the Downtown area from Union Station. The fare is free with Metrolink or OCTA tickets to and from Union Station. Buses wait on the upper bus plaza of Union Station west of and adjacent to the Metrolink train tracks. Metrolink shuttle buses provide service approximately every 12 to 20 minutes. Metrolink shuttle bus also provides connection from Union Station to Hollywood.

City Taxis and Private Autos

Taxi service from Union Station is provided by one taxi company, although all companies may drop off passengers there. The taxi loading area is located at the south end of the property and is also utilized by private van shuttles, courtesy vans, airport and group shuttles, and passenger autos.

Applicable Circulation Plans

Because of its critical downtown location, the relationship between the ADP and other regional plans has been evaluated. The ADP is consistent with the region's guiding land use and transportation plans as well as other localized plans, including:

- SCAG Regional Comprehensive Plan (partially adopted)
- LACMTA Transportation for the 21st Century: A plan for Los Angeles County (20-Year plan)
- LACMTA Congestion Management Plan
- SCAQMD Air Quality Management Plan
- Central City North Community Plan

A brief summary of each of these plans is provided below, along with a discussion of the relationship between each plan and the ADP.

SCAG Regional Comprehensive Plan

The Regional Comprehensive Plan (RCP) is the state and federally mandated twenty-year transportation plan for the Los Angeles metropolitan area. The Southern California Association of Governments (SCAG) is responsible for preparation of this plan as the designated regional transportation planning agency for the metropolitan area including Los Angeles, Orange, San Bernardino, Ventura, Riverside, and Imperial Counties. The Regional Mobility Element (RME) of the RCP forecasts long-range transportation demands in the region and sets forth goals and strategies for meeting these demands.

Other regional plans, such as LACMTA's CMP and the Long-Term Plan and regional improvement plans, are required to be consistent with the goals of the RCP. SCAG also reviews General Plans and Specific Plans for consistency with the RCP. The ADP, therefore, will also need to demonstrate consistency with RCP goals.

The RCP, although not yet completely adopted (RCP is being adopted chapter by chapter; complete adoption expected by the end of 1995) calls for a combination of strategies to improve mobility, including a heavy focus on improving the transit system and its usage, additional highway improvements, and transportation demand strategies to reduce demand on the transportation network. The ADP, with its facilitation of, and enhancements to, planned transit services, is consistent with the RCP goals of expanding the availability and use of transit service in the region.

LACMTA Transportation for the 21st Century: A plan for Los Angeles County (20-Year plan)

On March 25, 1995, LACMTA adopted a new 20-Year Plan to replace the 30-Year Integrated Transportation Plan (30-Year Plan). The Plan is strategic planning tool that establishes highway, transit, and demand management strategies to address mobility needs in Los Angeles County, and also identified funding resources for those strategies. It was meant to serve as a guiding framework for LACMTA action. Because of the prolonged recession, revenue projections have been significantly reduced from the previous 30-Year Plan findings. The most recent Plan, however, includes most of the transportation service improvements that are assumed in the ADP project description.

Congestion Management Program (CMP)

The Congestion Management Program (CMP) came into being when California voters passed Proposition 111 in June of 1990, increasing the state gas tax to provide funds for additional transportation projects. Proposition 111 also contained a provision that required counties with urbanized areas to adopt a CMP designed to provide stronger links between land use planning and transportation planning. The CMP provisions of Proposition 111 require these counties to monitor congestion levels and to address the impacts of new land uses on congested transportation facilities. Counties that fail to fully implement the CMP run the risk of losing their additional gas tax revenue.

Los Angeles County adopted its CMP in November of 1992. This program, which will be updated regularly, establishes procedures that local jurisdictions must use to monitor conditions on CMP roadways, to report newly approved development projects, to estimate the impacts of new developments on the CMP network, and to determine ways of mitigating this impact. If conditions grow worse on the CMP network, cities and counties will have to prepare "deficiency plans" to address worsening conditions, or else risk losing some of their gas tax revenue. The CMP also requires local jurisdictions to pass certain resolutions and ordinances to help further CMP goals, including a Transportation Demand Management (TDM) ordinance and adoption of the Land Use Analysis Program.

Aspects of the CMP that affect the ADP include the requirements to analyze impacts on the CMP system and identify mitigation measures and fair-share contributions; the encouragement of multi-modal transportation improvements; TDM requirements for new developments; and the accrual of both congestion "points" and "credits" for deficiency plans. The City of Los Angeles has indicated its willingness to apply some of its deficiency plan credits to the ADP because of its multi-modal regional benefits.

Air Quality Management Plan (AQMP)

The 1991 AQMP, prepared by SCAG and approved by the South Coast Air Quality Management District (SCAQMD), is another regional plan that may indirectly affect the ADP. The AQMP attempts to comply with the requirements of both the State and Federal Clean Air Acts and Amendments (CAAs). Both CAAs require the SCAQMD to reduce air pollution in the region by controlling or limiting growth in vehicle trips (VT) and vehicle miles travelled (VMT), which contribute heavily to the emission of pollutants in southern California.

Part of the SCAQMD's compliance with air quality laws has been to require the cities to pass Trip Reduction Ordinances (TROs) that specify how to implement the Transportation Control Measures (TCMs) required by law. Many of these TCMs are directed at developers and will, therefore, affect the ADP by requiring that certain Transportation Demand Management (TDM) features become an integral part of the ADP.

Central City North Community Plan

The City of Los Angeles General Plan includes 35 Community Plans offering more detailed guidance on each community's development. The Central City North Community Plan (CCNCP), adopted in 1979, includes the Union Station/Terminal Annex areas. The Community Plan actually stretches from south of Washington Boulevard to North Broadway, and is bordered by the Los Angeles River on the east and largely by Alameda Street on the west.

The 1979 plan recognized that Union Station was an under-utilized facility, and called for development of a modern transportation center at the station. The Community Plan also called for preparation of a Union Station Area Specific Plan, with particular attention to: 1) developing and consolidating transportation facilities in a reduced part of the historic structure; 2) developing of a cultural center in the remaining portion of the historic structure; and 3) improving linkages with commercial opportunities in the El Pueblo park on the west side of Alameda Street. These goals are similar to those of the ADP. (When the CCNCP was last updated in 1979, the Los Angeles County Transportation Commission, forerunner of MTA, had not yet received funding from Proposition A or Proposition C and, therefore, the extensive rail network now under construction was not envisioned as part of the Union Station plan.)

More recent planning efforts in the CCNCP area have focused on the portion north of the Hollywood Freeway, including Union Station, Terminal Annex, El Pueblo Historic Park, Chinatown, the Los Angeles River, and Elysian Park. In 1986, the Community Redevelopment Agency of Los Angeles (CRA) commissioned a study of the Union Station/Terminal Annex Properties. This study envisioned development of approximately 3.2 million square feet of mixed-use development (primarily office) to complement the major transportation center that was, by that time, assumed to include intercity bus and rail, heavy rail, and light rail. No action was taken on this concept plan by the CRA.

In 1989, the Los Angeles Design Action Planning Team (co-sponsored by the Los Angeles City Planning Department and the Urban Design Advisory Coalition) began to develop a concept for this northern portion of the Community Plan area. Their concepts included additional development of low-and moderate-income housing north of Union Station, along with enhanced recreational activities in Elysian Park and along the Los Angeles River. These new land uses would improve linkages between Central City North, Chinatown, the ADP area, and Downtown Los Angeles. This concept is also consistent with the ADP.

ENVIRONMENTAL IMPACT

Methodology

The traffic forecast methodology used for this analysis was developed in cooperation with LADOT. The county-wide model used by MTA for travel/traffic forecasting for the region was used to analyze traffic growths within the study area for city arterial streets and freeways. Traffic growths in the region were estimated over the period between 1990 (the model base year) and 2010 (the model projection year). These growth projections were analyzed for individual roadways for transportation corridors, and based on this analysis, average levels of growth on the city arterials, freeways, and freeway ramps were calculated to the year 2010.

The calculated growth factors were then applied to existing roadway and intersection traffic counts/volumes, to forecast Year 2010 conditions. To obtain year 2000 forecasts, a straight-line growth was assumed between 1990 and 2010, then the pro-rated growth to year 2000 determined and applied to existing volumes.

The project impact analysis was conducted by the following traffic impact study procedures. First, background traffic conditions were forecast. Second, the transportation characteristics of the project were identified, including trip generation, distribution, mode split, and parking needs, as described below. Third, the project traffic was then assigned to the surrounding highway network, and traffic volumes and levels-of-service with the addition of project traffic were then recalculated. In this study, the additional step of assigning transit trips to the transit network was also undertaken, to determine the remaining available capacity on the transit system.

Year 2000 Baseline Conditions

<u>Transit System</u>

Transit Service. For purposes of the EIR, rail transit services were assumed for the year 2000 if they were under construction or programmed by the year 2000. The primary improvements affecting transit capacities by the Year 2000 will be the initiation of service on the Pasadena Blue Line, the extension of service on the Red Line to East Los Angeles, Mid-City and Hollywood, and additional service on the Metrolink Commuter rail systems. Also assumed were the Gateway Metro Plaza facilities currently under construction for the Metro Red Line at the Portal East of Union Station. These include the Bus Plaza, with provision for twelve bus loading/unloading bays, the direct connection (eastbound) from the El Monte Busway to the Bus Plaza, and the Metro Plaza 2,000 space park-and-ride garage.

Transit Capacity and Level-of-Service. Table 21 shows the forecast transit ridership, load factors and remaining available capacity for the rail transit services in the year 2000 Without Project scenario. The load factor represents the ratio of total passengers to available seats. For peak period rail transit services, load factors of more than 1.0 are expected since many passengers will be standing during peak periods. Table 21 also specifies the MTA policies for the maximum policy load factors (based on previous Southern California Rapid Transit District standards).

While many of the peak period/peak direction rail services will have load factors above 1.0, the projected peak period load factors for all the rail modes will be within the policy maximums established by MTA. Therefore, with the projected transit ridership, there would still be available capacity on all of the rail transit segments serving Union Station in the year 2000, without the proposed project.

The highest load factor on Blue Line service to/from Union Station is forecast to be 1.48, while the maximum policy load factor is 1.9. The highest load factor on any segment of the Red Line to/from Union Station would be 1.78, while the maximum policy load factor at that location is 2.69. On Metrolink trains, the overall average load factor would be 0.67, indicating a substantial amount of available capacity.

Street System

Planned Roadway Improvements. Table 22 lists all identified improvements expected to be in place by the year 2000 within the study area.

The primary improvements affecting roadway capacities include ATSAC installation at numerous intersections; intersection improvements due to the MTA Headquarters project under construction; and the addition of one southbound lane on SR-110.

TABLE 21
ALAMEDA DISTRICT PLAN RAIL LINE VOLUMES/CAPACITIES
YEAR 2000

Line	Direction & Location	Seated Capacity	Total Capacity	A.M. Peak Hour Volume	Load Factor	Available Capacity
				(1)	(2)	(3)
BLUE LINE	SB Chinatown > Union Station	2,160	3,996	3,200	1.48	796
	NB Union Station > Chinatown	2,160	3,996	1,000	0.46	2,996
RED LINE	WB East LA > Union Station	1,416	2,860	1,500	1.06	1,360
	EB Union Station > East LA	1,416	2,860	1,000	0.71	1,860
	WB Union Station > Civic Center	3,540	7,151	6,300	1.78	851
	EB Civic Center > Union Station	3,540	7,151	2,000	0.56	5,151
METROLINK	all into Union Station	7,198	7,198	4,800	0.67	2,398
TOTAL INBOUND		**14,314**	**21,205**	**11,500**		**9,705**
TOTAL OUTBOUND		**7,116**	**14,007**	**8,300**		**5,707**
TOTAL 2 DIR.		**21,430**	**35,212**	**19,800**		**15,412**

1. Red and Blue Line 2000 volumes derived by MPA from forecast and other prior studies.
2. Projected load factor is estimated volume divided by seated capacity.
   Maximum policy load factors for proposed headways are:
   - Blue Line: 1.85
   - Red Line: 2.02
   - Metrolink: 1.00
3. Available capacity is based on policy load factors and year 2000 assumed operating plans (see Appendix D).

Source: Manuel Padron & Associates

TABLE 22
LIST OF BACKGROUND
HIGHWAY IMPROVEMENTS FOR YEAR 2000

Item
Vignes Street Realignment (US-101 to Cesar E. Chavez) o Vignes/Cesar E. Chavez Intersection Improvements (1995 configuration) o Vignes/Ramirez Intersection Improvements (1995 configuration)
ATSAC @ Intersections[1] o Main/Vignes o Alameda/Alpine o Vignes/Cesar E. Chavez
Vignes Street Improvements for Blue Line (Railroad to Alameda) o Terminal Annex Driveway Intersection o North Main Intersection o Alameda Intersection
Pasadena Freeway o Add 5th lane SB (I-5 to Sunset)
1 Analysis assumes 7% capacity increase at ATSAC intersections and related approach street links.

Arterial Link and Intersection Levels-of-Service. Tables 23 and 24 illustrate the forecast volumes and levels-of-service on the 28 analyzed arterial link locations during the a.m. and p.m. peak hours. As these tables show, nine links in the a.m. peak hour and seven links in the p.m. peak period are projected to operate at LOS E or F, indicating high levels of congestion in the year 2000 without the project. Primary areas of congestion are:

- South of the I-5 Freeway, to/from Chinatown, Union Station and downtown on N. Main and Spring/Broadway.
- Hill Street, leading to/from the SR-110 Freeway.
- Alameda Street south of Temple, where the street narrows from 6 lanes to 4 lanes.
- College Street and Alpine Street through Chinatown.

TABLE 23
2000 FUTURE CONDITIONS WITHOUT ADP (PHASE I BACKGROUND)
A.M. PEAK HOUR LINK LEVELS OF SERVICE

	Existing Conditions								Phase I Background (Year 2000)			
Street Orientation	Dir.	Lanes	Class	Cap/lane	Tot. Cap.	Volume	V/C	LOS	Tot. Cap.	Total Vol.	V/C	LOS
North-South Streets												
1 Hill N/O College	N [8]	2	Secondary	1,100	2,200	200	0.091	A	2,350	230	0.098	A
	S [8]	2	[1]	1,100	2,200	1,980	0.900	D	2,350	2,200	0.936	E
2 Hill S/O Alpine	N [8]	2	Secondary	700	1,400	170	0.121	A	1,500	190	0.127	A
	S [8]	2	[2]	700	1,400	1,660	1.186	F	1,500	1,830	1.220	F
3 Hill S/O Aliso	N [7]	2	Secondary	750	1,500	90	0.060	A	1,500	100	0.067	A
	S [7]	3	[2]	750	2,250	1,450	0.644	B	2,250	1,600	0.711	C
4 Pasadena S/O 5 Fwy	N [8]	2	Secondary	700	1,400	320	0.229	A	1,500	350	0.233	A
	S [8]	2	[2]	700	1,400	890	0.636	B	1,500	980	0.653	B
5 Broadway S/O 5 Fwy	N [8]	2	Major	700	1,400	650	0.464	A	1,500	740	0.493	A
	S [8]	3		700	2,100	1,700	0.810	D	2,250	2,050	0.911	E
6 Broadway N/O Bishop	N [8]	2	Major	700	1,400	360	0.257	A	1,500	400	0.267	A
	S [8]	3		700	2,100	1,810	0.862	D	2,250	1,990	0.884	D
7 Broadway N/O College	N [8]	2	Major	700	1,400	330	0.236	A	1,500	360	0.240	A
	S [8]	2		700	1,400	1,100	0.786	C	1,500	1,210	0.807	D
8 Broadway S/O Alpine	N [8]	2	Secondary	700	1,400	430	0.307	A	1,500	490	0.327	A
	S [8]	2	[2]	700	1,400	930	0.664	B	1,500	1,030	0.687	B
9 Broadway S/O Sunset	N [7]	2	Secondary	750	1,500	480	0.320	A	1,500	540	0.360	A
	S [7]	2	[2]	750	1,500	910	0.607	B	1,500	1,010	0.673	B
10 Broadway S/O Aliso	N [7]	3	Secondary	750	2,250	420	0.187	A	2,250	480	0.213	A
	S [7]	2	[2]	750	1,500	1,260	0.840	D	1,500	1,390	0.927	E
11 N. Spring N/O Sotello	N	1	Major [3]	1,200	1,200	290	0.242	A	1,200	350	0.292	A
	S	2		1,200	2,400	1,530	0.638	B	2,400	1,860	0.775	C
12 Spring S/O Aliso	S [7]	4	Major [4]	750	3,000	980	0.327	A	3,000	1,110	0.370	A
13 N. Main S/O 5 Freeway	N [8]	2	Secondary	550	1,100	390	0.355	A	1,180	460	0.390	A
	S [8]	2		550	1,100	950	0.864	D	1,180	1,240	1.051	F
14 N. Main N/O Sotello	N [8]	2	Secondary	550	1,100	280	0.255	A	1,180	320	0.271	A
	S [8]	2		550	1,100	610	0.555	A	1,180	830	0.703	C
15 Main S/O Aliso	N [7]	4	Secondary [2] [4]	750	3,000	960	0.320	A	3,000	1,080	0.360	A
16 Alameda S/O Temple	N [7]	2	Major	750	1,500	460	0.307	A	1,500	630	0.420	A
	S [7]	2		750	1,500	1,305	0.870	D	1,500	1,590	1.060	F
17 Los Angeles S/O Aliso	N [7]	3	Secondary	750	2,250	415	0.184	A	2,250	780	0.347	A
	S [7]	3	[2]	750	2,250	1,260	0.560	A	2,250	1,810	0.804	D
18 Los Angeles S/O Temple	N [7]	2	Secondary	750	1,500	480	0.320	A	1,500	720	0.480	A
	S [7]	3	[2]	750	2,250	1,595	0.709	C	2,250	2,050	0.911	E
19 Center S/O Jackson	N	1	Major	400	400	190	0.475	A	400	230	0.575	A
	S	1	[5]	400	400	350	0.875	D	400	390	0.975	E
20 Mission N/O Macy	N [8]	2	Major	700	1,400	655	0.468	A	1,500	750	0.500	A
	S [8]	3		700	2,100	1,735	0.826	D	2,250	2,000	0.889	D
East-West Streets												
21 College W/O Hill	E [8]	2	Secondary	300	600	390	0.650	B	640	430	0.672	B
	W	2	[5] [6]	300	600	460	0.767	C	600	510	0.850	D
22 College E/O Hill	E [8]	2	Secondary	300	600	510	0.850	D	640	580	0.906	E
	W [8]	2	[5] [6]	300	600	290	0.483	A	640	320	0.500	A
23 College E/O Broadway	E [8]	2	Secondary	300	600	180	0.300	A	640	230	0.359	A
	W [8]	2	[5] [6]	300	600	330	0.550	A	640	370	0.578	A
24 College E/O Spring	E	1	Secondary	400	400	60	0.150	A	400	80	0.200	A
	W [8]	1	[5]	400	400	105	0.263	A	430	120	0.279	A
25 Alpine W/O Hill	E [8]	2	Local [6]	300	600	230	0.383	A	640	250	0.391	A
	W [8]	2		300	600	400	0.667	B	640	440	0.688	B
26 Alpine E/O Hill	E [8]	2	Secondary	300	600	290	0.483	A	640	340	0.531	A
	W [8]	2	[5] [6]	300	600	400	0.667	B	640	450	0.703	C
27 Alpine E/O Broadway	E [8]	2	Secondary	300	600	290	0.483	A	640	340	0.531	A
	W [8]	2	[5] [6]	300	600	410	0.683	B	640	460	0.719	C
28 Sunset E/O Hill	E [8]	3	Major	700	2,100	935	0.445	A	2,250	1,260	0.560	A
	W [7]	3		750	2,250	1,265	0.562	A	2,250	1,440	0.640	B

[1] Operates almost as freeway on/off ramp; capacity is halfway between major arterial and freeway ramp.
[2] Operates similarly to other major arterials in area; major arterial capacity used.
[3] Operates free-flow, without signals or interruptions, between College and I-5 Freeway; higher capacity used to represent free-flow cond.
[4] Capacity reduced from 750/lane to 700/lane to reflect high percentage of buses.
[5] Operates as collector or local street, despite higher functional classification.
[6] Capacity reduced 25% from 400 to 300 to account for pedestrian interference.
[7] Capacity increased due to adjacent ATSAC intersections.
[8] Capacity increased due to adjacent ATSAC intersections for phase 1 background only.

TABLE 24
2000 FUTURE CONDITIONS WITHOUT ADP (PHASE I BACKGROUND)
P.M. PEAK HOUR LINK LEVELS OF SERVICE

				Existing Conditions					Phase 1 Background (Year 2000)			
Street-Orientation	Dir.	Lanes	Class	Cap./lane	Tot. Cap.	Volume	V/C	LOS	Tot. Cap.	Total Vol.	V/C	LOS
North-South Street												
1 Hill N/O College	N [8]	2	Secondary	1,100	2,200	1,680	0.764	C	2,350	1,880	0.800	C
	S [8]	2	[1]	1,100	2,200	1,020	0.464	A	2,350	1,130	0.481	A
2 Hill S/O Alpine	N [8]	2	Secondary	700	1,400	1,010	0.721	C	1,500	1,110	0.740	C
	S [8]	2	[2]	700	1,400	710	0.507	A	1,500	780	0.520	A
3 Hill S/O Aliso	N [7]	2	Secondary	750	1,500	650	0.433	A	1,500	720	0.480	A
	S [7]	3	[2]	750	2,250	580	0.258	A	2,250	640	0.284	A
4 Pasadena S/O 5 Fwy	N [8]	2	Secondary	700	1,400	660	0.471	A	1,500	730	0.487	A
	S [8]	2	[2]	700	1,400	360	0.257	A	1,500	400	0.267	A
5 Broadway S/O 5 Fwy	N [8]	3	Major	700	2,100	1,690	0.805	D	2,250	2,030	0.902	E
	S [8]	2		700	1,400	320	0.229	A	1,500	380	0.253	A
6 Broadway N/O Bishop	N [8]	3	Major	700	2,100	1,560	0.743	C	2,250	1,720	0.764	C
	S [8]	2		700	1,400	550	0.393	A	1,500	610	0.407	A
7 Broadway N/O College	N [8]	2	Major	700	1,400	1,350	0.964	E	1,500	1,490	0.993	E
	S [8]	2		700	1,400	740	0.529	A	1,500	810	0.540	A
8 Broadway S/O Alpine	N [8]	2	Secondary	700	1,400	1,290	0.921	E	1,500	1,430	0.953	E
	S [8]	2	[2]	700	1,400	620	0.443	A	1,500	690	0.460	A
9 Broadway S/O Sunset	N [7]	2	Secondary	750	1,500	1,250	0.833	D	1,500	1,390	0.927	E
	S [7]	2	[2]	750	1,500	540	0.360	A	1,500	600	0.400	A
10 Broadway S/O Aliso	N [7]	3	Secondary	750	2,250	1,245	0.553	A	2,250	1,380	0.613	B
	S [7]	2	[2]	750	1,500	395	0.263	A	1,500	440	0.293	A
11 N. Spring N/O Sotello	N	2	Major [3]	1,200	2,400	1,340	0.558	A	2,400	1,640	0.683	B
	S	2		1,200	2,400	340	0.142	A	2,400	400	0.167	A
12 Spring S/O Aliso												
	S [7]	4	Major [4]	750	3,000	895	0.298	A	3,000	1,010	0.337	A
13 N. Main S/O 5 Freeway	N [8]	2	Secondary	550	1,100	900	0.818	D	1,180	1,180	1.000	E
	S [8]	2		550	1,100	510	0.464	A	1,180	590	0.500	A
14 N. Main N/O Sotello	N [8]	2	Secondary	550	1,100	790	0.718	C	1,180	1,030	0.873	D
	S [8]	2		550	1,100	280	0.255	A	1,180	320	0.271	A
15 Main S/O Aliso	N [7]	4	Secondary [2] [4]	750	3,000	1,800	0.600	A	3,000	1,980	0.660	B
16 Alameda S/O Temple	N [7]	2	Major	750	1,500	1,550	1.033	F	1,500	1,850	1.233	F
	S [7]	2		750	1,500	910	0.607	B	1,500	1,120	0.747	C
17 Los Angeles S/O Aliso	N [7]	3	Secondary	750	2,250	1,420	0.631	B	2,250	2,000	0.889	D
	S [7]	3	[2]	750	2,250	255	0.113	A	2,250	590	0.262	A
18 Los Angeles S/O Temple	N [7]	3	Secondary	750	2,250	1,295	0.576	A	2,250	1,730	0.769	C
	S [7]	3	[2]	750	2,250	790	0.351	A	2,250	1,050	0.467	A
19 Center S/O Jackson	N	1	Major	400	400	270	0.675	B	400	300	0.750	C
	S	1	[5]	400	400	260	0.650	B	400	310	0.775	C
20 Mission N/O Macy	N [8]	3	Major	700	2,100	1,205	0.574	A	2,250	1,410	0.627	B
	S [8]	2		700	1,400	835	0.596	A	1,500	950	0.633	B
East-West Streets												
21 College W/O Hill	E [8]	2	Secondary	300	600	430	0.717	C	640	470	0.734	C
	W	2	[5] [6]	300	600	300	0.500	A	600	330	0.550	A
22 College E/O Hill	E [8]	2	Secondary	300	600	400	0.667	B	640	450	0.703	C
	W [8]	2	[5] [6]	300	600	350	0.583	A	640	400	0.625	B
23 College E/O Broadway	E [8]	2	Secondary	300	600	350	0.583	A	640	410	0.641	B
	W [8]	2	[5] [6]	300	600	200	0.333	A	640	240	0.375	A
24 College E/O Spring	E	1	Secondary	400	400	330	0.825	D	400	370	0.925	E
	W [8]	1	[5]	400	400	55	0.138	A	430	80	0.186	A
25 Alpine W/O Hill	E [8]	2	Local [6]	300	600	395	0.658	B	640	430	0.672	B
	W [8]	2		300	600	240	0.400	A	640	270	0.422	A
26 Alpine E/O Hill	E [8]	2	Secondary	300	600	400	0.667	B	640	440	0.688	B
	W [8]	2	[5] [6]	300	600	370	0.617	B	640	420	0.656	B
27 Alpine E/O Broadway	E [8]	2	Secondary	300	600	440	0.733	C	640	490	0.766	C
	W [8]	2	[5] [6]	300	600	430	0.717	C	640	500	0.781	C
28 Sunset E/O Hill	E [8]	3	Major	700	2,100	1,370	0.652	B	2,250	1,660	0.738	C
	W [7]	3		750	2,250	1,190	0.529	A	2,250	1,440	0.640	B

[1] Operates almost as freeway on/off ramp; capacity is halfway between major arterial and freeway ramp.
[2] Operates similarly to other major arterials in area; major arterial capacity used.
[3] Operates free-flow, without signals or interruptions, between College and I-5 Freeway; higher capacity used to represent free-flow cond.
[4] Capacity reduced from 750/lane to 700/lane to reflect high percentage of buses.
[5] Operates as collector or local street, despite higher functional classification.
[6] Capacity reduced 25% from 400 to 300 to account for pedestrian interference.
[7] Capacity increased due to adjacent ATSAC intersections.
[8] Capacity increased due to adjacent ATSAC intersections for phase 1 background only.

Table 25 illustrates peak hour intersection levels-of-service. In the year 2000 Without the Project, one analyzed intersection would operate at LOS E in the morning peak hour and two intersections would operate at LOS E, and one intersection at LOS F in the evening peak period. The one intersection at LOS E in the morning, Mission Road/Cesar E. Chavez Avenue, is already at LOS E under existing conditions, and future signalization improvements at the intersection will actually improve level-of-service at this location.

Freeway System

Freeway and Ramp Levels-of-Service. Tables 26 and 27 illustrate projected freeway and ramp levels-of-service in the year 2000 without the project. Analyzed locations are illustrated in Figure 26. Table 26 indicates that of the ten analyzed freeway segments, four would operate in the year 2000 at LOS F in the a.m. peak hour and six would operate at LOS F in the p.m. peak hour.

Potential Roadway Improvements.

The analysis of year 2000 Background Conditions Without Project indicates that while large parts of the network will operate at satisfactory levels of service there will be areas of congestion.

The pattern of congestion suggests several improvements that may need to be made to the circulation system. Many of these improvements have been or are currently under discussion, and some are in regional policy documents, however, because they are not currently approved or programmed, they were not included in the Year 2000 Without Project scenario for this analysis. These include:

Improvements in Chinatown, Hill/SR-110 Corridor, and Spring/Broadway/Main/I-5 Corridor. Capacity improvements in Chinatown are difficult because of the lack of available right-of-way. However, the proposed conversion of Alpine Street and College Street to a one-way couplet currently under review by LADOT would improve vehicular and pedestrian circulation without requiring additional right-of-way.

In these corridors, improving surface street capacity may be difficult because most of the streets are already constrained by adjacent land uses. One potential key regional improvement that could relieve congestion in both these corridors is the Alameda Bypass, a proposed connection between N. Spring Street and the I-5/SR-110 junction. This facility could provide traffic relief to the Chinatown community, provide an alternate regional access route into the CBD, relieve the Glendale corridor into the CBD, as well as improve general access to the growing regional transit facilities at Union Station. The Alameda Bypass has been recommended as a regional-level improvement in both the Central City West Specific Plan and the Downtown Strategic Plan, but has not yet been included in an adopted capital improvement plan nor programmed in regional and state funding improvement programs.

TABLE 25

2000 BACKGROUND CONDITIONS (WITHOUT ADP)

INTERSECTION LEVELS OF SERVICE

	Existing				2000 Background			
	AM Peak		PM Peak		AM Peak		PM Peak	
Intersection	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS
1. Alameda & Aliso	0.457 *	A	0.811 *	D	0.571 *	A	0.926 *	E
2. Alameda & Arcadia	0.557 *	A	0.582 *	A	0.663 *	B	0.672 *	B
3. Alameda & Los Angeles	0.449 *	A	0.436 *	A	0.799 *	C	0.722 *	C
4. Alameda & Cesar E. Chavez	0.643 *	B	0.637 *	B	0.707 *	C	0.806 *	D
5. N. Main & Cesar E. Chavez	0.453 *	A	0.561 *	A	0.516 *	A	0.648 *	B
6. Alameda & N. Main	0.450 *	A	0.676 *	B	0.520 *	A	1.003 *	F
7. N. Main & Vignes	0.509	A	0.616	B	0.588 *	A	0.773 *	C
8. Alameda & Alpine	0.561	A	0.707	C	0.574 *	A	0.771 *	C
9. Vignes & Cesar E. Chavez	0.755	C	0.817	D	0.784 *	C	0.922 *	E
10. Vignes & Ramirez/NB-101**	0.377	A	0.436	A	0.482 *	A	0.700 *	B
11. Mission & Cesar E. Chavez	0.962	E	0.769	C	0.956 *	E	0.736 *	C
12. Hewitt/Commercial & SB-101**	0.394	A	0.521	A	0.496	A	0.748	C

* Includes adjustment for ATSAC. ATSAC currently installed at six study intersections; to be installed at five additional intersections by 1996.

** Currently unsignalized, but analyzed as signalized for comparison purposes.

TABLE 26
FREEWAY LINK ANALYSIS
2000 FUTURE CONDITIONS WITHOUT ADP (PHASE 1 BACKGROUND)
AM PEAK HOUP.

	Existing Conditions							2000 Background Without ADP							
Location	Dir.	Lns.	Cap.	AADT	Peak Hour Volume	V/C	LOS	Dir.	Lns.	Cap.	Bckgnd. Growth	Total Volume	V/C	LOS	AADT
A. US-101 W/O Hill	N	4	8,000	225,000	7,920	0.990	E	N	4	8,000	317	8,270	1.034	F	237,900
	S	4	8,000		5,630	0.704	C	S	4	8,000	225	6,030	0.754	C	
B. US-101 W/O Mission	N	4	8,000	221,000	7,780	0.973	E	N	4	8,000	311	8,350	1.044	F	237,800
	S	4	8,000		5,530	0.691	B	S	4	8,000	221	5,830	0.729	C	
C. SR-110 Hill to Solano	N	4	8,000	182,000	4,090	0.511	A	N	4	8,000	205	4,310	0.539	A	191,700
	S	4	8,000		8,340	1.043	F	S	5	10,000	417	8,790	0.879	D	
D. I-5 Main to Broadway	N	5	10,000	229,000	7,210	0.721	C	N	5	10,000	379	7,590	0.759	C	241,100
	S	4	8,000		8,570	1.071	F	S	4	8,000	450	9,020	1.128	F	
E. I-5 Broadway to SR-110	N	4	8,000	217,000	6,830	0.854	D	N	4	8,000	359	7,190	0.899	D	228,700
	S	3	6,000		8,120	1.353	F	S	3	6,000	426	8,560	1.427	F	

PM PEAK HOUR

	Existing Conditions							2000 Background Without ADP						
Location	Dir.	Lns.	Cap.	AADT	Peak Hour Volume	V/C	LOS	Dir.	Lns.	Cap.	Bckgnd. Growth	Total Volume	V/C	LOS
A. US-101 W/O Hill	N	4	8,000	225,000	6,350	0.794	C	N	4	8,000	254	6,770	0.846	D
	S	4	8,000		8,790	1.099	F	S	4	8,000	352	9,170	1.146	F
B. US-101 W/O Mission	N	4	8,000	221,000	6,240	0.780	C	N	4	8,000	250	6,580	0.823	D
	S	4	8,000		8,630	1.079	F	S	4	8,000	345	9,220	1.153	F
C. SR-110 Hill to Solano	N	4	8,000	182,000	7,960	0.995	E	N	4	8,000	398	8,390	1.049	F
	S	4	8,000		5,150	0.644	B	S	5	10,000	258	5,420	0.678	B
D. I-5 Main to Broadway	N	5	10,000	229,000	9,680	0.968	E	N	5	10,000	508	10,190	1.019	F
	S	4	8,000		6,900	0.863	D	S	4	8,000	362	7,260	0.908	E
E. I-5 Broadway to SR-110	N	4	8,000	217,000	9,170	1.146	F	N	4	8,000	481	9,670	1.209	F
	S	3	6,000		6,540	1.090	F	S	3	6,000	343	6,890	1.148	F

Sources: AADT, peak hour % (2-way), and peak hour % (directional) - Caltrans Traffic Volumes on California State Highways (1992)
Number of lanes - Caltrans California Highway Log Book (1991) and field review.

TABLE 27
2000 BACKGROUND CONDITIONS WITHOUT ADP
FREEWAY RAMP ANALYSIS

Location	Existing Conditions									2000 Background Conditions Without ADP						
	ADT (1)	Volume AM	Volume PM	Lanes	Cap. (3)	AM Peak V/C	AM Peak LOS	PM Peak V/C	PM Peak LOS	AM Peak Vol.	AM Peak V/C	AM Peak LOS	PM Peak Vol.	PM Peak V/C	PM Peak LOS	2000 ADT
US-101 (Santa Ana Freeway)																
1 Vignes St. WB Off-Ramp	7,100	330	290	1	1,600	0.206	A	0.181	A	620	0.388	A	330	0.206	A	9,610
2 Vignes St. WB On-Ramp	2,800	175	305	1	1,600	0.109	A	0.191	A	220	0.138	A	460	0.288	A	3,470
3 Vignes St. EB On-Ramp	6,300	100	1,285	1	1,450	0.069	A	0.886	D	140	0.097	A	1,600	1.103	F	8,460
4 Alameda WB Off-Ramp	17,500	1,845	1,080	1	1,700	1.085	F	0.635	B	1,920	1.129	F	1,120	0.659	B	18,200
5 Hewitt/Commercial EB On-Ramp (2)	9,400	110	305	1	1,000	0.110	A	0.305	A	110	0.110	A	320	0.320	A	9,780
6 Hewitt/Commercial EB off-Ramp	5,000	620	285	1	1,450	0.428	A	0.197	A	770	0.531	A	330	0.228	A	5,440
7 Los Angeles EB Off-Ramp	7,700	460	520	1	1,700	0.271	A	0.306	A	490	0.288	A	540	0.318	A	8,560
8 Los Angeles WB On-Ramp	12,000	720	810	1	1,450	0.497	A	0.559	A	750	0.517	A	840	0.579	A	12,520
9 Mission St. WB On-Ramp	3,200	190	220	1	1,700	0.112	A	0.129	A	200	0.118	A	230	0.135	A	3,400
SR-110 (Pasadena Freeway)																
10 Hill St. SB Off-Ramp	12,400	850	890	2	3,400	0.250	A	0.262	A	930	0.274	A	940	0.276	A	12,980
11 Hill St. NB On-Ramp	14,000	960	1,010	1	1,700	0.565	A	0.594	A	1,020	0.600	A	1,090	0.641	B	14,730
I-5 (Golden State Freeway)																
12 N. Main St. SB Off-Ramp	2,900	200	210	1	1,700	0.118	A	0.124	A	220	0.129	A	220	0.129	A	3,050
13 N. Broadway NB On-Ramp	7,100	490	510	2	3,400	0.144	A	0.150	A	520	0.153	A	550	0.162	A	7,410
14 N. Broadway SB Off-Ramp	6,200	430	450	1	1,700	0.253	A	0.265	A	460	0.271	A	480	0.282	A	6,540

Source:
(1) ADT - Caltrans Ramp Volumes on the California State Freeway System, 1992.
(2) Stop Controlled On-Ramp reduces the capacity to approximately 1,000 vehicles per lane.
(3) Capacities based on approximate service flow rates from Highway Capacity Manual.

Improvements on Alameda Street South of US-101. Capacity improvements would also be necessary in the Alameda Street corridor south of Aliso, where Alameda Street narrows from six to four lanes. Improvements will be made to the Alameda Corridor south of Washington Street as part of the Alameda Consolidated Transportation Corridor to the ports. Widening of Alameda Street through Central City East may become increasingly important in the future. The City of Los Angeles has had under consideration in recent years a concept for Alameda Street as an improved street/boulevard along this corridor to improve access to/from the eastern downtown and industrial areas, although no improvement projects are currently programmed. This analysis indicates that the current four-lane section of Alameda Street south of Temple Street will probably need to be widened to six lanes in the future.

Improvements to US-101 Corridor. Improvements along the US-101 corridor have also been proposed, although they are not yet programmed. Caltrans is considering a realignment of the US-101 between Los Angeles Street and Vignes Street which includes straightening of the freeway, elimination of the Hewitt ramps and the addition of a Vignes Street eastbound off-ramp. In addition, the Downtown Strategic plan calls for an improvement here which would extend Commercial Street eastward over the Los Angeles River, where it could connect directly to on-ramps to both the I-10 and US-101. This extension would allow traffic heading east and south to enter the freeway system outside the downtown freeway loop, significantly easing congestion on the US-101.

Year 2010 Baseline Conditions

Transit System

Transit Service. The number and frequency of transit services at Union Station will increase substantially in the coming years. Planned regional transit improvements will add light rail, heavy rail subway and commuter rail service at Union Station. These include new segments on the Blue Line light rail system and the Red Line subway, and additional service on the Metrolink commuter rail system. In addition, new transit services elsewhere in the region (such as the Green Line LRT) would offer connections to lines serving Union Station, further improving transit accessibility to the ADP area. For purposes of the EIR, a best estimate of year 2010 rail transit service was made based on the most current MTA plans. Rail transit services were assumed for the future if they were under construction, programmed, or rated highly in the Candidate Corridor rating process.

The Traffic Study details the transit services at Union Station and their capacities that have been assumed in the 2010 Without Project conditions. In addition to the rail transit service assumed in the year 2000, the key improvements assumed to the year 2010 included extension of the Metro Red Line to Universal City, Westwood, and to Atlantic/Whittier, the construction of the Metro Blue Line from Union Station to Burbank, the Blue Line Downtown Connector, and continued service expansion on the Metrolink system.

Transit Ridership at Union Station. Transit ridership numbers for 2010 Without Project conditions were developed as described earlier relative to year 2000.

Ridership numbers on Metrolink trains were extrapolated from existing ridership numbers, based on planned service improvements. Red and Blue Line ridership numbers were also adjusted to account for increased transfers from Metrolink service.

Transit Capacity and Level-of-Service. Table 28 shows the forecast transit ridership, load factors and available capacity for the rail transit services in the 2010 Without Project scenario.

Table 28 indicates that for the year 2010 Without Project background conditions, while many of the peak period/peak direction rail services will have load factors above 1.0, the projected peak period load factors for all rail modes will be within the policy maximums established by MTA. Therefore, with the projected transit ridership, there would still be available capacity on all of the rail transit segments serving Union Station in the year 2010. The highest load factor on Blue Line service to/from Union Station is forecast to be 1.77, while the maximum policy load factor is 1.90. The highest load factor on any segment of the Red Line to/from Union Station would be 0.74, while the maximum policy load factor at that location is 2.69. On Metrolink trains, the overall average load factor would be 0.48, indicating a substantial amount of available capacity.

Street System

Planned Roadway Improvements. The roadway network assumed for the Year 2010 Background Conditions was thus the same as that assumed for the Year 2000, with one additional project. This was the conversion of College Street and Alpine Street to a one-way couplet through Chinatown (Hill Street to Alameda Street). The Chinatown Citizen's Advisory Committee currently views the couplet as a temporary installation during construction of the Pasadena Blue Line, whereas LADOT considers the couplet will be needed as a permanent installation because of reduced street capacity resulting from construction of the Blue Line.

TABLE 28
RAIL LINE VOLUMES/CAPACITIES
BUILDOUT PROJECT CONDITIONS - YEAR 2010

Line	Direction & Location	Buildout Background (Year 2010)					With Buildout Project (Year 2010)			
		Seated Capacity	Total Capacity	A.M. Peak Hour Volume	Load Factor	Available Capacity	Project Trips	Total Trips	Load Factor	Available Capacity
				(1)	(2)	(3)				
BLUE LINE	SB Chinatown > Union Station	4,860	9,234	7,623	1.57	1,611	1,030	8,653	1.78	581
	NB Union Station > Chinatown	4,860	9,234	1,430	0.29	7,804	60	1,490	0.31	7,744
	SB Union Station> Blue Conn.	4,860	9,234	8,600	1.77	634	250	8,850	1.82	384
	NB Blue Conn. > Union Station	4,860	9,234	1,165	0.24	8,069	665	1,830	0.38	7,404
RED LINE	WB East Ext. > Union Station	5,310	12,532	2,629	0.50	9,902	885	3,514	0.66	9,018
	EB Union Station > East Ext.	5,310	12,532	1,688	0.32	10,844	60	1,748	0.33	10,784
	WB Union Station > Civic Center	7,080	19,045	5,250	0.74	13,795	495	5,745	0.81	13,300
	EB Civic Center > Union Station	7,080	19,045	1,342	0.19	17,703	1,320	2,662	0.38	16,383
METROLINK	all into Union Station	16,016	16,016	7,700	0.48	8,316	1,725	9,425	0.59	6,591

1. Red and Blue Line volumes from year 2010 no-build network coded by LACMTA to forecast Crenshaw Line ridership, Nov. 1993.
   Metrolink volumes extrapolated from existing based on planned service level improvements;
   Red and Blue departing volumes adjusted for increased transfers from Metrolink.
2. Projected load factor is estimated volume divided by seated capacity.
   Maximum policy load factors for proposed headways are:
   - Blue Line: 1.9
   - Red Line: 2.36 east of Union Station
   - Red Line: 2.69 west of Union Station
   - Metrolink: 1.0
3. Available capacity is based on policy load factors and year 2010 network operating plans (see Table 2.3).
4. Peak load point for service toward Union Station is near 7th/Flower.

Source: Manuel Padron & Associates

Arterial Link and Intersection Levels-of-Service. As Tables 29 and 30 show, 12 links in the a.m. peak period and nine links in the p.m. peak period are projected to operate at LOS E or F, indicating high levels of congestion in the year 2010 without the project. Primary areas of congestion are similar to those observed in the 2000 background conditions, except that more locations would become congested. Congested areas include:

- South of the I-5, to/from Chinatown, Union Station and downtown on N. Main and Broadway.
- Hill Street, leading to/from the SR-110.
- Downtown streets (including Broadway, Alameda and Los Angeles Streets) south of Aliso and Temple. South of Aliso, Alameda narrows from 6 lanes to 4 lanes, contributing to this congestion.
- Portions of College and Alpine outside the one-way pair.
- Center Street, south of Jackson.
- Mission Road north of Cesar E. Chavez Avenue.

Projected peak-hour turning movements at study area intersections are shown in Appendix D of the Traffic Study which is provided in the Technical Studies Appendices document. Table 31 illustrates peak hour intersection levels-of-service and shows that in the year 2010 without the project, there would be one analyzed intersection operating at LOS E and one at LOS F in the a.m. peak hour, and one intersection operating at LOS E and two at LOS F in the p.m. peak period.

Freeway System

Freeway and Ramp Levels-of-Service. Tables 32 and 33 illustrate projected freeway and ramp levels-of-service in the year 2010 without the project. Table 32 indicates that of the 10 analyzed directional segments, four would operate at LOS F in the a.m. peak hour and six would operate at LOS F in the p.m. peak hour. Each of the freeways would have some segments operating at LOS F in at least one peak period. Table 33 indicates that only one ramp location would operate at LOS F during either the a.m. or p.m. peak periods.

Potential Roadway Improvements.

The improvements listed earlier for the Year 2000 Without Project scenario will also be appropriate for the Year 2010 Without Project.

TABLE 29
2010 FUTURE CONDITIONS WITHOUT ADP (2010 BACKGROUND)
A.M. PEAK HOUR LINK LEVELS OF SERVICE

				Existing Conditions					Buildout Background (Year 2010)			
Street Orientation	Dir.	Lanes	Class	Cap./lane	Tot. Cap.	Volume	V/C	LOS	Tot. Cap.	Total Vol.	V/C	LOS
North-South Streets												
1 Hill N/O College	N	2	Secondary	1,100	2,200	200	0.091	A	2,350	250	0.106	A
	S	2	[1] [8]	1,100	2,200	1,980	0.900	D	2,350	2,400	1.021	F
2 Hill S/O Alpine	N	2	Secondary	700	1,400	170	0.121	A	1,500	200	0.133	A
	S	2	[2] [8]	700	1,400	1,660	1.186	F	1,500	1,990	1.327	F
3 Hill S/O Aliso	N	2	Secondary	750	1,500	90	0.060	A	1,500	110	0.073	A
	S	3	[2] [7]	750	2,250	1,450	0.644	B	2,250	1,740	0.773	C
4 Pasadena S/O 5 Fwy	N	2	Secondary	700	1,400	320	0.229	A	1,500	380	0.253	A
	S	2	[2] [8]	700	1,400	890	0.636	B	1,500	1,070	0.713	C
5 Broadway S/O 5 Fwy	N	2	Major	700	1,400	650	0.464	A	1,500	810	0.540	A
	S	3	[8]	700	2,100	1,700	0.810	D	2,250	2,280	1.013	F
6 Broadway N/O Bishops	N	2	Major	700	1,400	360	0.257	A	1,500	430	0.287	A
	S	3	[8]	700	2,100	1,810	0.862	D	2,250	2,170	0.964	E
7 Broadway N/O College	N	2	Major	700	1,400	330	0.236	A	1,500	400	0.267	A
	S	2	[8]	700	1,400	1,100	0.786	C	1,500	1,320	0.880	D
8 Broadway S/O Alpine	N	2	Secondary	700	1,400	430	0.307	A	1,500	530	0.353	A
	S	2	[8]	700	1,400	930	0.664	B	1,500	1,120	0.747	C
9 Broadway S/O Sunset	N	2	Secondary	750	1,500	480	0.320	A	1,500	590	0.393	A
	S	2	[2] [7]	750	1,500	910	0.607	B	1,500	1,100	0.733	C
10 Broadway S/O Aliso	N	3	Secondary	750	2,250	420	0.187	A	2,250	520	0.231	A
	S	2	[2] [7]	750	1,500	1,260	0.840	D	1,500	1,520	1.013	F
11 N. Spring N/O Sotello	N	1	Major [3]	1,200	1,200	290	0.242	A	1,200	380	0.317	A
	S	2		1,200	2,400	1,530	0.638	B	2,400	2,070	0.863	D
12 Spring S/O Aliso												
	S	4	Major [4] [7]	750	3,000	980	0.327	A	3,000	1,210	0.403	A
13 N. Main S/O 5 Freeway	N	2	Secondary	550	1,100	390	0.355	A	1,180	500	0.424	A
	S	2	[8]	550	1,100	950	0.864	D	1,180	1,400	1.186	F
14 N. Main N/O Sotello	N	2	Secondary	550	1,100	280	0.255	A	1,180	350	0.297	A
	S	2	[8]	550	1,100	610	0.555	A	1,180	960	0.814	D
15 Main S/O Aliso	N	5	Secondary [2] [4] [7]	750	3,750	960	0.256	A	3,750	1,170	0.312	A
16 Alameda S/O Temple	N	2	Major	750	1,500	460	0.307	A	1,500	700	0.467	A
	S	2	[7]	750	1,500	1,305	0.870	D	1,500	1,750	1.167	F
17 Los Angeles S/O Aliso	N	3	Secondary	750	2,250	415	0.184	A	2,250	880	0.391	A
	S	3	[2] [7]	750	2,250	1,260	0.560	A	2,250	2,070	0.920	E
18 Los Angeles S/O Temple	N	2	Secondary	750	1,500	480	0.320	A	1,500	800	0.533	A
	S	3	[2] [7]	750	2,250	1,595	0.709	C	2,250	2,310	1.027	F
19 Center S/O Jackson	N	1	Major	400	400	190	0.475	A	400	250	0.625	B
	S	1	[5]	400	400	350	0.875	D	400	430	1.075	F
20 Mission N/O Chavez	N	2	Major	700	1,400	655	0.468	A	1,500	820	0.547	A
	S	3	[8]	700	2,100	1,735	0.826	D	2,250	2,200	0.978	E
East-West Streets												
21 College W/O Hill	E [8]	2	Secondary	300	600	390	0.650	B	640	470	0.734	C
	W	2	[5] [6]	300	600	460	0.767	C	600	550	0.917	E
22 College E/O Hill [9]	E	2	Secondary	300	600	510	0.850	D	2,400	1,130	0.471	A
	W	2	[5] [6] [8]	300	600	290	0.483	A				
23 College E/O Broadway [9]	E	2	Secondary	300	600	180	0.300	A	2,400	730	0.304	A
	W	2	[5] [6] [8]	300	600	330	0.550	A				
24 College E/O Spring [9]	E	1	Secondary	400	400	60	0.150	A	400	90	0.225	A
	W [8]	1	[5]	400	400	105	0.263	A	430	20	0.047	A
25 Alpine W/O Hill	E	2	Local	300	600	230	0.383	A	640	280	0.438	A
	W	2	[6] [8]	300	600	400	0.667	B	640	480	0.750	C
26 Alpine E/O Hill [9]	E	2	Secondary	300	600	290	0.483	A				
	W	2	[5] [6] [8]	300	600	400	0.667	B	2,400	840	0.350	A
27 Alpine E/O Broadway [9]	E	2	Secondary	300	600	290	0.483	A				
	W	2	[5] [6] [8]	300	600	410	0.683	B	2,400	900	0.375	A
28 Chavez E/O Hill	E [8]	3	Major	700	2,100	935	0.445	A	2,250	1,420	0.631	B
	W [7]	3		750	2,250	1,265	0.562	A	2,250	1,600	0.711	C

[1] Operates almost as freeway on/off ramp; capacity is halfway between major arterial and freeway ramp.
[2] Operates similarly to other major arterials in area; major arterial capacity used.
[3] Operates free-flow, without signals or interruptions, between College and I-5 Freeway; higher capacity used to represent free-flow cond.
[4] Capacity reduced from 750/lane to 700/lane to reflect high percentge of buses.
[5] Operates as collector or local street, despite higher functional classification.
[6] Capacity reduced 25% from 400 to 300 to account for pedestrian interference.
[7] Capacity increased due to adjacent ATSAC intersections.
[8] Capacity increased due to adjacent ATSAC intersections for phase 1 background only.
[9] Capacity and/or volume modified to reflect College/Alpine one-way pair.

TABLE 30
2010 FUTURE CONDITIONS WITHOUT ADP (2010 BACKGROUND)
P.M. PEAK HOUR LINK LEVELS OF SERVICE

				EXISTING CONDITIONS					BUILDOUT BACKGROUND (YEAR 2010)			
Street Orientation	Dir.	Lanes	Class	Cap./lane	Tot. Cap.	Volume	V/C	LOS	Tot. Cap.	Total Vol.	V/C	LOS
North-South Streets												
1 Hill N/O College	N	2	Secondary	1,100	2,200	1,680	0.764	C	2,350	2,050	0.872	D
	S	2	[1] [8]	1,100	2,200	1,020	0.464	A	2,350	1,230	0.523	A
2 Hill S/O Alpine	N	2	Secondary	700	1,400	1,010	0.721	C	1,500	1,210	0.807	D
	S	2	[2] [8]	700	1,400	710	0.507	A	1,500	850	0.567	A
3 Hill S/O Aliso	N	2	Secondary	750	1,500	650	0.433	A	1,500	780	0.520	A
	S	3	[2] [7]	750	2,250	580	0.258	A	2,250	700	0.311	A
4 Pasadena S/O 5 Fwy	N	2	Secondary	700	1,400	660	0.471	A	1,500	790	0.527	A
	S	2	[2] [8]	700	1,400	360	0.257	A	1,500	430	0.287	A
5 Broadway S/O 5 Fwy	N	3	Major	700	2,100	1,690	0.805	D	2,250	2,260	1.004	F
	S	2	[8]	700	1,400	320	0.229	A	1,500	420	0.280	A
6 Broadway N/O Bishops	N	3	Major	700	2,100	1,560	0.743	C	2,250	1,870	0.831	D
	S	2	[8]	700	1,400	550	0.393	A	1,500	660	0.440	A
7 Broadway N/O College	N	2	Major	700	1,400	1,350	0.964	E	1,500	1,620	1.080	F
	S	2	[8]	700	1,400	740	0.529	A	1,500	890	0.593	A
8 Broadway S/O Alpine	N	2	Secondary	700	1,400	1,290	0.921	E	1,500	1,570	1.047	F
	S	2	[8]	700	1,400	620	0.443	A	1,500	750	0.500	A
9 Broadway S/O Sunset	N	2	Secondary	750	1,500	1,250	0.833	D	1,500	1,520	1.013	F
	S	2	[2] [7]	750	1,500	540	0.360	A	1,500	660	0.440	A
10 Broadway S/O Aliso	N	3	Secondary	750	2,250	1,245	0.553	A	2,250	1,510	0.671	B
	S	2	[2] [7]	750	1,500	395	0.263	A	1,500	480	0.320	A
11 N. Spring N/O Sotello	N	2	Major [3]	1,200	2,400	1,340	0.558	A	2,400	1,840	0.767	C
	S	2		1,200	2,400	340	0.142	A	2,400	440	0.183	A
12 Spring S/O Aliso												
	S	4	Major [4] [7]	750	3,000	895	0.298	A	3,000	1,110	0.370	A
13 N. Main S/O 5 Freeway	N	2	Secondary	550	1,100	900	0.818	D	1,180	1,330	1.127	F
	S	2	[8]	550	1,100	510	0.464	A	1,180	640	0.542	A
14 N. Main N/O Sotello	N	2	Secondary	550	1,100	790	0.718	C	1,180	1,180	1.000	E
	S	2	[8]	550	1,100	280	0.255	A	1,180	350	0.297	A
15 Main S/O Aliso	N	5	Secondary [2] [4] [7]	750	3,750	1,800	0.480	A	3,750	2,160	0.576	A
16 Alameda S/O Temple	N	2	Major	750	1,500	1,550	1.033	F	1,500	2,040	1.360	F
	S	2	[7]	750	1,500	910	0.607	B	1,500	1,240	0.827	D
17 Los Angeles S/O Aliso	N	3	Secondary	750	2,250	1,420	0.631	B	2,250	2,270	1.009	F
	S	3	[2] [7]	750	2,250	255	0.113	A	2,250	690	0.307	A
18 Los Angeles S/O Temple	N	3	Secondary	750	2,250	1,295	0.576	A	2,250	1,950	0.867	D
	S	3	[2] [7]	750	2,250	790	0.351	A	2,250	1,170	0.520	A
19 Center S/O Jackson	N	1	Major	400	400	270	0.675	B	400	330	0.825	D
	S	1	[5]	400	400	260	0.650	B	400	340	0.850	D
20 Mission N/O Chavez	N	3	Major	700	2,100	1,205	0.574	A	2,250	1,560	0.693	B
	S	2	[8]	700	1,400	835	0.596	A	1,500	1,040	0.693	B
East-West Streets												
21 College W/O Hill	E [8]	2	Secondary	300	600	430	0.717	C	640	520	0.813	D
	W	2	[5] [6]	300	600	300	0.500	A	600	360	0.600	A
22 College E/O Hill [9]	E	2	Secondary	300	600	400	0.667	B	2,400	1,080	0.450	A
	W	2	[5] [6] [8]	300	600	350	0.583	A				
23 College E/O Broadway [9]	E	2	Secondary	300	600	350	0.583	A	2,400	1,080	0.450	A
	W	2	[5] [6] [8]	300	600	200	0.333	A				
24 College E/O Spring [9]	E	1	Secondary	400	400	330	0.825	D	400	400	1.000	E
	W [8]	1	[5]	400	400	55	0.138	A	430	20	0.047	A
25 Alpine W/O Hill	E	2	Local	300	600	395	0.658	B	640	470	0.734	C
	W	2	[6] [8]	300	600	240	0.400	A	640	290	0.453	A
26 Alpine E/O Hill [9]	E	2	Secondary	300	600	400	0.667	B				
	W	2	[5] [6] [8]	300	600	370	0.617	B	2,400	900	0.375	A
27 Alpine E/O Broadway [9]	E	2	Secondary	300	600	440	0.733	C				
	W	2	[5] [6] [8]	300	600	430	0.717	C	2,400	790	0.329	A
28 Chavez E/O Hill	E [8]	3	Major	700	2,100	1,370	0.652	B	2,250	1,830	0.813	D
	W [7]	3		750	2,250	1,190	0.529	A	2,250	1,610	0.716	C

[1] Operates almost as freeway on/off ramp; capacity is halfway between major arterial and freeway ramp.
[2] Operates similarly to other major arterials in area; major arterial capacity used.
[3] Operates free-flow, without signals or interruptions, between College and I-5 Freeway; higher capacity used to represent free-flow cond.
[4] Capacity reduced from 750/lane to 700/lane to reflect high percentge of buses.
[5] Operates as collector or local street, despite higher functional classification.
[6] Capacity reduced 25% from 400 to 300 to account for pedestrian interference.
[7] Capacity increased due to adjacent ATSAC intersections.
[8] Capacity increased due to adjacent ATSAC intersections for phase 1 background only.
[9] Capacity and/or volume modified to reflect College/Alpine one-way pair.

TABLE 31

2010 BACKGROUND WITHOUT PROJECT

INTERSECTION LEVELS OF SERVICE

	Existing				2010 Background			
	AM Peak		PM Peak		AM Peak		PM Peak	
Intersection	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS
1. Alameda & Aliso	0.457 *	A	0.811 *	D	0.631 *	B	1.021 *	F
2. Alameda & Arcadia	0.557 *	A	0.582 *	A	0.728 *	C	0.739 *	C
3. Alameda & Los Angeles	0.449 *	A	0.436 *	A	0.921 *	E	0.825 *	D
4. Alameda & Cesar E. Chavez	0.643 *	B	0.637 *	B	0.775 *	C	0.897 *	D
5. N. Main & Cesar E. Chavez	0.453 *	A	0.561 *	A	0.567 *	A	0.716 *	C
6. Alameda & N. Main	0.450 *	A	0.676 *	B	0.588 *	A	1.104 *	F
7. N. Main & Vignes	0.509	A	0.616	B	0.746 *	C	0.931 *	E
8. Alameda & Alpine	0.561	A	0.707	C	0.634 *	B	0.867 *	D
9. Vignes & Cesar Chavez	0.755	C	0.817	D	0.849 *	D	0.894 *	D
10. Vignes & Ramirez/NB-101**	0.377	A	0.436	A	0.635 *	B	0.802 *	D
11. Mission & Cesar E. Chavez	0.962	E	0.769	C	1.059 *	F	0.809 *	D
12. Hewitt/Commercial & SB-101**	0.394	A	0.521	A	0.521	A	0.813	D

* Includes adjustment for ATSAC. ATSAC currently installed at six study intersections; to be installed at five additional intersections by 1996.

** Currently unsignalized, but analyzed as signalized for comparison purposes.

TABLE 32
FREEWAY LINK ANALYSIS
2010 FUTURE CONDITIONS WITHOUT ADP (BUILDOUT BACKGROUND)
AM PEAK HOUR

	Existing Conditions							2010 Background Without ADP						
Location	Dir.	Lanes	Cap.	AADT	Peak Hour Volume	V/C	LOS	Dir.	Lanes	Cap.	Total Volume	V/C	LOS	AADT
A. US-101 W/O Hill	N	4	8,000	225,000	7,920	0.990	E	N	4	8,000	8,590	1.074	F	248,000
	S	4	8,000		5,630	0.704	C	S	4	8,000	6,300	0.788	C	
B. US-101 W/O Mission	N	4	8,000	221,000	7,780	0.973	E	N	4	8,000	8,750	1.094	F	249,700
	S	4	8,000		5,530	0.691	B	S	4	8,000	6,080	0.760	C	
C. SR-110 Hill to Solano	N	4	8,000	182,000	4,090	0.511	A	N	4	8,000	4,510	0.564	A	200,800
	S	4	8,000		8,340	1.043	F	S	5	10,000	9,210	0.921	E	
D. I-5 Main to Broadway	N	5	10,000	229,000	7,210	0.721	C	N	5	10,000	7,970	0.797	C	253,100
	S	4	8,000		8,570	1.071	F	S	4	8,000	9,470	1.184	F	
E. I-5 Broadway to SR-110	N	4	8,000	217,000	6,830	0.854	D	N	4	8,000	7,550	0.944	E	240,100
	S	3	6,000		8,120	1.353	F	S	3	6,000	8,990	1.498	F	

PM PEAK HOUR

	Existing Conditions							2010 Background Without ADP						
Location	Dir.	Lanes	Cap.	AADT	Peak Hour Volume	V/C	LOS	Dir.	Lanes	Cap.	Total Volume	V/C	LOS	
A. US-101 W/O Hill	N	4	8,000	225,000	6,350	0.794	C	N	4	8,000	7,070	0.884	D	
	S	4	8,000		8,790	1.099	F	S	4	8,000	9,530	1.191	F	
B. US-101 W/O Mission	N	4	8,000	221,000	6,240	0.780	C	N	4	8,000	6,850	0.856	D	
	S	4	8,000		8,630	1.079	F	S	4	8,000	9,650	1.206	F	
C. SR-110 Hill to Solano	N	4	8,000	182,000	7,960	0.995	E	N	4	8,000	8,790	1.099	F	
	S	4	8,000		5,150	0.644	B	S	5	10,000	5,680	0.568	A	
D. I-5 Main to Broadway	N	5	10,000	229,000	9,680	0.968	E	N	5	10,000	10,700	1.070	F	
	S	4	8,000		6,900	0.863	D	S	4	8,000	7,620	0.953	E	
E. I-5 Broadway to SR-110	N	4	8,000	217,000	9,170	1.146	F	N	4	8,000	10,150	1.269	F	
	S	3	6,000		6,540	1.090	F	S	3	6,000	7,230	1.205	F	

Source: AADT, peak hour % (2-way), and peak hour % (directional) - Caltrans Traffic Volumes on California State Highways (1992)
Number of lanes - Caltrans California Highway Log Book (1991) and field review.

TABLE 33
2010 BACKGROUND CONDITIONS WITHOUT ADP
FREEWAY RAMP ANALYSIS

LOCATION	Existing Conditions										2010 Background Conditins Without ADP						
	ADT (1)	Volume				AM Peak		PM Peak		AM Peak			PM Peak			
		AM	PM	Lanes	Cap.	V/C	LOS	V/C	LOS	Vol.	V/C	LOS	Vol.	V/C	LOS	2010 ADT
US-101 (Santa Ana Freeway)																
1 Vignes St. WB Off-Ramp	7,100	330	290	1	1,600	0.206	A	0.181	A	690	0.431	A	420	0.263	A	9,590
2 Vignes St. WB On-Ramp	2,800	175	305	1	1,600	0.109	A	0.191	A	230	0.144	A	550	0.344	A	3,530
3 Vignes St. EB On-Ramp	6,300	100	1,285	1	1,450	0.069	A	0.886	D	210	0.145	A	1,700	1.172	F	8,800
4 Alameda WB Off-Ramp	17,500	1,845	1,080	3	5,100	0.362	A	0.212	A	1,990	0.390	A	1,170	0.229	A	18,920
5 Hewitt/Commercial EB On-Ramp (3)	9,400	110	305	1	1,000	0.110	A	0.305	A	120	0.120	A	330	0.330	A	10,300
6 Hewitt/Commercial EB off-Ramp	5,000	620	285	1	1,450	0.428	A	0.197	A	740	0.510	A	330	0.228	A	5,910
7 Los Angeles EB Off-Ramp	7,700	460	520	1	1,700	0.271	A	0.306	A	510	0.300	A	570	0.335	A	8,360
8 Los Angeles WB On-Ramp	12,000	720	810	1	1,450	0.497	A	0.559	A	780	0.538	A	870	0.600	A	13,030
9 Mission St. WB On-Ramp	3,200	190	220	1	1,700	0.112	A	0.129	A	210	0.124	A	240	0.141	A	3,570
SR-110 (Pasadena Freeway)																
10 Hill St. SB Off-Ramp	12,400	850	890	2	3,400	0.250	A	0.262	A	970	0.285	A	980	0.288	A	13,660
11 Hill St. NB On-Ramp	14,000	960	1,010	1	1,700	0.565	A	0.594	A	1,070	0.629	B	1,140	0.671	B	15,490
I-5 (Golden State Freeway)																
12 N. Main St. SB Off-Ramp	2,900	200	210	1	1,700	0.118	A	0.124	A	230	0.135	A	240	0.141	A	3,230
13 N. Broadway NB On-Ramp	7,100	490	510	2	3,400	0.144	A	0.150	A	550	0.162	A	580	0.171	A	7,840
14 N. Broadway SB Off-Ramp	6,200	430	450	1	1,700	0.253	A	0.265	A	480	0.282	A	500	0.294	A	6,900

Source:
(1) ADT - Caltrans Ramp Volumes on the California State Freeway System, 1992.
(2) Peak Hour Splits - Caltrans Traffic Volumes on California State Highways, 1992.
(3) Stop Controlled On-Ramp reduces the capacity to approximately 1,000 vehicles per lane.

Threshold of Significance

Intersections

The current LADOT definitions for significant impact identified in the City's Traffic Study Policies and Procedures, were used in the analysis. These identify an increase in the V/C ratio at an intersection as "significant" in accordance with the following Table 34.

TABLE 34
THRESHOLD OF SIGNIFICANCE FOR INTERSECTIONS

Level of Service	Final V/C Ratio	Project-Related Increase in V/C
C	> 0.700 - 0.800	Equal to/or greater than 0.040
D	> 0.800 - 0.900	Equal to/or greater than 0.020
E, F	> 0.900	Equal to/or greater than 0.010

For intersection impacts, feasible intersection improvements were evaluated as mitigations. If no feasible mitigation measures were identified, the impact was identified as an unmitigated significant impact.

Street Links

While LADOT has established significant impact definitions and thresholds for intersection analysis, no standards currently exist for link (street segment) impacts. For the purposes of this study, the following definitions of significant impacts on links were defined in conjunction with LADOT as shown in Table 35.

TABLE 35
THRESHOLD OF SIGNIFICANCE FOR LINKS

Level of Service	Final V/C Ratio	Project-Related Increase in V/C
C	> 0.700 - 0.800	Equal to/or greater than 0.080
D	> 0.800 - 0.900	Equal to/or greater than 0.040
E, F	> 0.900	Equal to/or greater than 0.020

For link impacts, it was determined in conjunction with LADOT, that a "tiered" approach should be taken toward identifying mitigation measures, and that measures would be considered in the following order: firstly, transit and TDM measures; secondly, intersection improvements; and lastly, roadway widening and/or new roadway facilities, or their equivalent.

It was also determined that since link impacts are generally indicative of intersection problems, significant impacts on roadway links should not automatically require street widening or additional travel lanes as mitigation. Therefore, if the resultant LOS remains at C, D, or E, then intersection improvement measures (or their equivalent) are considered the appropriate type of mitigation.

If the resultant LOS is F and the impact (increase in V/C) is greater than 0.05, mitigations may need to increase the overall capacity of the link. Appropriate mitigations would be intersection improvements, added lanes, new/parallel facilities or their equivalent. Consideration of street widening to the Community Plan designation may also be an appropriate consideration. Otherwise, if the resultant LOS is F and the impact is equal to or less than 0.05, intersection improvement measures (or their equivalent) are considered the appropriate type of mitigation, as described above.

<u>Freeways and Freeway Ramps</u>

The significant impact definition used for freeways and freeway ramps was the definition used in the Congestion Management Program (CMP). An impact is considered significant if it increases the V/C ratio by 0.02 or greater, causing or worsening LOS F. Therefore, freeways and freeway ramps are only considered to be significantly impacted when they reach LOS F.

Transit Facilities

The analysis of transit impacts focused on the available transit capacity on lines serving the project site. The estimate of available transit capacity before and after the project was used to determine whether additional transit vehicles or frequency would be required with the addition of the project. Transit capacity was identified as including both seats and standees. The ratio of total passengers (seated plus standing) to seats is defined as the "load factor". MTA has designated maximum load factors that represent the levels of acceptable service standards, and these were used in the following analysis.

Assumptions

Future Transit Facilities at Union Station

Union Station will be the hub for numerous modes of public transit. This will include Amtrak (the intercity rail carrier), Metrolink commuter rail, the Metro Red Line subway, the Metro Blue Line light rail to Pasadena, and the Blue Line "Downtown Connector" to connect the Long Beach and Pasadena light rail lines. The site will also be served by local bus service via the city street system, as well as regional express bus service on the El Monte Busway adjacent to the south end of the site.

All of the future transit service at Union Station is being planned and/or constructed by various regional agencies. In addition, studies are currently in progress at the state level for potential high speed rail service from Union Station as the main Los Angeles Station, to Central and Northern California and to San Diego.

There will also continue to be significant bus transit activity at Union Station. The El Monte Busway is located immediately to the south of Union Station, and Caltrans will soon commence a study of extending the busway into downtown and to connect with the Harbor Transitway. The Metro Bus Plaza is currently under construction on the east side of Union Station. This facility is part of the Metro Red Line improvements and will provide twelve bus bays, with connections to Vignes Street and to the El Monte Busway. It will function as a key bus-rail interface facility at Union Station. As a result of these improvements, there would continue to be significant local and express bus service to the Union Station area.

It is assumed that a significant proportion of future ADP trips will use transit, and that an average proportion of trips will rideshare. The mode split assumptions used for the ADP transportation analysis are summarized in Table 36 by land use type, project phase and time period. These splits were developed in conjunction with LADOT. The daily transit mode split percentages are somewhat lower than the peak period to reflect the tendency for higher auto use in off-peak periods.

The Phase 1 mode split assumptions are also lower than at Buildout Phase, to reflect the fact that less transit service will be provided at this interim phase and, therefore, transit use will be lower. Phase 1 mode split projections are also shown in Table 36. Similar data was used to estimate the transit mode split for Phase 1 of the ADP, assumed to be in place by the year 2000. The year 2000 transit mode split was derived by comparing three aspects of the data: growth from existing downtown transit mode split to the anticipated 2010 levels; the level of transit services expected to be available at Union Station in 2000; and experience at existing rail transit stations in Los Angeles. The conclusion reached from this data was that it would be reasonable to assume a peak hour transit mode split of 40 percent for offices in the ADP in the year 2000. (Office is the primary use in the ADP, accounting for over 80 percent of the proposed square footage.)

Trip Generation Rates and Trip Volumes

Trip generation rates were developed for the ADP transportation analysis, for transit (person trips) and auto (vehicle trips), for each key land use, and for the a.m. peak hour, p.m. peak hour, and daily time periods. These trip rates were derived using the process described above, and based on the mode split projections described. The trip rates also account for auto and rideshare occupancies, and were developed in conjunction with LADOT.

It is worth noting again that the trip generation analysis deals with both person trips and vehicle trips. A person trip is a one-way trip made by a person, whereas a vehicle trip is a one-way trip made by a vehicle. Person trips are used in analyzing the transit system (i.e., the number of passengers), whereas vehicle trips are used for analyzing traffic impacts (i.e. the number of autos).

At Buildout Phase, there will be a total of 109,780 daily person trips generated by the ADP, of which 55,950 trips will be by transit and 40,210 by vehicle (auto and rideshare). PM peak hour trips at project Buildout Phase will total 14,050 trips, of which 8,975 will be in transit, and 3,385 in vehicles.

Trip Distribution

Two sources of information were used to develop a trip distribution pattern for the ADP. The trip distribution patterns reflected in Appendix D of the Los Angeles County CMP were used to develop an initial distribution, and this was compared to previous work from the Downtown Strategic Plan. When compared across freeway corridors into downtown, the two distributions were very similar. The trip distribution pattern from the DSP was used as the basis for ADP distribution because while it was generally consistent with the CMP model distribution, it was also based on actual ground counts.

The resulting trip distribution pattern used in the analysis is shown in Table 37 for each entrance corridor to the Union Station and downtown area.

TABLE 36
MODE-SPLIT ASSUMPTIONS BY LAND USE TYPE
PROJECT PHASE AND TIME PERIOD

	Phase 1			Buildout Phase		
	% Transit	% Ride-Share	% Drive Alone	% Transit	% Ride-Share	% Drive Alone
Peak Period						
Office	40%	20%	40%	65%	15%	20%
Retail	35%	27%	38%	50%	20%	30%
Hotel	30%	30%	40%	50%	25%	25%
Restaurant	30%	30%	40%	50%	25%	25%
Museum	25%	33%	42%	30%	30%	40%
Residential	N/A	N/A	N/A	35%	15%	50%
Daily						
Office	35%	20%	45%	55%	15%	30%
Retail	30%	30%	40%	45%	25%	30%
Hotel	30%	30%	40%	50%	25%	25%
Restaurant	30%	30%	40%	50%	25%	25%
Museum	25%	33%	42%	30%	30%	40%
Residential	N/A	N/A	N/A	30%	20%	50%

Transportation Demand Management (TDM) Program

A comprehensive transportation demand management (TDM) program is proposed for the ADP. The two principal goals of this program are to actively encourage the use of transit for users of the site, and to develop and implement policies and programs to encourage rideshare. The TDM program will be part of a coordinated transportation strategy for the ADP, which along with maximizing transit use and rideshare will include an optimized parking management program, extensive pedestrian facilities and connections, and focused roadway improvements.

TABLE 37 PROJECT TRIP DISTRIBUTION BY CORRIDOR	
Regional Corridor	**Percent**
Pasadena SR-110, Northeast	9%
San Bernardino I-10, East	11%
Pomona SR-60, East	12%
Santa Ana I-5, Southeast	15%
Harbor I-110, South	11%
Santa Monica I-10, West	12%
Hollywood US-101, Northeast	16%
Glendale SR-2/Golden State I-5, North	14%
Note: Corridor comprises principal freeway and other adjacent arterials/highways.	

The program envisions the establishment of an on-site transportation management organization (TMO) for the ADP. To help encourage transit use, the program would facilitate the distribution of transit service information, employer based programs for transit passes and fare subsidies, and the potential provision of employer-oriented contract bus and shuttle services. To help support rideshare (car and van pooling) the TMO would actively provide services such as rideshare matching programs, guaranteed ride home, preferential HOV parking, on-site day care and convenience retailing and availability of fleet cars. The TDM program would also support trip reduction measures such as telecommuter programs, teleconferencing facilities, and management of work hours.

Planned Transportation Improvements of the ADP

Transit

The transportation plan is designed to facilitate the use and operation of the transit facilities at Union Station. The ADP recognizes the fundamental importance of Union Station as a transit facility for downtown Los Angeles and the region. The plan allows for transit easements, convenient placement of transit portals, a new transit concourse, and significantly enhanced passenger facilities.

A key element of the ADP is to facilitate the proposed transit concourse at the south end of the train yard. This new concourse would be located at track level at the south end of the rail tracks (and north of the proposed roadway at the south of the site adjacent to the El Monte Busway). It is proposed that all Amtrak ticketing and baggage facilities be relocated from their current location (one level below and to the west of the tracks) into this new transit concourse to facilitate convenient access to the train platforms, as well as improve interchange access to all rail service at Union Station including commuter rail and light rail.

This new transit concourse would provide significant additional capacity for transit riders, and would relieve the existing passenger tunnel which runs beneath the tracks and is the only other access route to the train platforms. The transit concourse will also be linked to the Metro Plaza (buses) on the east side of Union Station, and to the Metro Rail Subway Station.

A further key transit element of the transportation plan is to locate Amtrak bus, shuttle bus, and taxi pick-up/drop-off areas in a subsurface location beneath this new transit concourse, with access from Alameda Street.

While the ADP would facilitate these transit concourse facilities, it is anticipated that the provision of the transit concourse would be done by public agencies, and the timing of such improvements is uncertain at this time. It is anticipated, however, that the transit concourse will to some degree be in place by the Phase I ADP time line, and the subsurface bus, taxi, shuttle area would occur after Phase I of the ADP.

This new transit concourse, and bus/taxi facility below, will significantly enhance the integration of, and connections between, the different rail systems that will operate at Union Station, as well as enhancing the access and egress to those rail systems from other surface modes including bus and automobile. The ADP has been designed to allow the rail tracks at the station to be extended south over the Hollywood Freeway at some future time, to transform Union Station from a stub-end to a through-station configuration, thereby significantly increasing passenger capacity.

The ADP will also encourage and facilitate the use of local and express buses, by providing convenient connections to the Metro Bus Plaza, to the El Monte Busway, and to on-street bus-stops adjacent to the project site.

Transit access for the ADP is summarized schematically in Figure 27.

Internal/On-site Circulation

The planned roadway system is shown in Figure 28 for Phase I and in Figure 29 for Buildout Phase. Numerous on-site improvements are planned to enhance access to individual parcels within the project site and to provide for efficient on-site circulation without impacting the surrounding city street system. The overall philosophy is to provide, as far as possible, a conventional grid system of local streets on the property to provide access to parking and to building frontages. This roadway system, is designed to permit auto circulation within the project area, but discourage traffic passing through the project area. On-site streets will not be city arterials. Street design will permit cars to conveniently pick up and drop off in front of buildings as on any normal street, but will also be pedestrian oriented to keep vehicle travel speeds low.

The planned internal roadway system will consist of the following individual roadways:

New Avila Street. This new roadway will provide an important north-south connection through the entire project site immediately to the west of the railroad tracks. It will extend from an intersection with Arcadia Street at South Plaza at the southern part of the site, northerly to West Metro Plaza, across Cesar E. Chavez Avenue (on the existing bridge structure) and past Terminal Annex, between the Terminal Annex property and the railroad tracks, across Vignes Street (on the existing bridge structure), and then north and west to connect into College Street, thereby providing a connection to North Main Street and to North Spring Street.

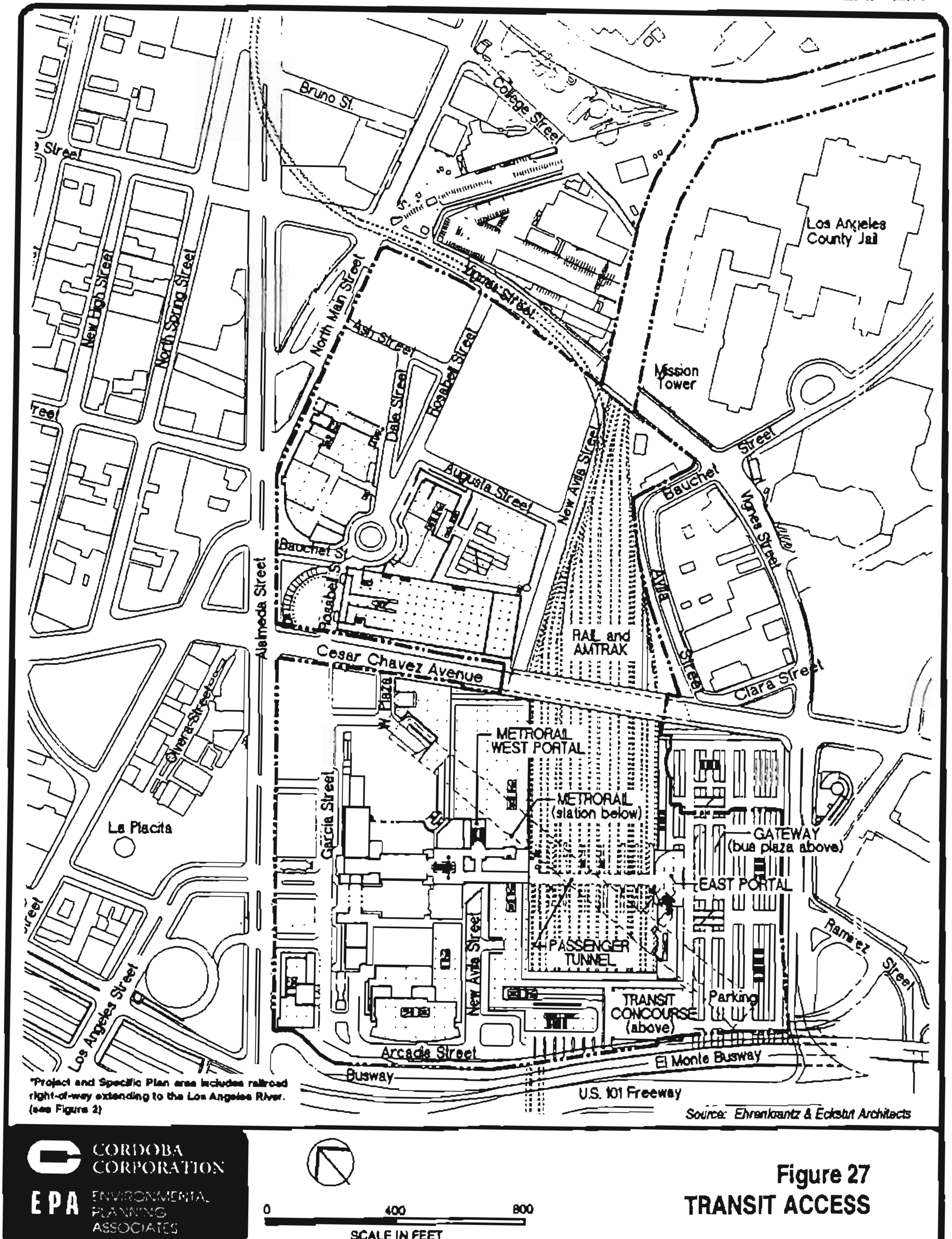
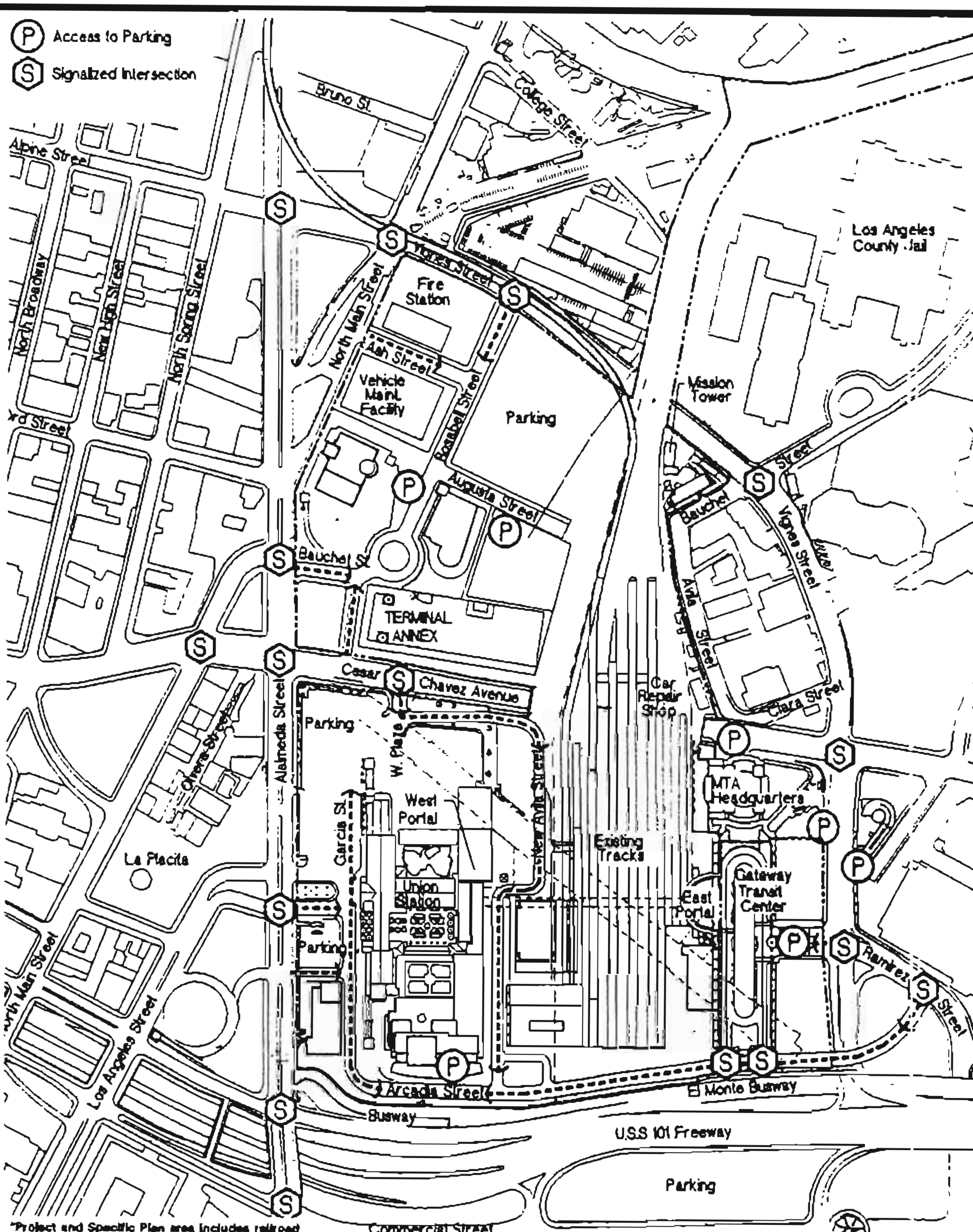


Figure 27
TRANSIT ACCESS



*Project and Specific Plan area includes railroad right-of-way extending to the Los Angeles River. (see Figure 2)

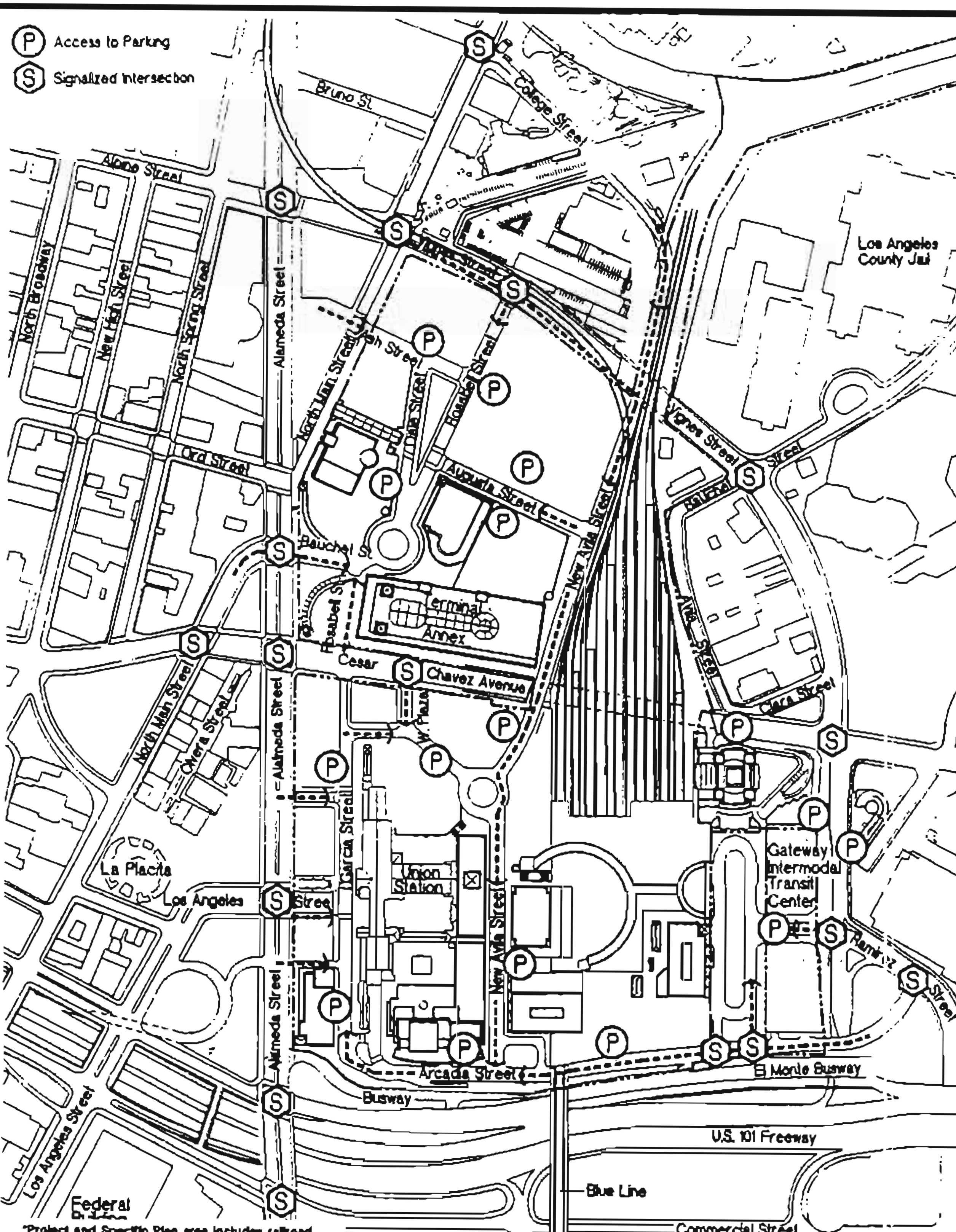
Source: Ehrenkrantz & Eckstut Architects

CORDOBA CORPORATION

EPA ENVIRONMENTAL PLANNING ASSOCIATES

0 400 800
SCALE IN FEET

Figure 28
VEHICULAR ACCESS
PHASE I



*Project and Specific Plan area includes railroad right-of-way extending to the Los Angeles River. (see Figure 2)

Source: Ehrenkrantz & Eckstut Architects

CORDOBA CORPORATION

EPA ENVIRONMENTAL PLANNING ASSOCIATES

0 400 800
SCALE IN FEET

Figure 29
VEHICULAR ACCESS BUILDOUT PHASE

This roadway will provide an important access route to the project from the north, and serve to circulate traffic within the site and distribute it to parking locations. The facility is planned to be a 64 foot right-of-way providing for two traffic lanes and two parking lanes. The actual cross section configuration of the roadway may change through the site, but will always accommodate two traffic lanes with some segments having additional turn lanes to parking and street connections while other segments provide for curb loading and unloading areas. North of Vignes Street, the roadway will initially be a 40-foot wide roadway with two traffic lanes. If additional right-of-way becomes available in the future, the roadway could be widened to four lanes if necessary.

In Phase I, New Avila Street will extend from Arcadia Street in the south, only as far north as West Metro Plaza and will not continue north over Cesar E. Chavez Avenue until after Phase I.

Arcadia Street. This east-west roadway will be located at the south end of the project site and will provide a connection from Alameda Street in front of Union Station to Ramirez Street in the east. This roadway will connect with New Avila Street at South Plaza, will run directly in front of the proposed transit concourse at the south end of the station, will connect to the Metro Plaza on the east side of Union Station, continue east over the Vignes Street freeway ramps, and terminate at an intersection with Ramirez Street by Piper Technical Center. The intersection with Ramirez Street will be signalized and provide for all movements. Arcadia Street will be a two-lane local roadway with adequate pick-up/drop-off curb space. This roadway will be constructed as part of Phase I.

Garcia Street. Garcia Street will be a new local access roadway running north-south immediately in front of the Union Station buildings and one block east of Alameda Street. This roadway will provide connections from Alameda Street to various parts of the Union Station site. At the south end it will connect to Arcadia Street which runs easterly across the site. At the north end it will terminate at Cesar E. Chavez Avenue at a new intersection one block east of Alameda Street. There are also three access driveways planned between this roadway and Alameda Street one block to the west. These include the main driveway which is the existing location of the main entrance to Union Station, and the north and south driveways which will connect to Alameda Street one block north and south respectively of the main driveway. In Phase I it is anticipated that this roadway will function on-site and will connect to the main driveway and south driveway to Alameda Street, but will not connect to the north driveway or to Cesar E. Chavez Avenue until after Phase I.

West Metro Plaza and West Plaza Drive. Close to the north end of the Union Station site the West Metro Plaza will provide access to the west portal of the Metro Red Line, and adjacent buildings. This Plaza will connect with New Avila Street. West Plaza Drive will then connect from West Metro Plaza in a northwesterly direction down to street level and a connection with Cesar E. Chavez Avenue two blocks east of Alameda Boulevard. A short one-block local street, Plaza Way, will connect Garcia Street to West Plaza Drive one block south of Cesar E. Chavez Avenue. This roadway may not be completed until after Phase I of the project, although it will exist in at least a temporary fashion in Phase I, and will connect to Cesar E. Chavez Avenue.

Rosabell Street. On the Terminal Annex property, Rosabell Street will provide the principle north-south spine road within the project site extending from Vignes Street in the north, south through the center of the project site to an intersection with Cesar E. Chavez Avenue one block east of Alameda Street. This roadway will provide the principle access to the local street system in this part of the project area, as well as to parking facilities. Rosabell Street will be constructed as part of Phase I.

Bauchet Street. On the Terminal Annex property, Bauchet Street will run a short distance east from the intersection of Alameda/North Main, to Rosabell Street. This will function as the main entrance to the Terminal Annex property, and will be constructed for Phase I.

Ash Street and Augusta Street. Additional local roadways providing circulation within the Terminal Annex area will include Ash Street which will run east-west between North Main Street and Rosabell Street one block south of Vignes Street; and Augusta Street which will run east-west connecting Rosabell Street up to New Avila Street by the train yard. Ash Street will be constructed in Phase I, and Augusta Street will be built after Phase I and in conjunction with New Avila Street north of Terminal Annex.

Traffic signals are proposed at Cesar E. Chavez Avenue and West Plaza Drive, and at Rosabell Street and Vignes Street. The intersection of Cesar E. Chavez Avenue and West Plaza Drive is currently signalized but for bus movement only. It is proposed that this be a full access signal intersection with the ADP. The intersection of Vignes Street and Rosabell Street is planned to be signalized as part of construction of the Metro Blue Line to Pasadena project.

Phase I Impacts

Trip Volume

Table 38 summarizes total trips estimated to be generated by the ADP, by mode, time period, and project phase. By the end of Phase 1, a total of 39,030 daily person trips will be generated by the ADP. Of these, 12,970 will occur on transit, and 19,425 by vehicle (drive-alone auto and rideshare). In the evening peak hour, there will be a total of 4.470 person trips, of which 1,980 will occur on transit and 1,655 will occur by vehicle[1].

[1] Note: Transit and vehicle trips do not add to total person trips because of multi-occupant vehicles such as carpool and vanpool.

TABLE 38
TRIP TOTALS BY MODE, TIME PERIOD AND PROJECT PHASE

	Phase 1	Buildout Phase
Person Trips		
Daily	39,030	109,780
a.m. Peak Hour	3,785	12,870
p.m. Peak Hour	4,470	14,050
Transit Trips		
Daily	12,970	55,950
a.m. Peak Hour	1,750	8,480
p.m. Peak Hour	1,980	8,975
Vehicle Trips		
Daily	19,425	40,210
a.m. Peak Hour	1,335	2,845
p.m. Peak Hour	1,655	3,385

Roadway Link

Tables 39 and 40 show the resulting volume/capacity ratios and level of service on the 28 analyzed link segments with the addition of Phase I traffic. Phase I would have a significant impact at six roadway link locations in the a.m. peak period and at nine roadway link locations in the p.m. peak period.

TABLE 39
2000 FUTURE CONDITIONS WITH PHASE I ADP WITH MITIGATIONS - AM PEAK HOUR LEVELS OF SERVICE

Street Orientation	Existing Conditions: Dir.	Lanes	Class	2000 Background: Tot Cap.	Total Vol.	V/C	LOS	Phase 1: Total Vol.	V/C	LOS	Inc.	Impact	Phase 1 with Mitigation [11]: Tot Cap.	Proj. Trips	Total Vol.	V/C	LOS	Inc.	Impact
North-South Streets																			
1 Hill N/O College	N [8]	2	Secondary	2,350	230	0.098	A	260	0.111	A	0.013		2,350	26	256	0.109	A	0.011	
	S [8]	2	[1]	2,350	2,200	0.936	E	2,337	0.994	E	0.058	X	2,465	118	2,318	0.940	E	0.004	
2 Hill S/O Alpine	N [8]	2	Secondary	1,500	190	0.127	A	190	0.127	A	0.000		1,575	0	190	0.121	A	-0.006	
	S [8]	2	[2]	1,500	1,830	1.220	F	1,841	1.227	F	0.007		1,500	11	1,841	1.227	F	0.007	
3 Hill S/O Aliso	N [7]	2	Secondary	1,500	100	0.067	A	100	0.067	A	0.000		1,500	0	100	0.067	A	0.000	
	S [7]	3	[2]	2,250	1,600	0.711	C	1,611	0.716	C	0.005		2,250	11	1,611	0.716	C	0.005	
4 Pasadena S/O 5 Fwy	N [8]	2	Secondary	1,500	350	0.233	A	347	0.231	A	-0.002		1,500	-3	347	0.231	A	-0.002	
	S [8]	2	[2]	1,500	980	0.653	B	964	0.643	B	-0.011		1,500	-16	964	0.643	B	-0.011	
5 Broadway S/O 5 Fwy	N [8]	2	Major	1,500	740	0.493	A	767	0.511	A	0.018		1,500	23	763	0.509	A	0.015	
	S [8]	3		2,250	2,050	0.911	E	2,134	0.948	E	0.037	X	2,250	72	2,122	0.943	E	0.032	X
6 Broadway N/O Bishop	N [8]	2	Major	1,500	400	0.267	A	397	0.265	A	-0.002		1,500	-3	397	0.265	A	-0.002	
	S [8]	3		2,250	1,990	0.884	D	1,979	0.880	D	-0.005		2,250	-11	1,979	0.880	D	-0.005	
7 Broadway N/O College	N [8]	2	Major	1,500	360	0.240	A	359	0.239	A	-0.001		1,500	-1	359	0.239	A	-0.001	
	S [8]	2		1,500	1,210	0.807	D	1,202	0.801	D	-0.005		1,500	-10	1,200	0.800	C	-0.007	
8 Broadway S/O Alpine	N [8]	2	Secondary	1,500	490	0.327	A	489	0.326	A	-0.001		1,500	-1	489	0.326	A	-0.001	
	S [8]	2	[2]	1,500	1,030	0.687	B	1,022	0.681	B	-0.005		1,500	-10	1,020	0.680	B	-0.007	
9 Broadway S/O Sunset	N [7]	2	Secondary	1,500	540	0.360	A	462	0.308	A	-0.052		1,500	-78	462	0.308	A	-0.052	
	S [7]	2	[2]	1,500	1,010	0.673	B	1,029	0.686	B	0.013		1,500	18	1,028	0.685	B	0.012	
10 Broadway S/O Aliso	N [7]	3	Secondary	2,250	480	0.213	A	423	0.188	A	-0.025		2,250	-57	423	0.188	A	-0.025	
	S [7]	2	[2]	1,500	1,390	0.927	E	1,411	0.941	E	0.014		1,500	21	1,411	0.941	E	0.014	
11 N. Spring N/O Sotello	N	1	Major [3]	1,200	350	0.292	A	376	0.313	A	0.022		1,200	23	373	0.311	A	0.019	
	S	2		2,400	1,860	0.775	C	1,938	0.808	D	0.033		2,400	66	1,926	0.803	D	0.028	
12 Spring S/O Aliso																			
	S [7]	4	Major [4]	3,000	1,110	0.370	A	1,121	0.374	A	0.004		3,000	8	1,118	0.373	A	0.003	
13 N. Main S/O 5 Freeway	N [8]	2	Secondary	1,180	460	0.390	A	462	0.392	A	0.002		1,180	2	462	0.392	A	0.002	
	S [8]	2		1,180	1,240	1.051	F	1,278	1.083	F	0.032	X	1,180	35	1,275	1.081	F	0.030	X
14 N. Main N/O Sotello	N [8]	2	Secondary	1,180	320	0.271	A	322	0.273	A	0.002		1,180	2	322	0.273	A	0.002	
	S [8]	2		1,180	830	0.703	C	868	0.736	C	0.032		1,180	35	865	0.733	C	0.030	
15 Main S/O Aliso	N [7]	4	Secondary [2] [4]	3,000	1,080	0.360	A	1,214	0.405	A	0.045		3,750	112	1,192	0.318	A	-0.042	
16 Alameda S/O Temple	N [7]	2	Major	1,500	630	0.420	A	674	0.449	A	0.029		1,500	40	670	0.447	A	0.027	
	S [7]	2		1,500	1,590	1.060	F	1,599	1.066	F	0.006		1,500	8	1,598	1.065	F	0.005	
17 Los Angeles S/O Aliso	N [7]	3	Secondary	2,250	780	0.347	A	948	0.421	A	0.075		2,250	157	937	0.416	A	0.070	
	S [7]	3	[2]	2,250	1,810	0.804	D	1,833	0.815	D	0.010		2,250	20	1,830	0.813	D	0.009	
18 Los Angeles S/O Temple	N [7]	2	Secondary	1,500	720	0.480	A	883	0.589	A	0.109		1,500	152	872	0.581	A	0.101	
	S [7]	3	[2]	2,250	2,050	0.911	E	2,082	0.925	E	0.014		2,250	29	2,079	0.924	E	0.013	
19 Center S/O Jackson	N	1	Major	400	230	0.575	A	314	0.785	C	0.210	X	550	65	295	0.536	A	-0.039	
	S	1	[5]	400	390	0.975	E	404	1.010	F	0.035	X	550	11	401	0.729	C	-0.246	
20 Mission N/O Macy	N [8]	2	Major	1,500	750	0.500	A	754	0.503	A	0.003		1,500	4	754	0.503	A	0.003	
	S [8]	3		2,250	2,000	0.889	D	2,025	0.900	D	0.011		2,250	22	2,022	0.899	D	0.010	
East-West Streets																			
21 College W/O Hill	E [8]	2	Secondary	640	430	0.672	B	430	0.672	B	0.000		640	0	430	0.672	B	0.000	
	W	2	[5] [6]	600	510	0.850	D	510	0.850	D	0.000		600	0	510	0.850	D	0.000	
22 College E/O Hill[9]	E [8]	2	Secondary	640	580	0.906	E	691	1.080	F	0.173	X	2,400	107	1,134	0.473	A	-0.434	
	W [8]	2	[5] [6]	640	320	0.500	A	335	0.523	A	0.023								
23 College E/O Broadway[9]	E [8]	2	Secondary	640	230	0.359	A	341	0.533	A	0.173		2,400	107	774	0.323	A	-0.037	
	W [8]	2	[5] [6]	640	370	0.578	A	385	0.602	B	0.023								
24 College E/O Spring[9]	E	1	Secondary	400	80	0.200	A	93	0.233	A	0.033		400	9	143	0.358	A	0.158	
	W [8]	1	[5]	430	120	0.279	A	120	0.279	A	0.000		430	0	20	0.047	A	-0.233	
25 Alpine W/O Hill	E [8]	2	Local [6]	640	250	0.391	A	250	0.391	A	0.000		640	0	250	0.391	A	0.000	
	W [8]	2		640	440	0.688	B	443	0.692	B	0.005		640	2	442	0.691	B	0.003	
26 Alpine E/O Hill[9]	E [8]	2	Secondary	640	340	0.531	A	355	0.555	A	0.023								
	W [8]	2	[5] [6]	640	450	0.703	C	467	0.730	C	0.027		2,400	28	797	0.332	A	-0.371	
27 Alpine E/O Broadway[9]	E [8]	2	Secondary	640	340	0.531	A	355	0.555	A	0.023								
	W [8]	2	[5] [6]	640	460	0.719	C	477	0.745	C	0.027		2,400	28	857	0.357	A	-0.362	
28 Sunset E/O Hill	E [8]	3	Major	2,250	1,260	0.560	A	1,252	0.556	A	-0.004		2,250	-8	1,252	0.556	A	-0.004	
	W [7]	3		2,250	1,440	0.640	B	1,347	0.599	A	-0.041		2,250	-93	1,347	0.599	A	-0.041	

[1] Operates almost as freeway on/off ramp; capacity is halfway between major arterial and freeway ramp.
[2] Operates similarly to other major arterials in area; major arterial capacity used.
[3] Operates free-flow, without signals or interruptions, between College and I-5 Freeway; higher capacity used to represent free-flow cond.
[4] Capacity reduced from 750/lane to 700/lane to reflect high percentage of buses.
[5] Operates as collector or local street, despite higher functional classification.
[6] Capacity reduced 25% from 400 to 300 to account for pedestrian interference.
[7] Capacity increased due to adjacent ATSAC intersections.
[8] Capacity increased due to adjacent ATSAC intersections for phase 1 background only.
[9] Capacity and/or volume modified to reflect College/Alpine one-way pair.
[10] Negative project trips due to relocation of juror parking.
[11] Phase 1 with mitigation includes 5% increase in TDM & transit.

TABLE 40
2000 FUTURE CONDITIONS WITH PHASE 1 ADP WITH MITIGATIONS - PM PEAK HOUR LEVELS OF SERVICE

Street Orientation	Existing Condition			Phase 1 Background (Year 2000)				Phase 1					Phase 1 with Mitigation [11]						
	Dir.	Lanes	Class	Tot. Cap.	Total Vol.	V/C	LOS	Total Vol.	V/C	LOS	Inc.	Impact	Tot. Cap.	Proj. Trips	Total Vol.	V/C	LOS	Inc.	Impact
North-South Streets																			
1 Hill N/O College	N [8]	2	Secondary	2,350	1,880	0.800	C	2,012	0.856	D	0.056	X	2,350	115	1,995	0.849	D	0.049	X
	S [8]	2	[1]	2,350	1,130	0.481	A	1,198	0.510	A	0.029		2,465	64	1,194	0.484	A	0.004	
2 Hill S/O Alpine	N [8]	2	Secondary	1,500	1,110	0.740	C	1,122	0.748	C	0.008		1,575	12	1,122	0.712	C	-0.028	
	S [8]	2	[2]	1,500	780	0.520	A	780	0.520	A	0.000		1,500	0	780	0.520	A	0.000	
3 Hill S/O Aliso	N [7]	2	Secondary	1,500	720	0.480	A	732	0.488	A	0.008		1,500	12	732	0.488	A	0.008	
	S [7]	3	[2]	2,250	640	0.284	A	640	0.284	A	0.000		2,250	0	640	0.284	A	0.000	
4 Pasadena S/O 5 Fwy	N [8]	2	Secondary	1,500	730	0.487	A	719	0.479	A	-0.007		1,500	-11	719	0.479	A	-0.007	
	S [8]	2	[2]	1,500	400	0.267	A	395	0.263	A	-0.003		1,500	-5	395	0.263	A	-0.003	
5 Broadway S/O 5 Fwy	N [8]	3	Major	2,250	2,030	0.902	E	2,145	0.953	E	0.051	X	2,250	100	2,130	0.947	E	0.044	X
	S [8]	2		1,500	380	0.253	A	430	0.287	A	0.033		1,500	48	428	0.285	A	0.032	
6 Broadway N/O Bishop	N [8]	3	Major	2,250	1,720	0.764	C	1,715	0.762	C	-0.002		2,250	-5	1,715	0.762	C	-0.002	
	S [8]	2		1,500	610	0.407	A	605	0.403	A	-0.003		1,500	-5	605	0.403	A	-0.003	
7 Broadway N/O College	N [8]	2	Major	1,500	1,490	0.993	E	1,489	0.993	E	-0.001		1,500	-3	1,487	0.991	E	-0.002	
	S [8]	2		1,500	810	0.540	A	810	0.540	A	0.000		1,500	0	810	0.540	A	0.000	
8 Broadway S/O Alpine	N [8]	2	Secondary	1,500	1,430	0.953	E	1,429	0.953	E	-0.001		1,500	-3	1,427	0.951	E	-0.002	
	S [8]	2	[2]	1,500	690	0.460	A	690	0.460	A	0.000		1,500	0	690	0.460	A	0.000	
9 Broadway S/O Sunset	N [7]	2	Secondary	1,500	1,390	0.927	E	1,429	0.953	E	0.026	X	1,500	-3	1,387	0.925	E	-0.002	
	S [7]	2	[2]	1,500	600	0.400	A	469	0.313	A	-0.087		1,500	-105	495	0.330	A	-0.070	
10 Broadway S/O Aliso	N [7]	3	Secondary	2,250	1,380	0.613	B	1,478	0.657	B	0.044		2,250	98	1,478	0.657	B	0.044	
	S [7]	2	[2]	1,500	440	0.293	A	379	0.253	A	-0.041		1,500	-61	379	0.253	A	-0.041	
11 N. Spring N/O Sotello	N	2	Major [3]	2,400	1,640	0.683	B	1,750	0.729	C	0.046		2,400	94	1,734	0.723	C	0.039	
	S	2		2,400	400	0.167	A	450	0.188	A	0.021		2,400	48	448	0.187	A	0.020	
12 Spring S/O Aliso	S [7]	4	Major [4]	3,000	1,010	0.337	A	1,102	0.367	A	0.031		3,000	73	1,083	0.361	A	0.024	
13 N. Main S/O 5 Freeway	N [8]	2	Secondary	1,180	1,180	1.000	E	1,192	1.010	F	0.010		1,180	11	1,191	1.009	F	0.009	
	S [8]	2		1,180	590	0.500	A	604	0.512	A	0.012		1,180	13	603	0.511	A	0.011	
14 N. Main N/O Sotello	N [8]	2	Secondary	1,180	1,030	0.873	D	1,042	0.883	D	0.010		1,180	11	1,041	0.882	D	0.009	
	S [8]	2		1,180	320	0.271	A	334	0.283	A	0.012		1,180	13	333	0.282	A	0.011	
15 Main S/O Aliso	N [7]	4	Secondary [2] [4]	3,000	1,980	0.660	B	2,034	0.678	B	0.018		3,750	50	2,030	0.541	A	-0.119	
16 Alameda S/O Temple	N [7]	2	Major	1,500	1,850	1.233	F	1,873	1.249	F	0.015		1,500	22	1,872	1.248	F	0.015	
	S [7]	2		1,500	1,120	0.747	C	1,168	0.779	C	0.032		1,500	43	1,163	0.775	C	0.029	
17 Los Angeles S/O Aliso	N [7]	3	Secondary	2,250	2,000	0.889	D	2,076	0.923	E	0.034	X	2,250	73	2,073	0.921	E	0.032	X
	S [7]	3	[2]	2,250	590	0.262	A	769	0.342	A	0.080		2,250	165	755	0.336	A	0.073	
18 Los Angeles S/O Temple	N [7]	3	Secondary	2,250	1,730	0.769	C	1,803	0.801	D	0.032		2,250	71	1,801	0.800	C	0.032	
	S [7]	3	[2]	2,250	1,050	0.467	A	1,224	0.544	A	0.077		2,250	161	1,211	0.538	A	0.072	
19 Center S/O Jackson	N	1	Major	400	300	0.750	C	345	0.863	D	0.113	X	550	41	341	0.620	B	-0.130	
	S	1	[5]	400	310	0.775	C	333	0.833	D	0.058	X	550	11	321	0.584	A	-0.191	
20 Mission N/O Macy	N [8]	3	Major	2,250	1,410	0.627	B	1,436	0.638	B	0.012		2,250	24	1,434	0.637	B	0.011	
	S [8]	2		1,500	950	0.633	B	960	0.640	B	0.007		1,500	10	960	0.640	B	0.007	
East-West Streets																			
21 College W/O Hill	E [8]	2	Secondary	640	470	0.734	C	470	0.734	C	0.000		640	0	470	0.734	C	0.000	
	W	2	[5] [6]	600	330	0.550	A	330	0.550	A	0.000		600	0	330	0.550	A	0.000	
22 College E/O Hill[9]	E [8]	2	Secondary	640	450	0.703	C	487	0.761	C	0.058		2,400	64	953	0.397	A	-0.306	
	W [8]	2	[5] [6]	640	400	0.625	B	497	0.777	C	0.152	X					ERR		
23 College E/O Broadway[9]	E [8]	2	Secondary	640	410	0.641	B	447	0.698	B	0.058		2,400	64	1,043	0.435	A	-0.206	
	W [8]	2	[5] [6]	640	240	0.375	A	337	0.527	A	0.152						ERR		
24 College E/O Spring[9]	E	1	Secondary	400	370	0.925	E	373	0.933	E	0.007		400	3	510	1.275	F	0.350	X
	W [8]	1	[5]	430	80	0.186	A	80	0.186	A	0.000		430	0	20	0.047	A	-0.140	
25 Alpine W/O Hill	E [8]	2	Local [6]	640	430	0.672	B	430	0.672	B	0.000		640	0	430	0.672	B	0.000	
	W [8]	2		640	270	0.422	A	286	0.447	A	0.025		640	15	285	0.445	A	0.023	
26 Alpine E/O Hill[9]	E [8]	2	Secondary	640	440	0.688	B	470	0.734	C	0.047						ERR		
	W [8]	2	[5] [6]	640	420	0.656	B	460	0.719	C	0.063		2,400	118	936	0.390	A	-0.266	
27 Alpine E/O Broadway[9]	E [8]	2	Secondary	640	490	0.766	C	520	0.813	D	0.047	X					ERR		
	W [8]	2	[5] [6]	640	500	0.781	C	540	0.844	D	0.061	X	2,400	118	846	0.353	A	-0.429	
28 Sunset E/O Hill	E [8]	3	Major	2,250	1,660	0.738	C	1,578	0.701	C	-0.036		2,250	-82	1,578	0.701	C	-0.036	
	W [7]	3		2,250	1,440	0.640	B	1,406	0.625	B	-0.015		2,250	-37	1,403	0.624	B	-0.016	

[1] Operates almost as freeway on/off ramp; capacity is halfway between major arterial and freeway ramp.
[2] Operates similarly to other major arterials in area; major arterial capacity used.
[3] Operates free-flow, without signals or interruptions, between College and I-5 Freeway; higher capacity used to represent free-flow cond.
[4] Capacity reduced from 750/lane to 700/lane to reflect high percentage of buses.
[5] Operates as collector or local street, despite higher functional classification.
[6] Capacity reduced 25% from 400 to 300 to account for pedestrian interference.
[7] Capacity increased due to adjacent ATSAC intersections.
[8] Capacity increased due to adjacent ATSAC intersections for phase 1 background only.
[9] Capacity and/or volume modified to reflect College/Alpine one-way pair
[10] Negative project trips due to relocation of juror parking.
[11] Phase 1 with mitigation includes 5% increase in TDM & transit.

Intersection

As shown in Table 41, Phase I would create significant impacts at three intersections in the a.m. peak hour and five intersections in the p.m. peak hour.

Freeway

Table 42 shows the added project volumes on the analyzed freeway segments, and the resulting V/C ratios and level-of-service on these segments. Phase I would have a significant impact on only one freeway segment in the a.m. and only two segments in the p.m. peak hours.

Freeway Ramp

According to Table 43, Phase I would have a significant impact at only one freeway ramp location: the Vignes Street eastbound on-ramp to the US-101 in the p.m. peak hour. At all other ramp locations, Phase I would not increase ramp V/C ratios beyond those associated with LOS D.

Transit Impacts

The Transit Impact Analysis was based on transit forecasts available from the regional model. This model is based on a.m. peak only because transit trip making is typically higher and more concentrated in the a.m. peak rather than the p.m. peak.

Table 44 shows the number of a.m. peak hour transit trips generated by Phase I that would use each of the rail transit services at Union Station, and indicates available capacity before and after the addition of Phase I transit trips. As Table 44 indicates, Phase I would not have significant impacts on any of the rail transit systems at Union Station. Each segment of the rail system at Union Station would still have available capacity after the addition of Phase I transit trips, and LACMTA maximum policy load factors would not be exceeded in any instance.

Congestion Management Program

The Congestion Management Program requires EIRs to consider the impact of projects on the CMP system. CMP freeway segments must be included in the analysis if 150 or more trips are added in one direction in either peak period. CMP intersections must be analyzed if 50 or more trips are added to the intersection in either peak period. Table 45 shows those locations at which Phase I would add the threshold number of trips or more, and indicates Phase I impacts at those locations. Phase I would have a significant CMP impact in three instances: one in the a.m. peak period and two in the p.m. peak period.

TABLE 41

PHASE 1 WITH MITIGATIONS

INTERSECTION LEVELS OF SERVICE

	2000 BACKGROUND				Phase 1 (2000)								Phase 1 with Mitigations (2000)[1]							
	AM Peak		PM Peak		AM Peak				PM Peak				AM Peak				PM Peak			
Intersection	V/C	LOS	V/C	LOS	V/C	LOS	Inc.	Imp.	V/C	LOS	Inc.	Imp.	V/C	LOS	Inc.	Imp.	V/C	LOS	Inc.	Imp.
1. Alameda & Aliso	0.571 *	A	0.926 *	E	0.659 *	B	0.088		0.976 *	E	0.050	X	0.654 *	B	0.083		0.915 *	E	-0.011	
2. Alameda & Arcadia	0.663 *	B	0.672 *	B	0.680 *	B	0.017		0.699 *	B	0.027		0.679 *	B	0.016		0.699 *	B	0.027	
3. Alameda & Los Angeles	0.799 *	C	0.722 *	C	0.874 *	D	0.075	X	0.946 *	E	0.224	X	0.783 *	C	-0.016		0.815 *	D	0.093	X
4. Alameda & Cesar Chavez	0.707 *	C	0.806 *	D	0.726 *	C	0.019		0.946 *	E	0.140	X	0.721 *	C	0.014		0.889 *	D	0.083	X
5. N. Main & Cesar Chavez	0.516 *	A	0.648 *	B	0.553 *	A	0.037		0.658 *	B	0.010		0.548 *	A	0.032		0.657 *	B	0.009	
6. Alameda & N. Main	0.520 *	A	1.003 *	F	0.555 *	A	0.035		1.011 *	F	0.008		0.555 *	A	0.035		0.944 *	E	-0.059	
7. N. Main & Vignes	0.588 *	A	0.773 *	C	0.586 *	A	-0.002		0.720 *	C	-0.053		0.639 *	B	0.051		0.783 *	C	0.010	
8. Alameda & Alpine	0.574 *	A	0.771 *	C	0.652 *	B	0.078		0.836 *	D	0.065	X	0.644 *	B	0.070		0.660 *	B	-0.111	
9. Vignes & Cesar Chavez	0.784 *	C	0.922 *	E	0.844 *	D	0.060	X	0.977 *	E	0.055	X	0.809 *	D	0.025	X	0.845 *	D	-0.077	
10. Vignes & Ramirez/NB-101**	0.482 *	A	0.700 *	B	0.565 *	A	0.083		0.719 *	C	0.019		0.550 *	A	0.068		0.707 *	C	0.007	
11. Mission & Cesar Chavez	0.956 *	E	0.736 *	C	0.976 *	E	0.020	X	0.761 *	C	0.025		0.967 *	E	0.011	X	0.761 *	C	0.025	
12. Hewitt/Commercial & SB-101**	0.496	A	0.748	C	0.554 *	A	0.058		0.779	C	0.031		0.549	A	0.053		0.777	C	0.029	

* Includes adjustment for ATSAC. ATSAC currently installed at six study intersections; to be installed at five additional intersections by 1996.

** Currently unsignalized, but analyzed as signalized for comparison purposes.

[1] Phase 1 with mitigations includes 5% increase TDM transit.

TABLE 42
FREEWAY LINK ANALYSIS
PHASE I (2000) CONDITIONS WITH MITIGATIONS
AM PEAK HOUR

	2000 Background Conditions							Phase I Conditions (2000)						Phase I w/ Mitigations (2000)				
Location	Dir.	Lns.	Cap.	Total Volume	V/C	LOS	Project Trips	Total Volume	V/C	LOS	Inc.	Sig. Impact	Total Volume	V/C	LOS	Inc.	Sig. Impact
A. US-101 W/O Hill	N	4	8,000	8,270	1.034	F	-5	8,265	1.033	F	-0.001		8,261	1.033	F	-0.001	
	S	4	8,000	6,030	0.754	C	153	6,183	0.773	C	0.019		6,161	0.770	C	0.016	
B. US-101 W/O Mission	N	4	8,000	8,350	1.044	F	231	8,581	1.073	F	0.029	X	8,550	1.069	F	0.025	X
	S	4	8,000	5,830	0.729	C	48	5,878	0.735	C	0.006		5,871	0.734	C	0.005	
C. SR-110 Hill to Solano	N	4	8,000	4,310	0.539	A	28	4,338	0.542	A	0.004		4,334	0.542	A	0.003	
	S	5	10,000	8,790	0.879	D	196	8,986	0.899	D	0.020		8,966	0.897	D	0.018	
D. I-5 Main to Broadway	N	5	10,000	7,590	0.759	C	0	7,590	0.759	C	0.000		7,590	0.759	C	0.000	
	S	4	8,000	9,020	1.128	F	27	9,047	1.131	F	0.003		9,045	1.131	F	0.003	
E. I-5 Broadway to SR-110	N	4	8,000	7,190	0.899	D	16	7,206	0.901	D	0.002		7,204	0.901	D	0.002	
	S	3	6,000	8,560	1.427	F	71	8,631	1.439	F	0.012		8,634	1.439	F	0.012	

PM PEAK HOUR

	2000 Background Conditions							Phase I Conditions (2000)						Phase I w/ Mitigations (2000)				
Location	Dir.	Lns.	Cap.	Total Volume	V/C	LOS	Project Trips	Total Volume	V/C	LOS	Inc.	Sig. Impact	Total Volume	V/C	LOS	Inc.	Sig. Impact
A. US-101 W/O Hill	N	4	8,000	6,770	0.846	D	154	6,924	0.866	D	0.019		6,906	0.863	D	0.017	
	S	4	8,000	9,170	1.146	F	49	9,219	1.152	F	0.006		9,215	1.152	F	0.006	
B. US-101 W/O Mission	N	4	8,000	6,580	0.823	D	133	6,713	0.839	D	0.017		6,707	0.838	D	0.016	
	S	4	8,000	9,220	1.153	F	224	9,444	1.181	F	0.028	X	9,411	1.176	F	0.024	X
C. SR-110 Hill to Solano	N	4	8,000	8,390	1.049	F	210	8,600	1.075	F	0.026	X	8,581	1.073	F	0.024	X
	S	5	10,000	5,420	0.542	A	66	5,486	0.549	A	0.007		5,482	0.548	A	0.006	
D. I-5 Main to Broadway	N	5	10,000	10,190	1.019	F	0	10,190	1.019	F	0.000		10,190	1.019	F	0.000	
	S	4	8,000	7,260	0.908	E	9	7,269	0.909	E	0.001		7,269	0.909	E	0.001	
E. I-5 Broadway to SR-110	N	4	8,000	9,670	1.209	F	58	9,728	1.216	F	0.007		9,717	1.215	F	0.006	
	S	3	6,000	6,890	1.148	F	42	6,932	1.155	F	0.007		6,930	1.155	F	0.007	

Sources: AADT, peak hour % (2-way), and peak hour % (directional) - Caltrans Traffic Volumes on California State Highways (1992)
Number of lanes - Caltrans California Highway Log Book (1991) and field review.

TABLE 43
PHASE I (2000) CONDITIONS WITH MITIGATIONS
FREEWAY RAMP ANALYSIS

LOCATION	2000 Background Conditions Without ADP						Phase 1 Conditions (2000)										Phase 1 Conditions with Mitigations (2000)									
	Total Volume AM Peak			Total Volume PM Peak			AM Peak					PM Peak					AM Peak					PM Peak				
							Total Volume					Total Volume					Total Volume					Total Volume				
	Vol.	V/C	LOS	Vol.	V/C	LOS	Vol.	V/C	LOS	Inc.	Imp.	Vol.	V/C	LOS	Inc.	Imp.	Vol.	V/C	LOS	Inc.	Imp.	Vol.	V/C	LOS	Inc.	Imp.
US-101 (Santa Ana Freeway)																										
1 Vignes St. WB Off-Ramp	590	0.393	A	380	0.253	A	741	0.494	A	0.101		460	0.307	A	0.053		710	0.473	A	0.080		460	0.307	A	0.053	
2 Vignes St. WB On-Ramp	220	0.147	A	500	0.333	A	225	0.150	A	0.003		530	0.353	A	0.020		220	0.147	A	0.000		530	0.353	A	0.020	
3 Vignes St. EB On-Ramp	180	0.120	A	1,570	1.047	F	232	0.155	A	0.035		1,772	1.181	F	0.135	X	230	0.153	A	0.033		1,740	1.160	F	0.113	X
4 Alameda WB Off-Ramp	1,920	0.427	A	1,120	0.249	A	1,992	0.443	A	0.016		1,180	0.262	A	0.013		1,990	0.442	A	0.016		1,180	0.262	A	0.013	
5 Hewitt/Commercial EB On-Ramp (3)	110	0.110	A	320	0.320	A	113	0.113	A	0.003		339	0.339	A	0.019		110	0.110	A	0.000		340	0.340	A	0.020	
6 Hewitt/Commercial EB off-Ramp	720	0.480	A	320	0.213	A	862	0.575	A	0.095		373	0.249	A	0.035		870	0.580	A	0.100		370	0.247	A	0.033	
7 Los Angeles EB Off-Ramp	490	0.327	A	540	0.360	A	479	0.319	A	-0.007		538	0.359	A	-0.001		480	0.320	A	-0.007		540	0.360	A	0.000	
8 Los Angeles WB On-Ramp	750	0.500	A	840	0.560	A	777	0.518	A	0.018		1,017	0.678	B	0.118		770	0.513	A	0.013		1,010	0.673	B	0.113	
9 Mission St. WB On-Ramp	200	0.133	A	230	0.153	A	207	0.138	A	0.005		271	0.181	A	0.027		210	0.140	A	0.007		270	0.180	A	0.027	
SR-110 (Pasadena Freeway)																										
10 Hill St. SB Off-Ramp	930	0.310	A	940	0.313	A	1,067	0.356	A	0.046		1,008	0.336	A	0.023		1,050	0.350	A	0.040		1,000	0.333	A	0.020	
11 Hill St. NB On-Ramp	1,020	0.680	B	1,090	0.727	C	1,050	0.700	B	0.020		1,222	0.815	D	0.088		1,050	0.700	B	0.020		1,210	0.807	D	0.080	
I-5 (Golden State Freeway)																										
12 N. Main St. SB Off-Ramp	220	0.147	A	220	0.147	A	247	0.165	A	0.018		229	0.153	A	0.006		250	0.167	A	0.020		230	0.153	A	0.007	
13 N. Broadway NB On-Ramp	520	0.173	A	550	0.183	A	536	0.179	A	0.005		608	0.203	A	0.019		530	0.177	A	0.003		600	0.200	A	0.017	
14 N. Broadway SB Off-Ramp	460	0.307	A	480	0.320	A	482	0.321	A	0.015		507	0.338	A	0.018		480	0.320	A	0.013		510	0.340	A	0.020	

Source:
(1) ADT - Caltrans Ramp Volumes on the California State Freeway System, 1992.
(2) Peak Hour Splits - Caltrans Traffic Volumes on California State Highways, 1992.
(3) Stop Controlled On-Ramp reduces the capacity to approximately 1,000 vehicles per lane.

TABLE 44
RAIL LINE VOLUMES/CAPACITIES
PHASE I PROJECT CONDITIONS - YEAR 2000

Line	Direction & Location	Phase I Background (Year 2000)					With Phase I Project - (Year 2000)			
		Seated Capacity	Total Capacity	A.M. Peak Hour Volume	Load Factor	Available Capacity	Project Trips	Total Trips	Load Factor	Available Capacity
				(1)	(2)	(3)				
BLUE LINE	SB Chinatown > Union Station	2,160	3,996	3,200	1.48	796	155	3,355	1.55	641
	NB Union Station > Chinatown	2,160	3,996	1,000	0.46	2,996	15	1,015	0.47	2,981
RED LINE	WB East LA > Union Station	1,416	2,860	1,500	1.06	1,360	125	1,625	1.15	1,235
	EB Union Station > East LA	1,416	2,860	1,000	0.71	1,860	10	1,010	0.71	1,850
	WB Union Station > Civic Center	3,540	7,151	6,300	1.78	851	135	6,435	1.82	716
	EB Civic Center > Union Station	3,540	7,151	2,000	0.56	5,151	410	2,410	0.68	4,741
METROLINK	all into Union Station	7,198	7,198	4,800	0.67	2,398	390	5,190	0.72	2,008

1. Red and Blue Line 2000 volumes derived by MPA from forecast and other prior studies.
2. Projected load factor is estimated volume divided by seated capacity.
   Maximum policy load factors for proposed headways are:
   - Blue Line: 1.85
   - Red Line: 2.02
   - Metrolink: 1.00
3. Available capacity is based on policy load factors and year 2000 assumed operating plans (see Table 2.1).

Source: Manuel Padron & Associates

TABLE 45
CMP ANALYSIS
PHASE I (2000) CONDITIONS
AM PEAK HOUR

	Existing Conditions						2000 Background Conditions			Phase I Conditions (2000)					
Location	Dir.	Lns.	Cap.	Pk. Hr. Volume	V/C	LOS	Pk. Hr. Volume	V/C	LOS	Trips Added	Pk. Hr. Volume	V/C	LOS	Increase in V/C	Sig. Impact
U.S. 101 @ Los Angeles St.	S	5	10000	12600	1.260	F1	13,310	1.331	F1	166	13,476	1.348	F1	0.017	
S.R. 110 s/o U.S. 101	N/S	4	8000	10080	1.260	F1	NA	NA	NA	NA	NA	NA	NA	NA	
I-5 @ Stadium Way	S	5	10000	13600	1.360	F2	14,360	1.436	F2	198	14,558	1.456	F3	0.020	[1]

PM PEAK HOUR

	Existing Conditions						2000 Background Conditions			Phase I Conditions (2000)					
Location	Dir.	Lns.	Cap.	Pk. Hr. Volume	V/C	LOS	Pk. Hr. Volume	V/C	LOS	Trips Added	Pk. Hr. Volume	V/C	LOS	Increase in V/C	Sig. Impact
U.S. 101 @ Los Angeles St.	N	4	8000	10880	1.360	F2	11,490	1.436	F2	200	11,690	1.461	F3	0.025	X
S.R. 110 s/o U.S. 101	N	4	8000	11000	1.375	F2	11,620	1.453	F2	164	11,784	1.473	F3	0.020	X
I-5 @ Stadium Way	N	5	10000	12600	1.260	F1	13,310	1.331	F1	151	13,461	1.346	F1	0.015	

NA = Not Applicable. Less than 150 trips added.

1. Actual V/C ratio increase is only 0.0198, just under the significant impact criterion.

As Table 45 indicates, these impacts in most cases barely exceed the threshold for significance. With respect to CMP intersections, there are none for which the Phase I Project would add sufficient trips to require analysis of impacts.

Buildout Phase Impacts

Trip Volume

At Buildout Phase, there will be a total of 109,780 daily person trips generated by the ADP, of which 55,950 trips will be by transit and 40,210 by vehicle (auto and rideshare). P.M. peak hour trips at the Buildout Phase will total 14,050 trips, of which 8,975 will be in transit, and 3,385 in vehicles.

Roadway Link

Tables 46 and 47 show the volume/capacity ratios and level-of-service on the 28 analyzed link segments at the Buildout Phase. The Buildout Phase would have a significant impact at nine locations in the a.m. peak period and 11 locations in the p.m. peak period.

Intersection

According to Table 48, the buildout Phase would create significant impacts at seven intersections in the a.m. peak hour and 10 intersections in the p.m. peak hour.

Freeway

Table 49 shows the added project volumes on the analyzed freeway segments, and the resulting V/C ratios and LOS on these segments. Buildout Phase would have a significant impact on two freeway segments in the a.m. peak hour, and three segments in the p.m. peak hour.

Freeway Ramp

Table 50 summarizes the added project volumes on the analyzed freeway ramps, and the resulting V/C ratios and LOS. Buildout Phase would have a significant impact at only one freeway ramp location, in the p.m. peak hour. At all other ramp locations, Buildout Phase would not increase ramp V/C ratios beyond those associated with LOS D.

TABLE 44

2010 FUTURE CONDITIONS WITH BUILDOUT ADP WITH MITIGATIONS - AM PEAK HOUR LINK LEVELS OF SERVICE

Street Orientation	Existing Conditions: Dir.	Lanes	Class	2010 Background: Tot. Cap.	Total Vol.	V/C	LOS	Project Buildout (2010): Proj. Trips	Total Vol.	V/C	LOS	Inc.	Impact	Project Buildout with Mitigations (2010): Tot. Cap.	Proj. Trips	Total Vol.	V/C	LOS	Inc.	Impact
North-South Streets																				
1 Hill N/O College	N	2	Secondary	2,350	250	0.106	A	38	288	0.123	A	0.016		2,350	38	288	0.123	A	0.016	
	S	2	[1] [8]	2,350	2,400	1.021	F	196	2,596	1.105	F	0.083	X	2,350	196	2,401	1.022	F	0.001	
2 Hill S/O Alpine	N	2	Secondary	1,500	200	0.133	A	0	200	0.133	A	0.000		1,500	0	200	0.133	A	0.000	
	S	2	[2] [8]	1,500	1,990	1.327	F	24	2,014	1.343	F	0.016		1,500	24	2,014	1.343	F	0.016	
3 Hill S/O Aliso	N	2	Secondary	1,500	110	0.073	A	0	110	0.073	A	0.000		1,500	0	110	0.073	A	0.000	
	S	3	[2] [7]	2,250	1,740	0.773	C	11	1,751	0.778	C	0.005		2,250	11	1,751	0.778	C	0.005	
4 Pasadena S/O 5 Fwy	N	2	Secondary	1,500	380	0.253	A	2	378	0.252	A	-0.001		1,500	-2	378	0.252	A	-0.001	
	S	2	[2] [8]	1,500	1,070	0.713	C	117	1,187	0.791	C	0.078		1,500	117	1,187	0.791	C	0.078	
5 Broadway S/O 5 Fwy	N	2	Major	1,500	810	0.540	A	83	893	0.595	A	0.055		1,500	83	893	0.595	A	0.055	
	S	3	[8]	2,250	2,280	1.013	F	166	2,446	1.087	F	0.074	X	3,000	166	2,677	0.892	D	-0.121	
6 Broadway N/O Bishops	N	2	Major	1,500	430	0.287	A	-2	428	0.285	A	-0.001		1,500	-2	428	0.285	A	-0.001	
	S	3	[8]	2,250	2,170	0.964	E	-8	2,162	0.961	E	-0.004		2,250	-8	2,162	0.961	E	-0.004	
7 Broadway N/O College	N	2	Major	1,500	400	0.267	A	9	409	0.273	A	0.006		1,500	-9	391	0.261	A	-0.006	
	S	2	[8]	1,500	1,320	0.880	D	-14	1,306	0.871	D	-0.009		1,500	-14	1,306	0.871	D	-0.009	
8 Broadway S/O Alpine	N	2	Secondary	1,500	530	0.353	A	2	532	0.355	A	0.001		1,500	2	532	0.355	A	0.001	
	S	2	[8]	1,500	1,120	0.747	C	-14	1,106	0.737	C	-0.009		1,500	-14	1,106	0.737	C	-0.009	
9 Broadway S/O Sunset	N	2	Secondary	1,500	590	0.393	A	-48	542	0.361	A	-0.032		1,500	-48	510	0.340	A	-0.053	
	S	2	[2] [7]	1,500	1,100	0.733	C	44	1,144	0.763	C	0.029		1,500	44	1,144	0.763	C	0.029	
10 Broadway S/O Aliso	N	3	Secondary	2,250	520	0.231	A	-59	461	0.205	A	-0.026		2,250	-59	461	0.205	A	-0.026	
	S	2	[2] [7]	1,500	1,520	1.013	F	27	1,547	1.031	F	0.018		1,500	27	1,547	1.031	F	0.018	
11 N. Spring N/O Sotello	N	1	Major [3]	1,200	380	0.317	A	89	469	0.391	A	0.074		1,320	83	463	0.351	A	0.034	
	S	2		2,400	2,070	0.863	D	290	2,360	0.983	E	0.121	X	2,640	290	2,591	0.981	E	0.118	X
12 Spring S/O Aliso																				
	S	4	Major [4] [7]	3,000	1,210	0.403	A	150	1,360	0.453	A	0.050		3,000	156	1,425	0.475	A	0.072	
13 N. Main S/O 5 Freeway	N	2	Secondary	1,180	500	0.424	A	5	505	0.428	A	0.004		1,180	5	505	0.428	A	0.004	
	S	2	[8]	1,180	1,400	1.186	F	45	1,445	1.225	F	0.038	X	1,180	45	1,409	1.194	F	0.008	
14 N. Main N/O Sotello	N	2	Secondary	1,180	350	0.297	A	2	352	0.298	A	0.002		1,180	2	352	0.298	A	0.002	
	S	2	[8]	1,180	960	0.814	D	31	991	0.840	D	0.026		1,180	31	955	0.809	D	-0.004	
15 Main S/O Aliso	N	5	Secondary [2] [4] [7]	3,750	1,170	0.312	A	463	1,633	0.435	A	0.123		3,750	491	1,715	0.457	A	0.145	
16 Alameda S/O Temple	N	2	Major	1,500	700	0.467	A	86	786	0.524	A	0.057		2,250	86	786	0.349	A	-0.117	
	S	2	[7]	1,500	1,750	1.167	F	25	1,775	1.183	F	0.017		2,250	25	1,625	0.722	C	-0.444	
17 Los Angeles S/O Aliso	N	3	Secondary	2,250	880	0.391	A	111	991	0.440	A	0.049		2,250	83	909	0.404	A	0.011	
	S	3	[2] [7]	2,250	2,070	0.920	E	38	2,108	0.937	E	0.017		2,250	38	2,049	0.911	E	-0.009	
18 Los Angeles S/O Temple	N	2	Secondary	1,500	800	0.533	A	107	907	0.605	B	0.071		1,500	107	907	0.605	B	0.071	
	S	3	[2] [7]	2,250	2,310	1.027	F	47	2,357	1.048	F	0.021	X	2,250	47	2,357	1.048	F	0.021	X
19 Center S/O Jackson	N	1	Major	400	250	0.625	B	258	508	1.270	F	0.645	X	800	258	508	0.635	B	0.010	
	S	1	[5]	400	430	1.075	F	34	464	1.160	F	0.085	X	800	34	464	0.580	A	-0.495	
20 Mission N/O Chavez	N	2	Major	1,500	820	0.547	A	11	831	0.554	A	0.007		1,500	11	831	0.554	A	0.007	
	S	3	[8]	2,250	2,200	0.978	E	45	2,245	0.998	E	0.020	X	2,250	45	2,245	0.998	E	0.020	X
East-West Streets																				
21 College W/O Hill	E [8]	2	Secondary	640	470	0.734	C	0	470	0.734	C	0.000		640	0	470	0.734	C	0.000	
	W	2	[5] [6]	600	550	0.917	E	0	550	0.917	E	0.000		600	0	550	0.917	E	0.000	
22 College E/O Hill (9)	E	2	Secondary	2,400	1,130	0.471	A	246	1,376	0.573	A	0.103		2,400	246	1,376	0.573	A	0.103	
	W	2	[5] [6] [8]																0.000	
23 College E/O Broadway [9]	E	2	Secondary	2,400	730	0.304	A	246	976	0.407	A	0.103		2,400	246	976	0.407	A	0.103	
	W	2	[5] [6] [8]																0.000	
24 College E/O Spring [9]	E	1	Secondary	400	90	0.225	A	215	305	0.763	C	0.538	X	640	215	305	0.477	A	0.252	
	W [8]	1	[5]	430	20	0.047	A	53	73	0.170	A	0.123		640	53	73	0.114	A	0.068	
25 Alpine W/O Hill	E	2	Local	640	280	0.438	A	0	280	0.438	A	0.000		640	0	280	0.438	A	0.000	
	W	2	[6] [8]	640	480	0.750	C	5	485	0.758	C	0.008		640	5	485	0.758	C	0.008	
26 Alpine E/O Hill [9]	E	2	Secondary																0.000	
	W	2	[5] [6] [8]	2,400	840	0.350	A	43	883	0.368	A	0.018		2,400	43	883	0.368	A	0.018	
27 Alpine E/O Broadway [9]	E	2	Secondary													0			0.000	
	W	2	[5] [6] [8]	2,400	900	0.375	A	49	949	0.395	A	0.020		2,400	49	949	0.395	A	0.020	
28 Chavez E/O Hill	E [8]	3	Major	2,250	1,420	0.631	B	11	1,431	0.636	B	0.005		2,250	11	1,431	0.636	B	0.005	
	W [7]	3		2,250	1,600	0.711	C	-88	1,512	0.672	B	-0.039		2,250	-88	1,512	0.672	B	-0.039	

[1] Operates almost as freeway on/off ramp, capacity is halfway between major arterial and freeway ramp
[2] Operates similarly to other major arterials in area, major arterial capacity used
[3] Operates free-flow, without signals or interruptions, between College and I-5 Freeway, higher capacity used to represent free-flow cond
[4] Capacity reduced from 750/lane to 700/lane to reflect high percentage of buses
[5] Operates as collector or local street, despite higher functional classification
[6] Capacity reduced 25% from 400 to 300 to account for pedestrian interference
[7] Capacity increased due to adjacent ATSAC intersections
[8] Capacity increased due to adjacent ATSAC intersections for phase 1 background only
[9] Capacity and/or volume modified to reflect College/Alpine one-way pair

TABLE 47

2010 FUTURE CONDITIONS WITH BUILDOUT ADP WITH MITIGATIONS - PM PEAK HOUR LINK LEVELS OF SERVICE

	Existing Conditions			2010 Background				Project Buildout (2010)						Project Buildout with Mitigations (2010)						
Street Orientation	Dir.	Lanes	Class	Tot. Cap.	Total Vol.	V/C	LOS	Proj. Trips	Total Vol.	V/C	LOS	Inc.	Impact	Tot. Cap.	Proj. Trips	Total Vol.	V/C	LOS	Inc.	Impact
North-South Streets																				
1 Hill N/O College	N	2	Secondary	2,350	2,050	0.872	D	146	2,196	0.934	E	0.062	X	2,350	146	2,031	0.864	D	-0.008	
	S	2	[1] [8]	2,350	1,230	0.523	A	99	1,329	0.566	A	0.042		2,350	99	1,329	0.566	A	0.042	
2 Hill S/O Alpine	N	2	Secondary	1,500	1,210	0.807	D	12	1,222	0.815	D	0.008		1,500	12	1,222	0.815	D	0.008	
	S	2	[2] [8]	1,500	850	0.567	A	8	858	0.572	A	0.005		1,500	8	858	0.572	A	0.005	
3 Hill S/O Aliso	N	2	Secondary	1,500	780	0.520	A	12	792	0.528	A	0.008		1,500	12	792	0.528	A	0.008	
	S	3	[2] [7]	2,250	700	0.311	A	1	701	0.312	A	0.000		2,250	1	701	0.312	A	0.000	
4 Pasadena S/O 5 Fwy	N	2	Secondary	1,500	790	0.527	A	-7	783	0.522	A	-0.005		1,500	-7	783	0.522	A	-0.005	
	S	2	[2] [8]	1,500	430	0.287	A	60	490	0.327	A	0.040		1,500	60	490	0.327	A	0.040	
5 Broadway S/O 5 Fwy	N	3	Major	2,250	2,260	1.004	F	310	2,570	1.142	F	0.138	X	3,000	310	2,769	0.923	E	-0.081	
	S	2	[8]	1,500	420	0.280	A	91	511	0.341	A	0.061		1,500	91	511	0.341	A	0.061	
6 Broadway N/O Bishops	N	3	Major	2,250	1,870	0.831	D	-1	1,869	0.831	D	-0.000		2,250	-1	1,869	0.831	D	-0.000	
	S	2	[8]	1,500	660	0.440	A	-2	658	0.439	A	-0.001		1,500	-2	658	0.439	A	-0.001	
7 Broadway N/O College	N	2	Major [1]	1,500	1,620	1.080	F	26	1,646	1.097	F	0.017		1,500	26	1,646	1.097	F	0.017	
	S	2	[8]	1,500	890	0.593	A	0	890	0.593	A	0.000		1,500	0	890	0.593	A	0.000	
8 Broadway S/O Alpine	N	2	Secondary	1,500	1,570	1.047	F	7	1,577	1.051	F	0.005		1,500	7	1,577	1.051	F	0.005	
	S	2	[8]	1,500	750	0.500	A	0	750	0.500	A	0.000		1,500	0	750	0.500	A	0.000	
9 Broadway S/O Sunset	N	2	Secondary	1,500	1,520	1.013	F	45	1,565	1.043	F	0.030	X	1,500	45	1,465	0.977	E	-0.037	
	S	2	[2] [7]	1,500	660	0.440	A	-67	593	0.395	A	-0.045		1,500	-67	593	0.395	A	-0.045	
10 Broadway S/O Aliso	N	3	Secondary	2,250	1,510	0.671	B	96	1,606	0.714	C	0.043		2,250	96	1,606	0.714	C	0.043	
	S	2	[2] [7]	1,500	480	0.320	A	-60	420	0.280	A	-0.040		1,500	-60	420	0.280	A	-0.040	
11 N. Spring N/O Sotello	N	2	Major [3]	2,400	1,840	0.767	C	305	2,145	0.894	D	0.127	X	2,640	305	2,344	0.888	D	0.121	X
	S	2		2,400	440	0.183	A	154	594	0.248	A	0.064		2,640	154	594	0.225	A	0.042	
12 Spring S/O Aliso																				
	S	4	Major [4] [7]	3,000	1,110	0.370	A	372	1,482	0.494	A	0.124		3,000	372	1,482	0.494	A	0.124	
13 N. Main S/O 5 Freeway	N	2	Secondary	1,180	1,330	1.127	F	23	1,353	1.147	F	0.019		1,180	23	1,319	1.118	F	-0.009	
	S	2	[8]	1,180	640	0.542	A	20	660	0.559	A	0.017		1,180	20	660	0.559	A	0.017	
14 N. Main N/O Sotello	N	2	Secondary	1,180	1,180	1.000	E	9	1,189	1.008	F	0.008		1,180	9	1,155	0.979	E	-0.021	
	S	2	[8]	1,180	350	0.297	A	13	363	0.308	A	0.011		1,180	13	363	0.308	A	0.011	
15 Main S/O Aliso	N	5	Secondary [2] [4] [7]	3,750	2,160	0.576	A	177	2,337	0.623	B	0.047		3,750	193	2,458	0.655	B	0.079	
16 Alameda S/O Temple	N	2	Major	1,500	2,040	1.360	F	52	2,092	1.395	F	0.035	X	2,250	52	2,092	0.930	E	-0.430	
	S	2	[7]	1,500	1,240	0.827	D	90	1,330	0.887	D	0.060	X	2,250	90	1,245	0.553	A	-0.273	
17 Los Angeles S/O Aliso	N	3	Secondary	2,250	2,270	1.009	F	102	2,372	1.054	F	0.045	X	2,250	86	2,251	1.000	E	-0.008	
	S	3	[2] [7]	2,250	690	0.307	A	185	875	0.389	A	0.082		2,250	185	875	0.389	A	0.082	
18 Los Angeles S/O Temple	N	3	Secondary	2,250	1,950	0.867	D	99	2,049	0.911	E	0.044	X	2,250	99	2,049	0.911	E	0.044	X
	S	3	[2] [7]	2,250	1,170	0.520	A	179	1,349	0.600	A	0.080		2,250	179	1,349	0.600	A	0.080	
19 Center S/O Jackson	N	1	Major	400	330	0.825	D	101	431	1.078	F	0.253	X	800	101	431	0.539	A	-0.286	
	S	1	[5]	400	340	0.850	D	112	452	1.130	F	0.280	X	800	112	452	0.565	A	-0.285	
20 Mission N/O Chavez	N	3	Major	2,250	1,560	0.693	B	46	1,606	0.714	C	0.020		2,250	46	1,606	0.714	C	0.020	
	S	2	[8]	1,500	1,040	0.693	B	22	1,062	0.708	C	0.015		1,500	22	1,062	0.708	C	0.015	
East-West Streets																				
21 College W/O Hill	E [8]	2	Secondary	640	520	0.813	D	0	520	0.813	D	0.000		640	0	520	0.813	D	0.000	
	W	2	[5] [6]	600	360	0.600	A	0	360	0.600	A	0.000		600	0	360	0.600	A	0.000	
22 College E/O Hill (9)	E	2	Secondary	2,400	1,080	0.450	A	95	1,175	0.490	A	0.040		2,400	95	1,175	0.490	A	0.040	
	W	2	[5] [6] [8]																0.000	
23 College E/O Broadway (9)	E	2	Secondary	2,400	1,080	0.450	A	96	1,176	0.490	A	0.040		2,400	96	1,176	0.490	A	0.040	
	W	2	[5] [6] [8]																0.000	
24 College E/O Spring (9)	E	1	Secondary	400	400	1.000	E	100	500	1.250	F	0.250	X	640	100	500	0.781	C	-0.219	
	W [8]	1	[5]	430	20	0.047	A	217	237	0.551	A	0.505		640	217	237	0.370	A	0.324	
25 Alpine W/O Hill	E	2	Local	640	470	0.734	C	0	470	0.734	C	0.000		640	0	470	0.734	C	0.000	
	W	2	[6] [8]	640	290	0.453	A	28	318	0.497	A	0.044		640	28	318	0.497	A	0.044	
26 Alpine E/O Hill (9)	E	2	Secondary																0.000	
	W	2	[5] [6] [8]	2,400	900	0.375	A	162	1,062	0.443	A	0.068		2,400	162	1,062	0.443	A	0.068	
27 Alpine E/O Broadway (9)	E	2	Secondary																0.000	
	W	2	[5] [6] [8]	2,400	790	0.329	A	181	971	0.405	A	0.075		2,400	181	971	0.405	A	0.075	
28 Chavez E/O Hill	E [8]	3	Major	2,250	1,830	0.813	D	-72	1,758	0.781	C	-0.032		2,250	-72	1,758	0.781	C	-0.032	
	W [7]	3		2,250	1,610	0.716	C	12	1,598	0.710	C	-0.005		2,250	-12	1,598	0.710	C	-0.005	

[1] Operates almost as freeway on/off ramp, capacity is halfway between major arterial and freeway ramp.
[2] Operates similarly to other major arterials in area; major arterial capacity used.
[3] Operates free-flow, without signals or interruptions, between College and I-5 Freeway; higher capacity used to represent free-flow cond.
[4] Capacity reduced from 750/lane to 700/lane to reflect high percentage of buses.
[5] Operates as collector or local street, despite higher functional classification.
[6] Capacity reduced 25% from 400 to 300 to account for pedestrian interference
[7] Capacity increased due to adjacent ATSAC intersections
[8] Capacity increased due to adjacent ATSAC intersections for phase 1 background only
[9] Capacity and/or volume modified to reflect College/Alpine one-way pair

TABLE 48

2010 CONDITIONS WITH MITIGATIONS

INTERSECTION LEVELS OF SERVICE

Scenario:	Existing				2010 BACKGROUND			
	AM Peak		PM Peak		AM Peak		PM Peak	
Intersection	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS
1. Alameda & Aliso	0.457 *	A	0.811 *	D	0.631 *	B	1.021 *	F
2. Alameda & Arcadia	0.557 *	A	0.582 *	A	0.728 *	C	0.739 *	C
3. Alameda & Los Angeles	0.449 *	A	0.436 *	A	0.921 *	E	0.825 *	D
4. Alameda & Cesar Chavez	0.643 *	B	0.637 *	B	0.775 *	C	0.897 *	D
5. N. Main & Cesar Chavez	0.453 *	A	0.561 *	A	0.567 *	A	0.716 *	C
6. Alameda & N. Main	0.450 *	A	0.676 *	B	0.588 *	A	1.104 *	F
7. N. Main & Vignes	0.509	A	0.616	B	0.746 *	C	0.931 *	E
8. Alameda & Alpine	0.561	A	0.707	C	0.634 *	B	0.867 *	D
9. Vignes & Cesar Chavez	0.755	C	0.817	D	0.849 *	D	0.894 *	D
10. Vignes & Ramirez/NB-101**	0.377	A	0.436	A	0.635 *	B	0.802 *	D
11. Mission & Cesar Chavez	0.962	B	0.769	C	1.059 *	F	0.809 *	D
12. Howitt/Commercial & SB-101**	0.394	A	0.521	A	0.521	A	0.813	D

Scenario:	Buildout (2010)								Buildout with Mitigations (2010)							
	AM Peak				PM Peak				AM Peak				PM Peak			
Intersection	V/C	LOS	Inc.	Imp.	V/C	LOS	Inc.	Imp.	V/C	LOS	Inc.	Imp.	V/C	LOS	Inc.	Imp.
1. Alameda & Aliso	0.710 *	C	0.079	X	1.138 *	F	0.117	X	0.639 *	B	0.008		1.022 *	F	0.001	
2. Alameda & Arcadia	0.763 *	C	0.035		0.781 *	C	0.042	X	0.762 *	C	0.034		0.734 *	C	-0.005	
3. Alameda & Los Angeles	0.862 *	D	-0.059		0.802 *	D	-0.023		0.805 *	D	-0.116		0.763 *	C	-0.062	
4. Alameda & Cesar Chavez	0.879 *	D	0.104	X	1.032 *	F	0.135	X	0.854 *	D	0.079	X	0.885 *	D	-0.012	
5. N. Main & Cesar Chavez	0.660 *	B	0.093		0.804 *	D	0.088	X	0.651 *	B	0.084		0.804 *	D	0.088	X
6. Alameda & N. Main	0.634 *	B	0.046		1.062 *	F	-0.042		0.634 *	B	0.046		0.996 *	E	-0.108	
7. N. Main & Vignes	0.807 *	D	0.061	X	0.948 *	E	0.017	X	0.780 *	C	0.034		0.863 *	D	-0.068	
8. Alameda & Alpine	0.710 *	C	0.076	X	0.931 *	E	0.064	X	0.710 *	C	0.076	X	0.751 *	C	-0.116	
9. Vignes & Cesar Chavez	0.945 *	E	0.096	X	1.001 *	F	0.107	X	0.945 *	E	0.096	X	0.889 *	D	-0.005	
10. Vignes & Ramirez/NB-101**	0.823 *	D	0.188	X	0.908 *	E	0.106	X	0.823 *	D	0.188	X	0.908 *	E	0.106	X
11. Mission & Cesar Chavez	1.101 *	F	0.042	X	0.853 *	D	0.044	X	1.057 *	F	-0.002		0.831 *	D	0.022	X
12. Howitt/Commercial & SB-101**	0.596 *	A	0.075		0.862	D	0.049	X	0.435	A	-0.086		0.369	A	-0.444	

* Includes adjustment for ATSAC. ATSAC currently installed at six study intersections; to be installed at five additional intersections by 1996.

** Currently unsignalized, but analyzed as signalized for comparison purposes.

TABLE 49
FREEWAY LINK ANALYSIS
PROJECT BUILDOUT (2010) CONDITIONS WITH MITIGATIONS
AM PEAK HOUR

	2010 Background Conditions								Project Buildout Conditions (2010)						Project Buildout With Mitigation (2010)					
Location	Dir.	Lanes	Cap.	Transit Trips	Bckgd. Growth	Total Volume	V/C	LOS	Project Trips	Total Volume	V/C	LOS	Inc.	Sig. Impact	Proj. Trips	Total Volume	V/C	LOS	Inc.	Sig. Impact
A. US-101 W/O Hill	N	4	8000	7	669	8,590	1.074	F	32	8,620	1.078	F	0.004		32	8,620	1.078	F	0.004	
	S	4	8000	72	605	6,240	0.780	C	290	6,530	0.816	D	0.036		290	6,530	0.816	D	0.036	
B. US-101 W/O Mission	N	4	8000	308	1,013	8,790	1.099	F	459	9,250	1.156	F	0.058	X	459	9,250	1.156	F	0.058	X
	S	4	8000	0	470	6,000	0.750	C	136	6,140	0.768	C	0.017		-7	5,660	0.708	C	-0.043	
C. SR-110 Hill to Solano	N	4	8000	0	420	4,510	0.564	A	46	4,560	0.570	A	0.006		46	4,560	0.570	A	0.006	
	S	5	10000	0	867	9,210	0.921	E	244	9,450	0.945	E	0.024		244	9,260	0.926	E	0.005	
D. I-5 Main to Broadway	N	5	10000	0	757	7,970	0.797	C	0	7,970	0.797	C	0.000		0	7,970	0.797	C	0.000	
	S	4	8000	0	900	9,470	1.184	F	22	9,490	1.186	F	0.002		22	9,490	1.186	F	0.002	
E. I-5 Broadway to SR-110	N	4	8000	0	723	7,550	0.944	E	62	7,610	0.951	E	0.007		62	7,610	0.951	E	0.007	
	S	3	6000	0	870	8,990	1.498	F	223	9,210	1.535	F	0.037	X	223	9,410	1.568	F	0.070	X

PM PEAK HOUR

	2010 Background Conditions								Project Buildout Conditions (2010)						Project Buildout With Mitigation (2010)					
Location	Dir.	Lanes	Cap.	Transit Trips	Bckgd. Growth	Total Volume	V/C	LOS	Project Trips	Total Volume	V/C	LOS	Inc.	Sig. Impact	Project Trips	Total Volume	V/C	LOS	Inc.	Sig. Impact
A. US-101 W/O Hill	N	4	8000	72	653	7,000	0.875	D	255	7,260	0.908	E	0.033		255	7,260	0.908	E	0.033	
	S	4	8000	7	737	9,530	1.191	F	127	9,660	1.208	F	0.016		127	9,660	1.208	F	0.016	
B. US-101 W/O Mission	N	4	8000	14	540	6,780	0.848	D	279	7,060	0.883	D	0.035		279	7,060	0.883	D	0.035	
	S	4	8000	308	1,071	9,700	1.213	F	495	10,200	1.275	F	0.063	X	2	7,640	0.955	E	-0.258	
C. SR-110 Hill to Solano	N	4	8000	0	825	8,790	1.099	F	249	9,040	1.130	F	0.031	X	249	8,870	1.109	F	0.010	
	S	5	10000	0	526	5,680	0.568	A	97	5,780	0.578	A	0.010		97	5,780	0.578	A	0.010	
D. I-5 Main to Broadway	N	5	10000	0	1,016	10,700	1.070	F	0	10,700	1.070	F	0.000		0	10,700	1.070	F	0.000	
	S	4	8000	0	725	7,620	0.953	E	9	7,630	0.954	E	0.001		9	7,630	0.954	E	0.001	
E. I-5 Broadway to SR-110	N	4	8000	0	978	10,150	1.269	F	221	10,370	1.296	F	0.028	X	221	10,540	1.318	F	0.049	X
	S	3	6000	0	692	7,230	1.205	F	122	7,350	1.225	F	0.020		122	7,350	1.225	F	0.020	

Source: AADT, peak hour (2-way), and peak hour % (directional) - Caltrans Traffic Volumes of California State Highways (1992)
Number of lanes - Caltrans California Highway Log Book (1991) and field review.

TABLE 50
PROJECT BUILDOUT CONDITIONS (YEAR 2010)
FREEWAY RAMP ANALYSIS

Location	2010 Background Conditions Without ADP						Project Buildout Conditions (2010)										Project Buildout with Mitigation (2010)				Project Conditions with Mitigations (2010)									
	Total Volume AM Peak			Total Volume PM Peak			AM Peak					PM Peak					Bckgrnd Adjust.		Project Trips		Total Volume					Total Volume				
							Total Volume				Sig.	Total Volume				Sig.					AM Peak				Sig.	PM Peak				Sig.
	Vol.	V/C	LOS	Vol.	V/C	LOS	Vol.	V/C	LOS	Inc.	Impact	Vol.	V/C	LOS	Inc.	Impact	AM	PM	AM	PM	Vol.	V/C	LOS	Inc.	Impact	Vol.	V/C	LOS	Inc.	Impact
US-101 (Santa Ana Freeway)																														
1 Vignes St. WB Off-Ramp	690	0.46	A	420	0.28	A	1,020	0.680	B	0.220		630	0.420	A	0.140		0	0	332	210	1,350	0.900	D	0.440		840	0.560	A	0.280	
2 Vignes St. WB On-Ramp	230	0.15	A	550	0.57	A	240	0.160	A	0.007		610	0.407	A	0.040		0	0	11	64	250	0.167	A	0.013		670	0.447	A	0.080	
3 Vignes St. EB On-Ramp *	210	0.14	A	1,700	1.13	F	340	0.227	A	0.087		2,110	1.407	F	0.273	X	-200	-1700	0	0	140	0.093	A	-0.047		410	0.273	A	-0.860	
4 Alameda WB Off-Ramp	1,990	0.44	A	1,170	0.26	A	2,110	0.469	A	0.027		1,250	0.278	A	0.018		0	0	123	76	2,230	0.496	A	0.053		1,330	0.296	A	0.036	
5 Hewitt/Commercial EB On-Ramp (3)	120	0.12	A	330	0.33	A	140	0.140	A	0.020		420	0.420	A	0.090		0	0	16	77	160	0.160	A	0.040		500	0.500	A	0.170	
6 Hewitt/Commercial EB off-Ramp	740	0.49	A	330	0.22	A	930	0.620	B	0.127		420	0.280	A	0.060		0	0	78	30	1,010	0.673	B	0.180		450	0.300	A	0.080	
7 Los Angeles EB Off-Ramp	510	0.34	A	570	0.38	A	510	0.340	A	0.000		570	0.380	A	0.000		0	0	-11	-2	500	0.333	A	-0.007		570	0.380	A	0.000	
8 Los Angeles WB On-Ramp	780	0.52	A	870	0.58	A	820	0.547	A	0.027		1,050	0.700	B	0.120		0	0	39	181	860	0.573	A	0.053		1,230	0.820	D	0.240	
9 Mission St. WB On-Ramp	210	0.14	A	240	0.16	A	230	0.153	A	0.013		320	0.213	A	0.053		0	0	0	278	230	0.153	A	0.013		600	0.400	A	0.240	
SR-110 (Pasadena Freeway)																														
10 Hill St. SB Off-Ramp	970	0.32	A	980	0.33	A	1,140	0.380	A	0.057		1,080	0.360	A	0.033		0	0	196	99	1,340	0.447	A	0.123		1,180	0.393	A	0.067	
11 Hill St. NB On-Ramp	1,070	0.71	C	1,140	0.76	C	1,110	0.740	C	0.027		1,290	0.860	D	0.100		0	0	38	146	1,150	0.767	C	0.053		1,440	0.960	E	0.200	
I-5 (Golden State Freeway)																														
12 N. Main St. SB Off-Ramp	230	0.15	A	240	0.00	A	250	0.167	A	0.013		250	0.167	A	0.167		0	0	17	7	270	0.180	A	0.027		260	0.173	A	0.173	
13 N. Broadway NB On-Ramp	550	0.18	A	580	0.19	A	610	0.203	A	0.020		820	0.273	A	0.080		0	0	62	221	670	0.223	A	0.040		1,040	0.347	A	0.153	
14 N. Broadway SB Off-Ramp	480	0.32	A	500	0.33	A	730	0.487	A	0.167		620	0.413	A	0.080		0	0	0	113	730	0.487	A	0.167		730	0.487	A	0.153	

Source:
(1) ADT - Caltrans Ramp Volumes on the California State Freeway System, 1992.
(2) Peak Hour Splits - Caltrans Traffic Volumes on California State Highways, 1992
(3) Stop Controlled On-Ramp reduces the capacity to approximately 1,000 vehicles per hour.
Note:
* Ramp will be eliminated as a part of mitigation.

Transit

As shown previously in Table 28 the number of a.m. peak hour transit trips generated by Buildout Phase that would use each of the rail transit services at Union Station, and indicates available capacity before and after the addition of Buildout Phase transit trips. As Table 28 indicates, Buildout Phase would not have significant impacts on any of the rail transit systems at Union Station. Each segment of the rail system at Union Station would still have available capacity after the addition of Buildout Phase transit trips, and MTA maximum policy load factors would not be exceeded in any instance.

Congestion Management Program

Table 51 shows the seven locations at which Buildout Phase would add the CMP threshold number of trips or more, and indicates the impacts at those locations. Four are in the a.m. peak period and seven are in the p.m. peak period.

As Table 51 indicates, the level of impact in many of these locations while significant, would either be at, or would barely exceed the threshold for significance. With respect to CMP intersections and arterial links, there are none for which the Buildout Phase Project would add a sufficient number of trips to require an analysis of the impacts.

Summary of Phase I Impacts

Impact D.1.1 *Roadway Impact on Hill Street North of College Street.* Significant link impacts on Hill Street north of College Street in both peak periods. The south-bound a.m. peak hour V/C would increase by 0.058 from 0.936 to 0.994, with LOS remaining at E. The northbound p.m. peak hour V/C would increase by 0.056 from 0.800 to 0.856, changing LOS from C to D.

Impact D.1.2 *Roadway Impact on Broadway South of the I-5 Freeway.* Significant link impacts on Broadway south of the 1-5 Freeway in both peak periods. The southbound a.m. peak hour V/C would increase by 0.037 from 0.911 to 0.948 with LOS remaining at E. The northbound p.m. peak hour V/C would increase by 0.051 from 0.902 to 0.953 with LOS remaining at E.

TABLE 51
CMP ANALYSIS
BUILDOUT (2010) CONDITIONS
AM PEAK HOUR

	Existing Conditions						2010 Background Conditions			Buildout Conditions (2010)					
Location	Dir.	Lns.	Cap.	Pk. Hr. Volume	V/C	LOS	Pk. Hr. Volume	V/C	LOS	Trips Added	Pk. Hr. Volume	V/C	LOS	Increase in V/C	Sig. Impact
U.S. 101 @ Los Angeles St.	N	5	10000	12600	1.260	F1	13890	1.389	F2	181	14071	1.407	F2	0.018	
U.S. 101 @ S. M. Blvd.	S	4	8000	10080	1.260	F1	11110	1.389	F2	203	11313	1.414	F2	0.025	X
S.R. 110 S/O U.S. 101	N/S	4	8000	10080	1.260	F1	NA	NA	NA	NA	NA	NA	NA	NA	
I-5 @ Stadium Way	S	5	10000	13600	1.360	F2	14990	1.499	F3	344	15334	1.533	F3	0.034	X
I-10 @ Budlong Ave.	E	4	8000	7640	0.955	E	8420	1.053	F0	220	8640	1.080	F0	0.028	X
I-10 @ E. L.A. City Limit	W	6	12000	10250	0.854	D	11300	0.942	E	249	11549	0.962	E	0.021	
I-10 @ Atlantic Blvd.	W	4	8000	10880	1.360	F2	11990	1.499	F3	162	12152	1.519	F3	0.020	X
SR-60 E/O Indiana St.	W	6	12000	15120	1.260	F1	16660	1.388	F2	163	16823	1.402	F2	0.014	

PM PEAK HOUR

	Existing Conditions						2010 Background Conditions			Buildout Conditions (2010)					
Location	Dir.	Lns.	Cap.	Pk. Hr. Volume	V/C	LOS	Pk. Hr. Volume	V/C	LOS	Trips Added	Pk. Hr. Volume	V/C	LOS	Increase in V/C	Sig. Impact
U.S. 101 @ Los Angeles St.	S	4	8000	10880	1.360	F2	11990	1.499	F3	238	12228	1.529	F3	0.030	X
U.S. 101 @ S. M. Blvd.	N	4	8000	8045	1.006	F0	8870	1.109	F0	203	9073	1.134	F0	0.025	X
S.R. 110 S/O U.S. 101	N	4	8000	11000	1.375	F2	12120	1.515	F3	182	12302	1.538	F3	0.023	X
I-5 @ Stadium Way	N	5	10000	12600	1.260	F1	13890	1.389	F2	349	14239	1.424	F2	0.035	X
I-10 @ Budlong Ave.	W	4	8000	10880	1.360	F2	11990	1.499	F3	222	12212	1.527	F3	0.028	X
I-10 @ E. L.A. City Limit	E	6	12000	12090	1.008	F0	13320	1.110	F0	251	13571	1.131	F0	0.021	X
I-10 @ Atlantic Blvd.	E	4	8000	11680	1.460	F3	12870	1.609	F3	163	13033	1.629	F0	0.020	X
SR-60 E/O Indiana St.	E	6	12000	15120	1.260	F1	16660	1.388	F2	164	16824	1.402	F2	0.014	

NA = Not Applicable. Less than 150 trips added.

Impact D.1.3 *Roadway Impact on North Main South of the I-5 Freeway.* Significant link impact on N. Main Street south of the I-5 Freeway in the a.m. peak hour only. The southbound V/C would increase by 0.032, from 1.051 to 1.083 with LOS remaining at F.

Impact D.1.4 *Roadway Impact on Los Angeles Street south of Aliso.* Significant link impact on Los Angeles Street south of Aliso in the p.m. peak period only. The northbound V/C would increase by 0.034, from 0.889 to 0.923, changing the LOS from D to E.

Impact D.1.5 *Roadway Impact on Center Street at Jackson.* Significant link impacts on Center Street south of Jackson in both peak periods. In the a.m. peak period the northbound increase in V/C would be 0.210, from 0.575 to 0.785, changing the LOS from A to C, and the southbound V/C would increase by 0.035, from 0.975 to 1.010, changing the LOS from E to F. In the p.m. peak period, the northbound V/C would increase by 0.113, from 0.750 to 0.863, changing the LOS from C to D; and the southbound V/C would increase by 0.057, from 0.775 to 0.833, changing the LOS from C to D.

Impact D.1.6 *Roadway Impact on College Street east of Hill.* Significant link impacts on College Street east of Hill in both peak periods. The eastbound a.m. peak hour V/C would increase by 0.173, from 0.906 to 1.080, changing the LOS from E to F. The westbound p.m. peak hour V/C increase would be 0.152, from 0.625 to 0.777, changing the LOS from B to C.

Impact D.1.7 *Roadway Impact on Alpine east of Broadway.* Significant link impact on Alpine east of Broadway in the p.m. peak hour. The eastbound V/C would increase by 0.047, from 0.766 to 0.813 with LOS changing from C to D, and the westbound V/C would increase by 0.063, from 0.781 to 0.844, changing the LOS from C to D.

Impact D.1.8 *Intersection Impact at Alameda and Aliso.* Significant impact at the intersection of Alameda and Aliso in the p.m. peak hour only. The V/C ratio would increase by 0.050, from 0.926 to 0.976, while LOS would remain at E.

Impact D.1.9 *Intersection Impact at Alameda and Los Angeles.* Significant impact at the intersection of Alameda and Los Angeles in both peak periods. The a.m. peak V/C would increase by 0.075, from 0.799 to 0.874, changing LOS from C to D. The p.m. peak V/C would increase by 0.224, from 0.722 to 0.946, changing the LOS from C to E.

Impact D.1.10 *Intersection Impact at Alameda and Cesar E. Chavez.* Significant impact at the intersection of Alameda and Cesar E. Chavez in the p.m. peak period only. The p.m. peak V/C would increase by 0.140, from 0.806 to 0.946, changing LOS from D to E.

Impact D.1.11 *Intersection Impact at Alameda and Alpine.* Significant impact at the intersection of Alameda and Alpine in the p.m. peak hour only. The V/C would increase by 0.065, from 0.771 to 0.836, changing the LOS from C to D.

Impact D.1.12 *Intersection Impact at Vignes and Cesar E. Chavez.* Significant impact at the intersection of Vignes and Cesar E. Chavez in both peak periods. The a.m. peak V/C would increase by 0.060, from 0.784 to 0.844, changing the LOS from C to D. The p.m. peak V/C would increase by 0.055, from 0.922 to 0.977, with LOS remaining at E.

Impact D.1.13 *Intersection Impact at Mission and Cesar E. Chavez.* Significant impact at the intersection of Mission and Cesar E. Chavez in the a.m. peak period only. The V/C would increase by 0.025, from 0.956 to 0.976, with LOS remaining at E.

Impact D.1.14 *Freeway Impact on US-101 west of Mission.* Significant freeway impact on US-101 west of Mission in both peak periods. The a.m. peak V/C would increase by 0.029, from 1.044 to 1.073, while LOS would remain at F. The p.m. peak V/C would increase by 0.028, from 1.153 to 1.181, with LOS remaining at F.

Impact D.1.15 *Freeway Impact on SR-110 between Hill Street and Solano.* Significant freeway impact on SR-110 between Hill Street and Solano, in the p.m. peak only. The northbound V/C would increase by 0.026, from 1.049 to 1.075, with LOS remaining at F.

Impact D.1.16 *Ramp Impact on Vignes Street eastbound on-ramp to US-101.* Significant ramp impact on the Vignes Street eastbound on-ramp to US-101 in the p.m. peak hour only. The V/C would increase by 0.134, from 1.047 to 1.181, with LOS remaining at F.

Impact D.1.17 *CMP Impact on US-101 at Los Angeles.* Significant impact on the US-101 at Los Angeles Street in the p.m. peak hour only. The southbound V/C would increase by 0.025, from 1.436 to 1.461, with LOS changing from F(2) to F(3).

Impact D.1.18 *CMP Impact on SR-110 south of US-101.* Significant impact on the SR-110 south of US-101 in the p.m. peak hour only. The V/C would increase by 0.020 northbound, from 1.453 to 1.473, with LOS remaining at F(3).

Impact D.1.19 *CMP Impact on I-5 at Stadium Way.* Significant impact on the I-5 at Stadium Way in the a.m. peak period only. The a.m. peak hour V/C would increase by 0.020 southbound, from 1.436 to 1.456, with LOS changing from F(2) to F(3).

Summary of Buildout Phase Impacts

Impact D.1.20 *Roadway Impacts on Hill Street north of College.* Significant link impacts on Hill Street north of College in both peak periods. The southbound a.m. peak hour V/C would increase by 0.083 from 1.021 to 1.105, with LOS remaining at F. The northbound p.m. peak hour V/C would increase by 0.062 from 0.872 to 0.934, changing LOS from D to E.

Impact D.1.21 *Roadway Impacts on Broadway south of the I-5.* Significant link impacts on Broadway south of the I-5 Freeway in both peak periods. The southbound a.m. peak hour V/C would increase by 0.074 from 1.013 to 1.087 with LOS remaining at F. The northbound p.m. peak hour V/C would increase by 0.138 from 1.004 to 1.142 with LOS remaining at F.

Impact D.1.22 *Roadway Impact on Broadway south of Sunset.* Significant link impact on Broadway south of Sunset in the p.m. peak hour only. The northbound increase in V/C would be 0.030, from 1.013 to 1.043, with LOS remaining at F.

Impact D.1.23 *Roadway Impact on North Spring north of Sotello.* Significant link impact on North Spring north of Sotello in both peak periods. The southbound a.m. peak hour V/C would increase by 0.120, from 0.863 to 0.983, changing the LOS from D to E. The northbound p.m. increase in V/C would be 0.127, from 0.767 to 0.894, changing the LOS from C to D.

Impact D.1.24 *Roadway Impact on North Main Street south of I-5.* Significant link impact on North Main Street south of the I-5 Freeway in the a.m. peak hour only. The southbound V/C would increase by 0.039, from 1.186 to 1.225, with LOS remaining at F.

Impact D.1.25 *Roadway Impact on Alameda Street south of Temple.* Significant link impact on Alameda Street south of Temple in both directions in the p.m. peak period. The northbound V/C would increase by 0.035, from 1.360 to 1.395, with LOS remaining at F; and the southbound V/C would increase by 0.060, from 0.827 to 0.887, with LOS remaining at D.

Impact D.1.26 *Roadway Impact on Los Angeles Street south of Aliso.* Significant link impact on Los Angeles Street south of Aliso in the p.m. peak period only. The northbound V/C would increase by 0.045, from 1.009 to 1.054, with LOS remaining at F.

Impact D.1.27 *Roadway Impact on Los Angeles Street south of Temple.* Significant link impact on Los Angeles Street south of Temple in both peak periods. The southbound a.m. peak hour V/C would increase by 0.021, from 1.027 to 1.048, with LOS remaining at F; the northbound p.m. peak hour V/C would increase by 0.044, from 0.867 to 0.911, with LOS changing from D to E.

Impact D.1.28 *Roadway Impacts on Center Street south of Jackson.* Significant link impacts on Center Street south of Jackson in both peak periods. In the a.m. peak period the northbound increase in V/C would be 0.645, from 0.625 to 1.270, changing the LOS from B to F, and the southbound V/C would increase by 0.085, from 1.075 to 1.160, with the LOS remaining at F. In the p.m. peak period, the northbound V/C would increase by 0.253, from 0.825 to 1.078, changing the LOS from D to F; and the southbound V/C would increase by 0.280, from 0.850 to 1.130, changing the LOS from D to F.

Impact D.1.29 *Roadway Impacts on Mission Road north of Cesar E. Chavez Avenue.* Significant link impact on Mission Road north of Cesar E. Chavez in the a.m. peak hour only. The southbound a.m. peak hour V/C would increase by 0.020, from 0.978 to 0.998, with LOS remaining at E.

Impact D.1.30 *Roadway Impacts on College Street east of North Spring.* Significant link impacts on College Street east of North Spring, in both peak periods. The eastbound a.m. peak hour V/C would increase by 0.538, from 0.225 to 0.763, changing the LOS from A to C. The eastbound p.m. peak hour V/C would increase by 0.250, from 1.000 to 1.250, changing the LOS from E to F.

Impact D.1.31 *Intersection Impact at Alameda and Aliso.* Significant impact at the intersection of Alameda and Aliso in both peak periods. The a.m. peak hour V/C ratio would increase by 0.079, from 0.631 to 0.710 changing the LOS from B to C. The p.m. peak hour V/C ratio would increase by 0.117, from 1.021 to 1.138, while LOS would remain at F.

Impact D.1.32 *Intersection Impact at Alameda and Arcadia.* Significant impact at the intersection of Alameda and Arcadia in the p.m. peak hour only. The V/C would increase by 0.042, from 0.739 to 0.781, with LOS remaining at C.

Impact D.1.33 *Intersection Impact at Alameda and Cesar E. Chavez.* Significant impact at the intersection of Alameda and Cesar E. Chavez in both peak periods. The a.m. peak V/C would increase by 0.104, from 0.775 to 0.879, changing the LOS from C to D. The p.m. peak V/C would increase by 0.135, from 0.897 to 1.032, changing LOS from D to F.

Impact D.1.34 *Intersection Impact at North Main and Cesar E. Chavez.* Significant impact at the intersection of N. Main and Cesar E. Chavez in the p.m. peak period. The p.m. peak hour V/C would increase by 0.088, from 0.716 to 0.804, changing the LOS from C to D.

Impact D.1.35 *Intersection Impact at North Main and Vignes.* Significant impact at the intersection of N. Main and Vignes in both peak periods. The a.m. peak V/C would increase by 0.061, from 0.746 to 0.807, changing the LOS from C to D. The p.m. peak V/C would increase by 0.017, from 0.931 to 0.948, with LOS remaining at E.

Impact D.1.36 *Intersection Impact at Alameda and Alpine.* Significant impact at the intersection of Alameda and Alpine in both peak periods. The a.m. peak hour V/C would increase by 0.076, from 0.634 to 0.710, changing the LOS from B to C. The p.m. peak hour V/C would increase by 0.064, from 0.867 to 0.931, changing the LOS from D to E.

Impact D.1.37 *Intersection Impact at Vignes and Cesar E. Chavez.* Significant impact at the intersection of Vignes and Cesar E. Chavez in both peak periods. The a.m. peak V/C would increase by 0.096, from 0.849 to 0.945, changing the LOS from D to E. The p.m. peak V/C would increase by 0.107, from 0.894 to 1.001, changing the LOS from D to F.

Impact D.1.38 *Intersection Impact at Vignes and Ramirez.* Significant impact at the intersection of Vignes and Ramirez in both peak periods. The a.m. peak V/C would increase by 0.188, from 0.635 to 0.823, changing the LOS from B to D. The p.m. peak V/C would increase by 0.106, from 0.802 to 0.908, with the LOS changing from D to E.

Impact D.1.39 *Intersection Impact at Mission and Cesar E. Chavez.* Significant impact at the intersection of Mission and Cesar E. Chavez in both peak periods. The a.m. peak hour V/C would increase by 0.042, from 1.059 to 1.101, with LOS remaining at F. The p.m. peak hour V/C would increase by 0.044, from 0.809 to 0.853, with LOS remaining at D.

Impact D.1.40 *Intersection Impact at Hewitt/Commercial and SB-101 ramp.* Significant impact at the intersection of Hewitt/Commercial and SB-101 ramp in the p.m. peak only. The V/C would increase by 0.049, from 0.813 to 0.862, with LOS remaining at D.

Impact D.1.41 *Freew* ... Significant freeway impact on US-101 west of Mis ... und a.m. peak hour V/C would increase by 0.057, ... d remain at F. The southbound p.m. peak hour V ... 3 to 1.275, while LOS would remain at F.

Impact D.1.42 *Freewc* ... *et.* Significant freeway impact on SR-110 north o ... nly. The northbound V/C would increase by 0.03 ... ould remain at F.

Impact D.1.43 *Freewa* ... *R-110.* Significant freeway impact on I-5 from B ... ds. The southbound a.m. peak hour V/C would i ... while LOS would remain at F. In the p.m. peak ho ... e by 0.027, from 1.269 to 1.296; and the southbo ... m 1.205 to 1.225, with LOS remaining at F in bot

Impact D.1.44 *Ramp I* ... *l on-ramp to US-101.* Significant ramp impact c ... p to US-101 in the p.m. peak hour only. The V/C ... to 1.407, with LOS remaining at F.

Impact D.1.45 *CMP Im* ... *Angeles Street.* Significant impact on the US-101 ... .m. peak hour only. The southbound V/C would in ... with LOS remaining at F(3).

Impact D.1.46 *CMP Imp* ... *Monica Boulevard.* Significant impact on the US-1 ... rd in both peak periods. The southbound a.m. peak ... from 1.389 to 1.414, with LOS remaining at F(2). ... would increase by 0.025, from 1.109 to 1.134, wi

Impact D.1.47 *CMP Imp* ... *US-101.* Significant impact on the SR-110 Freeway ... our only. The northbound V/C would increase b ... LOS remaining at F(3).

Impact D.1.48 *CMP Imp* ... *ry.* Significant impact on the I-5 Freeway at Stadium ... southbound a.m. peak hour V/C would increase b ... ith LOS remaining at F(3), while the northbound ... by 0.035, from 1.389 to 1.424, with LOS remaining

Impact D.1.49 *CMP Impact on the I-10 Freeway at Budlong Avenue.* Significant impact on the I-10 Freeway at Budlong Avenue in both peak periods. The eastbound a.m. peak hour V/C would increase by 0.027, from 1.053 to 1.080, with LOS remaining at F(0), and the westbound p.m. peak hour V/C would increase by 0.028, from 1.499 to 1.527, with LOS remaining at F(3).

Impact D.1.50 *CMP Impact on the I-10 east of the Los Angeles City Limit.* Significant impact on the I-10 east of the Los Angeles City limit in the p.m. peak hour only. The eastbound p.m. peak hour V/C would increase by 0.021, from 1.110 to 1.131, with LOS remaining at F(0).

Impact D.1.51 *CMP Impact on the I-10 at Atlantic Boulevard.* Significant impact on the I-10 Freeway at Atlantic Boulevard in both peak periods. The westbound a.m. peak hour V/C would increase by 0.020, from 1.499 to 1.519, with LOS remaining at F(3), and the eastbound p.m. peak hour V/C would increase by 0.020, from 1.609 to 1.629, with LOS remaining at F(3).

CUMULATIVE IMPACTS

The cumulative impact analysis for the traffic section differs from other sections in the EIR, which used the related projects list in Table 10 to forecast cumulative conditions and impacts. In this section, the project impact was based on the comparison of the proposed project in relation to future baseline conditions. Future baseline conditions includes the amount of development implied in the MTA countywide traffic forecasting model. As previously discussed in this section, the year 2000 and 2010 baseline conditions include specific improvements to the countywide transit, freeway and street systems. This regional travel model was used for future baseline conditions to ensure consistency with other on-going local and regional planning efforts. Therefore, the analysis of project impacts also includes all future anticipated growth. Thus, the cumulative impacts on traffic are inherent in the consideration of project impacts, and it is assumed significant cumulative impacts will occur.

MITIGATION MEASURES

Phase I

The transportation component of the ADP will provide for a high level of mobility to and within the project site. The transportation plan is comprehensive and multimodal, and oriented significantly towards the use of transit.

The key components of the overall transportation plan and mitigation strategy for the ADP are:

- Maximize use of transit
- Comprehensive TDM program
- Optimized parking management program
- Extensive pedestrian connections
- Focused roadway improvements.

The Environmental Impact Section contains a more detailed description of these plan elements including discussions of TDM planned improvements for transit, internal circulation and access.

Many features of the ADP and the supporting transportation plan are inherent "mitigating" solutions designed to minimize the impact of the project on the surrounding roadway system. The five key components listed above are listed in order of priority attached by the ADP.

The philosophy of the ADP plan and mitigation strategy is to achieve an integrated and balanced transportation system by promoting the use of transit at and around the regional multi-modal transportation center at Union Station, while discouraging the use of single-occupant automobiles. The ADP plan recognized that roadway improvements may be necessary at certain locations, although the provision of roadway improvements should not discourage transit use, nor negatively impact adjacent communities.

For example, a preliminary analysis was conducted of the Alameda By-Pass concept, but it was concluded that this regional scale facility may be necessary for regional circulation objectives, but was not necessary to mitigate ADP project impacts. Instead the analysis focused on localized mitigation measures such as those discussed in the next section.

In this context, measures regarding the first four of the five key mitigation elements, are inherently contained in the ADP. A description of the transportation strategy and management program are provided in Section II of this EIR. Detailed below are the focused roadway improvement mitigation measures proposed for the ADP.

Focused Roadway

Mitigation measures were identified to address most of the impacts above. In some cases, the mitigation measures identified will only partially mitigate the significant impact, lowering the impact but not lowering it to below the level of significance. In other cases, no feasible mitigation measures were identified. Tables 39, 40, 41, 42, and 43 summarize both project impacts and the effect of these mitigations, illustrating project and mitigated levels of service.

Roadway Link

D.1.1.a Implement the planned conversion of College Street to one-way eastbound, and Alpine Street to one-way westbound, to form a one-way couplet between Hill Street and Alameda Street. The Chinatown Citizen's Advisory Committee currently views the couplet as a temporary installation during construction of the Pasadena Blue Line, whereas LADOT considers the couplet will be needed as a permanent installation because of reduced street capacity resulting from construction of the Blue Line.

D.1.1.b Increase the peak hour target mode-split for transit and rideshare an additional five percent over the mode-split assumptions for Phase I of the ADP, as shown in Table 36. This will decrease the number of vehicle trips generated, and reduce project impacts. This will be accomplished through the comprehensive Transportation Demand Management Program (which will aggressively promote transit and rideshare use, and through performance monitoring of mode-splits for the ADP development program.) Implementation of Mitigation Measure D.1.1.a together with D.1.1.b would reduce the project impact to a less than significant level in the a.m. peak hour, but not to a less than significant level in the p.m. peak hour.

D.1.2 Mitigation Measure D.1.1.b shall be implemented to reduce impacts, but not to a less than significant level.

D.1.3 Mitigation Measure D.1.1.b shall be implemented to reduce impacts, but not to a less than significant level.

D.1.4 Mitigation Measure D.1.1.b shall be implemented to reduce impacts, but not to a less than significant level.

D.1.5 Mitigation Measure D.1.1.b shall be implemented to reduce impacts, but not to a less than significant level.

D.1.6 Mitigation Measure D.1.1.a shall be implemented to reduce impacts to a less than significant level.

D.1.7 Mitigation Measure D.1.1.a shall be implemented to reduce impacts to a less than significant level.

Intersection

D.1.8 Restripe the northbound approach to add an exclusive right-turn lane. This may require a small amount of right-of-way acquisition along the east side of Alameda Street.

D.1.9.a Widen the northbound approach to add an exclusive right-turn lane.

D.1.9.b Restripe the westbound approach (the exit driveway at Union Station) to provide one exclusive left-turn lane, one shared through left lane, and one shared through/right lane. Implementation of this measure along with Mitigation Measures D.1.9.a would reduce the impact to a less than significant level in the a.m. peak hour, but not to a less than significant level in the p.m. peak hour. The impact in the p.m. peak hour would be a significant unavoidable impact. This intersection would, however, operate at a acceptable level of service (LOS D) in the p.m. peak.

D.1.10 Widen the northbound approach to add an exclusive right-turn lane. This would reduce this impact to a less than significant level in the a.m. peak hour but not to a less than significant impact in the p.m. peak hour. The impact in the p.m. peak hour would be a significant unavoidable impact. This intersection would, however, operate at an acceptable level of service (LOS D) in the p.m. peak.

D.1.11 Restripe the northbound approach Alameda Street from two to three northbound through lanes between N. Main Street and Alpine Street, and for one left-turn lane, two through lanes and one thru/right turn lane on the northbound intersection approach.

D.1.12.a No mitigation required as this impact will be mitigated as part of the Gateway Center mitigation to implement dual left-turn lanes on Cesar E. Chavez Avenue in each direction, and widen east side of Vignes Street to add a northbound right-turn lane. This improvement is already planned as part of the Gateway Center but is not scheduled to be implemented until needed, or by the year 2010.

D.1.12.b Mitigation Measures D.1.1.b and D.1.12.a shall be implemented to reduce the project impact to a less than significant level in the p.m. peak hour, but not to a less than significant level in the a.m. peak hour. In the a.m. peak hour this impact is considered a significant unavoidable impact, although the intersection would continue to operate at LOS D.

D.1.13.a Widen and restripe the southbound approach to provide one exclusive right-turn lane, one shared through/right lane and one exclusive through lane and one exclusive left-turn lane. This will more evenly distribute the capacity of the available lanes. A small amount of right-of-way will be required to implement this mitigation.

D.1.13.b Mitigation Measure D.1.1.b shall be implemented to reduce project impact. Implementation of Mitigation Measures D.1.1.b and D.1.13.a would reduce this impact but not to a less than significant level. The project impact is considered a significant and unavoidable project impact, although the impact would be only slightly over the threshold of significance, and the intersection would continue to operate at LOS E.

<u>Freeway Mainline</u>

D.1.14 Mitigation Measure D.1.1.b shall be implemented to reduce impacts, but not to a less than significant level.

D.1.15 Mitigation Measure D.1.1.b shall be implemented to reduce impacts, but not to a less than significant level.

<u>Freeway Ramp</u>

D.1.16 Mitigation Measure D.1.1.b shall be implemented to reduce impacts, but not to a less than significant level.

<u>Congestion Management Plan</u>

D.1.17 Mitigation Measure D.1.1.b shall be implemented to reduce impacts, but not to a less than significant level.

D.1.18 Mitigation Measure D.1.1.b shall be implemented to reduce impacts, but not to a less than significant level.

D.1.19 Mitigation Measure D.1.1.b shall be implemented to reduce impacts, but not to a less than significant level.

Buildout Phase

As discussed in Phase I Mitigation Measures, many features of the ADP and the supporting Transportation Plan are inherent "mitigating" solutions designed to minimize the impact of the project on the surrounding roadway system.

Focused Roadway

Mitigation measures were identified to address most of the impacts above. In some cases, the mitigation measures identified will only partially mitigate the significant impact, lowering the impact but not lowering it to below the level of significance. In other cases, no feasible mitigation measures were identified. Tables 46, 47, 48, 49, and 50 summarize both project impacts and the effect of these mitigations, illustrating project and mitigated levels of service.

Roadway Link

D.1.20 Mitigation Measure D.1.21 shall be implemented to reduce impacts to a less than significant level.

D.1.21 Alternative Mitigations:

A. Applicant Proposed - Provide reversible flow traffic lanes along this section of North Broadway between Avenue 18 and the northbound I-5 ramps. This would provide for four southbound and two northbound traffic lanes in the a.m. peak hour, and the reverse configuration of four northbound lanes and two southbound lanes in the p.m. peak hour. This could be achieved by configuring the street such that either left-turns continue to be allowed or that left-turns are prohibited during peak periods. Peak period on-street parking restrictions would be required during both peak periods (compared to the current parking restrictions of only one direction in each peak period).

B. LADOT Preferred - Providing additional turn lanes at the intersections of Broadway and the I-5 Freeway ramps, instead of reversible lanes along the street. The rationale for this concept is that the key capacity constraints are in these intersections rather than Broadway itself.

D.1.22 Mitigation Measure D.1.41 shall be implemented to reduce impacts to a less than significant level.

D.1.23 Widen North Spring to add a central left-turn lane. This provides a refuge for turning traffic and enhances the capacity of the through lanes (by an estimated 10 percent). This mitigation measure would be implemented as right-of-way becomes available in the corridor. Implementation of this mitigation measure would reduce this impact but not to a less than significant level. It would remain an unavoidable significant impact, although North Spring Street would operate at LOS E in the a.m. peak and LOS D in the p.m. peak.

D.1.24 Mitigation Measure D.1.21 shall be implemented to reduce impacts to a less than significant level.

D.1.25 Improve Alameda Street from a four-lane to a six-lane street between Temple and First Street. This would require widening of the roadway on either side. The widening on the east side may in the future be implemented in association with other development projects, such as the Mangrove Project and the First Street South Project. There are no current plans to widen on the west side of Alameda Street. This mitigation would provide for the project to contribute its fair-share portion to this improvement of Alameda Street at such time as the right-of-way became available for roadway widening. Implementation of this mitigation measure would reduce this impact to a less than significant level.

D.1.26 Mitigation Measure D.1.41 shall be implemented to reduce impacts to a less than significant level.

D.1.27 No feasible physical mitigation was identified for this impact. This impact would be a significant and unavoidable impact.

D.1.28 Center Street is identified as a major arterial in the City's General Plan, although it is only built to collector street standards. However, widening of the street is not currently feasible due to adjacent land uses. The project will contribute its fair-share portion to roadway widening to major highway standards at the appropriate time as right-of-way becomes available. Implementation of this mitigation measure would reduce this impact to a less than significant level.

D.1.29 Mitigation Measure D.1.39 shall be implemented to reduce impacts to a less than significant level.

D.1.30 Provide for a curbed two-lane roadway with sidewalks, and stripe the roadway for multiple lanes on the approaches to the intersections at either end of this segment. Implementation of this mitigation measure would reduce this impact to a less than significant level.

Intersection

D.1.31.a Restripe the northbound approach to add an exclusive northbound right-turn lane. This may be accomplished by restriping the roadway, but may require a small amount of right-of-way acquisition along the east side of Alameda Street.

D.1.31.b Widen the westbound approach to add a westbound right-turn lane. This may require a small amount of right-of-way acquisition along the north side of Commercial Street. Implementation of this measure along with Mitigation Measures D.1.31.a would reduce this impact to a less than significant level.

D.1.32 Mitigation Measure D.1.41 shall be implemented to reduce impacts to a less than significant level.

D.1.33 Widen the northbound approach on Alameda Street on the east side to add an exclusive right-turn lane. Implementation of this measure along with Mitigation Measure D.1.41 would reduce the a.m. peak hour impact at this location but would not reduce it to a less than significant level. This would remain a significant unavoidable impact, although the intersection would continue to operate at LOS D. Implementation of both mitigation measures would reduce the p.m. peak hour to a less than significant level.

D.1.34 Mitigation Measure D.1.41 shall be implemented to reduce impacts, but not to a less than significant level. This impact would be a significant and unavoidable impact although the intersection would continue to operate at LOS D.

D.1.35 Widen the northbound approach of North Main Street on the east side to add an exclusive northbound left turn lane. Implementation of this mitigation measure would reduce this impact to a less than significant level.

D.1.36 Restripe the northbound approach of Alameda Street from two to three northbound through lanes between North Main Street and Alpine Street, and the intersection approach for one left, two through and one through/right-lane. Implementation of this mitigation measure would not reduce this impact to a less than significant level in the a.m. peak hour, although the LOS would remain at C. Implementation of this mitigation measure would reduce the p.m. peak hour impact at this location to a less than significant level.

D.1.37 Mitigation Measure D.1.41 shall be implemented to reduce project impacts. Implementation of Mitigation Measure D.1.41 would not reduce this impact in the a.m. peak hour, but would reduce the p.m. peak hour impact to a less than significant level. The impact in the a.m. peak hour would be a significant unavoidable impact. This intersection would, however, operate at an acceptable LOS E.

D.1.38 Significant roadway and intersection improvements are currently being implemented at this location as part of the Gateway Center Project, including the realignment of Vignes Street and the Vignes Street freeway ramps, as well as signalization and improvements to the intersection. No additional feasible physical mitigations have been identified for this intersection, as the intersection would operate at LOS D in the a.m. peak hour and LOS E in the p.m. peak hour. While Mitigation Measure D.1.41. may reduce this impact, it will not reduce it to a less than significant level.

D.1.39 Widen and restripe the southbound approach to provide one exclusive right-turn lane, one shared through/right-lane and one exclusive through lane and one exclusive left-turn lane. This will more evenly distribute the capacity of the available lanes. A small amount of right-of-way will be required to implement this mitigation. Implementation of this mitigation measure along with Mitigation Measure D.1.41 would reduce this impact to a less than significant level in the a.m. peak period, and would reduce the impact, but not to a less than significant level in the p.m. peak period. The p.m. peak hour impact is considered a significant and unavoidable project impact, although the intersection would continue to operate at LOS D during the p.m. peak hour.

D.1.40 Mitigation Measure D.1.41 shall be implemented to reduce impact to a less than significant level.

On roadways adjacent to the project site, the property owner will be required by the City of Los Angeles to make any necessary right-of-way dedications and curb relocations such that the streets meet city standards for dimensions of major and secondary highways. The following streets are affected. Alameda Street between the El Monte Busway and North Main Street; Cesar E. Chavez Avenue between Alameda Street and the railroad bridge; North Main Street between Alameda Street and Vignes Street; and Vignes Street between North Main Street and the railroad bridge. Alameda Street, Vignes Street and Cesar E. Chavez Avenue are all major highways. for which the requirement is an 80-foot curb-to-curb width in a 100-foot right-of-way. North Main Street is a secondary highway, for which the requirement is a 66-foot curb-to-curb width in an 86-foot right-of-way (and 70-foot curb-to-curb flare section in 90-foot right-of-way on approaches to a major highway).

Appropriate dedications and improvements should be made by the project sponsor to the half-width of each street as adjacent parcels are developed. Such actions should be coordinated with the mitigation measures previously identified.

Freeway Mainline

D.1.41 No feasible mitigation measure has been identified for the northbound direction of this impact. Therefore, the impact on the northbound direction would be considered a significant, unavoidable impact.

Improve Commercial Street east of Alameda Street and extend east of Center Street on a new bridge structure over the Los Angeles River to connect to Mission Road at the I-5/I-10 on-ramps. Commercial Street between Alameda Street and Vignes Street would continue to operate as a two-way street. East of Vignes Street, Commercial Street would be a one-way, eastbound roadway with two or three traffic lanes. This mitigation measure would also incorporate the relocation of the eastbound US-101 off-ramp from Hewitt Street to Vignes Street and the removal of the eastbound on-ramp at Hewitt Street. Both these ramp modifications are proposed as part of a realignment project for US-101 at this location by Caltrans. This proposed mitigation measure would also involve the removal of the eastbound on-ramp at Vignes Street, as this move would be provided for by the new Commercial Street Extension and use of the on-ramps from Mission Road which could be served by the Commercial Street Extension. This mitigation measure may also require the removal of an eastbound off ramp to Mission Road.

This project, which is identified in the Downtown Los Angeles Strategic Plan, would significantly improve regional traffic in this freeway corridor, as well as mitigating project impacts. By removing a number of on and off-ramps in a short distance of freeway, merge/weave conflicts would be significantly reduced. By providing an extension of the Aliso Street frontage road from downtown all the way to the direct access ramps from Mission Road to the I-10 eastbound and US-101 southbound on-ramps, this improvement would allow traffic heading east and south to enter the freeway system outside of the I-10/US-101 interchange, significantly easing congestion on the US-101 in front of Union Station.

This roadway would also provide relief to Cesar E. Chavez Avenue eastbound in the vicinity of Union Station and Terminal Annex in the p.m. peak, as it would provide an alternative route for traffic from downtown to the Mission Road/Cesar E. Chavez Avenue intersection.

As this would be a major improvement project to the regional transportation infrastructure, with benefits accruing well beyond ADP project traffic, it is not expected that the ADP would construct this project. Rather, the ADP could provide a fair-share contribution to the cost.

Also incorporated as a part of this mitigation measure would be the provision of a two-way two-lane tunnel beneath US-101 from Commercial Street northward to connect to the P-1 Garage Level at Union Station, with access to the public parking, as well as the taxi and shuttle bus concourse proposed in the ADP.

This facility would provide a direct route to primarily serve eastbound access to Union Station (from the downtown and the west), and eastbound egress from Union Station (for example, to the eastbound I-10 and southbound US-101). This could avoid otherwise circuitous routes through the front and rear of Union Station. In addition to mitigating ADP impacts at a number of locations, this improvement would also reduce the volume of general traffic accessing the transit facilities through the front of Union Station, by providing a more direct access route, which would be particularly advantageous for taxis and shuttle buses.

This improvement could be implemented in conjunction with the freeway realignment in front of Union Station currently proposed by Caltrans. Again, because this improvement would provide significant regional transportation benefit, beyond mitigation of ADP impacts, it is not expected that it would be implemented by the ADP, but rather the ADP would contribute to the cost of the project on a fair-share basis.

Implementation of this mitigation measure would reduce the mainline freeway impact to a less than significant level in the southbound direction.

D.1.42 Mitigation Measures D.1.21 and D.1.23 shall be implemented to reduce impacts to a less than significant level.

D.1.43 No feasible physical mitigation measures have been identified for this impact. This is considered a significant and unavoidable impact.

Freeway Ramp

D.1.44 Mitigation Measure D.1.41 shall be implemented to reduce impacts to a less than significant level.

Congestion Management Plan

D.1.45 No feasible physical mitigation has been identified for this impact. This impact is considered a significant and unavoidable impact. At these locations the only way to add capacity to the freeway would be to add lanes. No currently planned projects of this type, nor any feasible way of widening the freeway at these locations, have been identified. Moreover, mitigation measures to increase roadway capacity would be counterproductive to the greater use of transit for both the ADP and the downtown area in general. However, the City of Los Angeles intends to apply CMP credits from its citywide pool towards the ADP. The City has also anticipated that the ADP itself will generate substantial CMP credits through both the land use program and the transportation mitigation program.

D.1.46 Refer to Mitigation Measure D.1.45.

D.1.47 Refer to Mitigation Measure D.1.45.

D.1.48 Refer to Mitigation Measure D.1.45.

D.1.49 Refer to Mitigation Measure D.1.45.

D.1.50 Refer to Mitigation Measure D.1.45.

D.1.51 Refer to Mitigation Measure D.1.45.

ADVERSE EFFECTS

Phase I

Of the 19 identified significant transportation impacts for Phase I, four would be fully mitigated by the measures suggested above. At five locations, the impact would be partially mitigated, (i.e., in one peak period but not the other). At the remaining locations the impact would be reduced but not to a less than significant level.

The remaining unmitigated impacts on roadway links would be as follows:

■ College E/O Spring (p.m.)	LOS F
■ Hill Street N/O College (p.m.)	LOS D
■ Broadway S/O I-5 (a.m.)	LOS E
■ Broadway S/O I-5 (p.m.)	LOS E
■ N. Main S/O I-5 (a.m.)	LOS F
■ Los Angeles S/O Aliso (p.m.)	LOS E

With the exception of North Main Street and College Street which would also operate at LOS F without the project, all the impacted links would continue to operate at LOS E or better. The project impacts are small and in most cases would not change the level-of-service. In all locations, physical mitigation measures such as roadway widenings were considered infeasible. In this context, no further mitigation measures are proposed.

The remaining unmitigated project impacts at intersections would be the following:

■ Alameda/Los Angeles (p.m.)	LOS D
■ Vignes/Cesar E. Chavez (a.m.)	LOS D
■ Mission/Cesar E. Chavez (a.m.)	LOS E

As can be seen, all of these intersections would continue to operate with surplus capacity with the ADP project, operating at LOS D or LOS E. Therefore, additional mitigation measures to increase roadway capacity would not only be unnecessary but would be counter-productive to the transit and rideshare goals of the ADP and to the use of transit in the surrounding area in general. For these reasons no further mitigations are proposed.

The remaining unmitigated project impacts on the freeway system would be the following:

- US-101 W/O Mission (a.m.) N/B
- US-101 W/O Mission (p.m.) S/B
- SR-110 at Solano (p.m.) N/B

Although these would remain significant impacts, the magnitude of impact would be small, generally no more than about a two percent increase in traffic volumes. In all of these cases, the freeway would operate at LOS F without the ADP project, which would increase the V/C slightly but would not change the overall level-of-service.

Because of these small magnitude impacts, and the consideration that additional mitigation measures to increase roadway capacity would be counter-productive to the use of transit for both the ADP and the downtown area in general, no further mitigations are proposed at these locations.

Buildout Phase

Of the 25 identified significant transportation impacts for Buildout Phase, 14 would be fully mitigated by the measures suggested above. At eight impact locations, the impact would be partially mitigated, (i.e., in one peak period but not the other), or reduced but not to below the level of significance. In only three instances, would an impact location remain unmitigated.

The principal remaining unmitigated project impacts at intersections would be the following:

- Alameda/Cesar E. Chavez (a.m.) LOS D
- N. Main/Cesar E. Chavez (p.m.) LOS D
- Alameda/Alpine (a.m.) LOS C
- Vignes/Cesar E. Chavez (a.m.) LOS E
- Vignes/Ramirez (a.m.) LOS D
- Vignes/Ramirez (p.m.) LOS E
- Mission/Cesar E. Chavez (p.m.) LOS D

As can be seen, all of these intersections would continue to operate with surplus capacity with the ADP project, with the majority operating at LOS C or LOS D. Therefore, additional mitigation measures to increase roadway capacity would not only be unnecessary but would be counter productive to the strongly stated transit and rideshare goals of the ADP, and to the use of transit in the surrounding area in general. For these reasons no further mitigations are proposed.

The remaining unmitigated project impacts on the freeway system would be the following:

- US-101 W/O Mission (a.m.) N/B
- I-5 N/O Broadway (a.m.) S/B
- I-5 N/O Broadway (p.m.) N/B
- I-5 N/O Broadway (p.m.) S/B

Although these would remain significant impacts, the magnitude of impact would be small, generally no more than about a two percent increase in traffic volumes. At one location (I-5 N/O Broadway p.m. S/B) the impact would be right at the threshold of significance. In all of these cases, the freeway would operate at LOS F without the ADP project, which would increase the V/C slightly but would not change the overall level-of-service.

Because of these small magnitude impacts, and the consideration that additional mitigation measures to increase roadway capacity would be counter-productive to the use of transit for both the ADP and the downtown area in general, no further mitigations are proposed at these locations.

SECTION IV.D.2
PARKING

This section summarizes the results of the comprehensive transportation impact study prepared for the ADP project by Korve Engineering, in May 17, 1995. The study is on file with Los Angeles Department of Transportation (LADOT) and the Community Planning Bureau, City of Los Angeles Planning Department, located at 221 S. Figueroa Street, Third Floor, and is part of the Technical Studies Appendices to this EIR.

ENVIRONMENTAL SETTING

There are approximately 3,138 parking spaces available on the project site: 1,078 spaces at Union Station and 2,060 at Terminal Annex. Currently, the County of Los Angeles leases parking on the Terminal Annex site for their employees, as well as over 1,000 spaces for juror parking (including almost all of the surface parking and the top floor of the parking structure). Public parking, daily and monthly, is also available in the parking structure. On the Union Station site, parking is available to the public both on a daily basis and monthly basis. The Union Station parking supply is also frequently used by patrons of Olvera Street. Table 52 summarizes the existing on-site parking supply on the project site.

Table 52 also indicates the mid-morning parking utilization rates, which were estimated from a windshield survey and field observation. While the parking areas in front of Union Station often reach full occupancy, there is usually a considerable amount of unused parking at other locations on the site. On average, approximately 48 percent of the Union Station parking spaces are not utilized in the mid-morning. On the Terminal Annex site, although a considerable volume of parking is used for juror parking, only about 73 percent of the total parking supply is utilized during the mid-morning. Altogether, approximately 65 percent of the total parking spaces on both sites are currently being utilized.

In addition, parking is available along adjacent roadways to varying degrees. As shown in Table 53, most adjacent roadways have restricted parking during the a.m. and p.m. peak periods; however, many offer on-street and metered parking during the off-peak hours. A full discussion of the parking along adjacent roadways is included in Section IV.D.1 (Traffic).

TABLE 52
PARKING SUPPLY AND OCCUPANCY
UNION STATION AND TERMINAL ANNEX SITE
(January 1994)

Lot Number	Location/Description	Number of Spaces	Approximate Mid-Morning Occupancy %
UNION STATION			
1	North Side Public Parking	235	25%
2	South Side Public Parking	178	100%
3	15 Minute Amtrak Passenger Area	24	Varies
4	Adjacent to Bus Parking behind wing of Union Station Passenger Terminal	97	0%
5	South Garage	69	100%
6	North Garage	63	100%
7	Upper Level	362	35%
8	Adjacent to tracks	50	0%
UNION STATION TOTAL		**1,078**	**N/A**
TERMINAL ANNEX			
9	Front Plaza	78	25%
10	Bauchet (adjacent to structure)	22	0%
11	Structure Level 1 Level 2 Level 3 Level 3 on top of VMF (Vehicle Maintenance Facility)	 250 250 350 100	50% Average
12	Existing Surface	1,009	100%
TERMINAL ANNEX TOTAL		**2,059**	**N/A**
ADP SITE TOTAL		**3,138**	**N/A**

TABLE 53
PARKING SUPPLY ALONG ADJACENT ROADWAYS

Street	Segment	Parking Conditions
North Broadway	I-5 to W/o LA River	Parking is available with peak hour restrictions.
	W/o River to Bernard	Meter parking with a.m. S/B, N/B p.m. peak hours restrictions.
	Bernard to Alpine	Same as above.
	Alpine to Aliso	Parking is prohibited.
	Aliso to Temple	Meter parking with a.m. S/B, a.m. and p.m. N/B restrictions.
North Spring Street	College to I-5	Parking is prohibited.
	Cesar E. Chavez to Temple	Meter parking with a.m. peak hour restrictions in S/B. Buses only in N/B. Parking is prohibited in N/B.
North Main Street	College to I-5	Curb parking in addition to the through lanes. p.m. peak hour restriction in N/B. a.m. peak hour restriction in S/B.
	College to Alameda	Curb parking with a.m. restriction in S/B. p.m. restriction in N/B.
	Alameda to Cesar E. Chavez	One-way with meter parking in addition to the lane.
	Cesar E. Chavez to Temple	One-way street with p.m. peak hour restriction.
North Hill Street	110 Freeway to Ord	Meter parking with a.m. S/B, p.m. N/B restrictions.
	Ord to Temple	No parking on 101 Fwy. OC, 3 S/B, 2 N/B. Meter parking with a.m. S/B, p.m. N/B restrictions.

TABLE 53
PARKING SUPPLY ALONG ADJACENT ROADWAYS

Street	Segment	Parking Conditions
College Street	North Main to Alameda	Parking available in both directions. No restrictions.
	Alameda to Hill	Meter parking with a.m. E/B, p.m. W/B restrictions. Meter parking utilizes the curb lane and travel lane reduces to 1 lane during off peak hours.
	Cesar E. Chavez to Temple	Residential parking allowed.
Alpine Street	Alameda to Hill	Meter parking with a.m. E/B, p.m. W/B restrictions. Meter parking utilizes the curb lane and travel lane reduces to 1 lane during off peak hours.
	W/o North Hill	Residential parking allowed. W/o Yale.
Alameda Street	College to Ord	Meter parking in SB. NB parking prohibited.
	Ord to Aliso	Parking prohibited.
	Aliso to Temple	Parking prohibited.
Vignes Street	North Main to Ramirez	Parking prohibited.
Cesar E. Chavez	Alameda to Mission	Parking prohibited.
	Broadway to Alameda	Meter parking with a.m. and p.m. peak hour restrictions. Meter parking utilizes the curb lane and travel lane reduces to 2 lanes during off-peak hours.
Sunset Boulevard	North Broadway to Hill (W/o Project)	Meter parking with a.m. and p.m. peak hour restrictions. Meter parking utilizes the curb lane and travel lane reduces to 2 lanes during off-peak hours.
Los Angeles Street	Alameda to Temple	Parking prohibited in S/B. Meter parking in N/B with p.m. peak hour restriction. Meter parking utilizes the curb lane and travel lane reduces to 2 lanes off-peak.
Center Street	Ramirez to 1st	Meter parking available only on S/B in addition to the travel lane.

ENVIRONMENTAL IMPACT

Threshold of Significance

In addressing parking impacts for the project, the following Threshold of Significance was utilized in lieu of any available or appropriate defined quantitative standards. Parking supply for the project should be based on information of demand needs, accounting for the specific land uses on the site, and the availability of transit. A substantial shortfall between on-site supply and parking need would be considered a significant impact.

Phase I Impacts

Parking Needs

Parking needs for the ADP will be significantly lower than for other developments of similar size because of its focus around the multimodal transportation center at Union Station. With many of the trips to the ADP being made on transit, far fewer auto trips than normal will be made, resulting in a need for fewer parking spaces.

The need for parking, in terms of the parking space ratio requirements, will be closely linked to the mode split projections for transit and ridesharing. The ADP Transportation Plan projects an average 40 percent drive-alone office peak hour mode-share at the end of Phase I, and a 20 percent drive-alone office peak hour by Buildout Phase. Based on transit use percentages, ride-share projections, and reasonable assumptions about automobile and rideshare vehicle occupancies, it is estimated that the overall parking requirement for the ADP will be approximately two spaces per 1,000 square feet in Phase I. This amount also allows for visitor parking needs and an overall 10 percent contingency,

Parking requirement ratios and total parking demand for Phase I are shown in Table 54 by land use. As shown in Table 54, it is estimated that a total of 6,825 parking spaces will need to be provided in Phase I of the ADP.

TABLE 54 OVERALL PARKING RATIOS BY LAND USE TYPE - PHASE 1 (Rates Per 1,000 GSF Except Where Stated)		
	Parking Ratio (Need)	Parking Spaces (Need)
Office	2.0	5,995
Retail		
Ground Floor	1.4	350
Local/Community	1.6	200
Hotel	1.3/Room	N/A
Restaurant	6.5	40
Residential	1.5/Unit	N/A
Museum	3.4	240
Total		6,825

Note: Parking ratios derived from mode-split assumptions and estimate of visitor parking needs. Includes 10% contingency. (See Appendix D for details).

Parking Supply

During Phase I, there will be some changes to land uses on the project site. The most significant will be the removal of juror parking at the Terminal Annex site. In order to accommodate the development program, the current surface parking on the Terminal Annex site will be removed, resulting in relocation of juror parking off-site. It is the intent of the ADP, however, to provide sufficient parking to meet projected needs at Phase I (i.e., an overall ratio of about 2.0 spaces per 1,000 gross square feet (GSF). Therefore, a total supply of 6,825 parking spaces will be provided for the overall ADP project by completion of Phase I development. This will enable parking for the ADP site to be self-contained, without any spillover into adjacent areas. The total supply estimate is based on the assumption that approximately 800 of the 1,910 Metro Plaza Garage spaces currently under construction at Gateway Center will be available to be used by the ADP. These 800 spaces are included in the 6,825 space supply total identified above. (The remaining 1,110 Metro Plaza Garage spaces are excluded from the ADP total.) The parking analysis excludes the LACMTA Headquarters parking at Gateway Center, as this building will have its own independent parking supply and is not a part of the ADP.

Parking on the Terminal Annex site will generally be located in two levels above grade and three levels below grade, and will form podiums for the buildings above. Parking on the Union Station site will generally be located below grade. Parking will be provided under and next to building pads, in convenient locations, but generally out of sight from open spaces. Access to parking garages will be from both the major arterials surrounding the site and directly from the internal roadway system. Wherever possible, buildings will have designated entry points to their parking facilities. A fundamental element of the ADP, however, is the "park-and-walk" concept. The physical on-site ADP environment will be designed to minimize traffic circulation and maximize pedestrian circulation and utility. In this context it is the intent that people arriving at the site in automobiles would first enter the site, park in a convenient and accessible location, and then walk to their ultimate building destination on-site rather than necessarily park directly beneath their building destination. This allows considerable flexibility in the location of parking supply and increases the opportunity for the comprehensive on-site management of parking.

As part of the comprehensive on-site parking management program, it is anticipated that much of the office related parking will be shared by other uses during evenings and weekends. Furthermore, a certain proportion of the overall parking supply will be dedicated for high-occupancy vehicle (i.e., carpool and vanpool) parking. These spaces will be in preferential locations and afford lower pricing rates. The percentage of these spaces has not yet been determined. The on-site management of the parking supply is discussed further in the following Buildout Phase section.

Based on this analysis it is expected that there will be no significant parking impacts from Phase I.

Buildout Phase

<u>Parking Needs</u>

Total parking requirement ratios with the Buildout Phase are shown in Table 55 by land use type. The detailed calculations for these parking ratios included in the transportation impact study on file with LADOT and the Community Planning Bureau. The total estimated parking needs with the Buildout Phase is estimated at 11,825. While these parking rates are lower than normal code required parking in much of Southern California, they are consistent with both experience and code requirements in other downtown areas with high transit use. For example, the publication *Parking*, by Robert A. Weant and Herbert S. Levinson (Eno Foundation, 1990) cites representative parking requirements in CBD areas with heavy transit use as follows:

Office	1.0 to 1.4 spaces per 1,000 sf
Retail	0.8 to 1.2 spaces per 1,000 sf
Residential	0.2 to 0.6 spaces per 1,000 sf

The same source also cites downtown Seattle code requirements as .67 spaces per 1,000 square feet (sf) for office uses, .40 spaces per 1,000 sf for retail uses, and .20 spaces per 1,000 sf for other non-residential uses. The projected ADP parking requirements are consistent with this data. They are also consistent with the current parking requirement for downtown office uses of one space per 1,000 sf.

TABLE 55
OVERALL PARKING RATIOS BY LAND USE TYPE - BUILDOUT PHASE
(Rates Per 1,000 GSF Except Where Stated)

	Parking Ratio (Need)	Parking Spaces (Need)
Office	1.1	9,655
Retail		
Ground Floor	1.1	435
Local/Community	1.1	275
Hotel	0.8/Room	845
Restaurant	4.5	25
Residential	1.5/Unit	450
Museum	2.0	140
Total		11,825

Note: Parking ratios derived from mode-split assumptions and estimate of visitor parking needs. Includes 10% contingency.

Parking Supply

As with Phase I, it is the intent of the ADP to provide sufficient parking to meet projected needs at Buildout Phase. Therefore, a total supply of 11,825 parking spaces will be provided for the overall ADP project by completion of Buildout Phase development. This will enable parking for the ADP site to be self contained, without any spillover into adjacent areas. The total supply estimate is based on the assumption that approximately 800 of the 1,910 Metro Plaza Garage spaces currently under construction at Gateway Center will be available to be used by the ADP. These 800 spaces are included in the 11,825 space supply total identified above. (The remaining 1,110 Metro Plaza Garage spaces are excluded in the ADP total). The parking analysis excludes the LACMTA Headquarters parking at Gateway Center, as this building will have its own independent parking supply and is not a part of the ADP. The analysis also excludes motorpool parking.

Parking associated with Buildout Phase will generally be located below grade. As with Phase I, parking will be provided under and next to building pads, in convenient locations, but generally out of sight from open spaces. Access to parking garages will be from both the major arterials surrounding the site and directly from the internal roadway system. Wherever possible, buildings will have designated entry points to their parking facilities. A fundamental element of the ADP, however, is the "park-and-walk" concept. The physical on-site ADP environment will be designed to minimize traffic circulation and maximize pedestrian circulation and utility. In this context it is the intent that people arriving at the site in automobiles would first enter the site, park in a convenient and accessible location, and then walk to their ultimate building destination on-site - rather than necessarily park directly beneath their building destination. This allows considerable flexibility in the location of parking supply and increases the opportunity for the comprehensive on-site management of parking.

A comprehensive transportation demand management (TDM) program is proposed for the ADP. The two principal goals of this program are to actively encourage the use of transit and to develop and implement policies and programs to encourage ridesharing. For instance, a certain proportion of the overall parking supply will be dedicated for high occupancy vehicle (HOV) parking. These spaces will be in preferential locations and afford lower pricing rates. The percentage of these spaces has not yet been determined. The TDM program will be part of a coordinated transportation strategy for the ADP, which along with maximizing transit use and ridesharing, will include an optimized parking management program. As part of this comprehensive parking management program, it is anticipated that much of the office related parking will be shared by other uses during evenings and weekends. Furthermore, a Transportation Management Organization (TMO) will be established to actively provide services such as rideshare matching, guaranteed ride home, and preferential HOV parking to reduce the demand for parking. More extensive discussions of the parking management program are described below and in Section IV.D.1.

Based on this analysis it is expected that there will be no significant parking impacts associated with development of Buildout Phase.

On-Site Parking Management

A comprehensive parking policy is an integral part of the Transportation Plan and Mitigation Strategy for the ADP. The fundamental basis of the parking policy is to ensure that the amount of parking supply is closely linked to the goals for maximizing transit and ridesharing to the site. It is therefore important to ensure there is not an over supply of parking in the ADP, which would conflict with and undermine these transit and rideshare goals.

The parking policy recognizes that the overall level of need for parking will decline over time as transit service to Union Station and transit ridership for the ADP increase. Particularly in the short-term, market factors and the ability to lease buildings may require initial parking supply ratios to be higher than ultimate parking supply ratios. The parking policy therefore includes a transitional program which allows for the reduction of building/parcel specific parking supply ratios over time, as well as a flexible on-site parking management system that will enable the optimization of parking allocations.

As the use of transit increases significantly over time, so will the overall parking need for the ADP decrease. This is illustrated in a comparison of Tables 54 and 55, which shows parking ratios for Phase I and for Buildout Phase. That is to say early buildings in the ADP (i.e., during Phase I) will have a higher initial parking requirement than buildings developed in Buildout Phase. Over time, not only will the actual parking need for Phase I buildings reduce due to higher transit use, but new buildings constructed during Buildout Phase will have a lower parking requirement. In effect, Phase I buildings with an initial supply of more than 1.1 spaces per 1,000 square feet, will, over time, generate "surplus" parking spaces as their need reduces.

The ADP parking strategy has two key components:

- Avoid the over supply of parking. This will be done through overall parking ratios by land-use type for the ADP, and the setting of a parking "lid" at 1.1 spaces per 1,000 square feet (equivalent to parking need at Buildout Phase).

- Allow the flexibility to adjust parking supply for individual parcels within the ADP and over time. This will be achieved through a parking management program.

Maximum parking requirements for building parcels should be set at the level of need at Buildout Phase based on projected transit and rideshare goals. On average, this will result in an overall need of 1.1 spaces per 1,000 sf. This policy will ensure the appropriate level of parking supply at Buildout Phase, by effectively establishing a parking "lid."

During the phased development of the ADP, additional parking may be allowed for individual buildings above 1.1 spaces per 1,000 square feet up to a maximum of two spaces per 1,000 sf providing these spaces are within the ADP area. These spaces may not be under permanent control of the building, but could be leased from the ADP "parking pool" on a short-term and renewable basis. The actual location of such spaces may be subject to change over time providing they remain within the ADP area. This policy allows buildings constructed early in the program to achieve higher initial parking supply rates, while providing future flexibility for the reallocation of parking spaces to ensure that overall parking supply remains in balance with the ADP goals, and within the ADP parking "lid."

This strategy is summarized in Table 56 below:

TABLE 56
PARKING POLICY SUMMARY

Parking Spaces/1,000 GSF		Policy
2.0	Maximum Phase I Demand	Maximum allowed per development parcel
1.1	Maximum Buildout Phase Demand	Overall "lid" maximum for ADP

The ADP will specify the overall maximum parking ratios allowed for the ADP, and the City's monitoring procedures. Parking supply between parcels within the ADP will be managed by the property owners in order to respond to market demands and remain consistent with the ADP parking limits.

Summary of Phase I Impacts

No significant Phase I impacts are projected.

Summary of Buildout Phase Impacts

No significant Buildout Phase impacts are projected.

CUMULATIVE IMPACTS

With respect to parking impacts, only one of the 56 identified related projects is located in close enough proximity to the project site to potentially compound the impacts of the project itself. The project most likely to contribute to cumulative parking impacts is Related Project No. 15, Phase I of the Gateway Center project. Although this project is within the ADP area, environmental review for this development was previously conducted through a Draft and Final EIR prepared and certified in 1992. This building, which will contain 628,000 sf of office space, and stand 26 stories tall when complete, is currently under construction and will house the headquarters of the Los Angeles County Metropolitan Transportation Authority. This building will have its own independent parking supply which will be unrelated to and not a part of, the ADP. No other related projects are located in close enough proximity to the proposed project to compound or increase the effects of the project. Thus, there are no cumulatively significant parking impacts.

MITIGATION MEASURES

No significant parking impacts are projected for either Phase I or Buildout Phase, therefore, no mitigation measures are proposed. The plan's parking supply and on-site parking management program, in coordination with the plan's mode split and transit use policies, will serve to both provide the right amount of parking without discouraging or preventing transit use, and to provide for the efficient use of the on-site parking supply.

ADVERSE EFFECTS

No unavoidable adverse parking impacts for either Phase I or Buildout Phase development will remain.

SECTION IV.D.3
ACCESS

This section summarizes the results of the comprehensive transportation impact study prepared for the ADP project by Korve Engineering, in May 17, 1995. The study is on file with Los Angeles Department of Transportation (LADOT) and the Community Planning Bureau, City of Los Angeles Planning Department, located at 221 S. Figueroa Street, Third Floor, and is part of the Technical Studies Appendices to this EIR.

ENVIRONMENTAL SETTING

There are currently five access points to the project site. The two principal access points are: 1) The Alameda Street/Los Angeles Street intersection to the Union Station property, and 2) the Alameda Street/North Main Street intersection to the Terminal Annex site. These signalized intersections constitute the principal driveway access to each property. Two additional driveways provide access to the Union Station site. The first driveway is accessed from Cesar E. Chavez Avenue, east of Alameda Street; while the second is accessed from Alameda Street immediately north of the El Monte Busway. Both driveways provide "entrance only" access for transit vehicles (i.e. buses, shuttles, and taxis). There is a driveway on the north side of the Terminal Annex site, at an unsignalized intersection with Vignes Street (east of North Main Street). Finally, there is an additional driveway between the Fire Station and the Vehicle Maintenance Facility at N. Main Street.

There are currently no vehicular access points on the east side of the Union Station property, since that area is reserved for passenger and commuter train departures and arrivals. This will change however, with the completion of the Gateway Center Project (Related Project No. 15) which is currently under construction.

ENVIRONMENTAL IMPACTS

Threshold of Significance

Current LADOT definitions for significant impacts, identified in the City of Los Angeles' Traffic Study Policies and Procedures, were used in this analysis. As shown in Table 34 of Section IV.D.I Traffic, the threshold of significance for intersections is identified as an increase in the volume/capacity (V/C) ratio.

Using these criteria, for example, the project would not have a significant impact at a location if it is operating at level-of-service (LOS) C under Buildout Phase conditions and the incremental change in the V/C ratio is less than 0.04. However, if the intersection is operating at an LOS F under

Buildout Phase conditions, and the incremental change in the V/C ratio is greater than 0.01, the project would be considered to have a significant impact at this location.

Overview of Project Access

The project site is accessible via regional transportation corridors from all sides. Key approach corridors include the US-101 from both the east and west; Alameda Street, Los Angeles Street and Main Street from the south; Sunset Boulevard, Alpine Street and College Street from the west; North Spring Street, Alameda Street and North Main Street from the north; and Cesar E. Chavez Avenue from the east. Access to the project site is planned from all of the major streets bordering the site, (i.e., Alameda Street, North Main Street, Vignes Street, and Cesar E. Chavez Avenue) to provide connections to the regional transportation access corridors. These locations are summarized in Table 57 and illustrated in previous Figures 28 and 29.

<u>Alameda Street</u>

There would be three access points from Alameda Street to the Union Station site. These include the main driveway opposite Los Angeles Street and two additional driveways one block north and south of the main driveways. These driveways would provide access to the front of Union Station, to the on-site circulation system, and to parking. The main driveway would be a full-movement, signalized intersection. The north and south driveways would be unsignalized with "right-in, right-out" movement only. The main driveway and the Los Angeles Street approach would be realigned to a full four-way intersection immediately to the south of the fountain at the entrance to Union Station. As shown in Table 57, the main driveway and the south driveway would be constructed by the completion of Phase I. The north driveway would be built during Buildout Phase.

There would also be a principal access point from Alameda Street to the Terminal Annex site opposite North Main Street, via Bauchet Street. This intersection is currently signalized. The current driveway would be realigned northwards, opposite North Main Street, to provide for a four-way intersection. This would accommodate all movements except the westbound through-movement from the project site which would be prohibited because the opposite approach of North Main Street is one-way eastbound.

TABLE 57
PHASE I & BUILDOUT PHASE - SITE ACCESS LOCATIONS

Timing	Roadway	Location	Serves	Intersection Type	Existing Status
Phase I	Alameda Street	Los Angeles Street	Union Station site from west and Arcadia Street	Signalized	Signalized
Buildout Phase	Alameda Street	North Driveway	Union Station site from west and West Plaza Drive	Unsignalized[1]	Does not exist
Phase I	Alameda Street	South Driveway	Union Station site from west and Arcadia Street	Unsignalized[1]	Does not exist
Phase I	Cesar E. Chavez Ave.	West Plaza Drive	West Metro Plaza and New Avila Street	Signalized	Signalized
Phase I	Cesar E. Chavez Ave.	At Rosabell Street	Terminal Annex site and Rosabell Street	Unsignalized[1]	Does not exist
Phase I	Alameda	At N. Main St./Bauchet St.	Terminal Annex site and Rosabell Street	Signalized	Signalized
Phase I	North Main Street	Ash Street	Terminal Annex site and Rosabell Street	Unsignalized	Does not exist[2]
Buildout Phase	North Main Street	New Avila St. (College St.)	Terminal Annex and Union Station	Signalized[3]	Unsignalized
Phase I	Vignes Street	Rosabell Street	Terminal Annex site and Rosabell Street	Signalized[5]	Unsignalized
Phase I	Vignes Street	At Metro Plaza/Ramirez St.	E. Portal, Bus Plaza, MTA Headquarters, Metro Red Line Parking Structure and Gateway Center	Signalized[2]	Unsignalized[2]
Phase I	Vignes Street	Between Cesar E. Chavez and Ramirez Street	E. Portal, MTA Headquarters and Gateway Center, Eastside parking	Unsignalized[1,2]	Does not exist[2]
Phase I	Ramirez Street	At Arcadia Street	Arcadia St., Bus Plaza, Gateway Center, New Avila St.	Signalized[3]	Does not exist
Phase I	El Monte Busway	Metro Plaza South Entrance at Arcadia Street	E. Portal, Bus Plaza, MTA Headquarters, and Gateway Center	Signalized[2,4]	Does not exist[2]

1. Turning movements restricted to right-in/right-out only.
2. Being constructed as art of the Gateway Center Project.
3. If found warranted by LADOT.
4. If found warranted by Caltrans.
5. To be constructed by MTA in conjunction with Pasadena Blue Line construction.

Cesar E. Chavez Avenue

There would be access from Cesar E. Chavez Avenue to both the Union Station site at West Plaza Drive and to the Terminal Annex site at Rosabell Street. Both access points would provide access to on-site roadways and parking. The intersection at Cesar E. Chavez/West Plaza Drive would remain signalized for all movements. The intersections at Garcia Street and Rosabell Street would be for "right-in, right-out" movements only. The Rosabell Street intersection would be provided during Phase I, while the Garcia Street intersection may be provided during Buildout Phase.

North Main Street

There will be new access from North Main Street at Ash Street to the Terminal Annex site. This will allow all movements but will be unsignalized. Volumes of left-turns (southbound to project, and northbound from project) are expected to be low (less than 50 vehicles per hour).

Vignes Street

A total of three access points would be provided from Vignes Street. A principal access point to the Terminal Annex site would be provided at Vignes Street midway between North Main Street and the rail tracks. This is currently an unsignalized driveway, and would be realigned slightly to the west and rebuilt as an intersection as part of the upcoming Pasadena Metro Blue Line Project. These improvements would be in place at the completion of Phase I. The new intersection, at Rosabell Street would be signalized and would provide for full movement. Two access points would be provided to the Gateway Center/Metro Plaza area on the east side of the Union Station site. One would be at the fully signalized intersection of Vignes Street/Ramirez Street, currently under construction as part of the Gateway Center Project (Related Project No. 15). This would allow access to both the subterranean parking garage and to the Bus Plaza. Another new access point would be provided via garage ramps from Vignes Street, midway between Cesar E. Chavez Avenue and Ramirez Street. These would be unsignalized, right-in/right-out only ramps, and are currently being constructed as part of the Gateway Center Project and would be in place by the completion of Phase I.

Ramirez Street

There would be access to the Union Station site from Ramirez Street to the new on-site roadway, Arcadia Street, in the southeast corner of the Project site. This new signalized intersection, if found warranted by LADOT, would provide access to the Bus Plaza, and to the Union Station site from the east, and would replace the existing unsignalized intersection in that approximate location. This is being constructed as part of the Gateway Center Project and will be in place by the completion of Phase I.

El Monte Busway

A direct connection would be provided from the eastbound El Monte Busway to Arcadia Street and the Metro Bus Plaza, directly south of the Bus Plaza. Use of this signalized access would be restricted to buses and carpools because of the El Monte Busway. No other signalized vehicular traffic will use this access. This would be constructed as part of Gateway Center Project and would be in place at the completion of Phase I.

Pedestrian Access and Circulation

The ADP sets forth specific pedestrian circulation policies and goals. The primary being to create open space and pedestrian connections within the Plan area and to areas outside including Olvera Street, Chinatown, and the Civic Center. Pedestrian spines are proposed to link transit facilities and major elements within and adjacent to the Plan area. The landscape and open space components of the plan set forth policies to enhance pedestrian movement and the walking environment.

Pedestrian circulation will be provided at three levels, existing street level, existing trainyard level, and above the trainyard. A major east-west access through the site at existing grade will link the Metro Plaza in the east through the existing passenger tunnel to serve all the rail facilities, and through the Passenger Terminal to Alameda Street. A garden level, pedestrian open space above the train tracks will also link all parcels in the west and east sides of the railroad tracks through a series of plazas. North-south pedestrian movement will be accommodated primarily along new Avila Street which will link the Terminal Annex property to the West Metro Plaza, Arcadia Street, and Gateway Center.

An integrated system of escalators and elevators will help pedestrians and commuters transition between levels. The pedestrian circulation system will also include connections to Olvera Street via the main entrance at Los Angeles Street and connections to Chinatown and Downtown via existing sidewalks.

In addition to what is expected to be the key pedestrian access route from the main driveway at Los Angeles, pedestrian access will also be oriented to the Alameda Street/Arcadia Street intersection to facilitate access to the in-line station for the El Monte Busway, and pedestrian routes to the Civic Center and Downtown.

Phase I Impacts

During Phase I, there would be a total of 11 access points to the ADP site of which seven would be signalized and four would be unsignalized. Five of these access points already exist; three are signalized, and two are unsignalized. The remaining six locations would constitute new access points, be mostly unsignalized, and provide for "right-in, right-out" movement only. These additional access points would provide relief to the principal driveways by offering a wide choice of access locations to project traffic, and thereby avoid forcing project traffic into only a few access points. These new site access points would feed into new on-site roadways, including: Arcadia Street and New Avila Street on the Union Station site and Rosabell Street and Ash Street on the Terminal Annex site.

For summary purposes, Table 58 lists the six key existing and proposed signalized intersection access locations, and also illustrates the projected LOS in both the a.m. and p.m. peak hours for Phase I. Table 27 in Section IV.D.1, Traffic, presents the LOS and V/C ratios for year 2000 without project.

As shown in Table 58, all signalized project access intersections would operate at an acceptable LOS before mitigation measures have been applied. New access point locations would be configured to provide sufficient roadway capacity for an adequate LOS.

TABLE 58
SITE ACCESS INTERSECTION LEVEL OF SERVICE PHASE I

Access Point Locations	Level of Service			
	a.m. Peak		p.m. Peak	
	V/C	LOS	V/C	LOS
Alameda/Los Angeles[1]	0.783	C	0.815	D
Cesar E. Chavez/West Plaza	0.559	A	0.602	B
Alameda/N. Main[1]	0.555	A	0.944	E
Vignes/Rosabell	0.270	A	0.493	A
Vignes/Ramirez[1]	0.550	A	0.707	C
Ramirez/Arcadia	0.269	A	0.352	A

[1] Existing intersections include Phase I mitigation measures (See Traffic Section).

Buildout Phase Impacts

At Buildout Phase, there would be a total of 13 access points to the ADP site. Eight would be signalized and five would be unsignalized. Six of these access points already exist. Seven locations would constitute new access points, four would be signalized and three would be unsignalized. All would provide for "right-in, right-out" movement only. These additional access points would provide relief to the principal driveways by offering a wide choice of access locations to project traffic, and thereby avoid forcing project traffic into only a few access points. These site access points would feed into new on-site roadways, including: Arcadia Street and New Avila Street on the Union Station site and Rosabell Street and Ash Street on the Terminal Annex site.

Of the total of 13 access points for Buildout Phase, there would be seven key access points which would be signalized intersections. Of these, three are existing intersection locations which are signalized; three are existing, unsignalized intersections; and, one would be a new intersection location.

For summary proposes, Table 59 lists these seven key existing and proposed signalized intersection access locations, and also illustrates the projected LOS in both the a.m. and p.m. peak hours at Buildout Phase. Table 46 in Section IV.D.1 Traffic presents LOS and V/C ratios for year 2010 without project.

It can be seen from Table 59 that all project access intersections will operate at an acceptable level of service, including existing intersections with proposed mitigation measures, and new intersections created by the ADP.

Summary of Phase I Impacts

There would be no significant Phase I impacts.

Summary of Buildout Phase Impacts

There would be no significant Buildout Phase impacts.

TABLE 59 SITE ACCESS INTERSECTION LEVEL OF SERVICE BUILDOUT PHASE				
Access Point Locations	Level of Service			
	A.M Peak		P.M. Peak	
	V/C	LOS	V/C	LOS
Alameda/Los Angeles[1]	0.805	D	0.763	D
Cesar E. Chavez/West Plaza	0.665	B	0.722	C
Alameda/N. Main[1]	0.634	B	0.996	E
North Main/New Avila (College)	0.471	A	0.494	A
Vignes/Rosabell	0.415	A	0.796	C
Vignes/Ramirez[1]	0.823	D	0.908	E
Ramirez/Arcadia	0.419	A	0.571	A

[1] Existing intersections include Buildout Phase mitigation measures (see Traffic Section).

CUMULATIVE IMPACTS

As discussed in the traffic section, the project impacts were based on the comparison of the proposed project in relation to future baseline conditions. Future baseline conditions include the amount of development implied in the MTA countywide traffic forecasting model. Therefore, the analysis of project impacts includes all potential future developments. It is assumed that significant cumulative access impacts could occur.

MITIGATION MEASURES

No mitigation is required.

ADVERSE EFFECTS

Significant roadway and intersection improvements are currently being implemented at the Vignes Street/Ramirez Street intersection location as part of the Gateway Center Project, including the realignment of Vignes Street and the Vignes Street freeway ramps, as well as signalization and improvements to the intersection. No additional feasible physical mitigations have been identified for this intersection, as the intersection would operate at LOS D in the a.m. peak hour and LOS E in the p.m. peak hour. While the aforementioned intersection improvements may reduce this impact, it will not reduce it to a less-than-significant level. This impact is considered a significant and unavoidable project impact.

SECTION IV.E.1
EMPLOYMENT

This Section summarizes the results of the Assessment of the Employment, Housing and Population Impacts report prepared for the ADP project by Hamilton, Rabinovitz & Alschuler, Inc., in March 1995. The study is on file with the Community Planning Bureau, City of Los Angeles Planning Department, located at 221 S. Figueroa Street, Third Floor, and is part of the Technical Studies Appendices to this EIR.

ENVIRONMENTAL SETTING

The following subsections describe employment trends in the County and City of Los Angeles, which were determined to be the relevant geographies for this impact category, as explained in more detail in the Environmental Impact subsection.

Historical Employment Growth in the County and City of Los Angeles (1980-1990)

During the 1980s, according to data maintained by the State of California, employment increased by just over 20 percent in the County and City of Los Angeles (see Table 60). In absolute terms, the increases range from about 315,000 new jobs in the City of Los Angeles to 750,000 in the County. The City thus accounted for about 42 percent of the job growth in the County. These relative and absolute increases in employment growth reflect the continuing development of southern California during the 1980s into one of the major metropolitan regions in the world.

In 1990, according to the Southern California Association of Governments (SCAG), jobs in the services, trade (retail and wholesale) and manufacturing sectors together accounted for about two-thirds (63.8%) of regional employment. Government services accounted for the next largest share (12.2%). During the 1970s and 1980s, the two fastest growing sectors of the region's economic base were professional services (+143%), tourism/entertainment (+132%), and transportation/wholesale trade (+59%). Manufacturing experienced only modest growth (e.g., +7% in diversified manufacturing).

Thus far during the early 1990s, however, California, and the southern California region in particular, have suffered through one of the most severe regional economic recessions in the State's history. According to State data, Los Angeles County lost an estimated 301,000 jobs between June 1990 and June 1994, which accounted for a substantial share of the total job loss in the State thus far in the recession. This concentration of job loss resulted from several trends affecting the region including: the downturn in aerospace and related manufacturing jobs, which were associated with changes in

TABLE 60
RECENT EMPLOYMENT TRENDS IN TWO AREAS AROUND THE ADP SITE, 1980, 1990 AND 1994

Geographic Zone	1980	1990	1994	1980-90 Change		1990-94 Change	
				Amount	%	Amount	%
Los Angeles County	3,545,000[1]	4,295,000[2] 4,612,821[3]	3,994,000[4]	750,000	21.2	(301,000)	(7.0)
City of Los Angeles	1,424,400[1]	1,739,277[2] 1,902,065[3]	1,587,122[4]	314,877	22.1	(152,155)	(8.7)

1 State Employment Development Dept. (EDD) estimate of total civilian employment.
2 EDD estimate of total civilian employment for June 1990.
3 SCAG estimate of total civilian employment per 1994 regional growth forecast (for comparison only).
4 EDD estimate of total civilian employment for June 1994.
Source: SCAG, State Employment Development Department, HR&A

national defense priorities and reductions in orders for civilian aircraft; a significant downturn in construction; and an unusual slowdown in spending relative to income, which caused a corresponding decline in retail sales.

Though the national economy came out of recession in 1993, the California economy, and particularly the southern California economy, continues to lag behind the national recovery. UCLA's recent studies anticipated a net increase of 111,000 jobs in the state during 1994, but that net job growth in L.A. County would not occur until some time in 1995. Structural changes in the region's economy, particularly the composition of its economic base,[1] coupled with forecasted changes in the region's future labor force, lead SCAG to conclude the region may continue to experience rates of unem-

[1] A region's economy is comprised of nine standard industrial categories (i.e., agriculture, mining, construction, manufacturing, transportation and public utilities, retail and wholesale trade, finance/insurance and real estate, services and government). Its "economic base" is comprised of those industries whose goods and services can be exported for consumption outside the region, or consumed within the region by those with funds originating from outside the region (e.g., tourist dollars). These are the industries which bring external dollars into the regional economy, as distinguished from those which recirculate dollars within the economy (e.g., construction, finance, insurance, government). Growth in the industries that make up a region's economic base, as distinguished from growth in all industries, is particularly central to employment and income growth.

ployment that exceed the national average.[1] This represents a fundamental change from the 1980s, when the SCAG region's unemployment rate was typically well below that for the nation. Since Los Angeles County (and by extension, the City) makes up a substantial share of regional employment, these regional trends are likely to be even more pronounced in the City and County of Los Angeles.

Unemployment

State data show that the 1980 unemployment rate in the City of Los Angeles was almost one percentage point higher than that in the County (7.4% in the City vs. 6.6% in the County).[2] By 1990, the unemployment rate declined by about 12 percent in the County and by about 24 percent in the City of Los Angeles, such that the rate in the City was slightly lower than that in the County (5.6% in the City vs. 5.8% in the County).[3] As a result of the recession, the unemployment rate in both the City and the County increased sharply. The rate in the City more than doubled, and it is now more than one percentage point above the County rate (11.4% in the City vs. 10.4% in the County).[4] This indicates that there is currently a surplus of workers who are available in the City and County to accept new job opportunities associated with new development projects.

Employment By Industrial Sectors

In 1990, according to data compiled by SCAG, jobs in the services, trade (retail and wholesale) and manufacturing sectors together accounted for about two-thirds (63.8%) of regional employment. Government services accounted for the next largest share (12.2%). During the 1970s and 1980s, the two fastest growing sectors of the region's economic base were professional services (+143%), tourism/entertainment (132%), and transportation/wholesale trade (+59%). Manufacturing experienced only modest growth (e.g., +7% in diversified manufacturing).[5]

1 SCAG, Regional Comprehensive Plan, Chapter 2: The Economy, June 1994, at 2-34 to 2-35.

2 1980 annual average, per State Employment Development Department.

3 *Id.*

4 For the month of June, 1994, per State Employment Development Department.

5 SCAG, Regional Comprehensive Plan and Guide, Chapter 2: The Economy, April, 1994, at p. 2-9.

Future Employment Growth (1990-2010)

As shown in Table 61, SCAG's employment forecast predicts a slower rate of job growth during the 1990s than during the first decade of the 21st Century, and that job growth during both of the next two decades will be slower than the rate of job growth experienced during the 1980s. Regional employment, nevertheless, is expected grow by about one-third (+37.1%), or 1.6 million additional jobs.[1]

Cumulative job growth for the County between 1990 and 2010 is forecasted to be about two-thirds the rate of job growth during the 1980s. In the City, job growth over the next two decades is forecasted to be only about one-third the rate of job growth during the 1980s, and only about half the growth rate for the County.

At the regional level, SCAG forecasts that the services, trade and government sectors will account for over three-quarters (78.8%) of all job growth between 1990 and 2010. Among the industries that make up the region's economic base, the leaders in job growth will be professional services (+68.0%), tourism/entertainment (+67.0%) and transportation/wholesale trade (+46.2%).[2] Although the sectoral aspects of these forecasts are not readily available at the City and County level, the fact that the City and County of Los Angeles dominate the regional economy suggests that the trends described above will also be experienced in these areas of the region, and perhaps to an even more pronounced extent.

1 *Id.*, Table 2-5, at p. 2-34.

2 *Id.*, Table 2-4, at p. 2-33 .

TABLE 61
EMPLOYMENT FORECASTS FOR THREE ZONES AROUND THE ADP SITE, 1990-2010

NUMBER OF JOBS

Geographic Zone	1990	2000	2010
SCAG Region	7,060,000	8,254,000	9,679,000
Los Angeles County	4,612,821	5,083,972	5,670,135
City of Los Angeles	1,902,065	1,989,361	2,112,472

EMPLOYMENT GROWTH

Geographic Zone	1990-2000	2000-2010	1990-2010
SCAG Region			
Amount	1,194,000	1,425,000	2,619,000
Percent	16.9%	17.3%	37.1%
Los Angeles County			
Amount	471,151	586,163	1,057,314
Percent	10.2%	11.5%	22.9%
City of Los Angeles			
Amount	87,296	123,111	210,407
Percent	4.6%	6.2%	11.1%

Source: SCAG, HR&A

ENVIRONMENTAL IMPACT

Threshold of Significance

The focus of environmental analysis prepared under CEQA is a project's potential to cause effects on the *physical* environment.[1] Accordingly, the State CEQA Guidelines state that while economic or social information may be included in an EIR, or may be presented in whatever form the Lead Agency desires, social and economic effects *shall not* be treated as significant effects on the environment.[2] There must be a physical change resulting from the project directly or indirectly before CEQA will apply.[3] In other words, if a proposed project may cause economic and social consequences, but no significant environmental impacts, CEQA does not require that an EIR be prepared.[4]

Social and economic effects, including population, housing and employment impacts are, however, relevant CEQA issues to the extent that a chain of cause and effect can be traced from a proposed project through anticipated social and economic changes resulting from the project to physical changes caused in turn by the economic and social changes.[5] If a project's physical impacts may cause social or economic effects, the magnitude of the social or economic effects may be relevant in determining whether a physical impact is "significant."[6] If the physical change causes adverse economic or social effects on people, those adverse effects may be used as the basis for determining that the physical change is significant.[7]

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1 "Environment" means the physical conditions which exist within the area which will be affected by a proposed project, including land, air water, minerals, flora, fauna, noise, and objects of historic or aesthetic significance. (Pub. Res. Code § 21060.5) "Significant effect on the environment" means a substantial, or potentially substantial adverse change in the environment. (Pub. Res. Code § 21068)

2 *State CEQA Guidelines* §§ 15131(a) and 15064(f) (emphasis added); see also Pub. Resources Code §§ 21100 and 21151.

3 See discussion following *State CEQA Guidelines* § 15131.

4 *Hecton v. People of the State of California* 58 Cal.App.3d 653, 656 (130 Cal.Rptr. 230) (1976). See generally, Michael H. Remy, *et al.*, *Guide to the California Environmental Quality Act*, 1993 Edition, Solano Press Books, at p. 234-236.

5 *State CEQA Guidelines* §§ 15131(a) and 15064(f).

6 *Id.*, § 15131(b). For example, a project's direct and indirect population can be used to estimate the amount of natural resources, energy resources and public services that might be consumed as a result of the project, and whether the resulting scale of use is "significant."

7 *Id.*, § 15064(f).

Social and economic issues, and population, housing and employment in particular, are relevant in addressing the requirement that an EIR address the growth-inducing impacts of a project. An EIR must "discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment."[1]

The Lead Agency must also consider economic, social, and particularly housing factors, together with technical and environmental factors in determining the feasibility of proposed measures to avoid or reduce the significant effects identified in the EIR. If information on these factors is not contained in the EIR, the information must be added to the record in some other manner to allow the agency to consider the factors in reaching a decision on the project.[2]

Thus, population, housing and employment issues are relevant in determining whether a Negative Declaration or EIR should be prepared, and if an EIR, whether any impacts on the physical environment are "significant." Accordingly, City environmental documentation typically includes information on these issues sufficient to inform the public and assist City decision makers in making the relevant determinations required by CEQA.

For purposes of this section the following threshold of significance is used with respect to employment:

Will the project cause a substantial alteration of the location, distribution, density, or growth rate of the employment planned for the area as specified in the applicable Community Plan, any applicable Specific Plan, Redevelopment Plan, regional growth plan and/or other officially adopted plan or growth policy for the area in which the proposed project will be located?

To the extent that the construction or operation of the ADP's physical components would have any direct impacts on the physical environment, these are discussed in relevant sections of the ADP EIR (e.g., traffic and circulation impacts).

The ADP will directly add new jobs as a result of its construction and operation. It may also induce new jobs as a result of income spent by workers filling these direct jobs, and may, in addition, result in indirect employment, to the extent that direct employment leads to local purchases of materials and services.

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1 *Id.*, § 15126(g).

2 *Id.*, § 15131(c).

Impact Analysis Areas

The following geographic areas were analyzed for ADP impacts:

- *The County of Los Angeles.* According to the transportation/traffic analysis prepared for the ADP, it is anticipated that 85 percent of the project labor force will reside within Los Angeles County and commute to the site via mass transit, autos and other modes. In view of the regional nature of this project, and the geography within which employment and housing markets operate, the County geography is considered the most appropriate for assessing conformity with regional plans.

- *The City of Los Angeles.* This is the geographic zone of most concern to City decision makers. For the purposes of this Report, the City of Los Angeles is also used as a proxy for SCAG's Los Angeles City Subregion, which includes the City of Los Angeles and several other small areas of the County, as defined in SCAG's new Regional Comprehensive Plan (RCP).

Data for the six-county SCAG region are also included where appropriate. Geographic areas smaller than the City are not considered appropriate for this employment analysis because: (i) labor markets do not operate at scales typically used for other environmental topics (e.g., the Project site, Community Plan areas or Master EIR areas); (ii) the regional growth forecast is based on a system of relatively large subregional areas including one that consists primarily of the entire City; and (iii) the nature of the ADP is regionally oriented.

Construction Impacts

Estimates of construction-period employment were prepared using the IMPLAN input-output model, with data describing economic conditions as of 1991. IMPLAN (**IM**pact analysis for **PLAN**ning) is an input-output model, which was originally developed by the U.S. Forest Service using data from the Bureau of Economic Analysis and the Bureau of Labor Statistics.[1] IMPLAN is used for the preparation of economic impact analyses by many public and private agencies including the California Department of Finance. The U.S. Forest Service also regularly uses IMPLAN to estimate the economic impacts of projects under the Service's jurisdiction.

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1 See, USDA Forest Service and Minnesota IMPLAN Group, *Micro IMPLAN User's Guide Version 91-F*, January 1992, modified for use by Minnesota IMPLAN Group January 1993.

The estimated ADP construction cost was discounted from 1994 dollars to the 1991 IMPLAN base year[1] using an office building construction cost index prepared by Marshall and Swift Company for high-rise Class B office buildings in the Los Angeles area.[2] Entering the ADP's construction cost as final demand into the "new construction" sectors of the IMPLAN model produced an estimate of 14,300 jobs *directly* associated with the construction of the total ADP -- 3,500 construction jobs for Phase I and 10,800 jobs for the Buildout Phase. This is the cumulative number of jobs staggered over the entire construction period as construction phases, and their associated trades, proceed through the construction process.[3]

Direct Permanent Employment Impacts

The construction of non-residential buildings creates the work space necessary to accommodate employment; it does not directly cause employment to occur. On the other hand, if there is an insufficient supply of non-residential building space to accommodate employment in an area, economic expansion of that area may be constrained. Thus, there is an indirect causal connection between the construction of new non-residential buildings and employment growth.

The businesses or other entities that occupy newly constructed non-residential buildings of the type proposed by the project may include one or more of the following businesses or uses:

- A newly established business enterprise or public agency that did not exist in any other space prior to construction of the new building;

- An existing business or agency located in another city or region that decides to move its operations, or to establish a branch office in area where the new building is located; and

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1 Because the IMPLAN model is based on 1991 economic data, the estimated cost of construction first had to be converted to 1991-equivalent dollars, to remove the effects of inflation between 1991 and 1994. A building-by-building construction cost estimate was provided by the ADP applicant. In 1994 dollars, the costs are $494,900,000 for Phase I and $1,315,900,000 for the Buildout Phase, for a total construction cost of $1,810,800,000.

2 See, Real Estate Research Council of Southern California, *Real Estate and Construction Report 2 Second Quarter 1994*, California State Polytechnic University, Pomona, 1993, p. 71. The Marshall and Swift index indicates that Class B office construction costs had increased by 5.9% from 1991 to 1994. An equivalent index for Class A office space is not available. The same index was used for the residential portion of the ADP since Marshall and Swift's estimate of the change in construction costs for high rise Class A apartment buildings differed from the commercial change by -0.2 percentage points. The 1991-equivalent construction costs resulting from the use of these discount factors are $467,300,000 for Phase I and $1,241,400,000 for the Buildout Phase, for a total cost of $1,708,700,000.

3 Although construction jobs themselves represent temporary employment, the indirect and induced jobs resulting from the investment in construction represent permanent jobs.

- An existing business or agency already located in the area that determines that the new building better serves its needs, due to physical amenities, location, potential for employment expansion or other factors;

Each type of business or public agency that occupies a new non-residential building can satisfy its need for employment by:

- Hiring from the existing supply of locally available, but unemployed residents of the area, or those who are just entering the labor force;
- Hiring a worker who is already employed at another job located in the area;
- Attracting new workers from outside of the area if the available supply is insufficient (e.g., lack of sheer numbers or a particular skill); or
- If it is a business or agency relocating from outside the area, it may bring some workers from the previous location into the new one.

In the case of the ADP, the vast majority of the buildings are office space users, either public agencies or private users[1]. Hotels, some residential units, miscellaneous retail businesses and a museum account for the balance. A relatively accurate estimate can be made of the number of employees who can be accommodated by the ADP's floor area, using commonly accepted factors for employees per unit of floor area, by floor area type (i.e., office versus hotel). However, in view of the more than two decades over which the ADP will be implemented, it is not possible to know which specific businesses and agencies will occupy the ADP at its completion, and thus it is not possible to know what the precise mix of business/agency types from among the three described above will be, nor how each would fill its needs for employment. In light of these unknowns, the ADP's direct employment impacts -- i.e., the number of net new jobs associated with the businesses and agencies that move into the ADP -- can be estimated only roughly based on a set of assumptions about each project floor area category. The assumptions used to make such an effort are as follows:

[1] Combined, the office space accounts for 8.45 million of the ADP's 10.45 million net new gross floor area, or 81%.

- *Non-governmental office space.* Based on an analysis of tenants in six large, Class A, high-rise office buildings constructed in the downtown area since 1990,[1] it is assumed that only 17% of the businesses,[2] and hence 17 percent of the employees,[3] will relocate from outside the Los Angeles area to occupy this floor area.

- *Government office space.* According to the Project applicant, most of the agencies expected to be attracted to the ADP are also already located in the downtown area or other Los Angeles locations and these agencies are expected to be interested in no more space than is needed to accommodate existing workers.[4] Although the SCAG forecast for the region anticipates a 25 percent increase in government sector employment between 1990 and 2010, the current situation of public finance and strong political themes emphasizing a downsizing of the government sector suggest that a more modest rate of growth is likely. Accordingly, it is assumed here that 15 percent of the employees in the government office space component of the ADP will be net new to the area.

- *Hotel, retail and museum space.* Although these uses tend to be new businesses or institutions, their jobs generally do not pay high wages or require high skill levels that would attract large numbers of in-migrating employees. Accordingly, it is assumed that 10 percent of these employees are not new to the Los Angeles area.

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1 These are: 633 W. Fifth Street (First Interstate World Center); 865 So. Figueroa Street; 801 So. Figueroa Street; 777 So. Figueroa Street; 601 So. Figueroa Street (Sanwa Bank Plaza); and 350 So. Grand Avenue (2 California Plaza). Together, these six buildings account for 6,036,000 gross square feet, or 108% of the non-governmental floor area that is planned for the ADP.

2 Of 122 tenants in these buildings for which previous addresses could be determined, 73% were previously located in the downtown area, another 10% were previously located in other City of Los Angeles locations, and the remaining 17% consisted of new businesses (11%), new branch offices of existing businesses (3%) and businesses that relocated from outside the Los Angeles area (3%). Previous addresses could not be found for eight tenants.

3 Although precise numbers of employees per tenant could not be determined, this is a very conservative assumption since it assumes that 100% of the employees in all start-up businesses, new branch offices and relocating businesses are net new employees (i.e., none are hired from among the local labor supply).

4 This reflects a growing trend among public agencies in the Los Angeles area to consolidate office space. Examples include the proposed relocation of the Metropolitan Water District (MWD) to Phase I of the ADP, which will include 950 workers, all of whom are currently located in other downtown area facilities. The Gateway Center project on an adjacent parcel that is not part of the ADP, but is representative of the ADP's proposed government office buildings, includes 2,100 employees from the Los Angeles County Metropolitan Transportation Authority, many of whom are also now located in existing downtown area sites. Other examples that are still in the early planning stages include a proposed consolidation of State offices and offices of the Los Angeles Unified School District, for which specific locations have not yet been selected.

Based on the above assumptions, it is predicted that the ADP would have the following direct, net new employment impacts.[1]

Phase I Impacts

Phase I would consist of 3,362,000 gross square feet (gsf) of new development and 281,400 gsf of demolition for a net of 3,080,600[2] new gsf of development. Proposed uses would include commercial office space, government office space, retail uses and a museum. Phase I is comprised of 1,961,500 net new gsf of development on the Union Station property and 1,119,100 net new gsf of development on the Terminal Annex property. The anticipated completion for Phase I is the year 2000.

Using commonly accepted factors for the number of employees per gross square foot of new development, Phase I of the ADP is projected to include just over 13,000 employees, as shown in Table 62.[3] Almost all (95%) of these employees will be in office type uses, including government office and commercial office space. Of the remaining employees, most will be involved in office-related retail uses housed within the office buildings developed during this phase. An additional 140 employees are estimated to be housed in a new museum on the site.

Applying the assumptions described above, it is estimated that Phase I would result in a total of 2,051 direct, net new jobs, as also shown in Table 62.

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1 Because the preponderance of ADP employees is expected to relocate from existing space in the downtown area, the vacated space could be: (i) put to a non-business use (e.g., MWD's existing head-quarters building, which may be replaced with a non-office use); (ii) filled by still other existing businesses already in the area; or (iii) filled by in-migrating businesses. The latter instance could result in indirect, net new employees. Since the chain of such "backfilling" moves cannot be predicted on a business-by-business basis with the degree of certainty required by CEQA (C.C.R. §§ 15144 and 15145), no such hypothetical net new employees are included in this analysis. In any event, any such indirect new employees are accounted for in the SCAG regional employment growth forecast.

2 This figure does not include 98,700 gsf of existing development on the Union Station property that will remain during Phase I development.

3 The employee density factors used in estimating Project-related employment are those now being used as part of the Los Angeles County Metropolitan Transportation Authority's Congestion Management Deficiency Program. See Technical Studies Appendices for the derivation of this estimate.

TABLE 62
JOBS ACCOMMODATED AND DIRECT, NET NEW ADP EMPLOYMENT BY EMPLOYEE TYPE: PHASE I

	Govt. Office	Office	Retail[1]	Residential	Hotel/ Conference	Other[2]	Total
Net New Floor Area (000's of s.f.)	1,370.6	1,345.0	295.0	0	0	70.0	3,080.6
Jobs Accommodated[3]	6,453	5,938	557	N/A	0	140	13,088
Net New Jobs	1,028	953	56	N/A	0	14	2,051

1 Because this analysis focuses on the impacts of project employment by type of employee (office, retail, hotel, etc.), retail square footage within office buildings is included in the Retail rather than the Office or Govt. Office column in this Table.
2 Museum
3 See Technical Study.
Source: HR&A

The total number of direct, net new Phase I jobs is equal to 0.2 percent of the employment growth projected for the SCAG region as a whole over the 1990 to 2000 period, 0.4 percent of Los Angeles County employment growth, and 2.4 percent of the employment growth in the City, as shown in Table 63.

TABLE 63 PHASE I DIRECT, NET NEW ADP EMPLOYMENT COMPARED WITH FORECASTED YEAR 1990 TO 2000 EMPLOYMENT GROWTH FOR THREE ZONES AROUND THE ADP SITE			
Geographic Zone	1990 - 2000 Employment Growth[1]	Phase I ADP Employment	ADP Percent of 1990 - 2000 Growth
SCAG Region	1,194,000	2,051	0.2%
Los Angeles County	471,151		0.4%
City of Los Angeles	87,296		2.4%

1 SCAG Small Area Forecast
Source: SCAG, HR&A

Buildout Phase Impacts

Approximately 7,371,300 net new gsf will result from the Buildout Phase of the ADP. This amount of floor area would accommodate about 27,000 employees if fully occupied, as shown in Table 64.[1]

As in Phase I, the bulk of Buildout Phase-related employees (94%) will be in office type uses, including government office and commercial office space. This Phase would also accommodate a substantial number of non-office employees. About 70 direct, net new employees would be located in retail uses. An additional 118 direct, net new employees would be associated with a planned 750-room hotel and conference facility.

As shown in Table 65, the 4,298 direct, net new employment associated with the Buildout Phase of the ADP is equal to 0.3 percent of the employment growth forecasted for the region over the 2000 to 2010 period, 0.7 percent of the employment growth forecasted for Los Angeles County and 3.5 percent of that forecasted for the City.

1 See Appendix A of the Technical Study for the derivation of the Buildout Phase employment estimate.

TABLE 64
JOBS ACCOMMODATED AND DIRECT, NET NEW ADP EMPLOYMENT BY EMPLOYEE TYPE: BUILDOUT PHASE

	Govt. Office	Office	Retail[1]	Residential	Hotel/ Conference[2]	Other[3]	Total
Net New Floor Area (in 000's s.f.)	1,478.0	4,260.0	370.0	300.0	1,050.0	(87)	7,371.0
Jobs Accommodated[4]	7,790	17,417	698	N/A	1,180	(173)	26,912.0
Net New Jobs	1,109	3,018	70	N/A	118	(17)	4,298

1 Because this Section focuses on the impacts of project employment by type of employee (office, retail, hotel, etc.) retail square footage within office structures is included in the Retail rather than the Office or Govt. Office columns in this Table.
2 750 hotel rooms plus associated conference space.
3 Existing jobs associated with 86,700 gsf to be demolished.
4 See Technical Study.
Source: HR&A

TABLE 65
BUILDOUT PHASE DIRECT, NET NEW EMPLOYMENT COMPARED WITH FORECASTED YEAR 2000 TO 2010 EMPLOYMENT GROWTH FOR THREE ZONES AROUND THE ADP SITE

Geographic Zone	2000 - 2010 Employment Growth[1]	Buildout Phase ADP Employment	ADP Percent of 2000 - 2010 Growth
SCAG Region	1,425,000	4,298	0.3%
Los Angeles County	586,163		0.7%
City of Los Angeles	123,111		3.5%

1 SCAG Small Area Forecast
Source: SCAG, HR&A

Total ADP Direct Employment Impact

As shown in Table 66, the total direct, net new employment associated with the ADP as a whole is equal to 0.2 percent of the employment growth forecasted for the SCAG region over the 1990 to 2010 period, 0.5 percent for Los Angeles County, and 2.6 percent for the City.

TABLE 66 TOTAL ADP DIRECT, NET NEW EMPLOYMENT COMPARED TO PROJECTED YEAR 1990 TO 2010 EMPLOYMENT GROWTH FOR THREE ZONES AROUND THE ADP SITE			
Geographic Zone	1990 - 2010 Employment Growth[1]	Total ADP Employment	ADP Percent of 1990 - 2010 Growth
SCAG Region	2,619,000	6,349	0.2%
Los Angeles County	1,057,314		0.5%
City of Los Angeles	210,407		2.6%

1 SCAG Small Area Forecast
Source: SCAG, HR&A

Indirect and Induced Employment Impacts

The IMPLAN input-output model was also used to derive an estimate of indirect and induced employment.

Construction Employment

The construction cost estimate also yields an IMPLAN-based estimate of 26,600 jobs created in the surrounding economy of Los Angeles County as an indirect result of local purchases of construction materials, supplies and services (i.e., indirect jobs) and as a result of workers (direct and indirect) spending their ADP-related earnings (i.e., induced jobs). Of this total, 7,000 indirect/induced jobs are associated with Phase I and 19,600 are associated with the Buildout Phase.

Indirect/Induced Permanent Employment

The ADP's direct, net new employment can be used to estimate the number of indirect and induced jobs associated with the ADP as tenants purchase goods and services, and their employees spend their wages. The estimates are not adjusted for likely variation in occupancy during the lease-up period once construction of the ADP is finished.

Since the specific industry sectors that will occupy the ADP are not known at this time, it was necessary to make assumptions about the eventual tenant/user occupants of the ADP to produce estimates of economic impact (including indirect and induced jobs). The government offices were assumed to be federal, state and local government agencies. Private sector offices were assumed to be an equal mix of professional services including banking, other financial services, legal and engineering/architectural offices. The retail spaces were assumed to be occupied by an equal mix of eating and drinking and miscellaneous retail establishments (e.g., entertainment uses, such as clubs and movie theaters), while the hotel operations were assumed to consist exclusively of hotels and lodging places (including on-site conference facilities).

With these assumptions, and using the above estimates of direct, net new ADP employment, it is estimated that on-going operation of the ADP would result in a total of 6,400 indirect and induced jobs -- 1,850 for Phase I and 4,550 for the Buildout Phase.

Other Economic Impacts from ADP Construction and Operation

The estimate of direct, net new ADP employment can also be used in the IMPLAN model to estimate employee earnings (for direct, indirect and induced employment) and total regional economic output.

Employee Earnings

Construction employee earnings for each direct, indirect and induced job associated with constructing the ADP were estimated by the IMPLAN model using average earnings for sectors of the L.A. County economy benefitting from construction of the ADP. It is estimated that construction-related employee earnings will total $1.191 billion, which includes $314.7 million for Phase I and $876.2 million for the Buildout Phase (all in 1994 $). For each phase, about 40 percent of the earnings will be paid to construction workers directly involved in building the ADP and the other 60 percent will be paid to employees whose jobs indirectly result from ADP construction and other employees whose jobs were induced by the expenditures of employees directly associated with ADP construction.

Employee earnings from on-going operation of the ADP are estimated to total $391.8 million, which includes $123.9 million from Phase I and $267.9 million from the Buildout Phase (all in 1994 $). About three-quarters (72%) of Phase I earnings are attributable to direct, net new ADP employees and the other one-quarter to indirect/induced employees. For the Buildout Phase, just over half (57%) of the earnings will accrue to direct, net new ADP employees.

Regional Economic Output

"Regional economic output" refers to total economic activity associated with construction and operation of the ADP, including employee earnings, profits and indirect business taxes. Total one-time economic output within Los Angeles County that would be related to ADP construction is estimated to total $3.851 billion (1994 $). The construction-related regional output for Phase I is $1.045 billion, of which the construction investment represents about half (45%). The construction-related regional output for the Buildout Phase is estimated at $2.806 billion (1994 $), of which construction also represents 47 percent.

For on-going operation of the ADP, regional economic output that would occur within Los Angeles County is estimated to total $856 million (1994 $), which includes $252 million for Phase I and $604 million for the Buildout Phase. In each phase, ADP employee earnings account for about 45 percent of the total output.

Consistency With Adopted City Plans and Policies

There are several City plans that are relevant in the context of determining ADP consistency with adopted local employment goals and policies. These include the City's General Plan, the Central City North Community Plan and the Land Use/Transportation Policy. Also relevant are the recently adopted Downtown Strategic Plan and the Central Business District Redevelopment ADP Area (although the ADP does not fall within the boundaries of these latter two plan areas). Specific goals, objectives and policies of each of these local plans are discussed at length in the Section IV.A, Land Use. An overview of these policy documents with respect to employment is provided below.

Adopted City Plans

City of Los Angeles General Plan. The City's State-mandated General Plan consists of a hierarchy of components, with the higher-order components guiding the subsequent components, which make general policies more specific. The three components of the City's General Plan include:

- *Citywide Elements.* This component consists of those plans which provide long-range, Citywide policy direction on specific topics, some of which are also mandated by State law, or concern special areas that affect the City as a whole (e.g., the Master Plans for Los Angeles International Airport and the Port of Los Angeles). The Elements in this component of the General Plan include Air Quality, Transportation, Housing,[1] Infrastructure Systems, Conservation, Open Space, Noise, Public Facilities, Cultural and Urban Design, and Safety.

- *Community and Neighborhood Plans.* The next component consists of the 35 Community Plans which collectively comprise the land Use Element required by State law. These Plans establish guidance for the location and intensity of the private and public use of land that will effectuate overall planning goals. The ADP is located in the Central City North Community Plan Area. The goals and objectives of this Plan Area are discussed in Section IV.A, Land Use. There are no pre-existing Neighborhood Plans or Specific Plans covering the ADP site. The ADP, however, includes adoption of a new Specific Plan for the site.

- *Specific Plans.* These are the most micro in scale and the most specific of the City general Plan. The intent is to blend both the policy and implementation functions for unique neighborhoods or subareas within a Community Plan.

The City's General Plan does not establish employment densities for any of its planning areas, including the Central City North Community Plan. The ADP can, however, be compared qualitatively with employment-related policies in the applicable Community Plan.

The Central City North Community Plan,[2] which was adopted by the City Council in 1979 and amended in January 1988, seeks to allocate land uses in a way that will accommodate population and development activity projected to 1995. Other objectives of the Plan include:

- coordinating development of Central City North with that of the Central City, other parts of the City and the region;

- preserving and enhancing the area's distinctive character and landmarks;

- promoting economic well-being and public convenience through an appropriate allocation of land uses.

- coordinating and balancing public services and the circulation system with future growth;

- providing local job opportunities for inner-city residents.

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[1] The Housing Element is discussed under the Environmental Impact section for Housing.

[2] All references to the Community Plan are to the re-formatted version prepared as part of the AB 283 General Plan Consistency Program.

The Community Plan divides the area into seven discrete subareas. The ADP is located in the Government Support Subarea. This subarea is to accommodate various governmental offices and functions (e.g., the Piper Technical Center, the County Jail, County Sheriff's headquarters, the Department of Water and Power and the U.S. Post Office). The subarea is also intended to feature a redeveloped Union Station that would accommodate tourist-oriented commercial and cultural facilities and a multi-modal transportation center. Ideas mentioned in the Plan for the commercial focus for this subarea included a Latin-American cultural-commercial center and a major exposition facility.

The proposed hotel and museum would accommodate tourists, though such services would be only one aspect of the ADP rather than its exclusive focus. The ADP's proposal to add approximately 2.9 million square feet of newly constructed space for governmental offices is consistent with the Plan's intent for this subarea. It would also fulfill the Plan's general objectives of balancing growth and public services, and providing job opportunities that would be available to inner-city residents.

Other City Policies

Downtown Strategic Plan. As stated elsewhere, the ADP is not required to be consistent with the Downtown Strategic Plan.

The DSP was ordered to be prepared by the City Council in 1989, in order to establish a vision and plan of action to help guide City decision making about the future of a portion of downtown over the next 25 years. The DSP proposes a set of planning principles and specific strategic initiatives for action. Its most immediate policy recommendations focus on making streets safe and clean in order to retain existing businesses and attract new ones, reform of regulatory processes to ensure that the downtown remains competitive in attracting new investment, and a variety of actions to actively promote the economic development of the central city including marketing, advocacy, development of an "industrial policy," linking job opportunities with the inner city labor force, creating viable residential neighborhoods, addressing a variety of social problems (e.g., homelessness) and making strategic physical improvements (e.g., transportation, open space and built form).

The ADP is located immediately adjacent to the central business district. The nearly 7,000 direct, net new permanent jobs it would stimulate, the level of economic activity it implies, and the degree to which its employees would contribute ridership demand for the regional transportation system, would benefit downtown as a whole. The overall effect of the ADP would be to bolster the downtown's position as the preeminent business center in the region.

Land Use/Transportation Policy. The Land Use/Transportation Policy, developed jointly by the City's Planning Department and the Metropolitan Transportation Authority, is a long-term strategy for integrating land use, housing, transportation and environmental policies into the development of a City form that complements and maximizes the utilization of the region's emerging mass transit system.[1] It establishes a series of objectives and principles to guide future development and employment around transit stations.

The ADP concentrates a significant amount of new private and government office, retail and residential space and the resulting employment within the "primary influence area" (i.e., one-quarter mile) of the region's most important intermodal transportation hub, consistent with the Land Use/Transportation Policy.

Consistency With Adopted Regional Plans and Policies

At the regional level, the goals, objectives and policies in SCAG's new Regional Comprehensive Plan (RCP) are relevant yardsticks for measuring ADP consistency with adopted plans. The term "consistency" as used here means whether the ADP would, considering all of its employment, housing and population aspects, further the objectives and policies of the RCP and not obstruct their attainment.[2] This analysis thus differs from the "conformity review" that SCAG, as the designated Metropolitan Planning Organization for the southern California region, would have to make[3] if the ADP included transportation plans, programs or projects funded or approved under applicable Federal laws,[4] or if the ADP involved other specified Federal actions.[5]

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[1] City of Los Angeles Planning Department, Land Use/Transportation Policy for the City of Los Angeles and the Los Angeles County Metropolitan Transportation Authority, adopted by the City Council on November 2, 1993, at 6.

[2] This is a standard definition for judging consistency with a local general plan. See generally, Governor's Office of Planning and Research, State of California General Plan Guidelines, State of California, June, 1987, at pp. 215-221.

[3] Pursuant to §176(c)(4) of the Clean Air Act, as amended in 1990. In making such a conformity review, SCAG would apply the criteria and procedures specified in the U.S. Code of Federal Regulations. In general, the conformity review seeks to determine whether the proposed project or action conforms with the applicable State Implementation Plan for achieving the elimination, or reduction in the severity and number, of violations of the national ambient air quality standards, and achieving expeditious attainment of such standards, as specified in the Act.

[4] See, 40 CFR Parts 6, 51 and 93.

[5] See, 40 CFR Parts 51 and 93.

The RCP, which is being adopted Chapter by Chapter during 1994 and 1995, seeks to integrate a wide variety of planning topics and legally mandated regional plans into a comprehensive vision and strategy for the future development of the southern California region.[1] It differs from all past SCAG regional plans both in its comprehensiveness, and in the way it was developed and is proposed to be implemented. In addition to collaborating with other regional planning agencies (e.g., the Metropolitan Water District and the South Coast Air Quality management District), SCAG worked extensively with 13 subregional organizations comprised of cities and counties to draft the RCP. The City of Los Angeles formed a subregion unto itself, and unincorporated portions of Los Angeles county were combined with adjacent cities into subregions. In other cases, entire counties formed subregions (e.g., Orange and Ventura Counties).

The RCP is designed to meet a number of purposes, including: (i) to serve the region as a framework for decision making with respect to the growth and changes that can be anticipated during the next 20 years and beyond; (ii) to provide a general view of the plans of the various regional agencies that will affect local governments, or that respond to the significant issues facing southern California; and (iii) to summarize the plans which describe how the region will meet Federal and State requirements with respect to transportation, growth management, air quality, housing, hazardous waste management, and water quality management.

The RCP's Chapters are grouped into three categories:

- *Core Chapters*. The Growth Management, Regional Mobility, Air Quality, and Hazardous Waste Management chapters constitute the Core Chapters of the document. These are the chapters which currently respond directly to Federal and State requirements placed on SCAG. Local governments are required to use these as the basis of their plans for purposes of consistency with applicable regional plans (under CEQA) and conformity with the region's three air quality management plans (South Coast, Ventura and Southeast Desert). The Core Chapters also form the basis for certification of local plans described in the Implementation Chapter.

- *Ancillary Chapters*. The other substantive Chapters, those on the Economy, Housing, Human Resources and Services, Finance, Open Space and Conservation, Water Resources, Water Quality, Energy, and Integrated Waste Management are the Ancillary Chapters. These chapters may reflect other regional plans, but do not contain actions or policies required of local governments as a result of the RCP. Hence, they are strictly advisory and establish no new mandates or policies for the region. Rather, they support the mandates and show how the region can improve its implementation of them.

[1] This includes the counties of Ventura, Los Angeles, Orange, Riverside, San Bernardino and Imperial.

- *Bridge Chapters*. The Introduction, Strategy and Implementation Chapters are the Bridge Chapters, which establish the linkage between the requirements contained in the Core Chapters and the guidance offered in the Ancillary Chapters. The Bridge Chapters also address how the RCP will be implemented through the actions of local governments, subregions and regional oversight, monitoring and mediation for overall consistency.

Among the RCP Chapters particularly relevant to an analysis of employment impacts are the Strategy Chapter (adopted), Economy Chapter (adopted) and Growth Management Chapter (adopted).[1] These are each briefly described below.

Strategy Chapter

This Chapter attempts to tie the 13 Chapters of the RCP into a cohesive framework, and sets forth three overriding regional goals:[2]

- Improve the *standard of living* for residents of the region.
- Enhance the region's *quality of life*, including the physical environment.
- Improve regional *equity* in the distribution of benefits.

Indicators that will be used to measure progress toward meeting each of these goals are shown in Figure 30.

The RCP is intended to be a framework for decision-making for local governments that assists them to work together through their subregional organizations in order to meet Federal and State mandates, consistent with agreed upon regional goals. Each of the Chapters in the document seeks to contribute to the achievement of the RCP goals.

Growth Management Chapter

The purpose of the Growth Management Chapter is to present forecasts which establish the socio-economic parameters for the development of the Regional Mobility and Air Quality Chapters, and the various functional components of the RCP. Another purpose of this Chapter is to address the complex issues related to growth and land consumption, and to suggest guiding principles for development that are supportive of the strategic goals of the RCP (i.e., reinvigorate the region's

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1 The Housing Chapter is discussed in Section IV.E.2. (Housing, Environmental Impacts).

2 SCAG, Regional Comprehensive Plan, Chapter 1: Strategy, October, 1994, at 3-8.

economy, avoid social and economic inequities and the geographical dislocation of communities, and to maintain the region's quality of life).[1]

Growth Management in the context of the RCP does not mean curtailing growth through population, economic or land use policies. Instead, according to the RCP, Growth Management means encouraging local land use actions which could ultimately lead to the development of an urban form that will help minimize development costs, save natural resources, and enhance quality of life in the region. The goals of the Chapter, expressed in terms of the goals of the entire RCP, are:

- *Improve the regional standard of living.* Support local land uses that: (i) minimize public and private development costs; (ii) enable individuals to spend less income on housing; and (iii) enable firms to be more competitive.

- *Improve the regional quality of life.* Support local land use actions and urban forms that: (i) preserve open space and natural resources; (ii) are aesthetically pleasing and preserve the character of communities; and (iii) attain mobility and clean air goals.

- *Achieve regional equity in the distribution of benefits.* Support development of urban forms that: (i) avoid economic and social polarization; and (ii) accommodate a diversity of life styles.

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[1] SCAG, Regional Comprehensive Plan, Chapter 3: Growth Management, June, 1994, at 3-1.

GOALS OF THE REGIONAL COMPREHENSIVE PLAN

Standard of Living	Quality of Life	Equity
▪ Increase real per capita income for all residents.	▪ Provide adequate and affordable housing to all on a timely and equitable basis.	▪ Provide fair and equitable access to employment and the multitude of other resources throughout the region.
▪ Increase proportionately the region's share of employment in sectors expected to grow rapidly over the next two decades.	▪ Enhance and maintain air, land, open space, and water quality throughout the region.	▪ Provide fair and equitable access to regional governance.
▪ Attain sustained economic growth in order to reach and maintain an average unemployment rate which is below the national rate.	▪ Define a process which safely and efficiently handles hazardous waste.	▪ Recognize, encourage and support ethnic, racial, and cultural diversity.
	▪ Provide adequate transportation for all residents while meeting clean air goals.	
	▪ Invest in the human capital of the region, particularly in health, education, job training, recreational and cultural activities.	
	▪ Enhance personal safety and security throughout the region.	
	▪ Maintain a sense of community and recognize the value of neighborhood and distinct localities in the region.	

As noted previously, the ADP: (i) concentrates growth in the City's most highly urbanized regional center, which also features the region's most extensive inter-modal transportation hub; (ii) would support the creation of a large number of new jobs; and (iii) it would include housing, retail uses and commercial office uses all in the same project (i.e., mixed-use). Thus, the ADP is consistent with the non-quantitative policies of the RCP's Growth Management Chapter.

The Economy Chapter

In a major departure from the focus of SCAG's previous, issue-specific regional planning documents, the RCP begins with the premise that a healthy regional economy is a prerequisite for successful implementation of regional planning policies. The Economy Chapter proposes that increases in real (i.e., inflation-adjusted) per capita personal income be used to gauge progress toward the RCP's goal of enhancing the regional standard of living.[1]

The Economy Chapter maps the trends and changes that are affecting, and will continue to affect the economy of the region, including the characteristics of the region's economic base, the effects of the current recession, certain structural economic transitions affecting the region, and threats to the region's continued economic competitiveness in light of these trends and changes. The Chapter presents SCAG's employment forecast to the year 2010, and describes how the forecast differs from the one issued in 1987.

The final section of the Economy Chapter outlines strategies for achieving regional economic prosperity and economic equity, focusing on the need for a *regional* economic development strategy. Strategies are described to reverse the recent decline in the "basic industries" component of the regional economy,[2] to bolster the region's national and international competitiveness, and strategies to ensure that economic benefits are distributed across all populations in the region.

As noted above, SCAG's RCP includes a forecast to the year 2010 for the region, each county in the region and for 13 subregions, including the City of Los Angeles Subregion. The number of direct, net new jobs implied by the ADP would be equal to between 0.2 percent and 2.6 percent of the employment forecast for each area, respectively (as shown in Table 66). The ADP therefore falls within the SCAG employment forecast presented in the RCP for the County of Los Angeles and the City of Los Angeles Subregion.[3] This is the case despite the fact that the comparisons between the

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1 SCAG, Regional Comprehensive Plan, Chapter 2: The Economy, April, 1994, at 2-4.

2 See Footnote #1, at 1.

3 Regional Comprehensive Plan, Chapter 2: The Economy, *op. cit.*, at 2-32 to 2-37.

ADP and the forecast include an unavoidable overestimation in that some unknowable number of direct, net new ADP jobs are already accounted for in the SCAG growth forecast.[1]

Summary of Phase I Impacts

Impact E.1.1 — Construction of Phase I is expected to create 3,500 direct jobs and 7,000 indirect/induced construction jobs. In view of the high rate of unemployment and job loss in the regional construction industry sector during the recession, this number of job opportunities created by the ADP would not be considered a significant adverse impact.

Impact E.1.2 — Construction employee earnings associated with Phase I are estimated to total $314.7 million (1994 $), of which about 40 percent is attributable to direct construction jobs and the other 60 percent to indirect/induced construction jobs.

Impact E.1.3 — Construction-related regional economic output within Los Angeles County that is associated with construction of Phase I is estimated to total $1.045 billion (1994 $), of which the cost of construction represents 45 percent.

Impact E.1.4 — Phase I will result in about 2,051 direct, net new jobs. This number of jobs is within SCAG's employment forecast for Los Angeles County and the City of Los Angeles Subregion, and is therefore consistent with the adopted regional growth forecast in the Regional Comprehensive Plan, including its Growth Management and Employment Chapters. It would also be consistent with the City's General Plan, the Central City North Community Plan, and the Land/Use Transportation Policy, in that it concentrates future growth around the Union Station regional transportation hub.

Impact E.1.5 — Employee earnings from on-going operation of Phase I are estimated to total $123.9 million (1994 $), with about two-thirds of this attributable to direct employees and one-third to indirect/induced employees.

[1] The SCAG forecast already includes some portion of the growth associated with the ADP. The forecast includes an increase of 6,374 jobs within the ADP census tract 2060.00, some portions of which would be attributable to the ADP site.

Impact E.1.6 Regional economic output associated with on-going operation of Phase I is estimated to total $252 million, 45 percent of which is attributable to employee earnings.

Summary of Buildout Phase Impacts

Impact E.1.7 Construction of the Buildout Phase is expected to create about 10,800 direct jobs and 19,600 indirect/induced construction jobs. In view of the high rate of unemployment and job loss in the regional construction industry sector during the recession, this number of job opportunities created by the ADP would not be considered a significant adverse impact.

Impact E.1.8 Construction employee earnings associated with the Buildout Phase are estimated to total $876.2 million (1994 $), of which about 40 percent is attributable to direct construction jobs and the other 60 percent to indirect/induced construction jobs.

Impact E.1.9 Construction-related regional economic output within Los Angeles County that is associated with construction of the Buildout Phase is estimated to total $2.806 billion (1994 $), of which the cost of construction represents 45 percent.

Impact E.1.10 The Buildout Phase is estimated to result in about 4,298 direct, net new jobs. This number of jobs is within SCAG's employment forecast for Los Angeles County and the City of Los Angeles Subregion, and is therefore consistent with the adopted regional growth forecast in the Regional Comprehensive Plan, including its Growth Management and Employment Chapters. It would also be consistent with the City's General Plan, the Central City North Community Plan, and the Land/Use Transportation Policy, in that it concentrates future growth around the Union Station regional transportation hub.

Impact E.1.11 Employee earnings from on-going operation of the Buildout Phase are estimated to total $267.9 million (1994 $), with about half of this attributable to direct employees and half to indirect/induced employees.

Impact E.1.12 Regional economic output associated with on-going operation of the Buildout Phase is estimated to total $604 million (1994 $), 45 percent of which is attributable to employee earnings.

CUMULATIVE IMPACTS

In addition to the proposed ADP, 56 other "related" projects are proposed for development in the general vicinity of, and within the same implementation time frame as, the ADP. These related projects encompass a wide variety of land uses, and total about 34 million square feet, including about 19 million square feet of offices uses, three million square feet of commercial uses, about 5,600 hotel/motel rooms and about 5,600 dwelling units.

Applying the same employment density factors that were used to estimate the number of jobs that the ADP could accommodate to the list of related projects indicates that the non-residential projects would accommodate about 94,000 jobs, as shown in Table 67. About 85 percent of this total would result from new office development other than the proposed ADP.

Table 68 compares the cumulative employment that would be associated with the related projects and the ADP, should they all be developed and fully occupied and assuming they are all direct, net new jobs, with projected growth in each of the three geographic zones around the ADP site. It shows that cumulative jobs (i.e., jobs associated with related projects plus the ADP) represent a relatively small share of the number of jobs expected to be present in the City and County in the year 2010. Cumulative jobs, should they all materialize, would represent a large (approximately 10%) share of the forecasted employment growth in the County between 1990 and 2010. In the City, this number of jobs is equivalent to just under half of all forecasted job growth.

It should be emphasized, however, that because some, and perhaps most, of the employment associated with the related non-residential projects may have already been accounted for in SCAG's growth forecast, the comparison shown in Table 68 includes some (probably considerable) double-counting. Since SCAG's growth forecast is prepared on the basis of national and regional growth trends, and not on the basis of employment implied by planned development projects, it is not possible to sort out any such double-counting. And, as with the proposed ADP, only some unknown fraction of these jobs are net new to the region. Even with this probable double-counting, the fact that cumulative employment growth does not exceed the SCAG forecast for the City and County means that cumulative employment impacts are not significantly adverse.

TABLE 67
DIRECT EMPLOYMENT IMPACTS OF RELATED PROJECTS

Land Use	Amount	Employee Density Factor[1]	Estimate Number of Employees
Office	19,232,173 sf	1 job/240 sf	80,134
Commercial			
Retail	2,052,333 sf	1 job/530 sf	3,872
Restaurant	60,440 sf	1 job/120 sf	504
Market	18,000 sf	1 job/530 sf	34
Bank	11,390 sf	1 job/530 sf	21
Showroom	63,000 sf	1 job/650 sf	97
Health Club/Recreational	145,686 sf	1 job/500 sf	291
Warehouse	196,447 sf	1 job/850 sf	231
Other Commercial	266,500 sf	1 job/530 sf	503
Subtotal	2,813,796 sf		5,553
Hotel	4,292,977 sf (5,622 rooms)	1 job/890 sf	4,824
Institutional			
Concert Hall	2,350 seats	.03 jobs/seat + 20[2]	91
Cultural Center/ Museum	151,000sf		302
Conference Room/ Social Hall	167,728sf	1 job/500 sf	336
Child Care	270,00 sf	1 job/500 sf	54
Church	19,000 sf	1 job/500 sf	38
Subtotal		1 job/500 sf	821
Government			
School	386,000 sf	1 job/500 sf	772
Jail	1,065,000 sf	1 job/500 sf	2,130
Subtotal	1,451,000 sf		2,902
TOTAL RELATED PROJECTS JOBS		**94,234**	
DIRECT, NET NEW (ADP JOBS)		**6,348**	
CUMULATIVE JOBS (RELATED + ADP)		**100,582**	

1 Los Angeles County Metropolitan Transportation Authority, 1993 Congestion Management Plan, Draft Countywide Deficiency Plan Background Study, July 1993, Table 5, p. 23.
2 HR&A
Source: HR&A

TABLE 68 TOTAL EMPLOYMENT ACCOMMODATED BY RELATED PROJECTS COMPARED WITH SCAG'S REGIONAL FORECAST		
Geographic Zone	Percent of Employment in 2010	Percent of Employment Gro-wth, 1990-2010
L.A. County		
Related Projects	1.7%	8.9%
Related Projects + ADP	1.8%	9.5%
City of L.A.		
Related Projects	4.5%	44.8%
Related Projects + ADP	4.8%	47.8%
Source: SCAG, HR&A		

MITIGATION MEASURES

Phase I

Phase I of the ADP would not cause a substantial alteration of the location, distribution, density or growth rate of employment planned for the area as specified in the applicable City and regional plans, nor would it conflict with any adopted City or regional employment growth policies. Rather, it: (i) concentrates growth in the City's most highly urbanized regional center, which also features the region's most extensive inter-modal transportation hub; (ii) would support the creation of a large number of new jobs (direct, indirect and induced, construction-related and permanent) that is consistent with applicable City and regional employment growth plans and policies; and (iii) it would include housing, retail uses and commercial office uses all in the same project (i.e., mixed-use). Therefore, employment that could be accommodated by Phase I of the ADP would not cause any significant adverse impacts within the meaning of CEQA, and no mitigation is required or recommended.

Buildout Phase

The Buildout Phase of the ADP would not cause a substantial alteration of the location, distribution, density or growth rate of employment planned for the area as specified in the applicable City and regional plans, nor would it conflict with any adopted City or regional employment growth policies. For the aforementioned reasons, employment that could be accommodated by the Buildout Phase of the ADP would not cause any significant adverse impacts within the meaning of CEQA, and no mitigation is required or recommended.

ADVERSE EFFECTS

Employment that could be accommodated by Phase 1 and the Buildout Phase of the ADP would not cause any significant adverse impacts within the meaning of CEQA, and no mitigation is required or recommended.

SECTION IV.E.2
HOUSING

This Section also summarizes the results of the Assessment of the Employment, Housing and Population Impacts report prepared for the ADP project by Hamilton, Rabinovitz & Alschuler, Inc., in March 1995. The study is on file with the Community Planning Bureau, City of Los Angeles Planning Department, located at 221 S. Figueroa Street, Third Floor, and is part of the Technical Studies Appendices to this EIR.

ENVIRONMENTAL SETTING

Since the ADP does not include existing on-site housing and its potential housing impacts are regional in nature, the following subsections describe the existing housing setting in the County and City of Los Angeles. Additional analysis of housing issues relevant to the Central City North Community Plan area is included in the Environmental Impact subsection.

Historical Housing Growth in the County and City of Los Angeles (1980-1990)

During the 1980s, as shown in Table 69, the City and County housing stocks grew by about the same proportion (10% and 11%, respectively), but in absolute terms, the increase in the County was about three times (about 308,000 units) the increase in the City (about 111,000 units).

TABLE 69
RECENT HOUSING STOCK TRENDS IN TWO AREAS AROUND THE ADP SITE, 1980, 1990 AND 1994

Geographic Zone	1980	1990	1994	1980-90 Change		1990-94 Change	
				Amount	%	Amount	%
Los Angeles County	2,855,578	3,163,343	3,228,265[1]	307,765	11.0%	64,992	2.0%
City of Los Angeles	1,189,475	1,299,963	1,298,430[2] 1,322,804[3]	110,488	10.0%	(1,533)	(0.1)%

1 State Department of Finance estimate for January 1, 1994.
2 Los Angeles City Planning Department October, 1 1993 estimate.
3 State Department of Finance estimate for January 1, 1994 (for comparison only).
Source: 1990 U.S. Census, Los Angeles City Planning Department, California Department of Finance, HR&A

Between 1990 and 1994 housing construction in the City and County came to a virtual standstill. During the recession, the housing stock in the County grew at about half the annual rate it experienced during the 1980s. In the City, there was actually a small net decrease in the stock.

Other housing stock trends during the 1980s in the zones around the ADP site include the following:

Single-Family vs. Multi-Family Units

Multi-family units now outnumber single-family units in The City and the County. During the 1980s, the proportion of single-family units in the County declined by about eight percentage points and the proportion in the City declined by about nine percentage points. By 1990, 51 percent of housing units in the County were multi-family as were 61 percent of the units in the City. SCAG's new forecast to 2010 indicates that these trends will continue over the next 20 years.

Vacancy Rates

The multi-family housing vacancy rate increased in both the City (+69%) and the County (+51%) over the 1980 to 1990 period due to the rapid growth in the multi-family stock toward the end of the decade. The single-family housing vacancy rate was relatively stable over this period as shown in Table 70. Since 1990, however, the vacancy rate in both the single-family and multi-family housing stocks in both jurisdictions has grown substantially. This has resulted from a complex interaction of economic forces, including a decline in real median rents that has provided households a wider variety in housing choices.

TABLE 70
RECENT VACANCY RATE TRENDS IN THE SINGLE- VERSUS MULTI-FAMILY STOCK FOR TWO AREAS AROUND THE ADP SITE, 1980-1990

Geographic Zone	Single Family			Multi-Family		
	1980	1990	1994[1]	1980	1990	1994[1]
Los Angeles County	1.8%	1.9%	N/A	3.9%	5.9%	N/A
City of Los Angeles	1.9%	1.8%	4.1%	3.9%	6.6%	12.1%

[1] Los Angeles City Planning Department estimate for October, 1 1993.
Source: 1990 U.S. Census, Los Angeles City Planning Department, HR&A

Census data for 1990 also show that the vacancy rates were much higher for large buildings. In the City of Los Angeles, buildings with 50 or more units had a vacancy rate of 13 percent. Those in the County had a vacancy rate of 11 percent. These vacancy rates may be even higher in 1995 if large buildings experienced the same pattern of vacancy rate increases that characterize the multi-family stock as a whole.

The 1990 census data also indicate relatively high vacancy rates in the vicinity of planned transit system stations. Table 71 below shows that within one mile of the 165 stations planned for the five-county Metrorail/Metrolink system (including the Green Line and Blue Line light rail routes) about seven percent of the housing stock was vacant in 1990. Once again, these rates may be even higher in 1995.

TABLE 71
VACANCY RATES WITHIN ONE MILE OF PLANNED METRORAIL/METROLINK STATIONS IN FIVE SOUTHERN CALIFORNIA COUNTIES, 1990

Housing Type	Total	Occupied	Vacant	Percent Vacant
Single-Family Units	459,639	440,368	19,271	4.2%
Multi-Family Units	660,124	605,472	54,652	8.3%
Total Units	1,119,763	1,045,840	73,923	6.6%

Source: 1990 Census of Population and Housing (STF-1); HR&A.

Future Housing Growth (1990-2010)

Over the next 20 years, the recently adopted SCAG forecast suggests somewhat more divergence between the rate of housing growth in the County, compared to that in the City, than was the case during the 1980s, when both areas grew at about the same rate. Cumulatively over the whole period, the rate of housing growth in the City is expected to be 6.5 percentage points higher than in the County, with most of this difference occurring between 1990 and 2000. These data appear to reflect the City's and SCAG's policy objective of concentrating housing in "jobs rich/housing poor" areas, like the central area of the City of Los Angeles, and particularly around transit stations. The forecast data are shown in Table 72.

TABLE 72
DWELLING UNIT FORECAST FOR TWO AREAS AROUND THE ADP SITE, 1990-2010

HOUSING UNITS

Geographic Zone	1990	2000	2010
Los Angeles County	3,163,343	3,472,000	3,872,000
City of Los Angeles[1]	1,299,963	1,484,000	1,676,000

HOUSING UNIT GROWTH

Geographic Zone	1990-2000	2000-2010	1990-2010
Los Angeles County			
Amount	308,657	400,000	708,657
Percent	9.8%	11.5%	22.4%
City of Los Angeles			
Amount	184,037	192,000	376,037
Percent	14.2%	13.0%	28.9%

1 Data for the Los Angeles City Subregion as shown in the Draft Regional Comprehensive Plan. It is estimated that the Subregional data exceed the figures for the City itself by approximately 3.5%.

Source: SCAG, HR&A

ENVIRONMENTAL IMPACT

Threshold of Significance

For the reasons described in the preceding section on Employment, social and economic effects, including population, housing and employment impacts are relevant CEQA issues to the extent that a chain of cause and effect can be traced from a proposed project through anticipated social and economic changes resulting from the project to physical changes caused in turn by the economic and social changes. If a project's physical impacts may cause social or economic effects, the magnitude of the social or economic effects may be relevant in determining whether a physical impact is "significant." If the physical change causes adverse economic or social effects on people, those adverse effects may be used as the basis for determining that the physical change is significant. CEQA also requires an analysis of the degree to which a proposed project is consistent with applicable general plans and regional plans.

The following threshold of significance is used with respect to housing:

> *Will the project cause a substantial alteration of the location, distribution, density, or growth rate of the housing planned for the area as specified in the applicable Community Plan, Housing Element of the General Plan, Comprehensive Housing Affordability Strategy, any applicable Specific Plan, Redevelopment Plan, regional growth plan and/or other officially adopted plan or growth policy for the area in which the proposed project will be located?*

To the extent that the construction or operation of the ADP's housing components would have any direct impacts on the physical environment, these are discussed in relevant sections of the ADP EIR (e.g., traffic and circulation impacts). The relationship between the ADP and each of the relevant City and regional official plans is discussed below.

Construction Impacts

Due to the employment patterns of construction workers in southern California, and the operation of the market for construction labor, construction workers are not likely, to any significant degree, to relocate their households as a consequence of the job opportunities presented by either Phase I of the ADP or the Buildout Phase.

The construction industry differs from most other industry sectors in several important ways that are relevant to impacts on housing:

- There is no regular place of work. Construction workers commute to a job site that changes many times in the course of a year. These often lengthy daily commutes are made possible by the off-peak starting and ending times of the typical construction work day.

- Many construction workers are highly specialized (e.g., crane operators, steel workers, masons), and move from jobsite to jobsite as dictated by the demand for their skills.

- The work requirements of most construction projects are also highly specialized and workers are employed on a job site only as long as their skills are needed to complete a particular phase of the construction process.

It is reasonable to assume, therefore, that most ADP-related construction workers will not relocate their household's place of residence as a consequence of working on the ADP, and there will not be any significant impact on the City or regional housing due to construction of the ADP.

Phase I Impacts

Phase I of the ADP includes no new dwelling units and does not propose any demolition of existing units. This phase of the ADP, therefore, has no direct impact on housing in the City or the County. The 2,051 direct, net new employees associated with Phase I the ADP (see Section IV.E.1., Employment) could result in households that are new to the region. To the extent that such demand is not met by then-existing supply, a resulting increase in the number of housing units may occur. Since any such impacts would be a function of the household location decisions of these employees, which cannot be forecasted with any accuracy, it is not possible to precisely estimate the scale of Phase I indirect housing impacts on the City's and County's housing stock in the year 2000. Due to the transit features of the ADP, employees will have an unusually wide area from which to choose their place of residence while still maintaining a reasonable commute to work at the ADP site. If, as a worst case estimate, all such employees form themselves into separate households and choose to reside in the County of Los Angeles, these 2,050 households would be equal to 0.06 percent of the forecasted year 2000 housing stock in the County and 0.66 percent of the forecasted growth in the County's housing stock between 1990 and 2000, as shown in Table 73.

TABLE 73
PROJECTED HOUSING GROWTH IN THE COUNTY OF LOS ANGELES COMPARED WITH PHASE I ADP-RELATED EMPLOYEE HOUSEHOLDS, 1990-2010

Geographic Zone	1990	2000	1990-2000 Growth	ADP Employee Households	ADP as % of Growth
Los Angeles County	3,163,343	3,472,000	308,657	2,051	0.66%

Source: 1990 U.S. Census, SCAG, HR&A

Buildout Phase Impacts

The Buildout Phase of the proposed ADP includes 300 new dwelling units and 4,298 direct, net new employees. The housing units will be configured in mid- to high-rise structures, and will consist of studios (no bedrooms), one-bedroom and two-bedroom units. According to the ADP applicant, the target market for these units includes professionals working downtown and corporations seeking an alternative to hotel rooms for out-of-town guests and employees.

As in Phase I, ADP employee households can be expected to distribute themselves throughout the southern California area due to the ADP site's accessibility via the regional transportation system. As a worst case, if all direct, net new employees form themselves into separate households and locate in Los Angeles County, these households together with the 300 units proposed as part of the ADP would be equal to 0.11 percent of the housing stock forecasted for the County in 2010, and 0.65 percent of the forecasted housing stock growth between 1990 and 2010, as shown in Table 74.

TABLE 74
PROJECTED HOUSING GROWTH IN THE COUNTY OF LOS ANGELES COMPARED WITH BUILDOUT PHASE ADP-RELATED EMPLOYEE HOUSEHOLDS, 1990-2010

Geographic Zone	1990	2010	1990-2010 Growth	ADP Housing	ADP as % of Growth
Los Angeles County	3,163,343	3,872,000	708,657	4,596	0.65%

Source: 1990 U.S. Census, SCAG, HR&A

Consistency With Adopted City Plans and Policies

The adopted City of Los Angeles plans and programs applicable to housing impacts include the Housing Element, the Central City North Community Plan, the recently adopted Downtown Strategic Plan, and the Comprehensive Housing Affordability Strategy.

Housing Element of the General Plan

The Housing Element is one of the six Primary Citywide Elements of the City's General Plan. The following provides an assessment of the ADP's degree of conformity with applicable goals, objectives and policies of the Housing Element adopted by the City Council on November 16, 1993.

The first goal of the Housing Element is to provide an adequate supply of housing accessible to persons of all income levels. The ADP's 300 dwelling units will directly add to the City's housing supply and produce units in close proximity to a variety of public transportation options. Depending upon the pricing structure of the proposed units, which has not been established, this will enable households with a variety of incomes to locate close to employment on site or in the downtown area. On the other hand, most of the employment that will be accommodated by the ADP is already located in the area and will not add to the demand for housing. Those employees who are direct, net new to the area as a result of the ADP will be dispersed around the region and do not represent a significant increase in housing demand.

The second goal of the Housing Element is to provide sufficient ownership and rental housing to meet the City's needs. Objectives include increasing the supply of units at all price levels to meet the City's regional "fair share" obligation (Objective 2.1) and providing sufficient sites to accommodate the City's fair share obligation (Objective 2.2). The ADP would assist the City in meeting this goal because it results in a net increase of 300 units. The ADP contributes to the Central City North Community Plan's share of Citywide housing opportunities (per Policy 2.1.1 and 2.1.5). The ADP would result in modifications to the Community Plan and zoning regulations to increase the supply of land for housing, per Objective 2.2.

The third goal of the Housing element seeks to make incentives available for the development of affordable housing. This involves decisions by the public sector, not the ADP applicants.

The fourth goal of the Housing element, which seeks to reduce governmental barriers to the production of affordable housing, concerns actions to be taken by the City and not the ADP applicants.

The fifth goal of the Housing Element concerns providing housing opportunities to households with special needs. The ADP will comply with applicable requirements for housing the disabled and will abide by applicable anti-discrimination laws.

The sixth goal of the Housing Element concerns preserving a sense of community by preserving and improving the existing housing stock. Though the ADP site does not feature any existing housing, the Project supports this goal by preserving historic non-residential structures and creating aesthetic and pedestrian linkages to the surrounding neighborhood.

The seventh goal of the Housing Element concerns providing housing, jobs and services in close proximity, as a means of reducing average vehicle trip length. The ADP provides housing immediately adjacent and accessible to shopping, employment opportunities and the most important public transportation hub in the entire southern California region.

The eighth goal of the Housing Element concerns well-designed housing with amenities. The new construction housing included in the ADP will meet contemporary design standards.

The final goal of the Housing element concerns energy efficient housing. The ADP will comply with all applicable energy conservation standards.

It can be concluded, therefore, that the ADP complies with the Housing Element adopted by the City Council on November 16, 1993.

Central City North Community Plan

The ADP's 300 dwelling units would comprise 4.5 percent of the dwelling unit capacity in the Community Plan as projected to 1995.[1] Although the Figueroa Terrace and Alpine Hill are the subareas identified in the Plan as the primary areas for housing development located in Chinatown.

The ADP is therefore consistent with the housing policies in the Central City North Community Plan.

Comprehensive Housing Affordability Strategy ("CHAS")

The City's Comprehensive Housing Affordability Strategy[2] (CHAS) was prepared to fulfill a requirement for receiving housing and community development funding from the Federal government. In addition to satisfying the Federal mandate to describe the City's housing needs, barriers to providing sufficient housing opportunities, and identifying strategies and resources available to meet needs, the CHAS sets forth a comprehensive program for addressing the housing objectives of Los Angeles, particularly with respect to creating and preserving affordable housing. The CHAS is intended to address a rolling five year planning horizon, and is revised annually. The current version covers the 1993-98 period.

The CHAS is organized into five priority areas. Within each priority area, there are specific programs and targets which delineate the steps the City will take to address housing needs. Some of these programs are already in existence and some are intended to be developed by 1996. The five priority areas include:

- *Neighborhood Recovery,* which focuses on the need to preserve and rehabilitate existing housing resources which are the backbone of the City's housing system.
- *New Construction,* which emphasizes the need to produce new units which satisfy a range of economic needs and keeps pace with projected growth.
- *Homebuyer Assistance,* which addresses ownership opportunities for low- and moderate-income households to purchase homes in targeted communities and to thereby help stabilize declining inner city neighborhoods.

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1 Central City North Community Plan, *op. cit.*, Summary of Land Use.

2 City of Los Angeles Housing Department, Draft Comprehensive Housing Affordability Strategy, Revised - October 1, 1993.

- *Special Needs and Supportive Services*, which addresses the problem of ensuring access to decent housing for all residents, including addressing problems of discrimination in housing and lending and the needs of unique groups such as the disabled, persons with AIDS, and the homeless.

- *Monitoring and Coordination*, which provides a program of coordination, accountability and community outreach to ensure effective implementation of the City's housing programs and policies.

The only priority area relevant to the ADP is the one concerning new construction. The ADP is consistent with the housing principles and perspectives to be considered in planning the management of growth[1] in that it will add new units to the City, it will help the Central City North Community Plan accommodate its fair share of housing, and it provides housing within one-quarter mile of the regional intermodal transportation hub. It is therefore also consistent with CHAS Program 2.1.1 (Land Use/Transportation Policy). The current ADP description does not state the intended rent or sale price levels, and it therefore is not known whether the ADP will address CHAS objectives to increase the City's supply of housing that is affordable to lower-income households.

Downtown Strategic Plan

The ADP is not required to be consistent with this Plan. However, the ADP would create 300 new dwelling units which would not otherwise be permitted under the existing CCNCP Plan.

Consistency With Adopted Regional Growth Policies

At the regional level, several Chapters from SCAG's new Regional Comprehensive Plan are also relevant, including the Growth Management Chapter and the Housing Chapter.

Growth Management Chapter

As noted above, the number of dwelling units associated with the ADP are well within the housing growth forecast in the recently adopted Growth management Chapter of the Regional Comprehensive Plan.

Among the Growth Management Chapter's other policies that are relevant to the ADP, are the following:[2]

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1 CHAS, *op cit.*, at 70-71.

2 Regional Comprehensive Plan, Chapter 3: Growth Management, *op. cit.*, at 3-23 to 3-25.

- SCAG shall encourage local jurisdictions' efforts to achieve a balance between the types of jobs they seek to attract and housing prices.

- SCAG shall support provisions and incentives created by local jurisdictions to attract housing growth in job-rich subregions and job growth in housing-rich subregions.

- SCAG shall encourage existing or proposed local jurisdictions programs aimed at designing land uses which encourage the use of transit and thus reduce the need for roadway expansion, reduce the number of auto trips and vehicle miles traveled, and create opportunities for residents to walk and bike.

- SCAG shall support local jurisdictions strategies to establish mixed-use clusters and other transit oriented developments around transit stations and along transit corridors.

- SCAG shall support and encourage settlement patterns which contain a range of urban densities.

- SCAG shall encourage efforts of local jurisdictions in the implementation of programs that increase the supply and quality of housing and provide affordable housing as evaluated in the Regional Housing Needs Assessment.

The ADP is substantially consistent with these policies in that, while it adds new jobs to the central City area, it also provides housing in the most "job-rich/housing-poor" area in the entire region. The ADP also concentrates growth in an already highly urbanized area, and it will be located directly adjacent to the most significant intermodal transportation hub in the region.

Although the RCP no longer requires adherence to the numerical "jobs-housing balance" ratio targets that were part of the previous SCAG Growth Management Plan, and SCAG no longer requires demonstrations of consistency using an 18-step calculation formula, the general objective of co-locating housing and employment, is still mentioned in the Growth Management Chapter. In the case of the ADP, however, the underlying objective of "jobs-housing balance" -- i.e., to minimize single-occupant commuting and its related congestion and adverse air quality impacts -- will be alleviated in another, equally productive way, such that large amounts of on-site housing would not be required to satisfy this regional planning objective. The extensive regional rail system that will terminate at the ADP site (i.e., Union Station), coupled with City policy of concentrating future housing development around transit stations, and the existing high vacancy rate within a one-mile radius around each planned system station means that ADP employees can choose to reside in a variety of locations and utilize MetroLink and MetroRail (including the light rail lines) to commute to work at the ADP site. For example, as shown in Table 71, approximately 74,000 units of single-family and multi-family units within a one-mile radius around planned transit stations were vacant in 1990, according to the 1990 census.

Housing Chapter

SCAG is responsible for assisting cities and counties to fulfill their statutory obligations to prepare and regularly update Housing Elements of their General plans. The Housing Chapter of the RCP is intended to provide the broad picture of housing issues affecting the region which will assist local governments in meeting this requirement.[1] Though it does not include a jurisdiction-by-jurisdiction Regional Housing Needs Allocation, due to the failure of the State legislature to appropriate funds so that SCAG could prepare it, the Housing Chapter provides a detailed discussion of housing market trends, issues and projections through early 1994. It also includes a set of principles and policies associated with increasing the supply of housing in the region, particularly housing that is affordable to low- and moderate-income households.

The draft Housing Chapter of the Regional Comprehensive Plan includes four primary housing goals:[2]

- Decent and affordable housing choices for all people;
- Adequate supply and availability of housing;
- Housing stock maintenance and preservation; and
- Promote a mix of housing opportunities regionwide.

The Housing Chapter also includes a set of "advisory strategies" based on the goals and seven "guiding principles," including the following:[3]

- *Financing and Incentives* - Substantial funding incentives and financing should be sufficiently high to encourage and enable a local commitment to meet fair share needs for residents and newcomers.
- *Fair Share* - All communities, counties, and subregions share in the responsibility to make equitable and substantial commitments to providing adequate and affordable housing.
- *Balanced Growth* - Flexible growth shares are needed to support employment and residential growth. New local housing opportunities should match the wages, salaries, or budgets of new employees and other residents, provide a mix of affordable building-type options that support

[1] SCAG, Regional Comprehensive Plan, Chapter 6: Housing, at 6-2.

[2] Regional Comprehensive Plan, Chapter 6: Housing, *op. cit.*, at 6-9.

[3] *Id.*, at 6-11 to 6-12.

social diversity goals, and be responsive to job-based housing needs emergency in neighboring areas as well as in the locality.

- *Local Control* - Local governments should participate in the housing allocation process and retain the authority for site and development approval.

- *Subregional Role* - Regional allocations should reflect an interactive process allowing for a maximum of local input, through subregional associations of local governments, in the development of balanced growth and fair share housing need assignments or transfers.

- *Consensus and Commitment* - the result of the process should be clear to the public and development community so that the housing costs can be held down, affordability improved, and a wide mix of housing choices provided to meet existing and future needs.

Here again, the ADP is substantially consistent with the applicable goals and strategies in the RCP Housing Chapter in that it provides housing in the most "job-rich/housing-poor" area in the entire region, and makes it possible to sustain considerable employment growth in the downtown area without adding substantial auto commuting impacts, due to the variety of regional transit options that terminate at the ADP site. The ADP also concentrates growth in an already highly urbanized area, and it will be located directly adjacent to the most significant intermodal transportation hub in the region. As also noted above, the current ADP description does not state the intended rent or sale price levels, and it therefore is not known whether the ADP will address Housing Chapter goals and strategies for increasing the region's supply of housing that is affordable to lower-income households.

Summary of Phase I Impacts

Impact E.2.1 — Although the ADP will not cause any direct housing impacts, it may result in an indirect impact depending upon the individual locational decisions made by an estimated 2,051 net new employees. Given the variety of transportation options available to ADP employees, such that they can locate throughout the southern California area, and in light of the large number of vacant units within a mile of planned regional transportation system stations, any such housing demand is considered insignificant.

Summary of Buildout Phase Impacts

Impact E.2.2 — The ADP includes construction of 300 new dwelling units. This amount of housing is within SCAG's employment forecast for Los Angeles County and the City of Los Angeles Subregion, and is therefore consistent with the adopted regional growth forecast in the Regional Comprehensive Plan, including its Growth Management Chapter.

Impact E.2.3 The ADP may result in an indirect housing impact depending upon the individual locational decisions made by an estimated 4,298 net new employees. Given the variety of transportation options available to ADP employees, such that they can locate throughout the southern California area, and in light of the large number of vacant units within a mile of planned regional transportation system stations, any such housing demand is considered insignificant.

CUMULATIVE IMPACTS

Table 75 indicates that about 5,900 new residential units (not including 800 proposed rescue mission beds) are anticipated with related projects. Together with the 300 units planned for the Buildout Phase of the ADP, this will result in a total of 6,241 cumulative housing units by the year 2010.

TABLE 75 DWELLING UNITS ASSOCIATED WITH RELATED PROJECTS	
Residential Use	Floor Area and Number of Units
Apartment	2,986,120 sf 3,350 units
Condominium	2,558,857 sf 2,128 units
Single-Room Occupancy	114,100 sf 163 units
Total Related Projects	5,659,077 sf 5,641 units
ADP	300,000 sf 300 units
Cumulative Dwelling Units (Related + ADP)	5,959,077 sf 5,941 units
Source: EPA, HR&A	

As shown in Table 76, total cumulative dwelling units represent a very small percentage of the housing stock forecast by SCAG for 2010 in each of the zones around the ADP site, and a small percentage of the forecast 1990-2010 growth in the housing stock in the City and County. Even so, some, and perhaps most, of the related residential projects may have already been accounted for in SCAG's growth forecast. Therefore, the comparisons shown in Table 76 includes some (probably considerable) double-counting. Thus, no significant cumulative impacts are anticipated.

TABLE 76
HOUSING IMPACTS OF RELATED PROJECTS COMPARED TO SCAG'S REGIONAL FORECAST

Geographic Zone	Percent of Housing in 2010	Percent of Housing Growth 1990-2010
L.A. County		
Related Projects	0.2%	0.8%
Related Projects + ADP	0.2%	0.8%
City of L.A.		
Related Projects	0.3%	1.5%
Related Projects + ADP	0.4%	1.6%

Source: SCAG, HR&A

MITIGATION MEASURES

Phase I

There is no housing development included in the first Phase of the ADP and the potential indirect demand for housing associated with direct, net new Phase I employees would be equivalent to less than one percent of the projected housing stock growth in the County between 1990 and 2000. Therefore, Phase I would not cause a substantial alteration of the location, distribution, density or growth rate of housing planned for the area as specified in the applicable City and regional plans, nor would it conflict with any adopted City or regional housing growth policies. Therefore, Phase I of the ADP would not cause any significant housing impacts within the meaning of CEQA, and no mitigation is required or recommended.

Buildout Phase

Neither the 300 units to be included in the Buildout Phase of the ADP, nor the indirect demand for housing associated with net new employees, would cause a substantial alteration of the location, distribution, density or growth rate of housing planned for the area as specified in the applicable City and regional plans, nor would it conflict with any adopted City or regional housing growth policies. For the aforementioned reasons, the Buildout Phase of the ADP would not cause any significant impacts within the meaning of CEQA, and no mitigation is required or recommended.

ADVERSE EFFECTS

Phase I and the Buildout Phase of the ADP would not cause any significant housing impacts within the meaning of CEQA, and no mitigation is required or recommended.

SECTION IV.E.3
POPULATION

This Section also summarizes the results of the Assessment of the Employment, Housing and Population Impacts report prepared for the ADP project by Hamilton, Rabinovitz & Alschuler, Inc., in March 1995. The study is on file with the Community Planning Bureau, City of Los Angeles Planning Department, located at 221 S. Figueroa Street, Third Floor, and is part of the Technical Studies Appendices to this EIR.

ENVIRONMENTAL SETTING

Since the ADP does not include existing on-site housing (and therefore no on-site residential population) and its potential population impacts are regional in nature, the following subsections describe the existing population setting in the County and City of Los Angeles. Additional analysis of population issues relevant to the Central City North Community Plan area is included in the Environmental Impact subsection.

Historical Population Growth (1980-1990)

According to the 1990 census, as shown in Table 77, the population of the City of Los Angeles grew about 17 percent over the decade, while the County of Los Angeles population increased by 19 percent. Since 1990, the County grew by about four percent, but the City's population declined slightly, according to the City Planning Department.

TABLE 77
RECENT POPULATION TRENDS IN TWO AREAS AROUND THE ADP SITE, 1980-1990

Geographic Zone	1980	1990	1994	1980-90 Change		1990-94 Change	
				#	%	#	%
Los Angeles County	7,477,503	8,863,164	9,230,599[1]	1,385,661	18.5%	367,435	4.2%
City of Los Angeles	2,966,850	3,485,398	3,467,785[2]	518,548	17.5%	(17,613)	(0.5)%

1 California Department of Finance, January 1, 1994 estimate.
2 Los Angeles City Planning Department October, 1 1993 estimate.
Source: 1980 and 1990 U.S. Census, Los Angeles City Planning Department, UDS, California Dept. of Finance, HR&A.

Demographic trends during the 1980s in the zones around the ADP site include the following:

Age distribution

In 1980 the median age (about 30 years old) and the distribution by age group was nearly the same in the City and County. By 1990, the population age distribution remained consistent across the two geographic zones and the median age for both the City and County increased by about one year (to 30.7 years). The percentage of persons under the age of 17 declined somewhat, the proportion of those age 20-64 increased somewhat, while the percentage of persons over 65 remained unchanged, at about 10 percent.

Household size

Over the decade of the 1980s, household size in the City of Los Angeles grew by about 10 percent (i.e., from 2.55 to 2.80). The number of persons per household in the County increased by a slightly lower percentage, from 2.69 to 2.91 persons per household, or about 8 percent over the decade.

The upward trend in household size during the 1980s is expected to continue to 2010, according to SCAG's new forecast. SCAG forecasts that by 2010, the number of persons per household will be 2.90 in the City and 3.0 in the County.

Future Growth (1990-2010)

During the 1990 to 2000 period, according to SCAG's new regional forecast, population is forecasted to increase substantially in all three geographic zones. In percentage terms, the increases are somewhat smaller than those projected for the 2000 to 2010 period. The lower rate of growth during the 1990's reflects the impacts of the recession. Population increases over the 1990 to 2000 period amount to an additional 384,000 in the City +11 percent and 1.1 million +12 percent in the County. From the year 2000 to the year 2010, SCAG forecasts that population will increase by about 13 percent in the City and County. The forecast data are shown in Table 78.

Overall, from 1990 to 2010, SCAG forecasts population increases that range from about 25 percent in the City of Los Angeles to about 28 percent in the County. Although the rates of population growth are expected to decrease somewhat over the projection period from those experienced during the booming 1980s, the absolute increases in population shown in the forecast are nonetheless substantial. The County of Los Angeles is expected to grow by over 2.4 million persons and the City will add about 880,000 persons over the next 20 years.

TABLE 78
POPULATION FORECAST FOR TWO AREAS AROUND THE ADP SITE, 1990-2010

POPULATION

Geographic Zone	1990	2000	2010
Los Angeles County	8,863,164	9,950,360	11,285,622
City of Los Angeles	3,485,398	3,869,288	4,365,469

POPULATION GROWTH

Geographic Zone	1990-2000	2000-2010	1990-2010
Los Angeles County			
Amount	1,087,196	1,335,262	2,422,458
Percent	12.3%	13.4%	27.6%
City of Los Angeles			
Amount	383,890	496,181	880,071
Percent	11.0%	12.8%	25.3%

Source: SCAG, HR&A

ENVIRONMENTAL IMPACT

Threshold of Significance

As noted in Sections IV.E.1 (Employment) and IV.E.2 (Housing), social and economic effects, including population, housing and employment impacts are relevant CEQA issues to the extent that a chain of cause and effect can be traced from a proposed project through anticipated social and economic changes resulting from the project to physical changes caused in turn by the economic and social changes. If a project's physical impacts may cause social or economic effects, the magnitude of the social or economic effects may be relevant in determining whether a physical impact is "significant." If the physical change causes adverse economic or social effects on people, those adverse effects may be used as the basis for determining that the physical change is significant. CEQA also requires the an analysis of the degree to which a proposed project is consistent with applicable general plans and regional plans.

For purposes of this analysis the following threshold of significance is used with respect to housing:

> *Will the project cause a substantial alteration of the location, distribution, density, or growth rate of the population planned for the area as specified in the applicable Community Plan, Housing Element of the General Plan, Comprehensive Housing Affordability Strategy, any applicable Specific Plan, Redevelopment Plan, regional growth plan and/or other officially adopted plan or growth policy for the area in which the proposed project will be located?*

To the extent that the construction or operation of the ADP's housing components would have any direct impacts on the physical environment, these are discussed in relevant sections of the ADP EIR (e.g., traffic and circulation impacts).

Construction Impacts

For the reasons described in Section IV.E.2. (Housing), no adverse population impacts are predicted as a result of construction, since few construction workers are expected to relocate their households as a consequence of working on the ADP.

Phase I Impacts

Phase I of the ADP includes no new dwelling units and does not propose any demolition of existing units. This phase of the ADP, therefore, has no direct impact on population.

The 2,051 direct, net new employees associated with Phase I the ADP (see Section IV.E.1., Employment) could result in households that are new to the region. To the extent that such demand is not met by then-existing supply, a resulting increase in the number of housing units, and hence population, may occur. Since any such impacts would be a function of the household location decisions of these employees, which cannot be forecasted with any accuracy, it is not possible to precisely estimate the scale of Phase I indirect population impacts on the City and County in the year 2000. Due to the transit opportunities afforded by the ADP, employees will have an unusually wide area from which to choose their place of residence while still maintaining a reasonable commute to work at the ADP site. If, as a worst case estimate, all such employees form themselves into separate households, are equal in size to the overall average between 1980 and 1990 (i.e., 2.8 persons per household), and all such households choose to reside in the County of Los Angeles, these 2,050 households would be equal to 0.06 percent of the forecasted year 2000 population in the County and 0.53 percent of the forecasted population growth in the County between 1990 and 2000, as shown in Table 79, below.

TABLE 79
PROJECTED POPULATION GROWTH IN THE COUNTY OF LOS ANGELES COMPARED WITH PHASE I ADP-RELATED EMPLOYEE HOUSEHOLD POPULATION, 1990-2010

Geographic Zone	1,990.00	2000	1990-2000 Growth	ADP Employee Households Population	ADP as % of Growth
Los Angeles County	8.863,164	9,950.360	1,087,196	5,740	0.53%
Source: 1990 U.S. Census, SCAG, HR&A					

Buildout Phase Impacts

The Buildout Phase of the proposed ADP includes 300 new dwelling units and 4,298 direct, net new employees. Here again, the employee households can be expected to distribute themselves throughout the southern California area due to the ADP site's accessibility via the regional transportation system. As a worst case, if all direct, net new employees form themselves into separate households and locate in Los Angeles County, these households together with the 300 units proposed as part of the ADP, and a factor of 1.67 persons per occupied household[1] and a 100 percent occupancy rate at the ADP, the maximum population impact of the Buildout Phase would be 12,535 persons. This is equal to equal to 0.11 percent of the population forecasted for the County in 2010, and 0.52 percent of the forecasted population growth between 1990 and 2010, as shown in Table 80.

TABLE 80
PROJECTED POPULATION GROWTH IN THE COUNTY OF LOS ANGELES COMPARED WITH BUILDOUT PHASE ADP-RELATED POPULATION, 1990-2010

Geographic Zone	1990	2010	1990-2010 Growth	ADP Population	ADP as % of Growth
Los Angeles County	8,863,164	11,285,622	2,422,458	12,535	0.52%

Source: 1990 U.S. Census, SCAG, HR&A

Consistency With Adopted City Plans and Policies

The ADP's 300 dwelling units imply a population of approximately 501 additional people, which is equivalent to 4.5 percent of the population capacity in the Community Plan projected for 1995.[2] Although the Figueroa Terrace and Alpine Hill are the subareas identified in the Plan as the primary areas for housing development, the Plan also permits residential uses in non-residential areas. Residential uses are not currently allowed in the location of the ADP; however, upon adoption of the General Plan Amendments, residential uses will be permitted. Therefore, the ADP will be consistent with the population growth policies in the Central City North Community Plan.

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1 This is the average for housing units in census block group 2075.002, which includes the Promenade Towers (1.56 persons per household), and those block groups that include the South Park area (1.79 persons per household). These densities are considered more representative of the type of housing that will be built at the ADP than the Citywide average.

2 Central City North Community Plan, *op. cit.*, Summary of Land Use.

Consistency With Adopted Regional Plans and Policies

As noted above, the population implied by the ADP's 300 dwelling units and households associated with direct, net new employees is well within the population growth forecast for the region, the County and the Los Angeles Subregion, as contained in the recently adopted Growth Management Chapter of the Regional Comprehensive Plan. The ADP's degree of consistency with the RCP's qualitative growth management policies was discussed in Section IV.E.2 (Housing).

Summary of Phase I Impacts

Impact E.3.1 Although the ADP will not cause any direct population impacts, it may result in an indirect impact depending upon the individual locational decisions made by an estimated 2,051 net new employees. Given the variety of transportation options available to ADP employees, they can locate throughout the southern California area. Even if all such households choose to locate in Los Angeles County only, the resulting population impact is considered insignificant.

Summary of Buildout Phase Impacts

Impact E.3.2 The Buildout Phase of the ADP includes construction of 300 new dwelling units, which implies a residential population of 501 people. This additional population, assuming it has not already been accounted for in the regional growth forecast, is within SCAG's employment forecast for Los Angeles County and the City of Los Angeles Subregion, and is therefore consistent with the adopted regional growth forecast in the Regional Comprehensive Plan, including its Growth Management Chapter. It is also within the maximum population provided for in the City's Central City North Community Plan.

Impact E.3.3 The Buildout Phase may also result in an indirect population impact depending upon the individual locational decisions made by an estimated 4,298 net new employees. Given the variety of transportation options available to ADP employees, such that they can locate throughout the Southern California area, any such impact is considered insignificant.

CUMULATIVE IMPACTS

Table 81 indicates that a population of about 15,600 people is implied by the number of dwelling units anticipated with related projects. Together with the population implied by the 300 units planned for the ADP, this will result in a total of cumulative population of about 16,084 in 2010. As discussed under ADP impacts, it cannot be determined to what degree these would be new residents, or residents relocating from existing households. As also noted above with respect to cumulative employment and housing impacts, some (perhaps large) portion of the population implied by these housing units may have already been accounted for in SCAG's regional growth forecast.

TABLE 81
POPULATION ASSOCIATED WITH RELATED PROJECTS

Residential Use	Number of Units	Persons/ Household	Population
Apartment	3,350	2.8	9,380
Condominium	2,128	2.8	5,958
SROs	163	1.5	245
Total Related Projects	5,641		15,583
ADP	300		501
Cumulative Population (Related + ADP)	5,941		16,084

Source: EPA, HR&A

As shown in Table 82, total cumulative population represents a very small percentage of the population forecast by SCAG for 2010 in the County and City, and a small percentage of the forecast 1990-2010 population growth in the City and County. Once again, some, and perhaps most, of the population implied by the related residential projects may have already been accounted for in SCAG's growth forecast. Therefore, the comparison shown in Table 82 also includes some (probably considerable) double-counting. Thus, no significant cumulative impacts are anticipated.

TABLE 82
POPULATION IMPACTS OF RELATED PROJECTS COMPARED WITH SCAG'S REGIONAL FORECAST

Geographic Zone	Percent of Population in 2010	Percent of Population Growth 1990-2010
L.A. County		
Related Projects	0.1%	0.6%
Related Projects + ADP	0.2%	0.7%
City of L.A.		
Related Projects	0.4%	1.8%
Related Projects + ADP	0.4%	1.9%

Source: SCAG, HR&A

MITIGATION MEASURES

Phase I

There is no housing development included in the first Phase of the ADP and the potential indirect demand for housing associated with direct, net new Phase I employees would be equivalent to less than 1 percent of the projected housing stock growth in the County between 1990 and 2000. Therefore, Phase I would not cause a substantial alteration of the location, distribution, density or growth rate of the population planned for the area as specified in the applicable City and regional plans, nor would it conflict with any adopted City or regional housing growth policies. Therefore, Phase I of the ADP would not cause any significant population impacts within the meaning of CEQA, and no mitigation is required or recommended.

Buildout Phase

Neither the 300 units to be included in the Buildout Phase of the ADP, nor the indirect demand for housing associated with net new employees, would cause a substantial alteration of the location, distribution, density or growth rate of population planned for the area as specified in the applicable City and regional plans, nor would it conflict with any adopted City or regional housing growth policies. For the aforementioned reasons, the Buildout Phase of the ADP would not cause any significant impacts within the meaning of CEQA, and no mitigation is required or recommended.

ADVERSE EFFECTS

Phase I and the Buildout Phase of the ADP would not cause any significant impacts within the meaning of CEQA, and no mitigation is required or recommended.

SECTION IV.F.1
AIR QUALITY

This section summarizes the results of a comprehensive air quality report prepared for the ADP project by JHA Environmental Consultants, in March 1995. The study is on file with the Community Planning Bureau, City of Los Angeles Planning Department, located at 221 S. Figueroa Street, Third Floor, and is part of the Technical Studies Appendices to this EIR.

ENVIRONMENTAL SETTING

California is divided by the California Air Resources Board (CARB) into air basins which share similar meteorological and topographical features. Los Angeles is in the South Coast Air Basin (SCAB). The SCAB, a 6,600 square mile area, encompasses all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. Bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east, the SCAB's climate and topography, which are discussed below, are highly conducive to the formation and transport of air pollution.

This section analyzes the impact of the project on emissions of "criteria" pollutants for which state and national ambient air quality standards have been established. These pollutants include: nitrogen oxides (NO_x), sulfer oxides (SO_x), carbon monoxide (CO), particulate matter (PM10), and ozone (O_3).

This section also analyzes the impact of the project on emissions of air toxics, which include a variety of chemicals that may pose carcinogenic or other health risks. Finally, this section analyzes the impact of the project on odor.

Climate

<u>Regional</u>

Meteorological conditions in the SCAB, such as light winds and shallow vertical mixing, and topographical features, such as surrounding mountain ranges, hinder the dispersal of air pollutants. The strength and location of a semipermanent, subtropical high pressure cell over the Pacific Ocean primarily control the climate of the SCAB. Climate is also affected by the moderating effects of the nearby oceanic heat reservoir. Warm summers, mild winters, infrequent rainfall, moderate daytime onshore breezes, and moderate humidities characterize climatic conditions throughout most of the SCAB.

Differences in terrain cause a number of micro-climates to exist within the SCAB's overall climate. The pattern of mountains and hills is primarily responsible for the wide variations of rainfall, temperatures, and localized winds that occur throughout the region. Temperature variations have an important influence on wind flow, dispersion along mountain ridges, vertical mixing, and photochemistry in the SCAB. The moderating marine influence decreases with distance from the ocean, resulting in monthly and annual temperature spreads that are greatest inland and smallest at the coast. Precipitation is highly variable seasonally. Summers are often completely dry, resulting in periods of four to five months without rain. In winter, occasional storms from high latitudes sweep across the coast, bringing rain. Annual rainfall is lowest in the coastal plain and inland valleys, higher in the foothills, and highest in the mountains.

Frequent temperature inversions in the SCAB trap air pollutants in a limited atmospheric volume near the ground and hamper dispersion. Inversions may be either ground-based or elevated. Average wind speed in the SCAB is less than five miles per hour on 80 percent of the days during the summer smog season; this is a measure of daily stagnation. Elevated inversions act as a lid or upper boundary and restrict vertical mixing. Low summer inversions contribute to the high levels of ozone (O_3) experienced during the summer months when abundant sunshine provides the energy needed to fuel the photochemical reactions between nitrogen oxides (NO_x) and reactive organic gases (ROG) which form O_3. The most frequent O_3 transport route is from source areas in coastal areas to receptor areas along the base of the San Gabriel and San Bernardino Mountains. During the five to ten days a year with Santa Ana offshore flows, highest concentrations occur in the western portion of the SCAB.

Ground-based inversions are most severe during clear, cold early winter mornings. In January, when the greatest pollution problems are from carbon monoxide (CO) and NO_2, a surface inversion exists on 70 percent of the mornings. Carbon monoxide transport is extremely limited, and highest concentrations occur in close proximity to the source of emissions. Since CO is produced almost entirely from automobiles, the highest concentrations are associated with areas of heavy traffic.

High NO_2 levels usually occur during the autumn or winter on days with summer-like weather conditions. These conditions include low inversions, limited daytime mixing, and stagnant windflows. Although days are clear, sunlight is limited in duration and intensity, and the photochemical reactions which would otherwise form O_3 are incomplete.

Atmospheric particulates are made up of fine solids or liquids, such as soot, dust, aerosols, fumes, and mists. A large portion of the total suspended particulate matter (TSP) in the atmosphere is finer than ten microns (PM10). As with O_3, a substantial fraction of PM10 forms in the atmosphere as a result of chemical reactions. Peak concentrations of both O_3 and PM10 occur downwind of precursor emission sources.

Local

Although the entire SCAB shares similar overall climatic features, differences exist throughout the region because of topographic features and distance from the ocean. Distinct climates within the region are called microclimates. Because downtown Los Angeles is outside the immediate coastal microclimate, spring and summer days are less subject to coastal clouds or fog. The annual average temperature in the downtown Los Angeles area is 65 degrees F. The maximum temperature recorded over 30 years at the Los Angeles Civic Center site is 110 degrees F; the lowest is 28 degrees F.

Winds in the project area are usually driven by the dominant land/sea breeze circulation system. Regional wind patterns are dominated by daytime on-shore sea breezes. At night, the wind generally slows and reverses direction, traveling towards the sea. One other important wind regime occurs when a high pressure center forms over the western United States and creates Santa Ana winds that blow from desert areas to the northeast through canyon passes to the ocean.

A study of winds in the immediate vicinity of the project site was conducted by West Wind Laboratory, Inc. of Carmel, California for the years 1989-1991. The study found that the local microclimate is affected not only by Santa Ana winds and sea breezes, but can also be affected by the presence of high-rise buildings. The wind speed for the site was found to be 8 mph and represents the undisturbed wind environment at the site including winds from all directions and their probable distributions.

Regulatory Requirements

Air quality control in the SCAB is regulated by federal, state and regional control authorities. The U.S. Environmental Protection Agency (EPA) is involved in local air quality planning through the Federal Clean Air Act (CAA), as amended by the CAA Amendments of 1990. At the state level, the Lewis Air Quality Management Act (originally adopted in 1976 and substantially amended in 1987) and the California CAA of 1988 set air quality planning and regulatory responsibilities for the SCAB. CARB is charged with the responsibility for coordinating efforts to attain and maintain ambient air quality standards and conducting research into the causes of, and solutions to, air pollution problems. At the regional level, the South Coast Air Quality Management District (SCAQMD) and the Southern California Association of Governments (SCAG) have responsibility for preparing the Air Quality Management Plan (AQMP), which contains measures to meet state and federal requirements. When approved by CARB and the federal EPA, the AQMP becomes the State Implementation Plan (SIP) for the SCAB.

Federal

Early federal legislative response to air quality concerns consisted of the Air Pollution Control Act of 1955, the CAA of 1963, the Air Quality Act of 1967, and the CAA Amendments of 1970 and 1977. The CAA was substantially overhauled by the CAA Amendments of 1990.

The 1990 CAA Amendments divided the nation into five categories of planning regions, depending on the severity of their pollution, and set new timetables for attaining the national ambient air quality standards for criteria pollutants. The categories range from "marginal" to "extreme." Attainment deadlines are from three to twenty years, depending on the category. The SCAB is the only region in the nation classified as an "extreme" O_3 non-attainment area. For areas designated "extreme," Section 181 of the CAA sets the O_3 attainment deadline at 2010. Ozone is a secondary pollutant created from photochemical reactions between NO_x and volatile organic compounds (VOCs) in the presence of sunlight in the lower atmosphere.

Title I of the CAA requires each nonattainment area to submit a comprehensive inventory of actual emissions as part of a SIP revision to demonstrate the means for achieving federal standards by the established deadlines. Each ozone nonattainment area must reduce VOC emissions by 15 percent from its actual 1990 VOC emissions within six years. Thereafter, each area must achieve a three percent annual reduction in VOC emissions. After 1996, reductions in NO_x emissions can be used to satisfy part of the VOC reduction requirements, providing certain conditions are met. All O_3 non-attainment areas designated as "moderate" or worse were required by the CAA to adopt "Rates of Progress" plans in 1993 designating how they will meet the 15 percent VOC reduction by 1996. Designated planning agencies in all O_3 non-attainment areas were required to adopt SIP revisions in 1994 specifying the actions that will be taken to guarantee attainment by the specified attainment year for their area.

Section 182 (e) (5) of the CAA allows the EPA Administrator to approve provisions of an attainment strategy in an "extreme" ozone non-attainment area that anticipates development of new control techniques or improvement of existing control technologies, if such provisions are not needed to achieve required incremental reductions to the year 2000 and the State has submitted enforceable commitments to develop and adopt contingency measures to be implemented if the anticipated technologies do not achieve planned reductions. The SCAB, the nation's only "extreme" ozone non-attainment area, is the only area in the nation that is permitted to include control measures that are not currently technologically feasible.

The deadline for attainment of the CO standard in the SCAB is 2005, and the attainment deadline for PM10 is 2005. Section 187 of the CAA makes the same basic plan requirements applicable to CO non-attainment areas, but does not provide for the use of new technologies. Section 188 sets forth requirements for PM10 nonattainment areas, again without allowing the use of new technologies.

The EPA can withhold certain transportation funds from states which fail to comply with the planning requirements of the Act. If a state fails to correct these planning deficiencies within two years of federal notification, the EPA is required to develop a federal implementation plan (FIP) for the identified nonattainment area or areas.

In addition to the complex regulatory scheme for attainment of national ambient air quality standards set forth in Title I of the CAA, Title III of the CAA creates a technology-based program for the control of air toxics emissions from stationary sources.

California

The California CAA of 1988 requires all air districts in the state to endeavor to achieve and maintain state ambient air quality standards for O_3, CO, sulfur dioxide (SO_2), and NO_2 by the earliest practicable date. California's ambient air standards are generally stricter than national standards for the same pollutants. California also has established state standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. California and national standards are shown in Table 83.

TABLE 83 AMBIENT AIR QUALITY STANDARDS			
	California	Federal	
Air Pollutant	Standard	Primary	Secondary
Ozone	>0.09 ppm, 1-hr avg.	>0.12 ppm, 1-hr avg.	0.12 ppm, 1-hr avg.
Carbon Monoxide	≥9.1 ppm, 8-hr. avg. >20 ppm, 1-hr. avg.	≥9.5 ppm, 8-hr. avg. >35 ppm, 1-hr. avg.	≥9.5 ppm, 8-hr. avg. >35 ppm, 1-hr. avg.
Nitrogen Dioxide	>0.25 ppm, 1-hr. avg.	>0.053 ppm, annual avg.	>0.053 ppm, annual avg.
Sulfur Dioxide	>.25 ppm 1-hr ≥0.05 ppm, 24-hr avg. with ≥0.10 ozone or with 24-hr TSP ≥100 ug/m^3	0.03 ppm, annual avg. >0.14 ppm, 24-hr. avg.	>0.50 ppm, 3-hr. avg.
Suspended Particulate Matter (PM 10)	>50 ug/m^3, 24-hr. avg. >30 ug/m^3 annual geometric mean	>150 ug/m^3, 24-hr avg. >50 ug/m^3 annual arithmetic mean	>150 ug/m^3, 24-hr avg.; >50 ug/m^3 annual arithmetic mean
Sulfates	≥25 ug/m^3, 24-hr avg.		
Lead	≥1.5 ug/m^3, monthly avg.	>1.5 ug/m^3, calendar quarter	>1.5 ug/m^3
Hydrogen Sulfide	≥0.03 ppm, 1-hr avg.		
Vinyl Chloride	≥0.010 ppm, 24-hr avg.		
Visibility-Reducing Particles	In sufficient amount to reduce prevailing visibility to less than 10 miles at relative humidity less than 70%, 1 observation		

Note: ppm = parts per million by volume; ug/m^3 = micrograms per cubic meter; > = greater than; ≥ = greater than or equal to
Source: SCAQMD 1993

Based on pollutant levels, the California CAA divides nonattainment areas into four categories--moderate, serious, severe, and extreme--to which progressively more stringent requirements apply. The SCAB is classified as the state's only "extreme" nonattainment area for O_3. It is also designated a non-attainment area for state CO, NO_2, and PM10 standards. Nonattainment areas were required to adopt plans in 1991 to meet state standards, and to revise these plans every three years. The SCAQMD revised its plan in 1994. Each district plan must achieve a five percent annual reduction, averaged over consecutive three year periods, in districtwide emissions of each nonattainment pollutant or its precursors unless, despite the inclusion of all feasible measures in the plan and an expeditious adoption schedule, the area is not able to achieve the required five percent annual reduction.

Unlike the federal CAA, the California CAA has no attainment deadlines. The California Air Resources Board has authority under Section 41503.2 of the California Health and Safety Code to revise deficient district plans, as needed, following extensive notification and hearing procedures.

Like the Federal CAA, the California Health and Safety Code includes a technology-based program for the regulation of air toxics from stationary sources.

Regional

Planning. The SCAQMD and SCAG are responsible for formulating and implementing the AQMP for the SCAB. Designated portions of an AQMP which is prepared or subsequently revised to comply with federal standards are submitted to CARB for incorporation in the SIP with plans and regulations from other air quality management and air pollution control districts in the state. Because air quality plans are prepared to meet both California CAA and federal CAA requirements, they may be broader than federal requirements in certain respects.

Regional air quality management plans were prepared for the SCAB in 1979, 1982, 1989, and 1991. Because the 1982 AQMP could not demonstrate attainment of all national ambient air standards by 1987, as required by the 1977 amendments to the CAA, the EPA was mandated by federal courts to prepare a Federal Implementation Plan (FIP) for the SCAB. A Draft FIP was released by EPA in February 1994 and the Final FIP was issued by EPA on February 16, 1995, following an extensive public review period which resulted in substantial modifications from the initial Draft and deletion of many controversial measures, such as most of those impacting goods movement in the region. EPA is working with CARB to approve the State Implementation Plan developed by CARB and to substitute the SIP attainment strategy for that in the Final FIP.

The 1991 AQMP, which was adopted by the SCAQMD Board on July 12, 1991, was prepared prior to the adoption of the 1990 Amendments to the CAA and was intended to satisfy requirements of the California CAA. The 1991 AQMP assumed that the SCAB would meet all national standards in 2010, but state standards for PM10 and O_3 would be exceeded. In 1994, the SCAQMD revised the 1991 AQMP to meet both state and federal CAA requirements. The 1994 Draft AQMP was released April 25, 1994 and adopted by the SCAQMD on September 9, 1994. Although SCAG now projects that there will be approximately 2.5 million more people in the SCAB in 2010 than were forecast in the 1991 AQMP, the projected federal attainment dates are not changed.

There was a substantial change in requirements for local government programs in the 1994 AQMP from those included in the 1991 AQMP. Previous measures requiring job/housing balance or equivalent trip reductions were deleted. The 1994 AQMP defines the role of local governments as having responsibility for participation in the Clean Cities program, being sensitive to air quality issues in local decision making, ensuring that requirements are met if they opt to assume responsibility for achieving specific emission reductions through a process of delegation/substitution, and implementing local measures in the Transportation Improvements Transportation Control Measure (TCM). SCAG is responsible for coordinating local transportation programs and ensuring that these programs, projects and plans conform to the AQMP.

In response to comments presented on the Draft 1994 AQMP by the City of Los Angeles, measures required to attain the national PM10 standard were deferred to the 1997 AQMP update and deleted from the control strategy recommended for submittal to USEPA. Deferring inclusion of the federal PM10 control strategy and deleting credit for some measures in the Draft FIP that were also assumed in the earlier Draft AQMP increased allowable emissions for both volatile organic compounds (VOC) and NO_x over those contained in both the earlier Draft and those in the 1991 AQMP.

As previously discussed, Section 182 (e) (5) of the 1990 federal CAA Amendments permits the SCAB, as the nation's only extreme O_3 non-attainment area, to rely in part on the hoped for development of new control technologies or the improvement of existing control technologies. The 1994 AQMP, like the 1991 AQMP, incorporates both near and long term technology in its control strategy. The AQMP assumes a higher in-use penetration rate in 2010 for electric and alternate fueled vehicles than could be accomplished by the CARB's existing regulations. On November 9, 1994, CARB revised the proposed SIP, which incorporates the control strategy for the SCAB, to scale back proposed long term emission requirements for trucks and light-duty vehicles to those contained in existing regulations for the year 2003, and moving the proposed measures to backstop options. The Board substituted a voluntary program calling for stepped up scrapping of old cars and an undetermined number of diesel trucks to achieve equivalent emission reductions.

Rules and Regulations. SCAQMD Regulation IV (Prohibitions), particularly Rules 402--Nuisance and Rule 403--Fugitive Dust, could apply to the project. Rule 402 could impact some commercial uses in the project, such as restaurants. Rule 402 states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. To avoid being in violation of Rule 402, commercial establishments will install whatever venting or filtration equipment is needed to prevent odor and other emissions from causing a nuisance. Rule 403, which restricts emissions of fugitive dust, applies primarily to controlling emissions during construction and specifies mitigation measures to reduce sources of fugitive dust.

Other rules and regulations of the SCAQMD could apply to future tenants of the project. Examples include: Regulation XI, Source Specific Standards, particularly Rule 1146, which regulates emissions from institutional and commercial boilers. Rule 1501 of Regulation XV (Trip Reduction/Indirect Source), which is currently under review by SCAQMD committees, may also apply to some tenants in the proposed project. It requires employers of 100 or more persons at a single site to submit plans demonstrating how they will achieve specified average vehicle ridership. State law requires that the SCAB achieve 1.5 average vehicle ridership during peak commute hours.

Rule 2005 of Regulation XX, Regional Clean Air Incentives Market (RECLAIM), requires that any new facility subject to the regulation (currently those emitting more than four tons per year of either NO_x or SO_x) must install Best Available Control Technology (BACT) at every emission source and demonstrate that the operation of the emission source will not result in a significant increase in NO_x emissions. The District's Regulation XIV (Toxics) could apply to some excavation during project construction, but is not expected to be applicable to tenants of the completed project.

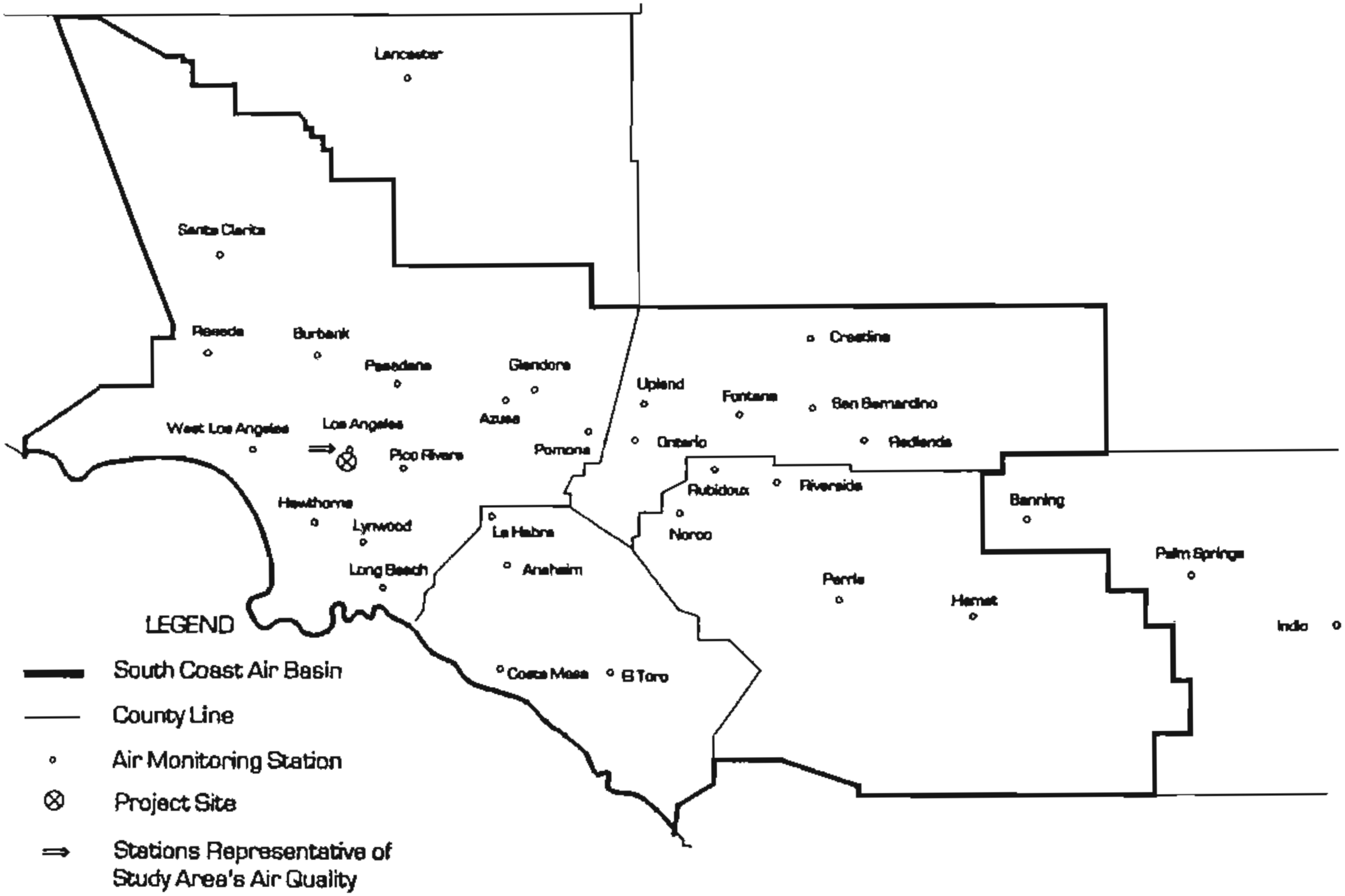
Existing Air Quality

Regional

The SCAQMD samples ambient air at monitoring stations in the SCAB and the areas of the Southeast Desert Air Basin (SEDAB) under its jurisdiction. Locations of these stations are shown on Figure 30. To determine air quality, contaminant levels in air samples are compared to the federal and state standards for which the SCAB is designated as a non-attainment area.

The entire SCAB is designated a non-attainment area for state and national standards for O_3, NO_2, CO, and PM10, and for state standards for sulfates. CARB has designated Riverside and San Bernardino counties attainment areas for the more stringent state CO standards. Ozone is a colorless toxic gas that irritates the lungs and damages materials and vegetation. Carbon monoxide, a colorless gas, interferes with the transfer of oxygen to the brain. Nitrogen dioxide, a reddish-brown gas, can cause breathing difficulties at high concentrations. PM10 causes a greater health risk than larger-sized particles, since these fine particles can more easily penetrate the defenses of the human respiratory system and cause irritation by themselves and in combination with gases.

Ozone levels exceed both national and state standards throughout the SCAB. In 1990, the peak O_3 reading in the SCAB was almost three times the National Ambient Air Quality Standard (NAAQS). The SCAB exceeds this standard more frequently than any other area in the United States, and also records the highest peak readings.



Source: South Coast Air Quality Management District

CORDOBA CORPORATION
EPA ENVIRONMENTAL PLANNING ASSOCIATES

0 10 20
SCALE IN MILES

Figure 30
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT AIR MONITORING STATIONS

National and state standards for CO are exceeded in more densely populated Los Angeles and Orange Counties, but not in Riverside and San Bernardino Counties. Carbon monoxide is produced almost entirely from automobiles.

The national NO_2 standard was regularly exceeded in Los Angeles County prior to 1992 and the SCAB is the only area in the nation which is still designated a non-attainment area for the national NO_2 standard. The state NO_2 standard is exceeded in most years in both Los Angeles and Orange counties, with the number of readings over the standard fluctuating from year to year, depending on weather patterns.

PM10 levels regularly exceed the national standard in Los Angeles, Riverside, and San Bernardino counties. In 1990, the standard was also exceeded in Orange County. The more stringent state PM10 standard is exceeded in all four counties. Sulfur dioxide and lead levels in all areas of the SCAB are below national and state standard limits.

Local

The SCAQMD's Los Angeles air monitoring station is located at 1630 North Main Street, approximately three quarters of a mile northeast of Union Station (see Figure 29). Because the Los Angeles Station is so close to the project site, it accurately represents baseline air quality conditions at the project. Data from the station for 1989 through 1993 are set forth in Table 84.

As Table 84 demonstrates, O_3 levels between 1989 and 1993 averaged 160 percent of the federal standard and 220 percent of the state standard in the vicinity of the project site. Ozone levels fluctuate from year to year, but have shown overall reductions over the period. Carbon monoxide levels were below the state and federal one-hour standard every year, but both state and federal eight-hour standards were exceeded in three of the five years. The annual average NO_2 concentration exceeded the national standard in 1989, but concentrations have declined since and have been below the national standard from 1990 to 1993. The state one-hour standard was exceeded at least once each year before 1993, when there were no exceedances. PM10 concentrations were significantly above the state 24 hour standard each year, but only exceeded the federal 24 hour standard in two of the five years.

TABLE 84
SUMMARY OF AIR QUALITY DATA[1]
LOS ANGELES AIR MONITORING STATION

Pollutant Standards	1989	1990	1991	1992	1993
Ozone (O_3)					
State standard (1-hr. avg. >0.09 ppm)					
Federal standard (1-hr avg. >0.12 ppm)					
Maximum concentration	0.25	0.20	0.19	0.20	0.16
Number of days state standard exceeded	76	70	59	57	34
Number of days federal standard exceeded	34	32	23	23	8
Carbon Monoxide (CO)					
State standard (1-hr. avg. >20 ppm)					
Federal standard (1-hr avg. >35 ppm)					
State standard (8-hr. avg. ≥9.1 ppm)					
Federal standard (8-hr avg. ≥9.5 ppm)					
Maximum concentration 1-hr period	14	13	12	12	9
Maximum concentration 8-hr period	9.8	9.9	9.0	9.5	6.8
Number of days state 1-hr standard exceeded	0	0	0	0	0
Number of days federal 1-hr standard exceeded	0	0	0	0	0
Number of days state 8-hr standard exceeded	2	1	0	2	0
Number of days federal 8-hr standard exceeded	2	1	0	2	0
Nitrogen Dioxide (NO_2)					
State standard (1-hr avg. >0.25 ppm)					
Federal standard (0.0534 AAM in ppm)					
Annual arithmetic mean	0.0553	0.0467	0.0493	0.0404	0.0332
Percent federal standard exceeded	3.3	0	0	0	0
Maximum 1-hr concentration	0.28	0.28	0.38	0.30	0.21
Number of days state 1-hr standard exceeded	1	3	5	1	0
Total Suspended Particulates (TSP)					
Maximum 24-hr concentration	217	211	183	192	171
Suspended Particulates (PM_{10})					
State standard (24-hr. avg. >50 ug/m^3)					
Federal standard (24-hr avg. >150 ug/m^3)					
Maximum 24-hr concentration	137	152	151	137	104
Percent samples exceeding state standard	56.9	51.7	54.4	36.1	42.6
Percent samples exceeding federal standard	0	1.7	1.8	0	0

AM = Annual Arithmetic Mean
ppm = parts per million
NA = Not Applicable
ug/m^3 = micrograms per cubic meter
[1] Pollutants shown are those for which the SCAB is designated as a federal nonattainment area
Source: SCAQMD Air Quality Data–1989 through 1993

Future Air Quality

Air quality conditions in the entire SCAB have improved in recent years. Ozone levels in the SCAB for the five years ending in November 1994 are the lowest for any similar period since the SCAQMD and its predecessor agencies began keeping records in 1955. The 1994 AQMP projects that this downward trend will continue to the year 2000, even without adoption of any of the AQMP's proposed control measures.

ENVIRONMENTAL IMPACT

Threshold of Significance

Appendix G of the Guidelines to the California Environmental Quality Act (CEQA), issued by the California Office of Planning and Research in July 1986, states that a project would normally be considered to have a significant effect on air quality if the project violates any ambient air quality standard, contributes substantially to an existing air quality violation, exposes sensitive receptors to substantial pollutant concentrations, or conflicts with adopted environmental plans and goals of the community where it is located.

Determination of significant impact is the responsibility of the lead agency. The City of Los Angeles is in the process of amending its CEQA Guidelines. In the interim, the City uses the SCAQMD's thresholds of significance. These thresholds are contained in the SCAQMD's CEQA Air Quality Handbook, adopted in February 1993 and revised in November 1993.

Construction and operational emissions are considered significant by the SCAQMD if they exceed the thresholds shown in Table 85.

For projects where background concentrations of CO exceed state one-hour and eight-hour standards, any project-related increase above one ppm for the one-hour standard and 0.45 ppm for the eight-hour standard is considered significant.

Cumulative impacts are considered significant unless mitigation measures reduce emissions by 18 percent by 2010 from 1992 levels or one percent a year for projects initiated after 1992.

TABLE 85
SCAQMD SIGNIFICANCE THRESHOLDS[1]

Type of Project	Pollutant				
	Carbon Monoxide (CO)	Nitrogen Oxides (NO_x)	Reactive Organic Compounds (ROC)	Sulfur Oxides (SO_x)	PM10
Construction	24.75 tons/quarter or 550 pounds on individual day	2.5 tons/quarter or 100 pounds on individual day	2.5 tons/quarter or 75 pounds on individual day	6.75 tons/ quarter or 15 pounds on individual day	6.75 tons/ quarter or 150 pounds on individual day
Operational	550 pounds/day and/or increase of 1 ppm or .45 ppm that would cause increase in existing exceedance of 1-hour and 8-hour CO standards	55 pounds/day	55 pounds/day	150 pounds/day	150 pounds/ day

[1] Toxic emissions are considered significant if they expose sensitive receptors to a cancer risk of 1 in 1 million or 10 in 1 million if best available control technology for toxics (T-BACT) is employed.
Source: SCAQMD CEQA Air Quality Handbook, November 1993

In addition, the following secondary effects are considered by the SCAQMD to be indicators of potentially significant impacts:

- Project could interfere with attainment or maintenance of any state or federal air quality standard by either violating or contributing to an existing or projected air quality violation;
- Project could result in population increases within the regional statistical area that exceed projections in the AQMP and in other than planned locations for the project's build-out year;
- Project could generate vehicle trips that cause a CO "hotspot;"
- Project could have the potential to create or be subjected to an objectionable odor over 10 dilution to thresholds (D/T) that could impact sensitive receptors;

- Project could have hazardous materials on site and could result in an accidental release of air toxic emissions or acutely hazardous materials posing a threat to public health and safety;

- Project could emit an air contaminant regulated by District rules or that is on a federal or state air toxic list;

- Project could involve burning of hazardous, medical or municipal waste as waste-to-energy facilities;

- Project could be occupied by sensitive receptors within a quarter mile of an existing facility that emits air toxics identified in District Rule 1401 (New Source Review of carcinogenic air contaminants) or near CO hotspots.

- Project could emit carcinogenic or toxic air contaminants that individually or cumulatively exceed the maximum individual cancer risk of 10 in 1 million.

Phase I and Buildout Phase Impacts

Air quality impacts of a project fall into four major categories:

(1) Construction Impacts – Preparing the area for construction will produce gaseous emissions from construction equipment and employee vehicles.

Construction-related fugitive dust emissions result from land clearing, blasting, ground excavation, and cut and fill operations. They vary substantially from day to day, depending on the level of activity, the specific operations, and weather conditions.

Construction can also result in emissions of toxic air contaminants and odor from demolition of buildings or disturbance of contaminated soils. Finally, painting and coating operations during construction can result in emissions of VOCs.

(2) Operational Regional Impacts--Emissions resulting from a project, such as natural gas usage associated with the completed land uses, vehicles traveling to and from a project site, and stationary equipment emissions which have impacts beyond the immediate vicinity of a project, can have an impact on regional air quality. Emissions associated with off-site electricity generation could also be considered in this impact category, but these facilities are subject to caps imposed by SCAQMD Regulation XX.

(3) Operational Local Impacts--Air quality impacts caused by emissions from traffic traveling in the immediate vicinity of a proposed project and emissions from stationary equipment within the project which impact air quality in the near vicinity.

(4) Cumulative Impacts--Air quality changes resulting from the incremental impact of the project when added to the related projects in the vicinity.

The potential air quality impacts of the ADP were analyzed utilizing guidelines and emission factors presented by the SCAQMD in the 1993 CEQA Handbook, CARB's Caline 4 model, and current emission factors (EMFAC7F-1.1) developed by CARB which incorporate projected motor vehicle emission reductions from controls adopted by CARB.

Phase I Construction Impacts

Phase I would develop the Union Station and Terminal Annex property and consist of 3,362,000 square feet of new development, including commercial office space, government office space, retail and entertainment uses and a museum. For purposes of this analysis, all construction is assumed to be completed in five years. A peak day construction scenario was prepared in February and March, 1995 by Joe Sanders of Pankow Builders, Ltd. and Shannon Smith of Planning Company Associates. This scenario projects that the peak construction day will occur on May 15, 1998, when construction on five buildings will be occurring simultaneously. The construction phase for each building under construction on the peak day is shown below:

Project	Stage of Construction
(1) 1-story Commercial Building	Demolition
(2) 400,000sf Commercial Office	Finishing Stage
(3) 70,000sf Museum	Finishing Stage
(4) 470,000sf Government Office	Excavation
(5) 620,000sf Commercial Office	Excavation and start of structure

Each construction stage requires different manpower and equipment usages. These uses were based on information collected during the construction of the Gateway Center project. Tables were developed for each project outlining equipment usage and number of employees.

Grading. A total of 17.9 acres will be graded in Phase I, or an average of 3.58 acres per year. Most of this area will consist of walkways and landscaping. Buildings will occupy a maximum of approximately 161,000 square feet at ground floor level, or 3.7 acres. The SCAQMD CEQA Handbook estimates that each acre of disturbed soil creates 26.4 pounds/day of PM10. Assuming under worst case conditions that double the annual average, or 7.16 acres are graded or exposed simultaneously, construction activities, without mitigation, would generate 189 pounds of PM10 on a peak day.

Demolition. During Phase I, a total of 281,400 square feet will be demolished. However, the Pankow peak day scenario includes demolition of one one-story commercial building totalling 6,000 square feet. Without mitigation, demolition could result in the release of 45.36 pounds of PM10 emissions.

Trucks. Excavation of the site and preparation for construction will require some dirt and equipment transport over city streets. The Pankow peak day construction scenario estimates that there will be 36 dirt trucks in use on a peak construction day, each making 3 round trips of 20 miles each way. In addition, the peak day scenario projects 22 foundation concrete trucks, each making 3 round trips of 20 miles each way; 3 structure concrete trucks, each also making 3 round trips of 20 miles each way, and 5 trash removal trucks, each making 1 round trip of 20 miles each way.

The peak day scenario estimates that there will be 18 delivery trucks in use daily and 5 lunch trucks. Each truck is assumed to make one 40 mile round trip daily. Truck trip emissions are shown on Table 86.

Employee Vehicles. This analysis assumes a total of 3,500 construction workers will be required during Phase I construction. Different workers are on site at different phases of construction. The Pankow scenario projects that on the peak construction day there will be 670 construction workers employed on the project. Assuming there is an average of 1.3 employees per vehicle, this amounts to 515 daily round trips of 20 miles each way, or 20,600 vehicle miles traveled on the peak day. Total emissions, without mitigation, are shown in Table 86.

Exhaust Emissions From Construction Equipment. Exhaust emissions from construction equipment vary substantially from day to day, depending on the level of activity. Pankow estimates that there will be 21 pieces of diesel equipment in use on the peak construction day: 3 hydraulic excavators, 3 front end loaders, 2 drill rigs, 2 mobile concrete pumps, 1 stationary concrete pump, 5 mobile cranes, and 5 forklifts. All equipment is assumed to operate for 8 hours each day. Equipment emissions are shown on Table 86.

Emissions from Painting and Coating. The Pankow peak day analysis assumes that the 400,000 square foot commercial building and the 70,000 square foot museum will both be in the finishing stage on the peak construction day. Emissions from painting and coating these buildings were calculated using emission factor formulae from the SCAQMD CEQA Air Quality Handbook. These formulae are calculated on the basis of total painting and coating emissions that can potentially be generated during the finishing stage of the project. Pankow estimates that the finishing stage for the commercial building is 5 months, or 110 days. For the museum, the duration of the finishing stage is 3 months, or 65 days.

These emissions assume all exteriors are coated with water-based exterior concrete-masonry coatings. Based on data from Pankow, the default factors greatly overestimate exterior emissions because there are virtually no exterior coatings currently used on high rise office buildings. Current building practices call for almost exclusive use of pre-coated or uncoated building materials. Default values do not separate interior coatings from external coatings and therefore do not account for use of low-emitting interior paints and coatings. Peak daily emissions, without mitigation, are shown on Table 86.

Odor. Potentially significant odor may occur during excavation, depending on past uses on site, and workers could be exposed. Any odor impacts would be short term. There are no sensitive receptors in the immediate vicinity of the project; therefore, potential odor impacts on the surrounding community will be less than significant.

Toxics. Potentially significant amounts of asbestos fibers could be released during demolition and remodeling, depending on whether any asbestos was used in building construction. Based on formulae in the SCAQMD CEQA Handbook, demolition of the 6,000 square foot commercial building on the peak construction day could release 6.5 pounds of asbestos. Maximum asbestos emissions could occur with demolition of the largest building scheduled for demolition in Phase I, which is the Terminal Annex Addition totalling 151,400 square feet. Without mitigation, demolition of this building could result in the release of a total of 317 pounds of asbestos. If asbestos is present in these buildings, the applicant will comply with the provisions of SCAQMD Rule 1403 to insure that all necessary protective measures are taken.

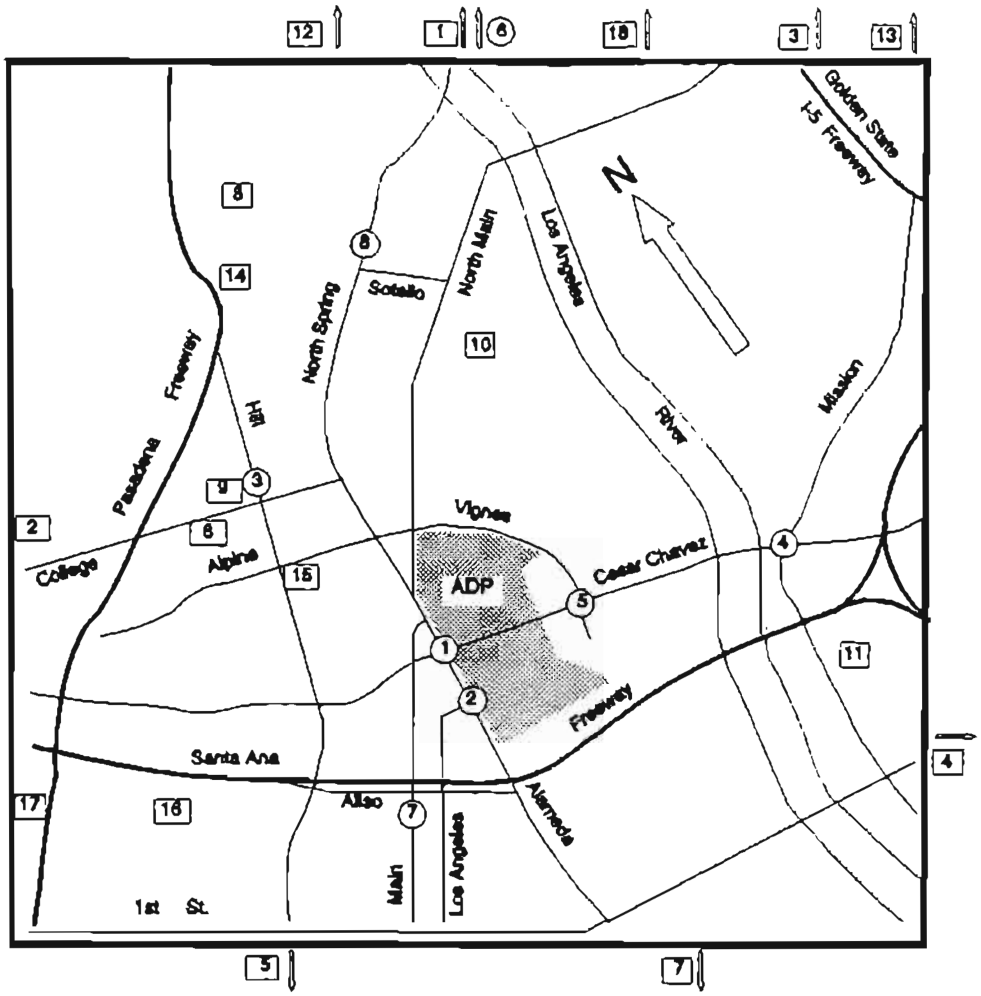
As discussed in Section IV.J of this EIR, the Phase I Site Assessment identified several areas on the Terminal Annex site where previous land uses, including gasoline storage tanks, fuel oil tanks, and waste oil and other chemical disposal, have resulted in soil contamination. This soil could release toxic air contaminants when exposed to the air during excavation. The Phase I report recommends that remedial actions be taken at the Terminal Annex property to resolve toxic impacts. As part of this remediation, workers should take precautions to protect against breathing contaminated soil during excavation. The nearest sensitive receptor is located slightly more than one quarter mile from the outer boundary of the Terminal Annex site at Alpine and Broadway (See Figure 30). Because of distance and remediation actions, the impacts of toxic substances in the soil will be less than significant, without mitigation, to any sensitive receptor.

Summary of Phase I Construction Impacts. Construction of Phase I, without mitigation, will result in significant emissions of ROC, NO_x, CO and PM10 (see Table 86). Excavation of contaminated soil or demolition of buildings containing asbestos could temporarily expose workers to toxic emissions. Workers should exercise protective measures to avoid exposure to toxic or hazardous pollutants. There are no sensitive receptors within one-quarter mile of the site and additional protection afforded through soil remediation programs will insure that there are no significant toxic impacts. Release of odors will not result in a significant impact on sensitive receptors.

Phase I Regional Operational Impacts

Regional operational emissions will result from travel to and from the site, utility emissions, and from operation of stationary equipment.

Stationary Source Emissions. Emissions from boilers used to heat and cool the buildings were calculated using data supplied by Air Conditioning Company, Inc. and emission factors from AP 42, 4th Ed., Vol I, page 1.4-3. Emissions, without mitigation, are shown in Table 87 for Phase I. These emissions may include some double counting of natural gas emissions shown under Utility Emissions. Other equipment associated with the project will be primarily low-emitting, such as charcoal grills in restaurants, or of limited operation, such as emergency generators. Furthermore, under current regulations, operators of stationary source equipment requiring SCAQMD permits must secure emission reduction credits from other sources, including the District's Community Bank which is available to small businesses, that fully offset all emissions from this new equipment. Therefore, emissions from stationary equipment will not result in a net emissions increase.



Sensitive Receptors

1. Downey Playground
2. Everett Park
3. Lincoln Heights Playground
4. Pecan Playground
5. Pershing Square Park
6. Pine Park
7. Sixth & Gladys Park
8. Elysian Park
9. Pacific Alliance Medical Center
10. Ann Street Elementary School
11. Utah Street Elementary School
12. Nightingale Jr. High School
13. Lincoln Senior High School
14. Cathedral High School
15. Religious High School
16. Business Magnet High School
17. Betty Placencia Elementary School
18. Albion Elementary School

Modeled Roadways

1. Alameda/Cesar Chavez
2. Alameda/Los Angeles
3. Hill N of College
4. Mission/Cesar Chavez
5. Vignes/Cesar Chavez
6. Broadway S of 5 Fwy
7. Main S of Aliso
8. N. Spring N of Sotello

LEGEND

Sensitive Receptor

Modeled Roadway

Source: JHA Associates

CORDOBA CORPORATION

EPA ENVIRONMENTAL PLANNING ASSOCIATES

0 1/4 1/2
SCALE IN MILES

Figure 31
SENSITIVE RECEPTORS AND MODELED ROADWAY LOCATIONS

TABLE 86
PHASE I PEAK DAY CONSTRUCTION EMISSIONS
(POUNDS PER DAY)

Source	CO	ROC	NO_x	SO_x	PM10
PHASE I CONSTRUCTION					
Employee Trips	361.20	19.47	29.94		4.76
Heavy Duty Truck Trips	182.82	13.85	58.11		6.20
Service Truck Trips	13.35	0.73	1.29		0.21
Diesel Powered Equipment	63.24	12.61	109.51	4.58	7.94
Demolition					45.36
Earthmoving/Grading					189.00
Dirt Pushing					523.20
Painting and Coating		3,052.00			
TOTAL EMISSIONS, PHASE I CONSTRUCTION	**620.61**	**3,098.66**	**198.86**	**4.58**	**776.67**
SCAQMD Construction Thresholds	550.00	75.00	100.00	150.00	150.00
Significant?	Yes	Yes	Yes	No	Yes

Utility Emissions. Increases in emissions associated with natural gas consumption for water heating, cooking, etc. on the project site were quantified using the procedure described in the SCAQMD's 1993 CEQA Handbook. Natural gas emissions for Phase I are shown in Table 87. Increases from each pollutant result in daily increases of 4.6 pounds of CO, 1.2 pounds of ROC, 28 pounds of NO_x, and 0.04 pounds of PM10. There will be no increase in power plant emissions in the SCAB above currently permitted levels as a result of electricity use on site because power plant emissions are capped through SCAQMD Regulation XX. Any increase in electrical generation required because of increased electricity usage will be offset by emission reductions from other sources in the SCAB.

Mobile Source Emissions. Based on the analysis, vehicles traveling to and from buildings within the Alameda Specific Plan boundaries could be expected in the year 2000 (Phase I) to generate 46 pounds/day of PM10, 3,450 pounds/day of CO, 271 pounds/day of NO_x, and 195 pounds/day of ROC in 2000. Calculations are included in the Technical Studies Appendices on file with the City Planning Department. Total emissions from motor vehicle use for Phase I are shown in Table 87.

Summary of Phase I Regional Operational Impacts. Based on current SCAQMD thresholds, the regional operational impacts of the ADP will result in significant increases in CO, NO_x, and ROC emissions in Phase I.

TABLE 87
TOTAL REGIONAL OPERATIONAL EMISSIONS
PHASE I AND BUILDOUT PHASE
(IN POUNDS/DAY)

	CO	ROC	SO_x	NO_x	PM10
PHASE I					
Vehicular Emissions	3,450.00	195.00		271.00	46.27
Boilers	2.89	0.77	0.09	14.46	0.72
Natural Gas Emissions	4.6	1.2		28	.04
TOTAL OPERATIONAL EMISSIONS, PHASE I	**3,457.49**	**196.97**	**0.09**	**313.46**	**47.03**
SCAQMD Significance Thresholds	550	55	150	55	150
Significant?	yes	yes	no	yes	no
BUILDOUT PHASE					
Vehicular Emissions	4,149.00	128.00		314.00	100.00
Boilers	6.45	1.71	0.19	32.25	1.61
Natural Gas Emissions	17.00	4.50		100.60	.17
TOTAL OPERATIONAL EMISSIONS, BUILDOUT PHASE	**4,172.45**	**134.21**	**0.19**	**446.85**	**101.78**
SCAQMD Significance Thresholds	550	55	150	55	150
Significant?	yes	yes	no	yes	no
TOTAL PROJECT OPERATIONAL EMISSIONS	**7,629.94**	**331.18**	**0.28**	**760.31**	**148.81**
SCAQMD Significance Thresholds	550	55	150	55	150
Significant?	yes	yes	no	yes	no

Phase I Local Operational Impacts

Carbon Monoxide. Both 1-hour and 8-hour CO concentrations are declining throughout the SCAB. This improvement is projected by the SCAQMD to continue in the future as a result of new vehicle emission controls and wintertime use of oxygenated fuels. Peak 1-hour concentrations at the Los Angeles monitoring station have been below state and federal 1-hour CO standards for over six years. Therefore, the SCAQMD considers the 8-hour standards to be the critical standards. Eight-hour concentrations fluctuate from year to year, but the overall trend is also downward, as reflected in 1993 concentrations, which were substantially below state and federal standards.

Carbon monoxide impacts from traffic were assessed at four intersections and four at-grade roadway links, as identified in Figure 31 and shown in Tables 88 through 91. Sites were selected which would experience the greatest increase in traffic related to the project for Phase I development and the Buildout Phase, or both, and which would experience the greatest total congestion. These locations represent worst case conditions. Less congested intersections and roadway segments will experience lower concentrations of CO than those modeled for this analysis and therefore will not result in hotspots.

Carbon monoxide impacts were assessed with CalTrans CALINE4 Air Quality Model, utilizing the EMFAC7F emission factors released by CARB on June 24, 1993. The increase in CO concentrations with Phase I of the project over CO concentrations without the project were added to projected CO concentrations at the Los Angeles Monitoring Station in the years 2000 and 2005, as developed by the SCAQMD for the 1991 AQMP.

The highest CO concentrations occur in a localized area near an emissions source. CO concentrations are reduced downwind of a source through atmospheric dispersion. Modeled sites and sensitive receptors are shown in Figure 31. Computer readouts for the CALINE4 model appear in the Technical Studies Appendices on file with the City Planning Department. A brief discussion of input to the model follows, based upon the following assumptions:

- Carbon monoxide concentrations are calculated for the one-hour averaging period, and then compared to the state and national CO one-hour standards. Carbon Monoxide eight-hour averages are extrapolated using techniques outlined in the California Department of Transportation Air Quality Technical Analysis Notes at .80 of the 1-hour modeled concentrations, to represent worst case urban conditions.

- Concentrations are given in parts per million (ppm) at each receptor location.

- A temperature of 50 degrees F was selected for the AM peak and 60 degrees for the PM peak, consistent with SCAQMD Guidelines.

TABLE 88
PEAK AM 1 HOUR CO CONCENTRATIONS
(in ppm)

		1993		Phase I -- 2000					Buildout Phase -- 2010				
Intersection	Dir.	Amb. Conc.[a]	Exist.	Amb. Conc.[b]	No Proj.	With Proj.	Max. Incr.	Adj. Conc.	Amb. Conc.[c]	No Proj.	With Proj.	Max. Inc.	Adj. Conc.
Alameda/Cesar E.	SW	9	3.1	5.7	1.6	1.7	0.1	5.8	4.3	1.1	1.6	0.5	5.0
Chavez	SE		2.5		1.4	1.4	0.0			1.0	1.4	0.4	
	NE		3.9		1.7	1.7	0.0			1.1	1.6	0.5	
	NW		4.4		2.0	2.1	0.1			1.3	2.0	0.7	
Alameda/Los	SW		1.5		1.6	2.1	0.5	6.5		1.9	2.1	0.2	4.5
Angeles	SE		1.4		1.0	1.8	0.8			1.7	1.9	0.2	
	NE		1.4		1.0	1.7	0.7			1.5	1.7	0.2	
	NW		1.4		1.1	1.8	0.7			1.6	1.8	0.2	
Hill/North of College	W		2.0		1.3	1.3	0.0	5.7		1.1	1.1	0.0	4.4
	E		1.3		0.9	0.9	0.0			0.7	0.8	0.1	
Mission/Cesar E.	SW		7.1		3.5	3.8	0.3	6.0		3.7	3.6	-0.1	4.4
Chavez	SE		4.8		2.4	2.6	0.2			2.7	2.7	0.0	
	NE		5.7		2.9	3.0	0.1			3.2	3.3	0.1	
	NW		5.9		2.9	3.0	0.1			3.0	3.1	0.1	
Vignes/Cesar E.	SW		2.0		1.3	1.9	0.6	6.4		1.3	1.8	0.5	5.0
Chavez	SE		2.9		1.7	2.4	0.7			1.6	2.1	0.5	
	NE		3.1		1.8	2.4	0.6			1.6	2.2	0.6	
	NW		3.0		1.5	2.2	0.7			1.4	2.1	0.7	
Broadway/South of 5	W		1.5		1.3	1.4	0.1	5.8		1.1	1.2	0.1	4.4
Freeway	E		1.2		1.0	1.0	0.0			0.8	0.8	0.0	
Main/South of Aliso	W		0.4		0.2	0.2	0.0	5.7		0.1	0.2	0.1	4.4
	E		0.4		0.2	0.2	0.0			0.1	0.2	0.0	
North Spring/North	W		0.9		0.7	1.0	0.3	6.0		0.6	0.8	0.2	4.5
of Sotello	E		0.7		0.5	0.7	0.2			0.4	0.6	0.2	

[a] Source: SCAQMD. 1993 Air Quality Data.
[b] Source: SCAQMD. CEQA Air Quality Handbook. November 1993.
[c] Source: SCAQMD. 1991 AQMP Technical Report V-1. Assessment of NO_x and CO in the SCAB.

TABLE 89
PEAK PM 1 HOUR CO CONCENTRATIONS
(in ppm)

		1993		Phase 1 -- 2000					Buildout Phase -- 2010				
Intersection	Dir.	Amb. Conc.[a]	Exist.	Amb Conc.[b]	No Proj.	With Proj.	Max. Incr.	Adj. Conc.	Amb. Conc.[c]	No Proj.	With Proj.	Max. Inc.	Adj. Conc.
Alameda/Cesar E.	SW	9	3.9	5.7	3.0	4.2	1.2	7.3	4.3	1.8	4.2	2.4	7.2
Chavez	SE		5.2		3.4	4.7	1.3			2.0	4.6	2.6	
	NE		5.4		3.6	5.2	1.6			2.1	5.0	2.9	
	NW		4.8		3.2	4.8	1.6			2.0	4.7	2.7	
Alameda/Los	SW		4.7		2.8	4.7	1.9	8.0		2.1	2.3	0.2	4.6
Angeles	SE		3.4		2.1	4.2	2.1			1.8	1.9	0.1	
	NE		2.9		2.1	4.4	2.3			1.7	2.0	0.3	
	NW		2.8		1.8	3.9	2.1			1.5	1.7	0.2	
Hill/North of College	W		2.3		1.6	1.6	0.0	5.8		0.9	1.0	0.1	4.4
	E		2.6		1.9	2.0	0.1			1.1	1.2	0.1	
Mission/Cesar E.	SW		7.1		3.7	3.8	0.1	5.8		2.6	2.8	0.2	4.5
Chavez	SE		4.6		2.5	2.5	0.0			1.9	2.0	0.1	
	NE		3.9		2.2	2.3	0.1			1.8	1.9	0.1	
	NW		4.0		2.1	2.2	0.1			1.6	1.7	0.1	
Vignes/Cesar E.	SW		5.5		4.4	4.5	0.1	6.0		2.0	4.5	2.5	7.2
Chavez	SE		6.2		5.4	5.7	0.3			2.6	5.5	2.9	
	NE		4.7		4.3	4.5	0.2			2.1	4.4	2.3	
	NW		6.3		4.3	4.3	0.0			2.0	4.3	2.3	
Broadway/South of 5	W		1.6		1.2	1.4	0.2	6.0		0.9	1.0	0.1	4.5
Freeway	E		2.2		1.7	2.0	0.3			1.3	1.5	0.2	
Main/South of Aliso	W		1.3		1.0	1.2	0.2	5.9		0.4	0.5	0.1	4.4
	E		1.3		1.0	1.2	0.2			0.4	0.5	0.1	
North Spring/North	W		1.2		0.8	1.0	0.2	5.9		0.5	0.7	0.2	4.6
of Sotello	E		1.5		1.1	1.3	0.2			0.7	1.0	0.3	

[a] Source: SCAQMD. 1993 Air Quality Data.
[b] Source: SCAQMD. CEQA Air Quality Handbook, November 1993.
[c] Source: SCAQMD. 1991 AQMP Technical Report V-1. Assessment of NO_x and CO in the SCAB.

TABLE 90
PEAK AM 8-HOUR CO CONCENTRATIONS
(in ppm)

		1993		Phase I – 2000					Buildout Phase – 2010				
Intersection	Dir.	Amb. Conc.[a]	Exist.	Amb. Conc.[b]	No Proj.	With Proj.	Max. Incr.	Adj. Conc.	Amb. Conc.[c]	No Proj.	With Proj.	Max. Inc.	Adj. Conc.
Alameda/Cesar E.	SW	6.8	2.48	4.0	1.28	1.36	0.08	4.08	3.2	0.88	1.28	0.40	3.76
Chavez	SE		2.00		1.12	1.12	0.00			0.80	1.12	0.32	
	NE		3.12		1.36	1.36	0.00			0.88	1.28	0.40	
	NW		3.52		1.60	1.68	0.08			1.04	1.60	0.56	
Alameda/Los	SW		1.20		1.28	1.68	0.40	5.12		1.52	1.68	0.16	3.36
Angeles	SE		1.12		0.80	1.92	1.12			1.36	1.52	0.16	
	NE		1.12		0.80	1.36	0.56			1.20	1.36	0.16	
	NW		1.12		0.88	1.44	0.56			1.28	1.44	0.16	
Hill/North of College	W		1.60		1.04	1.04	0.00	4.18		0.88	0.88	0.00	3.28
	E		1.04		0.72	0.90	0.18			0.56	0.64	0.08	
Mission/Cesar E.	SW		5.60		2.80	3.04	0.24	4.24		2.96	2.88	-0.08	3.28
Chavez	SE		3.84		1.92	2.08	0.16			2.16	2.16	0.00	
	NE		4.56		2.32	2.40	0.08			2.56	2.64	0.08	
	NW		4.72		2.32	2.40	0.12			2.40	2.48	0.08	
Vignes/Cesar E.	SW		1.60		1.04	1.52	0.48	4.56		1.04	1.44	0.30	3.76
Chavez	SE		2.32		1.36	1.92	0.56			1.28	1.68	0.40	
	NE		2.48		1.44	1.92	0.48			1.28	1.76	0.48	
	NW		2.40		1.20	1.76	0.56			1.12	1.68	0.56	
Broadway/South of 5	W		1.20		1.04	1.12	0.08	4.08		0.88	0.96	0.08	3.28
Freeway	E		0.96		0.80	0.80	0.00			0.64	0.64	0.00	
Main/South of Aliso	W		0.32		0.16	0.16	0.00	4.00		0.08	0.16	0.08	3.28
	E		0.32		0.16	0.16	0.00			0.08	0.16	0.08	
North Spring/North	W		0.72		0.56	0.80	0.24	4.24		0.48	0.64	0.16	3.36
of Sotello	E		0.56		0.40	0.56	0.16			0.32	0.48	0.16	

[a] Source: SCAQMD. 1993 Air Quality Data.
[b] Source: SCAQMD. CEQA Air Quality Handbook. November 1993.
[c] Source: SCAQMD. 1991 AQMP Technical Report V-1. Assessment of NO_x and CO in the SCAB.

TABLE 91
PEAK PM 8-HOUR CO CONCENTRATIONS
(in ppm)

		1993		Phase 1 -- 2000					Buildout Phase -- 2010				
Intersection	Dir.	Amb. Conc.[a]	Exist.	Amb. Conc.[b]	No Proj.	With Proj.	Max. Incr.	Adj. Conc.	Amb. Conc.[c]	No Proj.	With Proj.	Max. Inc.	Adj. Conc.
Alameda/Cesar E. Chavez	SW	6.8	3.12	4.0	2.40	3.36	0.96	5.28	3.2	1.44	3.36	1.92	5.92
	SE		4.16		2.72	3.76	1.04			1.60	3.68	2.08	
	NE		4.32		2.88	4.16	1.28			1.68	4.40	2.72	
	NW		3.84		2.56	3.84	1.28			1.60	3.76	2.16	
Alameda/Los Angeles	SW		3.76		2.24	3.76	1.52	5.84		1.68	1.84	0.16	3.44
	SE		2.72		1.68	3.36	1.68			1.44	1.52	0.08	
	NE		2.32		1.68	3.52	1.84			1.36	1.60	0.24	
	NW		2.24		1.44	3.12	1.68			1.20	1.36	0.16	
Hill/North of College	W		1.84		1.28	1.20	0.00	4.08		0.72	0.80	0.08	3.28
	E		2.08		1.52	1.60	0.08			0.88	0.96	0.08	
Mission/Cesar E. Chavez	SW		5.68		2.96	3.04	0.08	4.09		2.08	2.29	0.20	3.40
	SE		3.68		2.00	2.00	0.00			1.52	1.60	0.08	
	NE		3.12		1.76	1.84	0.08			1.44	1.52	0.08	
	NW		3.20		1.68	1.76	0.09			1.28	1.36	0.08	
Vignes/Cesar E. Chavez	SW		4.40		3.52	3.60	0.08	4.24		1.60	3.60	2.00	5.52
	SE		4.96		4.32	4.56	0.24			2.08	4.40	2.32	
	NE		3.76		3.44	3.60	0.16			1.68	3.52	1.84	
	NW		5.04		3.44	3.44	0.00			1.60	3.44	1.84	
Broadway/South of 5 Freeway	W		1.28		0.96	1.12	0.16	4.24		0.72	0.80	0.08	3.36
	E		1.76		1.36	1.60	0.24			1.04	1.20	0.16	
Main/South of Aliso	W		1.04		0.80	0.96	0.16	4.16		0.32	0.40	0.08	3.28
	E		1.04		0.80	0.96	0.16			0.32	0.40	0.08	
North Spring/North of Sotello	W		0.96		0.64	0.80	0.16	4.16		0.40	0.56	0.16	3.44
	E		1.20		0.88	1.04	0.16			0.56	0.80	0.24	

[a] Source: SCAQMD. 1993 Air Quality Data.
[b] Source: SCAQMD. CEQA Air Quality Handbook. November 1993, Table 5-2.
[c] Source: SCAQMD. 1991 AQMP Technical Report V-1. Assessment of NO_x and CO in the SCAB.

The SCAQMD CEQA Handbook calls for adding modeled concentrations to existing or projected background concentrations. This method is recommended to protect against development of CO hotspots where the background concentration is unknown because of distance from the monitoring site. In the case of this project, only the increases in CO concentrations with the project were added to the projected uncontrolled background level at the Los Angeles monitoring station, which is located within one mile from Union Station and accurately represents background conditions at the site without the project. This analysis shows that there is no exceedance of any CO standard at any of the most impacted locations and there is no adverse impact on CO concentrations resulting from the project. It is important to note that this conclusion would also be true if the entire modeled concentration were added to the uncontrolled projected background levels in the years 2000 and 2010.

Sensitive Receptors. The SCAQMD specifies that special attention should be given to the effect of CO, toxic, and odor emissions on sensitive receptors, which are listed as: residences, schools, playgrounds, childcare centers, convalescent homes for senior citizens, retirement homes, rehabilitation centers, and athletic facilities. A list of sensitive receptors in the vicinity of the project was compiled. Intersections and roadway links were selected for CO modeling based on the greatest increase in traffic or congestion. These modeled sites were then matched against the map of sensitive receptors to insure that any potential hotspot that could impact sensitive receptors had been considered.

The analysis shows that no sensitive receptor will be exposed to a CO hotspot. All receptors will be exposed to lower concentrations of CO for both Phase I and Buildout Phase of the project than they were in 1993. Parking structures at the project site will be constructed with ventilation systems designed to insure that no sensitive receptor is exposed to significant adverse concentrations of CO.

Toxics. The SCAQMD regulates levels of air toxics through a permitting process that covers both construction and operation. The District has adopted Rule 1401 to regulate toxic emissions from new sources which use specified toxic materials. Sources using these materials must receive a permit from the SCAQMD before they can operate. Where documentation shows that the proposed source is using toxic materials in sufficient quantity that they may constitute a health risk, the District requires a health risk assessment before issuing a permit.

Phase I of the ADP will not contain any of the uses identified in the SCAQMD's CEQA Handbook as potential sources of significant amounts of toxic compounds. Should other compounds be placed on the list of significant toxics prior to construction and should any of these newly identified compounds be associated with projected land uses within the ADP, compliance with Rule 1401 will insure that the project will not expose anyone to significant adverse health risks as a result of toxic exposure. Therefore, operation of the project will not result in any adverse health risk from toxic exposure.

Odor. There are no sensitive receptors in the vicinity of the project that could be impacted. Operators of restaurants and other commercial uses within the project site will be subject to SCAQMD Rule 402, which states that "A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property."

Any commercial facility that could emit odor will be required to install air filters, use substitute material, or take whatever steps are necessary to insure that odor does not constitute a nuisance. The rule will be enforced by the SCAQMD. Therefore, odor from Phase I development will not have a significant adverse impact on air quality.

Buildout Phase Construction Impacts

Buildout Phase of the ADP will include construction of an additional 7,500,000 square feet of commercial and government office space and hotel, conference center, retail, and residential uses over a period of ten years. New buildings would cover a ground floor area of approximately 304,000 square feet or seven acres. Unlike Phase I, peak day construction estimates for the Buildout Phase cannot be specifically defined. As stated in the Introduction, analysis of the ADP Buildout Phase is addressed programmatically (e.g., analyses for which specific design and building information has not yet been identified, but will be determined through long term implementation of the ADP). As such, specific building configurations, heights, massing, etc., are not known for the Buildout Phase. Rather, the Buildout Phase reflects the design guidelines, height limits and land use restrictions governed by the Plan. A specific estimate of peak day construction operations is based on particular building characteristics, including their size, type, location within the site, design, etc., as well as the phasing of construction for each building in order to determine a peak day scenario. Because the Buildout Phase will be driven by market conditions not known at this time and because specific information will be determined as a response to these conditions, a peak day construction estimate cannot be provided. It is, therefore, assumed that construction impacts during Buildout Phase will be significant.

Toxics. Potentially significant amounts of asbestos fibers could be released during demolition and remodeling, depending on whether asbestos was used in construction of the buildings. The REA Building will be demolished at the Union Station site and the Vehicle Maintenance Facility and fire station will be demolished at the Terminal Annex property. Buildout Phase demolition will total 128,700 square feet. Assuming demolition of no more than one building in a single day and based on formulae in the SCAQMD CEQA Handbook, demolition of the largest building, the Vehicle

Maintenance Facility which totals 66,500 square feet of floor area, would result in the potential release of 80 pounds of asbestos. If asbestos is present in any of the buildings scheduled for demolition, the applicant will comply with the provisions of SCAQMD Rule 1403 to insure that all necessary protective measures are taken.

As discussed in Section IV.J of this EIR, the Phase I Site Assessment identified several areas on the Terminal Annex site where previous land uses, including gasoline storage tanks, fuel oil tanks, and waste oil and other chemical disposal, have resulted in soil contamination. This soil could release toxic air contaminants when exposed to the air during excavation. The Phase I report recommends that remedial actions be taken at the Terminal Annex property to resolve toxic impacts. As part of this remediation, workers should take precautions to protect against breathing contaminated soil during excavation. The nearest sensitive receptor is located slightly more than one quarter mile from the outer boundary of the Terminal Annex site at Alpine and Broadway (See Figure 30). Because of distance and remediation actions, the impacts of toxic substances in the soil should be less than significant without mitigation to any sensitive receptor.

Buildout Phase Regional Operational Impacts

Stationary Source Emissions. Emissions from boilers used to heat and cool buildings in the Buildout Phase were calculated using data supplied by Air Conditioning Company, Inc. and emission factors contained in AP 42, 4th Ed., Vol 1, Page 1.4-3. There may be some double counting of emissions from natural gas estimated in Utility Emissions below. Emissions are shown in Table 87. Other equipment associated with the project will be primarily low-emitting, such as charcoal grills in restaurants, or of limited operation, such as emergency generators. Furthermore, under current regulations, operators of stationary source equipment requiring SCAQMD permits must secure emission reduction credits from other sources, including the District's Community Bank which is available to small businesses, that fully offset all emissions from this new equipment. Therefore, emissions from stationary equipment will not result in a net emissions increase.

Utility Emissions. Natural gas emissions for the proposed project at Buildout Phase in 2010 are shown in Table 87. In 2010, daily increases in emissions from natural gas usage will total 17 pounds of CO, 4.5 pounds of ROC, 100.6 pounds of NO_x, and .17 pounds of PM10. There will be no increase in power plant emissions in the SCAB as a result of electricity use on site because power plant emissions are capped through SCAQMD Regulation XX. Any increase in electrical generation required because of increased electricity usage will be offset by emission reductions from other sources in the SCAB.

Mobile Source Emissions. Buildout Phase emissions include mobile source emissions from both Phase I and the Buildout Phase. Per vehicle emissions are lower at the Buildout Phase than after Phase I because of emission controls adopted by CARB which become effective between 2000 and 2010. At the Buildout Phase, the project-related traffic would generate 100 pounds/day of PM10, 4,149 pounds/day of CO, 314 pounds/day of NO_x, and 128 pounds/day of ROC. Total emissions from both natural gas and motor vehicle use for Buildout Phase are shown in Table 87.

Based on current SCAQMD thresholds, the project will result in significant increases in CO, NO_x, and ROC emissions at Buildout Phase.

Buildout Phase Local Operational Impacts

Carbon Monoxide. Buildout Phase emissions were calculated for the year 2010, together with cumulative emissions from Phase I, because neither CARB nor the SCAQMD project emissions beyond 2010. The 2010 background concentrations were those contained in Final Technical Report V-I of the 1991 AQMP, since the SCAQMD's CEQA Handbook does not project beyond the year 2000. Carbon monoxide impacts from traffic were assessed at four intersections and four at-grade roadway links, as shown in Figure 30 and identified in Tables 88 through 91. This analysis shows that there is no exceedance of any CO standard at any of the most impacted locations and there is no adverse impact on CO concentrations resulting from the project. The analysis also shows that no sensitive receptors will be exposed to a CO hotspot. All receptors will be exposed to lower concentrations of CO for Buildout Phase than they were in 1993.

Toxics. Buildout Phase of the ADP will not contain any of the uses identified in the SCAQMD's CEQA Handbook as potential sources of significant amounts of toxic compounds. Should other compounds be placed on the list of significant toxics prior to construction and should any of these newly identified compounds be associated with projected land uses within the ADP, compliance with Rule 1401 will insure that the project will not expose anyone to significant adverse health risks as a result of toxic exposure. Therefore, operation of the project will not result in any adverse health risk from toxic exposure.

Odor. Any commercial facility that could emit odor will be required to install air filters, use substitute material, or take whatever steps are necessary to insure that odor does not constitute a nuisance. The rule will be enforced by the SCAQMD. Therefore, odor from Buildout Phase development will not have a significant adverse impact on air quality.

Conformity With the 1994 Air Quality Management Plan (AQMP)

Conformity procedures for the federal CAA Amendments of 1990 issued by the federal EPA require that projects which receive federal funds or which require federal approval demonstrate conformity to the approved local SIP.

Conformity demonstrations will not be required for this project because approval of the project as a whole is not contingent upon federal agency approval, although some aspects of the project do require federal cooperation and agreements. Nevertheless, a consistency analysis has been performed for the project which demonstrates that the project is generally consistent with the AQMP, Regional Comprehensive Plan, and other regional and local planning policies.

Consistency with Regional Comprehensive Plan, Air Quality Management Plan, and Other Regional and Local Planning Policies

An analysis of the project's consistency with the Regional Comprehensive Plan, Air Quality Management Plan, and other regional and local planning policies was prepared for the ADP project by Latham & Watkins in March 1995. The analysis is on file with the Community Planning Bureau, City of Los Angeles Planning Department as part of the Technical Studies Appendices to this EIR.

All of the regional and local plans analyzed have in common several principal strategies to improve air quality, reduce congestion, and improve the quality of life throughout the region. These strategies include increasing access to and use of public transit, reducing vehicle miles traveled, and alleviating traffic congestion. A key element in implementing these strategies is encouraging the development of employment centers near transit hubs. The ADP is consistent with the plans because it locates extensive office, hotel, conference, retail and entertainment uses near a major transit center, and will aid the region in reaching the plans' fundamental goals.

Summary of Phase I Impacts

Construction

Impact F.1.1 Construction of Phase I, without mitigation, will result in significant emissions of CO, ROC, NO_x and PM10. These emissions will result from employee vehicle trips, heavy duty truck trips, service truck trips, diesel powered equipment, demolition activities, earthmoving/grading, and painting and coating operations. Excavation of contaminated soil or demolition of buildings containing asbestos could, without mitigation, temporarily expose workers to significant toxic emissions.

Operational

Impact F.1.2 Operation of Phase I will, without mitigation, result in significant emissions of CO, NO_x, and ROC. These emissions will result from motor vehicles, boilers used to heat and cool the buildings, and natural gas consumption.

Summary of Buildout Phase Impacts

Construction

Impact F.1.3 Buildout Phase construction impacts cannot be determined precisely at this time because timelines for construction are not known. However, because motor vehicle emissions are declining each year through replacement of older vehicles with cleaner vehicles equipped with stricter CARB emissions controls, emissions per vehicle will be lower. Nevertheless, it is assumed that construction of Buildout Phase, without mitigation, will result in significant increases in CO, ROC, NO_x and PM10. Excavation of contaminated soil or demolition of buildings containing asbestos could, without mitigation, temporarily expose workers to significant toxic emissions.

Operational

Impact F.1.4 Buildout Phase operation will, without mitigation, result in significant increases in regional emissions of CO, ROC, and NO_x. These emissions will result from motor vehicles, boilers used to heat and cool the buildings, and natural gas consumption.

CUMULATIVE IMPACTS

Section III of this EIR identifies a list of approved or planned related projects in the vicinity of the Alameda District Plan area, which include office, retail, hotel, restaurant, museum, child care, educational and residential projects. This list includes 56 projects, of which 14 are strictly residential. Traffic impacts from these projects on local streets and freeways are considered in the traffic analysis as part of the larger LACMTA countywide traffic forecast model. Emissions from the estimated increase in cumulative vehicle trips were calculated according to procedures in the SCAQMD CEQA Handbook. Cumulative projects do not include emissions associated with energy use, but all non-project trips are without consideration of mitigating factors that may be incorporated in the project or added through the review process. However, the project, in conjunction with emissions from forecasted regional development will contribute on a cumulative basis to significant increases in regional emissions of CO, ROC, NO_x, and PM10 in both 2000 and 2010. Cumulative emissions in 2000 and the Buildout Phase are shown in Table 92.

TABLE 92 CUMULATIVE OPERATIONAL IMPACTS (IN POUNDS PER DAY)				
Source	CO	ROC	NO_x	PM10
PHASE I				
Cumulative w/o ADP	23,934	1,671	1,742	290
Project	3,457	197	313	47
TOTAL PHASE I	**27,391**	**1,868**	**2,055**	**337**
BUILDOUT PHASE				
Cumulative w/o ADP	27,809	1,125	1,928	603
Project	4,172	134	447	102
TOTAL BUILDOUT PHASE	**31,981**	**1,259**	**2,375**	**705**
TOTAL	**59,372**	**3,127**	**4,430**	**1,042**

MITIGATION MEASURES

Phase I

Construction Emissions

Implementation of the following measures will reduce construction emissions by the amount shown in Table 93:

F.1.1.a Prior to issuance of a grading permit, the project proponent shall demonstrate to the City of Los Angeles the actions that will be taken to comply with SCAQMD Rule 402, which requires that there be no dust impacts offsite sufficient to cause a nuisance, and SCAQMD Rule 403, which restricts visible emissions from construction. Specific measures will include moistening soil prior to grading; daily watering of exposed surfaces or treating with soil conditioner to stabilize the soil; washing truck tires and covering loads of dirt transported offsite; cessation of grading during periods of high winds over 25 miles per hour; and paving, coating or seeding graded areas at the earliest possible time after soil disturbance.

F.1.1.b All construction equipment will be maintained in peak operating condition so as to reduce operational emissions.

F.1.1.c Equipment will use low-sulfur diesel fuel.

F.1.1.d Electric equipment will be used to the maximum extent feasible.

F.1.1.e Trucks will limit idling.

F.1.1.f To the maximum extent feasible, construction activities that affect traffic flow will be restricted to off-peak hours, i.e. between 7:00 p.m. and 6:00 a.m. and between 10.:00 a.m. and 3:00 p.m.

F.1.1.g Contractors will be required to provide assistance to long term construction workers in finding carpools or alternate transportation.

F.1.1.h Haul truck routes and staging areas shall avoid residential streets, and to the extent feasible, streets adjacent to local schools.

F.1.1.i Construction workers will be advised of protective apparatus to wear when there is a potential for exposure to odor or from asbestos or other toxics during demolition.

F.1.1.j Soil remediation programs shall be designed to minimize the release of air contaminants.

F.1.1.k Project design will include pre-coated or uncoated materials for exterior surfaces to the extent feasible.

F.1.1.l Project design will include low-emitting interior coatings to the maximum extent feasible.

Although these measures will substantially reduce emissions, construction emissions will be significant for CO, ROC, NO_x, and PM10.

TABLE 93 CONSTRUCTION EMISSIONS AFTER MITIGATION IN POUNDS/DAY					
Source	CO	ROC	NO_x	SO_x	PM10
PHASE I CONSTRUCTION					
Total Phase I Construction Emissions	620.61	3,098.66	198.86	4.58	776.67
Mitigation Reduction Measures (Percentage Reductions)					
Incorporate SCAQMD-recommended dust-suppression measures for demolition and grading emissions (60%)					427.32
Reduce total equipment use to less than 8 hours/peak day (20%)	(12.65)	(2.52)	(21.90)	(.92)	(1.59)
Use pre-coated or non-coated exterior materials (90%)		(915.60)			
Use low-emitting interior coatings (50%)		(1017.50)			
REMAINING EMISSIONS AFTER MITIGATION	**607.90**	**1,163.04**	**176.96**	**3.66**	**347.76**
SCAQMD Construction Thresholds	550	75	100	150	150
Significant?	Yes	Yes	Yes	No	Yes

Operational Emissions

Phase I of the ADP will result in lower emissions relative to similar projects of the same size not located in close proximity to regional and local transit facilities. The following measures, in addition to those already incorporated in the project, will reduce operational air quality impacts:

F.1.2.a Project design will incorporate energy-saving features throughout the project, including low-emission water heaters, central water heating systems, and built-in energy efficient appliances.

F.1.2.b Parking and pedestrian areas will be planted with trees to insure shading and prevent heat buildup.

F.1.2.c Building managers to the greatest extent possible will assist local tenants comply with SCAQMD Regulation XV, as applicable.

These measures will reduce all pollutants, but will not be sufficient to reduce emissions to a less than significant level for Phase I.

Buildout Phase

Construction Emissions

F.1.3 Implementation of Mitigation Measures F.1.1.a through F.1.1.i for the Buildout Phase will reduce construction emissions, but emissions, while unknown at this time, could be significant after mitigation.

Operational Emissions

Buildout Phase of the ADP will result in lower emissions relative to similar projects of the same size not located in close proximity to regional and local transit facilities. The following measures, in addition to those already incorporated in the project, will reduce operational air quality impacts:

F.1.4.a Project design will incorporate energy-saving features throughout the project, including low-emission water heaters, central water heating systems, and built-in energy efficient appliances.

F.1.4.b Parking and pedestrian areas will be planted with trees to insure shading and prevent heat buildup.

F.1.4.c Building managers to the greatest extent feasible, will assist local tenants comply with SCAQMD Regulation XV, as applicable.

These measures will reduce all pollutants, but will not be sufficient to reduce emissions to a less than significant level for the Buildout Phase.

ADVERSE EFFECTS

After mitigation, construction of Phase I of the project will result in significant adverse impacts in emissions of carbon monoxide, nitrogen dioxide, reactive organic compounds and PM10. Construction of the Buildout Phase may also result in significant adverse impacts in emissions of CO, NO_x, ROC and PM10 after mitigation. Operational impacts will remain significant for CO, NO_x and ROC for both Phase I and the Buildout Phase. The project will also contribute to significant cumulative regional impacts when considered in addition to other projects anticipated in the vicinity. There will be no significant local CO impacts in the vicinity of the project. Mitigation measures to correct toxic materials in soil and to reduce exposure to asbestos will eliminate any potential for significant toxic impacts. There will be no significant impact from odor associated with the project.

SECTION IV.F.2
METEOROLOGY (WIND)

This section summarizes the results of a comprehensive analysis of wind impacts study prepared for the ADP project by West Wind Laboratory. The study is on file with the Community Planning Bureau, City of Los Angeles Planning Department, located at 221 S. Figueroa Street, Third Floor, and is part of the Technical Studies Appendices to this EIR.

ENVIRONMENTAL SETTING

The climate of the Los Angeles Basin is determined by its terrain and geographic location. The general region is located within a semi-permanent high pressure zone of the eastern Pacific Ocean. As a result, the climate is mild, tempered by cool sea breezes. The generally mild climatological pattern is interrupted infrequently by periods of extreme hot weather, winter storms, and Santa Ana winds. Wind speeds of 10 to 14 miles per hour (mph) in the area are not uncommon during mid- and late-afternoon hours throughout the year. Changes in topography, large buildings, groves of trees, and other large objects, can interfere with the normal wind pattern causing turbulence as well as creating shelter.

Data was obtained from the South Coast Air Quality Monitoring District station at 1630 North Main Street, approximately 1.0 miles northeast from the site. The surrounding topography and exposures are almost the same for both the site and the weather station. Therefore, the wind data is considered appropriate, without correction, for application to the project site.

Data for the years of 1989 to 1991 were used for this analysis. Wind speeds at the daylight hours of 7:00 a.m., 10:00 a.m., 1:00 p.m., 4:00 p.m., and 7:00 p.m. were used in this analysis as being appropriate for the discussion of wind discomfort.

The local wind climate in downtown Los Angeles is affected by three factors -- two natural, and one man-made. The first factor is the existence of Santa Ana winds. These are spawned over the deserts of Utah and Nevada and blow down into the Los Angeles Basin over the mountain passes which consequently amplify them. They are predominant in the winter months. The second factor is sea breezes. These are caused by temperature differentials between land and sea and blow inland from the ocean primarily in the late afternoon. The third factor which may affect the winds at the project site, is the presence of Los Angeles downtown high-rise buildings. Table 94 shows the percentage of time that winds are expected at the project site from specified directions at noted hours of the day.

TABLE 94
DIRECTIONAL DEPENDENCE OF WINDS (MPH)

Direction	7 a.m.	10 a.m.	1 p.m.	4 p.m.	7 p.m.
North	32	10	1	1	6
Northeast	32	20	3	1	3
East	4	6	2	0	0
Southeast	1	1	1	0	0
South	16	45	33	10	13
Southwest	3	10	53	74	46
West	5	2	3	9	22
Northwest	3	1	1	2	6

Source: West Wind Laboratory

As shown in Table 94, the directional dependence of the winds is a function of the time of the day. During the night and early morning hours, the winds are primarily Santa Ana winds and come from the north and northeast directions. As the day progresses, the winds gradually shift and come in from the sea. Hence, the predominant wind directions during the day are from the south and southwest. With respect to wind speeds, winds do exceed 9 mph, but only nominally, with a maximum of 0.52 percent of the time from the southwest and 0.25 percent of the time from the west. Wind speeds in excess of 9 mph occur no more than 0.07 percent of the time from all other directions.

The wind environment at the site varies from point to point around existing structures. For comparative purposes, a single wind speed can be identified that characterizes the wind environment at the site if no buildings were located on the property, but accounts for conditions caused by surrounding development and general meteorological trends in the Los Angeles Basin. This wind speed for the site was found to be 8 mph, and represents the undisturbed wind environment at the site including winds from all directions and their probability distributions. The open field value indicates that the undisturbed wind environment at the site is a little greater than what is appropriate for outdoor dining, but less than the threshold of 11 mph for leisure walking and strolling, as shown on Table 95.

Wind speeds around corners of a low-rise building are greater than they are in front of, beside, and behind the building, but not greater than they are at an open field site. Therefore, at the corners of the existing buildings on the site (the Union Station Passenger Terminal, Terminal Annex Building, and other low-rise buildings), the effective wind speed would not be greater than 8 mph. This wind speed (at open field sites and building corners) is an upper bound, worst-case representation of the wind environment at the existing site. All other locations on the existing site will have effective wind speeds of less than 8 mph.

ENVIRONMENTAL IMPACT

Threshold of Significance

The threshold of a wind impact is assessed at the level where pedestrians experience discomfort. What is, or is not, considered to be an uncomfortable wind is very subjective. The perceived comfort level, with respect to wind speed, is a function of the individuals' preference, the individuals' activity, the turbulence in the wind, the temperature, the humidity, the sky cover, and the state of the weather (e.g., rain, no rain, etc.). Winds with a high level of turbulence are considered to be more uncomfortable than winds with a low level of turbulence (for a constant mean wind speed). To account for the effect of turbulence, effective wind speeds are used in the discomfort threshold and in the pedestrian level wind discomfort analysis.[1] Wind speed comfort thresholds typically are given in terms of a reference effective wind speed and a percentage of time that wind speed is exceeded. For purposes of this analysis, the effective wind speed includes both turbulence and a percentage of time that it is exceeded. The comfort criteria used in this analysis is shown in Table 95.

For the purposes of this analysis, a significant impact is considered to result if wind speeds would substantially exceed the wind comfort criteria (see Table 95) for proposed uses and their respective locations within the property.

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1 An *effective* wind speed is the wind speed including a portion of turbulence, at an elevation of five feet above grade, that is exceeded 10 percent of the time.

TABLE 95 WIND DISCOMFORT CRITERIA	
Activity	Effective Wind Speed (Mph)
Outdoor Dining	≤7
Strolling and Walking Leisurely	≤11
Uncomfortable for All Activities	>15
Source: West Wind Laboratory.	

Phase I Impacts

Should potential impacts result from Phase I development, they would occur at high-rise building corners, and at narrow passages between high-rise buildings. In order to evaluate Phase I impacts, 23 points within the Phase I development and adjacent to future high-rise development off-site, were selected for analysis. These points are shown in Figure 32 and represent locations where potential wind discomfort problems might occur. All other on-site locations are expected to have a representative wind environment equal to, or less than, the existing wind environment.

As shown in Table 96, the effective wind speeds at Points 3, 4, 5, 13, 14, 17, 20, and 21 are all equal to, or less than, the undisturbed wind environment at the existing site. Specifically, there are no adverse impacts to the wind environment at these points due to the proposed Phase I construction.

The effective wind speeds at all other potential problem points (Points 1, 2, 6, 7, 8, 9 10, 11, 12, 16, 19, 22, and 23) all exceed the existing, undisturbed wind environment; but at most, only by 2 mph. The maximum effective wind speeds as a result of Phase I development would still not exceed 10 mph (less than the threshold of 11 mph for leisurely walking and strolling). All other points at the site (not numbered) are expected to have wind conditions less than, or equal to, the existing undisturbed condition of 8 mph. Based on this analysis, wind speeds would increase slightly at a number of on-site locations. However, these increases would not exceed comfort thresholds for the predominantly commercial oriented use of the site. Thus, the increase in wind speeds on-site is not

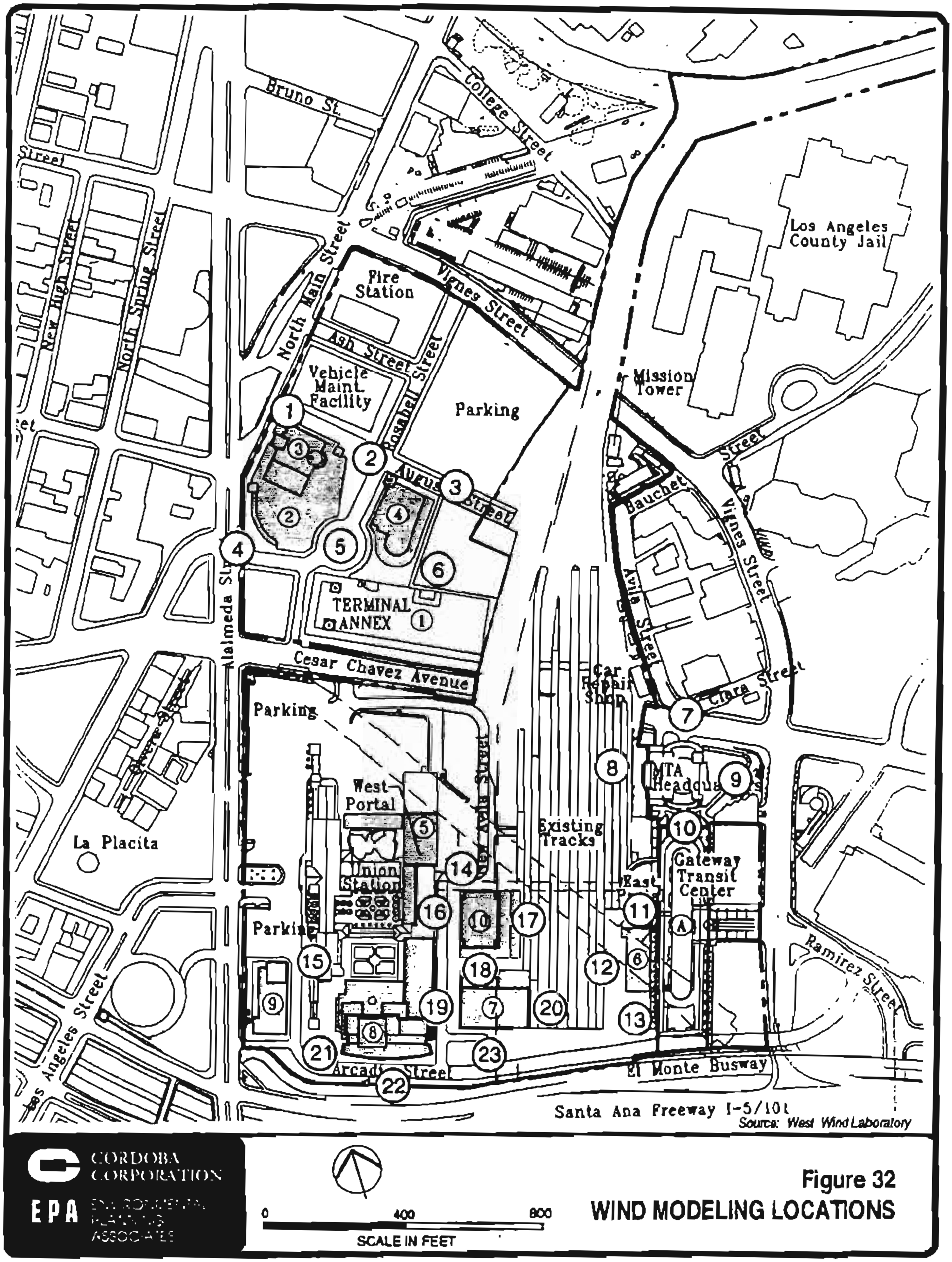


Figure 32
WIND MODELING LOCATIONS

TABLE 96 EFFECTIVE WIND SPEEDS PROJECTED FOR PHASE I DEVELOPMENT			
Point	Wind Speed (Mph)	Point	Wind Speed (Mph)
1	9	13	8
2	9	14	7
3	7	15	9
4	8	16	10
5	8	17	5
6	9	18	10
7	10	19	10
8	10	20	6
9	10	21	8
10	10	22	9
11	9	23	10
12	9		
Source: West Wind Laboratory.			

considered to be a significant impact. While designated outdoor dining has not been identified in connection with Phase I development, it is conceivable that project employees will utilize the outdoor areas for eating and/or seating during breaks. During these times, users will be able to select specific areas where they choose to sit. Should designated outdoor dining areas (or another similar stationary use) be considered in the future, they would require mitigation in the form of their placement or provision of protection to ensure that any potential impact could be reduced to a less than significant level.

Buildout Phase Impacts

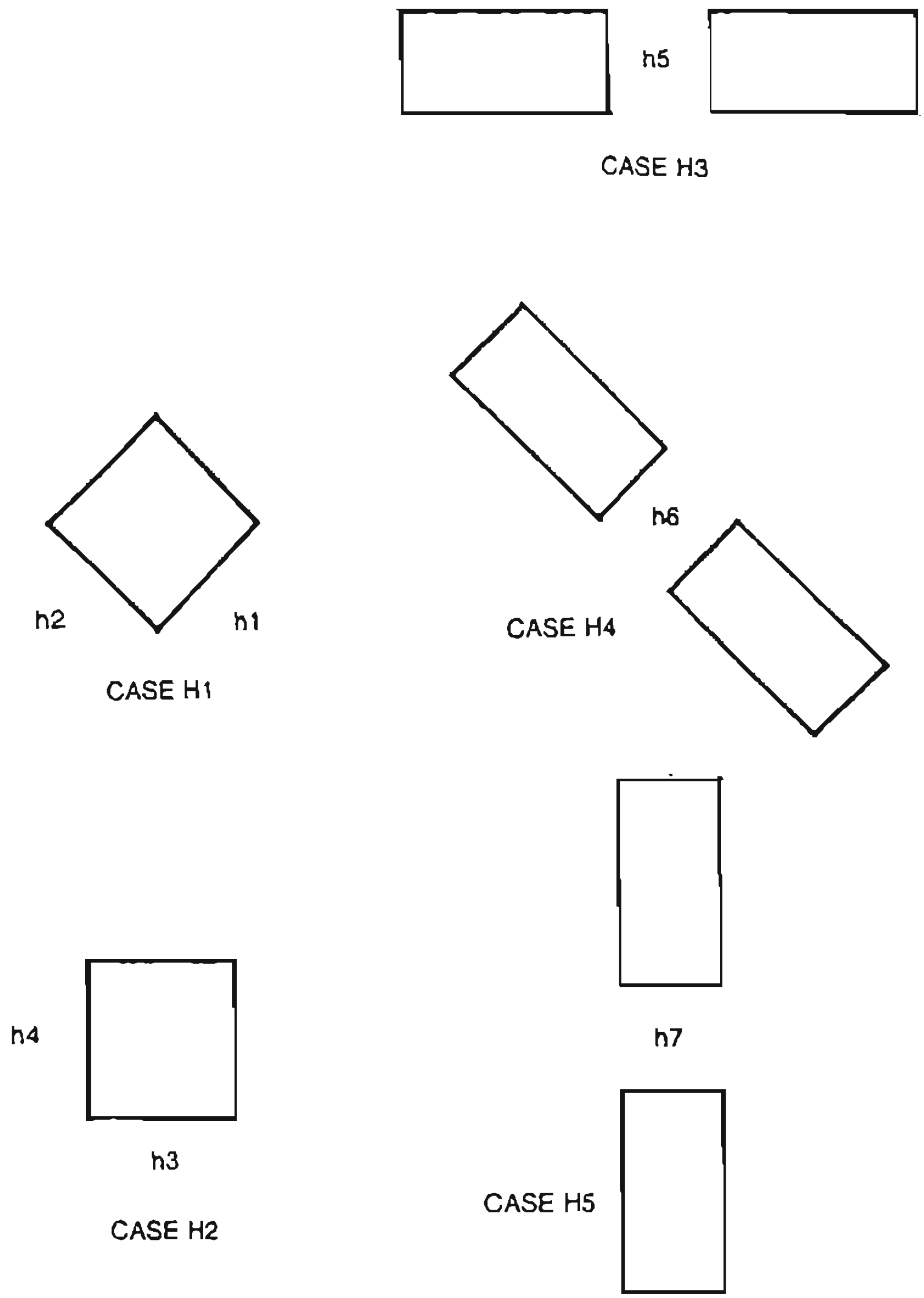
In light of the findings made for Phase I impacts, and the relatively mild undisturbed wind environment at the site, extreme adverse wind impacts are not expected for the eventual Buildout Phase of the ADP. If wind impacts were to occur, they would most likely occur around the corners of isolated high-rise buildings or in gaps between two isolated buildings (or buildings at the windward edges of groups of buildings). Extreme wind impacts rarely occur in a complete development of closely packed high-rise buildings of similar size. The grouping of buildings simply create such a resistance to flow that the winds pass around, or over, the building group rather than through it. Adverse wind impacts, if they would occur at all, typically are worst when there are only a few isolated buildings, when building sizes and masses are radically different, or at the windward edges of the groups (where flows are similar to what they would be around an isolated building).

In order to evaluate worst-case impacts, five hypothetical cases were selected for analysis to reflect several high-rise building orientations on the site. These hypothetical examples are shown in Figure 33. These examples represent worst-case conditions applicable to high-rise structures ranging in height from 200 to 550 feet. Cases H1 and H2 are similar, as are Cases H3, H4, and H5; only their orientations differ. However, results from Cases H1 and H2 are expected to differ, as well as the results from Cases H3, H4, and H5, because the wind speed probability distributions differ significantly by direction. The effective wind speeds for each hypothetical location are shown in Table 97.

TABLE 97
EFFECTIVE WIND SPEEDS
HYPOTHETICAL BUILDOUT PHASE CASES

	Point H1	Point H2	Point H3	Point H4	Point H5	Point H6	Point H7
SPEED (MPH)	10	5	8	8	10	12	8

Source: West Wind Laboratory



Source: West Wind Laboratory

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Figure 33
HYPOTHETICAL BUILDING CONFIGURATIONS

As shown in Table 97, Points h2, h3, h4, and h7 have effective wind speeds less than, or equal to, the existing effective wind speeds at the site. The wind environments at Points h1, h5, and h6 exceed the existing undisturbed wind speed of 8 mph. This existing undisturbed effective wind speed lies between the comfort thresholds for outdoor dining and strolling. The effective wind speeds for Points H1, H2, H3, H4, H5, and H7 also lie between the comfort thresholds for outdoor dining and strolling. The effective wind speed at Point h6 is the only effective wind speed that is expected to exceed the comfort threshold of 11 mph for leisurely walking or strolling.

In summary, the only hypothetical configuration that might cause significant wind impacts for the project Buildout Phase would be the configuration shown as Case H4 in Figure 33. This would occur for a pair of similar sized buildings, with a gap size of approximately 100 feet oriented along a northeast/southwest axis. These problem winds would occur if these were a pair of free standing buildings or a pair of buildings at the windward edge (in this case, the southwest edge) of a building group.

Summary of Phase I Impacts

Impact F.2.1 Phase I development will increase the effective wind speeds (from 8 mph to 9 mph and 10 mph) at 15 locations throughout, or adjacent to, the site. The 15 locations include both existing and proposed structures. These wind speeds are greater than what would be comfortable for outdoor dining (7 mph) but less than what is uncomfortable for leisurely walking and strolling (11 mph). Although significant impacts are not identified for proposed uses, should any stationary uses such as outdoor dining be proposed, a significant impact could occur prior to mitigation with wind screening measures.

Summary of Buildout Phase Impacts

Impact F.2.2 Buildout Phase of the proposed project could increase the effective wind speeds from 8 to 10 mph for five different hypothetical conditions. These wind speeds are greater than what would be comfortable for outdoor dining (7 mph), but less than what is uncomfortable for leisurely walking and strolling (11 mph). Although significant impacts are not identified for proposed uses, should any stationary uses such as outdoor dining be proposed, a significant impact could occur prior to mitigation without wind screening measures or proper orientation and location.

Impact F.2.3 For one hypothetical condition, the effective wind speed is expected to increase to 12 mph (Point h6), which would be uncomfortable for strolling. If such an orientation were considered, this would be a significant impact prior to mitigation.

CUMULATIVE IMPACTS

Of the 56 identified related projects, only one project is located in close enough proximity to the project site to potentially compound the impacts of the project itself. This project (Related Project No. 15) is Phase I of the Gateway Center development located immediately east of the project site. Analysis of impacts at this off-site location were included in the wind analysis as Points 7, 9, and 10 in Table 96. As Table 96 shows, no significant impacts would occur at these locations for the proposed government office uses. No other related projects are located in close enough proximity to the proposed project to compound or increase the effects of the project and, result in cumulatively significant wind conditions.

MITIGATION MEASURES

Phase I

F.2.1 Should Phase I result in significant impacts to outdoor dining, seating, or similar stationary uses, the project shall incorporate wind screening measures such as shrubs, screens, and lattices. Wind screening should be designed to be most effective in reducing local wind speeds generated from southwest winds, the prevailing winds.

Buildout Phase

F.2.2 Should Buildout Phase of the project result in significant impacts to outdoor dining, seating, or similar use, mitigation measure F.2.1 shall also be implemented as necessary for the Buildout Phase of the proposed project.

F.2.3.a Where feasible, closely spaced (100 feet or less), similar sized high-rise development shall be configured in order to mitigate any significant impacts from wind speeds exceeding 11 mph.

F.2.3.b If mitigation measure F.2.3.a cannot be incorporated into the future project design and a closely spaced northeast/southwest orientation of similar sized buildings is incorporated into project Buildout Phase, then wind speeds exceeding 11 mph should be reduced through screening, including, but not limited to, the closely packed grouping of uniformly sized trees with dense foliage.

ADVERSE EFFECTS

With implementation of mitigation measures, no significant wind impacts would be expected for Phase I development or Buildout Phase of the proposed project.

SECTION IV.G
NOISE

This section summarizes the results of a comprehensive noise impact study prepared for the ADP project by Giroux & Associates, in October 1994. The study is on file with the Community Planning Bureau, City of Los Angeles Planning Department, located at 221 S. Figueroa Street, Third Floor, and is part of the Technical Studies Appendices to this EIR.

ENVIRONMENTAL SETTING

Noise Level Characteristics and Effects

A unit of sound pressure ratio to an assumed zero sound level is called a decibel (dB). Since the human ear is not equally sensitive to all sound frequencies within the entire spectrum, noise levels at maximum human sensitivity (middle A and its higher harmonics) are factored more heavily into sound descriptions in a process called "A-weighing" (written as dBA).

Time variations in noise exposure are normally expressed in terms of an energy weighted average (called Leq), or, alternately, as a statistical description of the sound level that is exceeded over some fraction of a given observation period. Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, state law requires that, for planning purposes, an artificial dB increment be added to quiet time noise levels in a 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL). An interior CNEL of 45 dBA is mandated by the State of California Noise Insulation Standards (CCR, Title 24, Part 6, Section T25-28) for multiple family dwellings, and is considered a desirable exterior noise exposure for single family dwelling units as well. Exterior standards apply to normally used exterior recreational space (patio, porch, pool/spa, etc.). They are also a guide to likely interior noise exposure based on the structural attenuation normally achievable with various types of construction.

Residences, schools, libraries, and medical care facilities have the greatest interior noise sensitivity. A 45 dB interior exposure is a noise level that has a minimal amount of sleep intrusiveness. For less noise sensitive uses, interior levels of 55 dB are typical for normal conversation, quiet business machine operation, or commercial activity such as retail sales. Structural attenuation for sealed structures such as office buildings is around 30 dB, such that interior standards can be met even in very high noise environments. The only less sensitive uses that may have noise impacted interiors might be street-level retail uses with open doors/windows or restaurant dining patios. Most noise impacts, however, are typically related to uses with established high sensitivity to noise intrusion. The combination of exterior noise and the possible range of structural attenuation to achieve a target interior noise exposure is the basis for the development of a set of noise/land use compatibility guidelines in the Noise Element of the City of Los Angeles General Plan. These noise guidelines are shown in Table 98.

TABLE 98
CITY OF LOS ANGELES LAND USE COMPATIBILITY GUIDELINES FOR EXTERIOR COMMUNITY NOISE[1]

Land Use	Clearly Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential: Single-Family, Duplex, Mobile Homes	50-60	60-65	65-75	75+
Residential: Multiple Family	50-60	60-65	65-75	75+
Schools, Libraries, Hospitals	50-60	60-65	65-75	75+
Outdoor Spectator Sports, Playgrounds, Neighborhood Parks	50-60	60-65	65-75	75+
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50-60	60-70	70-80	80+
Office Buildings, Personal Business, Professional	50-65	65-75	75-80	80+
Commercial-Wholesale, Some Retail, Industrial, Manufacturing, Utilities	50-70	70-80	80+	—

[1] Source: Department of City Planning, EIR Manual for Private Projects, City of Los Angeles, 1975.

As shown in Table 98, noise levels up to 65 dB CNEL are normally acceptable for noise sensitive uses. Noise exposures up to 75 dBA CNEL are considered normally acceptable for office buildings. Noise levels up to 80 dBA CNEL are normally acceptable for retail, manufacturing, and utility land uses. Except in highly localized environments, ambient noise levels in excess of 80 dB are uncommon because such levels begin to reach the hearing damage threshold.

Noise Sensitive Land Uses in the Project Area

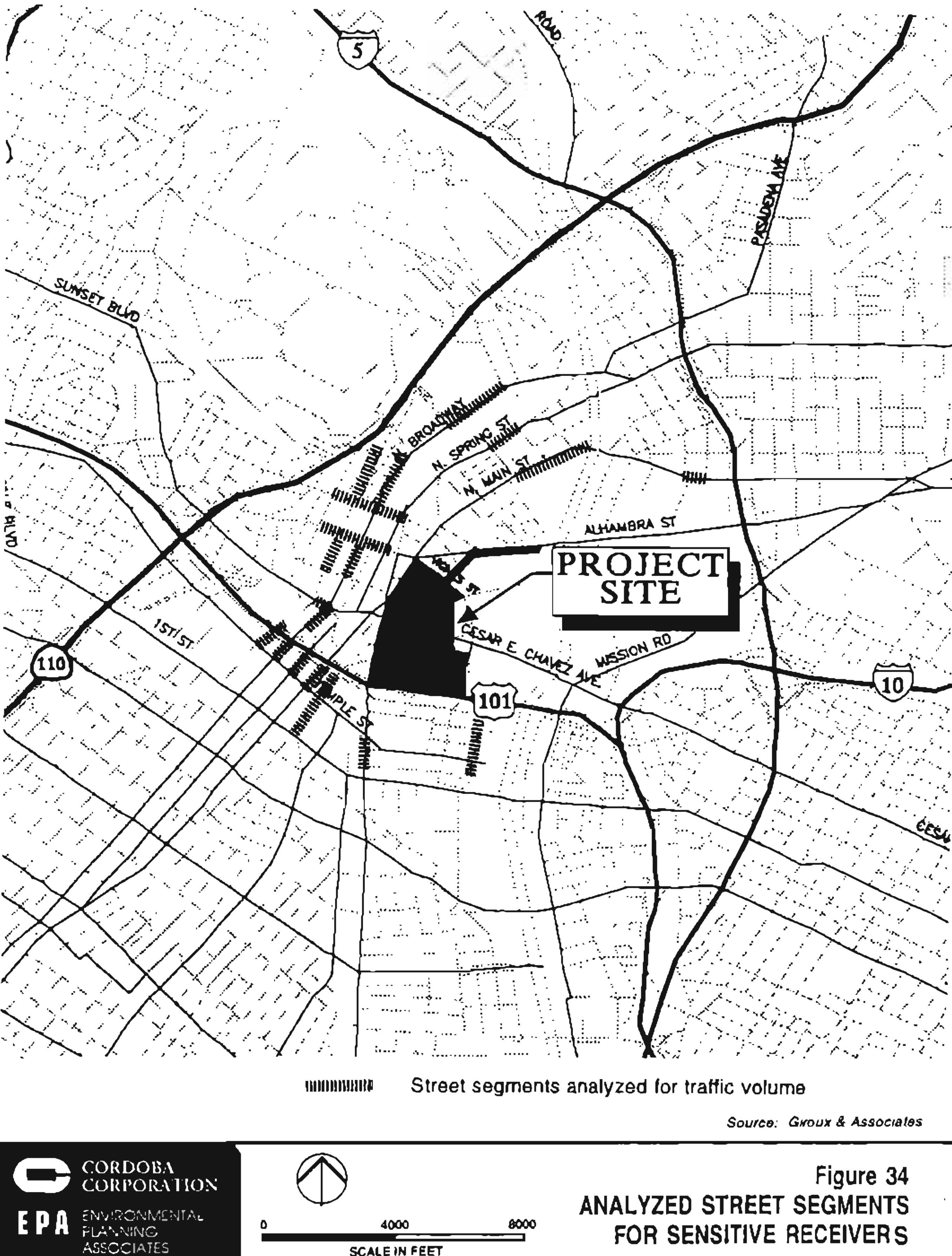
Only a limited number of noise sensitive land uses occur in close proximity to the project site. Some residential uses, often in conjunction with ground-floor commercial use or as temporary or transient lodging, occur west of the project area. Specific sensitive receivers within a one-half mile radius of the ADP site include:

- Pacific Alliance Medical Center
- V. A. Outpatient Clinic
- Metropolitan Detention Center
- Los Angeles County Central Jail
- Pine Park/Alpine Recreation Center
- Chinatown Branch Library
- Ann Street Elementary School
- Utah Street Elementary School
- Our Lady Queen of Angels School
- Cathedral High School
- Metro Plaza Hotel

The locations of the sensitive receivers are shown in Figure 34. Most of these uses are exposed to a moderate noise environment associated with the urban nature of downtown Los Angeles.

Existing Noise Levels in the Project Area

Existing noise levels in the project vicinity are derived mainly from vehicular sources on the freeways and arterial roads in the area. Some industrial activity noise can also be heard in the project vicinity. Trains are a noticeable noise source near Union Station, particularly their impulsive noises such as compressed air hiss or cars banging against each other during engine changes. Freight trucking on adjacent parcels also produces impulsive noises as trailers are coupled or materials handled with heavy equipment. Finally, construction in the area creates heavy equipment noise.



Source: Giroux & Associates

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Figure 34
ANALYZED STREET SEGMENTS FOR SENSITIVE RECEIVERS

TABLE 99
EXISTING NOISE LEVELS
(dBA)[1]

Location	LEQ	Lmax	Lmin	L10	L33	L50	L90
Elysian Park[2]	53.4	78.5	47.0	53.5	51.5	50.5	48.5
Downey Rec. Ctr.[2]	54.9	66.5	48.0	55.5	53.5	52.0	49.5
Alpine Rec. Ctr.[2]	57.1	65.6	53.0	58.5	56.5	56.0	54.5
Medical Center	55.9	59.5	52.0	57.5	54.5	54.0	52.5
El Pueblo de Los Ang.	65.1	74.5	58.5	68.0	65.0	63.5	60.5

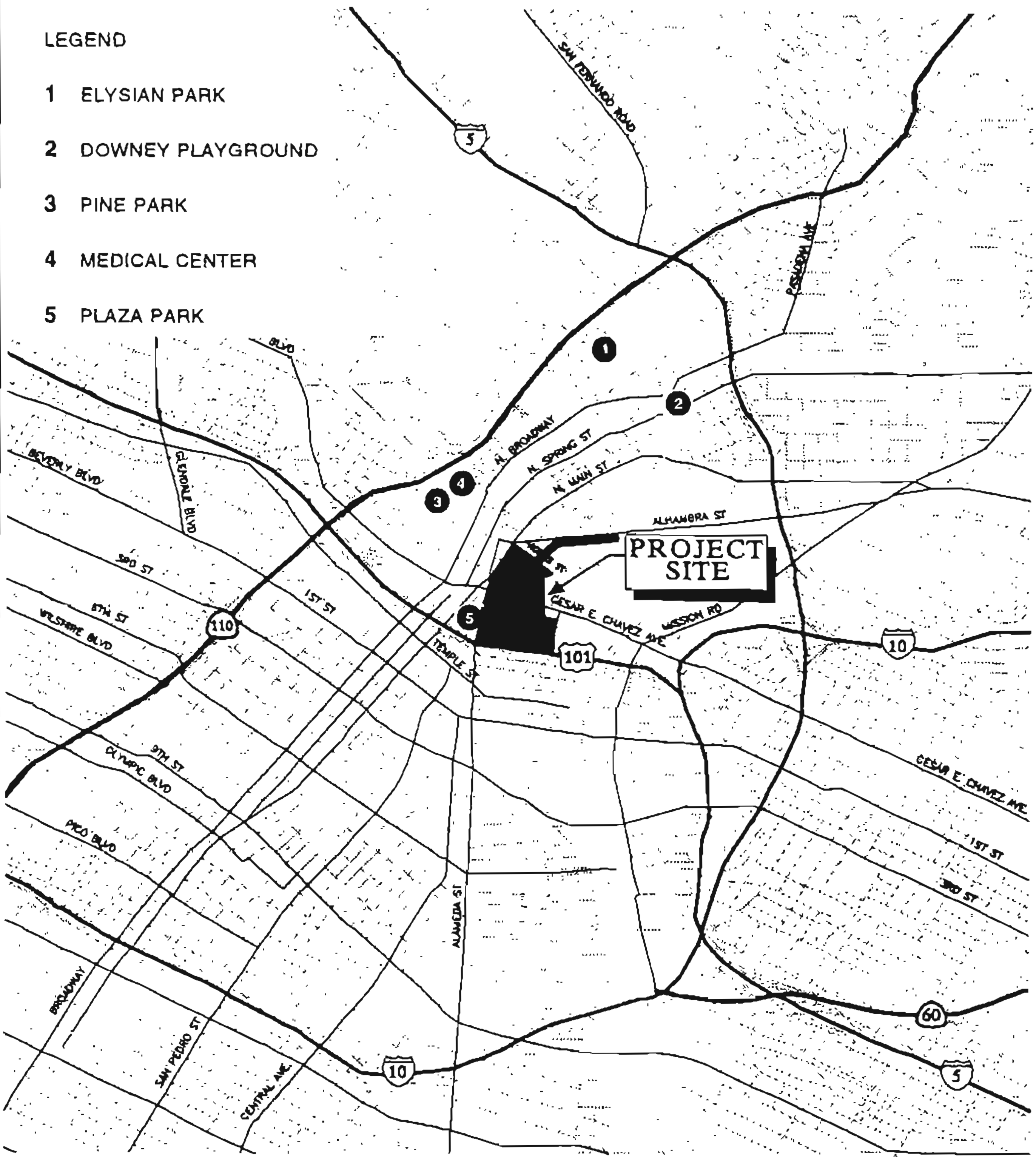
Key: LEQ = energy weighted average (30 minutes at each location).
Lmax = one second maximum.
Lmin = one second minimum.
L10/33/50/90 = sound level that was equaled or exceeded by the respective referenced percentage (i.e., L50 noise levels are those noise levels which are exceeded 50 percent of the time).

[1] Results of noise monitoring conducted by Giroux & Associates, September 22, 1993.
[2] At active recreation sites (picnic areas, play equipment, ball fields/courts, etc).

In order to document existing baseline noise levels, on September 22, 1993, a short term on-site noise monitoring program was conducted at five representative sensitive locations within one mile of the project site. Monitoring was conducted for 30-minute periods between 11:00 a.m. and 2:10 p.m. Monitoring locations are shown in Figure 35. The results of the monitoring are shown in Table 99.

Each of the measurement sites, except for the small park across from Union Station, had noise levels near the mid-50 dB Leq range. Monitoring experience has shown that mid-day Leq and weighted 24-hour CNELs often are almost identical. This data indicates that the Chinatown/Elysian Park area north of downtown is moderately noisy but that levels below 60 dB CNEL (shown in Table 98 to be "clearly acceptable" for noise sensitive uses) are attained within a few hundred feet of area roadways.

Noise levels adjacent to the project site on the east were monitored by the consultant in March 1992, as part of the environmental process for the MTA Headquarters building currently under construction east of Union Station (Phase I of the Gateway Center project, identified as Related Project No. 15 in Table 10 of this EIR). Because of the close proximity of the U.S. 101 Freeway to much of the project site, baseline noise levels were higher than those observed in the surrounding community.



Source: Giroux & Associates

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0 2000 4000
SCALE IN FEET

Figure 35
NOISE MONITORING LOCATIONS

Noise levels around the project perimeter were in the high 60 and low 70 dB range. Mitigation to shield proposed residential uses may thus be necessary to accommodate the elevated baseline levels for portions of the project site near the Gateway Center.

Rail Noise

Because of the large concentration of rail lines and the resurgence of heavy rail in meeting regional transportation needs, rail noise was monitored during a very busy one-hour period on September 15, 1994, at locations both east and west of the Los Angeles River. A total of 11 Metrolink trains and one Amtrak train passed the measurement site coming in or leaving Union Station during the period from 3:00-4:00 p.m. They produced a noise level of 67 dBA at 30 feet from the nearest track. Beyond 50 feet from the track, the hourly noise level would be less that 65 dBA. By 100 feet, the train noise level would be less than 62 dBA. Specific measurement results are shown in Table 100.

TABLE 100
EXISTING RAIL NOISE LEVELS
(dBA)[1]

Time	LEQ	Lmax	Lmin	L10	L33	L50	L90
3:00-3:10 p.m.	58.7	64.5	56.5	60.5	58.9	58.2	57.8
3:10-3:20 p.m.	70.1	89.0	55.0	75.8	67.0	64.2	57.6
3:20-3:30 p.m.	64.9	83.5	56.0	69.8	63.3	60.0	57.4
3:30-3:40 p.m.	67.8	86.5	55.5	71.9	66.1	58.9	56.8
3:40-3:50 p.m.	66.8	87.5	55.0	70.7	61.4	59.4	57.2
3:50:-4:00 p.m.	65.6	82.5	55.0	70.1	63.8	59.5	57.1

Key: LEQ = energy weighted average (30 minutes at each location).
Lmax = one second maximum.
Lmin = one second minimum.
L10/33/50/90 = sound level that was equaled or exceeded by the respective referenced percentage (i.e., L50 noise levels are those noise levels which are exceeded 50 percent of the time).

[1] Results of noise monitoring conducted by Giroux & Associates, September 15, 1994.

The hourly Leq at 30 feet from the nearest track was 66.8 dBA. Since noise decreases with distance by the geometrical spreading of sound waves, train noise levels decrease to less than 65 dB CNEL by 50 feet from the nearest track. Therefore, while single events may be potentially intrusive, the overall train noise level is not substantially higher than the mid-to-high 50 dB range observed in background readings in the area. Even if peak activity hour noise is assumed to equal CNEL (CNEL is likely lower than peak hour Leq), an adequate margin exists between future noise exposure levels in close proximity to the tracks and the "normally acceptable" level shown in Table 98.

ENVIRONMENTAL IMPACT

Threshold of Significance

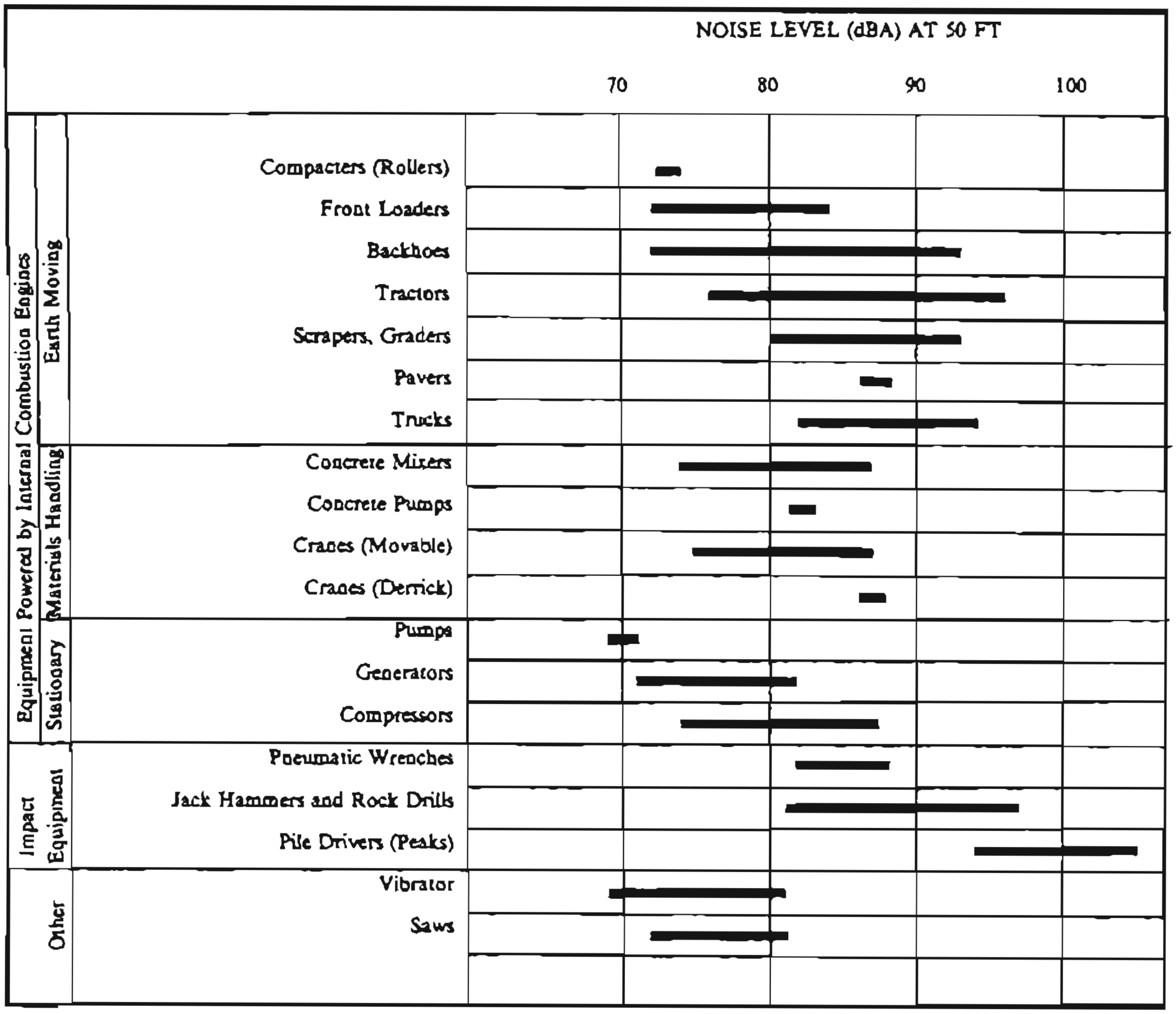
Assessment of the significance of potential noise impacts is based on whether the project results in a discernible change in existing noise levels. Typically, a change of more than 3.0 dB is perceived by adjacent receivers as a noticeable difference between post- and pre-project conditions; an increase of 1.0 to 3.0 dB is marginally detectable generally, only in an acoustic laboratory environment; and an increase of less than 1.0 dB is indistinguishable for human observers. The City of Los Angeles Noise Ordinance generally identifies a 5.0 dB increase as a threshold criteria. Therefore, for the purposes of this analysis, a change ranging from 1.0 to 3.0 dB would not be considered detectable; a change ranging from 3.0 to 5.0 dB would be considered detectable, but less than significant; and a change greater than 5.0 dB would be considered significant.

Additionally, if the project causes the applicable noise level guidelines to be exceeded, a significant impact should be identified. As shown in Table 98, the applicable City of Los Angeles land use compatibility guidelines show that noise levels of 65 to 75 dB are normally acceptable for office and professional uses. Noise levels of 60 to 65 dB are normally acceptable for multi-family residential uses. For the purposes of this analysis, if a project in and of itself would create an exceedance that changes the noise level from normally acceptable to normally unacceptable for a particular land use, according to the City of Los Angeles guidelines, then a significant impact would result.

Construction Impacts

Phase I and Buildout Phase Impacts

Temporary construction noise impacts vary markedly because the noise strength of construction equipment ranges widely as a function of the equipment used and its activity level. Short-term construction noise impacts tend to occur in discrete phases dominated by large, earth-moving and/or demolition equipment sources. Pile drivers used for high rise pre-construction are also impulsively noisy. During later phases of building assembly and finish construction, equipment is generally less noisy. Figure 36 shows the typical range of equipment noise during various construction phases. The loudest, semi-continuous equipment operation noise typically ranges around 90 dBA at 50 feet from



Source: EPA PB 206717, Environmental Protection Agency, Dec. 31, 1971, "Noise from Construction Equipment & Operations"

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Figure 36
TYPICAL CONSTRUCTION EQUIPMENT NOISE GENERATION LEVELS

the source. These noise values reflect operation under load and at full throttle. Most equipment operates at variable load and variable throttle, such that longer term noise emissions from construction equipment are toward the lower end of the noise generation range shown in Figure 36.

Point sources of noise emissions are atmospherically attenuated by a factor of 6.0 dB per doubling of distance. The loudest general construction noises may require approximately 1,000 feet of distance between the source and a nearby receiver to reduce the short 90 dBA maximum source strength to a generally acceptable 65 dB exterior exposure level. Because daytime baseline noise levels in portions of the project vicinity are already in the upper 60 to lower 70 dB range, the masking effect of the ambient noise environment would reduce the project construction noise "envelope" to considerably less than the 1,000-foot estimated maximum audibility.

Equipment noise levels clearly perceptible above the background (defined by Background + 5.0 dB) would be confined to approximately 250 feet of the equipment noise source. In later phases of finish construction, equipment such as generators, compressors, saws, etc. are somewhat less noisy, and the physical barrier created by partially completed on-site facilities further breaks up line of sight propagation.

In terms of any adjacent residential community noise exposure, construction noise sources are not strictly relatable to a 24-hour noise standard because they occur only during selected times and the source strength varies sharply with time. Construction activities are, therefore, treated separately in various community noise ordinances because they do not represent a chronic, permanent noise source. To abate the potential nuisance from construction noise and other sources, especially in very close proximity to any noise-sensitive development, the City of Los Angeles established Ordinance No. 144,331. Provisions of the Ordinance include, but are not limited to, the following regulations concerning construction activities:

- The operation of the equipment associated with general construction work within a residence zone or within 500 feet of a residence zone must not be performed in a manner that the noise created is loud, unnecessary, and unusual and substantially exceeds the noise customarily and necessarily attendant to the reasonable and efficient performance of such work.

- Operation of construction machinery in a residential zone or within 500 feet of a residential zone shall not exceed a noise level of 75 dBA at a distance of 50 feet from the point of operation.

The Police Department has the power and duty to enforce Section 112.03 which prohibits construction noise between the hours of 9:00 p.m. and 7:00 a.m. Additionally, where residences are located within 500 feet of construction, Ordinance No. 166,170 will be enforced. The ordinance limits construction hours from 8:00 a.m. to 6:00 p.m. and allows for no material deliveries on Saturday, as well as Sunday and includes Holiday limitation. (Section 41.40 of the Los Angeles Municipal Code permits exceptions if the work performed is in the public interest or is emergency in nature).

Code compliance would generally limit construction noise impacts to periods of reduced noise sensitivity and thus reduce sleep disturbance and other noise nuisance potential. Given the lack of noise-sensitive uses in the immediate project vicinity and the time constraints on allowable hours of construction, noise impacts from on-site construction equipment are considered to be insignificant for both Phase I development and the Buildout Phase. However, as the residential component of the project is developed under the Buildout Phase, completed residences may be in close proximity to construction activities for subsequent project components. Such exposure could result in significant short-term impacts depending on the proximity of the construction activity to the residences.

Operational Impacts

Operational noise impacts from the ADP will derive primarily from traffic generated by site activities. Limited on-site noise impacts may occur from truck traffic resulting from receipt and handling of goods or from on-site heating, ventilation and air conditioning (HVAC) or refrigeration equipment, but such impacts would remain mainly on-site and would impact only those uses in immediate proximity to the project site. HVAC noise sources are regulated by state and municipal noise ordinances in terms of system noise performance standards. Code compliance is presumed to prevent the formation of any unacceptable noise impacts.

Existing background noise from freeways, arterial roadways, trains, industrial facilities and other sources will partially mask the impact from the additional traffic associated with project development (i.e., noise levels from traffic will not be as readily detectable due to the relatively higher ambient noise levels already present). Project-related traffic and associated noise impacts will progressively disperse as vehicles have multiple access/egress options. Substantial increases in traffic noise above the existing background will be confined to the immediate project vicinity. Within a few blocks from the project site, noise impacts from project development will likely result in a very small cumulative degradation of the area acoustic environment rather than an individually significant impact.

Phase I Impacts

Phase I of ADP development will generate 19,425 daily trips on the roadway system surrounding the project site. However, with multiple roadway access opportunities, the project-related traffic increment as a noise generator will be dispersed over many streets and become progressively diluted farther and farther from the site. Along the more heavily traveled roadways in the project vicinity, roadway noise from existing and future growth traffic volumes will create an elevated background noise level that will be little affected by the additional project traffic increment. Even along lighter traveled roadways with lower background levels, project traffic will typically be diluted to minor levels. Roadway noise levels from project traffic were calculated using the Caltrans microcomputer version of the federal highway traffic noise model (FHWA-RD-77-108) consistent with Caltrans roadway noise assessment guidelines.

Tables 101 and 102 summarize the results of these calculations showing the CNEL at 50 feet from the roadway centerline for each of 28 roadway links analyzed in the project traffic study. The maximum project noise impact for Phase I development is an increase of 0.5 dB along Mission Road north of Cesar E. Chavez Avenue. A change of more than 3.0 dB is normally perceived by adjacent receivers as a noticeable difference between pre- and post-project conditions; an increase of 1.0-3.0 dB is marginally detectable, generally only in an acoustic laboratory environment; and increases of less than 1.0 dB are indistinguishable for human observers. All analyzed roadway links fall below this 1.0 dB threshold of detectability for Phase I development. The traffic noise change from Phase I development is, therefore individually less than significant. Incremental noise impacts are sufficiently distributed throughout the roadway system as to fully minimize any noticeable change in noise exposure from project traffic.

Buildout Phase Impacts

As discussed for Phase I impacts, a change of more than 3.0 dB is normally perceived by adjacent receivers as a noticeable difference between pre- and post-project conditions; and an increase of 1.0-3.0 is marginally detectable, generally only in an acoustic laboratory environment. Increases of less than 1.0 dB are indistinguishable for human observers. As with Phase I impacts, and as shown in Table 102, all analyzed roadway links would fall below the 1.0 dB threshold of detectability for Buildout Phase development. Noise impacts from ultimate development would not be noticeable under ambient conditions and would occur in a minimally sensitive area. The traffic noise change from the Buildout Phase is therefore individually less than significant. Incremental noise impacts are sufficiently distributed throughout the roadway system as to fully minimize any noticeable change in noise exposure from project traffic.

TABLE 101
EXISTING AND FUTURE TRAFFIC NOISE LEVELS
With and Without Project
(CNEL (in dB[A]) at 50 feet to the centerline)

LOCATION	EXIST	2000 NO-PROJ.	2000 CUM. W/ PHASE I	2010 NO PROJ.	2010 CUM. W/ BLDOUT.
North-South Streets					
1. Hill N/O College	70.0	70.4	70.6	70.8	71.0
2. Hill S/O Alpine	68.0	68.4	68.4	68.8	68.8
3. Hill S/O Aliso	66.6	67.0	67.0	67.3	67.3
4. Pasadena S/O 5 Fwy.	65.8	66.2	66.2	66.6	66.8
5. Broadway S/O 5 Fwy.	68.7	69.4	69.6	69.8	70.2
6. Broadway N/O Bishops	68.6	69.0	69.0	69.4	69.4
7. Broadway N/O College	68.6	69.0	69.0	69.3	69.3
8. Broadway S/O Alpine	68.5	68.9	68.9	69.2	69.2
9. Broadway S/O Sunset	68.2	68.6	68.5	69.0	69.0
10. Broadway S/O Aliso	68.3	68.8	68.8	69.1	69.1
11. N. Spring N/O Sotello	67.9	68.7	68.8	69.1	69.5
12. Spring S/O Aliso	65.9	66.6	66.7	66.9	67.4
13. N. Main S/O 5 Freeway	67.2	68.0	68.1	68.5	68.6
14. N. Main N/O Sotello	66.0	66.9	67.0	67.2	67.3
15. Main S/O Aliso	66.8	67.4	67.5	67.8	68.0
16. Alameda S/O Temple	69.6	70.3	70.4	70.8	71.0
17. Los Angeles S/O Aliso	67.9	68.9	69.1	69.8	70.1
18. Los Angeles S/O Temple	68.9	69.8	70.0	70.3	70.6
19. Center S/O Jackson	62.9	63.5	63.9	63.8	64.8
20. Mission N/O Chavez	68.8	69.3	69.8	69.7	69.8
East-West Streets					
21. College W/O Hill	64.3	64.7	64.7	65.4	65.4
22. College E/O Hill	64.4	64.8	65.2	65.7	65.9
23. College E/O Broadway	63.1	63.5	63.9	65.8	66.0
24. College E/O Spring	61.5	62.0	62.0	62.5	63.9
25. Alpine W/O Hill	63.7	64.5	64.6	64.5	64.6
26. Alpine E/O Hill	64.5	65.3	65.5	65.1	65.3
27. Alpine E/O Broadway	65.1	65.8	66.0	64.5	64.8
28. Chavez E/O Hill	69.7	70.5	70.5	70.8	70.7

Source: FHWA-RD-77-108 (Calveno mod.)

TABLE 102
CHANGES IN EXISTING AND FUTURE TRAFFIC NOISE LEVELS
With and Without Project
(CNEL (in dB[A]) at 50 feet to the centerline)

LOCATION	2000 NO PHASE I/ EXIST	2000 W/ PHASE I/ EXIST	2000W/ PHASE I/ 2000 NO PROJ.	2010 NO BLDOUT/ EXIST.	2010 W/ BLDOUT/ EXIST.	2010 W/ BLDOUT / 2010 NO BLDOUT
North-South Streets						
1. Hill N/O College	+0.4	+0.6	+0.2	+0.8	+1.0	+0.2
2. Hill S/O Alpine	+0.4	+0.4	0.0	+0.8	+0.8	0.0
3. Hill S/O Aliso	+0.4	+0.4	0.0	+0.7	+0.7	0.0
4. Pasadena S/O 5 Fwy.	+0.4	+0.4	0.0	+0.8	+1.0	+0.2
5. Broadway S/O 5 Fwy.	+0.7	+0.9	+0.2	+1.1	+1.5	+0.4
6. Broadway N/O Bishops	+0.4	+0.4	0.0	+0.8	+0.8	0.0
7. Broadway N/O College	+0.4	+0.4	0.0	+0.7	+0.7	0.0
8. Broadway S/O Alpine	+0.4	+0.4	0.0	+0.7	+0.7	0.0
9. Broadway S/O Sunset	+0.4	+0.3	-0.1	+0.8	+0.8	0.0
10. Broadway S/O Aliso	+0.5	+0.5	0.0	+0.8	+0.8	0.0
11. N. Spring N/O Sotello	+0.8	+0.9	+0.1	+1.2	+1.6	+0.4
12. Spring S/O Aliso	+0.7	+0.8	+0.1	+1.0	+1.5	+0.5
13. N. Main S/O 5 Freeway	+0.8	+0.9	+0.1	+1.3	+1.4	+0.1
14. N. Main N/O Sotello	+0.9	+1.0	+0.1	+1.2	+1.3	+0.1
15. Main S/O Aliso	+0.6	+0.7	+0.1	+1.0	+1.2	+0.2
16. Alameda S/O Temple	+0.7	+0.8	+0.1	+1.2	+1.4	+0.2
17. Los Angeles S/O Aliso	+1.0	+1.2	+0.2	+1.9	+2.2	+0.3
18. Los Angeles S/O Temple	+0.9	+1.1	+0.2	+1.4	+1.7	+0.3
19. Center S/O Jackson	+0.6	+1.0	+0.4	+0.9	-0.1	+1.0
20. Mission N/O Chavez	+0.5	+1.0	+0.5	+0.9	+1.0	+0.1
East-West Streets						
21. College W/O Hill	+0.4	+0.4	0.0	+1.1	+1.1	0.0
22. College E/O Hill	+0.4	+0.8	+0.4	+1.3	+1.5	+0.2
23. College E/O Broadway	+0.4	+0.8	+0.4	+2.7	+2.9	+0.2
24. College E/O Spring	+0.5	+0.5	0.0	+1.0	+1.4	+0.4
25. Alpine W/O Hill	+0.8	+0.9	+0.1	+0.8	+0.9	+0.1
26. Alpine E/O Hill	+0.8	+1.0	+0.2	+0.6	+0.8	+0.2
27. Alpine E/O Broadway	+0.7	+0.9	+0.2	-0.6	-0.3	+0.3
28. Chavez E/O Hill	+0.8	+0.8	0.0	+1.1	+1.0	-0.1

Source: FHWA-RD-77-108 (Calveno Mod.)

While the Buildout Phase impact on surrounding uses is insignificant, noise levels across the project site are a potential concern for residential uses proposed during the Buildout Phase. Street noise levels along the site perimeter were monitored/calculated to be 70 dB CNEL, which is considered "normally unacceptable" for any exterior recreational space for residences. Noise/land use compatibility must therefore be further reviewed at subsequent development stages to ensure that site plans achieve standards by providing exterior space within noise-protected environments to meet City Standards.

Rail Noise Vibration

Noise monitoring showed rail sources do not create a significant noise constraint, even at close distances to local tracks, mainly due to slow travel speeds. Train noise was monitored during a very busy one-hour period. Twelve train passages produced a noise level of 67 dBA at 30 feet from the nearest track. Beyond 50 feet from the track, the hourly noise level was less than 65 dBA. By 100 feet, the train noise level was less than 62 dBA. Vibration effects from slow-moving engines and cars were similarly confined to the immediate track vicinity. Even if peak activity hour noise is assumed to equal CNEL (CNEL is likely lower than peak hour Leq), an adequate margin exists between future noise levels and the City of Los Angeles Standard for noise sensitive uses. As previously stated, it takes a 100 percent growth in activity to raise levels an additional 3.0 dBA. Underground rail (Metrorail) is designed with vibration damping in its rail attachment to the track bed. Given existing noise levels, future increases in noise/vibration effects from rail activities are not expected to result in any significant impacts for Phase I or Buildout Phase.

Summary of Phase I Impacts

Construction

Impact G.1 Although Phase I construction impacts are not expected to be significant, given the lack of noise sensitive uses in the project vicinity, construction would result in audible short-term increases in existing noise levels. Such increases would be reduced through compliance with the City of Los Angeles Noise Ordinance (adopted January 1973, as amended).

Summary of Buildout Phase Impacts

Construction

Impact G.2 Although Buildout Phase construction impacts are not expected to be significant, given the lack of noise sensitive uses in the project vicinity, construction would result in audible short-term increases in existing noise levels. Such increases would be reduced through compliance with the City of Los Angeles Noise Ordinance (adopted January 1973, as amended).

Operation

Impact G.3 Noise levels for exterior recreational space for proposed residential uses could exceed "normally acceptable" City of Los Angeles standards for such uses. Exposure to such noise levels would be considered a significant impact prior to mitigation.

CUMULATIVE IMPACTS

While the individual project traffic noise impact is small, the additional incremental noise degradation from this project will be added to that from all other cumulative growth. However, as Table 102 shows, there are no analysis locations where the future "with-project" noise exposure is 3.0 dB or more than existing levels. Existing traffic volumes are sufficiently high, such that the combination of cumulative growth (including all related projects, the proposed project and transit route modifications) is masked by the existing baseline noise levels. This is particularly true because any cumulative growth in traffic noise will be spread out over the next 15 years. Therefore, no significant cumulative noise impacts would occur.

MITIGATION MEASURES

Phase I

Construction Impacts

All construction activities shall be conducted in a manner to minimize noise. Although Phase I construction impacts are not expected to be significant, the following measures shall be implemented, where feasible:

G.1.a Haul truck routes and staging areas shall avoid residential streets, and to the extent feasible, streets adjacent to local schools.

G.1.b Compliance with all provisions of the City of Los Angeles Noise Ordinance (Ordinance No. 144,331, adopted January 1973 as amended), Chapter XI of the Los Angeles Municipal Code, Noise Regulation, Articles 1-4 shall be required.

G.1.c Construction contracts shall require project contractors to use power construction equipment with noise shielding and muffling devices to the maximum extent feasible.

G.1.d Noise barriers such as temporary wooden barrier walls, mufflers surrounding the construction site, and noise entrenching devices shall be employed to the fullest extent possible to reduce the intrusive construction noise .

Buildout Phase

Construction Impacts

G.2 Mitigation Measures G.1.a through G.1.d shall be implemented during the Buildout Phase to reduce construction noise.

Operational Impacts

G.3 Recreational space with residential uses shall be designed to meet City exterior standards. Adequate structural attenuation shall be incorporated into residences to meet Title 24 noise insulation standards.

ADVERSE EFFECTS

No significant construction or operational noise impacts would occur after implementation of all mitigation measures.

SECTION IV.H.1
GEOLOGIC HAZARDS

This section summarizes the results of the comprehensive seismic and geologic hazards evaluation prepared for the ADP project by Law/Crandall, Inc in March 1995. The study is on file with the Community Planning Bureau, City of Los Angeles Planning Department, located at 221 S. Figueroa Street, Third Floor, and is part of the Technical Studies Appendices to this EIR.

ENVIRONMENTAL SETTING

Seismicity

Numerous active, potentially active, and inactive faults are located in Southern California. A fault is classified as active if it has had surface displacement within the last 11,000 years (Holocene time) or is included in an Alquist-Priolo Special Studies Zone (as established by the California Division of Mines and Geology).[1] A fault is potentially active if it has experienced surface displacement within the last two million years (Quaternary time) but has not moved during Holocene time and is not located within an Alquist-Priolo Special Studies Zone. Faults that have not moved in the last two million years are considered inactive.

Figure 37 shows the major faults and earthquake epicenters in Southern California. The closest active fault to the project site is the Raymond fault, located approximately 4.7 miles to the northeast. The fault is a high-angle reverse fault, thrusting basement rocks north of the fault over alluvial sediments south of the fault. It has long been recognized as a groundwater barrier in the Pasadena/San Marino area, and numerous geomorphic features along its entire length (such as fault scarps, sag ponds, springs, and pressure ridges) confirm the fault's activity during Holocene time. Within the last 36,000 years, eight separate earthquake events have been recognized along the Raymond fault. The most recent fault movement, based on radiocarbon ages from materials collected in an excavation exposing the fault, occurred sometime between 2,160 and 1,630 years ago. The Raymond fault is considered capable of generating a maximum credible earthquake of Richter magnitude 6.9.

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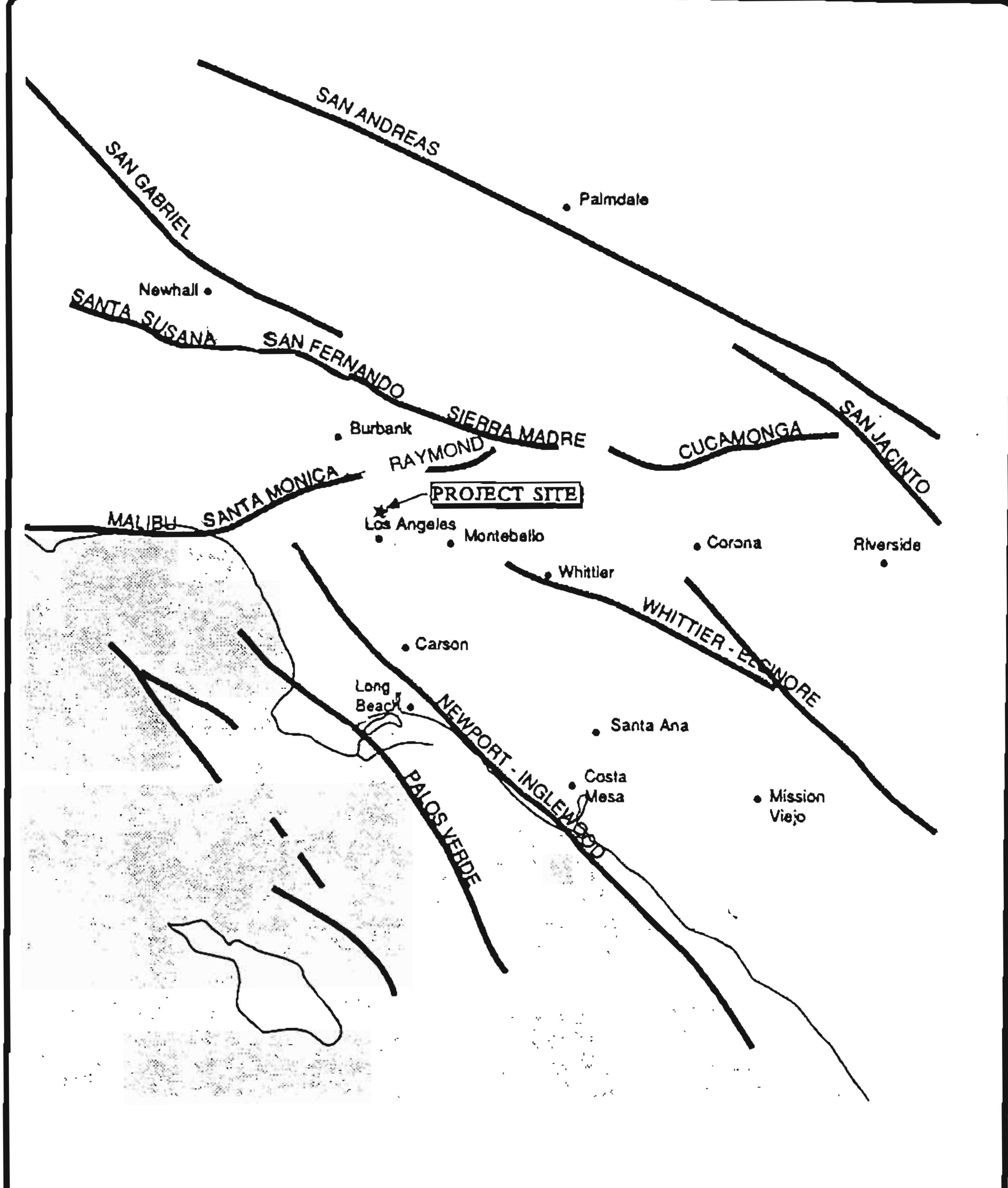
1 Under the Alquist-Priolo Special Studies Zone Act of 1972, the State Geologist is required to delineate "special studies zones" along known active faults. Cities or counties affected by the zones must regulate development within the designated zones. Building permits for sites within State designated zones must be withheld until geologic investigations demonstrate that a proposed development is not threatened by surface displacement from future faulting.



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0 7.5 15
SCALE IN MILES

Figure 37
MAJOR ACTIVE FAULTS IN SOUTHERN CALIFORNIA

Other nearby active faults include the Santa Monica-Hollywood, Newport-Inglewood, Whittier, San Fernando, and San Gabriel faults, located approximately 4.3 miles west, 8.4 miles west-southwest, 11.5 miles east-southeast, 15 miles north-northwest, and 15 miles north of the project site, respectively. The active San Andreas fault is located 34 miles north-northeast of the project site.

The closest potentially active fault to the project site is the Coyote Pass fault, located approximately 2.2 miles east-southeast of the project site. This fault trends east-west across the southerly flank of the Repetto Hills for a distance of approximately three miles. The fault is a northerly-dipping reverse fault with rocks of the Pliocene-age Fernando Formation north of the fault, thrust over younger Pleistocene sediments south of the fault. Other nearby potentially active faults are the Santa Monica-Hollywood, Verdugo, Overland, and Charnock faults, located approximately 4.3 miles northwest, 6.7 miles north, 10.2 miles west-southwest, and 11.1 miles west-southwest of the project site, respectively.

The seismicity of the region surrounding the project site was determined from research of a computer catalog of seismic data. Earthquake information from 1812 to 1931 was compiled by Richter and the U.S. National Oceanic Atmospheric Administration (NOAA). This data indicates that two earthquakes of magnitude 6.0 or greater occurred between 1906 and 1931 within 62 miles (100 kilometers) of the project site and an earthquake of magnitude 7.0 or greater occurred between 1812 and 1905. Earthquake data from 1932 to 1992 was compiled by the California Institute of Technology. This information indicates that 325 earthquakes of magnitude 4.0 or greater occurred between 1932 and 1992.

Several earthquakes of moderately large magnitude have occurred in the Southern California area within the last 60 years. The Long Beach earthquake of March 10, 1933, had a magnitude of 6.3; and the epicenter was located approximately 34 miles south-southeast of the project site. Most of the resulting damage was from substandard construction (by current standards) and/or structures located on filled or saturated ground. The February 9, 1971 San Fernando earthquake had a magnitude of 6.4, and the epicenter was located approximately 26 miles northwest of the project site. Surface rupture occurred on various branches of the San Fernando fault zone, including the Tujunga and Sylmar faults, during the earthquake. Major structural damage caused by the 1971 San Fernando earthquake led to the adoption of more stringent building codes.

The October 1, 1987 Whittier Narrows earthquake had a magnitude of 5.9, and the epicenter was located approximately nine miles east of the project site. The earthquake has been attributed to subsurface faulting that forms a west-northwest trending anticline (an arch-shaped fold in rocks, closing upward) at the ground surface known as the Elysian Park anticline or the Elysian Park structure. The axial trace of the anticline is approximately 12 miles long and extends through the Elysian Park-Repetto Hills area from the community of Silverlake on the west to Whittier Narrows on the east. The subsurface faults that created the Elysian Park structure are not exposed at the surface and, therefore, do not present a potential surface rupture hazard. Nevertheless, the 1987 earthquake and two smaller earthquakes that occurred on June 12, 1989 demonstrate that the subsurface faults are a potential source of future seismic activity.

The Sierra Madre earthquake occurred on June 28, 1991, along the Sierra Madre fault zone, had a magnitude of 5.9. The epicenter of the earthquake was located in the San Gabriel mountains approximately 20 miles northeast of the project site. More recently, on June 28, 1992, two major earthquakes occurred east of Los Angeles. At 4:58 a.m., an earthquake of magnitude 7.5 occurred in the High Desert region and is known as the Landers earthquake. The epicenter was located approximately 102 miles east-northeast of the project site. The second event occurred at 8:04 a.m. near Big Bear Lake and had a magnitude of 6.6. The epicenter was located approximately 81 miles east-northeast of the project site.

Most recently, on January 17, 1994, at 4:31 a.m., a magnitude 6.8 earthquake occurred in the San Fernando Valley. This event is known as the Northridge earthquake. The epicenter is believed to be located about 14 miles northwest of the project site, near the intersection of Reseda and Roscoe Boulevards. The fault zone in which this earthquake occurred is currently under investigation. Presently, there are two theories regarding the fault. The first is that the earthquake occurred on the Pico Fault, an isolated subsurface fault. Seismologists believe that, should another earthquake occur on this fault, it would not exceed the 6.8 magnitude of the Northridge quake. The second theory is that the earthquake occurred on the Oakridge Fault, a previously identified surface cutting fault in Ventura County which extends westerly to the Pacific Ocean. Estimated probable maximum magnitude on this fault is thought to be 7.2 to 7.3. Additionally, seismologists believe that activity on the Santa Monica Thrust Fault, the northern extension of the Elysian Park Structure Fault, may have played a part in the total ground shaking that occurred on January 17. While the earthquake was felt on the project site, no significant damage occurred to any persons or structures on-site.

No active or potentially active faults are known to pass directly beneath the project site. Thus, the potential for surface rupture on the project site is considered low. Additionally, the project site is not located within an Alquist-Priolo Special Studies Zone. The nearest Alquist-Priolo Special Studies Zone to the project site is located approximately 4.6 miles northeast of the project site along the active Raymond fault. However, based on the active and potentially active faults in the region, the project site could be subjected to significant ground shaking in the event of an earthquake.

Liquefaction

The major factors that affect liquefaction include soil types, particle size and gradation, water level, relative density, confining pressure and, intensity, and duration of shaking. Liquefaction potential is the greatest in areas where the water level is shallow and loose fine sands occur within 50 feet of the ground surface. Liquefaction potential decreases with increasing grain size and clay and gravel content, but increases as ground acceleration and duration of shaking increase. According to the Los Angeles County Seismic Safety Element, the project site has not been identified as a potential liquefaction area.

ENVIRONMENTAL IMPACT

Threshold of Significance

The exposure of people and/or structures to major geologic hazards such as earthquakes, landslides, mudslides, ground failure, and other similar hazards would be considered a significant impact. For the purposes of this EIR, the location of structures in areas subject to seismic hazard or liquefaction, without adequate structural design mitigation, is considered to constitute a significant impact.

Phase I and Buildout Phase Impacts

The proposed project would not be exposed to a greater than normal seismic risk as compared to other areas in Southern California. The possibility of surface rupture beneath the site is considered low, as no known faults exist beneath the project site. However, the proposed project could be subject to severe ground shaking in the event of a major earthquake. Significant ground shaking could occur on the site as a result of earthquakes on any of the nearby active or potentially active faults including, but not limited to, the Elysian Park structure, the Verdugo fault zone, the Santa Monica-Hollywood fault zone, the Newport-Inglewood fault zone, and the San Andreas fault zone.

Table 103 presents postulated design earthquakes for the San Andreas fault, Elysian Park structure, Santa Monica-Hollywood fault, Verdugo fault, and Newport-Inglewood fault. A maximum credible earthquake is defined as the largest earthquake that is anticipated along a particular structure. The maximum probable earthquake is the largest earthquake that is likely to occur during a 100-year period. As shown in Table 103, the San Andreas, Elysian Park structure, Santa Monica-Hollywood, Verdugo, and Newport-Inglewood faults are capable of producing maximum credible earthquakes of magnitudes 8.25, 6.75, 6.9, 7.4, and 7.0, respectively. Additionally, a maximum probable earthquake of magnitude 6.5 could occur along the Newport-Inglewood fault.

As mentioned previously, the project site has not been identified as a potential liquefaction area by the Los Angeles County Seismic Safety Element. The alluvial deposits beneath the site consist primarily of silty sand and sand with varying amounts of gravel and cobbles, underlain by consolidated sandstone and siltstone at depths ranging from approximately 63 to 108 feet. Standard penetration tests conducted during previous investigations at the project site indicate that the sandy deposits are firm and dense below the water level. Additionally, the underlying bedrock units of the Puente Formation are not prone to liquefaction. The potential for the occurrence of liquefaction at the project site is considered to be low.

TABLE 103
GROUND SHAKING EFFECTS

Design Earthquake	Fault	Estimated Magnitude	Distance From Fault to Site (miles)	Ground Acceleration		Estimated Duration (seconds)
				Peak	Sustained	
Maximum Credible:						
Distant	San Andreas	8.25	34	0.22	0.22	28
	Elysian Park Structure	6.75	0	0.62	0.47	24
	Santa Monica-Hollywood	6.9	4.3	0.47	0.35	25
	Verdugo	7.4	6.7	0.43	0.32	30
	Newport-Inglewood	7.0	8.4	0.36	0.27	26
Maximum Probable:						
Local	Newport-Inglewood	6.5	0 - 8.4	0.61	0.39	20

Source: Law/Crandall Inc.

Seismic settlement occurs when loose to medium-dense granular soils densify during ground shaking. If such settlement were uniform beneath a given structure, damage would be minimal. Because of variations in distribution, density, and confining conditions of the soils, however, such settlement is generally non-uniform and can cause serious structural damage. Dry and partially saturated soils, as well as saturated granular soils, are subject to seismically-induced settlement. Generally, differential settlements induced by ground failures such as liquefaction, flow slides, and surface ruptures would be much more severe than those caused by densification alone. The granular soils contained in previous exploratory borings at the project site are not in the loose to medium-dense category and are not prone to seismic settlement or differential compaction. Therefore, the potential for seismic settlement and differential compaction of the natural soils beneath the site is low. However, the presence of deep fills at the site could result in significant seismic settlement and associated damage to the proposed structures.

The project site consists of relatively flat ground with no slope stability problems and no potential for lurching (movement at right angles to a steep slope during strong ground shaking). The project site is not located within a Slope Stability Study Area as designated by the City of Los Angeles. Additionally, the site is not in the path of any existing or potential landslides. Therefore, the potential impact of landslides at the site is considered low. Proposed construction excavations on the project site would expose artificial fill and alluvial materials. These materials are massive or horizontally stratified and lack any well-defined planar features or discontinuities (such as bedding or jointing) that could act as planes of weakness. This condition is considered favorable for gross stability from a geologic standpoint.

The project site is not located in an area of known ground subsidence due to the extraction of fluids (petroleum or ground water) or peat oxidation. No known subsidence has been associated with the nearby Union Station Oil Field or the Los Angeles City Oil Field. Therefore, the potential for subsidence to occur on the project site is considered low.

The project site is located approximately 15 miles east of the Pacific Ocean at elevations of 279 to 293 feet above mean sea level. Therefore, tsunamis (earthquake-induced sea waves) would not have a potential impact on the proposed project. Additionally, the project site is located in Zone C, an area classified as subject to minimal flooding (outside a 100-year flood zone), as designated by the Preliminary Flood Insurance Study Work Map prepared by the Federal Emergency Management Agency (FEMA). Accordingly, the potential for flooding at the project site is considered low.

According to the County of Los Angeles Seismic Safety Element, the project site is located within a potential inundation area for an earthquake-induced dam failure or seiches (oscillating waves that form in an enclosed or semi-enclosed body of water) from Hansen Dam and Sepulveda Dam. These dams, as well as others in California, are continually monitored by various governmental agencies (such as the State of California Division of Safety of Dams and the U.S. Army Corps of Engineers) to guard against the threat of dam failure. The possibility of dam failures during an earthquake has been addressed by the California Division of Mines and Geology in the earthquake planning scenarios for a magnitude 8.3 earthquake on the San Andreas fault zone and a magnitude 7.0 earthquake on the Newport-Inglewood fault zone. It has been determined by the California Division of Mines and Geology that catastrophic failure of a major dam as a result of a scenario earthquake is regarded as unlikely. Current design and construction practices, and ongoing programs of review, modification, or total reconstruction of existing dams are intended to ensure all dams are capable of withstanding the maximum credible earthquake (MCE) for the site. Accordingly, the potential impacts of seiches and inundation at the project site are considered low.

The project site and project development would not be subject to any known volcanic hazards. The nearest Quaternary age volcanic fields are located approximately 120 miles to the north near Little Lake and the Coco Mountains. Another area of recent volcanic activity is located approximately 100 miles to the northeast at Amboy and Pisgah Craters.

Summary of Phase I Impacts

Impact H.1.1 Phase I of the proposed project could potentially expose people and/or structures to severe ground shaking. This potential exposure would be considered a significant impact.

Impact H.1.2 As a result of the deep fill materials located on the project site, Phase I of the proposed project could potentially expose people and/or structures to seismic settlement.

Summary of Buildout Phase Impacts

Impact H.1.3 Buildout Phase of the proposed project could potentially expose people and/or structures to severe ground shaking. This potential exposure would be considered a significant impact.

Impact H.1.4 As a result of the deep fill materials located on the project site, Buildout Phase of the proposed project could potentially expose people and/or structures to seismic settlement.

CUMULATIVE IMPACTS

The proposed project and related projects would be subject to potentially severe ground shaking during the event of an earthquake. Assuming adherence to the Los Angeles City building codes and the Seismic Safety Plan, cumulative impacts would be reduced, but not eliminated. Such cumulative impacts would not be considered significant because the proposed and related projects would not be exposed to a greater than normal seismic risk than other areas in Southern California. Related Project No. 15, (Gateway Center Phase I), located adjacent to the northeastern boundary of the Union Station property, consists of a 628,000 square-foot, 26-story office building. According to the EIR (SCH No. 92031008) for Related Project No. 15, the project would have a less than significant impact regarding geologic hazards after implementation of mitigation measures. Thus, Related Project No. 15 and the proposed project would not have a cumulative significant impact on geologic hazards. In addition, the remainder of the related projects would not compound the specific effects that could occur on the project site.

MITIGATION MEASURES

Phase I

H.1.1.a For each project or structure within Phase I development, the applicant shall conform to all applicable provisions of the Los Angeles Municipal Code, including the revised (1992 as amended) Division 23, Section 2312 of the Building Code which sets forth regulations concerning proper earthquake design and engineering and requires dynamic analysis for structures that are over 160 feet in height. The information regarding ground motion and spectra response determined from the dynamics analysis shall be implemented in the seismic design of the buildings.

H.1.1.b Each project or structure within Phase I development shall conform to the criteria set forth in the 1990 Recommended Lateral Force Requirements and Commentary by the Structural Engineers Association of California.

H.1.1.c Each project or structure within Phase I development shall conform with the intent and recommendations of the City of Los Angeles Seismic Safety Plan. As adopted by the city in the General Plan, the Plan sets forth general planning policies for the City of Los Angeles concerning existing development, new development (e.g., prohibiting construction of buildings for human occupancy across surface fault traces, preparation of required geologic reports for projects located in designated study areas), critical facilities, emergency preparedness, and post-disaster recovery.

H.1.2 A project-specific geotechnical investigation shall be performed for each building site to evaluate the liquefaction, seismic settlement, and differential settlement of the artificial fill and natural soils underlying the specific building location. The study shall be prepared to the satisfaction of the Department of Building and Safety for the particular building site prior to issuance of a building permit.

Buildout Phase

H.1.3 Mitigation Measures H.1.1.a through H.1.1.c shall be implemented for the Buildout Phase of the proposed project.

H.1.4 Mitigation Measure H.1.2 shall be implemented for the Buildout Phase of the proposed project.

ADVERSE EFFECTS

Ground shaking can be expected to occur in the project area as a result of future seismic activity in the surrounding region. However, the proposed project would not be exposed to a greater than normal seismic risk as compared to other areas in Southern California. Implementation of the recommended mitigation measures would reduce the potential impacts associated with seismic risk and geologic hazards to less than significant levels.

SECTION IV.H.2
GRADING

This section summarizes the results of a preliminary geotechnical evaluation prepared for the ADP project by Law/Crandall, Inc. in March 1995. The report is on file with the Community Planning Bureau, City of Los Angeles Planning Department, located at 221 S. Figueroa Street, Third Floor, and is part of the Technical Studies Appendices to this EIR.

ENVIRONMENTAL SETTING

The project site is located in the northern part of the Los Angeles Basin near the boundary of the Peninsular Ranges geomorphic province and the Transverse Ranges geomorphic province. The Peninsular Ranges geomorphic province is characterized by elongated northwest-trending mountain ridges separated by straight-sided sediment-floored valleys. The northwest trend is further reflected in the direction of the dominant geologic structural features of the province, which are northwest to west-northwest trending faults and fault zones including the active Newport-Inglewood fault zone located approximately 8.4 miles to the west-southwest. Generally, the physiographic and structural trends in the Transverse Ranges geomorphic province are east-west, as reflected by the active Raymond fault located approximately 4.7 miles to the northeast and the potentially active Santa Monica-Hollywood fault zone located approximately 4.3 miles to the northwest. The Raymond fault and the Santa Monica-Hollywood fault zone are considered the boundary between the two geomorphic provinces. For a detailed discussion of geologic hazards related to seismicity, the reader is referred to Section IV.H.1, Geologic Hazards.

The project site is located approximately 0.3 miles west of the Los Angeles River on a gently sloping alluvial surface. Topography in the vicinity of the project site slopes gently to the southeast at a gradient less than 20:1 (horizontal to vertical). The project site is not located within a City of Los Angeles Slope Stability Study Area (representing potential landslide areas) and is not known to be in the path of any existing or potential landslide. Site elevations range from approximately 279 to 293 feet above sea level. Geologic materials in the vicinity of the project site include artificial fill, Holocene and Pleistocene age alluvial deposits, and Miocene age sedimentary rock units of the Puente Formation.

The project site is mantled by artificial fill material consisting primarily of silty sand, silt, sand and clay, as well as various amounts of construction debris (i.e., concrete, brick, etc.). A review of exploratory borings drilled at the project site indicates that up to 30 feet of uncertified fill material is present on the project site. According to the City of Los Angeles Department of Building and Safety, any fill which has not been observed and certified during placement is considered uncertified fill. Underlying the artificial fill is Holocene age alluvium consisting of sand, silty sand, silt and varying amounts of gravel and cobbles. These sediments range from approximately 45 to 63 feet in thickness, and are underlain by Pleistocene age alluvium. The Pleistocene age alluvium consists of sand and silt (with varying amounts of gravel) and extends to depths of approximately 63 to 108 feet beneath the project site. The Holocene and Pleistocene age alluvium were deposited by the ancestral Los Angeles River. These sediments are unconformably underlain by sedimentary rock units of the Miocene age Puente Formation consisting of interbedded sandstone and siltstone. The Puente Formation sedimentary rock units are underlain by undifferentiated Tertiary sedimentary age bedrock units that are underlain by crystalline basement rocks at a depth of about 10,000 feet beneath the project site.

The existing Metro Redline tunnel traverses the Union Station portion of the project site in a northwesterly-southeasterly direction. The invert elevation of the tunnel is approximately 45 feet below the existing grade. A 30-inch-thick slurry wall is located along the alignment of the tunnel, and tie-back anchors associated with the wall construction extend beneath the project site.

The project site is located within an area known to hydrologists as the Lower Los Angeles River Forebay of the Central Hydrologic Subarea of the Los Angeles-San Gabriel Hydrologic Unit. This area is located south of the convergence of the Arroyo Seco Channel and the Los Angeles River. In the vicinity of the project site, groundwater primarily occurs in the river alluvium which overlies bedrock of the Miocene Puente Formation. Groundwater recharge for the Los Angeles Forebay occurs mainly through subsurface inflow through the Los Angeles River Narrows. The Los Angeles River itself is lined below water level gage F-57, located approximately one mile north of the project site. Under natural conditions, groundwater gradients flow toward the southeast on the project site. However, dewatering operations for the Metro Redline tunnel construction deflected local groundwater flow in the eastern portion of the project site toward the south. Dewatering operations are now completed and it is likely that the flow direction has returned to its previous condition.

Groundwater elevations beneath the project site range from approximately 28 to 68 feet below ground surface. These groundwater levels correspond to elevations of 224 to 251 feet above mean sea level. Groundwater levels may have risen after the rains of 1992/1993 and after Metro Redline construction dewatering stopped. Groundwater levels have risen to a depth of 19 feet below ground surface at Vignes Street, approximately 650 feet northwest of Bauchet Street. This groundwater depth corresponds to 256 feet above mean sea level.

Previous studies have indicated that groundwater beneath portions of the project site is contaminated. Contamination was found primarily in the eastern, northern, and southern portions of the project site. Twenty-eight volatile and semi-volatile organic compounds (VOCs and SVOCs) and one inorganic chemical was detected in monitoring wells to the north and east of the project site. All of the VOCs and SVOCs in the groundwater beneath the eastern and northern portion of the project site are attributed to off-site upgradient sources. Groundwater quality in the area is generally poor and has a moderately strong hydrogen sulfide odor. The reader is referred to Section IV.J, Risk of Upset/Safety, for a detailed discussion of existing groundwater conditions.

Underground storage tanks and other underground structures have been removed from the project site. In addition, localized areas of impacted soil have been remediated on-site and removed off-site. Nineteen VOCs and SVOCs, and one pesticide, remain in soils on-site. They are located in four areas that were inaccessible or near subsurface structures during previous remedial actions, and in an area beneath the inactive railroad tracks. See Section IV.J, Risk of Upset/Safety, for a detailed discussion of existing soil conditions.

Off-site soil and groundwater contamination has also been reported to the north, northeast, east, and south of the project site. Upgradient contamination may migrate, or may have already migrated onto the project site since the most recent soil and groundwater studies were performed.

The project site is located approximately 1,000 feet north of the Union Station Oil Field and approximately 2,000 feet south and east of the Los Angeles City Oil Field. According to the California Division of Oil and Gas (CDOG) Map No. 119, no documented wells exist at the project site. According to the CDOG map, the closest known well is the Chevron Miller corehole located approximately 900 feet northeast of the project site.

The alluvial deposits underlying the project site are a potential source of aggregate. However, no evidence of previous or active mining of these deposits is observed on the project site. Additionally, the project site is not located within an area of historic aggregate production.

ENVIRONMENTAL IMPACT

Threshold of Significance

Using Appendix I of the CEQA Guidelines, the criteria presented below are used to determine if a significant impact would result from project grading activities. Specifically, a significant impact could occur if project-related activities would: 1) result in unstable earth conditions or in changes in geologic substructures; 2) substantially change the topography or ground surface relief features; 3) result in the loss of availability of a known mineral resource; or 4) change the quantity of groundwater, either through direct additions or withdrawals or through interception of an aquifer by cuts or excavations.

Phase I and Buildout Phase Impacts

Stability and Changes in Geologic Substructures

The development of the building foundations and subterranean parking levels would require the excavation of approximately 731,500 cubic yards of earth material for Phase I of the project, and would require the excavation of up to a maximum of approximately 2,000,000 cubic yards of earth materials for the Buildout Phase of the project. Phase I development would include two subterranean parking levels each having excavation depths of approximately 20 feet. Development associated with the Buildout Phase could include a maximum of five subterranean parking levels with excavation depths of approximately 50 feet. The excavation associated with the subterranean parking levels of both Phase I and Buildout Phase could cause the site to become unstable and would thus be considered a potential significant impact prior to implementation of mitigation measures and engineering recommendations.

The presence of existing deep fill soils on portions of the project site could potentially result in major settlement and associated damage to the structures of the proposed project. These existing deep fill soils represent a potentially significant impact to the proposed project prior to mitigation. In addition, the development of structures on-site in areas above the existing Metro Redline tunnel could have a potentially significant impact on the tunnel prior to mitigation.

Groundwater would be encountered during construction in excavations deeper than 25 feet. If shoring were used during excavation, special installation techniques would be required due to the potential for caving of sandy soils below the groundwater level. Building foundations, basement walls, and floor slabs could be effected by high groundwater levels, and special remedial measures would have to be incorporated in the project design. Dewatering may be required for subterranean construction, and is being considered in the overall construction process. In the absence of mitigation, existing high levels of groundwater could significantly impact the proposed building footings and/or subterranean parking levels.

Changes in Topography or Ground Surface Relief

Grading and excavation associated with Phase I and the Buildout Phase would not significantly change the topography or ground surface relief features of the project site. The entire site has previously been graded for the development that currently exists on the project site.

Loss of Mineral Resources

Development of the site would not result in the loss of potential aggregate or petroleum resources. No evidence of previous or active mining of these deposits has been observed on the project site. Additionally, the project site is not located within an area of historic aggregate production.

Groundwater Impacts

Dewatering may be required for subterranean construction. Such dewatering would not significantly change the quantity of groundwater.

Some of the excavated material from Phase I and the Buildout Phase would be exported off-site to one of several local landfills. Possible disposal sites for the graded material include the BKK, Bradley West, or Chiquita landfills located in the County of Los Angeles. During the grading activities of Phase I and Buildout Phase, noise, dust, and traffic impacts would result from heavy equipment used to excavate, load, and transport earth materials off-site. Dust raised during grading and excavation would have a short-term impact on local and regional air quality. Excavation and hauling of earth materials would also temporarily increase noise and traffic levels in the immediate area during project construction. For a complete discussion of air quality, noise and traffic impacts during project construction, refer to Sections IV.F.1, IV.G and IV.D.1, respectively.

Portions of the project site are effected by contaminated soils and groundwater. During the excavation and constriction of the proposed project, the contaminated soils and groundwater would have to be adequately remediated. Groundwater effluent generated by possible temporary dewatering for construction, if contaminated above regulatory action levels, may have to be treated prior to release into a storm drain. For a complete discussion of soil and groundwater conditions at the project site, refer to Section IV.J, Risk of Upset.

Summary of Phase I Impacts

Impact H.2.1 In the absence of mitigation, excavation associated with Phase I of the project could cause the project site to become unstable and would be considered a potentially significant impact.

Impact H.2.2 The presence of existing deep fill soils on portions of the project site could result in major settlement on-site and would be considered a potentially significant impact.

Impact H.2.3 Existing high levels of groundwater could significantly impact the proposed building footings and/or subterranean parking levels of Phase I.

Impact H.2.4 The development of Phase I structures in areas above the existing Metro Redline tunnel could have a potentially significant impact on the tunnel.

Impact H.2.5 In the absence of mitigation, contaminated soils and groundwater under portions of the project site could have a potentially significant impact.

Summary of Buildout Phase Impacts

Impact H.2.6 Excavation associated with the Buildout Phase could cause the project site to become unstable and would be considered a potentially significant impact.

Impact H.2.7 The presence of existing deep fill soils on portions of the project site could result in major settlement on-site and would be considered a potentially significant impact.

Impact H.2.8 Existing high levels of groundwater could significantly impact the proposed building footings and/or subterranean parking levels during the Buildout Phase of the project.

Impact H.2.9 The development of structures associated with Buildout Phase, in areas above the existing Metro Redline tunnel, could have a potentially significant impact on the tunnel.

Impact H.2.10 In the absence of mitigation, contaminated soils and groundwater under portions of the project site could have a potentially significant impact.

CUMULATIVE IMPACTS

Cumulative impacts associated with the grading and earth moving operations on the project site as well as those associated with related projects; are expected to be limited to a temporary increase in dust generation, noise levels, and traffic trips, and a decrease in landfill capacity during excavation and construction operations. With respect to direct physical impacts associated with grading activities, only one of the 56 identified related projects is located in close enough proximity to the project site to potentially compound the impacts of the project itself. Related Project No. 15 (Gateway Center Phase I), located adjacent to the northeastern boundary of the Union Station property, consists of a 628,000 square-foot, 26-story office building and is under construction. According to the EIR (SCH No. 92031008) for Related Project No. 15, the project would have a less than significant impact regarding grading and excavation after implementation of mitigation measures. Furthermore, as the project is under construction, it has already undergone review by appropriate city agencies. Thus, Related Project No. 15 and the proposed project would not have a cumulative significant impact on grading. In addition, significant cumulative grading and geotechnical impacts due to the potentially concurrent construction of the remainder of related projects are not anticipated, as all related projects will be required to conform to City standards and regulations which are anticipated to mitigate any significant impacts.

MITIGATION MEASURES

Phase I

H.2.1.a Where there is sufficient space for sloped excavations, temporary cut slopes less than 30 feet in height shall be made at a 1.5:1 or 2:1 (horizontal to vertical) gradient for each project or structure within Phase I of the proposed project. However, the stability of the graded slopes shall be addressed when grading plans are completed for each project or structure. Vertical cuts deeper than four feet in height shall be avoided.

H.2.1.b Where sufficient space for sloped excavations is not available, shoring shall be used for each project or structure within Phase I of the proposed project. The shoring system may consist of soldier piles and lagging. Recommendations for the proper design of the shoring system shall be provided by a licensed geotechnical engineer.

H.2.1.c A soils and foundation study shall be performed for each building location to evaluate the stability of temporary or permanent graded excavations. The study shall be prepared to the satisfaction of the Department of Building and Safety as part of the project approval process and prior to issuance of a building permit for the particular location.

H.2.1.d During construction, all grading shall be carefully observed, mapped, and tested by the project geotechnical engineer. All grading shall be performed under the supervision of a licensed geotechnical engineer and/or soils engineer, in accordance with applicable provisions of the Municipal Code, to the reasonable satisfaction of the City Engineer and the Department of Building of Safety.

H.2.1.e The project shall be constructed in compliance with all applicable requirements of the California Construction and General Industry Safety Orders, the Occupational Safety and Health Act of 1970, and the Construction Safety Act.

H.2.2.a The soils and foundation study for each building location shall delineate areas containing deep fill soils. Construction of structures in these areas shall include appropriate design and construction mitigation measures in association with the requirements of the Department of Building and Safety.

H.2.2.b If the depth of fill material within the building area is too excessive to make its removal and recompaction feasible, the proposed structures may be supported on pile foundations. The piles shall penetrate the existing fill soils to develop adequate load capacity.

H.2.2.c Where the planned depth of excavation does not extend below the existing fill soils, the existing fill soils shall be removed and recompacted in accordance with the requirements of the Department of Building and Safety.

H.2.3.a Excavations extending below the water table may require temporary dewatering during construction, as well as a permanent dewatering system. The permanent dewatering system, if required, may consist of the waterproofing of basement walls and a subdrain system beneath the subterranean floor slab.

H.2.3.b In lieu of installing a permanent subdrain system, the portion of building walls and floor slabs extending below the groundwater table shall be waterproofed and designed to resist the hydrostatic pressures in addition to resisting the pressures imposed by the retained earth.

H.2.3.c The hydrostatic design or subdrain system shall be subject to the review and approval by the Department of Building and Safety.

H.2.4 Large structures located directly above the Metro tunnel shall be supported on drilled piles extending below the tunnel. The building floor slabs shall also be structurally supported in compliance with city code requirements in cooperation with LACMTA.

H.2.5.a During excavation and construction, contaminated soil and groundwater may require on-site remediation and/or removal and disposal. Any necessary treatment or disposal of contaminated soil and groundwater will be conducted in accordance with applicable regulatory requirements. Appropriate permits will be obtained to conduct necessary treatment and disposal, including a National Pollutant Discharge Elimination System (NPDES) permit from the Los Angeles Regional Water Quality Control Board for the disposal of remediated groundwater in the local storm drain system. Disposal of contaminated soil will take place at facilities specifically authorized to accept such materials.

H.2.5.b Mitigation Measures J.1.a through J.1.j in Section IV.J, Risk of Upset, shall be implemented for Phase I.

Buildout Phase

H.2.6 Mitigation Measures H.2.1.a through H.2.1.e shall also be implemented for the Buildout Phase of the proposed project.

H.2.7 Mitigation Measures H.2.2.a through H.2.2.c shall also be implemented for the Buildout Phase of the proposed project.

H.2.8 Mitigation Measures H.2.3.a through H.2.3.c shall also be implemented for the Buildout Phase of the proposed project.

H.2.9 Mitigation Measures H.2.4 shall also be implemented for the Buildout Phase of the proposed project.

H.2.10 Mitigation Measures H.2.5.a and H.2.5.b shall also be implemented for the Buildout Phase of the proposed project.

ADVERSE EFFECTS

With implementation of the proposed mitigation measures, the grading impacts of Phase I and the Buildout Phase of the proposed project would be reduced to a less than significant level.

SECTION IV.I
SURFACE WATER RUNOFF/HYDROLOGY

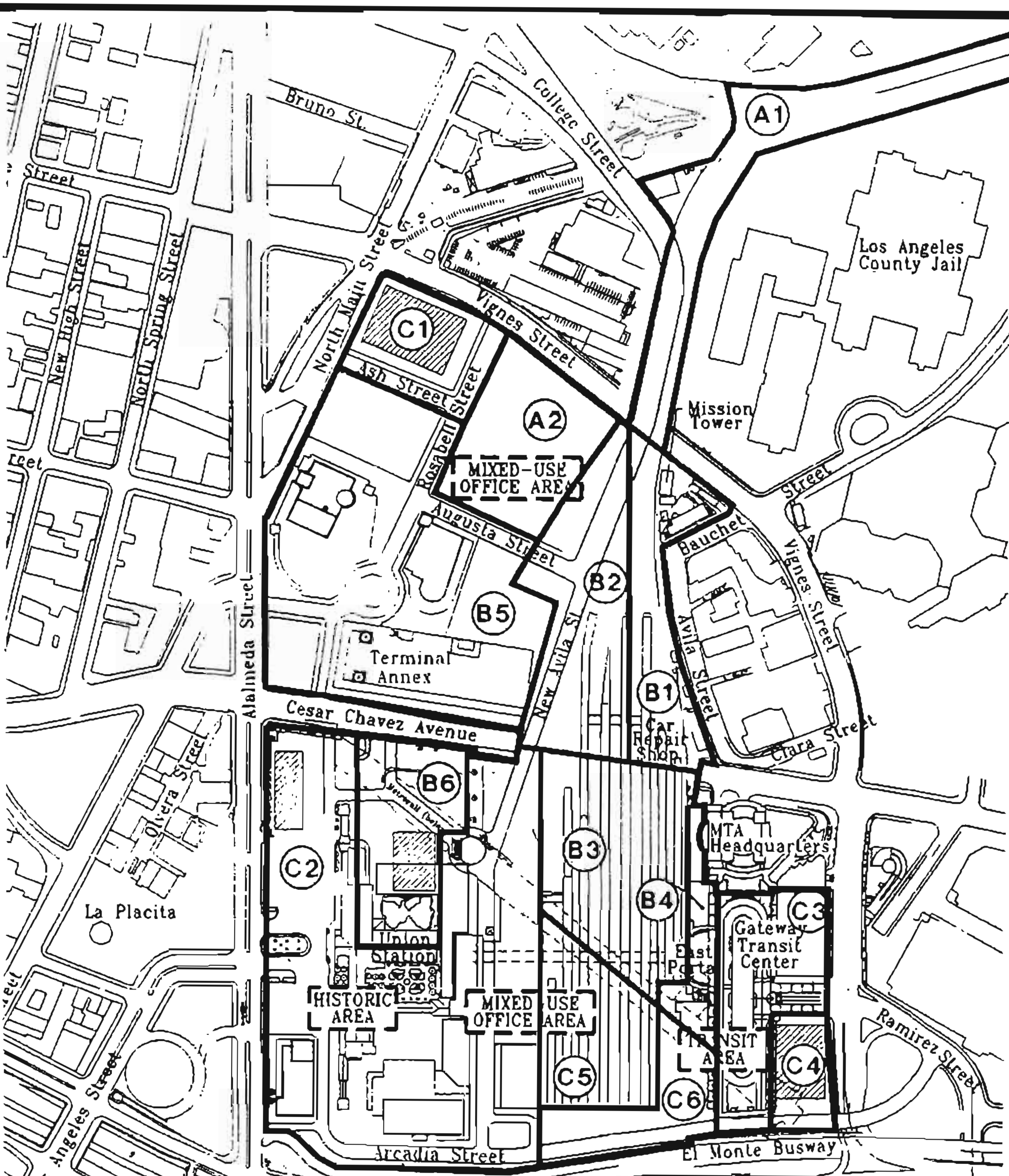
This section summarizes the results of the hydrology calculations and comprehensive analysis evaluation prepared for the ADP project by Mollenhauer, Higashi and Moore, Inc., in June 1994. Additionally, findings of the Gateway Center EIR adjacent to the project site (SCH No. 92031008) have also been incorporated, where appropriate. The calculations and analysis is on file with the Community Planning Bureau, City of Los Angeles Planning Department, located at 221 S. Figueroa Street, Third Floor, and is part of the Technical Studies Appendices to this EIR.

ENVIRONMENTAL SETTING

From a hydrological perspective, the ADP area is located in the northern portion of the Central Groundwater Basin of Los Angeles in an area identified as the Los Angeles Forebay. This area is located in a transitional zone between the Los Angeles River Narrows to the north and the Central Groundwater Basin to the south. The low-lying Elysian Park Hills and the Reperto Hills bound the project site to the west and east, respectively. Surface water sources in the project area consist of rainfall and runoff from surrounding properties.

The project site is approximately 70.5-acres in size and consists of two components: the 52.3-acre Union Station property and the 18.2-acre United States Postal Service Terminal Annex property. The westerly portion of the parcel south of Cesar E. Chavez Avenue consists of the Union Station Passenger Terminal, the REA Building, surface and structure parking lots, passenger platforms, and trackage. The easterly portion consists of the Gateway Transit Center development, currently under construction. The westerly portion of the parcel, between Cesar E. Chavez Avenue and Vignes Street, contains the Terminal Annex Postal Service building, a 1960s extension, surface and structured parking, a Vehicle Maintenance Facility, a two-story commercial building, a one-story commercial building, and the City of Los Angeles Fire Station No. 4. The easterly portion contains the northerly extension of the Union Station Passenger platforms and rail yard. North of Vignes Street, the property consists of trackage leading into Union Station.

For analytical purposes, the project site is divided into 14 drainage subareas. The location of these subareas are shown in Figure 38. The drainage subareas have been established based on two criterion: 1) the type of development as shown in Table 104; and 2) the location at point of discharge.



*Project and Specific Plan area includes railroad right-of-way extending to the Los Angeles River. (see Figure 2)

Source: Mollenhauer, Higashi and Moore, Inc.

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Figure 38
ONSITE DRAINAGE SUBAREAS

TABLE 104 DRAINAGE AREA CHARACTERISTICS			
Classification	Characteristics	Acres	% Of Site
Impervious	Property developed with pavement and structures.	42.625	60%
Rail Yard	Property partly developed with platforms and other impervious structures and with a well developed drainage system.	19.458	28%
Rail Road Right-of-Way	Property with a minimum amount of impervious structures and with a limited drainage system.	7.334	10%
Pervious	Undeveloped property.	1.100	2%

With respect to the first criterion, as Table 104 shows, approximately 98 percent of the project site is either fully developed for existing site uses or partially improved with rail-related uses. Approximately two percent of the site is completely undeveloped.

The second criterion is based on the location of the point of discharge of storm water. Runoff from the site flows to three points of discharge: 1) a City of Los Angeles 30-inch reinforced concrete pipe storm drain in Vignes Street; 2) a City of Los Angeles 90-inch reinforced concrete pipe storm drain in Cesar E. Chavez Avenue; and 3) a City of Los Angeles 144-inch reinforced concrete arch pipe storm drain in the El Monte Busway on the south side of the project site. Table 105 shows the size of each drainage subarea, the point of discharge, the classification of the subarea, and the expected runoff for a 50-year storm (Q50). As Table 105 shows, runoff from the Vignes Street subareas totals 55.35 cubic feet per second (cfs); runoff from the Cesar E. Chavez Avenue subareas totals 164.82 cfs; and runoff from the El Monte Busway Drainage subareas total 167.44 cfs. Total runoff from the site is currently 387.61 cfs.

TABLE 105
PRE-DEVELOPMENT RUNOFF

Subarea	Point of Discharge	Area (Acres)	Development Classification	TC[1]	Q50[2]
A1	Vignes St.	7.334	Rail Right-of-Way	10.0	29.34
A2	Vignes St.	4.250	Impervious	5.4	26.01
SUBTOTAL		11.584			55.35
B1	Cesar E. Chavez Ave.	2.540	Rail Yard	6.3	13.57
B2	Cesar E. Chavez Ave.	5.924	Rail Yard	6.3	31.64
B3	Cesar E. Chavez Ave.	4.184	Rail Yard	5.1	24.53
B4	Cesar E. Chavez Ave.	1.480	Rail Yard	5.1	8.68
B5	Cesar E. Chavez Ave.	11.039	Impervious	7.0	60.16
B6	Cesar E. Chavez Ave.	4.150	Impervious	4.1	26.24
SUBTOTAL		29.317			164.82
C1	El Monte Busway	2.940	Impervious	4.6	18.59
C2	El Monte Busway	16.390	Impervious	7.2	88.41
C3	El Monte Busway	3.856	Impervious	3.9	24.39
C4	El Monte Busway	1.100	Pervious	3.2	4.79
C5	El Monte Busway	2.580	Rail Yard	5.1	15.13
C6	El Monte Busway	2.750	Rail Yard	5.1	16.13
SUBTOTAL		29.616			167.44
TOTAL		**70.517**			**387.61**

Source: Mollenhauer, Higashi and Moore, Inc., June 1994.
[1] Time of concentration.
[2] Cubic feet per second.

Subarea C1 drains to North Main Street, where the runoff is conveyed southerly in the street gutter to a catch basin at the intersection of Alameda Street. The remaining subareas drain to on-site drainage systems with direct connections to the City storm drain system. Currently, there is adequate capacity in the City's storm drain system to handle runoff from the project site.[1]

The project site is located in Zone C, an area classified as subject to minimal flooding (outside a 100-year flood zone) by the Preliminary Flood Insurance Study Work Map prepared by the Federal Emergency Management Service (FEMA).[2] Areas of a 100-year flood event are generally confined to the Los Angeles River Channel and lower lying areas east of the channel. The Channel is located approximately 0.3 miles east of Vignes Street; however, rail trackage within the project site extends north and east of Vignes Street to the Channel.

Existing uses on the project site currently produce a number of typical urban pollutants, especially those related to automobiles and rail uses. Oil, grease, rubber, metals, and hydrocarbons are conveyed from the site into the local storm drain system. These pollutants are typical of urban areas and the surrounding area, in particular.

ENVIRONMENTAL IMPACT

Specific development for Phase I and a description of potential uses and densities for Buildout Phase are discussed in detail in Section II, Project Description. The discussion of impacts is focused on changes in development within the existing drainage areas and the associated changes in runoff from the site.

Threshold of Significance

Appendix G of the CEQA Guidelines identifies that significant impacts on hydrology and groundwater quality would result from:

- Substantial degradation in water quality
- Contamination of the public water supply
- Substantial degradation or depletion of ground water resources

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1 Source: Mollenhauer, Higashi and Moore, Inc., June 1994.

2 The National Flood Insurance Program Flood Insurance Rate Map (FIRM) does not provide any separate designation for Zone C designated areas.

- Substantial interference with ground water recharge

- Substantial flooding, erosion, or siltation caused by the project.[3]

In addition to these impacts, for the purposes of this EIR, project-generated storm water volumes which exceed the capacity of drainage facilities and construction of structures within a 100-year flood plain are also considered significant impacts.

Phase I Impacts

As identified in Table 106, approximately 60 percent of the site is improved with structures and/or impervious surfaces. In addition, approximately 38 percent of the site is partially improved with rail related uses and 2 percent of the site is undeveloped. Impacts resulting from new development that could increase the amount of runoff from the site, and will therefore be generated on the approximately 38 percent of the site that is partially developed and the 2 percent of the site that is undeveloped. Although landscaped areas are proposed throughout the site, the developed portion of Phase I will be composed of predominantly impervious areas. With completion of Phase I, the site would contain approximately 46.855 acres of impervious area, as compared to 42.625 acres of existing impervious area. Table 106 shows the expected runoff from Phase I development for all 14 subareas.

As shown in Tables 105 and 106, two drainage areas (subarea B4 and C6) would experience an increase in runoff as a result of Phase I development. These subareas are presently developed as the Union Station platform area and rail yard. Construction will take place over the rail yard which will make the subarea impervious to storm water. The existing rail yard area is estimated to be 30 percent impervious, with the remaining 70 percent being drained by a well-developed drainage system designed to limit percolation. It is estimated that the increase in runoff from both areas will be 6.9 percent.

The two subareas (A1 and B1) which contain existing trackage north of Cesar E. Chavez Avenue, and a portion of the Union Station rail yard will not be developed as part of the project and their drainage would not be altered. Six subareas (A2, B5, B6, C1, C2, and C3) are presently fully developed with impervious pavement or structures. Although these areas will experience significant reconstruction, there will be minimal changes in imperviousness or drainage. Development that could

[3] A detailed analysis of impacts on ground water and ground water quality are addressed in Sections IV.H.2 (Grading) and IV.J (Risk of Upset) of this EIR. The threshold however, is restated here for reference purposes.

TABLE 106
POST-DEVELOPMENT RUNOFF
PHASE I

Subarea	Point of Discharge	Area (Acres)	Development Classification	TC[1]	Q50[2]
A1	Vignes St.	7.334	Rail Right-of-Way	10.0	29.34
A2	Vignes St.	4.250	Impervious	5.4	26.01
SUBTOTAL		11.584			55.35
B1	Cesar E. Chavez Ave.	2.540	Rail Yard	6.3	13.57
B2	Cesar E. Chavez Ave.	5.924	Rail Yard	6.3	31.64
B3	Cesar E. Chavez Ave.	4.184	Rail Yard	5.1	24.53
B4	*Cesar E. Chavez Ave.*	*1.480*	*Impervious*	*5.1*	*9.28*
B5	Cesar E. Chavez Ave.	11.039	Impervious	7.0	60.16
B6	Cesar E. Chavez Ave.	4.150	Impervious	4.1	26.24
SUBTOTAL		29.317			165.42
C1	El Monte Busway	2.940	Impervious	4.6	18.59
C2	El Monte Busway	16.390	Impervious	7.2	88.41
C3	El Monte Busway	3.856	Impervious	3.9	24.39
C4	El Monte Busway	1.100	Pervious	3.2	4.79
C5	El Monte Busway	2.580	Rail Yard	5.1	15.13
C6	*El Monte Busway*	*2.750*	*Impervious*	*5.1*	*16.13*
SUBTOTAL		29.616			168.55
TOTAL		**70.517**			**389.32**

Italics indicate increase in runoff from existing conditions.
Source: Mollenhauer, Higashi and Moore, Inc., June 1994.
[1] Time of concentration.
[2] Cubic feet per second.

alter existing drainage is also not proposed during Phase I for the remaining subareas (B2, B3, C4, and C5).

Total runoff from the site during a 50-year storm is estimated to increase from 387.61 cfs to 389.32 cfs, which is an increase of less than 0.5 percent. This negligible increase in runoff would not be expected to significantly impact existing drainage facilities nor contribute to potential flood hazards within a 100-year flood zone. As such, the impact of Phase I development on the local storm drain system is expected to be less than significant.

Stormwater discharges resulting from Phase I development would consist primarily of non-point source surface runoff from streets, parking areas, sidewalks, patios, roof tops, and planter areas. As with existing conditions, these sources are common in urban areas and the area surrounding the project site. Water quality could continue to be impacted through discharges from rail use, motor vehicle operation, oil and grease residues, leaf fall, application of chemical and organic pesticides associated with landscaping and open space areas, material storage and handling, and pavement disintegration. Constituents of these discharges typically include coliform bacteria, total suspended solids (TSS), biochemical oxygen demand (BOD), chemical oxygen demand (COD), total organic carbon (TOC), and total petroleum hydrocarbons (TPH). Increased automobile traffic and parking would likely result in an increase in the concentration of pollutants in surface water runoff. Phase I development would produce similar pollutants as the existing site, however, and the overall quality of stormwater runoff would not be expected to change significantly from current conditions.

Development of a Storm Water Pollution Prevention Program (SWPPP) will be required to comply with the National Pollution Discharge Elimination System (NPDES) to minimize the discharge of pollutants in storm water during the construction period of Phase I. A primary component of the SWPPP would be an erosion control plan to minimize the discharge of sediment from exposed surfaces, as well as toxic waste control of paints, masonry products, glues, and other hazardous building materials. These methods are standard and appropriate for NPDES construction permits and are defined by the California Regional Water Quality Control Board when the General Construction Permit is issued. The permit will primarily require Best Management Practices (BMPs) for Phase I construction activities. Longer term pollution control measures will likely be specified in the General Permit as well as in the municipal discharge permits granted by the City and County of Los Angeles.

Buildout Phase Impacts

Although specific development plans for the Buildout Phase will be determined in later project phases, development areas, potential land uses, densities, and design guidelines will be established by the ADP (Sections II Project Description, and IV.A Land Use, have a complete description of the ADP).

TABLE 107
POST-DEVELOPMENT RUNOFF
ADP BUILDOUT PHASE

Subarea	Point of Discharge	Area (Acres)	Development Classification	TC[1]	Q50[2]
A1	Vignes St.	7.334	Rail Right-of-Way	10.0	29.34
A2	Vignes St.	4.250	Impervious	5.4	26.01
SUBTOTAL		11.584			55.35
B1	Cesar E. Chavez Ave.	2.540	Rail Yard	6.3	13.57
B2	*Cesar E. Chavez Ave.*	*5.924*	*Impervious*	*6.3*	*33.83*
B3	*Cesar E. Chavez Ave.*	*4.184*	*Impervious*	*5.1*	*26.23*
B4	Cesar E. Chavez Ave.	1.480	Impervious	5.1	9.28
B5	Cesar E. Chavez Ave.	11.039	Impervious	7.0	60.16
B6	Cesar E. Chavez Ave.	4.150	Impervious	4.1	26.24
SUBTOTAL		29.317			169.31
C1	El Monte Busway	2.940	Impervious	4.6	18.59
C2	El Monte Busway	16.390	Impervious	7.2	88.41
C3	El Monte Busway	3.856	Impervious	3.9	24.39
C4	*El Monte Busway*	*1.100*	*Impervious*	*3.2*	*6.96*
C5	*El Monte Busway*	*2.580*	*Impervious*	*5.1*	*16.17*
C6	*El Monte Busway*	*2.750*	*Impervious*	*5.1*	*17.24*
SUBTOTAL		29.616			171.76
TOTAL		**70.517**			**396.42**

Italics indicate increase in runoff from Phase I conditions.
Source: Mollenhauer, Higashi and Moore, Inc., June 1994.
[1] Time of concentration.
[2] Cubic feet per second.

Based on conversions of remaining partially developed or undeveloped subareas, a hydrology analysis has been prepared to evaluate the potential impacts from the project Buildout Phase. As with Phase I development, impacts from new development during the Buildout Phase would result from conversions of these remaining subareas. Although landscaped and open space areas are proposed throughout the site, development during the Buildout Phase will be composed of predominantly impervious areas. With completion of the Buildout Phase, the site would contain approximately 60.643 acres of impervious area, as compared to 42.625 acres currently existing and 46.855 acres with Phase I development. Table 107 shows the expected runoff with development from Buildout Phase for all 14 subareas.

As shown in Tables 106 and 107, five drainage areas (subareas B2, B3, C4, and C5 and C6) would experience an increase in runoff over Phase I conditions as a result of project Buildout Phase. Three of these subareas are presently developed as the Union Station platform area and rail yard. Construction will take place over the rail yard, which will make the subarea impervious to storm water. As with Phase I development, the existing rail yard areas are estimated to be 30 percent impervious, with the remaining 70 percent drained by a well developed drainage system designed to limit percolation. A similar runoff increase of 6.9 percent is expected when these areas are converted with Buildout Phase of the project.

The impact of Buildout Phase development on the local storm drain system is expected to be less than significant. Of the 13.788 additional acres to be converted to impervious areas, 12.688 acres are currently developed as rail yard and platforms. The remaining 1.100 acres of undeveloped area are estimated to have an increase in runoff of 45.3 percent through conversion with Buildout Phase development. Total runoff from the site during a 50-year storm is estimated to increase from 387.61 cfs to 396.42 cfs, which is an increase of approximately 2.3 percent. As with Phase I development, this negligible increase in runoff would not be expected to significantly impact existing drainage facilities, nor contribute to potential flood hazards within a 100-year flood zone.

Buildout Phase of the project would have similar water quality impacts as those described for Phase I, although pollutant concentrations would be higher due to greater automobile and parking use over the entire site. As with Phase I, Buildout Phase will require development of a SWPPP to comply with the NPDES to minimize the discharge of pollutants in storm water during the various construction periods.

Summary of Phase I Impacts

Impact I.1 Construction for Phase I would temporarily increase pollutants in storm water such as sediment from exposed surfaces and wastes from paints, masonry products, glues, and other hazardous building materials.

Impact I.2 Phase I development would negligibly increase runoff from the site over existing conditions. A new drainage system will be developed to effectively convey these flows from Phase I operation.

Summary of Buildout Phase Impacts

Impact I.3 Construction associated with the project Buildout Phase would temporarily increase pollutants in storm water such as sediment from exposed surfaces and wastes from paints, masonry products, glues and other hazardous building materials.

Impact I.4 Development associated with the project Buildout Phase would negligibly increase runoff from the site over existing conditions. Additional drainage improvements nevertheless may be required.

CUMULATIVE IMPACTS

The adjacent Gateway Center project (Related Project No. 15) is currently under construction and is the closest related project that could share the same storm drain system as the proposed project. This project is already under construction, and anticipated to not create any significant impacts. With respect to other related projects, development in the immediate area is occurring in heavily developed locations where properties have been built upon at some previous time. Therefore, such development is not anticipated to generate substantial additional runoff in the local area. With the implementation of standard erosion and flood control measures by responsible City, County, and State agencies, no significant cumulative impacts are anticipated.

MITIGATION MEASURES

Phase 1

I.1.a To reduce erosion, protective measures (e.g., placement of sandbags around basins, construction of a berm to keep runoff from flowing into the construction site, or keeping motor vehicles at a safe distance from the edge of excavation) shall be implemented during construction.

I.1.b Stormwater discharges from the site shall meet, at a minimum, all applicable requirements of the State Regional Water Quality Control Board and NPDES permit requirements, and shall comply with implementation of these requirements through responsible City and County of Los Angeles agencies.

I.1.c An SWPPP shall be prepared and submitted for review and approval by the Bureau of Engineering, Stormwater Management Division, prior to issuance of a building permit. The SWPPP shall identify pollutants and applicable BMPs to manage runoff quality.

I.2.a A drainage plan shall be developed, subject to the approval of the City Engineer, as part of the Plan Check process and prior to development of any drainage improvements.

I.2.b No mitigation required. However, the proposed project shall demonstrate compliance with requirements set forth by the Department of Building and Safety and the City Engineer concerning storm water drainage and flood proofing prior to development of any drainage improvements.

Buildout Phase

I.3 Mitigation Measures I.1.a and I.1.b shall also be implemented for Buildout Phase of the proposed project.

I.4 Measures I.2.a and I.2.b shall also be implemented for the Buildout Phase of the proposed project.

ADVERSE EFFECTS

With implementation of the identified mitigation measures for construction and operation of the proposed project, no significant impacts from storm water drainage, surface water runoff, or flooding are anticipated.

SECTION IV.J
RISK OF UPSET

This section summarizes the results of a preliminary (Phase I) environmental site assessment prepared for the ADP project by Law/Crandall, Inc., in November 1994. The site assessment was based on information from the following areas: geology, surface drainage and groundwater flow assessment, site reconnaissance, area reconnaissance, historical review, regulatory agency lists review, and reports by others. The study is on file with the Community Planning Bureau, City of Los Angeles Planning Department, located at 221 S. Figueroa Street, Third Floor, and is part of the Technical Studies Appendices to this EIR.

ENVIRONMENTAL SETTING

Environmental conditions and factors that are relevant in examining the potential for contaminated groundwater and soil include the area's surface and subsurface drainage, topography, and geology. Each of these may indicate the direction in which off-site contaminants (if present) could be transported to the site. Because oil or gas wells may be associated with environmental and regulatory concerns, it is also noted whether known oil or gas wells are on or near the site.

Geology

The local geology is a key factor in the site's groundwater flow. Materials beneath the site, from the surface down, are as follows:

- Up to 30 feet of artificial fill material consisting primarily of silty sand, silt, sand, and clay, with various amounts of construction debris (concrete, brick, etc.)

- About 40 to 70 feet of Holocene-age alluvium primarily consisting of sand, silty sand, and silt, with varying amounts of gravel and cobbles

- About 10 to 70 feet of Pleistocene alluvium consisting of sand and silt with varying amounts of gravel

- Beneath these sediments is the Miocene-age Puente Formation, consisting of interbedded sandstone and siltstone, which are considered bedrock in this area for the purposes of this report.

As discussed in Section VI.H.1, Geologic Hazards, no faults or fault-related features were observed at the site during the field reconnaissance. No active or potentially active faults are known to pass directly beneath the site. Therefore, the potential for surface rupture at the site is considered low. No fault-related groundwater barriers exist near the site.

Surface Drainage

The site slopes gently toward the south. On-site drainage is controlled by curbs, gutters, and drain inlets which direct runoff to the municipal drainage system. The site is surrounded on all sides by streets. Off-site surface drainage is controlled by curbs and gutters and is discharged to the municipal drainage system. The major drainage channel nearest the main portion of the project site (excluding existing trackage north of the Union Station property) is the Los Angeles River, located about 0.3 miles to the east.

Groundwater

Two important factors affecting the groundwater flow are the groundwater gradient (the slope of the water table) and the depositional direction (the direction in which water-bearing sediments were deposited). The gradient and depositional direction are important because they influence the net direction of groundwater flow; although, in some situations, other factors, such as faults and bedrock structures may override them. Groundwater flow is a major factor in the spread of contaminants underground.

The site is located southeast of the Elysian Park Hills, near downtown Los Angeles. This area is in the Lower Los Angeles River Forebay area of the Central Hydrologic Subarea of the Los Angeles-San Gabriel Hydrologic Unit (CDWR, 1961). The area is south of the convergence of the Arroyo Seco Channel and the Los Angeles River. The site lies on floodplain alluvium of the Los Angeles River.

In the vicinity of the site, groundwater occurs in the river alluvium which overlies bedrock of the Miocene Puente Formation. The groundwater occurs in an unnamed aquifer under unconfined to semi-confined conditions. Water may perch on clay layers positioned above the water table.

Groundwater elevations have not varied much since measurements began in the 1930s. Water level records from well No. 1S/13W-27G01, located about 1,000 feet east of the site, indicate the depth to groundwater in the well ranged from about 26 to 33 feet below ground surface (bgs) between 1934 and 1964. This corresponds to elevations of about 257 to 250 feet above sea level. The highest groundwater level in well 1S/13W-27G01 was recorded on January 1, 1935, when groundwater was 25.7 feet below ground surface. This corresponds to a water surface elevation of 256.8 feet above sea level. Water level data from November 7, 1990 shows the depth to water at the site ranged from about 28 to 68 feet below ground surface. These water levels correspond to elevations of 224 to 251 feet above sea level. It is believed that dewatering for the Metro Rail tunnel and station locally dewatered the sediments beneath the site. The dewatering has stopped and groundwater levels have probably recovered to their prepumping levels. A nearby well, located near the corner of the site, showed the depth to water in 1993 was about 19 feet bgs, or 256 feet above sea level.

The direction of the regional groundwater gradient is toward the southeast. The depositional direction is toward the south. Dewatering operations for the Metro Rail tunnel construction deflected local groundwater flow in the eastern portion of the site toward the south. Dewatering operations have been completed, and it is likely that the flow direction has returned to its previous direction toward the southeast. The probable net flow direction is toward the south-southeast.

Potential Pathways for Contaminant Migration

Local pathways of contaminant migration may follow the topography or the orientation of bedrock joints and fractures. The contaminant sources most likely to affect the site are either upgradient, upslope (of the surface drainage) and opposite the depositional direction, or along bedrock structure trends. It is believed that the probable direction of contaminant migration underground is toward the south-southeast. Further, it is believed that the main factor influencing this direction is the summation of the gradient, depositional direction, and the site's topography.

Oil and Gas Wells

Oil and gas wells are potential concerns when they seep oil or gas, are not abandoned to current regulations, or have associated surface contamination. They may also be associated with methane hazards. This section discusses the oil wells reported on the records which were reviewed. Unreported "wildcat" oil wells could be on or near the site.

The site is located approximately 1,000 feet north of the Union Station Oil Field and approximately 2,000 feet south-southeast of the Los Angeles City Oil Field. According to California Division of Oil and Gas (CDOG) Map No. 119, no documented wells exist at the site. According to the CDOG map, the closest known well is the Chevron "Miller" corehole, located approximately 900 feet northeast of the site. Several buildings in the area have had methane gas seepage problems. This methane may be naturally occurring or oil-industry related.

Issues Specifically Related to the Union Station Property

Ten reports of soil and groundwater investigations performed on the Union Station property were reviewed. The reports indicate that soil and groundwater beneath portions of the Union Station property are contaminated, and that contamination was found primarily in the eastern, northern, and southern portions of the property. Also reviewed was the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Preliminary Assessment report, prepared for submittal to the U.S. Environmental Protection Agency (EPA). These reports are summarized in Table 108.

Underground Storage Tanks (USTs) and other underground structures have been removed from the property. Localized areas of impacted soil have been removed from the property, remediated, and backfilled on-site. Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), and one pesticide remain in soils at the site. The sources of the localized soil contamination were attributed to former and/or abandoned USTs, one clarifier, and imported fill materials. The impacted soils are in four areas: 1) near the Amtrak abandoned in-place clarifier; 2) near two former gasoline tanks in the elevated portion by Cesar E. Chavez Avenue; 3) near two abandoned in-place fuel oil tanks; and 4) in fill materials beneath the railroad tracks. If left in place, further mitigation measures will not be required by regulatory agencies, including the LAFD, California Regional Water Quality Control Board (RWQCB), and the US EPA.

Groundwater beneath portions of the property is impacted by 28 VOCs and SVOCs and one inorganic chemical. The source of the contaminants has been attributed to off-site, upgradient sources. The local investigative agency for the area, the Los Angeles RWQCB, has indicated that it will not require of the property owner remedial actions to clean up the groundwater. The CERCLA site evaluation report indicates no further action is required. Based on this information, even though some soils are impacted and groundwater beneath portions of the property is contaminated, this is not considered to be a concern.

TABLE 108
POTENTIAL SOIL AND GROUNDWATER CONTAMINATION STATUS
UNION STATION

Location	Potential Soil And Groundwater Contamination	Status
Amtrak Machine Shop Building · Abandoned three-stage clarifier	Soil: Toluene - 16 ppb	Closure of clarifier was approved by the LAFD
· Groundwater monitoring well	Soil: CS_2, potentially methylene chloride at depths of up to 20 feet bgs. Groundwater: Presence of acetone, DCA, DCE, PCE, toluene, methylene chloride, and CS_2	Groundwater samples both up- and down-gradient from clarifier contained concentrations not detected in soil samples. Groundwater contamination does not appear to have been from clarifier.*
Amtrak Car Repair Shop · UST	Soil: Leak detection monitoring station.	
Railroad Tracks	Soil: Testing in 1989: DDT and 6 PAHs, detectable concentrations of two undifferentiated hydrocarbons. Testing in 1990: 12 PAHs Groundwater: 1 PAH, 15 SVOCs, 19 VOCs	1,500 cubic yards of soil impacted by PAHs and one pesticide remain in imported fill beneath the southern portion of the railroad track.**

TABLE 108
POTENTIAL SOIL AND GROUNDWATER CONTAMINATION STATUS
UNION STATION

Location	Potential Soil And Groundwater Contamination	Status
Cesar E. Chavez Avenue · 1,000 gallon gasoline UST	Soil: At depths up to 20 feet bgs, presence of detectable concentrations of toluene and xylenes.	UST removed in 1987.
· 1,000 gallon UST and fuel dispenser	Soil: Soil concentrations of TPH and BTEX detected at depths of up to 30 feet bgs. Groundwater: Presence of toluene, methylene chloride and CS_2. However, methylene chloride and CS_2 were also detected in the laboratory blank and therefore may not represent actual groundwater conditions.	Active UST removed in 1991 and impacted soils were excavated. Soils were treated or removed from the property. A localized area of soils impacted by low levels of TPH remain. Tank closure was approved by LAFD.
Hollywood Freeway Gasoline UST	Soil: Soil concentrations of TPH and BTEX detected at depths of up to 30 feet bgs.	UST removed and impacted soils were excavated, treated and used as backfill. Tank closure was approved by LAFD.
Parking Lot D · Two 12,750 gas fuel oil UST	Soil: Moderate concentrations of TRPH and BTEX detected in soil at a depth of about 35 feet bgs. Sample collected at 40 feet did not contain detectable concentrations of TRPH or BTEX.	USTs were abandoned in place and closure was approved by LAFD.
Waste Oil UST and Hydraulic Lift Reservoir	Soil: No detectable concentrations of TRPH or BTEX at or above the Method Detection Limits.	1991 tank and hydraulic lift reservoir were closed. Native soil surrounding the tank, piping and lift reservoir were excavated and removed. Closure of tank was approved by the LAFD.

TABLE 108
POTENTIAL SOIL AND GROUNDWATER CONTAMINATION STATUS
UNION STATION

Location	Potential Soil And Groundwater Contamination	Status
Hazardous substances		No evidence of concern.
Electrical Transformers		In 1989, DWP performed a PCB survey and assessment program wherein they removed PCB-containing fluids.

Notes:

* Results of Assessment indicate no evidence of significant soil or groundwater contamination associated with clarifier.

** Source of groundwater contaminants has been attributed to off-site, upgradient sources.

bgs below ground surface
BTEX benzene, toluene, ethylbenzyne and xylenes
CS_2 carbon disulfide
DCA dichloroethane
DCE dichloroethylene
DDT dichlorodiphenyltrichloroethane
PAHs polynuclear aromatic hydrocarbons
PCE tetrachloroethylene
TPH Total petroleum hydrocarbons
TRPH Total recoverable petroleum hydrocarbons

Issues Specifically Related to the Terminal Annex Property

A summary of potential soil and groundwater contamination on the Terminal Annex property is outlined in Table 109. PCB-containing transformers are present at the property. PCBs are of concern if they are released or if the units fail, requiring their removal or repair. During the field reconnaissance, no cracks in the transformer casing, heavy rust, or staining (that would suggest cooling oil releasing) were observed.

Past Uses of the Site

The Union Station property has been used for a variety of land uses, including: sheet iron works, stables, vineyards, hospital, school, dwelling units, lumber yards, storage facilities, and factories. The Terminal Annex property has been used as a boiler shop, wiping rag washing facility, garage, storage yards, auto repair, car wash, lumber yard and planing mill, beer bottling establishment, gas station, warehouse and storage facility, machinery shops, truck body manufacturer, and plastic products manufacturer.

Past Uses of Surrounding Area

Historic aerial photographs were reviewed of the Union Station property vicinity dating from 1923 through 1970. The review indicated that the property had been occupied by commercial and industrial facilities since 1923, with construction of Union Station shown in 1937 photographs. A large coal gasification facility, located adjacent to the project to the east, appears in photographs from 1923 to 1953, and a large unknown industrial facility adjacent to the project to the north appears in photographs from 1949 to 1950. Reportedly, in 1943, the gas company converted the plant from gas generation to butadiene gas production through a thermal "cracking" process. The liquids from the condensed butadiene gas were reportedly piped to the Shell Chemical Company in Torrance for purification. Butadiene production ceased around 1946. Data on the use of the building or land after 1946 was not found.

TABLE 109
POTENTIAL SOIL AND GROUNDWATER CONTAMINATION STATUS
TERMINAL ANNEX

Location	Potential Soil And Groundwater Contamination	Status
LAFD Fuel Dispenser		No information regarding the dispenser or UST was available.
Former and Abandoned USTs · 25,000 gallon fuel UST	Soil: No elevated concentrations of TRPH. A TRPH concentration of 20 ppm was detected in one soil sample collected at depth of approximately 35 feet bgs.	UST removed in 1992. Closure of tank was approved by LAFD.
· Seven USTs and clarifier	Soil: Highest levels of hydrocarbon-contaminated soil occur at depths ranging from 20-30 feet bgs. Using a clean-up level of 100 ppm TPH or TRPH for soil, the in-place volume of impacted soil is estimated to be 21,000 cubic yards. Groundwater: Contaminated with fuel hydrocarbons with gasoline the primary constituent. Groundwater contaminated with greater than 10 ppm TPH as gasoline or diesel extends across a surface area of about 29,000 square feet, or 0.7 acres.	Seven USTs and one five-stage clarifier were assessed and removed in 1992. Remediation currently underway.
Electrical transformers	No cracks in the transformer casing, heavy rust, or staining that would suggest cooling oil releases were seen.	PCB-containing transformers may be of future concern if they leak or fail, and may necessitate removal.
Existing clarifier, hydraulic lifts, and car wash	Soil: Unknown Groundwater: Unknown	Investigation underway.
Hazardous substances		No evidence of concern.

Notes:
bgs below ground surface
TPH Total petroleum hydrocarbons
TRPH Total recoverable petroleum hydrocarbons

The potential for hazardous substances to migrate onto the project site from the former coal gasification/butadiene facility was evaluated. It was concluded that the aerial photograph review, soil borings, soil gas survey, and the Metro Rail construction 60-foot deep trench extending through the project site all indicate that no deposits of hazardous substances or wastes are in the soil that are associated with the former coal gasification facility. The potential for impacts to groundwater beneath the project site were also evaluated. It was concluded that the groundwater flow is generally eastward from the project site towards the former coal gasification facility, but the temporary dewatering system (on the project site at the time for the Metro Rail construction) could have temporarily reversed the local hydraulic gradient and drawn contaminated groundwater to the project site. After further groundwater measurements, the lateral groundwater flow direction was established as converging onto the project site from the north, northwest, and northeast, with the resultant off-site flow direction to the south.

Testing of shallow groundwater, performed in 1992, from beneath the Gateway Center portion of the Union Station property (eastern portion) for VOCs, TRPH, SVOCs, general minerals, and sulfide detected the presence of four VOCs in low levels (i.e., 18 - 660 ppb) and two additional VOCs in trace amounts (i.e., below the method detection limit). Sulfide was detected in low levels (i.e., 0.3 ppm). SVOCs and TRPH were not detected. Water quality was characterized as generally poor, with a moderate to strong "rotten-egg" odor of hydrogen sulfide.

Sampling of subsurface soils for TRPH (EPA 418.1), VOCs (EPA 8240) and SVOCs (EPA 8270), from the Gateway Center portion of the Union Station property revealed the presence of low concentrations (i.e., 0.6 - 12 ppm) in one boring. Additional sampling of the shallow fill soils in this area was performed. SVOC testing (EPA 8270) found three samples to be impacted by relatively low (i.e., 0.14 - 4.6 ppm) concentrations of PNAs and background levels of metals. The SVOC-affected soils were characterized as vertically limited to depths less than 10 feet, and laterally limited to an area 40 feet by 70 feet (approximately 1,040 cubic yards).

Properties of Potential Concern

Three factors help determine whether a neighboring property is considered to be an environmental concern: 1) the property's proximity to the site; 2) its status as listed by the regulatory agency; and 3) its position relative to the groundwater flow under the site.

Proximity is usually a function of the local depth to groundwater. In general, the deeper the groundwater, the closer a property must be to the site to be considered a potential environmental concern. Therefore, although a property may be within the indicated search range for a list, it may not pose an environmental concern to the site, depending on the depth to groundwater.

Many regulatory agencies provide a ranking and condition of a property. This ranking is referred to as the property's "status." The agency status for a property may indicate whether or not the property is an environmental concern.

Another important factor is whether the property is up-gradient of the site relative to the groundwater flow direction. If a property has impacted the groundwater and is up-gradient from the site, then the probable flow direction of impacted groundwater is toward the site, and the possibility for on-site migration of impacted groundwater exists.

The properties indicated in Table 110 are considered to be potential concerns. These properties are discussed in the following sections according to the list on which they appeared, in order of Map Location Number.

Emergency Response Notification System (ERNS) List

The ERNS database is a listing of hazardous substance and waste releases that exceed the reportable quantities (RQs) established under the Clean Water Act and the CERCLA.

Map Location No. 110 (All Right Parking), located at 1081 North Vignes Street, is found on the ERNS list. The City of Los Angeles Fire Department (LAFD) suspected that illegal dumping was occurring at the site. This is being pursued by the Los Angeles County Department of Health Services. Due to the uncertainty of the releases, if any, this facility may be of concern to the site.

Annual Work Plan (AWP) List

The Annual Work Plan (AWP) of the California Hazardous Substance Cleanup Bond Act of 1984 (state "Superfund" act) identifies California hazardous waste facilities targeted for cleanup by responsible parties (RPs), the California Environmental Protection Agency (CalEPA), or the U.S. EPA. This list was previously identified as the Bond Expenditure Plan (BEP).

Map Location No. 96, (Bortz Oil Company (BOC)), is located at 1746 North Spring Street. In 1976, BOC operated as a petroleum products blending and packaging facility. In January 1986, it was determined that there had been numerous leaking valves and drums, chemical spills, and illegal

TABLE 110
SUMMARY OF LISTS SEARCHED

Short Name	Full Name	Search Range	Listed Properties[1]	Potential Concerns[2]
	U.S. Environmental Protection Agency (EPA) Lists			
NPL (NL)	National Priorities List	1 mi.	-	-
CERCLIS (CC)	Comprehensive Environmental Response, Compensation, and Liability Information System	1 mi.	11	-
FEDFAC (FF)	Federal Facilities	1 mi.	-	-
ERNS (ER)	Emergency Response Notification System	1 mi.	34	110
FD	Federal Enforcement Dockets	1 mi.	-	-
RCRA (RV)	Resource Conservation and Recovery Act (RCRA) Violators	adjacent	-	-
Liens (LI)	Superfund Liens	1 mi.	-	-
SARA (SA)	Superfund Amendments and Reauthorization Act Title III	adjacent	-	-
RCRA (RN)	Resource Conservation and Recovery Act Notifiers	adjacent	5	-

TABLE 110
SUMMARY OF LISTS SEARCHED

Short Name	Full Name	Search Range	Listed Properties[1]	Potential Concerns[2]
State and Regional Lists				
AWP (AW)	Annual Work Plan (former Bond Expenditure Plan)	1 mi.	1	96
CALSITES (CALS)	The former Abandoned Sites Program Information System (ASPIS)	0.25 mi.	19	24, 25
Cortese (CS)	California Office of Planning and Research, Hazardous Waste and Substances Sites List	0.25 mi.	-	-
SWAT (ST/SR)	Solid Waste Assessment Test (State and Regional)	1 mi.	-	-
SWIS (SS)	Solid Waste Information System	1 mi.	1	-
LUST (LT/LR)	Leaking Underground Storage Tanks (State and Regional)	0.25 mi.	6	25, 26, 31
TPC (TP)	Toxic Pits Cleanup Act	1 mi.	-	-
Toxic Releases (NT)	Unauthorized or Non-Tank Releases	1 mi.	-	-
WIP (WP)	Well Investigation Program	1 mi.	-	-
HWIS (HW)	Hazardous Waste Information System	adjacent	7	90, 129
UST (UT)	Permitted Underground Storage Tanks	adjacent	8	90

1 Total number of properties listed within search ranges.
2 Listed properties considered concerns (by map location numbers).

disposal of chemicals at the property. Elevated levels of chlorinated hydrocarbons were detected in both the soil and the groundwater. On April 14, 1987, CalEPA issued a remedial action order to BOC and surrounding property owners, however, the investigations were not completed. On April 18, 1989, the BOC property was placed on the BEP. In July 1990, two of the RPs associated with the BOC property were found to be in noncompliance with the remedial action order. Due to the extensive nature of the soil and groundwater contamination, the depth to groundwater in the area, and the facility's proximity upgradient to the site, this is an area of concern.

Former Abandoned Sites Program Information Systems (CALSITES) List

The CALSITES list is the former Abandoned Sites Program Information System (ASPIS) list, which was undertaken by the former California Department of Health Services, Toxic Substances Control Division. In the early 1980s, the program identified potential sites via the use of Standard Industrial Classification (SIC) codes, historical phone books, site drive-bys, citizen complaints, and similar leads. The California Department of Toxic Substances Control (DTSC) acknowledges that information regarding most of these sites should be considered as preliminary and as potential areas of contamination; only the sites designated as "superfund" have been confirmed as contaminated. DTSC further recognizes that the preliminary determinations were generally not made through sampling events, but rather as a result of file searches and windshield surveys. The following sites identified on the CERCLIS list are areas of concern:

1. Map Location No. 24 (Bauchet Partners) is located at 490 Bauchet Street. The site is currently under US EPA lead due to the presence of impacted soil and groundwater on site and the proximity of down-gradient drinking water wells (within three miles). The site was used as a food processing plant from 1966 to 1972, and later as a mannequin manufacturing facility for approximately 13 years. The facility is currently a rented film studio. Due to the depth to groundwater in the area, the property's proximity upgradient to the site, and the US EPA's involvement with this property, it is believed to be an area of concern.

2. Map Location No. 25 (Van Der Horst Corporation of America), is located at 496 Bauchet Street. The site is currently under US EPA lead, and has been abandoned since 1989. Over 150 containers of corrosive or toxic hazardous wastes (generated from metal plating operations at the facility) remain on site, and many areas in the

building contain plating sludge and residual heavy metal salts. Surface soils are impacted by both inorganic and organic constituents, primarily chromium and petroleum hydrocarbons. The groundwater is impacted both up- and down-gradient of the site. The site also contains 32 tanks for metal plating, 9 small chemical storage tanks, and one small fuel UST. Due to the depth to groundwater in the area, and the property's proximity upgradient to the site, the facility is believed to be an area of concern.

Leaking Underground Storage Tanks (LUST), State and Regional Lists

The State Water Resources Control Board and the RWQCB maintain the LUST lists of facilities with reported leaks from USTs. The state list is a compilation of information submitted by each of the regional boards in California.

1. Map Location No. 25 (the Los Angeles County Jail), located at 496 Bauchet Street, is listed as "3B" status. According to the list, a preliminary site assessment is underway. Given depth to groundwater in the site vicinity and this property's location up-gradient from the site, this facility is an area of concern.

2. Map Location No. 26 (the Los Angeles County Main Jail), located at 498 Bauchet Street, is listed as "3B" status. According to the list, diesel fuel was discovered to have leaked on March 13, 1992, and the case is managed by the RWQCB. The groundwater is potentially impacted, and due to it's location up-gradient from the site, this facility is an area of concern.

3. Map Location No. 31 (former Mobil Oil Company service station #11-H41), located at 774 North Broadway, is listed as "3B" status. Gasoline was discovered to have leaked on July 26, 1990, and has potentially impacted the groundwater beneath the site. The case is currently managed by the RWQCB (File Number 121890-1). Due to the property's location up-gradient from the site, it is an area of concern.

Hazardous Waste Information System (HWIS) List

The HWIS list maintained by DTSC identifies permitted hazardous waste generators and transporters, as well as treatment, storage and, disposal facilities. Because California has authorization to implement its own hazardous waste control program, in lieu of the federal program, the HWIS is the state equivalent of the RCRA Notifiers list.

Map Location No. 129 (S & P Company), is located at 501 East Commercial Street. This property is an area of concern because it is located adjacent to the site and is noted as having impacted soil on the property. Given the relatively shallow depth to groundwater, this soil may impact the soil or groundwater conditions at the site.

ENVIRONMENTAL IMPACT

Threshold of Significance

According to CEQA Guidelines, hazardous materials impacts related to implementation of the proposed project are considered significant if the project: 1) would create a potential public health hazard; 2) results in a release of hazardous substances; or 3) exposes people to existing sources of potential health hazards.

Phase I and Buildout Phase Impacts

As described in Section II, the proposed project includes site grading, demolition and renovation of existing structures, and construction of new buildings. The development of the building foundations and subterranean parking levels would require the excavation of approximately 731,500 cubic yards of earth material for Phase I of the project and would require the excavation of up to a maximum of approximately 2,000,000 cubic yards of earth materials for the Buildout Phase of the project. Phase I development would include a maximum of three subterranean parking levels with an excavation depth of approximately 20 feet. Development associated with Buildout Phase of the project could include a maximum of five subterranean parking levels with an excavation depth of approximately 50 feet.

The preliminary environmental site assessment identified areas of existing and potential environmental concerns described in detail in the "Environmental Setting" sub-section. Activities of concern are those that may have impacted the site's soil or groundwater. Evidence was found that portions of the project site are contaminated and are listed on various regulatory agency lists. Also identified were nearby properties that are listed as having known or suspected impacted soil or groundwater. Numerous upgradient facilities are found on various agency lists that indicate the potential for groundwater impacts. These off-site sources of groundwater contamination, or potential contamination, could impact the site.

The contaminated groundwater in the site area will require that certain measures be undertaken during development of the site due to the shallow depth to groundwater, (30 feet bgs), and the anticipated depths of subsurface structures planned for the site, (50 feet bgs). During construction, dewatering activities may temporarily draw contaminated groundwater to the site and necessitate environmental permits for temporarily treating, storing, transporting, or disposing of the impacted groundwater.

In general, activities that could lead to discovery and exposure to contaminated soils or groundwater include site investigation, site remediation, excavation and grading, dewatering, and underground storage tank removal. Each of these activities could involve exposure of workers, the public, and/or the environment to contaminated soils or groundwater.

Summary of Phase I and Buildout Phase Impacts

Impact J.1 The contaminated groundwater in the area could pose a significant risk during development of the site due to the depth to groundwater, (30 feet bgs), and the anticipated depths of subsurface structures planned for the site, (50 feet bgs). Excavation and dewatering activities could draw contaminated groundwater to the surface where workers and the public could be exposed.

Impact J.2 Contaminated soils at the property site could pose a significant risk during development of the site. Grading and excavation could expose workers and the public to contaminated soils.

CUMULATIVE IMPACTS

With the implementation of required State and Federal laws regarding hazardous materials, cumulative impacts are considered less than significant.

MITIGATION MEASURES

Phase I and Buildout Phase

J.1.a If contaminated groundwater is encountered during construction, such contaminated groundwater shall be handled in a manner satisfactory to all public agencies with jurisdiction over such matters.

J.1.b The project site shall be properly secured to prevent access by the general public, thereby minimizing the possibility of exposure to contaminated groundwater.

J.1.c A Remediation Action Plan (RAP) will be developed and implemented for the remediation of the contaminated soil and groundwater at the Terminal Annex site.

J.2.a If contaminated soil is encountered during project construction, such contaminated soil shall be handled in a manner satisfactory to all public agencies with jurisdiction over such matters.

J.2.b The project site shall be properly secured to prevent access by the general public, thereby minimizing the exposure to contaminated soils.

J.2.c Refer to Mitigation Measure J.1.c.

ADVERSE EFFECTS

Implementation of the proposed mitigation measures would reduce potential impacts to less than significant levels.

SECTION IV.K.1
ARTIFICIAL LIGHT

ENVIRONMENTAL SETTING

General

Illumination on-site is characteristic of lighting in the neighborhood. Though ambient lighting on the project site is brighter than that associated with nearby residential areas to the west, it is in keeping with security needs for the existing public-oriented uses on the site. Existing outdoor lighting at the project site consists primarily of security, parking area lighting, and night time illumination from automobile traffic. Existing indoor illumination on the site consists of light emanating from the interior of structures which passes through windows.

Outdoor lighting in the immediate vicinity of the site consists of tall street lamps and exterior security lighting at commercial establishments. Automobile headlights on the street network, and signage in the site vicinity, also contribute to night time light. Interior lighting of nearby residential buildings and commercial high-rises in the downtown area contribute to night time light.

Union Station Property

The parking area of the Union Station property is lit by several light standards bearing two unshielded globes each. The parking area has the greatest concentration of artificial light, in contrast to other areas of the project site. Such lighting on the parking area is relatively bright and visible, but confined to the areas immediately adjacent to Union Station. The railroad tracks are also lit to provide visibility to train operators. These facilities are open for operation 24 hours a day. Union Station's main identification sign is located on the structure's Alameda Street frontage and is a simple concrete sign with identifying marks for transit facilities, lit by ground-mounted lights. Automobile traffic accessing the property produces evening illumination in the immediate locale but is in keeping with other traffic illumination sources produced from automobiles along surrounding streets.

Interior operational and security lighting emanating from the structures located on the Union Station property and passing through windows is characteristic of lighting in the surrounding locale. There is minimal light spillover from the interior of such buildings, with illumination visible only from surrounding streets and buildings adjacent to the property.

Terminal Annex Property

Overall, lighting on the Terminal Annex property is limited. Exterior lighting at the Terminal Annex property is provided by floodlights mounted around the roof of the buildings (lighting the west facade), and on small surface parking lots at the southeast portion of this property. Large sconces light either side of the entrances of the Terminal Annex Building on the first level. The fire station has security lighting mounted on either side of the garage. This property is not an important activity center at night. Portions of the Terminal Annex Building are vacant and not lighted. Automobile traffic accessing the property produces evening illumination in the immediate locale but is in keeping with other traffic illumination sources produced from automobiles along surrounding streets.

The service areas of the Terminal Annex Building are lit by fluorescent bulbs suspended from the roof. Lighting in the parking garage is somewhat shielded by the exterior of the structure. Interior operational and security lighting emanating from the structures located on the Terminal Annex property and passing through windows is characteristic of lighting in the surrounding locale. There is minimal light spillover from the interior of such buildings, with illumination visible only from surrounding streets and buildings adjacent to the property.

Glare

Glare is the result of sharply reflected light caused by sunlight or artificial light reflecting from highly finished surfaces such as window glass or brightly colored surfaces. There is currently minimal glare from reflective surfaces at the project site. Both the Union Station Passenger Terminal and Terminal Annex Building have smaller or recessed windows which reduce the amount of light reflected. The building material of the exterior facades of existing structures, primarily concrete and masonry, is not reflective. The primary existing glare source is the sun reflected from windows of automobiles parked in the surface parking lots. Due to the size of automobile windows, the varying angles at which they are mounted, and the varying angles at which the automobiles are parked, glare from the windows does not represent a significant source of glare.

Views from Surrounding Properties

Existing buildings on the project site are a maximum of approximately four stories in height, which is typical of the immediate locale and limits the visibility of the structures to the surrounding area.

Residential land uses are considered more sensitive to night time lighting than non-residential uses, as they are generally occupied during the evening hours. With respect to the closest residential areas, residences in the vicinity of the project site, located at: Spring Street and Sunset Boulevard (approximately 0.1 miles from the site); north of Sunset Boulevard and west of Hill Street (approximately 0.2 miles from the site); and north of College Street and west of Broadway (approximately 0.3 miles from the site) currently have views of the project site (primarily of the Union Station property). Aside from views of the westerly facades, views of the Terminal Annex property from other vantage points are largely obscured by intervening structures.

Overall night time lighting in the project site vicinity, the nature of development, and topography are such that the project site rapidly diminishes in prominence; and, while Union Station and Terminal Annex facilities are readily distinguishable from some vantage points, the lighting on the project site tends to blend with the surrounding area.

ENVIRONMENTAL IMPACT

For the purposes of this EIR, development that would: 1) produce excessive night time lighting that is out of character with the land uses surrounding the project site; 2) result in a substantial increase in ambient lighting to residential areas; or 3) cause excessive glare, will be considered to have a significant impact.

Phase I Impacts

Exterior Lighting

Security Lighting. Exterior lighting would include security lighting on structures in parking areas and in open spaces. Some building floodlights may be utilized but would be shielded and designed to eliminate spillover glare. Special activity areas or focal points, such as building entrances and transit access points, would have higher intensity lighting than other areas for security purposes and ease of use. Such intensified lighting would occur at the western entrances of both Terminal Annex and Union Station. Phase I security lighting would be confined to the project site and design-controlled, and it would not result in excessive night time lighting. As such, security lighting impacts are considered less than significant.

Pedestrian Lighting. Extensive open space and pedestrian areas, in which there would be night time lighting, are planned for Phase I development. Pedestrian-oriented park areas would be located throughout the site, including north of the museum on the western portion of the Union Station property (and west of the Union Station Passenger Terminal) and west of the Terminal Annex Building. Other lit open space areas are planned south of the 25-story commercial office building on the Union Station Property and west of the 12-story commercial office building on the Terminal Annex site (the location of these buildings is shown on Figure 4, in Section II Project Description of this EIR). Pedestrian-oriented lighting fixtures would be both pole- and wall-mounted. Phase I pedestrian lighting would be confined to the project site, design-controlled, and would not result in excessive night time lighting. As such, pedestrian lighting impacts are considered less than significant.

Automobile Headlights. Light cast by automobile headlights accessing the subterranean and surface parking areas would be the most prominent at parking entrances and exits. The proposed office buildings would typically operate during regular business hours. During off hours, the number of cars accessing the site would be limited, and headlight glare would be reduced. Light cast by automobile headlights accessing the site would be visible to a relatively small area. The impact of automobile headlights would be less than significant, as headlights are typically a physically smaller source of lighting, are less luminous than building lighting, and as a point source, illuminate a particular area for shorter periods of time than does building lighting.

Signage. Signage plans have not yet been specifically identified. However, several guidelines would be followed. An effort would be made to minimize signage around historic buildings, which would also be sympathetic to the scale and design of the structures. Pedestrian and automobile related signage would be mounted on building walls whenever possible. Signage, or lighting for signage, would illuminate the areas in the immediate vicinity of the sign but would not be expected to be highly distinguishable from a broader area. Therefore, impacts anticipated from signage would be less than significant.

Street Lighting. Street lighting fixtures are proposed which would enhance and unify the character of the district. Specifically, the ADP proposes to extend the historic lighting fixtures found along Alameda Street and Cesar E. Chavez Avenue to North Main Street. Phase I street lighting would be largely confined to the project site, which would conform to required lighting standards and would not result in excessive night time lighting. As such, street lighting impacts are considered less than significant.

Interior Lighting

Parking Structures. With the exception of one three-story parking structure adjacent to the 12-story office building on the Terminal Annex property, parking would be provided in at-grade surface lots and in levels beneath the office buildings, thus reducing the amount of light escaping the site. Interior lighting fixtures for the parking structure would not be directly visible from the outside. In addition, structured parking would be visible to a smaller area than would lighting from the proposed office buildings and would be partially obstructed by other project structures. As such, parking lighting impacts are considered less than significant.

Office, Retail and Museum Buildings. Office, retail and museum buildings constructed for Phase I of the ADP would contribute an additional source of night time illumination from interior building lighting. Typically, office buildings operate with ceiling mounted fluorescent fixtures. The proposed office buildings would normally be open for operation during regular daytime business hours. During off hours, typically week nights and weekends, interior lighting would be at a minimum.

The museum and the retail uses adjoining Union Station would operate generally during business hours and during those same hours on weekends. The museum and the retail elements would have controlled interior lighting environments that would minimize light spillover.

The interior lighting in these proposed buildings could be visible in the surrounding area, while the increased height of the proposed structures (in comparison to those currently occupying the site) would increase the area from which the site is visible. This is particularly true of the northerly building on the Terminal Annex property and all structures proposed on the Union Station property (except the 12-story government office building and museum, which would be fully or mostly obstructed by either adjacent proposed buildings or existing development). Relative to the urban character of the area, these night time lighting impacts would not represent a significant impact.

Glare

The potential for glare impacts exists, particularly to motorists, to the extent that windows and building surfaces reflect light. The 12- and 25- story buildings on the Union Station property would be prominent to both freeway and on-street vehicular traffic south of the project site, due both to their size and proximity to the freeway. The orientation of the sun relative to the proposed project would render glare insignificant or non-existent north of the project site. During the early morning hours, the potential for glare off the reflective building surfaces would be greatest, due to the low angle of the sun. The extent of this impact would depend on how new development is ultimately configured within the ADP area. Glare from the site during the late afternoon would be reduced by intervening structures downtown, including buildings and bridges. In a worst-case situation (use of reflective building materials, orientation and placement of structures with large east-facing facades) and in the absence of mitigation, potentially significant impacts could occur during morning hours. However, this would only affect west-bound freeway motorists that may receive reflected glare from the east facades of project structures.

Buildout Phase Impacts

Development plans for Buildout Phase would be regulated and limited by the requirements of the Specific Plan, which provides a range of uses, design guidelines, and height limits described in Section II, Project Description. Maximum height limits within each of the Planning Areas would be 550, 400, and 80 feet above grade. It is anticipated that at least 12 structures of varying heights could be developed at Buildout Phase within the height limitations of the Specific Plan. Development will occur on the following current locations: the Vehicle Maintenance Facility, the fire station, the northern surface parking lot on the Terminal Annex property, the portion of the existing surface parking lot nearest Cesar E. Chavez Avenue, over the railyard, and adjacent to the Gateway Intermodal Transit Center (which is currently under construction) on the Union Station property.

Exterior Lighting

Exterior lighting sources would include signage, pedestrian areas, and security. Pedestrian areas would be well-lit for safety. Pole-mounted lighting fixtures would utilize cut-off technology and would be designed to reduce glare. Open spaces within the project area would contain security and pedestrian lighting. Some building floodlights may be utilized, but would be shielded and designed to eliminate spillover glare. Automobile headlights from vehicles accessing parking structures would result in very short-term momentary impacts, not dissimilar to impacts currently experienced in the area from automobile headlights. Special activity areas and focal points, such as building entrances and transit access points, would have higher intensity lighting than other areas for security and ease of use. Such higher intensity lighting would occur at the northern side of the three-story retail building, south of the museum and the 25-story building, and south of the 11-story building on the Union Station property. No significant impacts would result.

Interior Lighting

Typical lighting for this type of high density development would be similar to that for Phase I development. Interior building lighting would be required at night for hotel and residential uses, but would be primarily limited to that necessary for janitorial services and security for office space uses. Parking would be provided in subterranean structures, the lighting of which would not be visible from surrounding areas. Lighting from these structures would not create a significant impact.

Glare

As with Phase I development, the potential for glare impacts also exists for the Buildout Phase. The orientation of the sun relative to the proposed project would render glare insignificant or non-existent north of the project site. During the early morning hours, the potential for glare off reflective building surfaces would be greatest due to the low angle of the sun. The extent of this impact would ultimately depend on how new development is configured within the ADP, as well as the types of building materials that are used. Glare from the site during late afternoon would be reduced by intervening structures downtown, including buildings and bridges. In a worst-case situation (use of reflective building materials, orientation and placement of structures with large east-facing facades) and in the absence of mitigation, a potentially significant impact could occur from Buildout Phase development during the morning hours, but only for west-bound motorists that may receive reflected glare from the east facades of project structures.

Summary of Phase I Impacts

Impact K.1.1 Phase I development will introduce new sources of lighting to the project area (i.e., security, pedestrian, signage, headlights, directional, interior, etc.). Such impacts are not considered significant, but still require identification of lighting controls and standards to ensure incorporation of Specific Plan design guidelines into the project.

Impact K.1.2 Significant glare impacts on vehicular traffic east of the project site could occur during morning hours.

Summary of Buildout Phase Impacts

Impact K.1.3 Impacts are anticipated to be the same as those for Phase I.

CUMULATIVE IMPACTS

The project most likely to contribute to project lighting impacts is Related Project No. 15, Phase I of the Gateway Center project. Although this project is within the ADP area, environmental review for this development was previously conducted through a Draft and Final EIR prepared and certified in 1992. This building, which will contain 628,000 square feet of office space and stand 26 stories tall when complete, is currently under construction and will house LACMTA Headquarters. Because of its size and adjacency to the proposed project, and because portions of this project would operate 24 hours each day, the Gateway Center project could increase the amount of light and glare emitted from this area. However, no significant adverse impacts are expected from Phase I of the Gateway Center project, as noted in its EIR.[1] Future phases are part of the ADP and, accordingly, will be subject to its adopted mitigation measures. Consequently, no significant cumulative impacts are expected from Gateway Phase I in conjunction with the ADP.

Development of the project in conjunction with other related projects would cumulatively contribute to glare and illumination impacts in the area of the project. With respect to illumination, the projects would increase ambient lighting of the area and contribute to the overall urban character of downtown Los Angeles and neighboring environs. Due to the existing urban character, this would not represent a significant impact.

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[1] State Clearinghouse Number 92031008, SCRTD Union Station Headquarters Joint Development Project, page 3J-28.

MITIGATION MEASURES

In order to mitigate the identified potentially significant impacts for Phase I and the Buildout Phase, the following mitigation measures will be required to reduce impacts to a less than significant level:

Phase I

K.1.1.a Exterior lighting, including pedestrian lighting, shall be shielded to reduce the amount of direct lighting escaping the site.

K.1.1.b Parking structures shall be designed so as to shield exterior areas from vehicle headlights and interior parking structure lighting, to the extent feasible.

K.1.1.c Pole-mounted lighting fixtures on pedestrian paths will utilize cut-off technology to reduce glare.

K.1.1.d Necessary building floodlighting will be shielded and designed to eliminate spillover glare.

K.1.2 Exterior building surfaces, particularly those facing heavily traveled roadways, shall utilize low-reflectivity materials.

Buildout Phase

K.1.3 Mitigation measures K.1.1.a through K.1.1.d, and K.1.2, shall also be implemented for the Buildout Phase of the proposed project.

ADVERSE EFFECTS

The proposed project will contribute to glare and illumination impacts in the area. However, the project is in an urban area wherein such light and glare impacts are characteristic of the neighborhood. With implementation of the mitigation measures described above, artificial light impacts would be less than significant.

The proposed project could contribute to glare impacts on vehicular traffic east of the project site during morning hours. With implementation of the mitigation measures described above, glare impacts would be less than significant.

SECTION IV.K.2
NATURAL LIGHT (Shade/Shadow)

ENVIRONMENTAL SETTING

On-Site Improvements

The project site is characterized by low- and mid-rise development built to a low density, along with large surface parking lots. Specifically, the western portion of the Union Station property is occupied by the Union Station Passenger Terminal (2 stories/35 feet) and baggage handling facilities (one story/70 feet) with surface parking lots located along the Alameda Street frontage. A two-level (25-foot) parking structure containing 300 spaces is located adjacent to the Union Station Passenger Terminal and REA Building along the southern property boundary. The eastern portion of the Union Station property is occupied by the train yard, rail platforms, and trackage, as shown in Section II, Figure 8. The Mission Tower Building (2 stories/40 feet) and an auto repair shop (one story/20 feet) are located on the east side of the tracks north of Cesar E. Chavez Avenue.

The Terminal Annex property contains several structures and surface parking. The Terminal Annex Building (4-stories/60 feet) is located on the southern portion of the property. Other structures are located along the western and southern boundaries of the property. The parking garage on the property (3-stories/25 feet) contains up to 1,000 spaces and is located along the Alameda Street/North Main Street western frontage. The Vehicle Maintenance Facility (2-stories/25 feet) is located adjacent to the parking structure along the North Main Street frontage. The City of Los Angeles Fire Station Number 4 (2-stories/35 feet) is located in the northwestern corner of the Terminal Annex property. One- and two-story commercial buildings (15 and 25 feet above grade, respectively) are located in the northwest corner of the property. The remaining areas on the property are used for surface parking.

Due to the scale and location of existing improvements on the project site, no significant shadows are cast on adjacent (off-site) land uses or public rights-of-way.

Off-Site Improvements

With the exception of the Gateway Center commercial office project immediately east of the project site (Related Project No. 15, under construction), land uses adjacent to the project site predominately consist of low-rise retail/commercial, industrial, and public facility structures as discussed further below. North of Sunset Boulevard and west of Alameda Street, across from the project site, is the Chinatown community. The portion of Chinatown closest to the project site includes such land uses as the Metro Plaza Hotel, stores, restaurants, a maintenance yard for the Los Angeles Department of Transportation, an auto repair shop, and parking facilities.

Land uses surrounding the project site from the northeast (above Vignes Street) and continuing around the eastern side of the project site along Vignes Street to the El Monte Busway include the following: the Fansteel Company Drop Forge structures (located north of Vignes Street and west of the Union Station rail yard); two Los Angeles County jail facilities (one between Vignes Street and Bauchet Street and the other between Bauchet and Cesar E. Chavez Avenue); a manufacturing facility, two bail bond businesses, supplier facilities, an office building and a retail warehouse (all located south of Bauchet Street, west of Vignes Street, north of Clara Street and east of Avila Street); the Gateway Center commercial office project, at the southwest corner of Vignes Street and Cesar E. Chavez Avenue; the Piper Technical Center facility containing governmental facilities, between Cesar E. Chavez Avenue and Ramirez Street, east of Vignes Street; and a Denny's restaurant, at the intersection of Vignes and Ramirez streets.

Land directly south of the project site includes the El Monte Busway and the Santa Ana Freeway. Land uses immediately south of the Santa Ana Freeway include industrial properties, while the Civic Center and the Downtown Los Angeles business district are located further to the southwest. Land uses west of Alameda Street are primarily commercial. El Pueblo de Los Angeles Historic Monument, including the Olvera Street commercial/tourist complex, is located west of the Union Station property across Alameda Street. Land uses west of the Terminal Annex property, across Alameda Street, are primarily retail/commercial. Some residential uses are also located further to the west and northwest in Chinatown. These uses are generally characterized by low-rise multi-family residential buildings.

In general, existing off-site structures immediately surrounding the project site do not cast any significant shadows on the project site itself.

ENVIRONMENTAL IMPACT

Threshold of Significance

For the purposes of this EIR, development that would cast shadows upon on-site or adjacent structures for an extended period of time or restrict sensitive land uses (e.g. residential or pedestrian-oriented uses, historic resources) is considered a significant impact. The significance of such impacts is measured by the extent, duration, and resulting functional effect (the extent and duration combined with, and measured against, the use and design of the affected premises).

Project Impacts

Shade/shadows cast by Phase I and Buildout Phase of the proposed project are each examined for the following seasons of the year and time periods:

- Winter Solstice, December 21 - 9:00 a.m., 12:00 p.m., and 3:00 p.m.
- Fall/Spring Equinox, September 21 and March 21 - 8:00 a.m., 12:00 p.m., and 4:00 p.m.
- Summer Solstice, June 21 - 8:00 a.m., 12:00 p.m., and 4:00 p.m.

These periods have been selected to represent the times of the day during which shading could be expected to be of most concern. Collectively, the four seasonal shadow patterns define an annual shadow pattern to be associated with existing and proposed structures. Shadow lengths increase during the "low-sun" (or winter) period and are longest on December 21st, the winter solstice. Shadow lengths are shortest on June 21st, the summer solstice, and are equal in length during the spring and fall equinoxes on March 21st and September 21st, respectively.

In addition to seasonal variations, shadow impacts are also diurnally dynamic, since the extent and duration of shade moves with the sun throughout the day. Thus, depending on the time of day and season of year, shadows cast by the proposed project would vary substantially in the length of shadow projection. Shadows are cast to the west during the morning hours when the sun is coming up on the horizon. Shadows move northerly during the late morning and early afternoon hours, and eventually cast to the east when the sun begins to descend to the horizon. The shadows depicted in Figures 38 through 40 can be extrapolated to determine their effects between morning and late afternoon hours. During other periods of the day not shown, shadow lengths shorten between the morning and noon hours and lengthen again between noon and late afternoon.

Phase I Impacts

The reader is referred to Section II, Project Description, of this EIR for a detailed discussion of proposed uses, square footage, and building heights and locations. During Phase I, three commercial office buildings would be developed on the Terminal Annex property. Additionally, the historic Terminal Annex Building would be rehabilitated in conformance with required historic preservation guidelines and would be adaptively reused for government office uses and postal sales. The government office building (Building 1 as shown in Figures 39 through 41) would contain 457,000 square feet of space and would rise 80 feet (four stories) above grade. The three proposed commercial office buildings (Buildings 2, 3, and 4 on Figures 39 through 41) would consist of a 200,000 square foot structure (four stories/60 feet above grade); a 250,000 square foot building (eight stories/120 feet); and a 400,000 square foot structure (12 stories/180 feet), respectively.

Three government office buildings, one commercial office building, a retail complex, and a museum would be developed on the Union Station property during Phase I of the ADP. The retail structure (Building 5) would contain 100,000 square feet of space and would rise 60 feet (3 stories) above grade. Building 6, a proposed government office structure, would contain 255,000 square feet of space (11 stories/160 feet). A 25-story/350 foot commercial office building (Building 7) would include 620,000 square feet of space. Buildings 8 and 10 would be government office towers and would contain 540,000 square feet (12 stories/180 feet) and 470,000 square feet (16 stories/240 feet), respectively. The proposed museum (Building 9) would contain 70,000 square feet of space and would rise 50 feet (three stories) above grade.

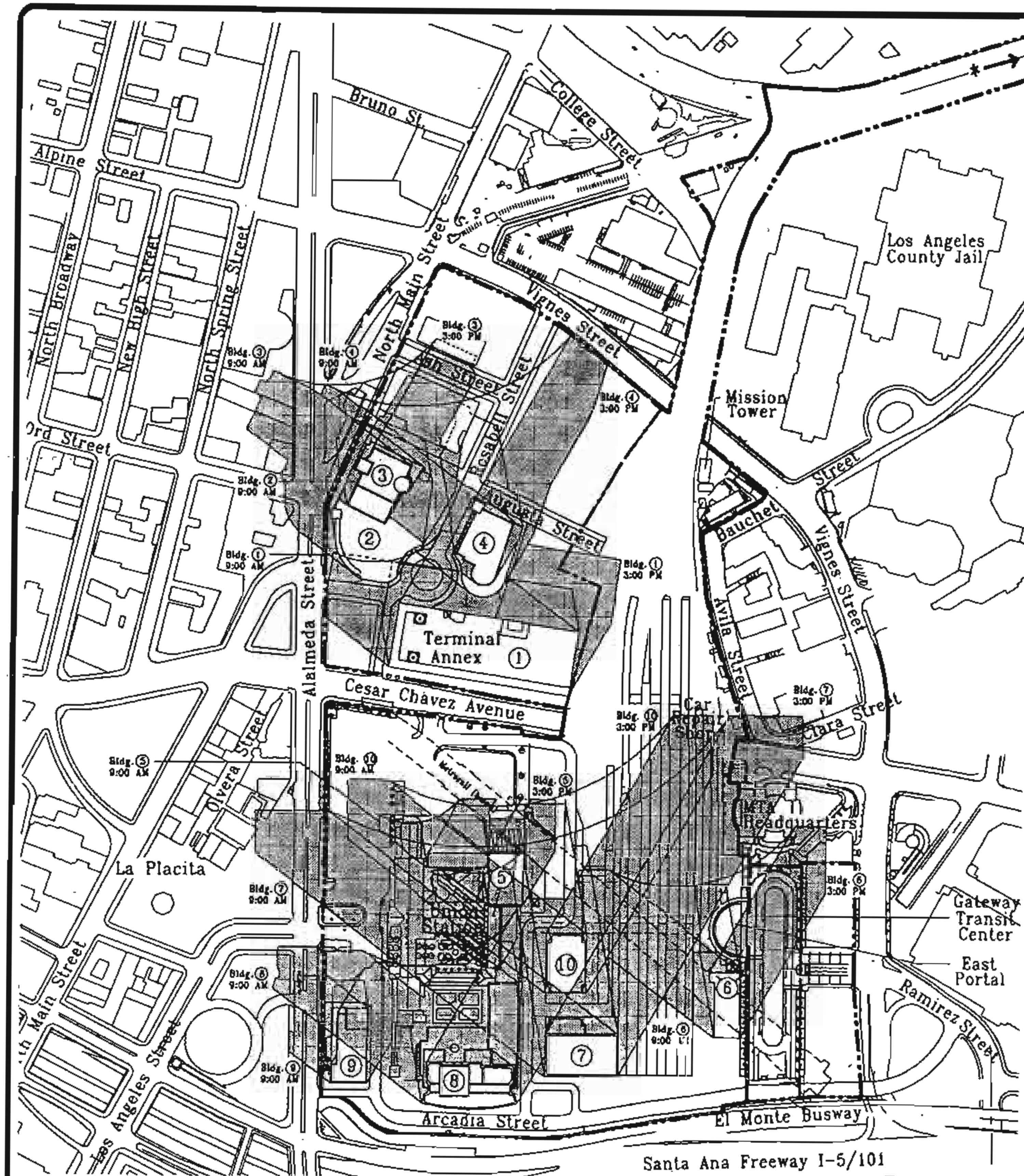
Winter Solstice, December 21: 9:00 a.m., 12:00 p.m. and 3:00 p.m.

New Development on Terminal Annex Property (Buildings 1-4)

As shown in Figure 38, low-sun (winter) morning shadows from Buildings 2 and 3 would be cast on public right-of-ways (Alameda Street, North Main Street, and Ord Street) and on four off-site properties (retail uses, public parking, and a LADOT maintenance yard) to the west across Alameda Street. Otherwise, winter morning shadows from new on-site structures on the Terminal Annex property would be cast in a westerly direction onto on-site project structures, right-of-ways, and open space areas. Similarly, winter noon and late afternoon shadows would be limited to on-site buildings, right-of-ways and open space areas, with the exception of noon shading off-site on North Main Street. Based on their extent and duration, winter solstice shadows would have a less than significant impact on surrounding buildings and right-of-ways, but impacts to on-site open spaces are considered significant.

New Development on Union Station Property (Buildings 5-10)

As shown in Figure 39, winter morning shadows from Buildings 7 and 8 would be cast on public right-of-ways to the west (Alameda, Los Angeles, and Olvera Streets), and on the retail buildings, public spaces, and surface parking lots comprising Olvera Street. Since public use of the Olvera Street area occurs primarily from late morning through early evening, impacts would be considered less than significant because project shadows would have passed over by these hours. Otherwise, winter morning and noon shadows from new on-site structures on the Union Station property would be cast in a westerly direction onto on-site project structures, open space areas, and existing trackage. A significant on-site impact would result from shading of southern facing design elements of the Union Station Passenger Terminal (patio, south facing Main Concourse windows). These important design elements of the Union Station Passenger Terminal have historically been sunny and would be shaded for substantial periods by Phase I development. A significant impact would also result due to shading of new open spaces, plaza areas and other pedestrian intensive uses.



Phase I New Buildings

Building	Shadow Lengths 9:00 AM	12:00 PM	3:00 PM
(1) Government Office 4 Stories - 80 ft. height	241 ft.	125 ft.	241 ft.
(2) Commercial Office 4 Stories - 60 ft. height	181 ft.	94 ft.	181 ft.
(3) Commercial Office 8 Stories - 120 ft. height	361 ft.	188 ft.	361 ft.
(4) Commercial Office 12 Stories - 180 ft. height	542 ft.	282 ft.	542 ft.
(5) Retail 3 Stories - 60 ft. height	181 ft.	94 ft.	181 ft.
(6) Government Office 11 Stories - 160 ft. height	482 ft.	251 ft.	482 ft.
(7) Commercial Office 25 Stories - 350 ft. height	1054 ft.	548 ft.	1054 ft.
(8) Government Office 12 Stories - 180 ft. height	542 ft.	282 ft.	542 ft.
(9) Museum 3 Stories - 50 ft. height	151 ft.	78 ft.	151 ft.
(10) Government Office 16 Stories - 240 ft. height	723 ft.	376 ft.	723 ft.

LEGEND

* Note: Project and Specific Plan areas including railroad right-of-way extending to the Los Angeles River.

Source: E2 Architects

CORDOBA CORPORATION
EPA ENVIRONMENTAL PLANNING ASSOCIATES

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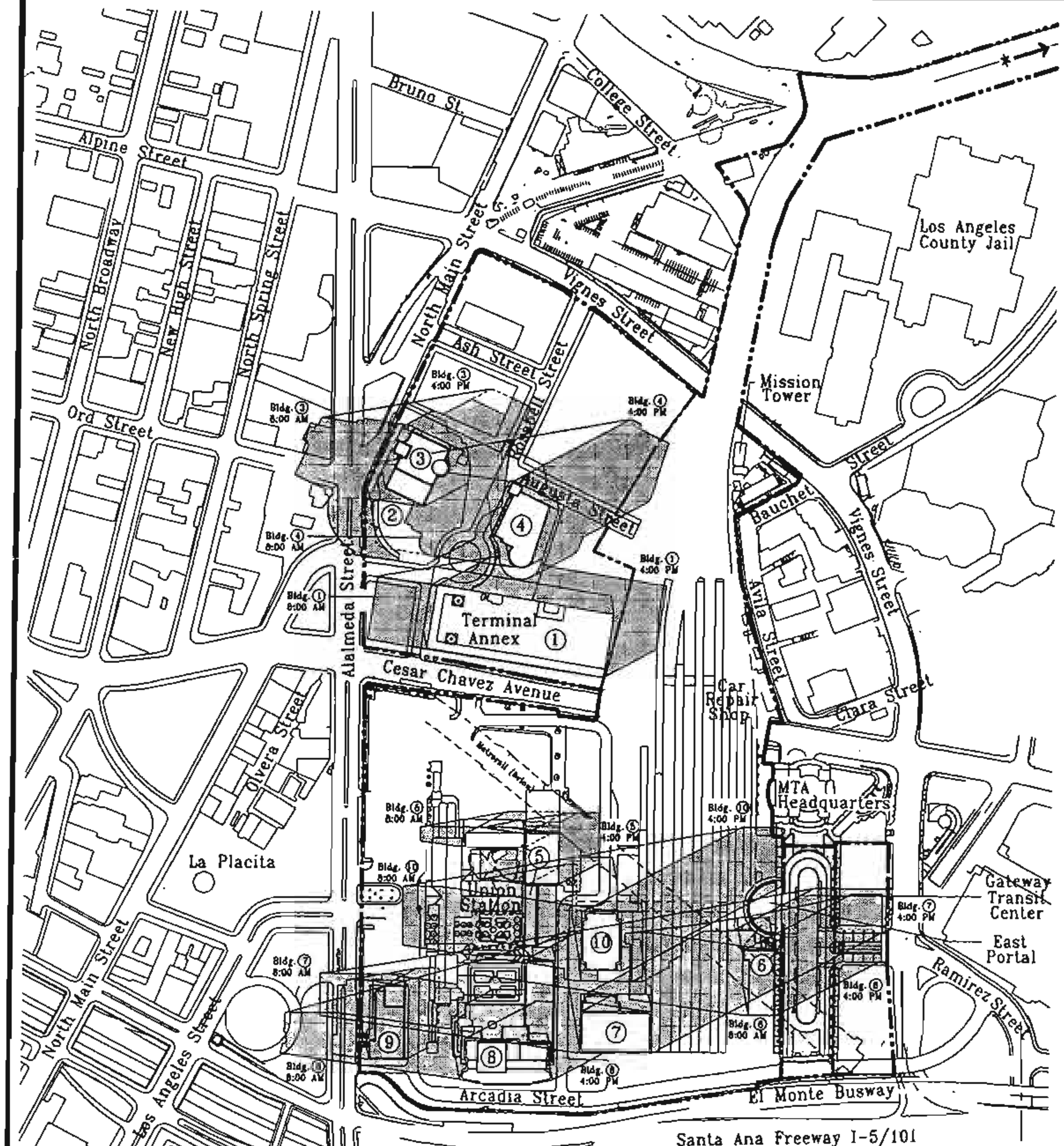
SCALE IN FEET

Figure 39
SHADOW STUDY FOR DECEMBER 21 (WINTER SOLSTICE), PHASE I



Phase I New Buildings		Shadow Lengths 8:00 AM	12:00 PM	4:00 PM
1	Government Office 4 Stories - 80 ft. height	176 ft.	54 ft.	176 ft.
2	Commercial Office 4 Stories - 60 ft. height	132 ft.	40 ft.	132 ft.
3	Commercial Office 8 Stories - 120 ft. height	263 ft.	81 ft.	263 ft.
4	Commercial Office 12 Stories - 180 ft. height	395 ft.	121 ft.	395 ft.
5	Retail 3 Stories - 60 ft. height	132 ft.	40 ft.	132 ft.
6	Government Office 11 Stories - 160 ft. height	351 ft.	108 ft.	351 ft.
7	Commercial Office 25 Stories - 350 ft. height	768 ft.	235 ft.	768 ft.
8	Government Office 12 Stories - 180 ft. height	395 ft.	121 ft.	395 ft.
9	Museum 3 Stories - 50 ft. height	110 ft.	34 ft.	110 ft.
10	Government Office 16 Stories - 240 ft. height	527 ft.	161 ft.	527 ft.

LEGEND

*→ Note: Project and Specific Plan areas including railroad right-of-way extending to the Los Angeles River.

Source: E2 Architects

CORDOBA CORPORATION
EPA ENVIRONMENTAL PLANNING ASSOCIATES

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SCALE IN FEET

Figure 40
SHADOW STUDY FOR SEPTEMBER/MARCH (FALL/SPRING EQUINOX), PHASE I

Low-sun late afternoon shading from Buildings 6, 7, and 10 would be cast in an easterly direction onto one public right-of-way (Avila Street) and off-site properties (the new LACMTA Headquarters, and two industrial properties across Avila Street) to the east. These commercial and industrial land uses are not typically sensitive to shade/shadows, as they are not pedestrian-oriented or residential in nature. Late afternoon shadows from all new development on the Union Station property would also fall onto on-site structures, public spaces, and existing rail platforms and trackage. Overall, based on their extent and duration, winter solstice shadows from new Union Station development would have a less than significant impact on surrounding buildings and right-of-ways.

Fall/Spring Equinox, September 21/March 21: 8:00 a.m., 12:00 p.m. and 4:00 p.m.

New Development on Terminal Annex Property (Buildings 1-4)

As shown in Figure 40, morning shadows from Buildings 2, 3, and 4 would be cast on Alameda, Ord and North Main Streets, and on two off-site retail properties to the west across Alameda Street. Based on their extent and duration, these off-site impacts are considered less than significant. Otherwise, spring/fall equinox morning shadows from new on-site structures on the Terminal Annex property would be cast in a westerly direction onto on-site project structures, right-of-ways, and open space areas. Similarly, noon and late afternoon shadows would be limited to on-site buildings, right-of-ways, and open space areas, with the exception of noon shading off-site on North Main Street. Shading of on-site open spaces is considered significant.

New Development on Union Station Property (Buildings 5-10)

As shown in Figure 40, spring/fall equinox morning shadows from Buildings 7 and 8 would be cast on a public right-of-way to the west (Alameda Street) and on open spaces and parking lots adjacent to Olvera Street. Public spaces and retail areas within the Olvera Street area would not be cast in shadows and off-site impacts are considered less than significant. Otherwise, morning and noon shadows from new on-site structures on the Union Station property would be cast in a westerly direction onto on-site project structures, existing trackage, and open space areas. A significant on-site impact would result from shading of southern facing design elements of the Union Station Passenger Terminal (patio, south facing Main Concourse windows). These important design elements of the Union Station Passenger Terminal have historically been sunny and would be shaded for substantial periods by Phase I development. A significant impact would also result due to shading of new open spaces, plaza areas, and other pedestrian intensive uses.

Low-sun late afternoon shading from Buildings 6 and 7 would be cast in an easterly direction onto the new LACMTA Headquarters and the Gateway Intermodal Transit Center. Affected land uses are not considered sensitive to shade/shadows and off-site impacts are less than significant. Late afternoon shadows from new development on the Union Station property would also fall onto on-site structures, public spaces, and existing rail platforms and trackage resulting in a significant on-site impact.

Summer Solstice, June 21: 8:00 a.m., 12:00 p.m. and 4:00 p.m.

New Development on Terminal Annex Property (Buildings 1-4)

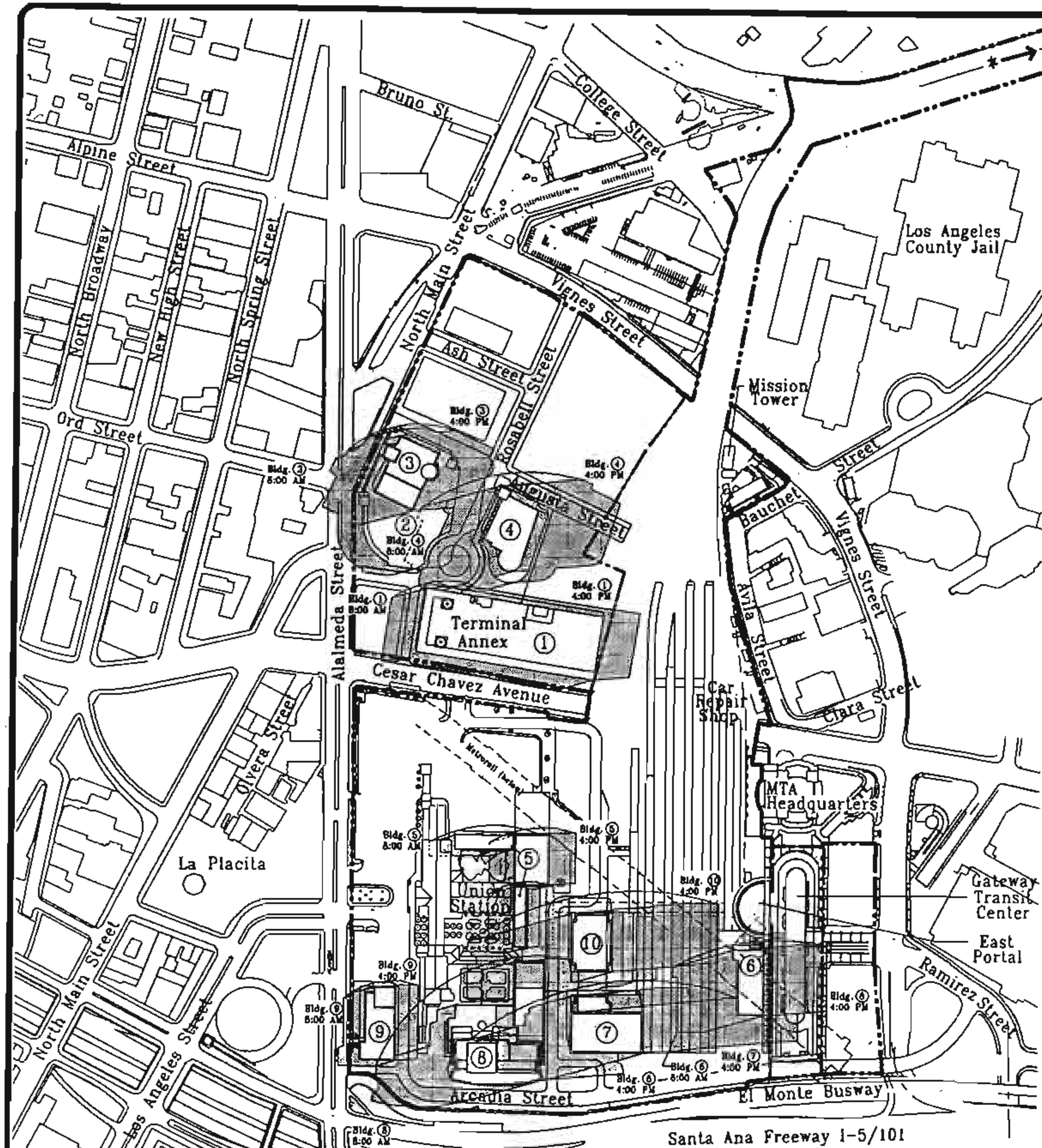
As shown in Figure 41, high-sun (summer) morning shadows from Building 2 would be cast on a small portion of Alameda Street and North Main Street and on one off-site retail property to the west across Alameda Street. These off-site impacts are considered less than significant. Otherwise, summer morning shadows from new on-site structures on the Terminal Annex property would be cast in a westerly direction onto on-site project structures, right-of-ways, and open space areas. Similarly, summer noon and late afternoon shadows would be limited to on-site buildings, right-of-ways, and open space areas, with the exception of noon shading from Building 3 off-site onto North Main Street. Impacts to on-site open spaces are minimized during this period and are considered less than significant due to the limited areas of shading compared to all other times of the year. Additionally, shading of open space areas during hot summer months may be desirable to users.

New Development on Union Station Property (Buildings 5-10)

As shown in Figure 41, summer solstice morning shadows from Buildings 8 and 9 would be cast on Alameda Street to the west. Otherwise, morning and noon shadows from new on-site structures on the Union Station property would be cast in a westerly direction onto on-site project structures, existing trackage, and open space areas.

Low-sun late afternoon shading from Buildings 6 and 7 would be cast in an easterly direction onto the new Gateway Intermodal Transit Center. Late afternoon shadows from new development on the Union Station property would also fall onto on-site structures, public spaces, and existing rail platforms and trackage.

Based on their extent and duration, summer solstice shadows from new Terminal Annex and Union Station development would have a less than significant impact on surrounding buildings, public spaces, and rights-of-way. Impacts to on-site open spaces are minimized during this period and are considered less than significant due to the limited areas of shading compared to all other times of the year. Additionally, shading of open space areas during hot summer months may be desirable to users.



Phase I New Buildings		8:00 AM	12:00 PM	4:00 PM
1	Government Office, 4 Stories - 80 ft. height	106 ft.	15 ft.	106 ft.
2	Commercial Office, 4 Stories - 60 ft. height	79 ft.	11 ft.	79 ft.
3	Commercial Office, 8 Stories - 120 ft. height	159 ft.	22 ft.	159 ft.
4	Commercial Office, 12 Stories - 180 ft. height	238 ft.	33 ft.	238 ft.
5	Retail, 3 Stories - 60 ft. height	79 ft.	11 ft.	79 ft.
6	Government Office, 11 Stories - 160 ft. height	211 ft.	29 ft.	211 ft.
7	Commercial Office, 25 Stories - 350 ft. height	461 ft.	64 ft.	461 ft.
8	Government Office, 12 Stories - 180 ft. height	237 ft.	33 ft.	237 ft.
9	Museum, 3 Stories - 50 ft. height	66 ft.	9 ft.	66 ft.
10	Government Office, 16 Stories - 240 ft. height	316 ft.	44 ft.	316 ft.

Shadow Lengths

LEGEND

*→ Note: Project and Specific Plan areas including railroad right-of-way extending to the Los Angeles River.

Source: E2 Architects

CORDOBA CORPORATION
EPA ENVIRONMENTAL PLANNING ASSOCIATES

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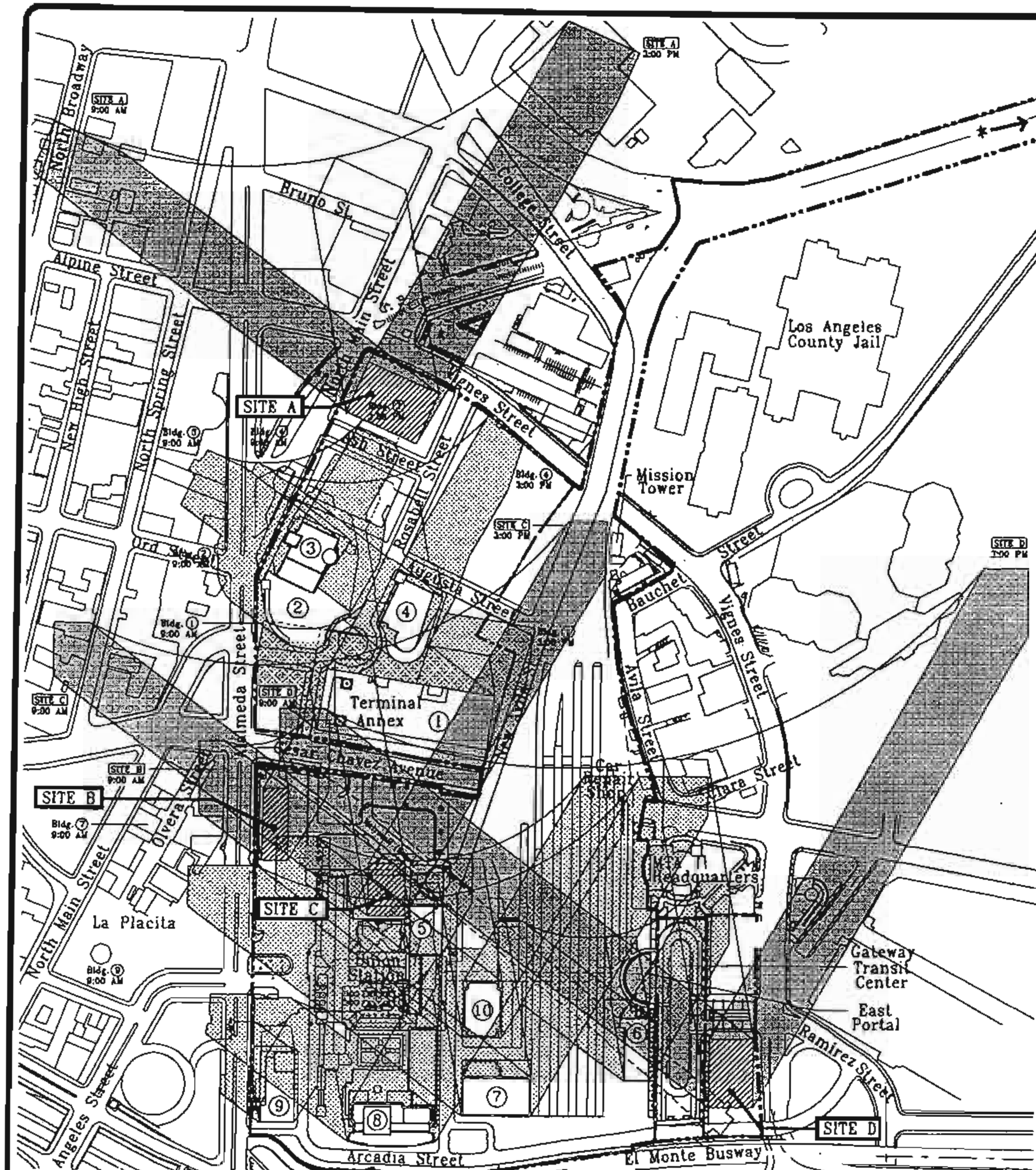
Figure 41
SHADOW STUDY FOR JUNE 21 (SUMMER SOLSTICE), PHASE I



Phase II Planning Areas		Shadow Lengths 9:00 AM	12:00 PM	3:00 PM
SITE A	Mixed-Use / Office Area Height Limit - 400 ft.	1204 ft.	627 ft.	1204 ft.
SITE B	Historic Area Height Limit - 80 ft.	241 ft.	125 ft.	241 ft.
SITE C	Mixed-Use / Office Area Height Limit - 400 ft.	1204 ft.	627 ft.	1204 ft.
SITE D	Transit Area Height Limit - 550 ft.	1656 ft.	862 ft.	1656 ft.

LEGEND

TEST SITE

PHASE I BLDG. SHADOW PATH

*⟶ Note: Project and Specific Plan areas including railroad right-of-way extending to the Los Angeles River.

Source: E2 Architects

CORDOBA CORPORATION

EPA ENVIRONMENTAL PLANNING ASSOCIATES

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SCALE IN FEET

Figure 42
SHADOW STUDY FOR DECEMBER 21 (WINTER SOLSTICE), BUILDOUT PHASE TEST SITE

Buildout Phase Impacts

Approximately 7,500,000 additional square feet of new development are proposed on the ADP area site during the Buildout Phase of the ADP. Specific development characteristics, such as individual building locations, for the Buildout Phase have not been specified at this time. Development plans for the Buildout Phase would be regulated and limited by the requirements of the Specific Plan, which provides a range of uses, design guidelines, and height limits described in Section II, Project Description. Maximum height limits within each of the Planning Areas would be 400 feet for the Mixed-Use/Office Area, 550 feet for the Transit/Office Core Area, and 80 feet for the Historic Area. It is anticipated that 12 or more structures of varying heights could be developed at the Buildout Phase within the height limitations of the Specific Plan. Development would occur on the current locations of the Vehicle Maintenance Facility, fire station, and the northern surface parking lot on the Terminal Annex property; the portion of the existing surface parking lot nearest Cesar E. Chavez Avenue, over the railyard, and adjacent to the Gateway Intermodal Transit Center (which is currently under construction) on the Union Station property. Potential land uses include government and commercial offices, hotels, entertainment, and residential and retail space.

Since specific development plans are not available for the Buildout Phase, worst-case shade/shadow impact scenarios were projected by graphically positioning theoretical building locations within areas of the site where shadows could most impact potentially sensitive off-site and on-site uses. Four theoretical buildings and their locations are depicted in Figures 42 through 44:

- Site A would be located at the northwest corner of the Terminal Annex property and within the Mixed Use/Office Planning Area, with a building height of 400 feet above grade.

- Site B would be located at the northwest corner of the Union Station property and within the Historic Planning Area, with a building height of 80 feet above grade.

- Site C would be located immediately north of the existing Union Station Passenger Terminal and within the Mixed Use/Office Planning Area, with a building height of 400 feet above grade.

- Site D would be located at the southwest corner of the Union Station property and within the Transit/Office Core Area, with a building height of 550 feet.

Winter Solstice, December 21: 9:00 a.m., 12:00 p.m. and 3:00 p.m.

As shown in Figure 42, low-sun (winter) shadows from Site A on the Terminal Annex property would be cast in a westerly direction onto public right-of-ways (North Main Street, Alpine Street, Alameda Street, and North Broadway) and on several off-site retail and commercial properties across and in-between these streets. Winter noontime shadows from Site A would be limited to four lots to the north with either industrial uses or vacated buildings. Late afternoon winter shading from Site A would be cast across Vignes, College, and Rondout Streets, as well as on five industrial properties to the northeast. Based on the type of affected uses (non-residential; not pedestrian oriented) and the extent and duration of projected shading, winter solstice shadows from Site A would have a less than significant impact on surrounding buildings and right-of-ways. Winter solstice shadows would have no impact on on-site uses.

As shown in Figure 42, morning winter shadows from Building Site B on the Union Station property would be limited to a small section of Alameda Street and the Olvera Street area, with noon and late afternoon shading covering only a very small portion of on-site area to the north and east of Building Site B. Based on their extent and duration, winter solstice shadows from Site B would have a less than significant impact on surrounding buildings and right-of-ways, and on-site uses.

As shown in Figure 42, winter morning shadows from Building Site C on the Union Station property would be cast on Alameda Street, Olvera Street, Sunset Boulevard, North Main Street to the west, and on about six retail properties within and to the northwest of the area comprising Olvera Street. Because public use of the Olvera Street and other retail areas occurs primarily from late morning through early evening, such shading would be considered less than significant as all of the shadows from the building will have passed over by these hours. Otherwise, winter morning and noon shadows from Site C on the Union Station property would be cast in a westerly and northerly direction onto on-site project structures, right-of-ways, and open space areas. Winter late afternoon shading from Building Site C would be cast in an easterly direction onto on-site structures, right-of-ways, public spaces, and existing rail platforms and trackage. Winter solstice shadows from Site C would have a significant impact on on-site open spaces, plazas and pedestrian intensive uses. A significant impact would also result from the shading of design elements of the Union Station Passenger Terminal which have historically been sunny.

Morning winter shading from Building Site D on the Union Station property would fall in a westerly direction onto an on-site roadway (Cesar E. Chavez Avenue), existing and proposed structures, trackage, and the Gateway Intermodal Transit Center. As shown in Figure 44, no off-site properties would be impacted. Noontime winter shadows would be cast in a northerly direction onto the Intermodal Transit Facility, the under-construction LACMTA Headquarters, and onto a warehouse facility across Clara Street. Late afternoon winter shadows from Site D would be cast off-site onto

Ramirez Street, Vignes Street, Lyon Street, Cesar E. Chavez Avenue, and on two off-site municipal storage and maintenance facilities. These off-site uses are not considered sensitive to such shading, and the resulting impacts are considered less than significant. Winter solstice shadows from Site D could have a significant impact on on-site open spaces, plazas and pedestrian intensive areas.

Fall/Spring Equinox, September 21/March 21: 8:00 a.m., 12:00 p.m. and 4:00 p.m.

As shown in Figure 43, fall/spring equinox shadows from Site A on the Terminal Annex property would be cast in a westerly direction onto public right-of-ways (North Main Street, Alameda Street, North Spring Street, and New High Street) and on several off-site retail, governmental, warehouse, and parking lot properties across and in-between these streets. Fall/spring noontime shadows from Site A would be limited to four lots to the north, with either industrial uses or vacated buildings. Late afternoon spring/fall equinox shading from Site A would be cast across Vignes and College Streets, on two industrial properties to the northeast, and on a very small portion of the Los Angeles County Jail property. Based on the affected uses, and the extent and duration of projected shading, fall/spring equinox shadows from Site A would have a less than significant impact on surrounding buildings and right-of-ways. Fall/spring equinox shadows would have no impact on on-site uses.

As shown in Figure 43, morning fall/spring equinox shadows from Building Site B on the Union Station property would be limited in the morning to a small section of Alameda Street and the Olvera Street area, with noon and late afternoon shading covering only a very small portion of on-site area to the north and east of Building Site B. Based on their extent and duration, fall/spring equinox shadows from Site B would have a less than significant impact on surrounding buildings and right-of-ways, and on-site uses.

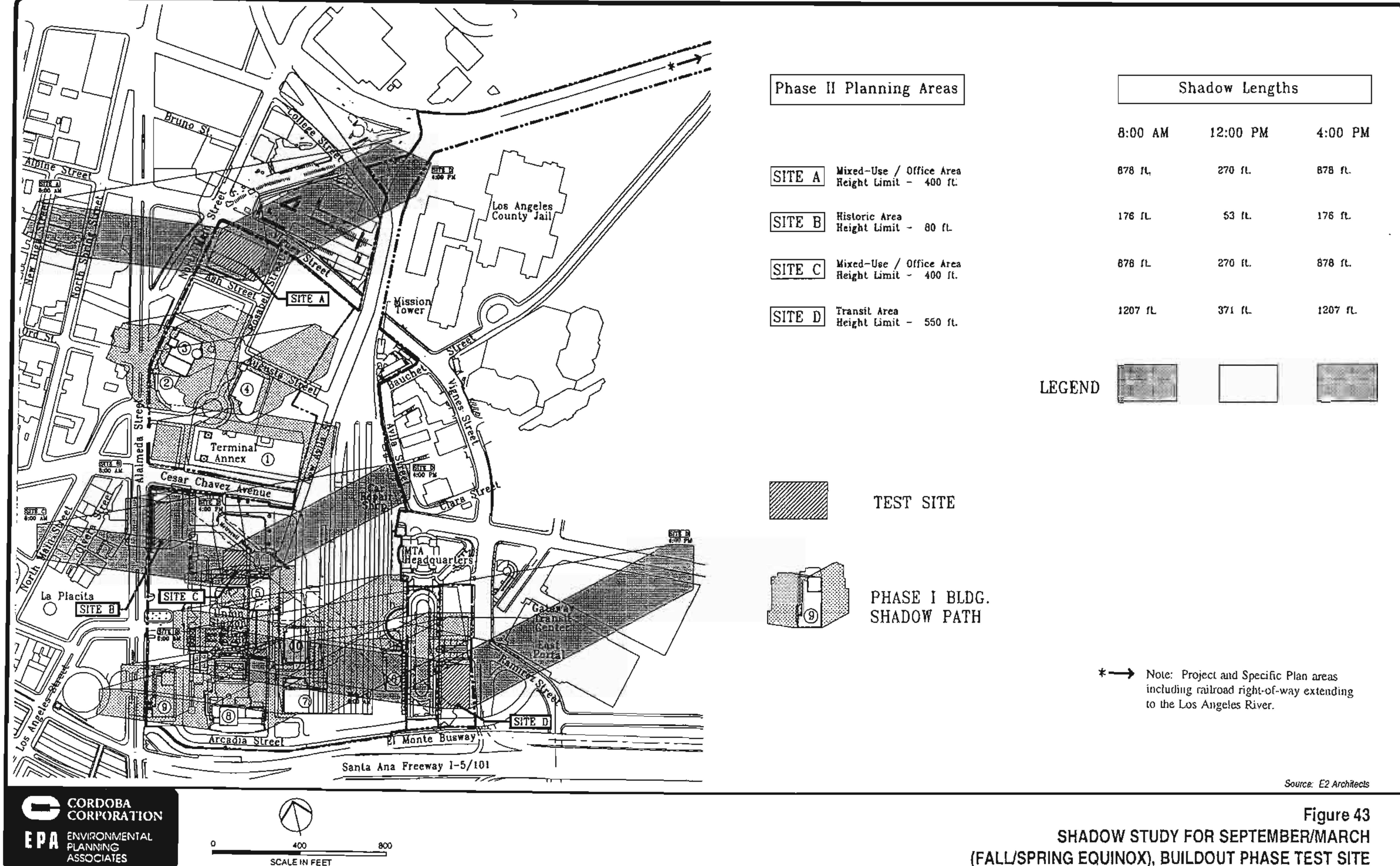
As shown in Figure 43, fall/spring morning shadows from Building Site C on the Union Station property would be cast across Alameda Street, Olvera Street, and North Main Street to the west, and on about six retail properties within the area comprising Olvera Street. Because public use of the Olvera Street and other retail areas occurs primarily from late morning through early evening, such shading would be considered less than significant. Otherwise, fall/spring morning and noon shadows from Site C on the Union Station property would be cast in a westerly and northerly direction onto on-site project structures, right-of-ways, and open space areas. Fall/spring late afternoon shading from Building Site C would be cast in an easterly directly onto on-site structures, right-of-ways, public spaces, existing rail platforms and trackage, and on one off-site warehouse property across Avila Street. Overall, based on their extent and duration, fall/spring equinox shadows from Site C would have a less than significant impact on surrounding buildings and right-of-ways. Fall/spring equinox shadows from Site C would have a significant impact on on-site open spaces, plazas, and pedestrian intensive uses. A significant impact would also result from shading of design elements of the Union Station Passenger Terminal which have historically been sunny. Morning fall/spring equinox shading from Building Site D on the Union Station property would fall in a westerly direction onto on-site roadways, existing and proposed structures, trackage, and the Gateway Intermodal Transit Center. As with Phase I development, such shading would result in a significant on-site impact to historically important southern facing design elements of the Union Station Passenger Terminal. As shown in Figure 43, no off-site properties would be impacted. Noontime fall/spring equinox shadows would be cast in a northerly direction onto the Intermodal Transit Facility, and the under-construction LACMTA Headquarters Building. Late afternoon fall/spring equinox shadows from Site D would be cast off-site onto Ramirez Street, Vignes Street, Cesar E. Chavez Avenue, and on one off-site retail and two off-site municipal storage and maintenance facilities. These off-site uses are not considered sensitive to such shading, and the resulting impacts are considered less than significant.

Summer Solstice, June 21: 8:00 a.m., 12:00 p.m. and 4:00 p.m.

As shown in Figure 44, high-sun (summer) morning shadows from Building Site A on the Terminal Annex property would be cast on public right-of-ways (Alameda Street and North Main Street) and on two off-site properties (retail uses and public parking) to the west across these streets. Otherwise, summer morning shadows from Site A on the Terminal Annex property would be cast in a westerly direction onto on-site project structures, right-of-ways, and open space areas. Summer noon-time shadows would be limited to small portions of North Main Street and Vignes Street. Late afternoon summer shading would be cast off-site onto Vignes Street and onto an industrial property to the north. Otherwise, all other late afternoon shading would be limited to minimal shadows cast onto on-site properties. On-site and off-site impacts from Site A are considered less than significant.

As shown in Figure 44, morning shadows from Building Site B on the Union Station property would be limited to a small section of Alameda Street, with noon and late afternoon shading covering only a very small portion of on-site area to the north and east of Building Site B. On-site and off-site impacts from Site B are considered less than significant.

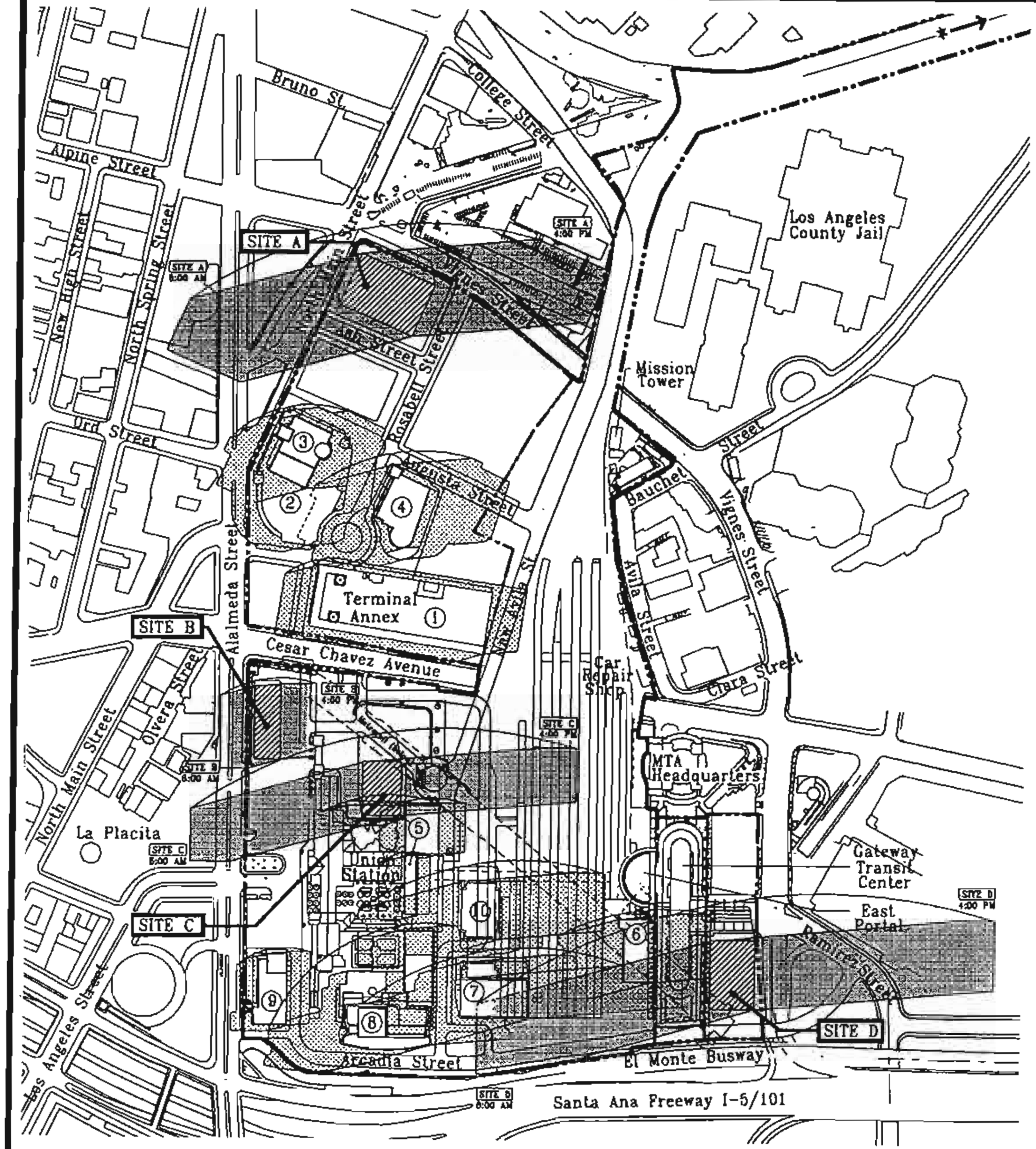
As shown in Figure 44, summer morning shadows from Building Site C on the Union Station property would be cast on Alameda Street to the west and on a small portion of the public space of Olvera Street. Because public use of the Olvera Street area occurs primarily from late morning through early evening, such shading would be considered less than significant. Otherwise, summer morning and noon shadows from Site C on the Union Station property would be cast in a westerly and northerly direction onto on-site project structures and open space areas. Summer late afternoon shading from Building Site C would be cast in an easterly direction onto on-site structures, public spaces, and existing rail platforms and trackage. Summer solstice shadows from Building Site C would have a significant impact on on-site plazas, open spaces and pedestrian intensive uses, as well as design elements of the Union Station Passenger Terminal which have historically been sunny.



CORDOBA CORPORATION

EPA ENVIRONMENTAL PLANNING ASSOCIATES

Figure 43
SHADOW STUDY FOR SEPTEMBER/MARCH (FALL/SPRING EQUINOX), BUILDOUT PHASE TEST SITE



Phase II Planning Areas

		Shadow Lengths 8:00 AM	12:00 PM	4:00 PM
SITE A	Mixed-Use / Office Area Height Limit - 400 ft.	529 ft.	74 ft.	529 ft.
SITE B	Historic Area Height Limit - 80 ft.	105 ft.	15 ft.	105 ft.
SITE C	Mixed-Use / Office Area Height Limit - 400 ft.	529 ft.	74 ft.	529 ft.
SITE D	Transit Area Height Limit - 550 ft.	728 ft.	102 ft.	728 ft.

LEGEND

TEST SITE

PHASE I BLDG. SHADOW PATH

*→ Note: Project and Specific Plan areas including railroad right-of-way extending to the Los Angeles River.

Source: E2 Architects

CORDOBA CORPORATION
EPA ENVIRONMENTAL PLANNING ASSOCIATES

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SCALE IN FEET

Figure 44
SHADOW STUDY FOR JUNE 21 (SUMMER SOLSTICE), BUILDOUT PHASE TEST SITE

Morning summer shading from Building Site D on the Union Station property would fall in a westerly direction onto an on-site roadway (Arcadia Street), existing trackage, and the Gateway Intermodal Transit Center. As shown in Figure 44, no off-site properties would be impacted. Noontime summer shadows would be cast in a northerly direction onto the Intermodal Transit Facility, and no off-site structures or spaces would be impacted. Late afternoon shadows would be cast off-site onto Ramirez Street and Arcadia Street, as well as on one off-site retail property and one government office property. These uses are not considered sensitive to such limited shading, and the resulting impacts are considered less than significant.

Other Buildout Phase Impacts

Depending on the ultimate number, size, and location of buildings developed under the Buildout Phase of the ADP, other off-site properties and/or right-of-ways not described herein could be impacted by shadows. However, four test sites which analyzed the maximum allowable building heights under the ADP demonstrated that potential impacts to off-site properties would be less than significant. Impacts will be conclusively determined upon design and placement of buildings during the Buildout Phase.

In addition, the collective on-site shade/shadow impacts from Buildout Phase in conjunction with Phase I development would be significant with respect to proposed open spaces and plaza areas; while collective off-site shade/shadow impacts could potentially be significant with respect to existing open spaces and plaza areas. Buildout Phase development could also have a significant impact upon proposed on-site residential and hotel uses developed during Buildout Phase, depending on their positioning relative to other proposed structures. Significant impacts due to shading of the Union Station Passenger Terminal south facing main concourse windows and patio would continue to occur with development of the Buildout Phase.

Summary of Phase I Impacts

Impact K.2.1 Phase I development would have a significant on-site impact due to shading of the south facing main concourse windows and patio area of the Union Station Passenger Terminal.

Impact K.2.2 Phase I development would have a significant impact due to shading of new open spaces, plaza areas and other pedestrian intensive uses.

Summary of Buildout Phase Impacts

Impact K.2.3 Depending on the ultimate number, size, and location of buildings developed under Buildout Phase of the ADP, other off-site properties and/or rights-of-way not described herein could be impacted by shadows. However, four test sites analyzing the maximum allowable building heights under the ADP showed that potential impacts to off-site properties would be less than significant. Impacts will be conclusively determined upon design and placement of buildings during the Buildout Phase.

Impact K.2.4 On-site shade/shadow impacts from the Buildout Phase, in conjunction with Phase I development, would be significant with respect to shading of the Union Station Passenger Terminal main concourse windows and patio area.

Impact K.2.5 Collective on-site shade/shadow impacts from the Buildout Phase in conjunction with Phase I development would be significant with respect to proposed open spaces and plaza areas.

Impact K.2.6 The collective off-site shade/shadow impacts from the Buildout Phase in conjunction with Phase I development could potentially be significant, with respect to existing open spaces and plaza areas.

Impact K.2.7 Buildout Phase development would also have a potentially significant impact upon proposed on-site residential and hotel uses developed during Buildout Phase, depending on their positioning relative to other proposed structures.

CUMULATIVE IMPACTS

With respect to shade/shadow impacts, only one of the 56 identified related projects is located in close enough proximity to the project site to potentially compound the impacts of the project itself. Most other related projects are spread throughout the downtown area and neighboring environs; however the project most likely to contribute to cumulative shading impacts is Related Project No. 15, Phase I of the Gateway Center project. This project is adjacent to the ADP area, and an environmental review for this development was previously conducted through a Draft and Final EIR prepared and certified in 1992. This building, which, when complete, will contain 628,000 square feet of office space and stand 26 stories tall, is currently under construction and will house LACMTA Headquarters. Because of its size and adjacency to the proposed project, the Gateway Center project could increase the amount of shadows cast from this area. However, no significant adverse impacts are expected from Phase I of the Gateway Center project, as noted in its EIR.[1] Sensitive pedestrian or residential uses off-site would not be shaded by this project for any substantial period of time. Open space uses within the ADP would also not be significantly impacted by the Gateway Center project as the building is located to the northeast and shadows cast by the structure onto the ADP site would fall primarily on rail trackage and would be limited to the morning hours. Additionally, because of the related project's location to the northeast of the Union Station Passenger Terminal, significant shading impacts to the south facing main concourse windows and patio would not occur. As such, significant cumulative effects would be limited to the impacts of the ADP itself. No additional cumulative impacts would be expected as a result of related projects.

MITIGATION MEASURES

Shadow impacts are directly attributable to the building height, massing, and location. Although no significant off-site impacts are associated with Phase I development, a significant unavoidable on-site impact to south-facing Union Station Passenger Terminal design elements is anticipated as well as to on-site open spaces and plazas. Furthermore, the project Buildout Phase may potentially produce additional impacts to both on- and off-site uses. Impacts will be conclusively determined during the design phase of the Buildout Phase, when design and placement of buildings will be finalized. At that time, additional review of specific on-site development shall be conducted to determine any design features or modifications which may reduce impacts to surrounding buildings, on-site residential and hotel developments, as well as open spaces and plaza areas.

ADVERSE EFFECTS

Significant on-site shade/shadow impacts would occur from Phase I development. Additionally, the Buildout Phase would continue to have a significant impact on-site, and may potentially impact off-site areas. The implementation of Buildout Phase mitigation should reduce the impacts, especially to on-site uses; however, significant impacts may still occur. The extent of such impacts should be considered on a building-by-building basis during the design phase of Buildout Phase.

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[1] State Clearinghouse Number 92031008, SCRTD Union Station Headquarters Joint Development Project.

SECTION IV.L.1
FIRE PROTECTION

ENVIRONMENTAL SETTING

Available Service

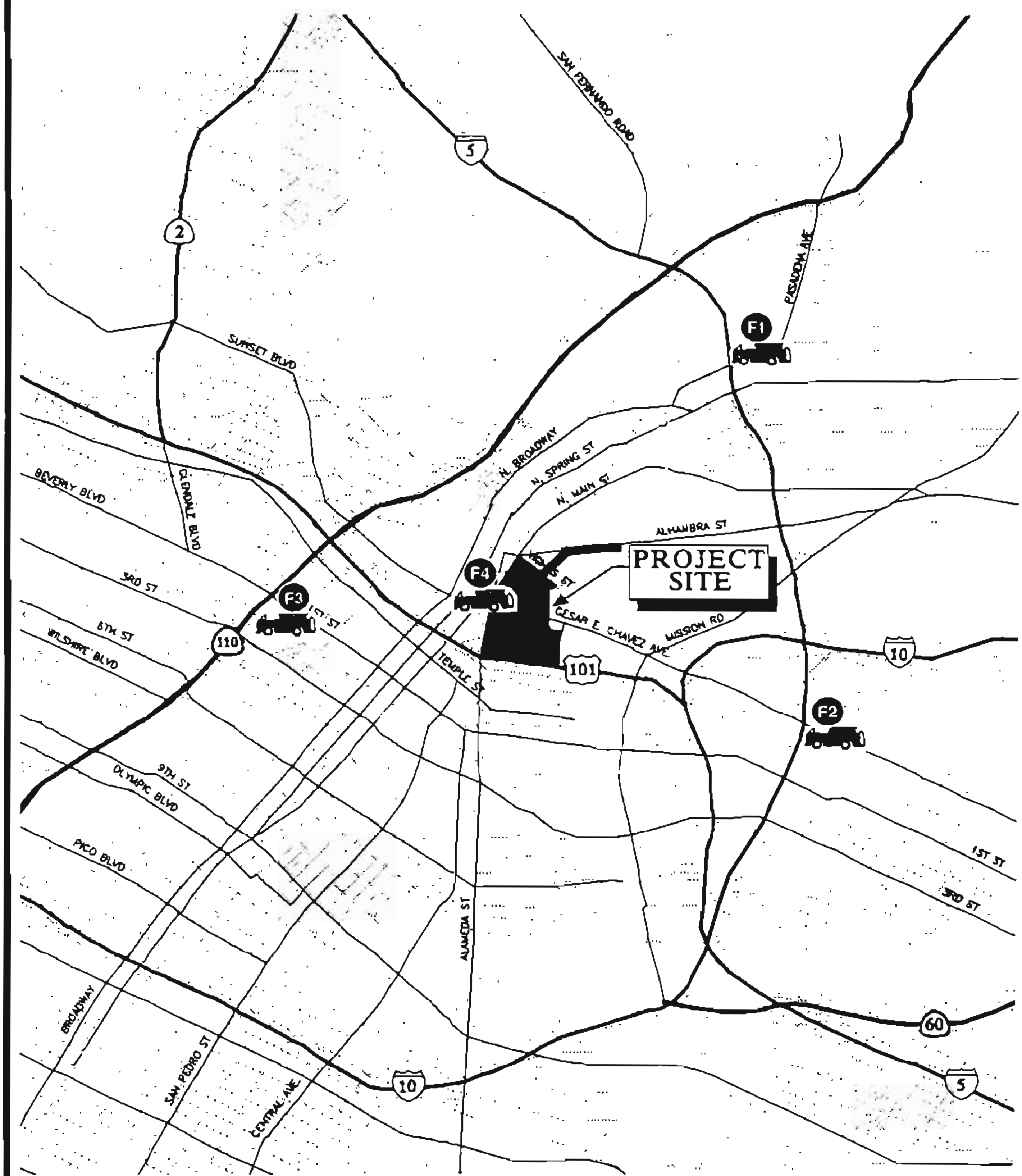
Fire protection and emergency services for the proposed project vicinity are provided by the Los Angeles City Fire Department (LAFD). These services are provided as directed by the Fire Protection and Prevention Plan (FPPP), an element of the General Plan of the City of Los Angeles (C.P.C. 19708). The FPPP is intended to provide guidance to various City departments and government agencies which operate fire protection facilities within the City. The FPPP also establishes standards for the distribution, design, construction, and location of fire protection facilities, including systems incorporated into private developments. These standards specify fire flow criteria, minimum distances to fire stations, public and private hydrant specification, and the location criteria and access provisions for fire fighting vehicles and personnel.

The LAFD operates four Task Force Stations[1] (Station Nos. 1-4) within the general project site vicinity, all of which could provide response. Fire Station No. 4, located at 800 North Main Street, is presently within the boundaries of the proposed project site and is situated such that the maximum distance between Station No. 4 and any given development area within the proposed project site does not exceed 2,000 feet. Fire Station Nos. 1, 2, and 3 are each located within a four-mile radius of the project site. Figure 45 shows the location of existing fire stations that would respond to emergency incidents on the proposed project site.

Station information, including address, type of emergency services, equipment, and staffing for each of the four stations are presented below:

Distance	Station ID	Station Staff and Services
2,000 feet or less (<0.38 miles)	Station No. 4 800 North Main Street	· TFS - Truck & Engine Company · Hazardous Material Squad · Staffing - 14
3.0 miles	Fire Station No. 3 108 North Fremont Avenue	· TFS - Truck & Engine Company · Paramedic and EMT Ambulance · Division One Headquarters · Staffing - 16
3.1 miles	Fire Station No. 2 1962 East Brooklyn Avenue	· TFS - Truck & Engine Company · Paramedic Ambulance · Staffing - 12
3.5 miles	Fire Station No. 1 2230 Pasadena Avenue	· TFS - Truck & Engine Company · Paramedic Ambulance · Staffing - 12

[1] A Task Force Station (TFS) is equipped with one truck company and one engine company.



Source: Cordoba Corporation

CORDOBA CORPORATION

EPA ENVIRONMENTAL PLANNING ASSOCIATES

0 2000 4000
SCALE IN FEET

Figure 45
FIRE STATION LOCATIONS

At the present time, there are no immediate plans to increase Fire Department staffing or resources in those areas which would serve the proposed project.

As presented in Table 111, these four fire stations collectively responded to 15,861 emergency incidents during the 1992/1993 period. Approximately 6.4 percent of the emergency incidents were structure fires, 10.1 percent were non-structure fires, 31.4 percent were medical emergencies, and 52.2 percent were "other" fire related responses. Emergency hours worked by the combined staff of the four fire stations totalled 5,587.19 hours.

TABLE 111
ENGINE COMPANY AND LIGHT FORCE RESPONSES TO EMERGENCY INCIDENTS BY FIRE STATION
1992/1993[1]

Company	Total Responses	Structure Fires	Non-struct Fires	Medical Emergency Services	Other Fire Response	Emergency Hours Worked
Station No. 1						
Engine Co.	2,249	110	339	797	1,003	805.07
Light Force	862	94	147	120	501	392.08
Total	3,111	204	486	917	1,504	1,197.15
Station No. 2						
Engine Co.	3,417	105	326	1,282	1,704	979.33
Light Force	1,222	102	136	253	731	435.10
Total	4,639	207	462	1,535	2,435	1,414.43
Station No.3						
Engine Co.	3,114	190	239	1,167	1,518	1,063.17
Light Force	1,451	180	99	180	992	570.27
Total	4,565	370	338	1,347	2,510	1,633.43
Station No. 4						
Engine Co.	2,619	119	222	1,036	1,242	910.83
Light Force	927	110	91	144	582	431.35
Total	3,546	229	313	1,180	1,824	1,342.18
TOTAL	**15,861**	**1,010**	**1,599**	**4,979**	**8,273**	**5,587.19**

[1] Los Angeles Fire Department Annual Report 1992/1993.

Adequacy Assessment Criteria

Adequacy of fire protection services for a given area is based on a combination of assessment factors including: 1) required fire-flow; 2) response distance from available fire service facilities; and 3) the Fire Department's judgement for anticipated frequency and nature of occurrences (also called "needs") in an area. In general, the required fire-flow is closely related to land use. The quantity of water necessary for fire protection varies with the type of development, life hazard, type and level of occupancy, and degree of fire hazard (such as may be related to the age of buildings or type of construction). City established fire-flow requirements vary from 2,000 gallons per minute (GPM) in low density areas, to 12,000 GPM in high-density commercial or industrial areas. A minimum residual water pressure of 20 pounds per square inch (PSI) is to remain in the water system, with the required gallons per minute flowing.

Response distance relates directly to the physical linear travel distance (i.e., miles) considered with the Fire Department's ability to successfully navigate the given accessways and adjunct circulation system. Roadway congestion and intersection level of service (see Traffic, Section IV.D.1) along the response route can affect the response distance when viewed in terms of travel time. Fire protection depends on the distance between the fire station and the affected site. Based on the required fire-flow of 12,000 GPM, the first-due Engine Company should be within 0.75 miles, and the first-due Truck Company within 1.0 mile of all areas of the proposed project site using available surface streets. The LAFD considers intersections that operate at Level of Service (LOS) E or F as potentially decreasing the level of fire protection and emergency services that can be provided by the Department.

Finally, the judgement of needs is often based on historic trends or comparisons from similar uses elsewhere. To some extent, these factors are inter-related and should be considered interactively.

In addition, it is important to recognize that the provision and strategic placement of on-site suppression systems within a project by a developer can influence overall needs assessment for fire protection services. For example, the incorporation of indoor/overhead sprinklers in residential and other buildings will greatly improve the effectiveness of fighting a fire by providing a quicker on-site response, by assisting in extinguishing a fire sooner (thus reducing the overall time commitment by the firefighters to that call) by minimizing property damage, and by providing added protection to occupants as they flee the structure.

ENVIRONMENTAL IMPACT

Threshold of Significance

For the purposes of this EIR, ability to adhere to the adequacy criteria considered along with the project's overall projected contribution of future needs, will be used to determine significance. The project's failure to meet any one criteria without providing compensating factors, or a project's contribution towards a significant increase in the number and frequency of projected emergency incidents, would be considered significant.

Phase I Impacts

Fire Flow

Existing land uses at the project site require a constant fire-flow of 12,000 GPM. Development of Phase I of the proposed project would be required to meet fire-flow criteria of 12,000 GPM at any block, along with all applicable state and local codes and ordinances, and guidelines found in the FPPP and the Safety Plan (both of which are elements of the General Plan of the City of Los Angeles (C.P.C. 19708)). According to the Water Services Section of the Los Angeles City Department of Water, the existing water system is adequate to meet the 12,000 GPM fire-flow requirement[1].

Response Distance

Fire Station No. 4, located on-site, is both a Truck Company and an Engine Company. Because it is situated directly within the project site boundaries and no more than 2,000 feet (0.38 miles) from any given project development area at its greatest distance, Station No. 4 meets the established first-due distance criteria for both an Engine Company (<0.75 miles) and Truck Company (<1.0 miles) in a 12,000 GPM fire-flow zone. Furthermore, Fire Stations Nos. 1, 2, and 3 are all located 3.0 to 4.0 miles from the proposed project site and, although not within the response distance criteria, are reasonably within adequate distance to serve as backup.

As previously indicated, overall street and intersection level of congestion and service will have an influence on the effectiveness of a given response distance. As shown in Table 41, in Section IV.D.1 (Traffic), future traffic conditions without Phase I of the proposed project would result in approximately three intersections operating at LOS E or F during the p.m. peak hour and one intersection at the a.m. peak hour. With development of Phase I and the proposed traffic mitigation,

1 Communication with Setsuko Enomoto, Water Services Representative, Water Services Section of the Los Angeles City Department of Water and Power, April 14, 1994.

only a total of two intersections during the p.m. peak hour would be at LOS E or F and one intersection during the a.m. peak hour. (Please see Section IV.D.1, Traffic, for a complete discussion of traffic impacts). However, only one of those intersections, the intersection of Alameda Street and North Main Street, which is almost adjacent to the Station No. 4, would likely impair response travel to other areas within the project site. If necessary, fire safety vehicles could access all areas of the project site via internal roadways, without having to travel through the intersection of Alameda and North Main.

Frequency and Nature of Calls

The frequency and nature of emergency calls in the future is difficult to project. Certainly, it is anticipated that as the intensity of activity within the project site increases, so will the potential incidence of emergency calls. However, the nature and type of uses proposed will also allow for increased surveillance opportunity in the future, as well as the development of structures which will incorporate current fire code construction. Through the course of site review and development, it is anticipated that the developer will coordinate with LAFD to ensure a balance of compensating factors are incorporated into project design to offset the potential for an increase in the frequency of incidents and to ensure that potential impacts to needs assessment are reduced to less than significant.

Table 112 displays a summary of Phase I fire adequacy criteria.

Communications with LAFD personnel[1] during the data gathering phase of this analysis indicated the potential for the project to significantly affect fire protection services. This preliminary assessment was based upon partial information relative to response distances. In view of the project's demonstrated ability to meet the required criteria for fire flow, response distance, and minimization of emergency calls, Phase I of the proposed project is not considered to have a significant impact on fire protection services.

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[1] Telephone Conversation with Inspector Alan Masomoto, Bureau of Fire Prevention and Public Safety, Los Angeles Fire Department, May 5, 1994; and Letter from Dal L. Howard, Assistant Fire Marshal, Bureau of Fire Prevention and Public Safety, Los Angeles City Fire Department, dated March 18, 1994.

TABLE 112 SUMMARY OF PHASE I AND BUILDOUT PHASE FIRE PROTECTION ADEQUACY CRITERIA			
Criteria	Current Scenario	With Project Phase I	Adequacy Determination
Fire Flow (12,000 GPM)	12,000 GPM	12,000 GPM	Adequate
Response Distance · Engine Co. (0.75 miles)	0.38 miles or less	0.38 miles or less	Adequate
· Truck Co. (1.0 mile)	0.38 miles or less	0.38 miles or less	Adequate

Buildout Phase Impacts

Under the Buildout Phase, approximately 7,500,000 square feet of new development are proposed, including: commercial and government offices, hotel rooms, conference center facilities, residential units, entertainment uses, and retail space. Furthermore, during Buildout Phase, Fire Station No. 4 (20,200 square feet), which is currently on the project site, will be relocated to an off-site location adjacent to the Terminal Annex property. Conditions relating to provision of fire flow and response distances are not anticipated to change significantly from the Phase I project conditions, which were determined to be adequate. Although an increase in land use density on the proposed project site is anticipated to have an effect on fire protection services, it is not possible to accurately or completely assess the future demands on fire protection service needs and adequacy, and hence assign a level of significance at this time. Conditions in the surrounding area, as well as future fire management practices, could all influence the impact at the Buildout Phase.

Summary of Phase I Impacts

Impact L.1.1 Phase I of the proposed project would have a less than significant impact on the existing water supply system (due to maintaining the required 12,000 GPM fire-flow) and would have a less than significant impact on fire protection service based on anticipated response distances and needs assessments.

Summary of Buildout Phase Impacts

Impact L.1.2 While conditions relating to fireflow and response distances are not expected to change significantly from Phase I, Buildout Phase of the proposed project is anticipated to have some level of impact on the fire protection as a result of increased land use densities beyond those in Phase I; however, the level of significance cannot be determined due to the unknown future citywide demands on the Fire Department and their local personnel and equipment. For that reason, a potential significant impact is assumed and additional analysis will be required at the time of the Buildout Phase.

CUMULATIVE IMPACT

The development of the proposed project, along with other projects in the immediate area, would result in the need for increased staffing for existing facilities, additional fire protection facilities, and the relocation or expansion of present fire protection facilities, which would produce significant areawide cumulative impacts. As with the proposed project, related projects will be subject to review and approval by the Fire Department and other responsible agencies.

MITIGATION MEASURES

Phase I

L.1.1.a All portions of every commercial or industrial building must be within 300 feet of an approved fire hydrant. The maximum distance between fire hydrants on roads and fire lanes is 300 feet.

L.1.1.b An approved fire lane shall be provided by the applicant if any portion of a first-story exterior wall of any building or structure is more than 150 feet from the edge of the roadway of an improved street.

L.1.1.c Fire lane width shall not be less than 20 feet; and, where a fire lane must accommodate the operation of a Fire Department aerial ladder apparatus, or where fire hydrants are installed, those portions shall not be less than 28 feet in width.

L.1.1.d At least two different ingress/egress roads shall be required in each major development area to accommodate major fire apparati and provide for an evacuation during emergency situations.

L.1.1.e Fire Department access will remain clear and unobstructed during periods of demolition.

L.1.1.f The proposed project shall conform to the standard street dimensions shown on Department of Public Works Standard Plan D-22549.

L.1.1.g Fire lanes, where required, and dead end streets shall terminate in a cul-de-sac or other approved turning area.

L.1.1.h When required access is provided by an improved street, fire lane, or combination of both which results in a dead-end excess of 700 feet in length from the nearest cross street, at least one additional ingress-egress roadway shall be provided in such a manner that an alternative means of ingress-egress is accomplished.

L.1.1.i All access roads, including fire lanes, shall be maintained in an unobstructed manner, removal of obstructions shall be at the owner's expense. The entrance to all required fire lanes or required private driveways shall be posted with a sign no less than three square feet in area in accordance with Section 57.09.05 of the Los Angeles Municipal Code.

L.1.1.j Where fire apparatus will be driven onto the road level surface of the subterranean parking structure, that structure shall be engineered to withstand a bearing pressure of 8,600 pounds per square foot.

L.1.1.k The design, location, operation, and maintenance of any security gates shall be to the satisfaction of the Fire Department.

Buildout Phase

L.1.2.a Phase I Mitigation Measures L.1.1.a through L.1.1.k shall also be implemented for the Buildout Phase of the proposed project.

L.1.2.b During Buildout Phase of the development, the Terminal Annex property owner shall provide a replacement Task Force Station to be built to service the project area. The location of the replacement station shall be near the intersection of two major streets. A minimum lot of 200 feet by 200 feet is required to build a Task Force Fire Station. The site selection shall be agreed upon by the applicant and the Fire Department. The dedication and transfer of ownership to the Los Angeles Fire Department of the final site selection shall be in accordance with all agreements reached with the applicant and approved by the Chief Engineer and General Manager of the Los Angeles Fire Department. In addition, the time frames for design, planning, and construction of the replacement Task Force Fire Station shall also be subject to the approval of the Chief Engineer and General Manager.

ADVERSE EFFECTS

Project implementation will increase the need for the fire protection and emergency medical services in the area. Implementation of all mitigation measures will ensure that impacts from Phase I development will remain at less than significant levels. Buildout Phase development is anticipated to have some level of impact on fire protection and emergency medical services. The level of significance cannot be determined at this time, therefore it is assumed to be significant.

SECTION IV.L.2
POLICE PROTECTION

ENVIRONMENTAL SETTING

Available Service

LAPD

The Los Angeles Police Department (LAPD) provides police protection services within the jurisdictional boundaries of the Los Angeles community, which includes the project site and its immediate vicinity. The project site is located within Reporting District 119 of the LAPD's Central Area. The Central Area boundaries are generally the Los Angeles River (east), Washington Boulevard (south), the Harbor 110 Freeway (west), and Los Angeles River/Harbor Freeway junction (north).

The Central Area Station is located approximately one mile southwest of the project site at 251 East Sixth Street, as shown in Figure 46, and will have primary jurisdiction for police protection in the project area. Central Area Station currently has 243 sworn officers assigned over three watches, which represents an estimated ratio of 1.7 officers per 1,000 population.

The 1993 average response time to emergency calls in the Central Area is 5.8 minutes, compared to the average Citywide response time of 7.6 minutes.

Central Area LAPD personnel[1] have assessed the current service status for the area as "inadequate". This designation is based primarily on the evaluation of available equipment, equipment needs, and the potential for enhanced service through equipment upgrades. The LAPD is currently in need of new equipment such as patrol cars and radio units. Further, the existing equipment has been identified by the LAPD as being old, in a state of disrepair, and technologically out-of-date.

In addition to the Central Area Station, the Piper Technical Center and the Parker Center are located in close proximity to the project site. The Piper Technical Center, adjacent to the project site (555 Ramirez Street), is the main storage facility for the LAPD and home to the Air Support Team and Scientific Investigation Team of the LAPD. Most employees at the Piper Technical Center are civilian staff, but over 100 sworn officers also work on site.[2]

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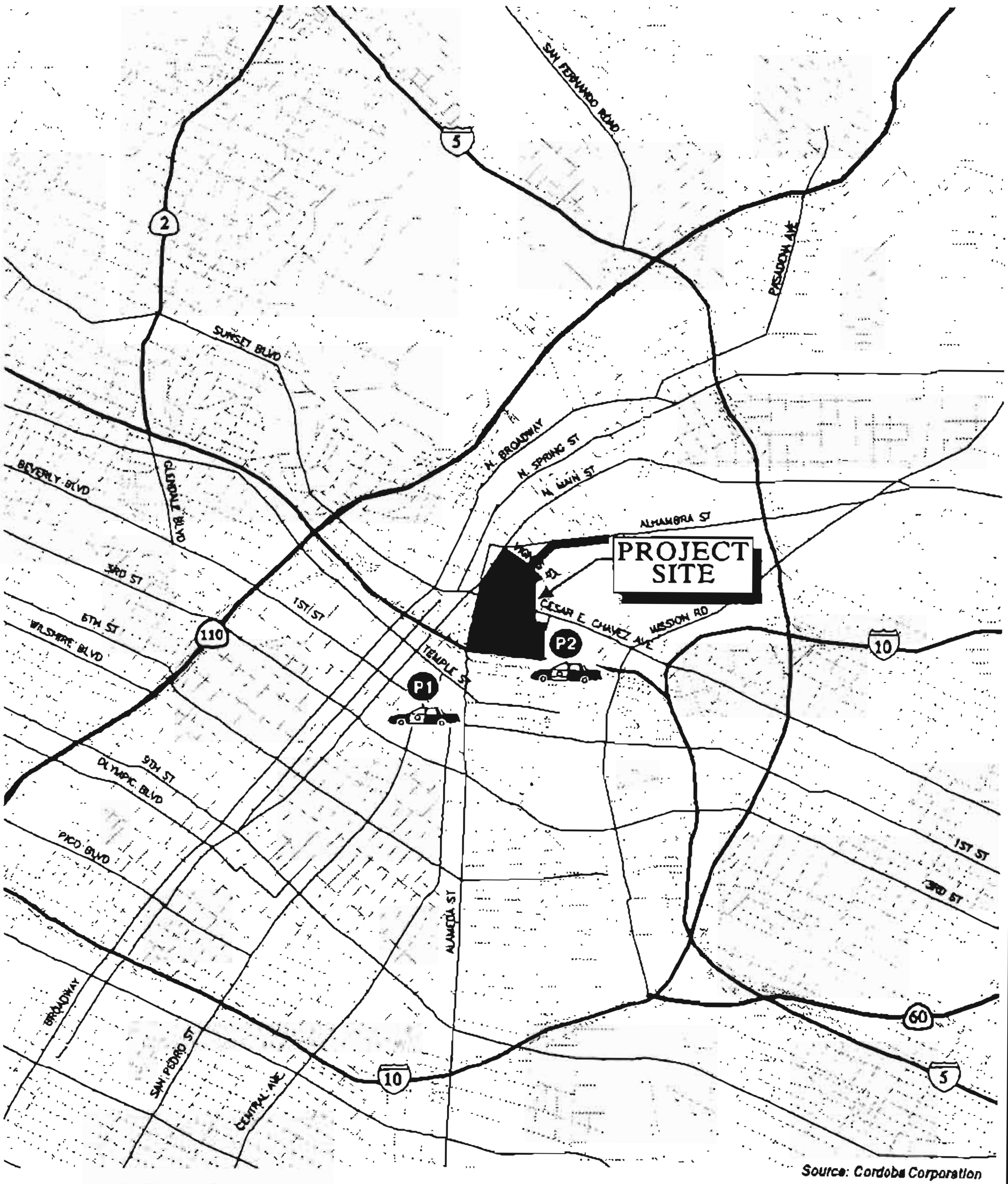
1 Source: Meeting with Officers William Longacre, Guillermo Galvan, and James Cypert, Los Angeles Police Department, November 18, 1993.

2 Source: Telephone Conversation with Jerry Kline, Officer-in-Charge, Position Control Section, April 11, 1994.



CORDOBA CORPORATION

EPA ENVIRONMENTAL PLANNING ASSOCIATES

Figure 46
POLICE STATION LOCATIONS

Parker Center, the Headquarters for the LAPD, is located approximately one-half mile from the project site at 150 N. Los Angeles Street. Parker Center maintains over 700 sworn officers in the 21 divisions headquartered at the facility.[1]

The LACMTA Police Department (MTAPD) plans to locate a LAPD substation in the new LACMTA Headquarters, located directly adjacent to the project site. This substation will maintain a maximum of two officers on a full-time basis.

In addition to the LAPD and MTAPD, the U.S. Postal Service Police, Amtrak Police, County Sheriff's Department, and private guard services will patrol the project site.

MTAPD

The MTAPD provides police and security services for the patrons, personnel and property of the LACMTA facilities located at Union Station, but has minimal jurisdiction at the surface level within the project site. Primarily, the MTAPD deploys uniformed officers on the underground Red Line Metro Rail system and only responds to Metro Rail related calls at the surface level. Additionally, the MTAPD responds to calls for service from any LACMTA bus traversing or parking within the project site. According to MTAPD crime statistics, the predominant crime on LACMTA property within the project site is vagrancy. Currently, crime within MTAPD's jurisdiction is minimal at the project site. MTAPD services are considered adequate at this time.[2] Currently, there are between 10-15 officers at any given time on the premises. At the completion of the MTA Headquarters building, there will be 350 sworn personnel and 54 security officers located on the Union Station property.

U.S. Postal Service Police

The United States Postal Service Police provides security and police services for U.S. Postal facilities in the Terminal Annex Building, which is located within the project site. These policing efforts are oriented toward the investigation of crimes against postal employees, crimes regarding the mail (i.e., postal theft), and internal building security. Like the LACMTA facility, the predominant crime at the postal facility is vagrancy, and crime in general is considered to be minimal. U.S. Postal Police services are considered to be adequate.[3]

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1 Ibid.

2 Source: Letter from Captain Samuel Dacus, Los Angeles County Metropolitan Transportation Authority Transit Police Department, October 29, 1993.

3 Source: Telephone conversation with Inspector McCarthy, U.S. Postal Police Services, November 10, 1993.

Amtrak Police

Similar to the LACMTA and U.S. Postal Service arrangements, the Amtrak Police Department provides policing services for Amtrak facilities (buildings and track area) such as those associated with Union Station. Currently, crime at Amtrak facilities is considered to be minimal, with vagrancy being the predominate crime. Amtrak Police services are considered to be adequate.[1] There are two to four officers on service at any one time.

County Sheriff

The Los Angeles County Sheriff's Department (Sheriff) services unincorporated areas of Los Angeles County and provides contract service to various cities through agreement. Within the project site, the Sheriff polices the Metrolink trains, but does not have direct jurisdiction over the project site. However, the Sheriff does assist with occurrences at the project site based on requests for assistance from the LAPD.[2] There are between two and six deputies at Union Station for both the morning and evening peak travel times.[3]

Other Protective Service Providers

Currently, an agreement exists between the LAPD and the other police agencies, which provide services on the project site and in the area, that states that all of the police agencies would provide mutual aid in the event of a major occurrence in the area. In addition, many agencies and offices also employ independent private security for their premises.

Historic Crime Trends

In the LAPD Central Area, the predominant crimes have historically been auto theft, burglary from vehicles, other thefts, and robbery. Past annual crime statistics for the Central Area indicate that the crime rate is below the citywide average.[4] For example, the 1993 Police Arrest Crime Management

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[1] Source: Telephone conversation with Tim Alexander, Investigator, Amtrak Police Department, November 10, 1993.

[2] Source: Telephone conversation with Sergeant Noel Lanier, Los Angeles County Sheriff's Department, November 10, 1993.

[3] Source: Telephone conversation with Cynthia Parker, Los Angeles Sheriff's Department, January 19, 1995.

[4] Source: Letter from David J. Gascon, Commanding Officer, Community Affairs Group, Los Angeles Police Department, July 20, 1994.

Information System (PACMIS) Report indicated that Reporting District 119 had a total of 115 reported crimes, resulting in a crime-to-population ratio of 12:1,000. The citywide average during the same period was 86:1,000. In comparison, the Reporting District 119 crime-to-population ratio represents only 14 percent of the citywide average.

Projected Future Trends

In September 1994, the United States Congress passed HR 3355, the Violent Crime Control and Law Enforcement Act of 1993. This bill will authorize $30.3 billion in crime prevention spending over the next six years. At a local level, the Mayor and City Council of Los Angeles are currently determining what this will mean for the City. Although the details have not been finalized, it is certain that the LAPD will receive funding for additional police officers and new equipment. These additions are anticipated to enhance service abilities throughout the City, including within the project site and vicinity.

Recent California legislation on the "three strikes you're out" policy may also affect future crime trends in an unmeasurable way. The intent of the law is to ensure tougher criminal sentences for felonies, and lifetime in prison for any individual convicted of a felony three times. This could be beneficial in the future by: 1) removing the more experienced and "lifetime" criminals from the street on a more permanent basis and 2) deterring crimes because of the threat of stiffer sentencing. It is anticipated that this legislation will ultimately result in a reduced crime rate throughout the state, as well as within the project area, in the future.

Adequacy Assessment Criteria

Adequacy of police protection services for a given area is based on a combination of assessment factors including: officer to population ratio, the type of land uses, response time, available equipment, and the crime rate.

The officer to population ratio is important from both a response and a prevention perspective. A greater officer to population ratio means that there are more officers available to respond to calls as needed, thereby benefiting the response time. Conversely, if the officer to population ratio is reduced, it could mean that the average response time to emergency calls will increase. A high number of officers, visibly serving and patrolling in the field, may also act as a deterrent for crime because of the greater police presence. In the Central Area, the current officer to population ratio is 1.7/1,000. LAPD did not indicate an internal officer to population standard, but many cities strive to maintain a minimum ratio of 2.0:1,000. The Central Area is currently well served by LAPD, demonstrated by its relatively lower rate of crime and shorter response times compared to other city areas.

The type of land use will affect both the nature of potential crimes, as well as the time and frequency of criminal attempts. Residential areas typically experience a larger percentage of burglaries and domestic disputes, while office/commercial areas experience a greater percentage of car related thefts and larcenies. Basically, this is because the opportunities for purse snatching, pick-pocketing, automated teller hold-ups, trunk popping, auto theft, etc. are more prevalent in the type of environment afforded by an office/commercial atmosphere. Office environments will also encounter a greater number of "white collar" crimes such as fraud and theft of office equipment; however, these white collar types of crimes are more effectively controlled through private internal security and supervision rather than via a municipal police force.

Response time is the total time from when a call requesting assistance is made until the time that a unit responds to the scene. Calls for police assistance are prioritized based on the nature of the call. For example, a crime in progress may receive a higher priority than a call which is reporting a crime already committed. Also, the potential for harm to citizens is considered when a call is received. Unlike fire protection services, police units are often in a mobile state; hence actual distance between a headquarters facility and the project site is of little relevance. Instead, the number of officers out on the street is more directly related to the ability to provide an adequate response time. If the department does not employ a sufficient number of officers, then the response time may increase.

Equipment availability, along with training skills, are also important factors in determining the adequacy of police protective services. Equipment and training skills impact the Department's ability to handle a situation efficiently. Inadequate equipment and training may result in longer response times or ineffective service. Additional police officers in and of themselves are not the sole means to ensure adequate service; they must be accompanied with adequate training and functional, state-of-the-art equipment.

Finally, the crime rate, which represents the number of crimes reported, affects the needs projection for staff and equipment for the LAPD. To some extent, it is logical to anticipate the crime rate in a given area will increase as the level of activity or population, along with the opportunities for theft, increases in an area. However, because a number of other factors such as police presence, crime prevention measures, and on-going legislation/funding, also contribute to the resultant crime rate, potential for an increase in crime rate is not directly proportional to the increase in land use activity.

ENVIRONMENTAL IMPACT

Threshold of Significance

For purposes of this EIR, impacts on police protection services are considered significant if an increase in population and building area would result in a substantial need for additional police services or equipment, or would substantially diminish the current status of adequacy within the department. The adequacy of police protection is based on the availability of police personnel and equipment, response time, and LAPD's judgement for projected needs (anticipated crime rate and police activity level) in the area.

Phase I Impacts

Staffing/Equipment

Phase I of the project will include the development of predominantly commercial and office uses, with no residential uses planned. As such, population is not readily measured. LAPD employs factors for estimating a projected "equivalent daytime" population for non-residential uses. With completion of Phase I of the project, the LAPD estimates that the development could be occupied by as many as 13,278 people.[1] To maintain the current level of service (based on current day crime trends) in the Central Area, additional Los Angeles Police officers and equipment would be required. The LAPD estimates that an increase of 12 to 20 sworn officers would be warranted upon completion of Phase I.[2] Because of the existing need for new police equipment in the Central Area, and because the project would increase the need for additional officers, Phase I will exacerbate current inadequacies with regard to equipment within the Central Area.

Response Time

Response times within the project area are currently below the average experienced elsewhere in the City. Changes in the response time are unpredictable at this time. Without the addition of 12 to 20 sworn officers and equipment upgrades, the response time would be anticipated to increase somewhat, but would probably remain below the citywide response time average. With the addition of the officers and equipment, response times would be expected to remain about the same, assuming that other security and crime prevention measures are implemented in the project design.

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1 Source: Letter from David J. Gascon, Commanding Officer, Community Affairs Group, Los Angeles Police Department, July 20, 1994. Assumes 4 persons per 1000 sq. ft. of office space and 3 persons per 1000 sq. ft. of retail space.

2 Ibid.

Crime Trends

Utilizing 1993 crime statistical information[1], the Phase I development might be projected to generate a potential 160 new crime reports annually. However, this impact is projected using current information only, and does not account for future conditions, such as: 1) a potential reduction or increase of police protection needs elsewhere within the Central Area service area; 2) the influence of non-LAPD security/police on-site, or 3) the influence of mitigating factors inherent in the project which may result in a reduced need for service from what is anticipated.

Although policing services at LACMTA, Amtrak, and the U.S. Postal Service will not directly alleviate the staffing needs of the LAPD in the project area, their presence on-site is anticipated to have influence on the potential crime rate. Similar to how the presence of private security on location of private facilities is found to serve as a deterrent for crime at those facilities, the presence of additional law enforcement personnel (exclusive of agency affiliation) will have a positive influence on the crime rate. In addition, a greater number of LAPD uniformed officers will be on-site or in the near vicinity due to the proximity of the Piper Technical Center, Parker Center, and planned substation.

Phase I of the proposed project is not anticipated to significantly impact the MTAPD,[2] the Amtrak Police Department,[3] or the U.S. Postal Service Police.[4] Phase I would not increase the need for additional officers in these respective departments because current services would continue to provide adequate services after completion of Phase I.

[1] Source: Letter from David J. Gascon, Commanding Officer, Community Affairs Group, Los Angeles Police Department, July 20, 1994. Current crime rate in the area is 12 reported incidents per 1,000 population. Assuming the earlier estimate of a 13,278 equivalent daytime population, at a constant 12/1,000 rate, the estimated potential increase in reported incidents would be 160.

[2] Source: Letter from Captain Samuel Dacus, Los Angeles County Metropolitan Transportation Authority Transit Police Department, October 29, 1993.

[3] Source: Telephone conversation with Tim Alexander, Investigator, Amtrak Police Department, November 10, 1993.

[4] Source: Telephone conversation with Inspector McCarthy, U.S. Postal Police Services, November 10, 1993.

In summary, although response times would probably remain below the citywide average, Phase I will result in the need for additional LAPD officers within the service area. Further, the project will exacerbate the need for new and additional equipment. Without mitigation, these impacts are considered to be potentially significant.

Buildout Phase Impacts

With completion of the Buildout Phase of the project, LAPD estimates that the development could be occupied by as many as 26,925 additional people[1] (residential and employee population) over a twenty to thirty year period. To maintain the current level of service in the Central Area, additional police officers and equipment would be required. However, additional increases in police personnel and facilities related to the Buildout Phase are inestimable at this time.[2] Because of the existing need for new police equipment in the Central Area and because the project would increase the need for additional officers, Buildout Phase of the proposed project is anticipated to adversely affect police services by increasing these needs. However, this impact is projected using current information only, and does not account for future conditions. Therefore, the extent and/or significance of the actual impact on the police department could change at the time of project completion. It should be noted that although Phase I and the Buildout Phase of the project would increase the resident and non-resident population in the area, the proposed project could have a positive influence on local crime activity by introducing needed revitalization through commercial, economic and cultural activities.

Buildout Phase of the proposed project would not significantly impact the MTAPD,[3] the Amtrak Police Department,[4] or the U.S. Postal Service Police.[5] The project would not increase the need for additional officers in these respective departments because current services would continue to provide adequate services after completion of the project.

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1 Source: Letter from David J. Gascon, Commanding Officer, Community Affairs Group, Los Angeles Police Department, July 20, 1994. Assumes 4 persons per 1,000 sq. ft. of office space and 3 persons per 1,000 sq. ft. of retail space.

2 Source: Letter from David J. Gascon, Commanding Officer, Community Affairs Group, Los Angeles Police Department, July 20, 1994.

3 Source: Letter from Captain Samuel Dacus, Los Angeles County Metropolitan Transportation Authority Transit Police Department, October 29, 1993.

4 Source: Telephone conversation with Tim Alexander, Investigator, Amtrak Police Department, November 10, 1993.

5 Source: Telephone conversation with Inspector McCarthy, U.S. Postal Police Services, November 10, 1993.

Summary of Phase I Impacts

Impact L.2.1 Phase I of the proposed project could have a significant impact on LAPD police services by exacerbating the current needs of the Central Area for new and improved equipment and by generating the need for 12 to 20 additional new officers.

Summary of Buildout Phase Impacts

Impact L.2.2 Buildout Phase of the proposed project would have a significant impact on LAPD services because of the existing need for new police equipment in the Central Area and because the project would increase the need for additional officers. The level of significance cannot be determined due to the unknown future citywide demands on the Police Department and their local personnel and equipment. For that reason, a potential significant impact is assumed and additional analysis will be required at the time of the Buildout Phase.

CUMULATIVE IMPACTS

The development of related projects would create the need for additional officers in the Central Area. Forty-six of the 56 related projects are located within the Central Area. These related residential and non-residential projects are estimated to increase the local population by approximately 80,919 people.[1] To maintain the current level of service in the Central Area, additional police officers and equipment would be required. However, the LAPD cannot determine the number of additional officers required, based on non-residential population, at this time.[2] Because of the need for additional officers in the Central Area, the proposed and related projects would have a significant cumulative impact on police services. The proposed and related projects would not have a significant impact on the MTAPD, the Amtrak Police Department, or U.S. Postal Service Police, because they would not increase the need for additional officers in these respective departments.

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[1] Source: Letter from David J. Gascon, Commanding Officer, Community Affairs Group, Los Angeles Police Department, July 20, 1994. For analysis of cumulative impacts on police services, population estimates were derived from ratios provided by the Los Angeles Police Department, in the July 20 letter. Assumptions for estimating the total cumulative population include: all SRO and bed facilities will have one person per bed and all apartments and condos will have three people per unit.

[2] Telephone Conversation with Officer William Longacre, Los Angeles Police Department, April 11, 1994.

MITIGATION MEASURES

Phase I

L.2.1 Whenever possible, the project design will include these specific plan design features:

L.2.1.a All public parking facilities will be well-illuminated when open and a closed-circuit television system or private security patrol or other surveillance techniques will be used to monitor the areas.

L.2.1.b All pedestrian walkways and courtyards will be well-illuminated and landscaping will be controlled to ensure clear visibility of movement and activity.

L.2.1.c All building entrances, elevators, and lobby areas, as well as entrances to transit points, will be well-illuminated and designed with minimum dead space to eliminate areas of potential concealment.

L.2.1.d Public restrooms should be located such that security or lobby personnel can have visual access to the doorways. Public restrooms should not be located in isolated areas.

L.2.1.e Office-level restrooms should be installed with limited access doorways which require a key or electronic code for access by authorized employees.

L.2.1.f To the extent feasible, building design should consider pre-wiring opportunities for advanced state-of-the-art security measures. Such considerations might include future installation of "help" or "911" buttons in strategic locations around the project (i.e., near bank teller machines, in entry areas where individuals may be momentarily stalled waiting for elevators or punching in entry codes).

L.2.1.g Parking structures should be designed with people and auto security in mind. To the extent feasible, parking areas should be built as a "closed" system with fencing or screening covering window areas, and doors leading to parking areas limited to access via a keycard or electronic code system as a means to prevent unauthorized individuals from gaining access to autos.

L.2.1.h Upon completion of the project, the applicant shall provide the Central Area Commanding Officer with a diagram of the project. The diagram shall include access routes, unit and building numbers, and any information that might facilitate timely police response.

L.2.1.i Prior to plan finalization, the applicant shall coordinate with and provide to the Police Department's Crime Prevention Unit, project plans for review regarding crime prevention features that may be appropriate to the design of the project.

1.2.1.j Where other agencies located on the site provide additional security officers, security officers from the following agencies shall be located on the ADP sites: MTA Police Department; U.S. Postal Police; Sheriffs Department; and AMTRAK security. The presence of these officers, in combination with the proposed MTA police sub-station and equipment, shall offset the need for additional police officers to be provided by the project.

Buildout Phase

L.2.2.a All doors leading into residential units and hotel rooms shall be made of solid-core construction and contain dead bolt locks and "peepviewers."

L.2.2.b No breakable glass shall be present within 40 inches of any hotel room or residential entry door.

L.2.2.c Primary security measures shall include appropriate access control, surveillance, and lighting.

L.2.2.d Entryways shall be designed with minimal dead space to eliminate areas of concealment.

L.2.2.e Ornamental shrubbery shall be designed to allow surveillance of, and not afford cover for, individuals tampering with doors and windows.

L.2.2.f Phase I Mitigation Measures L.2.1.a through L.2.1.j shall also be implemented for the Buildout Phase of the proposed project.

ADVERSE EFFECTS

Development of the ADP would create additional burdens for the facilities and services in the LAPD's Central Area Division. However, the full extent of this effect cannot be realistically evaluated under the circumstances of today's environment. Anticipated additions in funding through HR3355 and other on-going legislation, as well as the influence of enhanced police presence, will serve to minimize the overall effects on staffing and equipment needs. Further, project design will continue to evolve and incorporate crime prevention and advanced security enhancement features which may significantly reduce anticipated crime rates and minimize LAPD staffing needs. Hence, the project's mitigation should be revisited following Phase I to determine the resultant level of significance and reassess projected LAPD needs for Buildout Phase. Due to the above factors, the project is assumed to have remaining significant impacts at both the Phase I and Buildout Phase.

SECTION IV.L.3
SCHOOLS

ENVIRONMENTAL SETTING

The Los Angeles Unified School District (LAUSD) is one of the largest public school districts in the nation. As illustrated in Figure 47, it is located in Los Angeles County, California and serves the City of Los Angeles, all or portions of 16 other cities in the County and numerous unincorporated areas of the County which surround the City of Los Angeles. This is an area of over 700 square miles with an estimated population of over 4.2 million. Approximately two-thirds of the District's land area, and 83 percent of the population residing in it, falls within the City of Los Angeles.

The LAUSD provides kindergarten through high school (K-12) education, as well as adult and special education programs, to approximately 640,000 students in 800 schools and centers. It employs about 56,500 personnel, about half (28,000) of whom are teachers. The LAUSD's Fiscal Year (FY) 1993-94 operating budget was $3.93 billion.

Current and Projected Resident Enrollment in the LAUSD

As of Fall 1993, the LAUSD's total K-12 enrollment[1] was estimated to total 639,687 students, with over 54 percent of students in Elementary school (K-6) level and the remaining population divided between the Middle/Junior High and High School levels and a small proportion (7.7%) in Magnet Schools and Centers throughout the District (see Table 113).

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[1] As will be discussed below, LAUSD utilizes three enrollment concepts. "R-3," or total "resident" enrollment is the number of students enrolled in LAUSD, though not necessarily in their neighborhood schools (i.e., due to busing, attendance at magnet schools, continuation high schools or other District schools). "R-1," or actual enrollment, is the number of students actually enrolled in a particular neighborhood school. "Total" LAUSD enrollment includes all students enrolled in all District facilities (i.e., includes all continuation high schools, special education and other similar facilities).

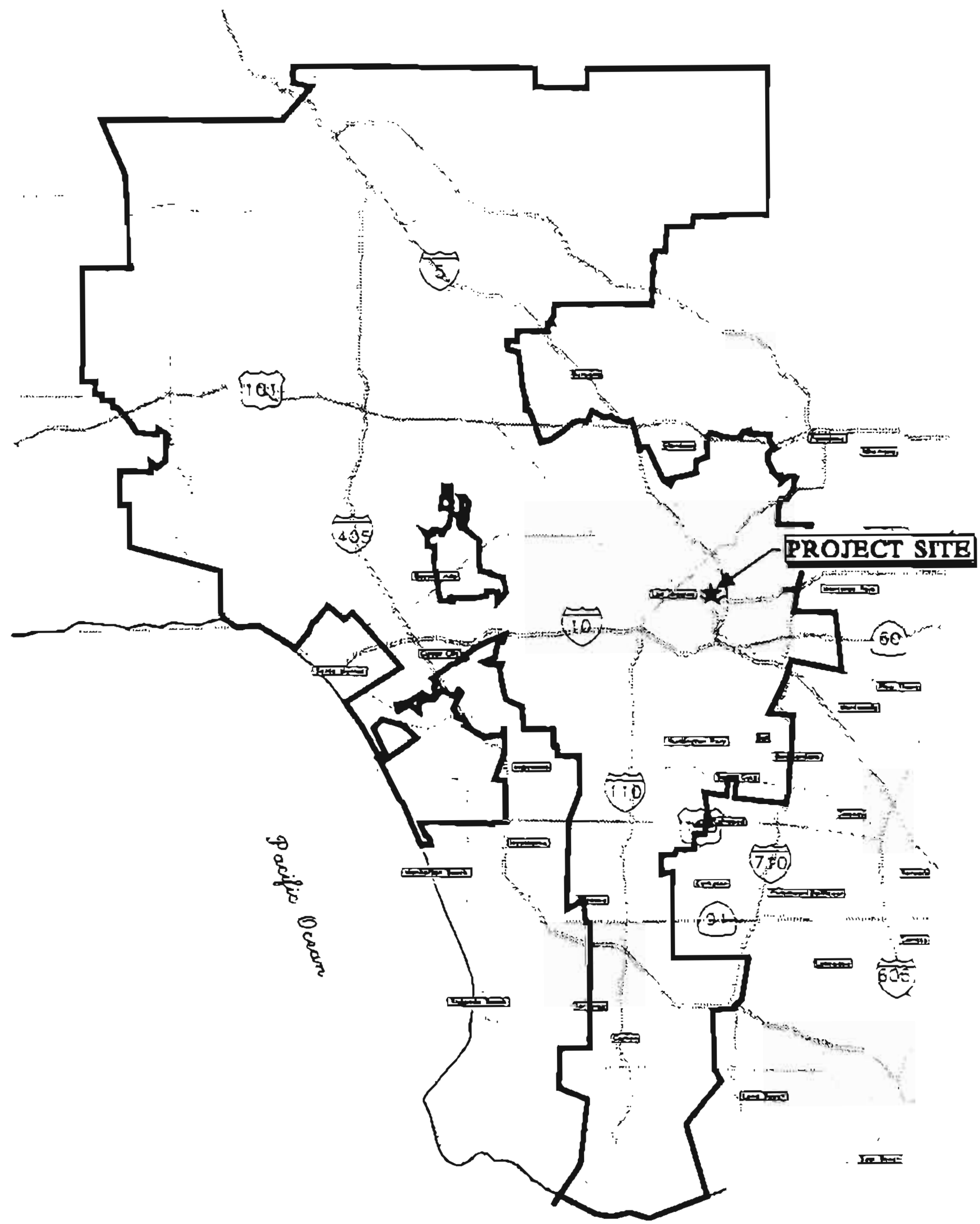

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Figure 47
LOS ANGELES UNIFIED SCHOOL DISTRICT BOUNDARIES

TABLE 113
LAUSD K-12 (R3) ENROLLMENT, FY 1991/92 TO FY 1993/94

Grade Level	1991/92 Enrollment	1992/93 Enrollment	1993/94 Enrollment
Senior High School	126,547	126,955	124,973
Junior High School	121,177	119,876	118,920
Elementary School	347,607	347,676	346,811
Magnet Schools, Centers and Other Facilities	44,368	46,699	48,983
Total (K-12) R-3 Enrollment	639,699	641,206	639,687

Source: LAUSD Fingertip Facts 1991/92, 1992/93, 1993/94.

As shown in Table 113, above, R-3 (resident) enrollment, both in total and by school type, has remained stable over the past three years, growing by only 0.24 percent between 1991/92 and 1992/93, and actually decreasing by the same 0.24 percent between 1992/93 and 1993/94. 1993/94 enrollment was in fact 12 students less than during the 1991/92 school year. Nonetheless, projections of District-wide R-3 enrollment for the year 2010 show an increase of nearly 175,000 students (+27.3%) over 1993 enrollment.[1] Table 114 compares projected 2010/11 attendance with 1993/94 attendance by grade level.

1 Los Angeles Unified School District School Facilities Fee Plan, Recht, Hausrath & Associates, February 1994; hereinafter "LAUSD Fee Study." The LAUSD Fee Study's enrollment projection is based on an age cohort model that considers the portion of SCAG's household growth that will occur within the LAUSD's boundaries, student generation rates per grade level, birth rate trends and also incorporates certain assumptions about the patterns of Continuation High School, Special Education and other special program enrollment, all of which are included in the projection. Although the age cohort model and the resulting projection are described in the LAUSD Fee Study, the year-by-year, grade-by-grade projections details are not included, and therefore it is not possible to independently evaluate the projection.

TABLE 114
LOS ANGELES UNIFIED SCHOOL DISTRICT
FY 1993/94 AND PROJECTED FY 2010/11 K-12 (R3) ENROLLMENT

Grade Level[1]	1993/94 Enrollment	2010/11 Enrollment	Absolute Change	Percent Change
Senior High School	169,724	213,963	44,239	26.1%
Junior High School	91,430	116,626	25,196	27.6%
Elementary School	378,520	483,948	105,428	27.9%
Total R-3 Enrollment	639,674	814,537	174,863	27.3%

Source: LAUSD Fee Study

1 The LAUSD Fee Study uses a definition of Junior High School which includes only grades 7 and 8. As a result, the distribution of students by school type (Elem./Junior/Senior) shown here is somewhat different than that shown in Table 113.

Under a program initiated in 1994, LAUSD students are no longer restricted to enrolling only in their neighborhood schools, but now may enroll in any LAUSD school, provided classroom space is available in the designated school, no students currently residing in the designated school's attendance boundaries are displaced by the transferring student, the District's integration guidelines are followed, and certain other conditions must be met[1].

LAUSD Interdistrict Transfers

State law permits a school district to consider applications from parents who reside outside the district to enroll their children in district schools if the parent or guardian is employed within the boundaries of the district.[2] The interdistrict transfer program applies only to Kindergarten through Junior High School (i.e., grades K-8) students, but not to Senior High School students.

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1 Los Angeles Unified School District, Committee of the Whole Report #4, adopted March 21, 1994, implementing AB 1114 (Alpert). This State legislation mandates open enrollment in each school district, subject to certain limitations.

2 Calif. Education Code Section 48204(f).

"Sending" and "receiving" school districts may refuse interdistrict transfers. Grounds for such refusals include findings that the requested transfer would negatively impact a district's desegregation plan, or that the additional cost of educating a pupil would exceed the amount of additional state aid received as a result of the transfer.[1] Districts, however, cannot arbitrarily refuse transfers -- e.g., on the basis of race, ethnicity, sex, parental income or scholastic achievement.[2]

District-wide, the number of transfers from the LAUSD to other school Districts is greater than number of transfers into the District. The most prevalent interdistrict transfer situation occurs among students whose families live within the boundaries of the District, but adjacent to one of the more affluent areas outside of the District. These students often seek to transfer to schools in those areas rather than attend school within the LAUSD. During the 1990/91 school year, 1,152 students in grades K-8 attended school outside of the LAUSD even though they resided within its boundaries. In 1990/91, only 199 K-8 students who resided outside the District's boundaries chose to attend in the LAUSD, resulting in a net out-migration of -953 students. This negative net migration has apparently been incorporated in the District's 2010 enrollment projection.

LAUSD Student Generation Rates

The rate at which housing units within the District currently generate LAUSD students can be estimated by dividing the number of students resident within the District (i.e., R3 enrollment), by the estimated number of occupied dwelling units within the District's boundaries. Dividing the total estimated 1993-94 resident enrollment of 639,687 by the 1,460,030 occupied dwelling units within the District's boundaries in 1990, yields a Student Generation Rate of 0.44 students per occupied housing unit District-wide. This includes 0.26 K-6 students per dwelling unit, 0.06 Junior High students per dwelling unit, and 0.12 Senior High students per dwelling unit, as shown in Table 115.

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1 Id., Section 48204(f)(2) and (3).

2 Id., Section 48204(f)(1).

TABLE 115
ESTIMATED STUDENT GENERATION RATES FOR THE LOS ANGELES UNIFIED SCHOOL DISTRICT, FY 1993/94

Calculation Factors	Elementary (Grades K-6)	Junior High[1] (Grades 7-8)	Senior High[1] (Grades 9-12)	Grades K-12 Total
1993/94 Enrollment	378,520	91,430	169,724	639,674
1993/94 Occupied Dwelling Units	1,460,030			
Student Generation Rate[2]	0.26	0.06	0.12	0.44

[1] The LAUSD Fee Study uses a definition of Junior High School which includes only grades 7 and 8. As a result, although the District-wide totals are the same, the distribution of students by grade level (Elem./Junior/Senior) shown here is somewhat different than that shown in Table 114.
[2] Enrollment divided by occupied dwelling units.
Source: LAUSD Fee Study

Performing the same calculation using LAUSD's projection of student enrollment in 2010 and the number of occupied housing units within LAUSD's boundaries according to the SCAG forecast for 2010, yields a Student Generation Rate of 0.47 students per occupied housing unit District-wide. This includes 0.28 K-6 students per dwelling unit, 0.07 Junior High students per dwelling unit, and 0.12 Senior High students per dwelling unit. (See Table 116.)

TABLE 116
STUDENT GENERATION RATES AS PROJECTED BY THE LOS ANGELES UNIFIED SCHOOL DISTRICT, FY 2010/11

Calculation Factors	Elementary (Grades K-6)	Junior High[1] (Grades 7-8)	Senior High[1] (Grades 9-12)	Grades K-12 Total
2010/11 Enrollment	483,948	116,626	213,963	814,537
2010/11 Occupied Dwelling Units	1,715,938			
Student Generation Rate[2]	0.28	0.07	0.12	0.47

1 The LAUSD Fee Study uses a definition of Junior High School which includes only grades 7 and 8. As a result, though the district-wide totals are the same, the distribution of students by school type (Elem./Junior/Senior) shown here is somewhat different than that shown in Table 114.

2 Enrollment divided by occupied dwelling units.

Source: LAUSD Fee Study

Current and Projected Seating Capacity in the LAUSD

Published information does not report data on the existing capacity of the District's facilities to accommodate future enrollment growth.[1] LAUSD data indicate, however, that based on the operating capacity of all District schools, defined in terms of the school calendars on which they are currently operating, there is currently a surplus over R3 enrollment of about 115,000 seats in the District.[2] The

1 The LAUSD's developer fee study states only that:

> "The LAUSD is currently experiencing severe overcrowding in its elementary schools because of the increase in birth rates following the low birth rates of the 1965-1980 period. This overcrowding will shortly be felt in the higher grades as well."

(LAUSD Fee Study, *op. cit.*, at p. 29.)

2 Based on data supplied by LAUSD. Letter (and attachment) from Elizabeth J. Harris, LAUSD CEQA Officer, to Gregory F. Rabinovitz, Hamilton, Rabinovitz & Alschuler, Inc., January 30, 1995. The surplus of seating capacity varies from school to school and includes seats whose use may be restricted to particular grade levels or types of students (e.g., special education).

District currently has 62 applications pending State funding for construction of new schools that would accommodate about additional 21,000 students.[1] Since the State's school construction program is currently out of funds, it is uncertain how many of these pending projects will be funded by 2010, nor how many additional new school projects will be proposed and funded over this time period.

LAUSD Schools in the Project Vicinity

The schools closest to the project site are Ann Street Elementary School, located at 126 East Bloom Street; Utah Street Elementary School, located at 255 North Clarence Street; Nightingale Junior High School, located at 3311 North Figueroa Street; and Lincoln Senior High School, located at 3501 North Broadway Street. School locations are shown in Figure 48, Public Schools. Table 117 presents the distance from the project site, present enrollment, and the operating capacity for each of the schools serving the site. As Table 117 shows, all of the schools serving the site currently have surplus capacity. They all currently operate on a traditional school year calendar.

In addition to these facilities, the LAUSD is in the process of developing two significant new facilities in the Central City West area (i.e., just west of the Harbor Freeway and south of the Hollywood Freeway). The proposed Belmont Learning Complex will include a new 5,300-student high school campus consisting of eight "career development academies," or programs of focused education and training.[2] The Complex also includes conversion and expansion of the existing Belmont High School site (Second and Loma Streets) into a 2,300-student Middle School campus (grades 6-8), plus the existing 1,100-student Newcomer School.[3]

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1 Based on data compiled by Murdoch, Walrath & Holmes from project application information provided by the State Office of Public School Construction and the State Department of Education, February 20, 1995.

2 These are: international studies, communications/media, humanities, law and government, travel and tourism, health and human services, engineering and environmental science and business and industrial technology. Private sector sponsors are being sought for some programs. Other District facilities in the vicinity of the site will also be used for this program (e.g., the District's television station, KLCS-TV, and the Downtown Business High School).

3 This is a facility to assist youth entering the U.S. for the first time with intensive English language and cultural education. Graduates of this program then transfer to District Middle Schools and High Schools.

TABLE 117
EXISTING ADJACENT SCHOOL ENROLLMENT AND CAPACITY

Name	Distance (Miles)	1993-1994 Enrollment	1993-1994 Capacity	Surplus/ Deficit
Ann Street Elementary	0.3	322	395	+73
Utah Street Elementary	0.8	877	1,168	+291
Nightingale Junior High	2.3	1,680	1,920	+240
Lincoln Senior High	2.0	2,404	2,727	+323

Source: Environmental Review Unit, Facilities Planning and Real Estate Branch, Los Angeles Unified School District.

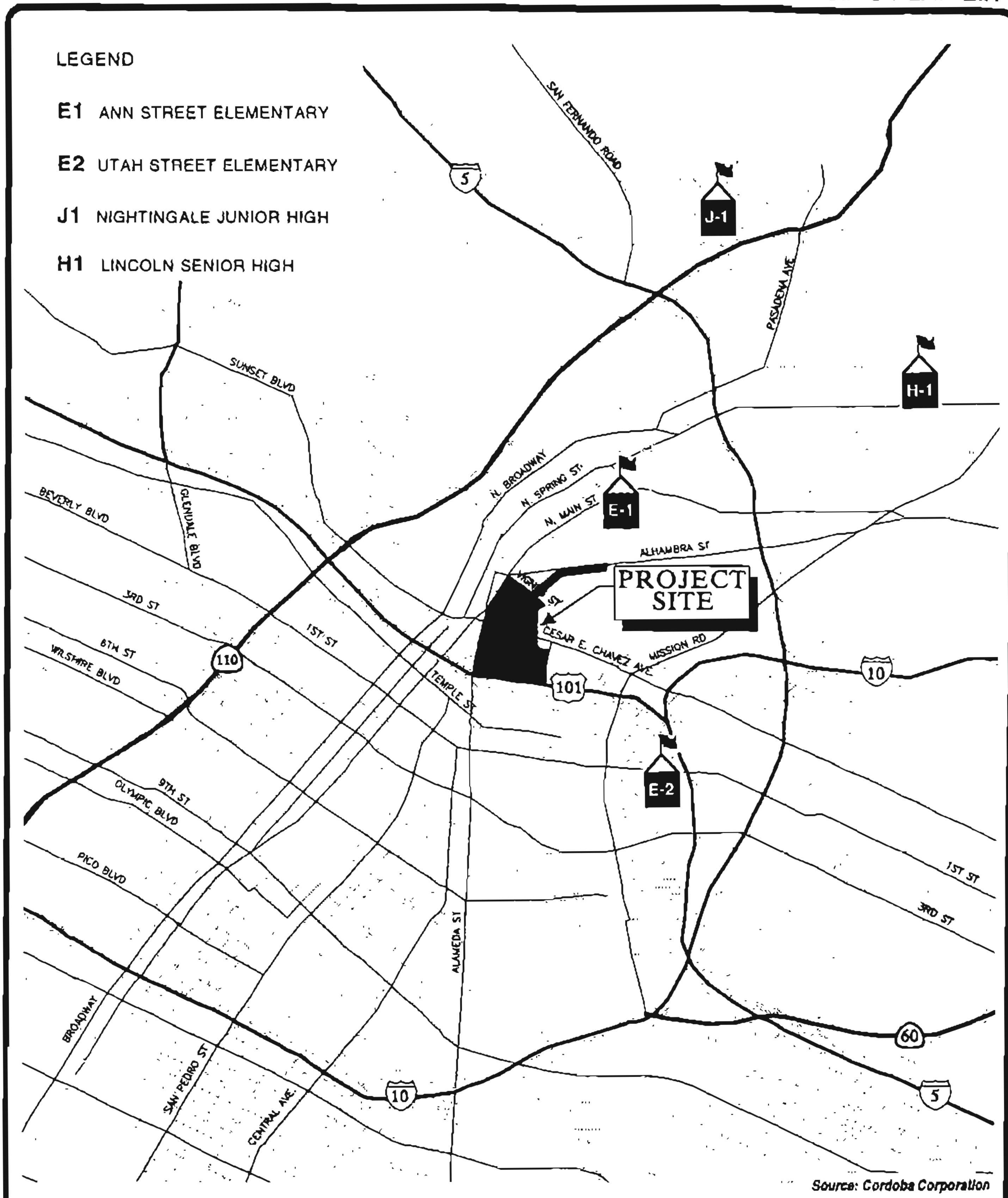

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Figure 48
SCHOOL LOCATIONS

ENVIRONMENTAL IMPACT

Impacts on school facilities are social and economic in nature, and thus may only be considered as having potential for significant effects on the environment to the extent that there is a causal connection between the social and economic effect (e.g., increased school enrollment) and a physical change in the environment.[1] Since the project does not include any school construction, the only school-related Project impacts on the physical environment would be those that result from a decision by the LAUSD to construct new school facilities to accommodate Project-related enrollment impacts. As will be described below, the LAUSD may take a number of actions to accommodate any such enrollment impacts, including additions to existing schools or construction of new schools. All such actions are under the control of the LAUSD and it is not possible to know with any certainty what physical consequences, and hence environmental impacts, might result from those actions. Additonally, several local schools were identified as sensitive receivers for the purposes of analyzing potential air and noise impacts from the ADP. These impacts are addressed in detail in Sections IV.F.1, Air Quality, and IV.G, Noise.

Neither the City of Los Angeles Public Schools Plan[2] nor the Central City North Community Plan contain any policies requiring adequate school facilities as a condition of project approval.

Threshold of Significance

Inasmuch as it remains unknown how the LAUSD will accommodate Project-related enrollment, and whether any such action will involve a physical change to the environment, a threshold of significance within the meaning of CEQA is not appropriate for school impacts. Alternatively, this analysis provides an estimate of the enrollment implications of the Project and describes the relationship between Project-related enrollment and projected District enrollment and facilities in order to characterize the scale of the Project's enrollment impact.

Project Impacts on School Enrollment

The following impact analysis is based on estimates of the number of students expected to be generated by the project at Buildout Phase using the relevant student generation factors provided by the LAUSD.

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1 For a more complete discussion of this issues, see Section IV.E.1. (Employment).

2 *Public Schools Plan, An Element of the Master Plan of the City of Los Angeles*, adopted by the City Council and the Board of Education (1968). This document discusses school site planning standards (e.g., minimum acreages per grade level) and shows the location of existing and proposed public schools.

The public school enrollment resulting from a proposed development project is a function of the new households who will occupy a project's proposed residential dwelling units or the new households associated with a project's direct, net new employees. Each household yields an average number of children who are likely to enroll in LAUSD schools, based on historical household-enrollment growth trends. As noted above, the LAUSD estimates that across the school district as a whole, each new household today yields approximately 0.44 new students, and this is projected to increase to 0.47 students per household in 2010.

When a project includes new residential units, as in the case of the Buildout Phase of the ADP, the public school enrollment implications can be estimated with reasonable accuracy by applying the relevant average student generation rate. However, because of the LAUSD's new open enrollment policy and the fact that the District does not prepare long-range facility plans for each school, it is not possible to predict what effect this resulting enrollment will have on the capacity of any particular LAUSD school. All that can be estimated is the relative scale of a project's predicted enrollment compared with the enrollment projection for the year of the ADP Buildout Phase.

In the case of non-residential development, an estimate of enrollment impacts is more complicated. As noted in Section IV.E.1., there is, at best, an indirect causal relationship between the construction of new non-residential buildings and employment growth. The school enrollment implications of the jobs accommodated within new non-residential building depend on at least the following factors:

- the degree to which the businesses that occupy a project are new to the area or are already located in the area;
- how any net new project-related jobs are filled -- i.e., by unemployed persons, persons just entering the labor force, by existing employees who change jobs or by employees who move into the area from some other location;
- where in the region any net new households choose to reside;
- how the net new employees form themselves into households; and
- the propensity of these households to enroll their children in public versus private school.

Where the characteristics of a project's tenants and their labor force are known, making an estimate of enrollment impacts would still involve some degree of speculation because of the variety of the factors listed above. In the case of a project like the ADP, which will be built out over at least 25 years, in which most of the tenants are unknown, only a very rough estimate of possible enrollment impacts can be made. The following discussion provides such an estimate for the Project, based on the assumptions presented in the Employment, Housing and Population Sections (Sections IV.E.1, IV.E.2 and IV.E.3, respectively).

Phase I Impacts

Phase I of the proposed project would not directly generate any students from residential uses because no residential units would be built during this phase. However, students would be indirectly generated from new households created by employees of Phase I development. Implementation of Phase I would generate an increase of approximately 2,051 direct, net new employees on site. (See Section IV.E.1 (Employment), for a more detailed analysis of employment generation). According to the LAUSD, the probability of a new employee forming a new household within the District's service area is approximately 49.8 percent[1], which implies 1,021 new Project employee-related households. As shown in Table 118, these factors indicate that Phase I of the Project would generate 449 LAUSD students, including 265 elementary students, 61 junior high students, and 123 senior high students.

Because the project is located at the region's most significant multi-modal transportation hub, Phase I employee households can be expected to locate throughout the area covered by LAUSD.[2] Thus, the 449 students generated by Phase I cannot be assigned to particular schools. All that can be said is that they will be widely dispersed throughout the District. Since 449 students represents 0.06 percent of estimated 2000/01 LAUSD enrollment,[3] the marginal enrollment impact of Phase I of the Project is considered insignificant.

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1 The number of households in the District generated by each new employee is equivalent to 0.777 (percentage of workers within the LAUSD's boundaries who also reside within these boundaries) times 0.641 (households per worker), or 0.498 households per worker, based on 1990 census data for the LAUSD as a whole. (LAUSD Fee Study, at pp. 54-55) A separate analysis by Hamilton, Rabinovitz & Alschuler, Inc. of probable origin-destination commuting patterns along the Project's principal transportation corridors, considering both enhanced public transit and auto commutes, resulted in a similar percentage of households likely to reside within the boundaries of LAUSD. Therefore, the LAUSD's estimate is used here.

2 Most households enroll children in schools near their place of residence, not near their place of work.

3 This is an estimate based on a straight-line interpolation between actual 1993/94 enrollment and LAUSD's projection of 2010/11 enrollment: ((814,537 in FY 2010/11) - (639,687 in FY 1993/94))/17 years = 102,85/year. 102,85/year x 7 years to 2000/01 = 71,997. 71,997 + 639,687 in 1993/94 = 711,684 in 2000/01.

TABLE 118 PHASE I STUDENT GENERATION				
School Level	Type Of Use	Employee Households	1993/94 Generation Factor (Students/household)[1]	Students Generated
Elementary (K-6)	Commercial	1,021	0.26	265
Junior High (7-8)	Commercial	1,021	0.06	61
Senior High (9-12)	Commercial	1,021	0.12	123
TOTAL				**449**

1 The Fee Study does not provide a student generation rate for the year 2000, which corresponds to the assumed implementation year for Phase I. Since 2000 is closer to 1993/94 than 2010/11, the current student generation rate is assumed for Phase I.

Sources: School Facilities Fee Plan, Los Angeles Unified School District, February 1994, Table 7, at p. 25; Section IV.E.1. (Employment).

Buildout Phase Impacts

Buildout Phase of the proposed project includes construction of 300 residential units on the Project site. As discussed in Section IV.E.2 (Housing), these units will be configured in mid- to high-rise buildings, and are not likely to attract families to the same degree as units constructed in more traditional neighborhoods. Accordingly, using the LAUSD's average student generation rate of 0.47 students per household in 2010 would grossly overstate the probable enrollment impacts of the housing component of the Project. An analysis of student generation rates in the downtown area suggests that the overall student generation rate is more likely to fall within a range of 0.038 to 0.236, as shown in Table 119.[1]

1 The reasonableness of this range is supported by other research that indicates a total K-12 student generation rate of 0.150 for high-rise residential units in the Pacific region of the U.S. See, Robert W. Burchell, *et al*, The New Practitioner's Guide to Fiscal Impact Analysis, Center for Urban Policy Research, Rutgers University, 1985, Exhibit 14, p. 67.

TABLE 119
STUDENT GENERATION RATES IN THE DOWNTOWN AREA, 1990

Downtown Area	Housing Units	School-Age Children[1]	Student Generation Rate
Promenade Towers Area[2]	1,073	41	0.038
South Park Residential Area[3]	3,330	469	0.142
Downtown All[4]	9,822	2,318	0.236

Source: 1990 Census of Population and Housing, Summary Tape File STF-3A.

1 Includes children age 5 through 18 years old.

2 Block Group 2075.002

3 Block Groups 2073.001, 2075.001, 2075.002, 2075.003, 2075.004, 2077.003, 2079.001, 2079.002, 2240.001, 2240.003 and 2240.004.

4 Harbor Freeway to Alameda Street; Hollywood Freeway to Santa Monica Freeway.

Research, Rutgers University, 1985, Exhibit 14, p. 67.

TABLE 120
BUILDOUT PHASE STUDENT GENERATION

School Level	Type Of Use	Households or Units	2010/11 Generation Rate (Students/ household)[1]/ (Students/Unit)[2]	Students Generated
Elementary	Commercial	2,140	0.280	599
	Residential	300	0.054	16
	Subtotal			615
Junior High	Commercial	2,140	0.070	150
	Residential	300	0.013	4
	Subtotal			154
Senior High	Commercial	2,140	0.120	257
	Residential	300	0.023	7
	Subtotal			264
Total	**Commercial**			**1,006**
	Residential			**27**
	Total			**1,033**

1 Source: School Facilities Fee Plan, Los Angeles Unified School District, February 1994.

2 Source: Proportions of total LAUSD enrollment by grade level in 2010/11 multiplied by a total student generation rate of 0.090.

Based on the closest existing examples of similar downtown housing (i.e., the South Park area and the Promenade Towers area in the northwest corner of downtown), a K-12 student generation rate of 0.090 appears to be the most probable for the Project site.[1] Applying this rate, and its associated components by grade level, indicates that the Project's residential component could result in a total of 27 LAUSD students. If the relative proportions of children by grade level for the District as a whole in 2010/11 are assumed, 16 of these 27 students could be expected to be elementary students, 4 would be junior high students and 7 would be senior high students, as shown in Table 120.[2]

Even if all 27 Project-related students generated by the proposed on-site housing were to enroll in the schools immediately adjacent to the Project site, it is unlikely that this small number would have a significant impact on these LAUSD facilities, which have existing surplus space as shown in Table 117.

Implementation of the Buildout Phase would generate a approximately 4,296 direct, net new employees on site. (See Section IV.E.1., Employment). Applying LAUSD's factor for the probability of a new employee forming a new household within the District (i.e., 49.8 percent), would result in 2,140 new Buildout Phase project employee-related households. As shown in Table 120, this indicates that the commercial component of the Buildout Phase of the ADP would generate 1,006 LAUSD students, including 599 elementary students, 150 junior high students, and 123 senior high students.

Overall, the residential and non-residential components of the Buildout Phase could generate 1,033 LAUSD students, including 615 elementary students, 154 junior high students, and 264 senior high students. Once again, because the project is located at the region's most significant multi-modal transportation hub, net new employees associated with the Buildout Phase are anticipated to locate their households throughout the area covered by LAUSD. Thus, the students estimated to be generated by the Buildout Phase cannot be assigned to particular schools. All that can be said is that they will be widely dispersed throughout the District. Since 1,033 students represents 0.13 percent of estimated 2010/11 LAUSD enrollment,[3] the marginal enrollment impact of the Buildout Phase is also considered insignificant.

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1 This is an average between the rates shown for these two areas in Table 119 (i.e., (0.142 + 0.038)/2 = 0.090.

2 According to LAUSD's District-wide enrollment projection for 2010/11, 59.6 percent will be elementary students, 14.9 percent will be junior high students and 25.5 percent will be senior high students.

3 This is an estimate based on a straight-line interpolation between actual 1993/94 enrollment and LAUSD's projection of 2010/11 enrollment: ((814,537 in FY 2010/11) - (639,687 in FY 1993/94))/17 years = 102.85/year. 102.85/year x 7 years to 2000/01 = 71,997. 71,997 + 639,687 in 1993/94 = 711,684 in 2000/01

Total Project Enrollment Impacts

In summary, using the calculation factors described above, the total enrollment impact of the ADP would be 1,482 LAUSD students located throughout the District, including 880 elementary students, 215 junior high students, and 387 senior high students. The total represents 0.18 percent of estimated 2010/11 LAUSD enrollment. This marginal enrollment impact of the Project is considered insignificant.

Summary of Phase I Impacts

Impact L.3.1 Commercial development associated with Phase I would generate approximately 449 students who would be accommodated in schools throughout the LAUSD. This increase of students within the District would be considered an insignificant impact in that it constitutes 0.06 percent of projected enrollment in 2010/11 and these students would be widely dispersed throughout the District.

Summary of Buildout Phase Impacts

Impact L.3.2 The residential component of the Buildout Phase would generate about 27 LAUSD students and the commercial component would generate 1,006 LAUSD students, for a total of 1,033 additional students. This would be considered an insignificant impact in that it constitutes 0.18 percent of projected enrollment in 2010/11 and these students would be widely dispersed throughout the District.

CUMULATIVE IMPACTS

As noted in Section IV.E.2. (Housing, Cumulative Impacts), there are 5,941 units in related residential projects on the Related Projects List (see Section III.C, Related Projects). Assuming these residential units generate students at the average rate for all housing in LAUSD in 2010 (i.e., 0.47 students per household), Table 121 shows that the related residential projects could generate approximately 2,792 LAUSD students, including 1,664 elementary students, 416 junior high students and 712 senior high school students in LAUSD. When combined with the residential uses of the proposed project, residential related projects are estimated to generate a total of 2,819 students who would be served by the LAUSD. As noted above, it is not possible to predict which schools these students would attend, nor what the school seating capacity of those schools will be by 2010. All that can be said is that the sum of student enrollment related to cumulative residential developments plus the ADP's 300 units is equivalent to 0.35 percent of projected 2010 LAUSD enrollment.

Forty-seven related commercial, mixed-use and other non-residential use projects are within close proximity of the ADP project site. Absent detailed information about the characteristics of the labor force associated with the non-residential related projects, it is not possible to predict the possible indirect impacts of the related projects with the degree of precision presented above with respect to the ADP. In addition, each new discretionary project will be subject to individual environmental review by the City, including, where applicable, impacts on school facilities.

TABLE 121
CUMULATIVE STUDENT GENERATION
RELATED PROJECTS AND ADP PROJECT IMPACTS

School Level	Students from Residential Related Projects[1]	Students from ADP Project[2] (Residential Only)	Total Students Generated from Residential Projects
Elementary	1,664	16	1,680
Junior High	416	4	420
Senior High	712	7	719
TOTAL	**2,792**	**27**	**2,819**

1 Assumes average student generation rate for the downtown area. See Table 119, above.
2 From Table 120, above.

MITIGATION MEASURES

As noted in the previous subsection, the relatively small impact of the student enrollment implied by the ADP cannot be characterized within the meaning of CEQA because it is not known how LAUSD may choose to accommodate this enrollment, which will occur at various schools throughout the District over the next 15 years. These actions may include filling then-current surplus spaces, increasing average class size, busing students to schools with surplus capacity, utilizing a year-round school calendar at affected schools, utilizing portable classrooms, constructing additions to existing schools or building entire new schools.

Nevertheless, current State law permits LAUSD to impose a fee on the development of new buildings to mitigate the impacts of new development on school facilities.[1] Payment of the statutory school fees will assist the District in mitigating any adverse impacts of project-related school enrollment. It should also be noted that to the extent Project-related net new employee households move into newly constructed dwellings, the builders of those units will also be required to pay a development fee to LAUSD.[2]

The LAUSD Fee Study indicates that, on average, it costs the District $24,932 per student to accommodate new students.[3] This cost assumes, however, that each new student is housed in a newly constructed space fitting certain size and cost parameters. Since the District does not in fact add newly constructed space as each student enters the District, and instead accommodates enrollment growth in a variety of ways, applying this per-student cost to each student associated with development of the ADP would grossly overstate the District's actual cost to accommodate the ADP's enrollment impact. Similarly, the Fee Study's "unfunded remainder" cost of $4,344 per new worker[4] is also predicated on an assumed cost of new construction for each new student. For the same reason, this per-worker cost would also overstate the District's marginal cost to accommodate students associated with project-related employee households.

Phase I

L.3.1 The applicant shall pay school fees for commercial uses, as may be required by State law, at the time of issuance of a building permit. The current school fee is $0.28 per square foot for non-residential space.. If built today and applied to the net gross floor area, development of Phase I would be required to pay a fee of $862,568.00 to the LAUSD.

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1 Calif. Gov't. Code § 65595.

2 The LAUSD Fee Study (at p. 26) estimates that one-third of future enrollment growth will be attributable to existing units and two-thirds will be associated with new units. If Project-related employee households choose dwellings according to this assumption, and assuming further a weighted average unit size of 1,252 s.f. (based on data in the LAUSD Fee Study, Table 16, p. 38), the District will receive $4.5 million (1994 $) in additional developer fees to offset enrollment impacts (3,161 employee households in LAUSD boundaries x 67 percent in new units x 1,252 s.f./unit x $1.72 fee/s.f./unit = $4,506,706) .

3 LAUSD Fee Study, *op. cit.*, at pp. 30-34.

4 *Id.*, at pp. 53-54.

Buildout Phase

L.3.2.a The applicant shall pay school fees for residential uses, as may be required by State law, at the time of issuance of a building permit. The current school fee is $1.72 per square foot for residential space. If built today, the residential development component of the Buildout Phase would be required to pay a fee of $516,000.00 to the LAUSD.

L.3.2.b The applicant shall pay school fees for commercial uses, as may be required by State law, at the time of issuance of a building permit. The current school fees are $0.28 per square foot for non-residential space. If built today the Buildout Phase would be required to pay a fee of $2,842,532 to the LAUSD.

ADVERSE EFFECTS

Although no significant impacts will result from either Phase I or the Buildout Phase, implementation of the proposed mitigation measures would further reduce any adverse impacts.

SECTION IV.L.4
PARKS AND RECREATION

ENVIRONMENTAL SETTING

Existing Facilities and Service

The Los Angeles Department of Recreation and Parks (LADRP) oversees the operation and management of most parks and recreational facilities within the City of Los Angeles. Some parks within the project site vicinity, as noted below, are overseen by other agencies due to the unique nature of those facilities.

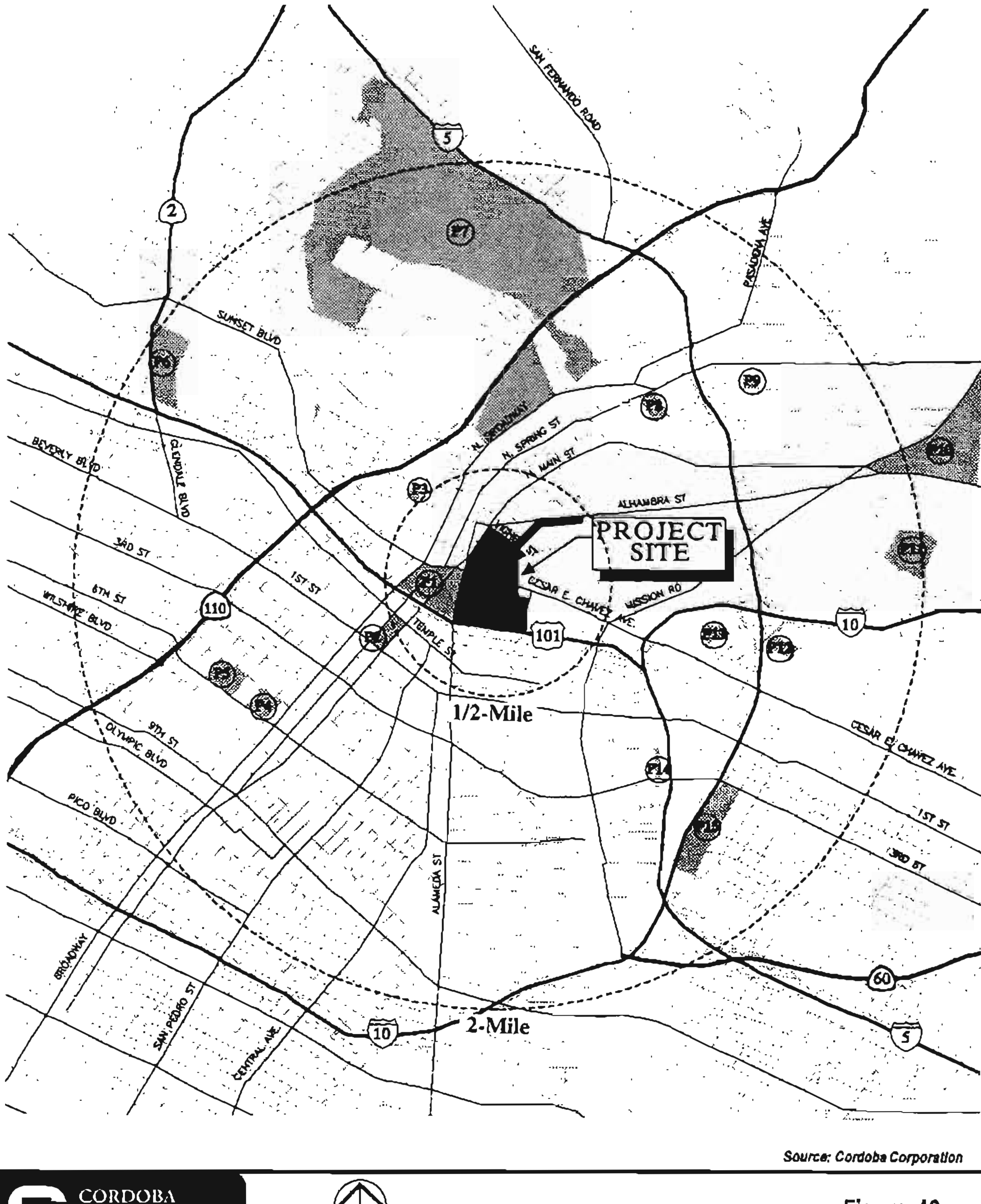
Figure 49 illustrates the locations of the park and recreation facilities within both a one-half mile radius and a two-mile radius of the project site. These service radii are used as a means to orient existing facilities within the project area because these distances correspond with the long-term park standards for neighborhood and community parks, respectively.

Parks and recreational facilities are typically categorized as neighborhood, community, regional or other, and are established based on size of area served and type of services provided. The definitions and standards of these categories may vary somewhat among jurisdictions. For the project area and the City of Los Angeles, specific standards have been adopted. These are defined more fully in the adequacy criteria discussion of this section.

Facilities located within a one-half mile radius of the project site are considered to be within reasonable walking or travel distance, and include: the Alpine Recreation Center, El Pueblo de Los Angeles, and the City Hall Park (see detailed description provided below). Of these facilities, the Alpine Recreation Center and the City Hall Park are designated as neighborhood facilities.

<u>Alpine Recreation Center</u>

The Alpine Recreation Center, a neighborhood facility, is located at 817 Yale Street in the City of Los Angeles and is managed from the Griffith District Office of the Department of Recreation and Parks. The Center is located approximately 0.25 miles (10-minute walk) northwest of the project site in the heart of Chinatown. The Center consists of 1.93 acres of fully developed property and contains a 500 person-capacity auditorium, a community building, an indoor gym, a basketball court, a children's play area, a picnic area, and shuffleboard facilities.



Source: Cordoba Corporation

CORDOBA CORPORATION

EPA ENVIRONMENTAL PLANNING ASSOCIATES

0 2000 4000
SCALE IN FEET

Figure 49
PARK LOCATIONS WITHIN 1/2-MILE AND 2-MILE RADIUS OF PROJECT SITE

El Pueblo de Los Angeles

El Pueblo de Los Angeles, commonly known as "Olvera Street," is located at 845 North Alameda Street. This historic site was the original 28-acre Spanish pueblo which grew into the City of Los Angeles. The park consists of 11 acres of fully developed land and is located 0.10 miles (5 minute walk) west of the project site. Historical features of the park include Olvera Street, the Avila Adobe, the completely restored Firehouse (which was the city's first,) the partially restored Sepulveda House, and the totally restored Pico House. Furthermore, the park also contains numerous restaurants and retail sales shops. The park is considered a regional park due to its regional cultural significance. El Pueblo de Los Angeles is operated by the State of California as a State Historic Park.

City Hall Park

The City Hall Park, a neighborhood facility, consists of the grounds surrounding Los Angeles City Hall, located at 200 North Main Street in downtown Los Angeles. City Hall Park is located approximately 0.25 miles west of the project site and within a 10-minute walk from the project. The park consists of 3.98 acres of fully developed land, maintained by the Metro Maintenance Office of the Department of Recreation and Parks, and consists solely of landscaped grounds.

The locations, acreages and types of facilities of park and recreation facilities located within a two-mile radius (exclusive of those within a 1/2 mile distance) of the project site are presented in Table 122. Community designated park and recreation facilities located within a two-mile radius of the project site include Echo Park, Lincoln Park, Boyle Heights Sports Center, and Hollenbeck Park.

Applicable Policy Plans

A satisfactory park and recreation system should measure up to standards in three respects: 1) sufficient land area reserved for parks and recreation; 2) appropriate distribution of park and recreation facilities throughout the city; and 3) a full compliment of park and recreation facility types (i.e., active and passive recreation for all age groups) to accommodate a wide variety of users. Facilities should be provided at the neighborhood, community, and regional levels.

Two sets of policy documents, the Public Recreation Plan (PRP) and individual Community Plans, establish planning efforts and activities related to parks, recreation facilities, and open space areas in the City. The PRP provides citywide goals, objectives, and recommendations concerning parks and recreation facilities.

TABLE 122
PARKS LOCATED WITHIN A TWO-MILE RADIUS OF THE PROJECT SITE[1,2]

#[3]	Name	Location	Acreage	Facility
P1	Boyle Heights Sports Center	933 S. Mott St.	8.20	Community
P2	6th & Gladys St. Park	6th St. and Gladys St.	0.34	Neighborhood
P3	Everett Park	Everett St. - One block north of Sunset Blvd.	0.70	Neighborhood
P4	Pershing Square	532 S. Olive St.	5.02	Neighborhood
P5	Central Library Park	630 W. 5th St.	1.50	Neighborhood
P6	Echo Park	1632 Bellevue Ave.	29.41	Community
P7	Elysian Park	929 Academy Road	585.00	Regional
P8	Downey Recreation Center	1755 N. Spring St.	4.10	Neighborhood
P9	Lincoln Heights Recreation Center	2303 Workman Ave.	2.02	Neighborhood
P10	Lincoln Park	3501 Valley Blvd.	46.00	Community
P11	Hazard Park	2230 Norfolk St.	25.03	Neighborhood
P12	State St. Recreation Center	716 N. State St.	2.56	Neighborhood
P13	Prospect Park	Echandia St. and Judson St.	2.89	Neighborhood
P14	Pecan Recreation Center	127 S. Pecan St.	4.28	Neighborhood
P15	Hollenbeck Park	415 S. Saint Louis St.	21.24	Community

1 Source: Telephone conversation with Alonzo Carmichael, Planning Officer, Department of Recreation and Parks, City of Los Angeles, December 13, 1993.
2 Does not include park and recreation facilities located within a one-half mile radius of the project site. For a detailed description of park and recreational facilities located within a one-half mile radius, see pages 620-622 of this section.
3 Park Numbers Correspond with Figure 49.

Public Recreation Plan (PRP)

The PRP, a portion of Section 1 of the Service Systems Element of the City of Los Angeles General Plan, was adopted in 1980 by the City Council. The PRP focuses on physical facilities by emphasizing the provision of neighborhood and community recreation sites, community buildings, gymnasiums, swimming pools, and tennis courts. To a large extent, the PRP focuses on facility planning in residential areas, as these areas generate the greatest demand and need for parks and recreational facilities. The PRP also establishes general locations for future facilities based on a proposed service radius and projected population levels.

The PRP states that a neighborhood recreation site should provide space and facilities for outdoor and indoor recreation activities to meet the special needs of the particular neighborhood it serves. In addition to providing a community building, neighborhood park facilities typically afford the following activities: softball, basketball, volleyball, handball, soccer, football, shuffleboard, table games, handicrafts, lawn games, and small children's play. A community recreation site provides facilities to serve a wider range of interests and may include baseball diamonds, football and soccer fields, tennis and handball courts, and a swimming pool. Finally, a regional park facility provides specialized recreational facilities to serve the entire Los Angeles Basin. Regional parks generally encompass over 50 acres and include such facilities as lakes, golf courses, campgrounds, wilderness areas and museums, as well as providing facilities typically found in neighborhood and community parks. The Public Recreation Plan also identifies locations for proposed neighborhood, community, and regional parks. No proposed parkland within this Plan is located in the vicinity of the project site.

The PRP states that the location and allocation of acreage for neighborhood and community park and recreational facilities should be determined on the basis of the service radius within residential areas throughout the city. No park or recreational facility should be diminished in size or removed from any service radius unless the required acreage is replaced elsewhere within that same service radius, or unless the need is diminished due to population and/or land use changes.

An overall provision of 10 combined acres of land per 1,000 residents for total recreational facilities is recommended in the PRP. Further, the PRP recommends a minimum of 10 percent of the total land area be dedicated to public recreation or open space. The 10 combined acres of required recreational/park area per 1,000 can be broken down by park category. The desired long-range standard for both neighborhood and community park/recreation facilities is two acres (minimum) per 1,000 residents each for neighborhood and community facilities. The service radius for a neighborhood park should be approximately one-half mile, while an approximate two-mile radius is acceptable for a community facility. The City recognizes that these standards may not be fully attained during the life of the adopted plan. Therefore, interim "baseline" standards were established at one acre per 1,000 residents each for neighborhood and community facilities, having the one-half mile service radius for neighborhood parks and the two-mile radius for community parks. The acreage standards of the PRP are the same as those standards set in most of the individual community plans.

Community Plan

The project site is located within the Central City North Community Plan (CCNCP). The CCNCP, adopted in February 1979 and revised in January 1988, is a part of the General Plan of the City of Los Angeles. The CCNCP states that standards for park and recreation facilities set forth in the PRP are applicable to the Central City North Community. Thus, the interim standards for parks and recreation facilities within the Central City North Community are one acre of parkland per 1,000 residents for neighborhood and community facilities. The service radii are one-half mile and two miles for neighborhood and community facilities, respectively.

The CCNCP is surrounded by four other community/district plan areas. These include the Community Plan areas of Boyle Heights, Central City, and Northeast Los Angeles, as well as the Silverlake-Echo Park District Plan. In total, over 1,170 acres of park and recreation facilities are located within these five community areas. Each area has varying levels of land designated for open space and recreation. For example, the Northeast Los Angeles Community has the greatest number of parks (37 in total) while the Silverlake-Echo Park District has the greatest acreage of park/recreation land at 605 acres.

Current Adequacy of Available Facilities

Currently, the project vicinity does not meet the park and recreation interim standards of the PRP or the CCNCP of one acre per 1,000 residents for both neighborhood and community parks. Given the current population of the one-half mile radius surrounding the project site of approximately 6,170[1] residents, approximately 6.20 acres of neighborhood facilities are required based on the standard acre to resident ratio of 1:1,000, while only 5.91 acres are currently provided. Given the existing population of the two-mile radius surrounding the project site of approximately 143,800[1] residents, approximately 143.80 acres of community facilities are required based on the standard of one acre per 1,000 residents, while only 104.85 acres are provided. Thus, the existing park and recreation facilities in the project vicinity would be considered inadequate to meet the needs of the existing population.

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[1] Source: 1990 Census

[1] Source: 1990 Census

Based on the desired park standards, no area of the City of Los Angeles is adequately served for neighborhood and community recreation and park facilities.

ENVIRONMENTAL IMPACTS

Threshold of Significance

A project would normally cause a significant impact if it results in the substantial need for additional parks and recreational facilities and services due to the increased demand from new residential and applicable non-residential populations.

Phase I Impacts

Park standards are based on a residential population. Phase I uses of the project are predominantly office, with no proposed residential. Although Phase I employees will represent the equivalent daytime population of approximately 13,088 people, these individuals will be occupied with work and employment-related activities. Typically, office workers are not afforded long periods of time during the day where they may leave the area to enjoy local park and recreational facilities. Instead, office workers often utilize short and intermittent breaks in areas immediately adjacent to office buildings to catch a breath of fresh air, smoke a cigarette, read a magazine, or chat in an outdoor office plaza area.

Non-residential park and recreation standards are not currently provided by the City of Los Angeles. As no residential development would be included in Phase I of the proposed project, impacts to local park and recreation facilities (as evaluated through residentially based park standards) are not anticipated. While, it is conceivable that project-related employees would go to nearby local or regional parks to endeavor in organized sports, such as basketball or softball, the Department of Recreation and Parks acknowledges that while office-related uses will have some intermittent impact on park facilities, it is considerably less than the level of impact associated with residential uses.

Phase I of the proposed project would provide approximately 3.6 percent (2.49 acres) of the total site area for open space and would include such outdoor features as gardens, plazas, and patios. Additionally, a museum will be developed during this phase. With provision of these proposed open space and other amenities, impacts associated with future employees would be reduced to less than significant levels.

Buildout Phase Impacts

Under the Buildout Phase of the proposed project, approximately 300 residential units would be developed. The residential uses of the Buildout Phase of the project would increase the local population by approximately 501 people.[1] This increase in residents would require approximately 0.6 additional acres of both neighborhood and community recreation facilities based on the standard of one acre per 1,000 residents for both community and neighborhood park and recreation facilities. As a result of current inadequate neighborhood and community park and recreational facilities in the immediate area, the additional demand for park and recreation facilities from the incremental increase in residents of the Buildout Phase of the proposed project would be considered significant, unless compensatory recreational acreage is included on-site.

Buildout Phase employees will represent the equivalent daytime population of approximately 26,912 people. Again, office workers are not afforded long periods of time during the day when they may leave the area to enjoy local park and recreation facilities. Buildout Phase of the proposed project would provide approximately 9.4 percent (6.50 acres) of the total site area for open space and would include such outdoor features as gardens, plazas, and patios. With provision of these proposed open space amenities, impacts associated with future employees would be reduced to less than significant levels.

Summary of Phase I Impacts

Impact L.4.1 The daytime population generated by uses in Phase I would be accommodated by open space and passive recreation areas on-site; thus Phase I impacts to park and recreational facilities are considered less than significant.

Summary of Buildout Phase Impacts

Impact L.4.2 The daytime population generated by non-residential uses of the Buildout Phase would be accommodated by open space and passive recreation areas on-site; thus this component of the Buildout Phase impacts to park and recreational facilities is considered less than significant.

[1] Assumes a generation factor of 1.6 persons per dwelling unit.

Impact L.4.3 The residential uses of the Buildout Phase of the project would increase the local population by approximately 501 residents. Due to current inadequate neighborhood and community park and recreational facilities in the immediate area, the additional demand for parks and recreational facilities from the incremental increase in residents of the proposed project would be considered significant.

CUMULATIVE IMPACTS

The proposed project in conjunction with residential related projects would increase the number of new residents in the project locale by approximately 16,084 residents. In the absence of new and/or expanded parks, park and recreation facility deficits would be created and/or increased in relation to new residential populations. In addition, commercial related projects would increase the employee population in the project locale. Thus, related projects would have a significant cumulative impact on park and recreation facilities in the immediate area.

MITIGATION MEASURES

Phase I

L.4.1 The project design shall incorporate the following key principles of the ADP:

- Continue the style and intent of the historic courtyard spaces.
- Connect open spaces into one continuous system.
- Provide open spaces with diverse size, style, and character.

Buildout Phase

L.4.2 The Buildout Phase shall incorporate Mitigation Measure L.4.1.

L.4.3 In accordance with the requirements of the City of Los Angeles (Ordinance No. 141,422, amending Chapter 1, Article 7 of the Los Angeles Municipal Code), the project shall either pay the in-lieu fee to the city or develop park or recreation land on the project site using equivalent funding or greater. The proportion of total land on the site to be set aside for park and recreation land is based on the residential density as set forth in Section 17.12 Part B of the Municipal Code.

ADVERSE EFFECTS

Although no significant impacts will result from either Phase I or the Buildout Phase, implementation of the proposed mitigation measures would further reduce adverse impacts.

SECTION IV.L.5
LIBRARIES

ENVIRONMENTAL SETTING

Available Library Facilities

Library services for the project locale are provided by the City of Los Angeles Department of Libraries. Two branch libraries and the downtown Central Library are located in the vicinity of the project site. The location of these facilities is provided on the Libraries Map in Figure 50.

The two branch libraries are community facilities which are intended to serve the population within a two-mile radius of the library. The closest branch library to the project site is in Chinatown. The 14,000 square-foot Chinatown Branch is located approximately 0.7 miles west of the project site at 536 West College Street. This library is located on the site of the Castelar Elementary School and maintains a collection of approximately 64,000 books and materials in four languages (Chinese, English, Vietnamese, and Spanish). A computer lab for students of the school and library patrons is also provided. The facility opened for operation in February of 1977 and has undergone two expansions. The latest expansion was in 1992, when the Friends of Chinatown Library donated the funds to provide the existing computer lab facility. No improvements are currently planned for the future.[1]

The 2,500 square-foot Little Tokyo Branch is located approximately 1.0 mile southeast from the project site at 600 East 3rd Street in the Little Tokyo community. Prior to 1989, the community library was organized as a book-mobile. The current facility is located within donated space at the Centenary United Methodist Church site and maintains a collection of 22,000 books and materials in both Japanese and English. There are plans for the library to move to a larger site at the corner of Alameda and 3rd Streets within the next year. The new facility will contain 5,000 square feet of space and have a collection of approximately 45,000 books and materials.[2]

In addition to the neighborhood branch libraries, the project site is also served by the Central Library in the Downtown Financial District. The Central Library is also located within two miles of the ADP site (approximately 1.5 miles south), at 630 West 5th Street. The 540,000 square-foot facility contains approximately 2.2 million books and materials. The collection maintained at the Central

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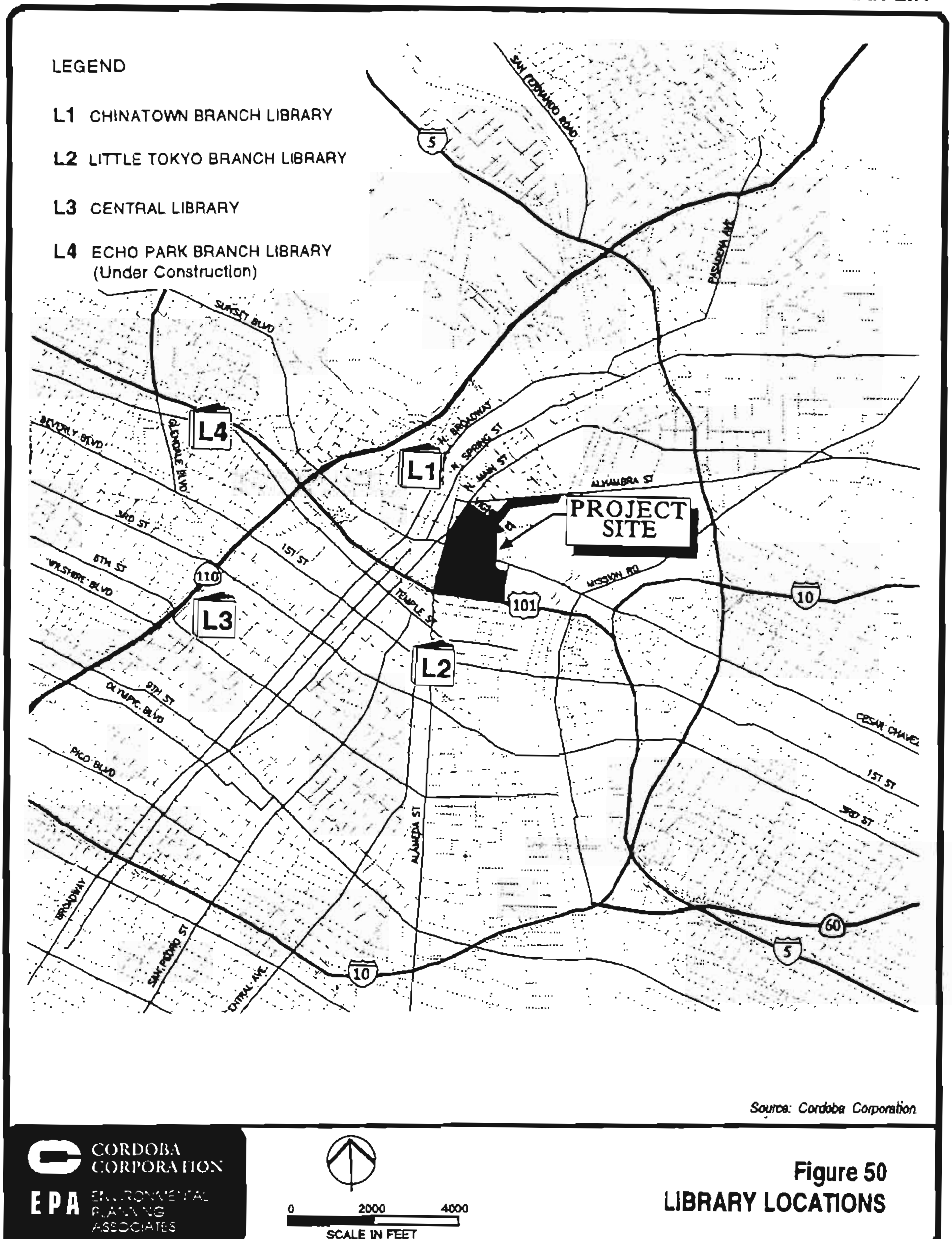
1 Source: Phone Conversation with Cathy Chance, Branch Librarian, Chinatown Branch, November 23, 1993.

2 Source: Phone Conversation with Susan Thompson, Branch Librarian, Little Tokyo Branch, November 23, 1993.



Source: Cordoba Corporation.

Figure 50
LIBRARY LOCATIONS

Library provides a complete compilation of the titles in the entire City library system and serves the current cultural, educational, recreational, and research needs of Los Angeles residents.[1] Furthermore, this facility functions as the administrative headquarters for the City library system. The latest renovation of the Central Library, completed in October 1993, added the 330,000 square-foot East Wing. Planning improvements to the Central Library include continual acquisition of materials and an on-site cafeteria and restaurant facilities.

As stated in the certified Supplemental Environmental Impact Report prepared for the Central Library expansion project, the Central Library is one of the largest public libraries in the western United States. The Central Library serves residents, workers and government employees in the CBD as well as the general population of greater Los Angeles. The Library is designed to provide library service for the entire southern California area and is federally funded to provide such programs. In addition, the California Public Library Foundation Program also provides state funds on a per capita basis to assist in funding the library's broad range of services.[2]

In addition to the close proximity to the ADP project, the Central Library is easily accessible by project employees and residents via the regional transit system. Numerous transportation alternatives, including bus, the Metro Red Line, and the Los Angeles Department of Transportation DASH system, operate regularly between the ADP and the Central Library sites. The Metro Red Line provides a direct link from Union Station to the Pershing Square Metro Stop, approximately one block from the Central Library.

Applicable Policy Plans

The Master Plan of Public Libraries is an Element of the City's General Plan, which is intended to guide government agencies and interested citizens on the construction, maintenance, and operation of public library facilities in the City. The original Plan was adopted in 1963 and revised in 1968 and does not include recent library additions. The Plan has not been updated or revised since the last revision in 1968 and no other citywide library standards exist. Neither the Chinatown nor the Little Tokyo Branches were included in the latest revision. Furthermore, the Central Library expansion was also not addressed in the 1968 Plan. The expansion came about due in large part to a fire, in April 1986, which severely damaged the library and destroyed over 400,000 volumes.

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1 Source: Phone Conversation with Rona Berns, Management Analyst I, Department of Libraries, December 3, 1993.

2 Supplemental Environmental Impact Report, Central Library Rehabilitation and Expansion, SCH #84112804, March 1985.

Table 123 provides current Los Angeles City library branch building size standards.[1] The size of the branch building is related to the size of the population served by the facility. Historically, the population served by a library facility was thought to be residential in nature. While it is recognized that library facilities are also utilized by non-residents, the Library Department or other library information resources are unable to provide a standard to determine a non-residential user equivalent. In order to adequately analyze the impacts of the project, a worst case scenario is analyzed assuming all residential and non-residential populations within a two-mile radius of the libraries would utilize the library system equally. Due to the close proximity of the three libraries serving the project, a two-mile radius was determined for the three sites combined. That two-mile service area resulted in a current (1990) population (residents and non-residents) of 752,129 people. That population was then applied to the service standard provided by the Library Department, namely 8 persons:1,000 square feet of library space. Therefore, when deciding the amount of space required for library services by a new development, total population increases, both residential and daytime equivalents, are utilized.

TABLE 123
BRANCH BUILDING SIZE STANDARDS[1]

Estimated Residential Population	Desired Size Of Facility (Square Feet)
50,001-100,000	12,500
35,001-50,000	10,500
25,000-35,000	9,000
Under 25,000	Special Size

1 Source: Phone Conversation with Rona Berns, Management Analyst 1, Department of Libraries, December 3, 1993.

1 Source: Phone Conversation with Rona Berns, Management Analyst 1, Department of Libraries, December 3, 1993.

ENVIRONMENTAL IMPACT

Threshold of Significance

Project-related population increases that would produce a substantial deficiency in existing library services would be considered a significant impact.

Phase I Impacts

Phase I development proposes 3,362,000 square feet of commercial and government office space, and retail and museum space. No residential development is planned for Phase I. The daytime population generated by Phase I development (approximately 13,088 employees) would generate a need for library services. Since this employee growth is included in the SCAG forecast for 2000, we have analyzed the library system's current population service ratio and the anticipated 2000 service ratio. This ratio is based upon the library's 8 person:1,000 square feet of library space standard. Again, as a worst case, we have assumed the non-residential population utilizes the library system at the same level as the residential population.

As shown in Table 124, the current (1990) population service ratio for residential users is 0.59:1,000 square feet; the current service ratio for non-residential users is 0.75:1,000 square feet; and the combined current service ratio for all users is 1.34:1,000 square feet. Table 124 also demonstrates that the Year 2000 population service ratio for residential users is estimated to be .67:1,000 square feet; the non-residential ratio is .79:1,000 square feet; and the combined 2000 services ratio for all users is 1.46:1,000 square feet. Therefore, the resulting year 2000 population to square feet ratio is within the standards of 8 persons:1,000 square feet. Thus, Phase I of the project presents no significant impact.

Buildout Phase Impacts

The Buildout Phase of the project will consist of 7,500,000 square feet of commercial and governmental office space, hotel and conferencing facilities, 300 residential units, recreation uses, and retail and museum space. The residential population (approximately 501 residents) and the new non-residential population (approximately 26,912 employees) would generate a need for library services. Since this employee and residential growth is included in the SCAG forecast for Year 2010, we have analyzed the library system's current population service ratio and the anticipated 2010 service ratio. This ratio is based upon the library's 8 persons:1,000 square feet of library space standard. Again, as a worst case, the non-residential population is assumed to utilize the library system at the same level as the residential population.

Current (1990) population service ratios are provided in the Phase I Impact discussion above. As shown in Table 124, the 2010 population service ratio for residential users is estimated to be 0.77:1,000 square feet; the non-residential ratio is 0.83:1,000 square feet; and the combined 2010 service ratio for all users is 1.60:1,000 square feet. Therefore, the resulting year 2010 population to square feet ratio is within the standards of 8 persons:1,000 square feet; thus, the project at Buildout Phase presents no significant impact.

Summary of Phase I Impacts

Impact L.5.1 Phase I of the project will increase the daytime population of the area by 13,088 people. This population can be served by the Chinatown, Little Tokyo, and Central Libraries. Therefore, implementation of Phase I development will not result in a significant impact on library service.

Summary of Buildout Phase Impacts

Impact L.5.2 Three hundred residential units are proposed for Buildout Phase of the proposed project, which will increase the residential population of the area by 501 people. Furthermore, a total daytime population associated with Buildout Phase of the proposed project would be 26,912 people. The population can be served by the Chinatown, Little Tokyo, and Central Libraries. Therefore, implementation of Buildout Phase development will not result in a significant impact on library services.

TABLE 124 COMPARISON OF POPULATION SERVED TO EXISTING LIBRARY SERVICE			
	1990	2000	2010[1]
Residential Population[2]	330,314	373,143	427,712
Non-Residential Population[2]	421,815	441,067	466,689
Total Population	752,129	814,210	894,401
Library Square Footage[3]	559,000	559,000	559,000
Minimum Service Standard[4] (persons per square foot)	8	8	n/a
Residential Population Service Ratio (persons per square foot)	0.59	0.67	0.77
Non-Residential Population Service Ratio (persons per square foot)	0.75	0.79	0.83
Combined Service Ratio (persons per square foot)	1.35	1.46	1.60

1 This table assumes that the new employment created by the project is already accounted for in the SCAG forecast for the area. Therefore, the 2010 column includes the estimated total project employment of approximately 26,912 jobs.
2 Based on combined 2 mile radius rings around three downtown library sites, including: the Little Tokyo Branch, the Chinatown Branch and the Downtown Central Library.
3 Assumes new 5,000 square feet location for Little Tokyo Branch.
4 Assumes 12,500 square feet of library space is required for each 1,000 library users based on current Dept. of Libraries service standards for highly populated areas.

CUMULATIVE IMPACTS

The proposed project in conjunction with related residential and commercial projects would increase the population within a two mile radius of the libraries by approximately 116,666 people in year 2010. This would result in a combined population service ratio of 1.81 people:1,000 square feet of library space, and would not represent a significant impact.

MITIGATION MEASURES

Phase 1

No mitigation is recommended.

Buildout Phase

No mitigation is recommended.

ADVERSE EFFECTS

Implementation of the proposed project will have a less than significant impact on library services.

SECTION IV.M.1
WATER

ENVIRONMENTAL SETTING

Regional Water Supply

Delivery of adequate water supply to the desert and semi-desert environments of Southern California has been a central issue to the area for more than 200 years. Over that time, increasingly sophisticated water delivery systems have been developed, together with the wholesale, retail, and regulatory agencies necessary to ensure reliable supplies of quality water to accommodate the demands of a growing region. The population of the City of Los Angeles, for instance, has grown substantially during this period - along with the City's demand for water. In 1900, the population of Los Angeles was 100,000 and water use amounted to 30,000 acre-feet per year (AF/yr). By 1920, the population had grown to 600,000, and average water use was 160,000 AF/yr. Population growth continued at a moderate rate until the end of World War II, when the population began to increase rapidly. By 1970, the population of the City had grown to 2.8 million, demanding 570,000 AF/yr of water. Today, the population is over 3.4 million and the City's average annual total water use is approximately 695,000 AF/yr.

In 1990, a total of approximately eight million acre feet (MAF) of water was demanded and distributed by water agencies to the Southern California region (with the exception of San Diego County) - utilizing both imported and local water sources at varying levels. The City of Los Angeles demanded approximately 8.7 percent of this regional water total. Local sources of water accounted for 23 percent of total regional water supply in 1990 and consisted of local surface water, groundwater, and reclaimed water. Local water sources are fully developed and are expected to remain relatively stable in the future, with the exception of reclaimed water use which likely will be more heavily utilized.

The remaining 77 percent of the regional water supply was imported from outside the region and consisted of water from the State Water Project (SWP), the Colorado River, and the Los Angeles Aqueduct. The continued availability of these sources is uncertain at current levels. The planned enlargement of the East Branch of the California Aqueduct will facilitate an eight percent increase in maximum yield from the SWP system; however, dependable yield from the SWP is expected to decrease slightly over time due to growing environmental concerns with the Delta, increased use in areas of origin in northern California, and increases in Central Valley Project contractual obligations. Additionally, the amount of water that California imports from the Colorado River, through annual over-apportionment, is expected to decline substantially in the near future, with increasing demand for water from Arizona and Nevada. Furthermore, the quality of the local water supply (e.g., contamination of surface and overdraft water, and increasing salinity and levels of nitrates and fertilizer residues) is also of concern.

Local Water Suppliers

The Los Angeles Department of Water and Power (DWP) is responsible for supplying water to the ADP project site. The DWP is also responsible for ensuring that the delivered water meets all applicable state quality standards. According to the DWP, the Los Angeles Aqueduct provides approximately 45 percent of the City's water need; 40 percent has come from the Metropolitan Water District of Southern California (supplied from the Colorado River and SWP); and local ground water (San Fernando Valley Groundwater) makes up the remaining 15 percent. These proportions are not typical during periods of drought, such as the one California recently experienced, when MWD water made up the majority of the City's water supply. However, the DWP anticipates that these three sources will fulfill the City's water needs for the near future. According to recent projections, the City's water demand for the year 2020 is estimated to be approximately 900 cubic feet per second (cfs), as shown in Table 125. Approximately 800 cfs of this demand will be met by the City's aqueducts and local sources. The unmet need will be provided from the City's MWD water entitlement which, if fully exercised, would bring the City's total available water supply to approximately 1,700 cfs. Based on this estimate, the City of Los Angeles will have an adequate water supply to meet current and future growth.

TABLE 125
WATER SUPPLY FOR THE YEAR 2020[1]

PROJECTED CITY OF LOS ANGELES WATER DEMAND FOR YEAR 2020	900 cfs
Water From Aqueducts and Local Supply	800 cfs
Water Supplied By the Metropolitan Water District	900 cfs
TOTAL AVAILABLE WATER SUPPLY FOR THE 2020	**1,700 CFS**

1 Source: Letter from Laurent McReynolds, Engineer-in-Charge, Water Operating Division, Los Angeles Department of Water and Power, October 18, 1993.

Due to recent drought conditions, as well as capacity problems with the City's sewage treatment system (see Section IV.M.3 for a complete discussion of sewage impacts), the City of Los Angeles is currently subject to a mandatory water conservation program (Ordinance No. 166,080). Specific requirements of the program include the retrofitting of all existing industrial, commercial, and multi-family residential structures with low-flow showerheads and toilet tank conservation devices. Similar water conserving devices are required to be installed in all single-family homes. These structures cannot be sold until they have been inspected by certified installers to determine compliance. The program also requires residents to repair leaking faucets and toilets and a mandatory water consumption reduction of 15 percent. The program requires a substantial reduction in the amount of water used for landscaping purposes through the planting of drought-tolerant species (Xeriscape) and the installation of water conserving devices on all large turf areas. The use of recycled water for irrigation purposes is also being explored. Per capita water demand has been decreasing in recent years due to such water conservation practices and increased population density. This trend is predicted to continue. For example, average yearly per capita water consumption is expected to decline from its peak of 183 gallons per capita per day (GPCD) in 1975, to 174 GPCD by 2010. Other potential sources of new water supplies include reclamation/recycling, desalination, sub-potable aquifers, and water transfers.

Local Water Service

Twelve water mains currently serve the immediate project area and are located under the following streets: an eight-inch, a 12-inch, and a 20-inch water main are located under Alameda Street; a 10-inch and a 12-inch water main are located under North Main Street; a 12-inch water main is located under Vignes Street; an eight-inch water main is located under Bauchet Street; an eight-inch water main is located under Avila Street; a 16-inch and a 12-inch water main are located under Cesar E. Chavez Avenue; a 12-inch water main is located under Lyon Street; and a 12-inch water main is located under Ramirez Street.[1]

Terminal Annex Property

The Terminal Annex property currently contains approximately 731,600 square feet of floor area, including the Terminal Annex Building and 1960s extension, the Vehicle Maintenance Facility, a two-story commercial building, a one-story commercial building, and a Los Angeles Fire Department fire station. During Phase I of the project, a total of 187,900 square feet of existing uses would be demolished on the Terminal Annex property, including interior non-historic portions of the Terminal Annex Building and the entire 1960s extension, the two-story commercial building, and the one-story

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1 Source: Letters from Laurent McReynolds, Engineer-in-Charge, Water Operating Division, Los Angeles Department of Water and Power, October 18, 1993 and March 15, 1994.

commercial building. During Buildout Phase of the project, the Vehicle Maintenance Facility and the fire station, totaling 86,700 square feet, would be demolished. Therefore, a total of 274,600 square feet of the Terminal Annex property would be demolished during the total Buildout Phase of the project.

Union Station Property

The Union Station property currently contains 234,200 square feet of floor area. The property includes the Union Station Terminal, the REA Building, the mission tower, a car repair shop, and restrooms. During Phase I of the project, 93,500 square feet of the REA Building would be demolished on the Union Station property. During Buildout Phase of the project, 42,000 square feet of the REA Building would be demolished, and 31,500 square feet would be retained. Thus, a total of 135,500 square feet of the Union Station property would be demolished during the Buildout Phase of the project.

For purposes of environmental analysis, and to accurately assess net project impacts, water consumption has been calculated for those existing uses on-site which would be demolished with project development. This consumption has been subtracted from the total consumption expected during Phase I and the Buildout Phase to arrive at a net increase in water consumption as well as all other utilities. Additionally, several existing buildings on the project site will remain after completion of the proposed project. These uses are not included in assessing project impacts because they would not increase the current service load for the project site (i.e., existing water consumption demands from these uses would remain constant before and after project development). As shown in Table 126, the existing development that would be demolished during Phase I is estimated to currently consume approximately 22,440 gallons of water per day. For total Buildout Phase, the existing development to be demolished is estimated to currently consume approximately 47,004 gallons of water per day as shown in Table 126.

ENVIRONMENTAL IMPACT

Threshold of Significance

For the purposes of this EIR, if the estimated water requirements for the proposed project are greater than the available capacity of the existing distribution facilities, the water impact is considered significant. Secondly, according to the CEQA Guidelines, Appendix G, a significant effect occurs when a project will "substantially degrade or deplete ground water resources" or "encourage activities which will result in the use of large amounts of ... water.. [or use] water.. in a wasteful manner." For the purposes of this analysis, this threshold is also used to determine if a significant impact will occur.

TABLE 126 DAILY EXISTING WATER CONSUMPTION FROM OCCUPIED DEVELOPMENT TO BE DEMOLISHED [1,2]		
Use	Consumption Rate [3] (Gallons/Unit)	Total Water Consumed (Gallons/Day)
PHASE I		
REA Building 93,500 sf	240/1,000 sf [4]	22,440
TOTAL PHASE I		22,440
BUILDOUT PHASE		
Terminal Annex Building Existing Postal-Related Uses 25,000 sf [5]	240/1,000 sf [4]	6,000
Fire Station 20,200 sf	420/1,000 sf [6]	8,484
REA Building 42,000 sf	240/1,000 sf [4]	10,080
TOTAL BUILDOUT PHASE		**24,564**
TOTAL WATER CONSUMED FROM EXISTING DEVELOPMENT TO BE DEMOLISHED		**47,004**

1 Several existing buildings on the project site will be demolished during development. The information provided in this table is used to calculate net impacts for project development, after demolished uses are accounted for.
2 Demolished atrium space and vacant or vacated structures are excluded. No water is consumed by these uses.
3 Assumes worst case consumption rate of 120 percent of sewage generation. Source: City of Los Angeles, Bureau of Engineering, Wastewater Program Management, Sewer Facilities Charge Guide and Generation Rates, August 1988.
4 Assumes office generation rate.
5 Displaced existing postal uses to be relocated off-site.
6 Based on the assumption that a fire station use contains living, dormitory, and office space.

Phase I Impacts

Domestic water needs include ground wetting during construction, landscaping and irrigation needs for operation, fire flow requirements, and all associated consumption required from normal operation and occupancy of the project. Based on a worst-case consumption rate of 120 percent of the City of Los Angeles' sewage generation rates, daily operation of Phase I of the proposed project is anticipated to consume approximately 780,180 gallons of water per day as shown in Table 127. The existing development to be demolished during Phase I is estimated to consume approximately 22,440 gallons of water per day. Therefore, the anticipated net water consumption increase for Phase I is estimated to be 757,740 gallons of water per day. Water service would continue to be provided by the DWP. The existing DWP infrastructure system would be able to accommodate the anticipated domestic water and fire flow requirements (12,000 gallons per minute) associated with the Phase I development with no significant impact on the existing water system.[1]

Groundwater contamination has been identified at the project site, and in the area surrounding the project site. A comprehensive analysis of groundwater contamination and proposed mitigation can be found in Section J (Risk of Upset). Development of the project itself will not, however, further degrade groundwater quality. Additionally, the majority of water supplied to the site will come from imported sources; therefore, the project will not substantially deplete groundwater sources.

Buildout Phase Impacts

Buildout Phase of the proposed project is anticipated to consume approximately 2,445,180 gallons of water per day, as shown in Table 127. The existing development to be demolished during the Buildout Phase is estimated to consume approximately 47,004 gallons of water per day. Therefore, the anticipated net water consumption increase for the Buildout Phase is estimated to be 2,398,176 gallons of water per day. Water service would continue to be provided by the DWP. The existing DWP infrastructure system would be able to accommodate the anticipated domestic water and fire flow requirements associated with the project with no significant impact on the existing water system.[2] As with Phase I, development of the project itself will not further degrade groundwater quality. Additionally, the majority of water supplied to the site will come from imported sources; therefore, the project will not substantially deplete groundwater sources.

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1 Source: Letter from Laurent McReynolds, Engineer-in-Charge, Water Operating Division, Los Angeles Department of Water and Power, October 18, 1993 and March 15, 1994.

2 Ibid

TABLE 127
DAILY PROJECT WATER CONSUMPTION[1]

Use	Consumption Rate[2] (Gallons/Unit)	Total Water Consumed (Gallons/Day)
PHASE I		
Commercial Office 1,470,000 sf	240/1,000 sf	352,800
Government Office 1,722,000 sf	240/1,000 sf	413,280
Retail 100,000 sf	120/1,000 sf	12,000
Museum 70,000 sf	30/1,000 sf	2,100
TOTAL PHASE I		780,180
LESS EXISTING WATER USAGE OF DEVELOPMENT TO BE DEMOLISHED		22,440
TOTAL NET INCREASE OF WATER FOR PHASE I		**757,740**
BUILDOUT PHASE		
Commercial Office 4,480,000 sf	240/1,000 sf	1,075,200
Government Office 1,520,000 sf	240/1,000 sf	364,800
Hotel/Conference Center 1,050,000 sf (750 rooms)	180/room	135,000
Residential 300 Units	240/dwelling unit[3]	72,000
Retail 150,000 sf	120/1,000 sf	18,000
TOTAL NEW DEVELOPMENT		2,445,180
LESS EXISTING DEVELOPMENT TO BE DEMOLISHED		47,004
TOTAL NET INCREASE AT BUILDOUT PHASE		**2,398,176**

1 Several existing buildings on the project site will remain after completion of the proposed project. These uses are not included in assessing project impacts because they would not increase the current service load for the project site.

2 Assumes worst case consumption rate of 120 percent of sewage generation. Source: City of Los Angeles, Bureau of Engineering, Wastewater Program Management, Sewer Facilities Charge Guide and Generation Rates, August 1988.

3 Assumes an average of two bedrooms per unit.

Summary of Phase I Impacts

Impact M.1.1 Phase I of the project would consume a net increase of approximately 757,740 gallons of water per day. This increase in water consumption would be considered a less than significant impact, because the existing infrastructure system can accommodate anticipated domestic water requirements for the proposed project and groundwater sources would not be substantially depleted or degraded by the project.

Summary of Buildout Phase Impacts

Impact M.1.2 Buildout Phase of the project would consume a net increase of approximately 2,398,176 gallons of water per day. This increase in water consumption would be considered a less than significant impact, because the existing infrastructure system can accommodate anticipated domestic water requirements for the proposed project and groundwater sources would not be substantially depleted or degraded by the project.

CUMULATIVE IMPACTS

Related projects are estimated to consume approximately 8,130,800 gallons of water per day, as shown in Table 128. The proposed and 56 related projects are estimated to consume a total of 10,501,976 gallons of water per day. As with the proposed project, all related projects would be subject to the locally-mandated water conservation programs. Although mitigation measures for related development would reduce increases in water consumption, cumulative impacts could be considered significant if local infrastructure cannot accommodate anticipated water needs or if groundwater sources are heavily utilized. The extent of such impacts would be determined on a project-by-project basis. Assuming implementation of the City's standard water conservation measures and related regulatory authority, cumulative impacts are not considered to be significant.

MITIGATION MEASURES

Phase I

M.1.1.a Automatic sprinkler systems shall be set to irrigate landscaping during early morning hours or during the evening to reduce water losses from evaporation. Landscaping shall be watered less often during cooler months and the rainfall season.

M.1.1.b Wherever possible, the use of reclaimed water shall be investigated as a source to irrigate large landscaped areas such as pedestrian plazas, landscaped walkways, and other open spaces.

TABLE 128
RELATED PROJECTS DAILY WATER CONSUMPTION

Use	Generation Rate[1] (Gallons/Unit)	Total Sewage Generated (Gallons/Day)
3,350 units Apartment	240/unit[3]	804,000
2,128 units Condominium	240/unit[3]	510,720
163 units SRO Hotel	120/unit[2]	19,560
19,260,173 sf Office	240/1,000 sf	4,622,442
5,622 rooms Hotel	180/room	1,011,960
2,052,333 sf Retail	120/1,000 sf	246,280
266,500 sf Commercial	120/1,000 sf	31,980
1,065,000 sf Detention Facility (2,312 beds)	102/bed	235,824
386,000 sf school (4,044 students)	18/student	72,792
210,000 sf Rescue Mission (800 beds)	102/bed[4]	81,600
196,447 sf Warehouse	30/1,000 sf	5,893
167,728 sf Conference Room/ Social Hall	24/15 sf	268,365
151,000 sf Museum/Cultural Facility	30/1,000 sf	4,530
145,686 sf Health Club	360/1,000 sf	52,447
63,000 sf Showroom	120/1,000 sf[5]	7,560
60,440 sf Restaurant (1,727 seats)	60/seat	103,620
27,000 sf Day Care(360 children)[6]	12/child	4,320
19,000 sf Church	120/1,000 sf[5]	2,280
18,000 sf Market	120/1,000 sf	2,160
11,390 sf Bank	120/1,000 sf	1,367
Concert Hall (2,350 seats)	6/seat	14,100
SUBTOTAL		8,103,800
WATER CONSUMED BY PROPOSED PROJECT		2,398,176
TOTAL		**10,501,976**

1 Assumes worst case consumption rate of 120 percent of sewage generation. Source: City of Los Angeles, Bureau of Engineering, Wastewater Program Management, "Sewer Facilities Charge Guide and Generation Rates," August 1988.
2 Assumes studio apartment generation rate.
3 Assumes an average of two bedrooms.
4 Assumes boarding house generation rate.
5 Assumes commercial generation rate.
6 Assumes one child per 75 square feet.

M.1.1.c Selection of drought-tolerant, low water consuming plant varieties shall be used to reduce irrigation water consumption in new landscaped areas such as pedestrian plazas, walkways, and other open spaces.

M.1.1.d Recirculating hot water systems shall be used where feasible in long piping systems (where water must be run for considerable periods before hot water is received at the outlet).

M.1.1.e Lower-volume water faucets and water saving showerheads shall be installed in new construction and when remodeling, as well as low flush toilets in all restrooms.

M.1.1.f Plumbing fixtures shall be selected which reduce potential water loss from leakage due to excessive wear of washers.

M.1.1.g Phase I of the project shall comply with all applicable sections of the City of Los Angeles' Water Conservation Ordinance (Ordinance No. 166,080) and Xeriscape Ordinance.

Buildout Phase

M.1.2 Phase I Mitigation Measures M.1.1.a through M.1.1.g shall also be implemented for the Buildout Phase of the proposed project.

ADVERSE EFFECTS

The existing infrastructure system can accommodate anticipated domestic water requirements for the proposed project, and the project itself would not adversely effect the regional or local water supply. In addition, the implementation of water conservation measures will be implemented, further reducing anticipated water consumption. Consequently, both construction and operation of Phase I and the Buildout Phase of the project would have a less than significant impact.

SECTION IV.M.2
SOLID WASTE AND DISPOSAL

ENVIRONMENTAL SETTING

Solid waste generated by projects in the City of Los Angeles is disposed of within city, county, and privately owned landfills. Transfer stations are utilized to store debris temporarily until larger hauling trucks are available to transport the materials directly to the landfills. Landfill availability is limited by several factors, some of which include the following: 1) restrictions to accepting waste generated only within a landfill's particular jurisdiction and/or wasteshed boundary; 2) tonnage permit limitations; 3) operational constraints; and 4) corporate objectives of landfill owners and operators.[1]

Of the 19 permitted Class III landfills in Los Angeles County, only three accept refuse from private collectors and service the project area. According to 1991 County estimates, the remaining permitted Class III capacity is 99 million tons[2]. Based on the 1990 average disposal rate of 43,245 tons per day (six days per week), the capacity could potentially be exhausted by the year 1999. Table 129 shows the annual disposal quantity, annual capacity, remaining capacity, and permit status for each of the three landfills servicing the project area. The locations of these landfills are shown in Figure 51.

Although several landfills and transfer stations already divert some recyclable materials from the waste stream, most of the landfills which serve the City of Los Angeles area are experiencing siting, capacity, and operating problems. In response to the increasing solid waste disposal problems occurring throughout the State of California, the California Integrated Waste Management Act (AB 939: Sher) was passed in September 1989. AB 939 requires that each City and County in the State use source reduction, recycling, and composting to divert 25 percent of the solid waste stream from landfills and transformation facilities by 1995, and 50 percent by the year 2000. The Act also requires each city to conduct a Solid Waste Generation Study (SWGS) and to prepare a Source Reduction and Recycling Element (SRRE) describing how it will reach these goals. Penalty fees are established for noncompliance to ensure that mandates are met. The Act establishes the California Integrated Waste Management Board (CIWMB), with the responsibility for monitoring and enforcing these mandates. AB 939 regulations became final in 1990.

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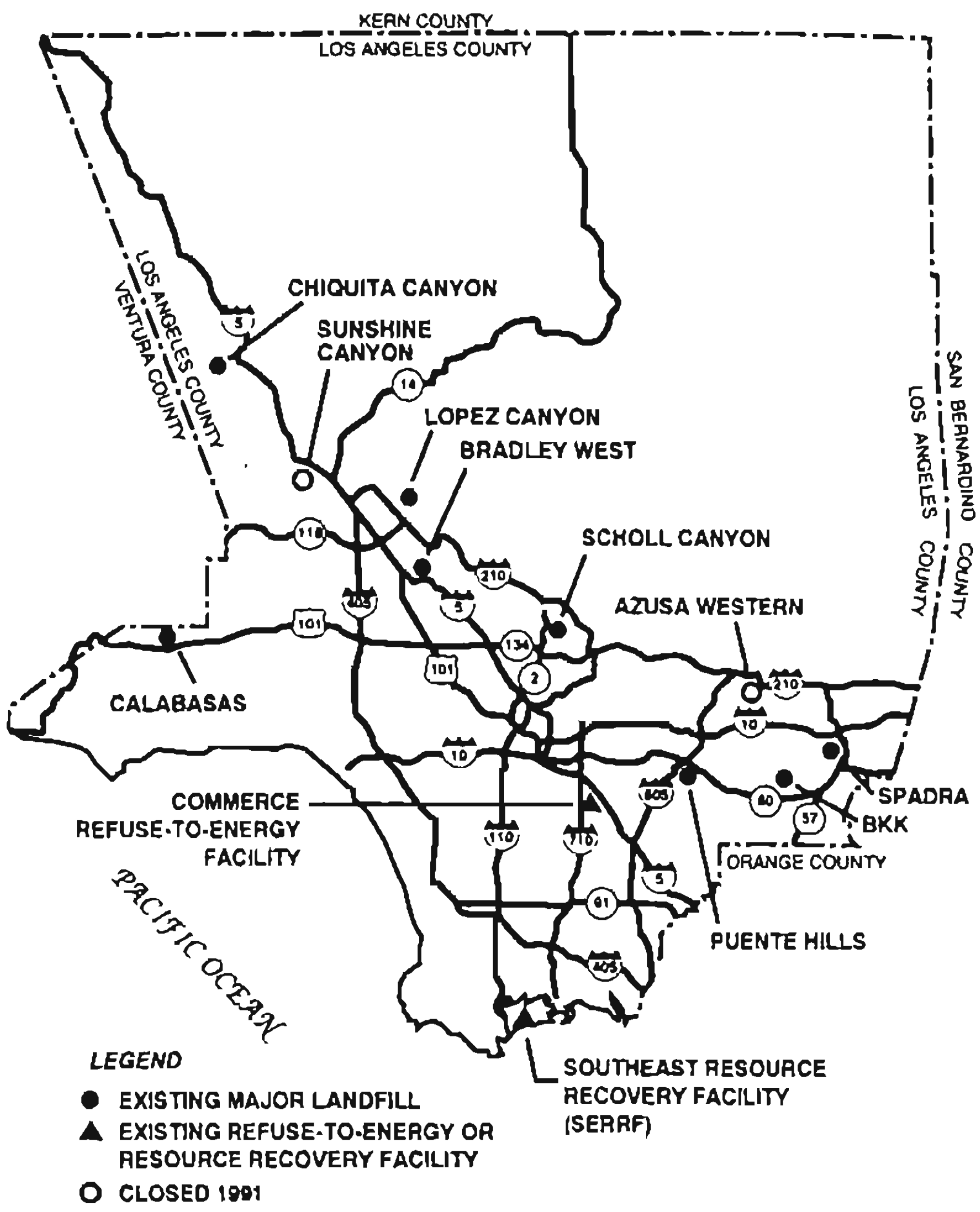
1 Source: Letter from T.A. Tidemanson, Director, County of Los Angeles Department of Public Works, to Michael Frost, Chairman, California Integrated Waste Management Board, dated August 23, 1993, Page 3.

2 Source: Letter from T.A. Tidemanson, Chairman, Los Angeles County Solid Waste Management Committee/Integrated Waste Management Task Force to George Larson, Chief Executive Officer, California Integrated Waste Management Board, dated March 28, 1991.

TABLE 129
EXISTING AVAILABLE DISPOSAL FACILITIES [1]

Site	Location	Annual Capacity (10^6 tons)	Annual Disposal Quantities (10^6 tons)	Remaining Capacity (10^6 tons)[2]	Permit Exp. Date
BKK[3]	West Covina	4.380	3.103	41.250	2006[4]
Bradley West[5]	No. San Fernando Valley	2.555	1.825	11.250	2007
Chiquita[6]	W. Santa Clarita Valley	1.825	0.511	3.000	1997

1 Source: Telephone conversation with Mike Mohajer, Assistant Division Manager, Waste Management Division, Los Angeles County Department of Public Works, on 11/18/93.
2 Uses conversion factor of approximately 1,500 pounds/cubic yard of remaining capacity. BKK and Bradley West have 55 and 15 million cubic yards of remaining landfill capacity, respectively.
3 Source: Telephone conversation with Mike Luke, Chief Engineer, BKK Corporation, on 11/18/93.
4 Information regarding DKK may change depending upon the result of ongoing litigation concerning BKK's permit.
5 Source: Telephone conversation with Frank Keefler, Environmental Engineer, Waste Management Disposal Services Inc., on 11/18/93.
6 Source: Telephone conversation with Rodney Walter, General Manager, Laidlaw Waste Systems, on 11/19/93.



Source: County Sanitation Districts of Los Angeles County

CORDOBA CORPORATION

EPA ENVIRONMENTAL PLANNING ASSOCIATES

Figure 51
LANDFILL LOCATIONS

The City of Los Angeles Source Reduction and Recycling Element (SRRE)

The City of Los Angeles SRRE is both a programmatic and policy-oriented document, with the level of detail and format prescribed by AB 939 regulations. This highly specific document confirms tasks, roles, responsibilities, and implementation schedules designed to comply with AB 939 waste diversion goals. The SRRE covers both a 10-year programmatic planning period (1990-2000) and a 15-year disposal capacity projection. As required by AB 939, the City's SRRE will be updated yearly in order to remain current with changing market and infrastructure conditions, as well as modifications based on program monitoring and evaluation. Guidance for preparing the disposal capacity projections, which include assumptions regarding growth and diversion goals, are outlined in AB 939 regulations. The Los Angeles County Integrated Solid Waste Management Plan, as required by AB 939, must incorporate the City's recycling and disposal projections, as well as the recycling and disposal projections of other cities within the County's jurisdiction.

A companion bill to AB 939 is AB 2707, which requires the development of the Household Hazardous Waste Element (HHWE). The HHWE outlines methods for reducing the volume of household hazardous waste, and outlines provisions for the safe collection and disposal of such waste. The HHWE is similar in content and approval processes to the SRRE, and thus is being issued concurrently with the SRRE.[3]

The City of Los Angeles Solid Waste Management Policy Plan (CiSWMPP)

In contrast to the SRRE, the CiSWMPP is a broader long-term (30-year) policy and planning document that contains general goals, objectives, and policies to cover all aspects of solid waste management for the City, and provides guidance to the Department of City Planning for revisions to the City's General Plan and Infrastructure Element. It projects both citywide diversion goals and disposal capacity needs over this 30-year period. Building on AB 939 goals, the CiSWMPP sets a waste diversion goal of 70 percent by the year 2020. There are no requirements for revisions (the last document was prepared in 1972), and the level of detail is much less than that of the SRRE because of the CiSWMPP's long-term policy orientation and use for General Plan revisions. There are no state or federal requirements for developing the CiSWMPP; thus, the outline and content are determined by City policy makers. The CiSWMPP was created to outline City solid waste management policy, and is a complementary document to the SRRE.

[3] The City of Los Angeles Household Hazardous Waste Element (HHWE) is available for review at the Los Angeles Central and Regional Libraries, the UCLA University Research Library and the USC Doheny Library.

The CiSWMPP and SRRE have marked differences in terms of content, purpose, regulatory basis, and planning intervals. However, representatives from the City Bureau of Sanitation, Integrated Solid Waste Management Office (ISWMO), and the Board of Public Works coordinated these two documents to ensure that solid waste management policy for the City consistently supports its diversion goals and the state law (AB 939).[4]

The County Department of Public Works Waste Management Division has incorporated AB 939 diversion goals into its most recent landfill capacity projections. Despite incorporation of such goals, the County Department of Public Works estimates that there are less than 15 years of available disposal capacity left in the county.[5] It requires seven to ten years to permit new capacity. In addition, in 1991 the California Integrated Waste Management Board (CIWMB) passed a resolution that acknowledged the continuing need to ensure landfill capacity and recognized that a shortage of such capacity exists in the county.

As a result of the shortage of landfill capacity, the County supports the development of new, technically and environmentally sound disposal facilities; the expansion of existing facilities to the maximum extent technically and environmentally feasible; and the development of out-of-county disposal through waste-by-rail systems.

The County Sanitation Districts of Los Angeles County are currently examining the feasibility of a new landfill site and the implementation of a waste-by-rail system. The new proposed landfill is located at Elsmere Canyon. The Elsmere Canyon Landfill will potentially cover 1,500 acres, with a total fill capacity of 190 million tons[6]. In addition, the County Sanitation Districts are proposing expansion of the Chiquita Canyon, Sunshine Canyon, and Puente Hills Landfills. The County Sanitation Districts are also examining a waste-by-rail system which would transport residual waste from the Puente Hills Landfill to remote landfills by rail[7]. Potential rail-served landfills, which are being analyzed by the County Sanitation Districts, include:

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4 The City of Los Angeles Solid Waste Recycling and Reduction Element (SRRE) and the City Solid Waste Management Policy Plan (CiSWMPP) are available for review at the Los Angeles Central and Regional Libraries, the UCLA University Research Library and the USC Doheny Library.

5 Source: Letter from T.A. Tidemanson, Director, Los Angeles County Department of Public Works, to Michael Frost, Chairman, California Integrated Waste Management Board, dated August 23, 1993, Page 5.

6 Source: Sanitation Districts of Los Angeles County Ad Hoc Committee on Waste-By-Rail, Report on Waste-By-Rail, December 1991.

7 Source: County Sanitation District No. 2 of Los Angeles County, Notice of Preparation on the Draft EIR for an Intermodal Facility and a Waste-By-Rail Disposal System originating from the Puente Hills Materials Recovery Facility.

- EAST CARBON SANITARY - East Carbon, Utah, operated by the East Carbon Development Corporation.

- FRANCONIA - Franconia, Arizona, owned by Franconia Technologies, a Waste Management Company.

- LA PAZ - Owned by the County of La Paz, Arizona, to be operated by Browning Ferris Industries, Inc.

- EAGLE MOUNTAIN - Located near Desert Center in Riverside County, proposed to be developed by the Mine Reclamation Corporation.

- BOLO STATION - Located near Amboy in San Bernardino County, proposed to be developed by RailCycle, a joint venture of WMX Technologies and the ATSF.

- MESQUITE - Located near Glamis in Imperial County, proposed to be developed by California InteRail, a partnership of the Gold Fields Mining Company, Western Waste Industries, and SP Environmental Systems, Inc.

ENVIRONMENTAL IMPACT

Threshold of Significance

For the purposes of this EIR, exceedance of the current or planned capacity of local landfills as a result of a project-related or cumulative demand would constitute a significant impact.

Construction Impacts

Phase I Impacts

Phase I of the project would require the excavation and removal of approximately 731,500 cubic yards of earth due to grading activities. In addition, Phase I would also require the demolition and removal of 281,400 square feet of floor area on the project site. Thus, Phase I development would require the excavation and export of approximately 731,500 cubic yards of earth, in addition to an indeterminable amount of debris resulting from demolition activities, which will be disposed of at either local landfills or nearby building sites requiring additional fill material. In addition, potential hazardous material found on the site (i.e., contaminated soils and asbestos in construction material) may need to be hauled to landfills accepting hazardous materials (Class I) (see Section IV.J Risk of Upset for a complete discussion of hazardous waste conditions on the site). Because excavation and demolition activities are limited and single-event in nature, construction impacts would contribute to an adverse, but less than significant, impact on existing local landfill capacity.

Buildout Phase Impacts

Total development of the project would require the excavation and removal of approximately 2,000,000 cubic yards of earth due to grading activities. In addition, Buildout Phase development will require the demolition and removal of an additional 128,700 square feet of floor area. Moreover, an additional 300,000 square-foot parking structure on the Terminal Annex site will also be demolished. Thus, project Buildout Phase would require the excavation and export of approximately 2,000,000 cubic yards of earth, in addition to an indeterminable amount of debris resulting from demolition activities, which will be disposed of at either local landfills or nearby building sites requiring additional fill material. Because excavation and demolition activities are limited and single-event in nature, construction impacts would contribute to an adverse, but less than significant impact on the existing local landfill capacity.

As discussed in Phase I, hazardous material found on site may need to be hauled to Class I landfills (see Section IV.J, Risk of Upset for a complete discussion of hazardous waste conditions on the site and its disposal to Class I landfills).

Operational Impacts

Phase I Impacts-Nonhazardous Waste

The project site is currently developed with a total of 965,800 square feet. Of that total, approximately 281,400 square feet will be demolished during Phase I, and an additional 128,700 square feet will be demolished during project Buildout Phase. Section III.A, Environmental Setting, provides a more detailed description of all existing uses on the site. As shown in Table 130, existing uses to be demolished are estimated to generate approximately 561 pounds of solid waste per day during Phase I and approximately 1,104 pounds of solid waste per day during project Buildout Phase.

Operation of Phase I of the project is estimated to generate 21,864 pounds of solid waste per day, as shown in Table 131.[8] The existing solid waste generated from development to be demolished in Phase I is estimated to be 561 pounds per day.

[8] Source: EIR Manual for Private Projects, pg. S-16, and the California Solid Waste Management Board.

TABLE 130
DAILY EXISTING SOLID WASTE GENERATION FROM OCCUPIED DEVELOPMENT TO BE DEMOLISHED [1, 2]

Use	Generation Rate [3] (pounds/unit)	Total Solid Waste Generated (pounds/day)
PHASE I		
REA Building 93,500 sf	6/1,000 sf [4]	561
TOTAL PHASE I		**561**
BUILDOUT PHASE		
Terminal Annex Building Existing Postal-Related Uses 25,000 sf	6/1,000 sf [4]	150
Fire Station 20,200 sf	7/1,000 sf [6]	141
REA Building 42,000 sf	6/1,000 sf [4]	252
TOTAL BUILDOUT PHASE		**543**
TOTAL EXISTING DEVELOPMENT DEMOLISHED		**1,104**

1 Several existing buildings on the project site will be demolished during project development. The information provided in this table is used to calculate net impacts for project development, after demolished uses are accounted for.
2 Demolished atrium space and vacant or vacated structures are excluded. No solid waste is generated by these uses.
3 Source: Bureau of Engineering, City of Los Angeles, Average Solid Waste Generation Rates, April 1981.
4 Assumes office generation rate.
5 Displaced existing postal uses to be relocated off-site.
6 Assumes governmental/ Institutional generation rate.

TABLE 131
ANNUAL PROJECT SOLID WASTE GENERATION[1]

Use	Generation Rate[2] (pounds/unit)	Total Generation (pounds/day)
PHASE I		
Commercial Office 1,470,000 sf	6/1,000 sf	8,820
Government Office 1,722,000 sf	7/1,000 sf	12,054
Retail 100,000 sf	5/1,000 sf[3]	500
Museum 70,000 sf	7/1,000 sf[4]	490
TOTAL PHASE I		21,864
LESS EXISTING DEVELOPMENT TO BE DEMOLISHED		561
TOTAL NET INCREASE FOR PHASE I		**21,303**
BUILDOUT PHASE		
Commercial Office 4,480,000 sf	6/1,000 sf	26,880
Government Office 1,520,000 sf	7/1,000 sf	10,640
Hotel/Conference Center 750 rooms	2 lbs/room	1,500
Residential 300 rooms	4 lbs/room	1,200
Retail 150,000 sf	5/1,000 sf[3]	750
TOTAL NEW DEVELOPMENT		62,834
LESS EXISTING DEVELOPMENT TO BE DEMOLISHED		1,104
TOTAL NET INCREASE AT BUILDOUT PHASE		**61,730**

1 Several existing buildings on the project site will remain after completion of the proposed project. These uses are not included in assessing project impacts because they would not increase the current service load for the project site.
2 Source: Bureau of Engineering, City of Los Angeles, Average Solid Waste Generation Rates, April 1981. Generation rates do not include household hazardous waste.
3 Assumes commercial generation rate.
4 Assumes governmental/institutional generation rate.

The net increase in site-generated solid waste would be 21,303 pounds per day. This represents an increase of 0.0246 percent over the Los Angeles Countywide average disposal rate of 43,245 tons per day.

A complete impact assessment of the solid waste generation increase on landfill capacity cannot be determined at this time, because no contracts for private waste collection have been negotiated. Although solid waste could be disposed at more than one landfill, a worst-case assessment can be performed that assumes all project-generated waste would be disposed of at a single individual landfill which accepts privately-collected solid waste. The potential worst-case impacts of Phase I would be anticipated as follows:

- BKK - The annual disposal quantity would increase by 0.1253 percent, the annual capacity would be reduced by 0.0888 percent, and the remaining capacity would be reduced by 0.0094 percent annually; or

- BRADLEY WEST - The annual disposal quantity would increase by 0.2130 percent, the annual capacity would be reduced by 0.1522 percent, and the remaining capacity would be reduced by 0.0346 percent annually; or

- CHIQUITA - The annual disposal quantity would increase by 0.7608 percent, the annual capacity would be reduced by 0.2130 percent, and the remaining capacity would be reduced by 0.1296 percent annually.

Buildout Phase Impacts-Nonhazardous Waste

Operation of all phases of the project is estimated to generate 62,834 pounds of solid waste per day, as shown in Table 131.[9] The existing solid waste generated from development to be demolished in Buildout Phase is estimated to be 1,104 pounds per day. The net increase in site-generated solid waste would be 61,730 pounds per day. The net increase would result in an increase in the countywide waste stream by 0.0714 percent.

The potential worst-case impacts of total project would be anticipated as follows:

- BKK - The annual disposal quantity would increase by 0.3631 percent, the annual capacity would be reduced by 0.2572 percent, and the remaining capacity would be reduced by 0.0273 percent annually; or

[9] Source: EIR Manual for Private Projects, pg. S-16, and the California Solid Waste Management Board.

- BRADLEY WEST - The annual disposal quantity would increase by 0.6173 percent, the annual capacity would be reduced by 0.4409 percent, and the remaining capacity would be reduced by 0.1001 percent annually; or

- CHIQUITA - The annual disposal quantity would increase by 2.2046 percent, the annual capacity would be reduced by 0.6173 percent, and the remaining capacity would be reduced by 0.3755 percent annually.

Hazardous Waste - Phase I and Buildout Phase

The proposed development could potentially generate hazardous waste during operation. Common hazardous waste generated by a project of this nature can consist of unused paint, aerosol cans, medications, cleaning agents (solvents), and other empty or partially empty hazardous waste containers. These household hazardous waste materials are generally disposed at non-hazardous Class II and III landfills, including BKK, Bradley West, and Chiquita. All other hazardous materials must be disposed at Class I landfills outside Los Angeles County. The amount of common hazardous waste represents a small fraction of the total wastestream; however, due to a shortage of available Class I disposal sites in Los Angeles County, any common hazardous material generated by new development is also considered to be an adverse impact.

The following Class I disposal sites are available outside Los Angeles County and are currently accepting hazardous wastes generated within the City of Los Angeles:

- KETTLEMAN HILLS (Kings County) - current capacity is nine million cubic yards, with an additional 20 million cubic yard proposed for a new landfill. Existing permit expires December, 1997.[10]

- WESTMORLAND (Imperial County) - current capacity is 500,000 cubic yards[11]. Existing permit expires February, 2002.[12]

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[10] Information obtained from telephone conversation on November 22, 1993, and on May 16, 1994 with Catherine Pool, Assistant Environmental Manager, Kettleman Hills Landfill, owned by Chemical Waste Management.

[11] Information obtained from telephone conversation on May 16, 1994, with Al Abrajan, Customer services, Laidlaw Environmental Service, Westmorland, California.

[12] Information obtained from telephone conversation on November 22, 1993, with Andy Yadvish, Facility Environmental Manager, Laidlaw Environmental Services, Westmorland, California.

- BUTTONWILLOW (Kern County) - current capacity is 1.26 million cubic yards, with new proposed landfills permitted at six million cubic yards. Exist permit expires January, 2000.[13]

Summary of Phase I Impacts

Impact M.2.1 Short-term construction impacts are considered adverse, but less than significant. However, the project applicant shall comply with Mitigation Measure M.2.1 to further reduce short-term construction impacts to solid waste and disposal activities.

Impact M.2.2 Due to the limited availability of remaining landfill capacities in Los Angeles County, implementation of the project would create a significant impact on solid waste and disposal services resulting from Phase I of the project.

Impact M.2.3 Due to the limited availability of hazardous waste facilities in California, implementation of the project would create a significant impact on hazardous waste and disposal services resulting from Phase I of the project although the total amount of hazardous waste generated is anticipated to be very low.

Summary of Buildout Phase Impacts

Impact M.2.4 Impacts are anticipated to be the same as those described for Phase I, with minimal generation of hazardous waste. Because the Buildout Phase is larger, however, more waste could potentially be generated than in Phase I.

CUMULATIVE IMPACTS

Related projects are expected to generate approximately 177,525 pounds of solid waste per day, as shown in Table 132. Implementation of the proposed and related projects would generate approximately 239,423 pounds (or approximately 120 tons) of waste per day. This represents an increase of 0.2768 percent over the countywide waste stream. This increase in solid waste generation would have a cumulative significant adverse impact on regional landfill capacity. Specifically, development of the proposed and related projects are estimated to reduce the remaining capacity at the BKK landfill by 0.1059 percent per year, at the Bradley West landfill by 0.3884 percent per year, and at the Chiquita landfill by 1.4565 percent per year (assuming a worst-case scenario where solid waste from all of these projects is disposed of at a single landfill).

[13] Information obtained from telephone conversation on November 22, 1993, and on May 16, 1994 with David Nielsen, Environmental Manager, Laidlaw Environmental Services, Buttonwillow, California.

MITIGATION MEASURES

Phase I

M.2.1 Although short-term construction impacts to solid waste and disposal services are considered less than significant, the following mitigation measure shall be implemented to further reduce adverse impacts:

The project sponsor shall demonstrate that all construction and demolition debris, to the maximum extent feasible, will be recycled in a practical, available, and accessible manner during the construction phase. Documentation of this recycling program will be provided to the City of Los Angeles, Department of Public Works.

M.2.2.a[14] In accordance with AB 939, the City's SRRE and the City's CiSWMPP, the project sponsor shall prepare and submit a SRRP to the Planning Department prior to the approval of individual building permits, both documenting and outlining the incorporation of an on-site recycling/conservation program through a series of mandatory measures including, but not limited to, the following items:

- Instituting a tenant/employee participation recycling program, whereby tenants/employees are given individual containers/bins to separate newsprint, white, and/or colored paper for regular custodian collection and deposit into larger separation containers to be removed by appropriate recyclers or haulers providing such services.

- Instituting a tenant/employee education program which would, through a series of brief educational sessions, outline various methods whereby employees can further contribute to methods of recycling/conservation in the office and home (e.g., contracting with firms for purchase of recycled paper, use of two-sided reports, replacement of Styrofoam cups with coffee mugs, etc.).

M.2.2.b The project shall incorporate the use of recycled materials in building materials, furnishings, operations, and building maintenance, to the extent feasible and allowed by local codes. The SRRP shall describe the use of these materials in the project.

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[14] Source: Mitigation Measures M.2.a through M.2.g were from the Draft Mitigations Catalog For the City of Los Angeles attached with the letter from Joan Edwards, Department of Public Works, Integrated Solid Waste Management Office, City of Los Angeles, dated November 8, 1993.

M.2.2.c A statement shall be included in the SRRP that instructs occupants about source reduction, recycling, and procurement of recycled materials. This statement shall be incorporated into the future ownership agreement, property management agreements, and tenant agreements.

M.2.2.d A statement shall be included in the SRRP that specifies which of the following entities will provide collection of trash and source separated materials - the City of Los Angeles; project sponsor or property management service; independent recycling contractor; or private solid waste collector who provides recycling services.

M.2.2.e The project owner, within its property management agreements, shall conduct an annual waste audit review and measure the effectiveness of the tenant education program and recycling collection activities. To the greatest extent possible, the audit shall include:

- Review of purchasing patterns to eliminate materials not compatible with the established waste diversion program.

- Review of operating procedures which generate either large amounts of waste or non-recyclable materials.

- Review of company uses and activities.

- Evaluation and expansion of recyclable materials to be included in a recycling program.

- Review of employee awareness of recycling program goals, procedures, and accomplishments. Evaluation and implementation of training for all project occupants.

The results of the study shall be used to improve the Source Reduction and Recycling Plan (SRRP) to reduce solid waste generation. The SRRP shall describe the methods by which designated recyclable materials will be separated from the waste stream, collected, and stored, to facilitate transportation to a recycler or hauler providing such services.

M.2.2.f The design of recycling systems shall facilitate source separation and collection of additional materials that may be designated as recyclable by the City in the future.

TABLE 132
RELATED PROJECTS DAILY SOLID WASTE GENERATION

Use	Generation Rate[1] (Pounds/Unit)	Total Solid Waste Generated (Pounds/Day)
3,350 units Apartment	4/unit	652
2,128 units Condominium	4/unit	13,400
163 units SRO Hotel	4/unit	8,512
19,260,173 sf Office	6/1,000 sf	115,561
5,622 rooms Hotel	2/room	11,244
2,052,333 sf Retail	5/1,000 sf[2]	10,262
266,500 sf Commercial	5/1,000 sf	1,333
1,065,000 sf Detention Facility (2,312 beds)	7/1,000 sf[3]	7,455
386,000 sf school (4,044 students)	7/1,000 sf[3]	2,702
210,000 sf Rescue Mission (800 beds)	7/1,000 sf[3]	1,470
196,447 sf Warehouse	5/1,000 sf[2]	982
167,728 sf Conference Room/ Social Hall	5/1,000 sf[2]	839
151,000 sf Museum/Cultural Facility	6/1,000 sf[4]	906
145,686 sf Health Club	5/1,000 sf[2]	728
63,000 sf Showroom	5/1,000 sf[2]	315
60,440 sf Restaurant (1,727 seats)	5/1,000 sf[2]	302
27,000 sf Day Care(360 children)[5]	7/1,000 sf[3]	189
19,000 sf Church	5/1,000 sf[2]	95
18,000 sf Market	5/1,000 sf[2]	90
11,390 sf Bank	6/1,000 sf[4]	68
Concert Hall (2,350 seats)	0.25/seat	588
SUBTOTAL		177,693
SOLID WASTE GENERATED BY PROPOSED PROJECT		61,730
TOTAL		**239,423**

1 Source: City of Los Angeles, Bureau of Engineering, "Average Solid Waste Generation Rates," April 1981.
2 Assumes commercial generation rate.
3 Assumes governmental/institutional generation rate.
4 Assumes office generation rate.
5 Assumes one child per 75 square feet.

M.2.2.g To the extent feasible, one or more of the following yard waste management techniques shall be incorporated into the maintenance of the project:

- Planting drought tolerant plants so as to minimize yard waste.
- Mulching and grass-recycling.
- Local composting through regular landscape maintenance where appropriate.

M.2.3.a The property owner will provide information to project occupants and operators regarding alternatives to commonly used hazardous materials in the business and governmental environment, as well as information regarding the proper storage, handling and disposal of hazardous waste.

M.2.3.b The project will comply with all applicable regulations and/or measures outlined in the City of Los Angeles Household Hazardous Waste Element (HHWE).

Buildout Phase

M.2.4.a Phase I Mitigation Measures M.2.1 through M.2.3.b shall also be implemented for the Buildout Phase under the proposed project.

M.2.4.b For residential units, the project shall provide all tenants and each household with a practical and accessible means of recycling materials, including the design and allocation of recycling collection and storage space in individual units, and a centralized collection and storage area for the entire project.

ADVERSE EFFECTS

Construction impacts would create a short-term, adverse (but less than significant) impact on existing local landfill capacity. The implementation of the project would increase site-generated solid waste by approximately 61,730 pounds per day. Although recycling programs identified in the SRRP will reduce waste, solid waste generated by the project will still add to the demand for long-term disposal facilities, as it would incrementally contribute to the exhaustion of one or more of the existing local landfills. This impact is considered significant due to landfill capacity problems in the City and County of Los Angeles. Impacts resulting from the disposal of hazardous waste will be significant and unavoidable due to the limited availability of Class I landfills in California.

SECTION IV.M.3
SANITARY SEWERS

ENVIRONMENTAL SETTING

Wastewater from the project site is currently treated at the Hyperion Treatment Plant (HTP) located in Playa Del Rey, directly west of the Los Angeles International Airport. The HTP treats wastewater from almost all of the City of Los Angeles as well as seven contract cities including Santa Monica, Beverly Hills, Burbank, Culver City, El Segundo, Glendale, San Fernando, and portions of Los Angeles County, as well as 29 contract agencies. These neighboring cities and agencies are under contract to Los Angeles to participate in the cost of having their wastewater treated at the City's facilities.

The HTP became fully operational in 1950, with a design volume of approximately 320 million gallons per day (MGD) of wastewater. The HTP presently has a design capacity to treat 420 MGD of effluent flow to primary treatment standards, of which only 190 MGD receive secondary treatment. Although the HTP has three ocean outfalls, only one is used on a regular basis. Primary and secondary effluent are mixed and discharged through the HTP's five-mile outfall. The HTP's one-mile outfall is maintained on a stand-by basis and used only during emergency conditions. Until 1987, a seven-mile outfall was also used for sludge disposal. Solids generated by the HTP are currently managed in the following manner: Hyperion Energy Recovery System (HERS) - 20 percent; land application - 40 percent; and chemical fixation - 40 percent. A by-product of the anaerobic digestion process is methane gas, which is collected and treated within the HTP and finally used as a fuel source within the solids handling process. The digestion process is independent from the chemical conditioning process, which is not accomplished on the HTP site.

The HTP service area also encompasses two inland reclamation plants, the Los Angeles/Glendale Water Reclamation Plant (LAGWRP) and the Tillman Water Reclamation Plant (TWRP). Both plants were constructed to treat wastewater, which otherwise would not reach the HTP without the construction of additional outfall relief sewers. LAGWRP was completed in 1976, and is capable of processing 20 MGD of wastewater. TWRP became operational in 1985, and was designed to process 40 MGD of wastewater. An expansion of TWRP was completed in October, 1991, which increased its current capacity to 80 MGD. At this time, the Hyperion Treatment System (including the LAGWRP and the TWRP) has the capacity to treat 520 MGD, and was treating approximately 400 MGD of wastewater during recent years of drought. From 1987 to 1991, sewage discharged into the system increased at a rate of approximately 10 MGD a year. However, due to the decline of real estate development over the past three years, the growth rate of sewage discharged in the system has declined.[1] In recent years the average sewage flows at the HTP have been low. For instance, in the 12-month period from August 1993 to August 1994, the average sewage flow was approximately 330 MGD. The drought, implementation of water conservation measures, and the recession have affected the volumes of sewage flows.[2] Recent sewage spills in the Ballona Creek area near the HTP can be attributed to a lack of backup power at pumping stations. These sewage spills have contributed to pollution problems in Santa Monica Bay. With the implementation of improvements currently under construction or proposed for the Hyperion Treatment System, it is anticipated that the system will have adequate sewage treatment capacity up to the year 2010.[3]

The City of Los Angeles has responded to the sewage capacity problem by limiting growth in the system from projects in the City to five MGD per year. The City Council adopted an Interim Sewer Connection Ordinance (No. 164,964) on June 16, 1989, that temporarily limited the future issuance of sewer connection permits (and hence building permits) in the City of Los Angeles. This ordinance was extended for two 180-day periods, and on June 27, 1990, was replaced with a permanent ordinance establishing sewer permit allocation regulations (No. 166,060). Specifically, the ordinance limits available sewerage to a monthly allotment of 416,667 gallons per day. Construction within the City is now allowed to add each year only five MGD to the average sewer flow. The five MGD annual allocation is divided into monthly increments, and once the monthly ration of sewage capacity is claimed, no more building permits can be issued until the following month. Thirty-four and one-half percent of the total annual sewage allotment (1,725,000 gallons per day) can be utilized for priority projects approved by the City Council. Eight percent of the annual sewage allotment (400,000 gallons per day) can be utilized for public benefit projects as determined by the City Council. Of the remaining 57.5 percent of the annual sewage allotment (2,875,000 gallons per day), approximately 65 percent is for use by residential projects. Priority is given to low and moderate income housing, shelters for the homeless, and other special residential projects. The remaining 35 percent is for use by all other non-residential projects. Under the ordinance, sewerage availability for individual projects is determined on a first-come, first-serve basis, unless the project is otherwise exempted or prioritized by the ordinance. The Department of Public Works will determine if sewer capacity is available during the plan check phase of a project. If capacity is available, and the applicable sewer fees have been paid, the Department of Building and Safety will process the applicant's building permit. If sewer capacity is not available, the application is denied, and the

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1 Source: Telephone conversation with Lucy McGovern, Wastewater Program Management Division, Bureau of Engineering, City of Los Angeles, December 28, 1993.

2 Source: Telephone conversation with Lucy McGovern, Wastewater Program Management Division, Bureau of Engineering, City of Los Angeles, November 8, 1994.

3 Source: Telephone conversation with Darrel Hans, Assistant division Engineer, Wastewater Treatment Engineering Division, Bureau of Engineering, City of Los Angeles, February 9, 1994.

applicant is placed on a waiting list for the next available allotment. Currently, due to the recent decline in real estate development in the region, the monthly sewage allotments are below the five MGD limit per year. However, the sewer allocation ordinance (No. 166,060) will likely stay in effect until after local sewer systems throughout the Hyperion service area have expanded their capacities to adequately connect with the main HTP system.[1]

The following projects are currently underway, or have been recently completed at the HTP, which would provide a significant improvement in the quality of discharges into Santa Monica Bay:

- The Hyperion Energy Recovery System (HERS), completed in 1987 was designed to eliminate the discharging of sludge in the Bay. Through the HERS process, the sludge is dehydrated and combusted into ash, which is then trucked off-site for reuse as a copperflux replacement. Another important by-product of the HERS process is steam, which is harnessed to generate additional electricity for the plant.

- In October, 1990, the U.S. Environmental Protection Agency and City of Los Angeles jointly issued a Final Supplemental EIR/EIS for the City's Wastewater Facilities Plan Update (WFPU). The WFPU provides for improved quality and increased capacity of wastewater treatment for the City of Los Angeles to the year 2010. It will result in secondary treatment of all wastewater flows, and increase the system-wide capacity from a maximum monthly average flow of 440 MGD to approximately 562 MGD. Over 4.2 million persons living in the City of Los Angeles and its contract cities (by 2010) will benefit by these improvements.

- The WFPU improvements which are now underway, and which will be completed in 1999, include expanding secondary treatment capacity at the HTP to 450 MGD, expanding capacity of the Los Angeles-Glendale Water Reclamation Plant (LAGWRP) to 50 MGD, and continuing the current capacity of the Tillman Water Reclamation Plant (TWRP) of 80 MGD. A number of ancillary projects are also part of the WFPU, most of which are being constructed at the Hyperion Treatment Plant.

- The expansion of secondary treatment capacity at HTP is scheduled for completion in 1998. When this project is completed, the full secondary design capacity of 450 MGD will meet the projected need of the year 2010. This project requires new facilities, refurbishing and modernizing of existing facilities, and removing and replacing a number of facilities that have exceeded their useful life. Upon the completion of this project, only secondary effluent would continue to be discharged into Santa Monica Bay via the two outfalls.

[1] Source: Telephone conversation with Lucy McGovern, Wastewater Program Management Division, Bureau of Engineering, City of Los Angeles, December 28, 1993 and November 8, 1994.

Other improvement projects now in the planning, design or construction stage are being implemented within the Hyperion Treatment System. These improvements include additions, repairs and replacements of sewer lines and pumping stations that make up a large part of the collection system. These projects are being implemented to prevent overflows and to ensure the reliable transport of wastewater to the treatment plants.

Terminal Annex Property

The Terminal Annex property currently contains approximately 731,600 square feet of floor area, including the Terminal Annex Building and 1960s extension, the Vehicle Maintenance Facility, a two-story commercial building, a one-story commercial building and a Los Angeles Fire Department fire station. During Phase I of the project, a total of 187,900 square feet of existing uses would be demolished on the Terminal Annex property, including interior non-historic portions of both the Terminal Annex Building and the entire 1960s extension, the two-story commercial building and the one-story commercial building. During Buildout Phase of the project, the Vehicle Maintenance Facility and the fire station, totaling 86,700 square feet, would be demolished. Therefore, a total of 274,600 square feet of the Terminal Annex property would be demolished during the total Buildout Phase of the project.

Union Station Property

The Union Station property currently contains 234,200 square feet of floor area. The property includes the Union Station Terminal, the REA Building, the Mission Tower, a car repair shop, and restrooms. During Phase I of the project, 93,500 square feet of the REA Building would be demolished on the Union Station property. During Buildout Phase of the project, 42,000 square feet of the REA Building would be demolished, and 31,500 square feet would be retained. Thus, a total of 135,500 square feet of the Union Station property would be demolished during the Buildout Phase of the project.

As shown in Table 133, the existing development that would be demolished during Phase I is estimated to currently generate approximately 18,700 gallons of sewage per day. For total Buildout Phase, the existing development to be demolished is estimated to currently generate approximately 39,170 gallons of sewage per day, as shown in Table 133. Approximately 13 existing sewer lines are located proximate to the project site under the following streets: a 27-inch and an eight-inch sewer line under Cesar E. Chavez Avenue; a 16-inch sewer line under Alameda Street south of Cesar E. Chavez Avenue; a 12-inch line under Arcadia Street; a 30-inch line under Los Angeles Street; a 10-inch, a 12-inch, an 18-inch, and a 21-inch sewer line under Alameda Street north of Cesar E. Chavez Avenue; a 12-inch sewer line under North Main Street; an eight-inch sewer line under Vignes Street; a 12-inch sewer line under Ramirez Street; a 12-inch sewer line under Lyon Street; an eight-inch sewer line under Bauchet Street; and an eight-inch sewer line under Avila Street.

TABLE 133
DAILY EXISTING SEWAGE GENERATION FROM OCCUPIED DEVELOPMENT TO BE DEMOLISHED [1,2]

Use	Generation Rate[3] (Gallons/Unit)	Total Sewage Generated (Gallons/Day)
PHASE I		
REA Building 93,500 sf	200/1,000 sf[4]	18,700
TOTAL PHASE I		**18,700**
BUILDOUT PHASE		
Terminal Annex Building Existing Postal-Related Uses 25,000 sf[5]	200/1,000 sf[4]	5,000
Fire Station 20,200 sf	350/1,000 sf[6]	7,070
REA Building 42,000 sf	200/1,000 sf[4]	8,400
TOTAL BUILDOUT PHASE		**20,470**
TOTAL SEWAGE GENERATED FROM EXISTING DEVELOPMENT TO BE DEMOLISHED		**39,170**

1 Several existing buildings on the project site will be demolished during development of the proposed project. The information provided in this table is used to calculate net impacts for project development, after demolished uses are accounted for.
2 Demolished atrium space and vacant or vacated structures are excluded. No sewage is generated by these uses.
3 Source: City of Los Angeles, Bureau of Engineering, Wastewater Program Management, Sewer Facilities Charge Guide and Generation Rates, August 1988.
4 Assumes office generation rate.
5 Displaced existing postal uses to be relocated off-site.
6 Based on the assumption that a fire station use contains living, dormitory, and office space.

The availability of sewer capacity and drainage patterns in the vicinity of the proposed project were determined, based on recent monitoring at sewer manholes conducted by the City of Los Angeles Wastewater Division.[1] Three manhole sites were selected for monitoring: 1) on Alameda Street, between Arcadia Street and the northbound Santa Ana Freeway offramp; 2) on Los Angeles Street south of the Santa Ana Freeway, in the crosswalk in front of the Federal Building; and 3) on Cesar E. Chavez Avenue, between the tunnel entrance and the bus exit from Union Station. Based on the monitored sewer manholes, the majority of the sewer lines currently flow west and south to the 30-inch reinforced concrete pipes located under Los Angeles Street. The only exception is a small area at the southeast corner of the project site, located on Ramirez Street. This area drains east and south through an eight-inch sewer line, and joins a 16-inch sewer line located under Vignes Street.

ENVIRONMENTAL IMPACT

Threshold of Significance

For the purposes of this EIR, an increase in sewer flow that exceeds the capacity of the sewage delivery and/or treatment system is considered significant.

Phase I Impacts

Phase I of the proposed project is anticipated to generate approximately 650,150 gallons of sewage per day, as shown in Table 134. The existing development to be demolished during Phase I is estimated to generate approximately 18,700 gallons per day. Therefore, the anticipated net sewage increase for Phase I is estimated to be 631,450 gallons per day. Phase I sewage generation would represent 0.19 percent of the 330 million gallons per day currently treated by the HTP, and 0.70 percent of the remaining existing capacity of 90 million gallons per day.

New development and growth in the HTP service area are constrained by existing sewer capacity limits. Eventually, capacity for future growth within the areas serviced by the HTP will be provided through the expansion of the HTP full secondary treatment facilities with a design capacity of 450 MGD. Since completion of the HTP expansion is scheduled for 1998, sewage generated from Phase I could be met with the new available treatment capacity.

Based on a sewer capacity study conducted for this project, the additional sewage generation resulting from Phase I of the project is within the capacity of the 27-inch sewer line located under Cesar E.

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[1] Monitoring was performed July 4-12, 1994 by Truesdail Laboratories, Inc. Flow monitoring calculations are provided in Sanitary Sewer Capacity Study.

Chavez Avenue and the 30-inch sewer line located under Los Angeles Street.[1] However, total peak flow (existing and projected) will exceed the half-full capacity of the 16-inch sewer line located under Alameda Street by 18 percent of the sewer's total capacity. Since only a portion of the project will be required to drain into this sewer line, the project sewer system should be designed to limit the sewer flows to the 16-inch line's half-full capacity. Should local sewage lines require upgrading, the resulting construction may cause a temporary impact on the surrounding community due to noise, increased air/dust pollution, and traffic congestion for the duration of the necessary construction activities. A determination regarding the need for off-site sewer system improvements would need to be made prior to the commencement of Phase I construction activities, with any corresponding improvements to be completed prior to Phase I completion. However, based on current capacity estimates, adequate local capacity is available in the Los Angeles Street and Cesar E. Chavez Avenue lines to serve Phase I development.

Buildout Phase Impacts

Buildout Phase of the proposed project is anticipated to generate approximately 2,037,650 gallons of sewage per day, as shown in Table 134. The existing development to be demolished during the Buildout Phase of the project is estimated to generate approximately 39,170 gallons per day. Therefore, the anticipated net sewage increase for the Buildout Phase is estimated to be 1,998,480 gallons per day. Sewage generated by total Buildout Phase of the project would represent 0.61 percent of the 330 million gallons per day currently treated by the HTP and 2.22 percent of the remaining existing capacity of 90 million gallons per day.

New development and growth in the HTP service area are constrained by existing sewer capacity limits. Eventually, capacity for future growth within the areas serviced by the HTP will be provided through the expansion of the HTP full secondary treatment facilities, with a design capacity of 450 MGD. Sewage generated from the Buildout Phase could be met with the new available treatment capacity.

[1] Source: Sanitary Sewer Capacity Study, EKN Engineering, August, 1994.

TABLE 134
DAILY PROJECT SEWAGE GENERATION[1]

Use	Generation Rate[2] (Gallons/Unit)	Total Sewage Generated (Gallons/Day)
PHASE I		
Commercial Office 1,470,000 sf	200/1,000 sf	294,000
Government Office 1,722,000 sf	200/1,000 sf	344,400
Retail 100,000 sf	100/1,000 sf	10,000
Museum 70,000 sf	25/1,000 sf	1,750
TOTAL PHASE I		650,150
LESS EXISTING DEVELOPMENT TO BE DEMOLISHED		18,700
TOTAL NET INCREASE OF SEWAGE FOR PHASE I		**631,450**
BUILDOUT PHASE		
Commercial Office 4,480,000 sf	200/1,000 sf	896,000
Government Office 1,520,000 sf	200/1,000 sf	304,000
Hotel/Conference Center 1,050,000 sf (750 rooms)	150/room	112,500
Residential 300 Units	200/dwelling unit[3]	60,000
Retail 150,000 sf	100/1,000 sf	15,000
TOTAL NEW DEVELOPMENT AT BUILDOUT PHASE		2,037,650
LESS EXISTING DEVELOPMENT TO BE DEMOLISHED		39,170
TOTAL NET INCREASE AT BUILDOUT PHASE		**1,998,480**

1 Several existing buildings on the project site will remain after completion of the proposed project. These uses are not included in assessing project impacts because they would not increase the current service load for the project site.
2 Source: City of Los Angeles, Bureau of Engineering, Wastewater Program Management, "Sewer Facilities Charge Guide and Generation Rates," August 1988.
3 Assumes an average of two bedrooms per unit.

As with Phase I, the additional sewage generation resulting from Buildout Phase of the project could result in an increase in the peak sewage flow in the lines. Based on a sewer capacity study conducted for this project, the additional sewage generation resulting from Buildout Phase of the project is within the capacity of the 27-inch sewer line under Cesar E. Chavez Avenue and the 30-inch sewer line located under Los Angeles Street.[1] However, total peak flow (existing and project) will far exceed the half-full capacity of the 16-inch sewer line under Alameda Street. Since only a portion of the project will be required to drain into this sewer line, the project sewer system should be designed to limit the sewer flows to the 16-inch line's half-full capacity. However, should local sewage lines require any upgrading, the resulting construction may cause a temporary impact on the surrounding community due to noise, increased air/dust pollution, and traffic congestion for the duration of the necessary construction activities. A determination regarding the need for off-site sewer system improvements would need to be made after Phase I and prior to any further construction activity.

Summary of Phase I Impacts

Impact M.3.1 Phase I of the project would increase sewage generation by approximately 631,450 gallons per day. This increase in sewage generation would be considered a less than significant impact on new treatment capacity. However, total peak flow (existing and projected) will exceed the half-full capacity of the 16-inch sewer line under Alameda Street by 18 percent of the sewer's total capacity (which would be considered a significant impact, prior to mitigation).

Summary of Buildout Phase Impacts

Impact M.3.2 Buildout Phase of the project would increase sewage generation by approximately 1,998,480 gallons per day. This increase in sewage generation would be considered a less than significant impact on new treatment capacity. However, total peak flow (existing and projected) will far exceed the half-full capacity of the 16-inch sewer line under Alameda Street (which would be considered a significant impact, prior to mitigation).

CUMULATIVE IMPACTS

Related projects are anticipated to generate approximately 6,753,166 gallons of sewage per day, as shown in Table 135. Related project sewage generation would account for 2.05 percent of the daily sewage flow currently treated by the HTP and 7.50 percent of the remaining system capacity. The

1 Source: Sanitary Sewer Capacity Study, EKN Engineering, August 1994. This study is included as part of the Technical Studies Appendices available through the Community Planning Bureau.

proposed and related projects are estimated to generate a total of 8,751,646 gallons of sewage per day. Sewage generated by the related and proposed projects would account for 2.65 percent of the daily sewage flow currently carried by the HTP and 9.72 percent of the remaining HTP capacity. Related projects would be subject to current and future local ordinances, which restrict the issuance of building permits based on the availability of allotted monthly sewer capacity. The project itself does not present significant impacts. However, until additional treatment facilities become available and operational, sewage generated by the proposed and related projects would be considered cumulatively significant.

MITIGATION MEASURES

Phase I

M.3.1.a The project shall implement all water-conserving mitigation measures as outlined for Phase I in Section IV.M.1, Water.

M.3.1.b Phase I of the project shall comply with the City of Los Angeles' Sewer Allocation Ordinance (No. 166,060).

M.3.1.c The sewer system shall be designed to limit flows tributary to the 16-inch line under Alameda Street to one-half of that line's capacity. Alternative existing sewer lines shall be utilized to meet project capacity.

Buildout Phase

M.3.2.a The project shall implement all water-conserving mitigation measures as outlined for project Buildout Phase in Section IV.M.1, Water.

M.3.2.b Prior to Buildout Phase development, a flow test of downstream sewer lines shall be conducted to determine if existing sewer lines serving the project site still have adequate capacity to serve the Buildout Phase of the project. If any improvements to the local sewage collection lines are required, the applicant and the City shall determine the applicant's reasonable pro rata share of the cost for sewer system improvements.

M.3.2.c Buildout Phase of the project shall comply with the City of Los Angeles' Sewer Allocation Ordinance (No. 166,060).

M.3.2.d The sewer system shall be designed to limit flows tributary to the 16-inch line under Alameda Street to one-half of that line's capacity. Alternative existing sewer lines shall be utilized to meet project capacity.

TABLE 135
RELATED PROJECTS DAILY SEWAGE GENERATION

Use	Generation Rate[1] (Gallons/Unit)	Total Sewage Generated (Gallons/Day)
3,350 units Apartment	200/unit[3]	670,000
2,128 units Condominium	200/unit[3]	425,600
163 units SRO Hotel	100/unit[2]	16,300
19,260,173 sf Office	200/1,000 sf	3,852,035
5,622 rooms Hotel	150/room	843,300
2,052,333 sf Retail	100/1,000 sf	205,233
266,500 sf Commercial	100/1,000 sf	26,650
1,065,000 sf Detention Facility (2,312 beds)	85/bed	196,520
386,000 sf school (4,044 students)	15/student	60,660
210,000 sf Rescue Mission (800 beds)	85/bed[4]	68,000
196,447 sf Warehouse	25/1,000 sf	4,911
167,728 sf Conference Room/ Social Hall	20/15 sf	223,637
151,000 sf Museum/Cultural Facility	25/1,000 sf	3,775
145,686 sf Health Club	300/1,000 sf	43,706
63,000 sf Showroom	100/1,000 sf[5]	6,300
60,440 sf Restaurant (1,727 seats)	50/seat	86,350
27,000 sf Day Care(360 children)[6]	10/child	3,600
19,000 sf Church	100/1,000 sf[5]	1,900
18,000 sf Market	100/1,000 sf	1,800
11,390 sf Bank	100/1,000 sf	1,139
Concert Hall (2,350 seats)	5/seat	11,750
SUBTOTAL		6,753,166
SEWAGE GENERATED BY PROPOSED PROJECT		1,998,480
TOTAL		8,751,646

[1] Source: City of Los Angeles, Bureau of Engineering, Wastewater Program Management, "Sewer Facilities Charge Guide and Generation Rates," August 1988.
[2] Assumes studio apartment generation rate.
[3] Assumes an average of two bedrooms.
[4] Assumes boarding house generation rate.
[5] Assumes commercial generation rate.
[6] Assumes one child per 75 square feet.

ADVERSE EFFECTS

With implementation of the recommended mitigation measures, both Phase I and the Buildout Phase of the project would have a less than significant impact on the Hyperion Treatment System. In addition, potential impacts to the existing local sewage delivery system during Phase I and the Buildout Phase of the project would be reduced to less than significant levels with the implementation of mitigation measures.

SECTION IV.M.4
ENERGY CONSERVATION

ENVIRONMENTAL SETTING

Regulatory Background

Both the federal government and the state recognize the importance of energy conservation and have addressed the issue through legislation. The most encompassing energy legislation in the State is the Warren-Alquist Act. The Warren-Alquist Act, in effect since January 7, 1975, established the California Energy Resources Conservation and Development Commission (CEC) and gave it certain powers to certify power plants, conduct research and development of alternative energy sources, develop energy conservation measures, and, in general, consolidate various State functions related to energy resources. Effective at the same time was an amendment to the California Environmental Quality Act (CEQA), providing that Environmental Impact Reports (EIRs) state the possible environmental impact mitigation measures "to reduce wasteful, inefficient, and unnecessary consumption of energy." The Act states the following:

> The present rapid rate of growth in demand for electric energy is, in part due to wasteful, uneconomic, inefficient, and unnecessary uses of power, and a continuation of this trend will result in serious depletion or irreversible commitment of energy, land and water resources, and potential threats to the State's environmental quality. It is further the policy of the State and the intent of the California Legislature to employ a range of measures to reduce wasteful, uneconomical, and unnecessary uses of energy, thereby reducing the rate of growth of energy consumption, prudently conserve energy resources, and assure statewide environmental, public safety, and land use goals.

Description of Energy and Conventional Sources

Energy is the capacity for doing work. There are several forms of energy, and one form may be changed to another (such as burning coal to produce steam to drive a turbine which produces electricity). Most of the world's convertible energy comes from fossil fuels that are burned to produce heat. Energy is measured in terms of the work it is capable of doing. Electric energy is usually measured in kilowatt hours (kWh); natural gas in Btu's. Btu is an abbreviation for British thermal unit and is the quantity of heat necessary to raise the temperature of one pound of water one degree Fahrenheit. A kilowatt is a measure of power (or heat flow rate) and equals 3,413 Btu per hour.

Virtually every California community is dependent on three major types of energy: petroleum fuels, natural gas, and electricity. Of these three, oil and gas are considered "primary" sources of energy. The production of electricity requires the consumption of primary energy sources.

Electricity. In contrast to oil and gas, most electricity is produced by "consuming" other resources. The resources include: water, wind, solar, geothermal, nuclear, oil, gas, and coal. Most of these resources are used as heat sources for steam turbines which drive electric generators. After these primary energy sources are converted to electricity, the electricity is transmitted from the generators instantaneously through a vast network of transmission and distribution lines, commonly referred to as a power grid. Step-up transformers, located at the generators, increase the voltage for transmission. Step-down transformers reduce the voltage for end-use by the customer.

Electricity demand is growing slightly faster than overall economic growth, according to the 1992 Electricity Report published by the California Energy Commission (CEC). Overall consumption of electricity in the region was approximately 107,000 Giga Watt hours (GWh) in 1990. This demand is expected to increase to approximately 132,000 GWh in the year 2000 and to 157.000 GWh in the year 2010. Table 136 presents the current electricity demand for the SCAG region by planning area.

TABLE 136
ELECTRICITY CONSUMPTION AND FORECAST (GWH)
SCAG Region 1990-2010

Area	1990	2000	2010
Southern California Edison	81,486	101,516	122,640
Los Angeles Department of Water and Power	22,997	27,250	31,005
Burbank, Glendale and Pasadena	2,950	3,228	3,534
SCAG REGION	**107,433**	**131,994**	**157,179**

Source: CEC, Electricity Report, 1992

Natural Gas. Natural gas is usually produced in conjunction with oil production. The origin of supplies, delivery systems, and processing requirements, however, are very different from California oil supplies. Natural gas is measured in cubic feet and contains approximately 1,050 Btu/cubic foot.

Current natural gas demand forecasts envision regional natural gas demand rising from approximately 2,500 mmcfd to 3,200 mmcfd. Table 137 provides sectoral specificity for this regional forecast.

Petroleum Fuels. Petroleum fuels consist primarily of gasoline and diesel fuel for vehicles, fuel oils for industry and electrical power generation, and a variety of other liquid fuels, such as kerosene for jet fuel. Petroleum fuel is measured in gallons, and contains approximately 125,000 - 150,000 Btu/gallon.

Forecasts of petroleum consumption in the Los Angeles basin are predominately in transportation fuels. Petroleum usage in industry and powerplants has decreased substantially in recent years, as natural gas has become reliably available once again and the price differential between the two fuels has closed, and as environmental controls place additional pressure on petroleum users as compared to natural gas users. Table 138, presents a summary of overall demand for petroleum products in the Southern California region in 1990, 2000, and 2010, by sector.

TABLE 137
NATURAL GAS CONSUMPTION FORECASTS (MMCFD)
SCAG REGION 1990-2011

Sector	1990	2003	2011
Residential	743	747	812
Commercial	255	307	360
Industrial	351	475	501
Transportation	0	107	295
Thermally Enhanced Oil Recovery	443	176	82
Co-generation	243	273	278
Utilities	468	670	831
SCAG Region	2,503	2,755	3,159

Source: CEC, Electricity Report, 1992 (for power generation), and Fuels Report, 1991 (for retail consumption).

TABLE 138 TOTAL PETROLEUM DEMAND (million gallons per year)			
Sector	1990	2000	2010
Gasoline			
Autos/Lt. Trucks	11,079	9,505	9,955
Medium/Heavy Trucks	3,805	3,971	4,368
Other vehicles	1,176	1,351	1,581
Motorcycles	37	43	50
Autos	164	28	4
Heavy Truck	2,074	2,315	2,632
Aviation	4,482	4,784	5,241
Industry	N/A	N/A	N/A
Power Plants	N/A	N/A	N/A
Ships	N/A	N/A	N/A
Industry	N/A	N/A	N/A
Power Plants	N/A	N/A	N/A
SCAG Region*	**53,788**	**21,997**	**23,831**

Source: SCAG 1993 Regional Comprehensive Plan, Energy Element

*Note: The SCAG regional total includes the numbers presently unavailable whose place is marked by the N/A. Care should be exercised when citing figures from this table. Figures will be included as they become available from the SCAG 1993 Regional Comprehensive Plan.

Existing Conditions

Electricity

Electricity for the project site is provided by the City of Los Angeles Department of Water and Power (DWP). DWP is a publicly-owned utility that presently maintains facilities and provides service in the planning area. The project site and surrounding area receive electrical service from the St. John Receiving Station A (RS-A), a 34.5 kilovolt (kV) distribution system located at 1630 North Main Street. At the present time, St. John Receiving Station has a firm capacity of 250 megavolt-amperes.[2]

Natural Gas

Natural gas service is provided by the Southern California Gas Company. The Gas Company is a privately-owned utility that currently maintains facilities and provides service to the area. The following gas lines serve the immediate project area and are located under the following streets: a 16-inch high pressure main under Alameda Street; two eight-inch medium pressure mains and one two-inch medium pressure main under North Main Street; a 20-inch high pressure main and two two-inch medium pressure mains are Vignes Street; a six-inch medium pressure main Bauchet Street; and an eight-inch medium pressure main Avila Street.

Terminal Annex Property

The Terminal Annex property currently contains approximately 731,600 square feet of floor area, including the Terminal Annex Building and 1960s extension, the Vehicle Maintenance Facility, a two-story commercial building, a one-story commercial building,and a Los Angeles Fire Department fire station. During Phase I of the proposed project, a total of 187,900 square feet of existing uses would be demolished on the Terminal Annex property, including interior non-historic portions of both the Terminal Annex Building and the entire 1960s extension, the two-story commercial building, and the one-story commercial building. During the Buildout Phase, the Vehicle Maintenance Facility and the fire station, totaling 86,700 square feet, would be demolished. Therefore, a total of 274,600 square feet of the Terminal Annex property would be demolished for the total project development.

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2 Source: Letter from William Glauz, Assistant Manager of Environmental and Governmental Affairs, Los Angeles Department of Water and Power, October 29, 1993.

TABLE 139
ANNUAL EXISTING ELECTRICITY CONSUMPTION FROM OCCUPIED DEVELOPMENT TO BE DEMOLISHED[1,2]

Use	Consumption Rate[3] (kWh/sf/yr)	Total Consumption (Millions kWh/yr)
PHASE I		
REA Building 93,500 sf	12.95[4]	1.21
TOTAL		1.21
BUILDOUT PHASE		
Terminal Annex Building Existing Postal-Related Uses 25,000 sf[5]	12.95[4]	0.32
Fire Station 20,200 sf	10.50[6]	0.21
REA Building 42,000 sf	12.95[4]	0.54
TOTAL		1.07
TOTAL CONSUMPTION OF EXISTING DEVELOPMENT DEMOLISHED		**2.28**

1 Several existing buildings on the project site will be demolished during development. The information provided in this table is used to calculate net impacts for project development, after demolished uses are accounted for.
2 Demolished atrium space and vacant or vacated structures are excluded. No energy is consumed by these uses.
3 Source: CEQA Air Quality Handbook, South Coast Air Quality Management District, April 1993. Usage rates are averages for Southern California Edison and Los Angeles Department of Water and Power.
4 Assumes office consumption factor.
5 Displaced existing postal uses to be relocated off-site.
6 Assumes miscellaneous consumption factor.

TABLE 140
ANNUAL EXISTING NATURAL GAS CONSUMPTION FROM OCCUPIED DEVELOPMENT TO BE DEMOLISHED [1, 2]

Use	Consumption Rate [3] (cubic feet/sf/mo)	Total Consumption (millions cf/yr)
PHASE I		
REA Building 93,500 sf	2.0 [4]	2.24
TOTAL		2.24
BUILDOUT PHASE		
Terminal Annex Building Existing Postal-Related Uses 25,000 sf [5]	2.0 [4]	0.60
Fire Station 20,200 sf	3.3 [6]	0.80
REA Building 42,000 sf	2.0 [4]	1.01
TOTAL		2.41
TOTAL CONSUMPTION OF EXISTING DEVELOPMENT DEMOLISHED		**4.65**

1 Several existing buildings on the project site will be demolished during development. The information provided in this table is used to calculate net impacts for project development, after demolished uses are accounted for.
2 Demolished atrium space and vacant or vacated structures are excluded. No energy is consumed by these uses.
3 Source: CEQA Air Quality Handbook, South Coast Air Quality Management District, April 1993.
4 Assumes office consumption factor.
5 Displaced existing postal uses to be relocated off-site.
6 Assumes industrial consumption factor. Source: Ultrasystems, Inc., Newport Beach, CA.

Union Station Property

The Union Station property presently contains 234,200 square feet of floor area. The property includes: the Union Station Passenger Terminal, the REA Building, the Mission Tower, a car repair shop, and restrooms. During Phase I of the proposed project, 93,500 square feet of the REA Building would be demolished on the Union Station property. During the Buildout Phase of the project, 42,000 square feet of the REA Building would be demolished, and 31,500 square feet would be retained. Thus, a total of 135,500 square feet of the Union Station property would be demolished after the Buildout Phase of the project.

As shown in Table 139 and Table 140, the existing development that would be demolished during Phase I is estimated to currently consume approximately 1,210,000 kilowatt hours (kWh) of electricity and approximately 2,240,000 cubic feet (cf) of natural gas per year. For total Buildout Phase, the existing development to be demolished is estimated to currently consume approximately 2,280,000 kWh of electricity and approximately 4,650,000 cf of natural gas per year.

ENVIRONMENTAL IMPACT

Energy consumption at the project site would increase due to short-term construction use, long-term project use, and vehicular activity throughout the life of the project. During project construction, short-term energy consumption would result from demolition, grading, and site preparation activities. Long-term energy consumption would result from heating, cooling, lighting, and other operational needs anticipated to occur from the development of the office, retail, hotel, residential, recreational, and museum structures within the proposed site.

Threshold of Significance

Under CEQA Guidelines Appendix G(n), a project will normally have a significant impact if it encourages activities that would result in the use of large amounts of fuel or energy.

Construction Impacts

Phase I

Fuel consumption estimates were calculated based on the peak day construction scenario previously described in Section IV.F.1 (Air Quality). Phase I would consist of 3,362,000 square feet of new development. Energy would be consumed by heavy-duty equipment during the demolition, excavation, site preparation, and erection associated with Phase I of the proposed project. These vehicles are usually diesel-powered and may be used during both site preparation (grading) and construction activities. The types of equipment, estimated hours of usage, and fuel consumption required for peak day construction of Phase I are shown in Table 141. As Table 141 shows, a total of approximately 3,665 gallons of diesel fuel is estimated to be consumed during the peak day excavation, site preparation, and steel erection during Phase I. Additional energy usage would be associated with the construction of the project itself, including any on-site heavy equipment electrical power usage for tower cranes, manlifts, tools, and other equipment. Furthermore, a large, unidentifiable amount of gasoline consumption would be associated with construction worker travel to and from the project site. Phase I of the proposed project would be considered to have a significant short-term impact on energy consumption during the construction stage.

Buildout Phase

Unlike Phase I, peak day construction estimates for the Buildout Phase cannot be specifically defined. As stated in Section I, Introduction and Summary, analysis of the ADP Buildout Phase is addressed programmatically (e.g., analyses for which specific design and building information has not yet been identified, but will be determined through long term implementation of the ADP). As such, specific building configurations, heights, massing, etc., are not known for the Buildout Phase. Rather, the Buildout Phase reflects the design guidelines, height limits and land use restrictions governed by the Plan. A specific estimate of peak day construction operations is based on particular building characteristics, including their size, type, location within the site, design, etc., as well as the phasing of construction for each building in order to determine a peak day scenario. Because the Buildout Phase will be driven by market conditions not known at this time and because specific information will be determined as a response to these conditions, a peak day construction estimate cannot be provided.

As with Phase I of the project, a large, unidentifiable amount of gasoline consumption would be associated with construction worker travel to and from the project site. Total Buildout Phase of the project would be considered to have a significant short-term impact on energy consumption during the construction stage.

TABLE 141
PEAK DAY CONSTRUCTION EQUIPMENT DIESEL FUEL CONSUMPTION SCENARIO - PHASE I

Type of Equipment	Quantity of Equipment	Consumption Rate[1] (gallons/hr)	Daily Construction Hours	Total Fuel Consumed (gallons)
Hydraulic Excavator	3	8.14	8	195
Front End Loader	3	5.47	8	131
Dirt Truck	36	7.14	8	2,056
Drill Rig	2	7.27	8	116
Mobile Concrete Pump	2	9.00	8	144
Foundation Concrete Truck	22	8.63	1hr/truck	190
Stationary Concrete Pump	1	5.69	8	46
Structure Concrete Truck	3	8.63	8	207
Mobile Crane	5	6.41	8	256
Delivery Truck	18	7.14	1	129
Fork Lift	5	2.84	8	114
Trash Removal Truck	5	9.0	1	45
Lunch Truck	5	7.14	1	36
TOTAL				**3,665**

[1] Dataquest Incorporated, Cost Estimate Guide for Construction Equipment, 1992.

Operational Impacts

Phase I

Development of Phase I of the proposed project would result in the consumption of approximately 43,440,000 kWh of electricity and 81,770,000 cf per year of natural gas.[1] Currently, the existing structures to be demolished during Phase I consume approximately 1,210,000 kWh of electricity and 2,240,000 cf of natural gas annually. With the completion of Phase I development, the total net increase of electricity and natural gas consumption are anticipated to be 42,230,000 kWh and 79,530,000 cf per year of natural gas, respectively. A breakdown of Phase I electrical and natural gas consumption is provided in Table 142 and 143.

Development on the project site, when occupied, would consume amounts of electrical power comparable to similar developments in the area and the region. Additionally, DWP has projected its 2010 Net Energy Load (what the Department expects to generate) at 36.234 billion kWh. Consumption for the year 2010 is estimated at 32.059 billion kWh. Thus, the project's increase of 42,230,000 kWh, in the context of the total amount of electricity supplied by the DWP, is not considered significant. According the DWP officials, electrical service will be provided in accordance with the departments rules and regulations and in accordance with State Energy Conservation Standards (Title 24, Part 6, Article 2, California Administrative Code), which set mandatory standards that requiring energy efficient design and materials in the construction of new buildings.

Due to the electrical consumption requirements of Phase I, which are based on the SCAQMD CEQA Air Quality Handbook, the existing electrical receiving station (RS-A) would not be adequate to serve the development of Phase I. Additional 34.5 kv circuits would need to be constructed from the Market Receiving Station P (RS-P) (located at 560 South Wall Street), to the project site. RS-P has sufficient capacity to provide service to the site at the present time; however, this and other projects planned for the downtown region would eventually require the construction of another receiving station. Furthermore, the magnitude of the project is such that it would be supplied from the DWP's 34.5 kv distribution system, with transformation to the project's utilization voltage to take place on the project site. The size, space requirements, locations of necessary transformer stations, as well as other details of DWP's planned distribution system, cannot be determined until the electrical service

[1] Several existing buildings on the project site will remain after completion of the proposed project. These uses are not included in assessing project impacts because they would not increase the current service load for the project site.

TABLE 142
ANNUAL PROJECT ELECTRICITY CONSUMPTION[1]

Use	Consumption Rate[2] (kWh/sf/yr)	Total Consumption (millions/kWh/yr)
PHASE I		
Commercial Office 1,470,000 sf	12.95	19.04
Government Office 1,722,000 sf	12.95	22.30
Retail 100,000 sf	13.55	1.36
Museum 70,000 sf	10.50[3]	0.74
TOTAL PHASE I		43.44
LESS EXISTING DEVELOPMENT TO BE DEMOLISHED		1.21
TOTAL NET INCREASE FOR PHASE I		42.23
BUILDOUT PHASE		
Commercial Office 4,480,000 sf	12.95	58.02
Government Office 1,520,000 sf	12.95	19.68
Hotel/Conference Center 1,050,000 sf	9.95	10.45
Residential 300 Units	5,626.5/Unit	1.69
Retail 150,000 sf	13.55	2.03
TOTAL NEW DEVELOPMENT		135.31
LESS EXISTING DEVELOPMENT TO BE DEMOLISHED		2.28
TOTAL NET INCREASE AT BUILDOUT PHASE		**133.03**

1 Several existing buildings on the project site will remain after completion of the proposed project. These uses are not included in assessing project impacts because they would not increase the current service load for the project site.
2 Source: CEQA Air Quality Handbook, South Coast Air Quality Management District, April 1993.
3 Assumes miscellaneous consumption factor.

TABLE 143
ANNUAL PROJECT NATURAL GAS CONSUMPTION[1]

Use	Consumption Rate [2] (cubic feet/sf/mo)	Total Consumption (millions cf/yr)
PHASE I		
Commercial Office 1,470,000 sf	2.0	35.28
Government Office 1,722,000 sf	2.0	41.33
Retail 100,000 sf	2.9	3.48
Museum 70,000 sf	2.0[3]	1.68
TOTAL PHASE I		81.77
LESS EXISTING DEVELOPMENT TO BE DEMOLISHED		2.24
TOTAL NET INCREASE FOR PHASE I		79.53
BUILDOUT PHASE		
Commercial Office 4,480,000 sf	2.0	107.52
Government Office 1,520,000 sf	2.0	36.48
Hotel/Conference Center 1,050,000 sf	4.8	60.48
Residential 300 Units	4,011.5/Unit	14.44
Retail 150,000 sf	2.9	5.22
TOTAL NEW DEVELOPMENT		305.91
LESS EXISTING DEVELOPMENT TO BE DEMOLISHED		4.65
TOTAL NET INCREASE AT BUILDOUT PHASE		**301.26**

1 Several existing buildings on the project site will remain after completion of the proposed project. These uses are not included in assessing project impacts because they would not increase the current service load on the project site.
2 Source: CEQA Air Quality Handbook, South Coast Air Quality Management District, April 1993.
3 Assumes office consumption factor.

requirements of the project have been received (upon submittal of building plans) and evaluated by DWP's engineering staff.[1] Therefore, the ultimate impact on the local electrical distribution system (RS-P) cannot be known until actual design phase of the project, at which time DWP will determine the need for the expansion of existing facilities and/or the need for additional facilities.

Natural gas service would be provided by The Gas Company. For billing purposes, The Gas Company is split into five regions or Political Subdivisions. They are as follows: Inland Empire, Orange Coast, Pacific, Northern, and Mountain View. The City of Los Angeles is located within portions of the Pacific, Northern, and Mountain View subdivisions. Total year-to-date consumption for the City of Los Angeles is 121,892,327 million cf. The Gas Company's supply network was more than adequate to meet that demand.

The natural gas consumed by the project represents less than 0.01 percent of the total natural gas demand for the area, and would not significantly affect local or regional gas supplies. According to The Gas Company, adequate supplies are available to serve Phase I of this project; and therefore, assumed that the utility would not be significantly impacted by the project.

Buildout Phase

Upon completion of the project, approximately 135,310,000 kWh of electricity and 305,910,000 cf of natural gas will consumed annually to supply heating, cooling, lighting, and other needs.[2] The existing development on-site to be demolished currently consumes approximately 2,280,000 kWh of electricity and 4,650,000 cf of natural gas, annually. The proposed project would result in a net site generated increase of approximately 133,030,000 kWh of electricity and 301,260,000 cf of natural gas annually. A breakdown of total project electricity and natural gas consumption is provided in Tables 142 and 143.

[1] Source: Letter from William Glauz, Assistant Manager of Environmental and Governmental Affairs, Los Angeles Department of Water and Power, October 29, 1993.

[2] Several existing buildings on the project site will remain after completion of the proposed project. These uses are not included in assessing project impacts because they would not increase the current service load for the project site.

As with Phase I, due to the consumption requirements of the project, the existing electrical receiving station (RS-A) would not be adequate to serve the Buildout Phase of the proposed project. Additional 34.5 kv circuits would need to be constructed from the Market Receiving Station P (RS-P). The size, space requirements, locations of necessary transformer stations, as well as other details of DWP's planned distribution system, cannot be determined until the electrical service requirements of the project have been received (upon submittal of building plans) and evaluated by DWP's engineering staff.[1]

Gas service would be provided in accordance with The Gas Company's policies and extension rules. The availability of natural gas service is subject to regulatory policies and gas supplies. The Gas Company is under the jurisdiction of the California Public Utilities Commission, and is affected by the policies of that agency as well as the actions of the federal regulatory agencies. If these agencies take any action which affects gas supply or service availability, such service would be provided in accordance with the revised conditions. The Gas Company has found that, with respect to its areas of interest and responsibilities, the Buildout Phase of the project can be served from existing mains in the area without major impact on overall service capacity, service to existing customers, or the environment.[2] It is therefore assumed that the utility would not be significantly impacted by providing natural gas service to the project.

Summary of Phase I Impacts

Impact M.4.1 Phase I of the project would have a short-term significant impact on energy consumption during the construction period as a result of fuel consumption by construction equipment and construction worker travel to and from the project site.

Impact M.4.2 Increased electrical consumption due to operation of Phase I of the project may require the expansion of local electrical receiving facilities and/or the construction of new receiving facilities. Such increased consumption is considered significant, prior to mitigation.

Impact M.4.3 Environmental impacts associated with natural gas consumption would be less than significant.

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1 Source: Letter from William Glauz, Assistant Manager of Environmental and Governmental Affairs, Los Angeles Department of Water and Power, October 29, 1993.

2 Source: Letter from Cornell R. Agce, Technical Supervisor, Mountain View Region, Southern California Gas Company, October 22, 1993.

Summary of Buildout Phase Impacts

Impact M.4.4 Buildout Phase of the project would have a short-term significant impact on energy consumption during the construction period as a result of fuel consumption by construction equipment and construction worker travel to and from the site.

Impact M.4.5 Increased electrical consumption due to operation of the full project may require the expansion of local electrical receiving facilities and/or the construction of new receiving facilities. Such increased consumption is considered significant, prior to mitigation.

Impact M.4.6 Environmental impacts associated with natural gas consumption would be less than significant.

CUMULATIVE IMPACTS

Although individual cumulative projects would be subject to state energy conservation standards, the cumulative increase in local energy consumption would constitute an increase in the depletion of non-renewable energy resources. Estimated natural gas consumption and electricity usage of related projects is shown in Table 144 and Table 145. Related projects are estimated to consume approximately 383,800,000 kWh of electricity and 1,152,040,000 cf of natural gas per year. The implementation of the proposed and related projects would, therefore, cumulatively increase annual energy consumption for the area by approximately 516,830,000 kWh of electricity and 1,453,300,000 cf of natural gas.

Service availability, and the extent of any potential cumulative impacts that could occur locally, would have to be determined through the approval process of each individual project. However, development of other projects expected in the region, including related projects in conjunction with the proposed project, will eventually require the construction of a new receiving station to provide an adequate electrical supply to the region. No service problems are anticipated, provided DWP and The Gas Company are able to construct additional facilities as needed. Distribution facility construction may cause limited temporary impact on the surrounding communities in the form of unavoidable noise, air pollution, and/or traffic congestion during construction.

TABLE 144
RELATED PROJECTS ELECTRICITY CONSUMPTION

Land Use (number and size)	Consumption Rate[1] (kwh/sf/yr)	Total Consumption (millions kwh/yr)
3,350 units Apartment	5,626.5/unit	18.85
2,128 units Condominium	5,626.5/unit	11.97
163 units SRO Hotel	5,626.5/unit	0.92
19,260,173 sf Office	12.95	249.42
5,622 rooms Hotel (4,292,977 sf)	9.95	42.72
2,052,333 sf Retail	13.55	27.81
266,500 sf Commercial	10.50[2]	2.80
1,065,000 sf Detention Facility (2,312 beds)	10.50[2]	11.18
386,000 sf school (4,044 students)	10.50	4.05
210,000 sf Rescue Mission (800 beds)	10.50[2]	2.21
196,447 sf Warehouse	4.35	0.85
167,728 sf Conference Room/ Social Hall	10.50[2]	1.76
151,000 sf Museum/Cultural Facility	10.50[2]	1.59
145,686 sf Health Club	10.50[2]	1.53
63,000 sf Showroom	10.50[2]	0.66
60,440 sf Restaurant (1,727 seats)	47.45	2.87
27,000 sf Day Care(360 children)	10.50[2]	0.28
19,000 sf Church	10.50[2]	0.20
18,000 sf Market	53.30	0.96
11,390 sf Bank	10.50[2]	0.12
Concert Hall (2,350 seats)[3]	10.50[2]	1.05
SUBTOTAL		383.80
ELECTRICITY CONSUMED BY PROPOSED PROJECT		133.03
TOTAL		**516.83**

[1] Source: <u>CEQA Air Quality Handbook</u>, South Coast Air Quality Management District, April 1993.
[2] Assumes miscellaneous consumption rate.
[3] Assumes approximately 100,000 square feet of space.

TABLE 145
RELATED PROJECTS NATURAL GAS CONSUMPTION

Land Use (number and size)	Consumption Rate[1] (cf/sf/month)	Total Consumption (millions cf/yr)
3,350 units Apartment	4,011.5/unit	161.26
2,128 units Condominium	4,011.5/unit	102.44
163 units SRO Hotel	4,011.5/unit	7.85
19,260,173 sf Office	2.0	462.24
5,622 rooms Hotel (4,292,977 sf)	4.8	247.28
2,052,333 sf Retail	2.9	71.42
266,500 sf Commercial	2.0[2]	6.40
1,065,000 sf Detention Facility (2,312 beds)	3.3[3]	42.17
386,000 sf school (4,044 students)	3.3[3]	15.29
210,000 sf Rescue Mission (800 beds)	3.3[3]	8.32
196,447 sf Warehouse	3.3[3]	7.78
167,728 sf Conference Room/ Social Hall	2.0[2]	4.03
151,000 sf Museum/Cultural Facility	2.0[2]	3.62
145,686 sf Health Club	2.0[2]	3.50
63,000 sf Showroom	2.0[2]	1.51
60,440 sf Restaurant (1,727 seats)	2.9[4]	2.10
27,000 sf Day Care(360 children)	3.3[3]	1.07
19,000 sf Church	2.0[2]	0.46
18,000 sf Market	2.9[4]	0.63
11,390 sf Bank	2.0[2]	0.27
Concert Hall (2,350 seats)[5]	2.0[2]	2.40
SUBTOTAL		1,152.04
NATURAL GAS CONSUMED BY PROPOSED PROJECT		301.26
TOTAL		**1,453.30**

1 Source: CEQA Air Quality Handbook, South Coast Air Quality Management District, April 1993.
2 Assumes office consumption rate,
3 Assumes industrial consumption factor. Source: Ultrasystems, Inc., Newport Beach, CA.
4 Assumes retail consumption factor.
5 Assumes approximately 100,000 square feet of space.

MITIGATION MEASURES

Phase I

M.4.1 Mitigation Measures F.1.1.d, F.1.1.e, and F.1.1.g shall be implemented to reduce energy consumption during the construction period.

M.4.2.a Phase I development shall comply with the State Energy Conservation Standards for New Residential and Non-Residential Buildings (Title 24, Par 6, Article 2, California Administrative Code) which establish mandatory maximum energy consumption levels for new buildings and include energy-conserving design features that must be incorporated into new development.

M.4.2.b During the design process, each site developer shall consult with the DWP, Energy Services Subsection, regarding any specific energy demand requirements and possible system improvements (which may be required as a result of project implementation), and for project-specific Energy Conservation Measures.

M.4.3 No mitigation is required.

Buildout Phase

M.4.4 Mitigation Measures F.1.1.d, F.1.1.e, and F.1.1.g shall be implemented to reduce energy consumption during the construction period.

M.4.5 Phase I Mitigation Measure M.4.2.a shall also be implemented for the Buildout Phase of the proposed project.

M.4.6 No mitigation is required.

ADVERSE EFFECTS

With implementation of the proposed mitigation measures, the operational impacts of Phase I and total Buildout Phase of the proposed project would be reduced to a less than significant level. However, both Phase I and total Buildout Phase of the project would have short-term significant impacts on energy consumption during construction periods.