

**FINAL  
ENVIRONMENTAL IMPACT REPORT**

**County of San Bernardino  
Office of Special Districts  
County Service Area 110**

**OCTOBER 1988**

**URS**  
**CONSULTANTS**  
**MAKING**  
**TECHNOLOGY**  
**WORK**

FINAL ENVIRONMENTAL IMPACT REPORT FOR  
EAST VALLEY CORRIDOR SPECIFIC PLAN

Lead Agency:

County of San Bernardino  
Land Management Department/Office of Planning  
in cooperation with  
County Service Area 110

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## 1.0 EXECUTIVE SUMMARY

This document is the Final Environmental Impact Report (FEIR) for the East Valley Corridor Specific Plan. The County of San Bernardino, through County Service Area 110 (CSA-110), is the lead agency in the Plan's preparation and for the certification process of the Environmental Impact Report. The cities of Redlands and Loma Linda, and the County each have 4 members on the CSA-110 District Advisory Commission. The Property Owners Advisory Subcommittee and the Technical Advisory Committee provided input during the preparation of the Specific Plan.

The cities of Redlands and Loma Linda, acting as responsible agencies, and the County of San Bernardino, each held public hearings before their Environmental Review Committee concerning the content of the Draft Environmental Impact Report (EIR). Comments received from these committees and responses to these comments are included in Section 14.

In accordance with these comments and other comments received, revisions in the Draft EIR text were made. The deleted or revised text is slashed out and the new text is underlined and boldface.

As a result of these hearings and comments to the Draft EIR, the Specific Plan was revised to reduce growth and traffic impacts. These revisions and their impact on environmental issues are discussed in the Addendum included at the end of this document.

The East Valley Corridor Specific Plan's purpose is to plan for the large area of undeveloped land located along Interstate 10 in the Redlands-Loma Linda area so as to facilitate orderly and aesthetic industrial, commercial, and residential development. The objectives of the Plan are to provide a well-planned community in order to attract major businesses by ensuring high-quality development through design standards and guidelines.

The East Valley Corridor project area consists of approximately 4,350 acres adjacent to Interstate 10 (I-10) and State Route 30, generally between the cities of Redlands, Loma Linda, and San Bernardino. The existing land use of the area is almost 60 percent agricultural (mainly citrus groves) with a mixture of commercial/industrial uses generally located along I-10 and Redlands Boulevard. Residential uses are restricted to areas south of I-10, and total about 9 percent of the total land uses (see Table 8.6-1).

The East Valley Corridor Specific Plan Environmental Impact Report analyzes the potential environmental impacts of proposed development within the project area under the guidelines of the Specific Plan. The following issues were determined by the Initial Study to require analysis:

- o Geology and Soils
- o Air Quality
- o Hydrology
- o Biology

- o Aesthetics - Noise and Visual
- o Land Use
- o Demographics
- o Transportation
- o Public Services
- o Public Utilities
- o Cultural Resources
- o Energy
- o Growth Inducement
- o Cumulative Impacts

The environmental impact analyses were based on a comparison of the proposed development allowed by the Specific Plan and the most likely alternative as deemed in the Market Report by William C. Lawrence Company. Impacts were also determined by comparing the Specific Plan with existing conditions and the area's General Plans. Sections 5, 6, 7, and 8 present detailed information on growth inducement, cumulative impacts, alternatives, and the affected environment. A summary of the impacts and recommended mitigation measures is provided in Section 4. Most identified significant adverse impacts could be mitigated to a level of nonsignificance. The issues that cannot be mitigated to a level of nonsignificance are local and regional transportation, land use, and solid waste.

Several environmental concerns were determined to be insignificant at the project level, but are considered to be cumulatively significant on a regional level. These adverse cumulative impacts included air quality, land use, transportation, noise, energy, and solid waste.

## 2.0 PROJECT DESCRIPTION

This section is excerpted from information contained in the Forward and Division 2 of the East Valley Corridor Specific Plan.

### 2.1 PLAN BACKGROUND

The East Valley Corridor is the principal gateway to the communities of the East San Bernardino Valley, including San Bernardino, Redlands, Loma Linda, Colton, Grand Terrace, and Highland. The area is largely undeveloped, with over half of the planning area in agricultural production. In recent years, there has been increasing interest by property owners in developing the area. Based on its freeway and rail access, freedom from topographic and environmental constraints, large parcel sizes, and the economic growth within the San Bernardino-Riverside metropolitan area, property owners have considered it to be ideal for high quality commercial and industrial development. Such development has been constrained, however, by the lack of a backbone infrastructure of sufficient capacity to accommodate projected traffic, water, sewer, utility, and service needs. The cost of planning for the engineering, financing, and marketing needs of this type of development, as well as for land use and environmental concerns, was beyond the capability of individual owners or individual jurisdictions. As a result, several property owners initiated a cooperative study to be undertaken by San Bernardino County, the cities of Redlands and Loma Linda, and the property owners, to provide for such planning.

The concept of a cooperative planning and development study for the Interstate 10 (I-10) corridor area was originally considered by the cities of Loma Linda and Redlands, and the County of San Bernardino in 1980. At that time, the County Board of Supervisors budgeted money for the initial phase of the study, and a work program and Request for Proposal were prepared. However, subsequent budgetary cutbacks curtailed the study and a consultant was not selected.

A drawback of this early effort was the limitation of participation in the discussions to public entities. In October 1982, another meeting was held on the I-10 corridor concept which included about a dozen individuals owning or controlling substantial properties within the area. At that meeting, general interest and support was expressed for the concept of a joint, public-private, inter-jurisdictional effort involving planning, engineering, financing, and marketing for the area.

The concept was given a new impetus by the participation and support of key property owners whose interests would be affected by any outcome. However, since budgetary constraints have become even more stringent, it was clear at that meeting that any renewed effort would require financial support by the private sector. Those present expressed general willingness to provide reasonable financing, and requested that the County take the lead in coordinating the project with the two cities involved.

Further meetings were held throughout 1982 and 1983 to define the plan boundaries, the form of the final product of the study, and possible funding mechanisms. In December 1983, a mail survey of all property owners in the Corridor area was undertaken by the County to assess their interest in participating in the study. Based on the degree of support shown by property owners, various alternatives to implement a property owner financed study were investigated. These included voluntary contributions, a one-time service charge collected through a combination of improvement zone and assessment districts, and formation of a County Service Area (CSA). The establishment of a CSA was considered the most feasible alternative.

Hearings to consider formation of a CSA were held before the Local Agency Formation Committee, the County Board of Supervisors, and the City Councils of Loma Linda and Redlands in early 1984. On May 7, 1984, the Board of Supervisors adopted the resolution approving formation of CSA-110. In addition to the action taken to establish the CSA, the County and the two Cities entered into an agreement clarifying the role of each party. Of primary concern to the Cities was their approval of facilities to be constructed within their spheres of influence or city limits. The agreement stipulated that CSA-110 would neither construct, operate, nor maintain any capital improvement within the spheres of influence or boundaries of the Cities, except pursuant to prior written approval by the City Councils. CSA-110 could, however, levy a one-time service charge to finance the East Valley Corridor Study. The CSA also provides a mechanism for assessing property owners and developers in the area for infrastructure improvements. CSA-110 is the first such Special District in the State to overlay multiple jurisdictions.

In order to finance formation of CSA-110 and preparation of the Specific Plan, the Board of Supervisors established a one-time service charge to the property owners within the planning area. The service charge was to fund planning and preliminary facilities design necessary for services to be furnished within CSA-110. At the same time, the Board of Supervisors approved funding a portion of the study with Community Development Block Grant funds. The 12-member CSA-110 District Advisory Commission was also appointed at this hearing, with 4 members from each of the three jurisdictions, including 3 public agency members and 1 private property owner. A 15-member Property Owners Advisory Subcommittee was also established to provide input to CSA-110 staff during the plan preparation. For technical assistance, a Technical Advisory Committee was appointed of representatives from affected agencies, including the water districts, Caltrans, Norton Air Force Base, and engineering staff from the County and Cities.

The County, through CSA-110, took the role of lead agency in preparation of the Plan. County planning staff functioned as the project managers, while the County Office of Special Districts administered contracts with the consultants chosen to undertake the various components of the project.

In April 1985, five companies were selected to prepare a Land Use Plan Update, an Environmental Impact Report (EIR), a Preliminary Facilities Master Plan and Engineering Study, a Financing Program Study, and an

Economic Development Study for the project area. The companies selected included URS Corporation to do the Environmental Impact Report; William C. Lawrence Company to do the Economic Development (Marketing) portion; Metcalf & Eddy for the Engineering Study; and Sutro and Company, Incorporated, to prepare the Financing Program. The Land Use Plan Update portion of the study area was eventually undertaken by planning staff from the County, Loma Linda, and Redlands.

In April of 1986, the scope of the project was changed somewhat when it was determined that the Plan should be adopted by all three jurisdictions as a Specific Plan. This implementation procedure, in which the Plan is adopted as ordinance by the three entities, differed from the original concept of the Plan as a policy guideline for development. With this decision, development of the Specific Plan design and performance standards became a key component of the Land Use portion of the Plan.

Citizen participation was considered to be critical throughout development of the Specific Plan. Participation by property owners was obtained through direct consultations, meetings of the Property Owners Advisory Subcommittee, public input at advertised CSA-110 District Advisory Commission meetings, and in public hearings held throughout the adoption process. Additional public hearings were held before the Local Agency Formation Commission, the Airport Land Use Commission, the County Environmental Review Committee, Planning Commission and Board of Supervisors, Redlands Planning Commission and City Council, and Loma Linda Planning Commission and City Council. These meetings, which were advertised in local newspapers as well as through written notification to property owners, afforded repeated opportunities for residents and property owners to provide input into development of the Specific Plan.

## 2.2 PURPOSE OF THE SPECIFIC PLAN

The purpose of the East Valley Corridor Specific Plan is to plan for the large area of undeveloped land located along I-10 in the Redlands-Loma Linda area so as to facilitate future industrial, commercial and residential development in an orderly and aesthetic manner. The objectives of the Plan are to provide a well-planned community which will attract major businesses to the area in order to provide a job base for the East Valley and strengthen the local economy, while ensuring high-quality and environmentally responsive development through design guidelines and standards.

Division 2, Plan Foundation, of the East Valley Corridor Specific Plan, provides the basis for the land-use districts in the Specific Plan. The Plan's axiom states that "the intent of the EVCSP is to promote and facilitate aesthetically pleasing job and revenue-producing development that responds to physical, environmental, and economic opportunities and constraints".

The goals, policies, and objectives are listed in Division 2, Chapter 2 of the Specific Plan. The seven goals of the Specific Plan are listed below.

1. Develop the East Valley Corridor Specific Plan so as to promote and facilitate high-quality commercial, industrial and residential development within the Corridor area.
2. Simplify and streamline the development review process while maintaining consistency with adopted General Plans for the Corridor area.
3. Develop a Specific Plan that is responsive to physical and environmental constraints and opportunities.
4. The Specific Plan should provide for extension of public services in a logical and functional manner to minimize impacts on service purveyors while maximizing areas that can accommodate development in a timely manner.
5. Design a comprehensive, functional and efficient circulation system of sufficient capacity to accommodate projected traffic demands at all phases of development, which is consistent with regional master transportation plans.
6. Adopt energy-efficient transportation strategies to implement State and County goals for reduced energy consumption and improved air quality.
7. Promote high-quality development in the East Valley Corridor by protecting and enhancing existing amenities in the area, creating an identifiable community character, and adopting development standards and guidelines to ensure aesthetically pleasing design and maximum land use compatibility.

The policies, which are more explicit statements of intentions, and objectives, which are very specific measures, are detailed provisions related to the above goals. Please refer to the East Valley Corridor Specific Plan for a complete listing of the planning guidelines.

## 2.3 PLAN DESCRIPTION

### 2.3.1 Planning Area

The East Valley Corridor Specific Plan includes approximately 4,350 acres located in the southeastern portion of the San Bernardino Valley, adjacent to I-10 and State Route 30 and generally between the cities of Redlands, Loma Linda, and San Bernardino. The plan area includes portions of both Redlands and Loma Linda, as well as unincorporated area under the jurisdiction of San Bernardino County. The entire planning area is within the spheres of influence of Redlands and Loma Linda.

The Plan includes an irregularly shaped area bounded in general by the Santa Ana River Wash on the north; by Texas Street on the east, north of I-10; by Kansas Street on the east, south of I-10; by Barton Road on the south between Kansas and California Streets; by California Street on the west, south of Park Avenue; and by Mountain View Avenue on the west, north of I-10. The site also extends along a quarter mile strip on either side of Redlands Boulevard from California Street to San Timoteo Wash (see Figure 2-1).

Land use data indicate that over half (59%) of the project area is currently under agricultural production, with about 37 percent of the planning area planted in citrus. Other agricultural uses include field crops in the north, with some poultry, dairies and horse raising in the southern portion. Almost the entire area north of I-10 is in agricultural use, except for about 200 acres between Lugonia Avenue and I-10 on which recent commercial and office development has occurred.

The southern portion, which has better access to a system of collector streets and major arterials, is generally more developed than the north. Along with scattered single-family residences associated with the agricultural use in this area, there are several newer residential developments located along Redlands Boulevard, including single-family tracts, multiple-family projects, and mobile home parks.

Commercial uses are heavily developed along Redlands Boulevard, particularly around the Alabama and Tennessee/I-10 interchanges in Redlands and in the panhandle of the project area west of Mountain View Avenue in Loma Linda. Light industrial uses, including mini-storage and light manufacturing, are intermixed with commercial in these areas, with some industrial extending south from I-10 along Alabama Street.

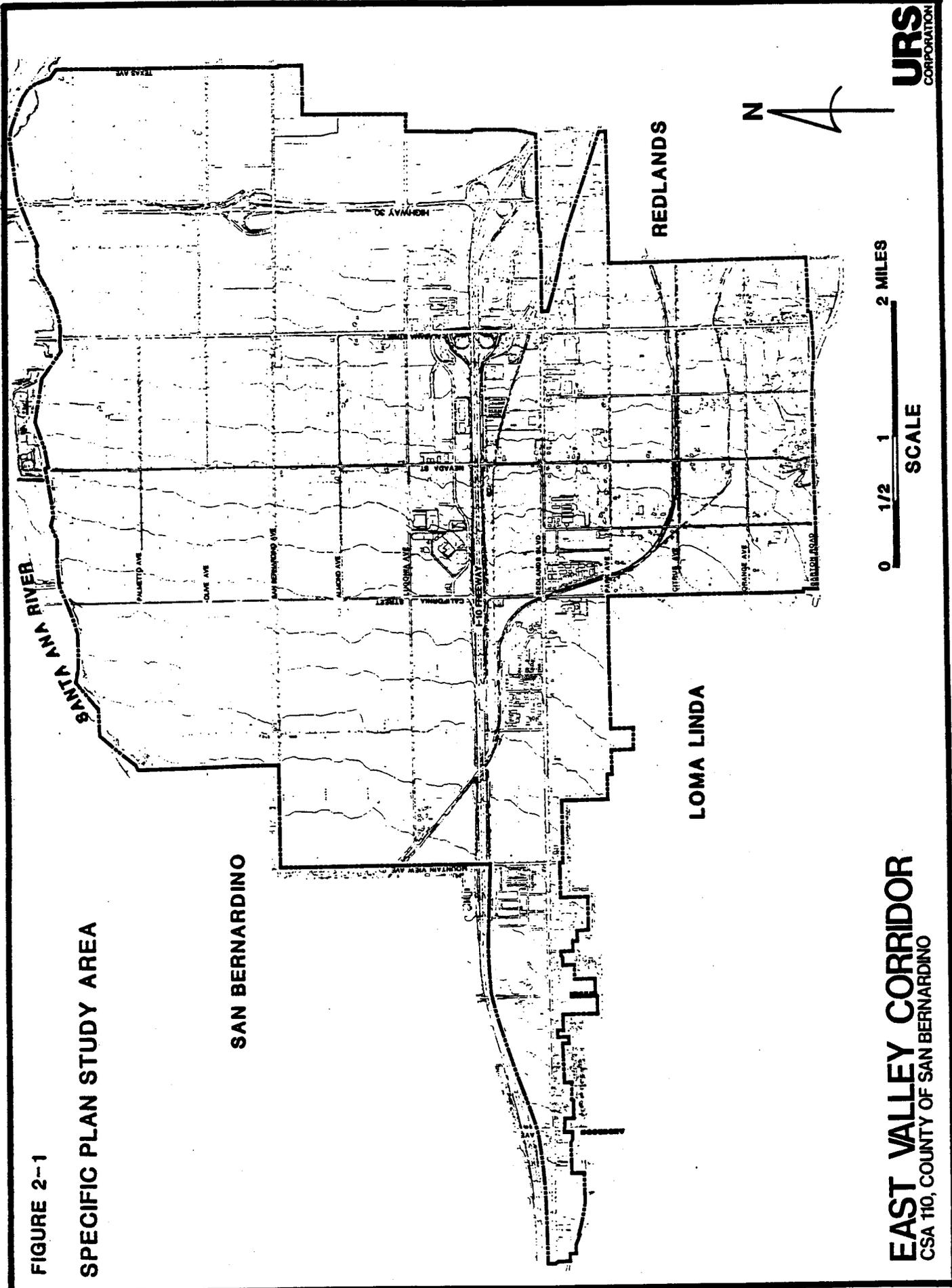
Public uses occupy only about one percent of the total project area, and include a school, a regional post office facility, Redlands' City yard, the County Museum, and the Asistencia Mission. Public facilities adjacent to the planning area which will affect the Specific Plan include the City of Redlands' sewage treatment plant and landfill, abutting the project area to the north between Nevada and Alabama streets; the Edison power plant northwest of the planning area; and Norton Air Force Base, located north of the study area across the Santa Ana River Wash.

### 2.3.2 Specific Plan Summary

The East Valley Corridor Specific Plan has been prepared pursuant to the provisions of Sections 65450 through 65453 of the California Government Code. The Plan will be adopted by local governments to provide a guide for the growth and development of the East Valley Corridor. Portions of the Plan are ordinances of the County of San Bernardino, the City of Redlands, and the City of Loma Linda. It is intended that the Specific Plan, through its maps and text, shall incorporate nearly all the regulations and development standards affecting the use of land within the Plan area, and reflect the

FIGURE 2-1

SPECIFIC PLAN STUDY AREA



**EAST VALLEY CORRIDOR**  
CSA 110, COUNTY OF SAN BERNARDINO



interests and concerns of the community through these standards and regulations. Among the subjects addressed by the Specific Plan are the locations of various land uses; development standards for buildings and facilities; regulation of land use in areas affected by safety hazards; location and capacity of circulation/transportation systems and facilities; standards for building and population density; location and capacity of water supply, sewerage and stormwater drainage facilities; proposed phasing of infrastructure improvements; and design guidelines and requirements for the planning area as a whole as well as for specific development sites.

The Specific Plan's Land Use District Map shows the classification and boundaries of proposed land use districts within the project area. The land use districts were established to carry out the provisions of the Specific Plan. These designated land uses are the major component of the Specific Plan and will provide the basis for the environmental analysis in this EIR.

Table 2-1 lists the land use districts and their acreages and percent of the total project area as established by the Specific Plan. Figure 2-2 shows the Specific Plan's land use designations.

Another important element of the Specific Plan is the infrastructure phasing plan. This part of the Specific Plan discusses the proposed phasing of infrastructure improvements needed to support development within the project area. Chapter 6 details the development phases and lists estimated costs of required improvements.

The appendices to the Specific Plan include a series of maps and the following documents under separate cover: the Environmental Impact Report; the Circulation Report; the Engineering Report; the Market Feasibility Study and Absorption Potential Report; and the Financing Report.

#### 2.4 INTENDED USE OF THE SPECIFIC PLAN EIR

The adoption of a Specific Plan constitutes a project under the California Environmental Quality Act (CEQA). Although the East Valley Corridor Specific Plan itself will not result in environmental impacts, impacts will be produced from the land use and developments proposed under its planning direction. The East Valley Corridor Specific Plan has therefore been assessed for potential environmental impacts by this EIR, prepared in accordance with CEQA requirements and environmental procedures of the County of San Bernardino and the cities of Loma Linda and Redlands. The County of San Bernardino, Land Management Department, Office of Planning, is the lead agency and the County Board of Supervisors will certify the EIR, with the cities of Loma Linda and Redlands acting as responsible agencies.

A program EIR is prepared on a series of actions that are characterized as one large project. The East Valley Corridor Specific Plan EIR, with its plans for development, meets this definition. The Specific Plan is an issuance of plans to govern the conduct of a continuing program and is a regulatory authority for individual

Table 2-1

## SPECIFIC PLAN'S LAND USE DESIGNATIONS

<i>Land Use District</i>		<i>Acres</i>	<i>Percent of Total</i>
RS	Single-Family Residential	63	1.5
3000-RM	Multi-Family Residential (10 dwelling units per acre)	151	3.5
1500-RM	Multi-Family Residential (20 dwelling units per acre)	149	3.5
AP	Administrative Professional	62	1.5
CN	Neighborhood Commercial	39	1.0
CG	General Commercial	637	14.5
CR	Regional Commercial	132	3.0
IC	Commercial Industrial	456	10.5
IR	Regional Industrial	529	12.2
OS	Open Space	57	1.4
SD	Special Development	1,438	33.0
PI	Public Institutional	<u>132</u>	3.0
	Subtotal:	3,845	
	Roads/Infrastructure	<u>505</u>	11.6
	TOTAL Project Area:	4,350	

Source: East Valley Corridor Specific Plan



activities having generally similar environmental effects and mitigation measures.

Utilization of the East Valley Corridor Specific Plan Program EIR enables the County (CSA-110) to characterize the overall plan as the project being approved. This provides an opportunity to prepare more complete analyses of impacts and alternatives, ensures a detailed cumulative analysis and allows consideration of broad policy alternatives and mitigation measures prior to development.

Use of the East Valley Corridor Specific Plan Program EIR as the base environmental document for subsequent development projects will simplify and avoid duplication in preparing additional environmental documents by providing the following:

1. The basis in an Initial Study for determining whether a later activity may have any significant effects;
2. A reference to deal with regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole; and
3. Information to focus an EIR on a subsequent project to permit discussion solely of new effects which had not been considered before.

In order to determine whether additional environmental documents will be required for future specific developments within the East Valley Corridor, this program EIR must be examined. The County and cities would then determine which of the following actions are required by CEQA.

1. If a later activity would have effects that were not analyzed in this program EIR, a new Initial Study would need to be prepared leading to either a supplemental focused EIR or a Negative Declaration.
2. If no new effects would occur or no new mitigation measures would be required, the County or cities can approve the activity as being within the scope of the project covered by the program EIR, and no new environmental document would be required.
3. The County/cities shall incorporate feasible mitigation measures and alternatives developed in this program EIR into subsequent actions in the program.
4. Where the subsequent activities involve site-specific operations, the County/cities should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR.

In general, the East Valley Corridor Specific Plan EIR was prepared to analyze and provide mitigation measures to potential adverse environmental impacts created by proposed development. Documents for subsequent development should reference this program EIR and most projects should require only a Negative Declaration or a supplemental focused EIR for environmental approval. All projects will be required to adhere to proposed mitigation measures in this EIR and will require site-specific information on geology, hydrology, circulation, cultural resources, infrastructure requirements, and socioeconomic effects.



### 3.0 ENVIRONMENTAL SETTING

#### 3.1 PROJECT AREA

The East Valley Corridor is located in southwestern San Bernardino County in southern California. The project area is part of the South Coast Basin and is located approximately 50 miles east of downtown Los Angeles, 45 miles northeast of Anaheim-Santa Ana, and 10 miles north-east of Riverside (see Figure 3-1).

The project area is situated in the eastern half of the San Bernardino Valley, hence the name East Valley Corridor. The San Bernardino Valley is part of the upper Santa Ana River Basin, and the river forms the northern border of the Specific Plan area. The San Bernardino Mountains rise up to 10,000 feet to the north and east of the project area, the Box Springs Hills lie to the south, and the open western half of the San Bernardino Valley is to the west.

The East Valley Corridor encompasses 4,350 acres and politically lies within the city limits of Redlands and Loma Linda and includes unincorporated lands of the County of San Bernardino. The entire planning area is within the spheres of influence of Redlands and Loma Linda (see Figure 3-2).

The major transportation corridor in the region is Interstate 10 (I-10), which traverses west to east directly through the project area. Other major roads in the project are State Highway 30, Alabama Street, San Bernardino Avenue, California Street, and Redlands Boulevard.

This region of the San Bernardino Valley has historically been a rural, agricultural area mainly supported by the citrus industry. The existing land uses are still principally agricultural with 59 percent of the 4,350 acres utilized for agriculture; 37 percent (over 1,600 acres) is planted with orange groves. Areas along I-10 and Redlands Boulevard are rapidly changing to office and retail uses. The project area, surrounded by the growing cities of Redlands, Loma Linda, and San Bernardino, is in a prime location for industrial, commercial, and residential development.

#### 3.2 REGIONAL SETTING

The East Valley Corridor is located in San Bernardino County, one of the fastest growing areas in the nation. The County has abundant inexpensive land available for business and residential development, making it an attractive area for people living in Los Angeles and Orange counties to relocate to.

The population in the immediate vicinity of the East Valley Corridor Specific Plan area grew at an average annual rate of 2.1 percent during the 1970s, increasing to 2.5 percent in the 1980s. The County of San Bernardino has experienced an overall annual growth rate of 3.8 percent since 1980. The Southern California Association of Governments (SCAG) Draft City Projections (1987), showed an average

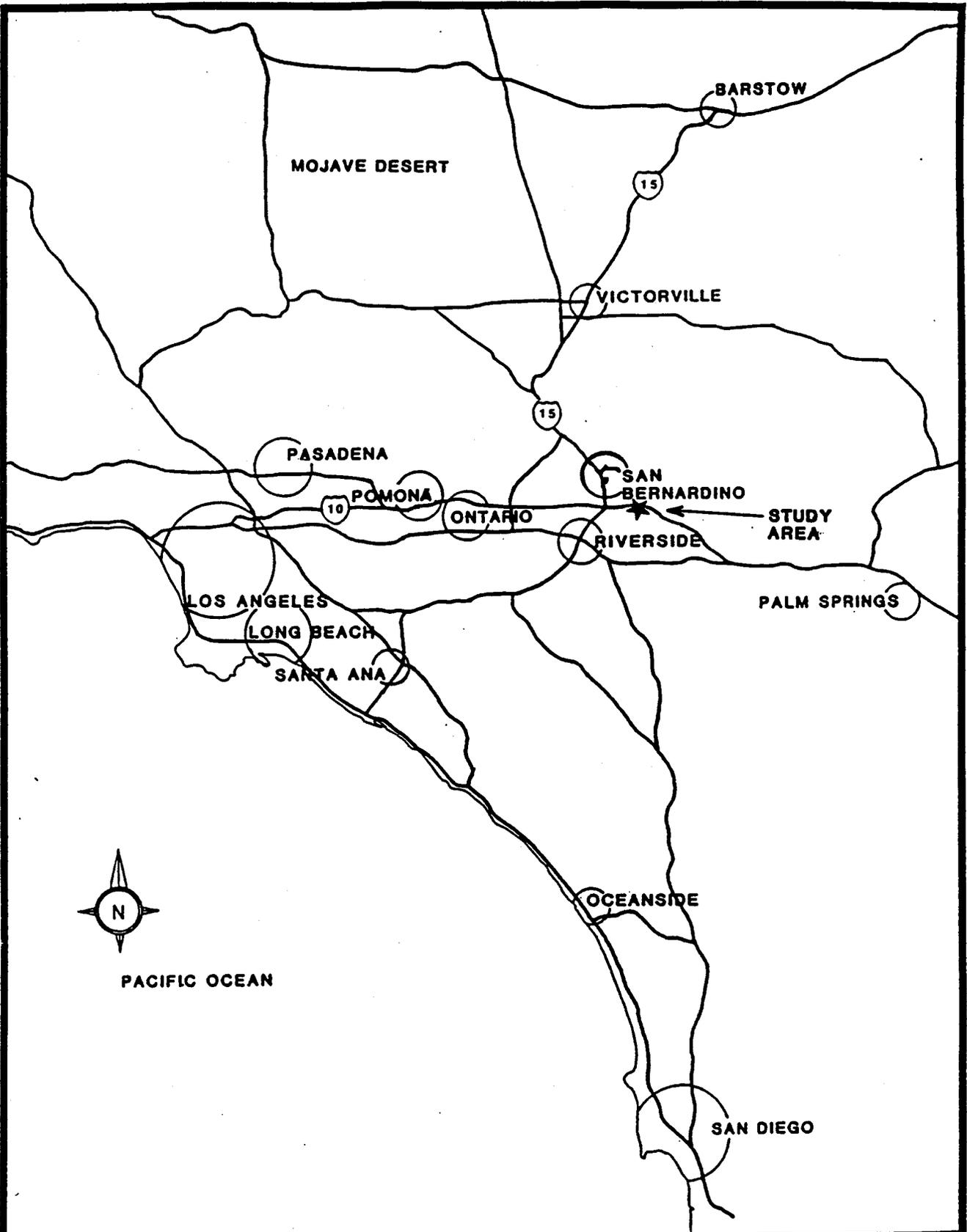


FIGURE 3-1

REGIONAL LOCATION



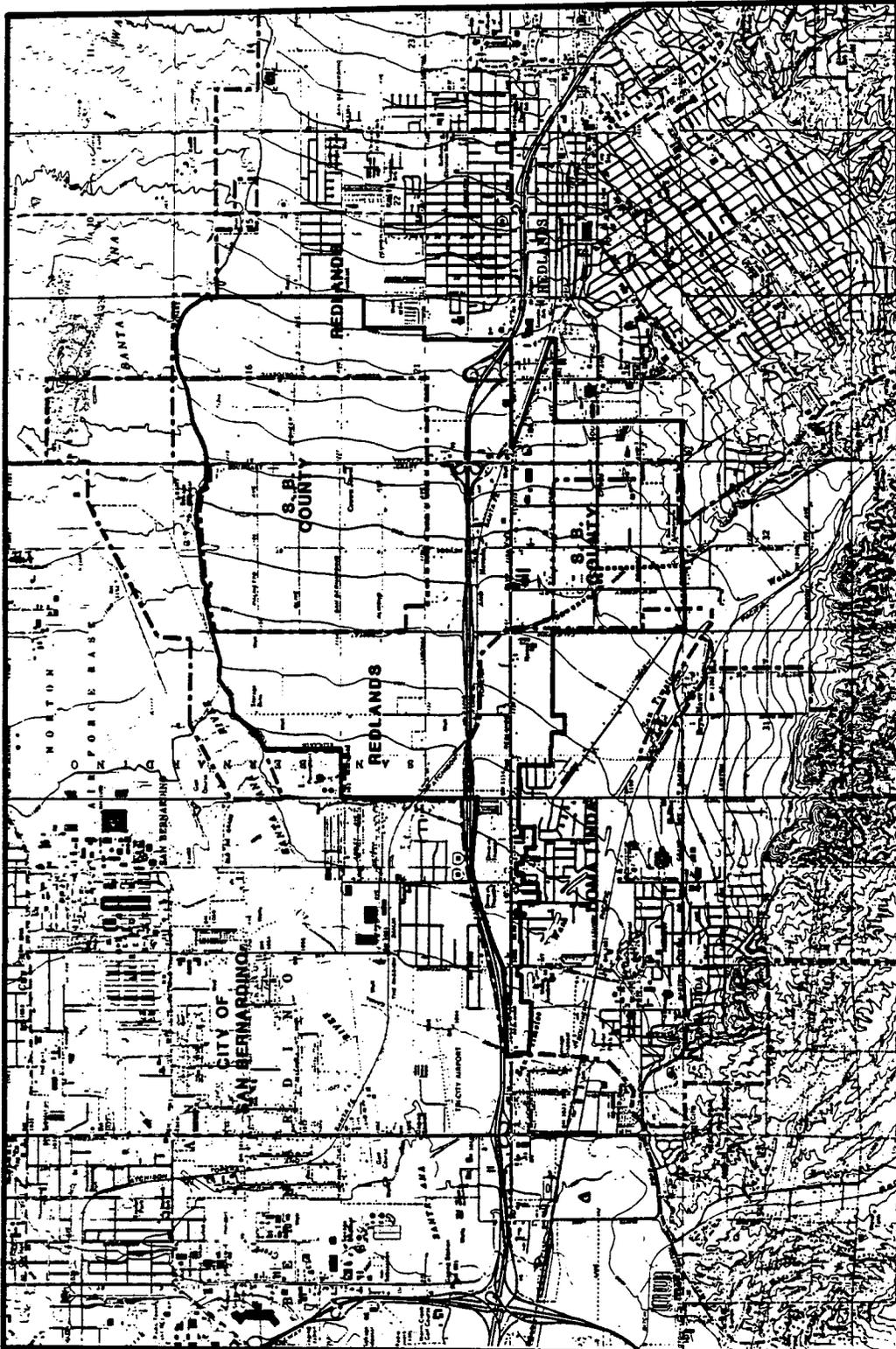


FIGURE 3-2

VICINITY MAP

- PROJECT BOUNDARY
- - - CITY AND COUNTY BOUNDARIES
- ..... LOMA LINDA SPHERE OF INFLUENCE

0 1/4 1/2 1 MILE  
SCALE



**URS**  
CORPORATION

annual growth rate of 2.8 percent for Loma Linda, 1.8 percent for Redlands, 3.0 percent for San Bernardino, and 3.7 percent for the County of San Bernardino. These predicted growth rates may be slightly lower than the rapid growth that is actually occurring.

The high growth rate forecast for population as well as the labor force is one of the area's strengths in terms of the industrial, retail, and office development proposed by the East Valley Corridor Specific Plan. Other factors contributing to the favorable development potential are low land and lease values; excellent highway, rail, and air access to local, regional, and national markets; and proximity to local redevelopment areas and local amenities.

The major constraint to the development of the East Valley Corridor is the costly infrastructure improvements required to provide adequate roads, water supply, sewage collection, and stormwater drainage.

Regionally, the project area will be under the planning direction of the East Valley Corridor Specific Plan proposed for adoption by the County of San Bernardino, and the cities of Loma Linda and Redlands. The East Valley Corridor is also under the regional planning jurisdictions of numerous State and County agencies which are listed below with their area of regulatory responsibility.

1. California Department of Transportation (Caltrans) - State roadways
2. California Regional Water Quality Control Board (RWQCB)- Surface water and groundwater quality
3. City of Loma Linda - Local water supply, sewerage, site-specific drainage plans, and road improvement plans
4. City of Redlands - Local water supply, sewerage, wastewater treatment, site-specific drainage plans, and street improvement plans
5. City of San Bernardino - Wastewater treatment facility
6. San Bernardino County Flood Control District (SBCFCD)- Major county flood control facilities
7. San Bernardino County Surveyor - Site-specific drainage plans and road improvement plans
8. San Bernardino Valley Municipal Water District (SBVMWD)- Regional water supply (State Water Project)
9. Santa Ana Watershed Project Authority (SAWPA) - Water quality management in Santa Ana River Watershed
10. South Coast Air Quality Management District (SCAQMD) - Air quality
11. State Department of Health Services - Water quality of potable water and treated wastewater
12. U.S. Army Corps of Engineers (COE) - Major flood control facilities including the Santa Ana River, San Timoteo Creek, and Mission Zanja

## 4.0 SUMMARY OF ENVIRONMENTAL IMPACT REPORT

### 4.1 SIGNIFICANT IMPACTS THAT CAN BE MITIGATED

Significant environmental impacts associated with the proposed project have been determined as a result of environmental analysis conducted for each natural and human resource. The existing conditions, project impacts, and mitigation measures for each resource area are addressed in Section 8.

Table 4-1 summarizes all of the identified significant impacts for which mitigation measures are recommended to reduce the impacts to a level of nonsignificance. Impacts that are anticipated as a result of future development projects in the proposed project area are also listed. Although it was not feasible to determine the significance of such development without site-specific proposals, the potential for significant impacts has been identified and mitigations have been recommended.

### 4.2 SIGNIFICANT IMPACTS THAT CANNOT BE MITIGATED

Significant impacts which mitigation measures could not reduce to a level of nonsignificance are regional and local transportation, land use, and solid waste.

The proposed project will incrementally increase traffic on the regional highways (I-10 and SR-30), whose average daily traffic will be in excess of proposed capacity by 2005 according to Caltrans. The proposed circulation network will provide less than LOS "C" at specific intersections within the project area.

The elimination of existing agriculture on prime farmland and its unique rural environment is also considered an unmitigable impact on land use. One other impact that ~~will~~ may be significant in the near future is the problem of solid waste disposal within the San Bernardino Valley. At present, no definite plans to solve the County's future disposal problem have been approved.

The proposed Specific Plan will also produce a number of significant cumulative impacts. Cumulative impacts are effects that are not significant (or have been mitigated to a level of non-significance) on the local or project level, but when added to other regional projects' impacts, may be considered cumulatively significant. The impacts determined to be cumulatively significant and unmitigable are related to air quality, transportation, land use, noise, energy, and solid waste. These cumulative impacts are discussed in Section 6.

### 4.3 SUMMARY OF MITIGATION MEASURES

Mitigation measures that have been recommended to reduce the level of impacts associated with the proposed project are shown in Table 4-2. The mitigation measures are listed by issue and are referenced to the page in Section 8 where they are described in detail. Included in the

table are those mitigations for reducing each significant impact to a level of nonsignificance. Mitigation measures that have been suggested to reduce the level of impact from future development projects are also found in Section 8 in detail.

Table 4-1

## SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS

<i>Issue</i>	<i>Significant Impacts</i>	<i>Mitigable to a Level of Nonsignificance</i>
Geology and Soils	Water and wind erosion during construction	Yes
	Possible surface ruptures on faults in western part of project	Yes
	Potential liquefaction hazard over western third of project area	Yes
Air Quality	Proposed development would increase energy consumption, vehicular traffic, and construction activities resulting in increased air pollution	Yes
	<u>Incremental air emissions related to project development may cumulatively impact regional air quality</u>	<u>No</u>
Hydrology	Increased stormwater flows likely to produce local flooding without major improvements	Yes
	Southwest portion of project area within 100-year floodplain of San Timoteo Creek	Yes
	Most areas of project south of I-10 within floodplain of Mission Zanja	Yes
Noise	Increased noise levels along I-10	Yes
	Increased noise levels along proposed major and secondary highways	Yes

Table 4-1, Continued, Page 2 of 4

Issue	Significant Impacts	Mitigable to a Level of Nonsignificance
Noise (continued)	Noise impacts from Norton AFB	Yes
	<u>Cumulative noise impacts on overall environment</u>	<u>No</u>
Visual Resources	Visual impacts throughout area as urban development replaces agricultural setting	Yes
Land Use	Eliminates existing prime agricultural area producing local, regional, and cumulative impacts on agriculture	No
	Proposed industrial development may pose hazards to human health with potential of emissions of toxic fumes and toxic spills	Yes
Transportation	Projected increase in vehicle mileage would decrease service levels of existing roads	Yes
	Three intersections of the proposed circulation network have less than LOS "C"	No
	Proposed development would incrementally <u>and cumulatively</u> increase regional traffic	No
Fire Protection	Fire protection for proposed development within Loma Linda would be inadequate without additional stations, equipment, and personnel	Yes
Law Enforcement	Law enforcement would be inadequate without additional officers/equipment	Yes

Table 4-1, Continued, Page 3 of 4

<i>Issue</i>	<i>Significant Impacts</i>	<i>Mitigable to a Level of Nonsignificance</i>
Schools	Additional students associated with proposed residential development would adversely impact local schools which are currently near or above capacity	Yes
Parks and Recreation	Inadequate open and park space is provided in the Specific Plan to meet population growth	Yes
Water Supply	Existing water supplies and distribution systems in <u>the undeveloped portion of the project within the jurisdiction of Redlands</u> are not adequate to meet needs of new development	Yes
Wastewater	Existing wastewater treatment capacity and collection system <u>within the undeveloped portion of the project</u> in Redlands are not adequate to meet proposed development	Yes
	Loma Linda's proposed wastewater needs would require additional capacity allowance and possibly expansion of the San Bernardino Wastewater Treatment Facility	Yes
Solid Waste	Solid waste disposal site used by Loma Linda may reach capacity by 1995	No
	<u>Incremental increase in solid waste may cumulatively impact local and regional landfill capacities</u>	<u>No</u>
Cultural Resources	Potential destruction or disturbance of unlisted prehistoric or historic archaeological properties by construction activities	Yes

Table 4-1, Continued, Page 4 of 4

Issue	Significant Impacts	Mitigable to a Level of Nonsignificance
Cultural Resources (continued)	Possible demolition or alteration of historical buildings and properties	Yes
	Visual impacts of development may alter surrounding character of historical buildings or properties	Yes
<u>Energy</u>	<u>Project development will consume nonrenewable energy resources which may produce a cumulative impact on regional energy resources</u>	<u>No</u>

Table 4-2

PROPOSED MITIGATION MEASURES

<i>Issue</i>	<i>Mitigation Measures</i>	<i>Page Number</i>
Geology and Soils	<p>Preparation of a geotechnical investigation for site-specific development to address soil characteristics, water table fluctuation, and liquefaction potential as deemed necessary by the development review process</p> <p>Implementation of an erosion control plan and specific construction-related mitigations appropriate to each site as required by the review agencies</p>	45
Air Quality	<p>To reduce construction-related emissions, the following mitigation measures are recommended: (1) control dust by regular water spraying; (2) maintain equipment engines in proper tune; (3) discontinue construction during second stage smog episodes</p> <p>Implement land use measures in Specific Plan to reduce number and length of trips</p> <p>Maximize employment opportunities to balance houses-to-jobs ratio and reduce commuting</p> <p>Provide alternative travel modes (bus routes and turn-outs, and bicycle and pedestrian circulation system)</p> <p>Adopt energy-efficient transportation strategies to implement State and County goals (car pools, ridesharing, and staggered work hours)</p> <p>Implement all State-required energy conservation measures on new buildings and residences</p> <p>Promote establishment of non-polluting industries</p>	52

Table 4-2, Continued, Page 2 of 5

Issue	Mitigation Measures	Page Number
Hydrology	<p>Construction of stormwater pipelines as recommended in Specific Plan</p> <p>Channel improvements to increase capacity of Mission Zanja and Morey Arroyo</p> <p>Specific-site reviews for on and offsite drainage plans as required by the review agencies</p>	60
Noise	<p>Implementation of Safety-Noise Overlay District to those areas with CNEL of 65 dB or greater</p> <p>Requirement of acoustical reports and mitigation measures in areas within Noise Overlay District</p> <p>Approval of acceptable land uses within high noise level areas along highways and under Norton AFB flight paths</p> <p>Requirements of interior noise levels in residences not to exceed 45 dB CNEL</p> <p>Implementation of site-specific mitigation measures when appropriate including setbacks, berming, block walls, landscaping, and sound-proofing</p>	75
Visual Resources	<p>Implementation of Specific Plan's design standards to ensure positive views of the project area including screening with fences, walls, or landscaping of all loading areas, equipment, outside storage, and rooftop equipment</p> <p>Adherence to all landscaping guidelines for roadways and development sites including usage of large palms</p> <p>Adherence to all architectural standards as proposed by the Specific Plan</p>	87

Table 4-2, Continued, Page 3 of 5

<i>Issue</i>	<i>Mitigation Measures</i>	<i>Page Number</i>
Land Use	<p>Viable agricultural lands are to be preserved as long as feasible while the area transitions to more intensive uses</p>	98
	<p>Buffer areas of light commercial and setbacks are recommended between industrial and residential areas</p>	
Transportation	<p>Implementation of phased circulation plan within Specific Plan area to accommodate increase in traffic on both a local and regional level</p>	109
	<p>Implementation of transportation system management improvements as required in order to provide LOS "C" at most roads and intersections</p>	
	<p>Proposed land uses would promote local employment and reduce commuter and regional travel</p>	
	<p>Specific site review for each development assessing projected traffic volume, parking, driveways, streets improvements, and right-of-way dedication</p>	
Fire Protection	<p>Increase funding in Loma Linda for fire protection personnel and equipment as necessary to provide adequate protection to new development</p>	118
	<p>Annual review by Redlands and Loma Linda to determine immediate and future protection needs of development within project area</p>	
	<p>Construction of fire station at San Bernardino Avenue and Nevada Street when needed to provide fire protection to new development</p>	

Table 4-2, Continued, Page 4 of 5

<i>Issue</i>	<i>Mitigation Measures</i>	<i>Page Number</i>
Law Enforcement	Annual review and adequate funding for additional law enforcement personnel and equipment as necessary to provide adequate protection to new development	119
Schools	<p>Potential new school sites within or near the project area should be coordinated with the Redlands School District</p> <p>For temporary alleviation of overcrowding, portable classrooms, reassessment of school boundaries, and year-round schools are possible</p> <p>Funds from new development within the East Valley Corridor should help alleviate funding shortages</p>	123
Parks and Recreation	<p>Provide an additional 10 to 15 acres for a future neighborhood park south of I-10 to serve the proposed multi-family areas</p> <p>Promote development of a neighborhood park on San Bernardino Avenue and Tennessee Street site, or the development of a park south of the existing wastewater treatment facility between California and Alabama streets</p> <p>Cooperate with recreational agencies regarding development of trail systems along Mission Zanja and Santa Ana River and future expansion of County Museum</p>	124
Water Supply	To increase water supply, it is recommended to rehabilitate Well 31-A, construct additional wells, or recondition existing agricultural wells	134

Table 4-2, Continued, Page 5 of 5

Issue	Mitigation Measures	Page Number
Water Supply (Continued)	<p><u>Coordinate projected water demands within the project area with Redlands' and Loma Linda's existing and planned water supply</u></p> <p>Implement phased construction of water facilities recommended in Specific Plan <u>and use of reclaimed water</u></p> <p>Promote water conservation measures</p> <p>Promote low water consuming landscaping and irrigation systems</p>	134
Wastewater	<p>Implement phased construction of wastewater collection system as recommended in the Specific Plan</p> <p>Coordinate projected wastewater flows within the project area with capacity and planned expansion of the Redlands and San Bernardino Wastewater Treatment Plants</p>	146
Solid Waste	<p>Promote recycling to reduce solid waste</p> <p>Coordinate with County plans to provide expansion of San Timoteo Landfill or to open a new landfill to serve the San Bernardino Valley</p>	151
Cultural Resources	<p>Implementation of the Preservation-Historical/Archaeological Overlay District as listed in the Specific Plan to assist in the identification and preservation of significant cultural resources</p> <p>Site-specific reconnaissance of new development by a qualified professional archaeologist when deemed necessary by the reviewing agencies</p>	160



## 5.0 GROWTH INDUCEMENT

The East Valley Corridor Specific Plan has been prepared to plan for future industrial, commercial, and residential development to occur in an orderly and aesthetic manner. The Specific Plan consolidates the planning efforts of the three responsible jurisdictions to ensure uniform, high-quality development, through design guidelines and standards, within the unique project area. The Plan's implementation will inhibit uncontrolled and unregulated urban sprawl into one of the last areas of citrus groves on the valley floor.

The Specific Plan, with its intent to promote and facilitate aesthetically pleasing employment- and revenue-producing development, is growth-inducing compared to the existing conditions. However, the Specific Plan's promotion of employment-producing development is intended to conform with the SCAG-82 directive to balance jobs and housing within the housing-rich East Valley region.

Based on proposed residential acreages, the Specific Plan is estimated to increase the population of the project area by 20,080 by the year 2028. This relates to an annual average growth rate of 2.5 percent. SCAG-82 Modified predicted a 2.2 percent growth rate for the East Valley RSA between 1984 and 2000, dropping to 1.4 percent from 2000 to 2010. SCAG-87 Draft Baseline Projection forecasts a 3.3 percent growth rate through 2010.

A comparison of the expected increase in population between the Specific Plan and the market-driven alternative is shown on Table 5-1. The Specific Plan projects a buildout population of 3,256 fewer people than the alternative. The market-driven alternative's expected population increase is estimated to be 16 percent greater than under the Specific Plan. A major difference between the two plans is that the Specific Plan will not reach buildout until 2028, with an average annual growth rate of 2.5 percent, while the General Plan expects buildout by 2012 with an average growth rate of 4.2 percent. Therefore, the Specific Plan, while inducing growth in a generally agricultural and undeveloped area, will promote a slower growth rate that is in line with SCAG projections and will result in a slightly less population total than the market-driven alternative.

The Specific Plan predicts a total of 7,725 additional dwelling units by the year 2028 with a annual average growth rate of 2.5 percent. SCAG-82 Modified estimated a housing growth rate for the East Valley RSA at 2.7 percent through 2000, lowering to 1.7 percent for the period 2000 to 2010. The draft SCAG-87 report forecasts a 3.83 percent housing growth rate through 2010. The Specific Plan, therefore, appears to be generally consistent with SCAG, being 9 percent higher than SCAG-82 but 35 percent lower than SCAG-87.

The market-driven alternative projects developing 8,975 dwelling units by 2012 for an average growth of 4.2 percent. This growth rate is 82 percent greater than SCAG-82 Modified and about 10 percent higher than SCAG-87. Again, in comparison, the Specific Plan allows 1,250 fewer dwelling units and a growth rate that is 60 percent of the alternative.

Table 5-1

## PROJECTED POPULATION AND DWELLING UNITS

	<i>Increase Based on Specific Plan (proposed)</i>	<i>Increase Based on Market-Driven Alternative (existing)</i>	<i>Specific Plan Compared to Alternative</i>
<b><u>POPULATION</u></b>			
1987-2000	8,355	17,862	- 9,507
2000-2010	4,190	4,562	- 372
2010-2028	<u>7,535</u>	<u>912</u>	<u>+ 6,623</u>
<b>TOTAL:</b>	20,080	23,336	- 3,256
<b><u>DWELLING UNITS</u></b>			
1987-2000	3,215	6,870	- 3,655
2000-2010	1,612	1,755	- 143
2010-2028	<u>2,898</u>	<u>350</u>	<u>+ 2,548</u>
<b>TOTAL:</b>	7,725	8,975	- 1,250

An additional growth-inducing element of the Specific Plan is the estimated creation of over 90,000 jobs by the year 2028 (Market Feasibility Study, William C. Lawrence Co.). According to SCAG studies and conceptually, this job growth should aid the current housing-population to employment imbalance by inducing the regional population to take local jobs rather than commuting. However, the possibility exists that the new jobs may simply entice more outside residents to move into the local area for the newly created jobs at a faster rate than expected.

Growth is expected and planned for this area in the existing General Plan. Adoption of the Specific Plan will reduce the long-term area growth and provide an environmentally superior alternative to the present growth projections. This will result in a long-term reduction on demand for services and population density.

## 6.0 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USE OF MAN'S ENVIRONMENT AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY AND CUMULATIVE IMPACTS

The intent of the East Valley Corridor Specific Plan is to promote and facilitate aesthetically pleasing job and revenue-producing development that responds to physical, environmental, and economical opportunities and constraints. The concept and guidelines of the Specific Plan are for the purpose of limiting haphazard and unsightly urban sprawl that is built with only short-term and very localized designs. By promoting phased development with strict land use, infrastructure, architectural, and landscaping policies, the Specific Plan will inherently protect and enhance the long-term productivity of the project area.

As is the case with any plan that provides policy for the development of largely agricultural land, impacts to the environment are unavoidable. While most environmental impacts are local and mitigated to a level of non-significance, some of these same effects may incrementally increase regional impacts. These incremental impacts may be cumulatively significant when added to existing conditions or to other proposed development. The development proposed within the East Valley Corridor will produce significant cumulative impacts on air quality, land use, transportation, schools, noise, energy, and solid waste.

The project's designated land uses and local mitigation measures are consistent with the County's and cities General Plan's policies and the Air Quality Management Plan. However, the unavoidable increase in air pollutants produced by expected development will incrementally add to the regional amount of air pollutants within the South Coast Air Basin (SCAB). Since SCAB is a nonattainment area, the additional air pollution produced within the project area is considered cumulatively significant.

The project's cumulative impacts on land use pertain to the loss of prime agricultural land and the potential usage, production, and storage of hazardous materials.

The Specific Plan is an industrial/commercial development plan, in an area with abundant, affordable housing and with an imbalance of too many homes and not enough jobs. The East Valley Corridor will be the only area of this magnitude to be set aside specifically for high employment industrial parks and commercial centers within the County's East Valley planning region and within the cities of Redlands and Loma Linda.

The City of San Bernardino has three large commercial/industrial areas located within 2 miles west of the project area. These redevelopment projects, Southeast Industrial Park, Tri-City, and South Valle, consist of 1,440 acres of which approximately 80 percent is already developed or in the planning process. Land uses within these areas are composed of office complexes, restaurants, warehouse stores, light industry, and other commercial uses. A complete market feasibility and absorption potential analysis is presented in the Marketing Report by William C. Lawrence Company. Their conclusions were utilized in

developing the Specific Plan's land use designations and proposed phasing of development to meet expected absorption. From this report, it is concluded that the project is economically feasible and would create no adverse cumulative impacts to industrial/commercial development in the region.

The Specific Plan would also allow approximately 7,725 new dwelling units at maximum buildout. However, only 363 acres or 9.5 percent are designated exclusively for residential uses. Within the Special Development districts, 20 percent or 250 acres with a maximum of 5,000 new dwelling units would be allowed. The maximum number of new dwelling units in the Special Development District is not anticipated to build out due to more favored residential locations already in existence and planned to be developed in such areas as East Highlands, Mentone, and Yucaipa. Also, Proposition N further restricts new housing starts within Redlands. Therefore, the potential residential units allowed under the Specific Plan is not expected to impact regional housing development.

Increases in traffic related to development in the East Valley Corridor will impact the regional transportation network. Caltrans has forecast that both I-10 and State Route 30 will operate at level of service "E" by 2005 and level of service "D" by 2002 respectively, despite 2 additional lanes for each highway. The traffic associated with the Specific Plan development will incrementally add to this congestion and is therefore considered a significant cumulative impact.

~~The schools that would serve students within the project area are either at or over their designated operating capacities. The increased demand of new students within the project area may be offset in the immediate future with specific mitigation measures, but will add to the rapidly increasing enrollments throughout the district.~~

Urban development of the predominantly agricultural area will increase ambient noise levels. Mitigation measures will protect workers and residents from high locally produced noise levels. This increase in noise will produce cumulatively, an unavoidable significant impact.

Additional energy consumption is inherent with project development. The depletion of nonrenewable natural resources is insignificant on the project level, but when added to other projects and existing urbanization, is determined to also be a cumulatively significant impact.

The issue of solid waste disposal within the San Bernardino Valley is presently unresolved. Any increase in solid waste production must be described as being an adverse cumulative impact on the dwindling landfill capacity within the County.

The cumulative impacts associated with the Specific Plan, while significant, are less of an impact on the environment than the market-driven alternative (described in Section 7), which is deemed to occur without the Plan.

## 7.0 ALTERNATIVES

The California Environmental Quality Act (CEQA) requires a discussion of feasible project alternatives that will meet the project's objectives. In addition, one of the alternatives evaluated must address the "no project" alternative. The following alternatives are evaluated in this section:

- o Proposed Specific Plan (high growth)
- o Proposed Specific Plan (low growth)
- o No Project (high growth)
- o No Project (low growth)
- o Plan with residential emphasis
- o Preservation of existing agriculture north of Pioneer Street.

The first four alternatives were described in the "Market Feasibility and Absorption Potential Study" by William C. Lawrence Company. Tables 7-1 and 7-2 list the projected land uses and population increases related to these alternatives.

It should also be mentioned that the draft Specific Plan is the result of evaluating many different development scenarios by the CSA-110 District Advisory Committee, the Property Owners Advisory Committee, and the Technical Advisory Committee over a period of 3 years.

### 7.1 PROPOSED SPECIFIC PLAN (High Growth)

This scenario is based on the proposed Specific Plan assuming high absorption potential market conditions. It is considered the most likely alternative by the economic consultant and therefore was evaluated throughout this EIR as the "project". The environmental impacts associated with the Specific Plan are summarized in Section 4 and discussed in detail in Section 8.

### 7.2 PROPOSED SPECIFIC PLAN (Low Growth)

This alternative assumes that development occurs under the Specific Plan with low absorption market conditions. Due to the low development rate assumed, buildout of this alternative does not occur until 2060. Therefore, population, housing, and employment growth rates are very slow and would ultimately be slightly less than the project. This would be a positive impact with regard to population but a significant adverse impact on employment.

This alternative would affect the environment on a slight to moderate level due to its slow growth rate and adherence to policies and standards established in the Specific Plan. Of the development alternatives, this scenario produces the least impacts to the environment.

Table 7-1

EAST VALLEY CORRIDOR PROJECT  
ALTERNATIVE BUILDOUT SCENARIOS

Year of Buildout Distribution of Land Use Type	No Project Market Based Phasing				Specific Plan Based Phasing			
	2029		2012		2060		Proposed Project 2028	
	Low Growth Acres	% Total	High Growth Acres	% Total	Low Growth Acres	% Total	High Growth Acres	% Total
Industrial/R&D	743	19.3%	732	19.0%	1,204	31.3%	1,264	32.9%
Office	346	9.0%	415	10.8%	582	15.1%	743	19.4%
Retail	1,735	45.1%	1,635	42.5%	1,282	33.3%	1,036	26.9%
Residential	855	22.2%	897	23.3%	611	15.9%	613	15.9%
Public/Institutional	86	2.2%	86	2.3%	86	2.2%	132	3.4%
Open Space	<u>80</u>	<u>2.1%</u>	<u>80</u>	<u>2.1%</u>	<u>80</u>	<u>2.1%</u>	<u>57</u>	<u>1.5%</u>
<b>TOTAL PROJECT:</b>	<b>3,845</b>	<b>100.0%</b>	<b>3,845</b>	<b>100.0%</b>	<b>3,845</b>	<b>100.0%</b>	<b>3,845</b>	<b>100.0%</b>

Notes: Revised with updated Specific Plan Land Use Districts, December 1987.  
Totals do not include roads and infrastructure.

Source: William C. Lawrence Company

Table 7-2

POTENTIAL EAST VALLEY CORRIDOR  
RESIDENT POPULATION AT PROJECT BUILDOUT

Residential Land Use	No Project		No Project		Low Growth/ Specific Plan		Proposed Project	
	Acres	Units	Acres	Units	Acres	Units	Acres	Units
<u>Redlands</u>								
Multi-Family 10	226	2,260	256	2,560	60	600	60	600
Multi-Family 20	110	2,200	125	2,500	321	6,420	342	6,840
Subtotal:	336	4,460	381	5,060	381	7,020	402	7,440
<u>Loma Linda</u>								
Single-Family**	250	1,500	249	1,494	63	378	63	378
Multi-Family 10	140	1,400	140	1,400	89	890	89	890
Multi-Family 20	129	2,580	128	2,560	59	1,180	59	1,180
Subtotal:	519	5,480	517	5,454	212	2,448	212	2,448
TOTAL:	855	9,940	897	10,514	593	9,468	613	9,888

Notes: \* Assumes 2.6 persons per unit, per SCAG 87 Baseline projections.

\*\* Six units per acre, per draft East Valley Corridor Specific Plan.

Multi-Family 10 - 10 units per acre, Multi-Family 20 - 20 units per acre.

### 7.3 NO PROJECT (High Growth)

Under this alternative, development of the project area is assumed to occur under high absorption potential market conditions. Additionally, ultimate development of land uses is guided by expected market conditions, that is, there is no limitation on total acres of any land use category, other than what the market will support.

In this scenario, buildout is expected by 2012. This results in a high population growth rate, a higher total population increase, and a strain on needed infrastructure to service this growth. Land use categories will be markedly different with retail comprising 43 percent (15% higher than the Specific Plan), office and industrial/R&D 30 percent compared to the Specific Plan's 52 percent, and a 7 percent increase in residential.

The faster growth and the unrestrained development due to a lack of the Specific Plan's uniform policies and standards are expected to result in additional impacts on the environment. Without a Specific Plan to plan, monitor, and regulate the cumulative and long-range development, the following environmental issues will be adversely impacted to a more significant level: air quality, noise, land use, population, transportation, schools, water supply, wastewater, and solid waste.

### 7.4 NO PROJECT (Low Growth)

This alternative also assumes market based growth but with slow market absorption conditions. This scenario has no restrictions on the type of land uses, other than what the market will support. Buildout is expected in 2029 with the majority of development in retail and residential uses (see Table 7-1).

The lack of long-range planning and uniform building and design standards will produce additional adverse impacts on air quality, visual resources, land use, schools, water supply, wastewater, and solid waste. The population and number of houses are about the same as the proposed project.

### 7.5 RESIDENTIAL EMPHASIS

This scenario would result in development of half the project's acres for residential uses, with the remainder divided equally between retail and industrial/office. Using an average ratio of the four alternatives above for dwelling units per acres (13.7 dwelling units/acre), this alternative could produce 28,235 new residences and a population of over 73,000. This influx of residences would produce large growth rates that would overwhelm the forecasted growth in Redlands and Loma Linda. The principal adverse impact would be the continuation and enhancement of the housing to job imbalance. While the other alternatives create a large number of new jobs, this scenario would promote more houses than jobs and would not comply with SCAG growth projections or the County's General Plan policies.

This alternative would also promote additional commuting to jobs, adversely impacting air quality and traffic circulation; land use policies would not be consistent; and significant impacts to schools, water, wastewater, and solid waste would be likely.

#### 7.6 PRESERVATION OF EXISTING AGRICULTURE

This alternative would preserve agricultural activity for at least a 10-year period in the area north of Pioneer Street in Phase III. Thereafter, the agricultural reserve designation would be periodically reviewed by the appropriate governing body as to future development.

This scenario would provide additional open space and would decrease the overall natural environmental impacts associated with complete area development. However, if this acreage is exempt from being assessed infrastructure fees, many of the proposed and required infrastructure improvements may not be appropriately funded. This lowered funding may render the Plan's infrastructure improvements economically unfeasible.

This alternative is more consistent with the Redlands Park and Open Space Plan which is attempting to provide an open space element or green belt at the City's entry points; in this case at Alabama Street and SR 30. This alternative land use designation does not conform to the County's General Plan in areas still under County jurisdiction.

Overall, this alternative would decrease the impacts on the natural environment as a result of less development and more open space. Its principal drawback would be the uncertain future status of the area with regard to development, infrastructure plans and financing, and the economic feasibility of continued agricultural by the property owners. It should be noted that due to proposed phasing of development within the 40-year buildout of the Specific Plan, much of this area will probably retain its agriculture character for possibly 10 years or more.

#### 7.7 ALTERNATIVES SUMMARY

A comparison of the environmental impacts associated with the project and alternatives is provided in Table 7-3. Each of the six alternatives is evaluated and rated for the various environmental criteria. These evaluations are rated from "best" to "severe", with concern levels from "none" to "significant", and with environmental impacts from "none" to "high, non-mitigable". The lower the total, the less of an environmental impact is expected.

As can be seen in the evaluation totals, the lowest environmental impacts are related to the Specific Plan (low growth). This scenario's effects are much lower than the other scenarios due to its long period to buildout (over 70 years) which would reduce impacts to most of the environmental criteria.

Table 7-3

MATRIX OF ENVIRONMENTAL CRITERIA FOR ALTERNATIVE PROJECTS

Environmental Criteria	ALTERNATIVES						
	Specific Plan		No Project		Residential Emphasis	Agricultural Reserve	TOTALS
	High Growth	Low Growth	High Growth	Low Growth			
Geology and Soils	3	3	3	3	3		3
Air Quality	4	3	4 - 5	4	4 - 5		3
Hydrology	3	3	4	3	3		3
Biology	2	2	2	2	2		2
Noise	4	3	5	4	4		4
Visual Resources	4	4	4	5	5		3
Land Use	3	2	4	4	4		3
Population	3	1	4	3	5		3
Housing	2	2	2	2	1		2
Employment	1	5	2	3	5		2
Transportation	5	3	5	5	5		4
Fire Protection	3	2	3	3	3		2
Law Enforcement	3	2	3	3	3		2
Schools	4	3	5	4 - 5	5		4
Parks and Recreation	3	2	4	3	4		2
Energy Resources							
& Service	3	2	3	3	3		3
Water Supply	4	3	4 - 5	4 - 5	4		4
Wastewater	4	3	4 - 5	4 - 5	4 - 5		4
Solid Waste	4 - 5	3	4 - 5	4 - 5	4 - 5		4
Cultural Resources	3	3	3	3	3		3
TOTALS	65 - 66	54	73 - 77	69 - 73	74 - 77		60

Rating	Concern	Environmental Impact
1 - Best	None	None
2 - Good	Slight	Low
3 - Average	Moderate	Moderate
4 - Poor	Significant	High, Mitigable
5 - Severe	Significant	High, Non-mitigable

The Agricultural Reserve alternative has the next lowest environmental impact. This alternative designates the area north of Pioneer Street as an agricultural reserve for at least a 10-year period, with periodic reviews thereafter. This proposal would be consistent with the Redlands Open Space plan and would lower natural environmental impacts. The uncertain future status of this area may financially hinder development of proposed infrastructure improvements due to a lowering of assessment fees.

The proposed project is the third best environmental alternative as it combines reasonable development with the Specific Plan's policies and standards to mitigate environmental concerns to acceptable levels.

The No Project, market-driven growth (low and high) alternatives would impact the environment at levels greater than the Specific Plan. The No Project (high growth) could potentially produce numerous high, non-mitigable impacts as a result of its rapid development and lack of area planning. Without the Specific Plan's policies and standards, noise, visual resources, transportation, schools, and the infrastructure could be severely impacted.

The No Project, market-driven alternative (low growth) would also be subject to adverse impacts due to a lack of planning. It would be to a lesser degree than the high-growth alternative, because of the assumed slower growth rate. (The combined ratings on the matrix, such as 4-5, exemplify the uncertainty of the level of planning that could occur in the related alternative and thereby reduce the level of impact.)

The worst alternative in the matrix analysis is the residential emphasis. This alternative does not comply with regional and local land use policies and produces a large population increase and a low number of jobs. It also results in poor to severe ratings on impacts to noise, air quality, transportation, and infrastructure.



## 8.0 AFFECTED ENVIRONMENT, IMPACTS, AND MITIGATION

### 8.1 GEOLOGY AND SOILS

#### 8.1.1 Existing Conditions

The project area is located on the floor of the eastern San Bernardino Valley, between two intersecting geomorphic provinces. The foot of the San Bernardino Mountains in the Transverse Ranges is less than 4 miles to the north, while the uplifted Santa Ana Mountains of the Peninsular Ranges Province are 20 miles to the south. The area's physiography is dominated principally by the San Andreas fault zone 3 miles to the north and by the San Jacinto fault 2 miles to the south. The San Bernardino Valley was formed as a result of alluvial deposition of sediments shed from the San Bernardino Mountains, mainly by the Santa Ana River.

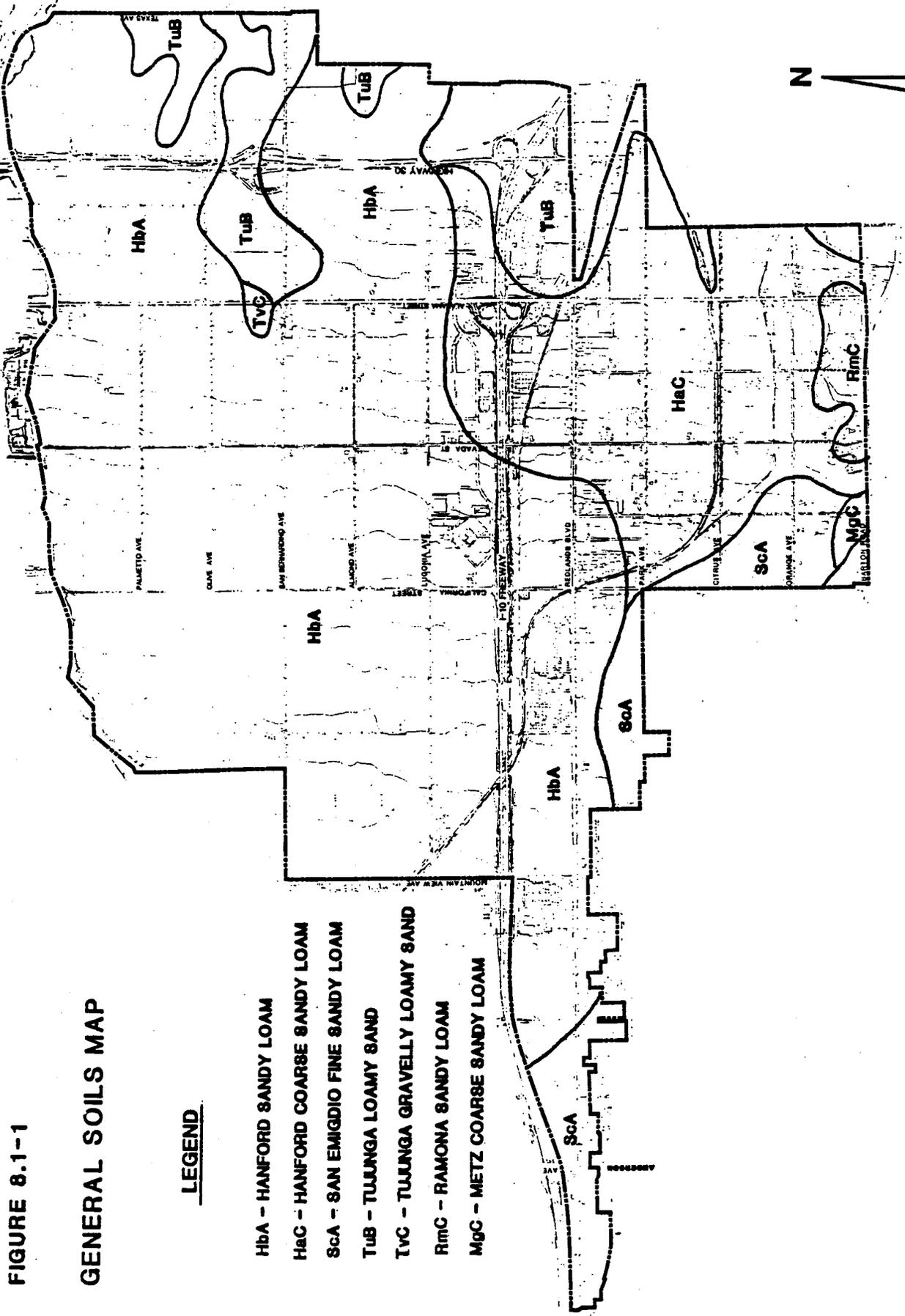
The major portion of the study area is prime agricultural land. The slope is typically very gentle, with no prominent geomorphic features. Immediately adjacent to the north side of the study area is the Santa Ana River and Wash. Most of the area is underlain by Holocene-age sediments, aged 10,000 years to the present. These sediments consist of sands and gravels deposited by the Santa Ana River and by other streams originating in the San Bernardino Mountains.

##### 8.1.1.1 Soils

Soils of the East Valley Corridor generally occur on nearly level to moderate slopes and are well-drained and more than 5 feet deep. There is an approximate 200-foot elevation gain from the western boundary to the eastern boundary of the project area. Specific soils information presented in this EIR has been derived from the Soil Survey of San Bernardino County, Southwestern Part (USDA 1980). A general soils map derived from this publication is shown in Figure 8.1-1.

Most of the study area is comprised of Hanford sandy loam (HbA) with 0 to 2 percent slopes. This soil has been formed in recent granitic alluvium on valley floors and alluvial fans, and is within the best capability class for irrigated agriculture in southwestern San Bernardino County. This soil phase does not have significant limitations for building or septic tank absorption. Permeability is 2 to 6 inches per hour and available water capacity is .12 to .13 inches per inch of soil. Runoff is slow and the potential for erosion is slight if soil surfaces are left unprotected.

Hanford coarse sandy loam (HgC), 0 to 2 percent slopes, occupies most of the southeastern portion of the study area. Characteristics of this soil are similar to the Hanford sandy loam described above. Runoff is slow to medium and the potential for erosion is slight to moderate where the soil is left unprotected. This soil has been utilized for building of homesites since it is not in the top capability class for irrigated agriculture like the Hanford sandy loam.



**FIGURE 8.1-1**

**GENERAL SOILS MAP**

**LEGEND**

- HbA - HANFORD SANDY LOAM**
- HbC - HANFORD COARSE SANDY LOAM**
- Sca - SAN EMIGDIO FINE SANDY LOAM**
- TuB - TUJUNGA LOAMY SAND**
- TvC - TUJUNGA GRAVELLY LOAMY SAND**
- RimC - RAMONA SANDY LOAM**
- MgC - METZ COARSE SANDY LOAM**

SOURCE: SOIL CONSERVATION SERVICE  
**EAST VALLEY CORRIDOR**  
 CSA 110, COUNTY OF SAN BERNARDINO

Four other soil series can be found in the southern and eastern portions of the study area. The largest of these is the Tujunga loamy sand (TuB), 0 to 5 percent slopes. This soil is nearly level to gently sloping and occurs on broad, long alluvial fans formed in granitic alluvium. It is somewhat excessively drained, with rapid permeability and with slow to very slow runoff. The potential for water erosion is slight for this soil if left unprotected, but wind erosion may be moderate to high on bare soil. A very small area of Tujunga gravelly loamy sand (TvC), 0 to 9 percent slopes, occurs within this series. It can be distinguished by its gravelly surface layer, which reduces the potential for erosion. Neither soil phase has significant limitations for construction or septic tank use.

San Emigdio fine sandy loam (ScA), 0 to 2 percent slopes, occurs in a small region encompassing approximately 160 acres along the southern border of the study area. This soil has formed on alluvium fans in somewhat mixed alluvium derived mainly from sedimentary materials. It is well-drained with moderately rapid permeability. Runoff is slow for this soil, and the hazard of erosion is slight. It is within the best class of irrigated agricultural land in southwestern San Bernardino County. There are no significant soil limitations for construction or septic tank use.

Fewer than 160 acres of the southern border of the project area are comprised of Ramona sandy loam (RmC), 2 to 9 percent slopes. This well-drained, gently sloping soil has been formed on alluvial fans and terraces in granitic alluvium. Runoff is moderate, and the potential for erosion is moderate if the soil is not protected. It is rated as having a severe limitation for septic tank absorption due to a moderately slow permeability rate.

#### 8.1.1.2 Geohazards

Severe fault ruptures could occur throughout the project area along known and unknown zones of geologic weakness as a result of local and regional seismic shaking events. The study area in western San Bernardino County is adjacent to two major and active earthquake faults: the San Jacinto and San Andreas (Jennings 1983). Both of these faults have experienced movement within the past 200 years and both have the potential to generate significant earthquakes in the near and long-term. Five earthquakes greater than magnitude 6.0 on the Richter Scale have occurred within 50 miles of the study area during the past 75 years.

The San Andreas fault is located about 3 miles north of the study area, and trends generally northwest to southeast. The San Andreas is believed to be capable of producing a maximum earthquake magnitude of 8.5 on the Richter Scale. An earthquake of this size would destroy a large number of buildings located close to the epicenter, as well as cause many deaths due to falling structures and fires. The San Jacinto fault, which is nearly parallel (or subparallel) to the San Andreas, is located 2 miles south of the study area. It is estimated to be capable of producing a maximum earthquake magnitude of 7.5 on the Richter Scale. Buildings located near the epicenter would shift

on their foundations and possibly collapse from an earthquake of this magnitude.

Two known faults trend through the study area. The Loma Linda fault, which is subparallel to the San Jacinto, cuts across the western tip of the East Valley Corridor. An unnamed fault, also subparallel to the San Jacinto, traverses the corridor approximately 3/4 mile east of the Loma Linda fault (see Figure 8.1-2). Further to the southeast, outside of the project area, are the northeast-southwest-trending Redlands, Crafton, and Chicken Hill faults. All five of the above-mentioned faults are capable of experiencing ground ruptures as a result of movement on either the San Jacinto or San Andreas faults.

Groundshaking of the study area will result primarily from movement of the San Jacinto and San Andreas faults. A magnitude 7.5 earthquake on the San Jacinto fault could produce maximum horizontal accelerations through the East Valley Corridor of 0.55 gs to 0.8 gs, where one gs equals the pull of gravity at the earth's surface (Fife, et al. 1976). The San Andreas fault could produce horizontal accelerations of 0.55 gs to 0.75 gs through the study area. The East Valley Corridor would, therefore, be subjected to severe groundshaking forces from either fault.

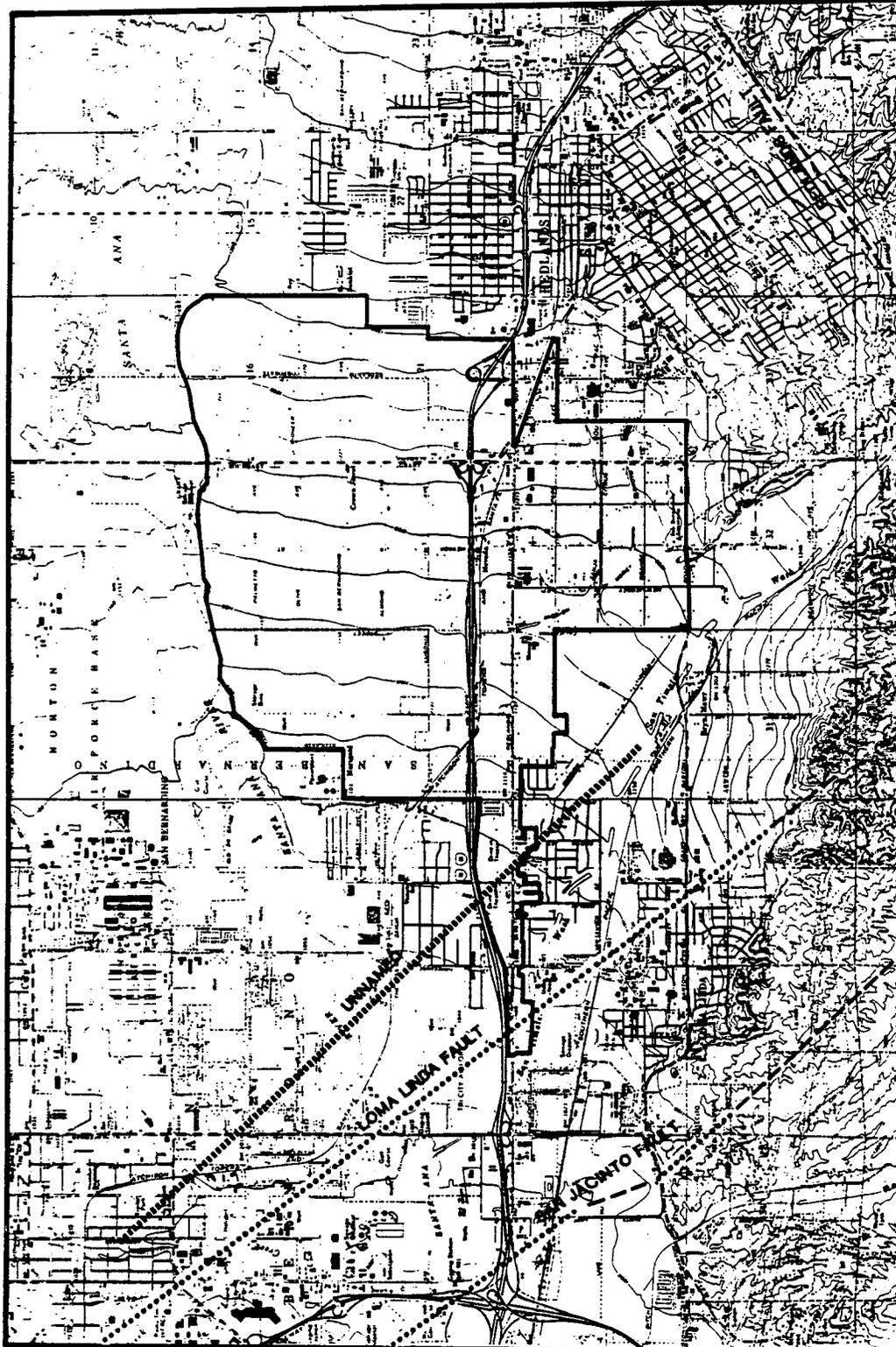
Shallow groundwater underlies much of the San Bernardino Valley area and poses a significant liquefaction hazard. The western third of the study area lies within a zone of artesian groundwater. This groundwater is typically found between 30 and 50 feet below the surface, shallow enough to pose a liquefaction hazard. Liquefaction is the almost complete loss of rigidity of water-saturated sandy or silty soils during an earthquake. On flat surfaces, liquefaction can cause settlement or displacement of the ground surface, and on sloping surfaces it can cause ground failure and landslides. In addition to requiring sandy or silty soils, the water table must lie within 50 feet of the surface and the seismic loading must be greater than 20 percent of gravity for liquefaction to occur.

## 8.1.2 Project Impacts

### 8.1.2.1 Soils

Impacts during construction associated with development in the East Valley Corridor include soil compaction, soil displacement, and denuding of protective vegetation which can expose soils to potential erosion. Development during winter months may increase water erosion while construction during dry seasons may increase wind erosion. Soils described as overlain with gravelly material are less susceptible to erosion.

The primary impacts following construction include wind erosion on unprotected deposited soils or soils left denuded, and water erosion if construction design provides inadequate drainage.



- WELL LOCATED
- ..... CONCEALED OR POORLY LOCATED
- ..... APPROXIMATE LOCATION INFERRED FROM SEISMIC ACTIVITY



GENERALIZED FAULT MAP

FIGURE 8.1-2

SOURCE: U.S. GEOLOGICAL SURVEY 1974



### 8.1.2.2 Geohazards

Surface fault ruptures could occur along the two known faults which transect the western part of the study area. Both the San Jacinto fault and the San Andreas fault lie within a couple of miles of the area; thus, sympathetic fault movement could occur along any zone of geologic weakness in the area. Recent alluvial deposits may also be masking additional, unmapped faults.

Severe groundshaking of surface structures in the study area is inevitable due to the area's proximity to the San Jacinto and San Andreas faults.

The liquefaction hazard in the study area is high, especially in the western third of the area. Settlement or displacement of surface structures could occur as a result of severe groundshaking events. The potential for liquefaction could be increased further if the local groundwater aquifer is at high water-table levels.

### 8.1.3 Mitigation Measures

#### 8.1.3.1 Soils

Mitigations will be designed to accommodate soil characteristics for specific sites. Development of a comprehensive erosion control plan that encompasses soil series within the study area is recommended for each development project as deemed necessary by the reviewing agencies.

Mitigations will be implemented to reduce wind and water erosion by considering the following design factors:

- o existing contours
- o land use
- o vegetation
- o soil
- o drainage
- o slope stability
- o slope length
- o slope angle
- o space limitations
- o erosion potential of land disturbance
- o erosion sediment control measure implementability.

Section EV4.0280(a), "Construction Phase Requirements" of the Specific Plan, provides measures to be included in the erosion control plan.

Other considerations should include timing of construction to minimize water erosion and use of water trucks to minimize fugitive dust emissions, especially during road building and site grading. Construction design should accommodate drainage to prevent water erosion.

Following construction, disturbed soils should be landscaped to protect soils from wind and water erosion.

#### 8.1.3.2 Geohazards

A geotechnical investigation should be conducted and mitigation measures should be established (when recommended by the County geologist) for each development proposed for the East Valley Corridor to demonstrate that the site is suitable. The site investigation should include information on soil type, a history of water-table fluctuation throughout the site, and the potential for saturation within the upper 50 feet of alluvial material. The mitigation measures should include the recompaction of native soils, subexcavation, thick-compacted fill mats, and reinforced foundations. Specific recommendations will be based on the results of each site-specific geotechnical investigation.

## 8.2 AIR QUALITY

### 8.2.1 Existing Conditions

The East Valley Corridor is located in southwestern San Bernardino County in the eastern portion of the San Bernardino Valley. This area is a part of the South Coast Air Basin and air quality is managed by the South Coast Air Quality Management District (SCAQMD).

The climate for this inland valley location is considered Mediterranean with warm, dry summers and mild, occasionally wet winters. The project area lies approximately 50 miles inland of the Pacific Ocean, thus temperatures are warmer during the day and cooler at night than the coastal plains. Summer temperatures average in the 90s with winter minima near 40 degrees Fahrenheit. Extreme temperatures range from the low 100s to the low 20s. The annual average maximum and minimum temperatures are 78 degrees and 49 degrees with an annual mean reading of 64 degrees. Precipitation occurs mainly between November and April and averages about 13 inches annually.

The San Bernardino Valley is a broad relatively flat basin surrounded by low hills to the south and the lofty San Bernardino Mountains to the north and east. The valley is also located about 50 miles east of Los Angeles Basin, a major air pollutant source area. These air pollutants are transported inland into the San Bernardino Valley by the normal afternoon onshore or westerly winds. Along with the westerly air flow, the prevalence of a marine/subsidence inversion and strong solar radiation combine to produce high ozone levels and lowered visibility on many days between May and September.

The Environmental Protection Agency (EPA) has established Federal ambient air quality standards on criteria pollutants which are to be met by all air basins. At present, the South Coast Air Basin does not meet or is in nonattainment for ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), and total suspended particulates (TSP). The California Air Resources Board (CARB) has also adopted State ambient air quality standards which are slightly more stringent than the Federal standards.

The SCAQMD and the Southern Association of Governments (SCAG) prepared an Air Quality Management Plan (1982) for the basin. This plan provides the existing and projected air quality for the basin and has set goals and strategies to reduce air pollution in order to attain Federal air quality standards. The County of San Bernardino has adopted some of these strategies for incorporation into existing and future development. These strategies have been incorporated and adopted in the East Valley Corridor Specific Plan and are included in the Mitigation section.

The SCAQMD maintains two air pollutant monitoring stations near the project area. They are located at 500 Dearborn Street in Redlands (2-1/2 miles east of the project) and at 24302 East 4th Street in San Bernardino (2-1/2 miles northwest of the project). Both of these stations initiated operations during 1986, having replaced two other nearby stations. The closed stations were located at the University

of Redlands and on East 3rd Street in San Bernardino. Data from these two stations were used for 1984, 1985, and part of 1986 in the table below. Any of these stations are deemed to be representative of air quality within the East Valley Corridor. Table 8.2-1 below lists ozone levels measured at Redlands and San Bernardino from 1984 to 1986 as recorded in the annual "California Air Quality Data" published by the California Air Quality Resources Board. The table is divided into the number of days and hours in which ozone concentrations were greater than or equal to: 0.10 parts per million (ppm) which is the California ambient air quality standard and is considered unhealthy air; 0.12 ppm, the Federal ambient air quality standard; 0.20 ppm, Stage I episode considered very unhealthy air; and 0.35 ppm, Stage II episode considered very unhealthy to hazardous air quality.

Table 8.2-1

ANNUAL OZONE LEVELS AT REDLANDS AND SAN BERNARDINO

	<i>Number of Days/Number of Hours</i>			
	<i>State Std. ≥ 0.10 ppm</i>	<i>Federal Std. ≥ 0.12 ppm</i>	<i>Stage I ≥ 0.20 ppm</i>	<i>Stage II ≥ 0.35 ppm</i>
<u>Redlands</u>				
1986	144/832	93/409	22/59	0/0
1985	158/1006	113/527	32/64	0/0
1984	160/954	116/504	26/72	0/0
<u>San Bernardino</u>				
1986	149/880	108/489	41/102	0/0
1985	155/883	111/495	30/64	0/0
1984	173/957	125/530	36/88	0/0

Note: 1986 data is a combination of two sites for both stations due to changes in the station's location during the year.

As listed in Table 8.2-1, the State ozone standard was exceeded on an average of 156 days per year and the Federal standard on 111 days per year. Stage I episodes occurred on an average of 31 days annually while no Stage II episodes were recorded.

Data recorded at the San Bernardino station during 1984 and 1986 (1985 data were incomplete) indicate that there were no measured violations of nitrogen oxides, sulphur dioxide, carbon monoxide, and lead.

Total suspended particulates (TSP) are a mixture of man-made and natural substances including sulfates, nitrates, metals, elemental carbon, sea salt, dust, organics, and biological materials. A 24-hour particulate sample is collected once every 6 days at the San Bernardino monitoring station. These samples are analyzed for TSP, particulate matter less than 10 microns (PM10), and sulfates, as well as numerous additional non-criteria pollutants.

These measurements show that TSP concentrations exceeded Federal 24-hour standards one time and the annual geometric mean standard. PM10 measurements were initiated in 1986. State standards for 24-hour PM10 concentrations were exceeded on 26 of the 35 days of observation.

The project site generally experiences unhealthy air with respect to ozone on up to 40 percent of the days during the year, almost exclusively from May through September. Of the total, very unhealthy air quality occurs on 25 to 35 days per year. Statistical analyses prepared by the SCAQMD for the period 1981 to 1985 indicate an 18 percent decrease in basin wide air pollution. However, the basin failed to meet the federal air quality standards by the end of 1987 as mandated by the Clean Air Act. Air quality generally can be considered good to moderate in the area from October to April when meteorological conditions are usually not favorable for high ozone production.

### 8.2.2 Project Impacts

Project-related air quality impacts will be produced by construction activities, increased traffic (mobile sources), and increased electric and gas consumption (stationary sources).

The construction of the anticipated developments planned in the East Valley Corridor Specific Plan is expected to occur over a 40 year time span. Development of approximately 135 acres per year is forecast through 1995, 110 acres annually from 1996 to 2005, and 51 acres per year from 2006 to buildout in 2028. Site preparation and construction activities are characterized by grading operations and material transfer using heavy-duty diesel equipment. Exhaust emissions and dust produced by construction activities may produce short-term localized violations of hourly air quality standards for TSP and PM10 immediately downwind of a particular project site during major construction periods. This effect on air quality is considered a moderate impact but is short-term in nature.

An inventory for construction-related emissions is not feasible due to the non-site specific nature of the Specific Plan and the uncertain time span for development and length of construction.

The Specific Plan has proposed land uses for ultimate buildout in the East Valley Corridor as listed in Table 2-1.

These land uses were further defined and the project area divided into transportation zones in the "Circulation Plan Analysis" by Ludwig Engineering. The trip generation rates specified for each land use and each transportation zone were used as input for the California Air Resources Board model "Urbemis #2". This model calculates motor vehicle emissions resulting from various types of land uses. The estimated vehicle emissions resulting from each type of land use and the total project vehicle emissions at buildout are shown in Table 8.2-2 below.